



RESTROOMS

WHERE CAN WE GO?

How Improving Restroom Facilities in Downtown Pittsburgh
Will Create Positive Outcomes for Businesses, Tourism, and All Residents

Dr. Dorene Ciletti
Dr. Heather Starr Fiedler

Nazin Bagherynejad
Laurie Havrisko
Helen Jackson
Diona Jones
Lauren Lazzari
Ashley Malachi
Joy Ann Meta
Anette Nance
Judith Riegelneegg
Audia Robinson



TABLE OF CONTENTS

3	About the Project
4	Executive Summary
5	Introduction
8	Literature Review and Situation Analysis
9	 Homelessness
11	 Accessibility
12	 Solution Space
12	 Cost & Maintenance
14	 Domestic Best Practices
18	 Global Best Practices
19	 Public Restroom Index
20	Primary Research
24	Gap Analysis
25	Economic and Social Cost of Maintaining the Status Quo
26	Financial Analysis
28	Recommendations
35	References
42	Appendices



ABOUT THE PROJECT

This research was initiated by the Building Owners & Managers Association of Pittsburgh (BOMA) to study the feasibility of installing new public restrooms throughout the golden triangle in Downtown Pittsburgh. BOMA supports owners and managers of commercial real estate in maintaining safe, efficient properties in Western Pennsylvania aims to lead the effort to support downtown vibrancy, usability, and safety through the accessible public restrooms project.

Point Park University Community Engagement doctoral students have prepared this report including primary and secondary research, best practice identification, and recommendations for public restroom facilities in Downtown Pittsburgh to support economic development, public safety, and public health. This effort is led by Dr. Heather Starr Fiedler and Dr. Dorene Ciletti and features the work of the following students: Nazin Bagherynejad, Laurie Havrisko, Helen Jackson, Diona Jones, Lauren Lazzari, Ashley Malachi, Joy Ann Meta, Anette Nance, Judith Riegelneegg and Audia Robinson. The students are all enrolled in Point Park's PhD in Community Engagement program.

In addition to BOMA, community partners of the project included: the City of Pittsburgh, The Urban Redevelopment Authority of Pittsburgh, Pittsburgh Downtown Partnership, Downtown Community Development Corporation, Pittsburgh Cultural Trust, Point Park University, Allegheny Health Network, First Presbyterian Church of Pittsburgh, McKnight Realty Partners, River Life, Pittsburgh Parks Conservancy, Primanti Brothers, and the Department of Housing and Urban Development.

Report design: Bri Farrand, Graphic Designer + Creative Strategist, Point Park '20



Contact Information

Dr. Heather Starr Fiedler, Point Park University
hstarr@pointpark.edu

Dr. Dorene Ciletti, Point Park University
dciletti@pointpark.edu

Amanda Schaub, BOMA Pittsburgh
amanda@bomapgh.org

EXECUTIVE SUMMARY

The purpose of this study is to understand the need, demand, costs, barriers and feasibility of installing public restrooms in the Central Business District of Pittsburgh, Pennsylvania, recognized as Downtown Pittsburgh throughout this report. Point Park University's Community Engagement PhD program was asked by the Business Owners and Managers Association (BOMA) of Pittsburgh to partner on the study. Key factors, such as the type of facility, location, maintenance options and accessibility, were considered by interviewing primary stakeholders and members of the community, as well as reviewing existing research and best practices from other cities that have already implemented public restrooms.

Downtown Pittsburgh is home to many events, festivals, biking trails, art exhibits, and more, but not everyone is able to attend these events or choose not to come Downtown at all because of the lack of access to public restrooms. Public restrooms are not only a necessity for individuals who are working in or visiting the Downtown area, but restrooms have also become an issue of human dignity for individuals experiencing homelessness who may not have access to clean and safe restroom facilities. In several Downtown areas, tents line the streets, a problem that was exacerbated by the global pandemic beginning in 2020. Some alleyways smell of stale urine and excrement. Attempting to solve the limited number of public restrooms will add value to the community and its stakeholders in a number of ways.



Source: Point Park University

There are three main types of public restrooms typically considered for public spaces:

1. Modular restrooms

Modular restroom parts are constructed off site, and then parts are shipped, delivered, and assembled at the desired location.

2. Site-built restrooms

Site-built restrooms are constructed at the desired location.

3. Mobile infrastructure restrooms

Mobile infrastructures on the other hand are trailers or single occupancy use structures that can be moved and relocated from one place to another if needed.

Denver, Colorado, Portland, Oregon and San Francisco, California all have recently implemented various types of public restroom models. Each city has experienced varying degrees of success in addressing the restroom needs of each community and can be used as examples of best practices.

Recommendations for public restrooms in Downtown Pittsburgh include

- Providing **incentives to local businesses** to allow the public to access restroom facilities,
- **Renovating or reopening facilities** currently located in parking garages and other public spaces throughout the city and
- **Installing high-end semi-permanent or permanent restroom facilities** that will receive regular maintenance and supervision.
- **Creating a wayfinding system** that will help people find available public restrooms
- **Developing a long-term maintenance plan** for public restroom facilities

The first recommendation can be implemented almost immediately, while the options could be phased in during the next several years.

INTRODUCTION

Pittsburgh is the second largest city in Pennsylvania, with an approximate population of 310,000. The “Golden Triangle” is the central Downtown area, starting at Point State Park and spreading to the I-379/I-579 bridges, encompassing the David L. Lawrence Convention Center and the western most point of the “Strip District,” a popular shopping area known for open air markets, restaurants and local souvenirs (PDP, 2021). There are no public restrooms within this entire area that operate year round and are open 24 hours per day.

The Building Owners & Managers Association of Pittsburgh (BOMA) is a non-profit association that supports members of commercial real estate by maintaining safe, efficient properties in Pittsburgh. BOMA is exploring the feasibility of installing public restrooms due to voiced concerns from their members to create a cleaner, inclusive, and more vibrant central business district. The feasibility of public restrooms within the Golden Triangle is both a response to increased tourism and the homeless component. The different types of public toilet/restrooms available, costs associated with



Map of the Golden Triangle, Downtown Pittsburgh. Source: Pittsburgh Downtown Partnership.

installation, costs associated with upkeep, potential public safety issues, and any other inherent problems will be investigated in order to propose the most feasible options to BOMA.

The issue of availability and accessibility of public restrooms has been placed at the forefront of many other problems mainly due to the COVID-19 Pandemic. The Pandemic exacerbated a problem that already existed and highlighted the difficulty not only in toilets, but in accessibility and access to potable water. In an effort to minimize the spread, many establishments and public restrooms available reduced hours of operation and many closed their restrooms altogether. The Pandemic is still very relevant and surges of different variants continue to develop. Organizations and businesses want to keep their employees and visitors safe; to do so they may need to increase resources and attention to ensure they have a safe environment. As a result, the issue around public restrooms have become more apparent. Public restrooms had been an issue before the Pandemic; however, the Pandemic allowed for increased visibility surrounding public restrooms because of the wide range of individuals affected by business closures or remote work.

In 2003, a state of the art public toilet was installed in Pittsburgh's South Side. The \$25,000 automated toilet would self clean after each use and only allowed 20 minutes of use before alerting patrons they must exit. The toilet cost .25 cents to use. After only a few years, the toilet was often locked or broken and fell into disrepair and permanently closed.

Within the Golden Triangle, there are public toilets available at the following locations:

- Point State Park - limited, seasonal operating hours
- Public Library - business hours only
- City/County Building - business hours only
- City Assistance Office - business hours only
- PPG Tower #2, Food Court - business hours only
- 5th Ave Place, Food Court - business hours only
- Public Parking Garages - often closed, due to vandalism or available to garage customers only
- Most major hotels - some require room key

However, none of these facilities, including the hotels, have signs advertising the availability of public restrooms. Only Point State Park is listed on restroom finder apps. As a result, these locations are unknown to visitors to the Downtown area and often inaccessible to individuals experiencing homelessness.

The lack of accessibility to public restrooms impacts public health, as Hepatitis A has been on the rise (Morcelle et al., 2018), a lack of clean and safe places to relieve oneself, increase in overall health costs (World Health Organization, 2022), and decrease in visitation to businesses in the area. Currently there are members of BOMA Pittsburgh that have had to clean up feces from in front of their businesses due to individuals relieving themselves in the area, creating a public health concern for everyone.

Downtown Pittsburgh is home to many events, but not everyone is able to attend or may choose not to come downtown at all because of the lack of access to public restrooms. While there are other interests and initiatives vying for attention and capital at this time, this particular problem both dovetails with all the others seamlessly while also filling an urgent social justice need. At this time, the Mayor's office strongly supports the need for a solution and the feasibility study designed to find that solution.



Source: Point Park University

INTRODUCTION

According to Maroko et al. (2021), “Access to safe, clean water and sanitation is globally recognized as essential for public health. Public toilets should be accessible to all members of society, without social or physical barriers preventing usage” (Maroko et al., 2021).

Innovators are working to address the problem through advocacy groups, city development projects and local corporations creating solutions for public restrooms.

Public Hygiene Lets Us Stay Human (PHLUSH) is an advocacy group that “helps local government and citizens groups to provide equitable public restroom availability” (Organization for International Economic Relations, 2020). Organizations like PHLUSH help to promote health in a positive way for everyone.

Companies like Sanitronics Hygiene Toilet Systems uniquely designs and develops public toilets for different places all over the world. Their products are visually appealing and automated in order to be user friendly and self-cleaning.

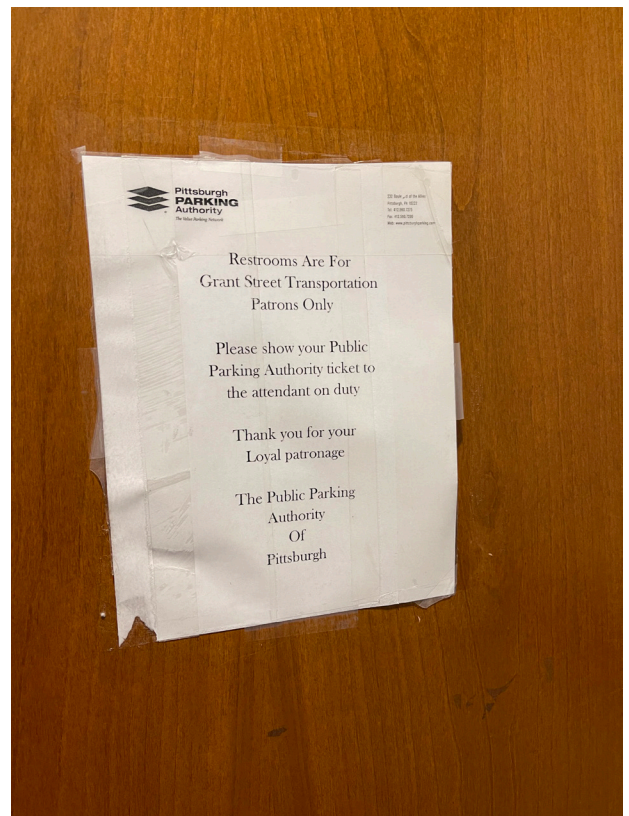
Other cities in the United States have started to address the issue as well. Denver, Portland, Los Angeles, Nashville, Oahu, San Francisco, Tempe, St. Louis, and Seattle have begun to incorporate mobile trailers in their cities that enclose public restrooms and/or showers available for use (Breitenbach, 2017; Morcelle et al., 2018).



Source: Point Park University



Source: Point Park University



LITERATURE REVIEW AND SITUATION ANALYSIS

A common belief is that “a public toilet facility’s design and upkeep should offer privacy and safety, ensure cleanliness, provide required sanitation-related resources, and be gender equitable, including enabling comfortable and safe management of menstruation” (Gruer et al., 2021). Avoiding this issue may lead to bigger issues economically and socially. Issues and drivers that affect this problem include the misuse of public spaces, homelessness, and health issues.

Keys to success that may be relative to addressing this problem include:

- Community engagement and support
- Acknowledgement and awareness of the issue
- Valued and collective input
- Education

Attempting to solve the limited number of public restrooms will add value to the community and its stakeholders in a number of ways. For example, there will be a tangible location for people to use restrooms, community traffic and business may increase, urinating and defecating in the open public may decrease, and the environment overall may appear more clean, organized, and safe.

Another need is to implement public restrooms that are accessible and accommodating to those in need. Individuals with disabilities or families with infants and children are often unable to use the restrooms that are currently available.

“When it comes to layout, public bathroom laws state that all bathrooms should be ADA-compliant, meaning they should be accessible to people with all degrees of abilities. Employee restrooms must adhere to both OSHA and ADA guidelines, while public bathroom laws and policies dictate, they should be ADA-compliant” (onpointpartitions.com; 2022).

Each state has different regulations, though many opt to follow the International Plumbing Code (IPC). The IPC designates how many bathrooms and stalls there should be for any given public or commercial space, such as stadiums, malls, restaurants, and nightclubs. This ratio needs to be applied to public spaces, based on the intended use for the space and estimated number of people visiting or passing through the area. As per OSHA regulations, restrooms must be provided even if there is just one employee in a building. This number varies from 1 toilet per every eight people to every 1,000 people.

Although public toilets are built in different places and based on their location certain aspects such as costs, models, maintenance, and operation may be different, but key design and construction elements are usually similar (Shaw, 2019). Steven Soifer, president and co-founder of the American Restroom Association, referred to limited public restrooms as “a public health concern” (Yuko, 2021). The lack of public restrooms can increase the level of how many people are exposed to germs and bacteria. Although public health can be an umbrella for many issues, it is overall a key issue. Another identified issue is ensuring community safety. Implementing public restrooms comes with financial cost and it also comes with other costs. For example, the cost of drug use and other related activities can be an issue when public restrooms are made available to the general public.



Based on the concerns voiced by its members, BOMA Pittsburgh has prioritized getting public restrooms implemented to create a cleaner and more vibrant central business district with public restrooms available to all residents and visitors. Some of the questions and key issues expressed are as follows:

- How many restrooms should our city have?
- Where should they be located?
- Cost to implement and maintain?
- How do we avoid “bad” behavior? How do we keep this initiative equitable and not a privilege?
- Does this tie into other initiatives (lighting, wayfinding, making downtown a neighborhood etc.)?
- What is the current “cost” being paid with the lack of available public restrooms?
- How would public restrooms help with local, national, and international tourism?
- What are the most important factors to consider in the design of public restrooms? (Vandalism, hygiene, and security for example)

In addition, the best way to evaluate the alternatives is to audit current public restrooms to determine the best course of action to implement more restrooms. Maroko et al. (2021) performed a bathroom audit to quantify the differences in public restrooms. The audit tool was created by combining and adapting existing instruments used to assess the accessibility and acceptability of restrooms in global development programs in both humanitarian and development contexts. These tools assess multiple elements of the restroom design including structure and hardware, availability of basic supplies, and safety and privacy features. Spatial methods included identifying high-needs areas of people experiencing street homelessness.

Their findings revealed that the most prevalent challenges pertained to accessibility, resource, cleanliness, and safety issues. This proved to be the case both for those living on the street and those living in shelters, the latter of whom also need facilities as they move around the city when seeking out services or employment. Many informants also expressed concerns about their

lack of maintenance, with recommendations emerging from the respondents that corresponded to the types of cleanliness challenges observed during the toilet audits. Informants also complained about the limited numbers of public toilets throughout the city, and the restricted hours of operation, such as those located in the city’s parks.

Corradi et al., (2020) also developed a Public Bathroom Perception Scale that includes 14-items and three domains: privacy, ease of use, and cleanliness, to gain insight on the user’s perspective of the public restrooms. The perspective of the stakeholder is helpful in determining how to address the gaps in the project. This scale could be used for future research on restrooms in the city.

Moreira, Rezende & Oassos (2021) argue that there are several key factors to consider while designing public restrooms. The first and most important item, however, is availability by distance and by the number of provided stalls. Based on the research, distance and number of available stalls can influence the time people spend waiting, which affects tourism and businesses. While there is no official guidance on the correct number of restrooms per population, we know that most cities do not have enough to meet demand, Pittsburgh included.

Homelessness

Individuals experiencing homelessness are greatly impacted by the lack of public restrooms (Molotch, 2010). In several Downtown areas, tents line the streets of the Financial District that were once teeming with bankers, tourists, and residents prior to the pandemic of 2020. Alleyways smell of stale urine, and excrement is often found nearby. While some efforts have been implemented, including portable toilets (porta-johns) in areas with high homeless populations, they are not meeting the demand. For example, the portable toilet on Strawberry Way is out of order; full of excrement, dirty, vandalized, and has a broken door lock. Stakeholders indicated that it is used more often for illicit activity than restroom use. A public restroom found in the Mellon Square parking garage was closed for similar reasons. Viable options include the Carnegie Library on Wood

Street and one of the local Starbucks, yet they are not enough to meet demand as our homeless population continues to grow. Additionally, women experiencing homelessness have additional health and hygiene concerns during their menstrual cycles. Limited options to properly dispose of menstrual products can lead to health concerns for both the individual and general public.

During an onsite visit to the Downtown area, signs prohibiting urination or defecation in alleyways were posted and broken portable toilets were surrounded by trash. Some public restrooms are available in parking garages, but many were closed due to vandalism or the pandemic and others had limited hours of operation and accessibility which continue to make these facilities largely unusable by members of the public, let alone the homeless community. While individuals experiencing homelessness are not solely responsible for inappropriate restroom use, concerns with dangerous or illegal behavior are often also centered around public restrooms. To limit inappropriate use of the public restrooms, design decisions must be made to directly inhibit or prevent inappropriate use, such as installing modified lighting to prevent drug use (Fozouni et al., 2020).

The lack of appropriate public toilets is impacting businesses near these locations. In addition to providing portable restroom trailers, developing a partnership with local fire stations and EMS/Paramedic stations (Appendix A, Fig. 3) could be an option to support public health clinics. ASAP Site Services also offers portable showers for rent, which could be set up near the sites for the public health clinics. The EMS/Paramedic stations could provide basic healthcare and preventative treatment for residents of homeless communities. Setting up the portable restroom and shower stations in areas closer to EMS/Paramedic stations could encourage the larger homeless populations to take advantage of these facilities. The more desirable or public locations could also provide safety and security for individuals using the facilities. Medic 14/Rescue 2, located at the intersection of Smithfield Street and the Boulevard of the Allies is 0.3 miles from both Market Square and Mellon Square Park,

making this a feasible location for an outreach program within the Golden Triangle.

As much of the land surface of the Downtown area is covered by pavement and buildings, rain and snowmelt are not absorbed. There is a reliance on storm drains to carry runoff from rooftops and paved areas to the surrounding rivers. The runoff carries typical urban pollutants (oil, dirt, chemicals) into the rivers harming water quality (EPA, 2003). The City of Pittsburgh's aging infrastructure has a combined sewer system meaning stormwater can overwhelm the system. Fecal-related bacteria flows untreated. With increased cases of Hepatitis A (Morcelle et al., 2018) and the risk of disease operates and infection, it becomes a matter of public health and safety.



Source: Point Park University

Accessibility

Accessibility is also a key issue regarding making a restroom available to everyone. Wheelchair accessible restrooms and the availability of adult changing tables are design considerations for public restrooms and are not available in many restroom designs including most portable toilets. One solution is to make different facilities available throughout the Downtown area that would offer options to meet a variety of needs. Changing tables for those with children or adults with special needs, extra room for those with strollers or wheelchairs, individual stalls for added privacy, and hygienic disposal options for colonoscopy bags or other medical supplies should be among the top considerations. The importance of public restroom access is vital for those with medical conditions that require immediate or frequent access to restrooms, such as bowel and bladder diseases like Crohn's disease. According to Moreira et al (2021), the governments must respond to the public's need and expectations for adequate facilities. For many people, loss of public conveniences is far more than a simple inconvenience.

In a survey by Crohn's and Colitis UK, 70% of participants with IBD reported worrying about toilet facilities while traveling. Ally's Law, is the first Restroom Access Act that has been passed in 18 states as of 2022. This law ensures access to people with medical conditions that may impact restroom use. "I Can't Wait" cards are provided to these individuals, which gives immediate access to "employees only" restrooms. Pennsylvania has not passed Ally's Law so accessible restrooms in Downtown Pittsburgh would be very beneficial for the approximately one in five Americans that suffer bowel and bladder conditions (Bladder & Bowel Community, 2022).

Gender neutral options are also important to consider for caregivers and those who do not identify as cisgender. Many toilet designs now include gender neutral language, facilities and signage and these should be considered for implementation. All solutions proposed by this group should be gender neutral whenever possible. Gender-neutral bathrooms provide a safe, private facility for transgender, genderqueer, and gender non-conforming people, families with children, and people with disabilities who may need assistance. Single-stall restrooms also more easily meet the accessibility regulations of the Americans with Disabilities Act (ADA). All-gender restrooms can actually improve efficiency as well. The Guardian did some reporting for an article in 2017 based on average restroom usage times as reported in Psychological Reports in order to calculate wait times in restrooms and found that by making stalls all-gender the wait times on average was less overall. While they would rise slightly for men, they would drop significantly for women (Guardian, 2017).



Solution Space

The success of public restroom installation focuses on the solution space. “The solution space constitutes the world of products, services, and policies that have been produced to address a particular problem” (Writing Commons, 2021). To implement public restrooms in Downtown Pittsburgh, many factors must be considered. Location, costs, maintenance, and public behavior will all play a vital role in the project. In addition, the public restrooms must be accessible and properly designed to make them functional for everyone, which increases the outcome of success.

During the research phase of the project, data was collected by interviewing 101 individuals who participated in an intercept (on-the-street) survey in Downtown Pittsburgh. Out of 101 participants, 97% agreed that there is a need for more public restrooms in Downtown Pittsburgh. Of the 97% who agreed with the need for more public restrooms, 81% of respondents have needed to use a restroom while in the Downtown area. The successful installation of accessible public restrooms will enhance public health and safety, improve economic growth, and encourage tourism, while decreasing the chance for public human defecation and urination.

Whether changing a diaper, washing up, drying off, or just resting, the comfort station continues to play an integral, if unsung, role in sustaining parks and public spaces. As the city has grown, the construction of new comfort stations has been slow to follow. Across parks and playgrounds in the greater Pittsburgh area, there are 86 reported bathrooms for every 100,000 residents. This ranks Pittsburgh 13th among the country’s 100 largest cities (Stringer, 2018). While this might sound promising, many of these facilities offer limited hours, are closed, in disrepair, not properly maintained, are missing signage or are inaccessible to individuals experiencing homelessness. Rather than rely on this seemingly positive ranking, we should strive to provide actual usable public restroom facilities for our residents, visitors and unhoused. Nearly 100% of our research respondents indicated a desire and stressed a need for more public restroom facilities in Downtown Pittsburgh.

Rank	City	Comfort Stations per 100,000 Residents
1	St. Paul	210
2	Jacksonville	140
3	Minneapolis	137
4	Chesapeake	126
5	Cincinnati	125
6	Milwaukee	113
7	Anchorage	111
8	Henderson	102
9	Anaheim	100
10	Louisville	97
11	St. Petersburg	96
12	Lincoln	92
13	Pittsburgh	86
14	Orlando	85
15	Buffalo	84

Source: The Trust for Public Land

Maintenance

One of the challenging issues is cost, both of the initial installation and the upkeep required for public restroom facilities. In many of the cities with the most highly rated public toilets, having a human as the arbiter of care seems to be an important component (Lowe, 2018). Using people to monitor and service the toilets provides the opportunity to make quick decisions, troubleshoot and provide job opportunities. The City of Pittsburgh’s work for men coming from the criminal justice system. With the partnership already in place, expanding it to include public restroom maintenance seems to be one feasible option.

There are grants available for public sanitation needs, as well as to support social justice initiatives, which could also defray some of the initial costs. As mentioned above, not all restrooms can be equipped with every amenity one may like in a public restroom, but each facility should maximize available resources to provide a clean and accessible option. Decisions must be made to present best practices in terms of appropriate bathroom use. “Besides drugs, people use toilets to nap, have sex with others or themselves, read, write graffiti, vandalize, chat, groom, smoke, or nip a drink” (Molotch, 2010). There are some actions that

are going to be unpreventable since people can make choices that may or may not always benefit themselves or the greater good of the public, but having a regular maintenance schedule provided by in-person employees may help to curb some of the possible negative behaviors.

Surprisingly, survey respondents were willing to pay for access to a clean, safe, accessible restroom. 63% of individuals surveyed were willing to pay for public restroom access. Portable toilets are not a first choice, although they come with the smallest price tag. Portable toilets on average cost \$150-200/per week for a standard unit and \$200-250 for an ADA accessible rental. Most portable toilets include one toilet, one urinal and one hand sanitizer. No lighting or sinks are included.

According to Bowser (2018), The Public Restroom Act of 2018 suggests establishing a community restroom incentive pilot program to provide financial incentives to public businesses to offer their restrooms for public use. With BOMA Pittsburgh as a partner, the possibilities for a public-private partnership is a viable option to consider. Businesses allowing the public to use their restroom facilities would receive a discounted membership to BOMA or a stipend to assist with the more frequent maintenance and supplies needed to maintain the cleanliness of the restroom. Uniform signage notifying the public of available restroom facilities would expand the knowledge of available restrooms and would potentially bring additional customers to the business.



Source: Point Park University

Domestic Best Practices

There are three main types of public restrooms: modular, site-built, and mobile infrastructure. Within these three, there are different features of each that may be appealing depending on what is needed and/or preferred. Modular restroom parts are constructed off site, and then shipped, delivered, and assembled at the desired location. Site-built restrooms are constructed on their designated location. Companies like Sanitronics International, Toilltech, Hitech, and Exeloo make their products in their factories, ship the products to the site, and assemble the restrooms at the location. Mobile infrastructures are trailers or single occupancy use structures that can be moved and relocated. Both modular restrooms and site-built restrooms have similar designs however, modular restrooms are “are-assembled with built in plumbing, quick and easy to assemble, easily cleaned and sanitized, weather-proof structures, convenient outdoor restroom option, ADA compliant, and customizable to your needs” (Modular Restrooms, 2021). Site-built restrooms tend to be more expensive and timely to build water and sewage connections are needed, and other factors can play a role as well. Site-built structures, such as those in parking garages, bus stations, and commercial properties, are typically those used in incentive programs that allow cities to partner with local businesses to open their restrooms to the public at a cost that is paid by the city, but free to the public. Mobile infrastructures are a temporary

solution that can provide a sense of relief during events where high traffic is expected; however, they are not always the best option due to their size, lack of automation, and lack of permanency.

In the United States, several cities are addressing the deprivation of public restrooms that has caused and continues to cause public health concerns for residents, tourists, businesses, and individuals experiencing homelessness. The disquietude of this problem is one that all human beings share, as everyone at some point must relieve themselves throughout the day. However, the lack of public restroom availability and accessibility adds to the long list of social issues that have yet to be resolved. Therefore, cities such as Denver, Portland, and San Francisco are leading the way in best practices to alleviate the concern among those visiting, living, and working in their cities by implementing public restrooms that fit each city’s needs.

Denver, Colorado piloted a three-tier program to “create a safe restroom environment, with facilities that had minimal impact on the community and met the requirements of a variety of users, resulting in key information about usage to inform the process” (City of Denver Public Restrooms Pilot Program, 2018, p. 3).



Source: City of Denver

- Tier One of the program was activating existing public restroom facilities in the downtown and surrounding neighborhoods and parks.
- Tier Two evaluated locations for a pilot program for utilizing mobile restroom facilities
- Tier Three determined the best location for placement of a fixed facility.

Limited information has been released on Tier One and Tier Three of the program; Tier Two has been the primary focus thus far. Tier Two focused on the mobile trailer unit that was placed downtown. The unit is equipped with heating and air conditioning, a baby changing table, a sharps container for injection needles, and an attendant. A right of way permit had to be obtained to utilize three metered parking spots for the unit, a trailer tow, and a generator (City of Denver Public Restrooms Pilot Program, 2018). The success of the mobile restroom unit provided enough evidence to continue providing the service and adding an additional mobile unit in a separate location downtown as well.

The total cost for both mobile units included the “cost for the trailer, electricity, pumping fuel, operating the generator, disposal of syringes and compensation for the on-site attendant” for a total monthly expense of \$34,000 (City of Denver Public Restrooms Pilot Program, 2018). The

temporary solution of using mobile units has helped to alleviate some of the concerns within the city; however, a more permanent solution has been recommended to remedy other concerns. The city has announced a fixed restroom facility will be opening soon in downtown Denver. The three-tier program has led to much success in Denver as a way to address the issue of accessibility and availability of public restrooms in the city. Unlike Denver, Colorado, **Portland, Oregon** has established a single occupancy fixed public toilet called The Portland Loo. The Portland Loo implemented by a team of organizations who initially agreed upon the following needs: “meet restroom need for the houseless, tourists, commuters, public construction workers, the general public, and as many people as possible; open all year long and 24-hours a day; durable proven off the shelf components; single occupant and unisex; safe and crime resistant (CPTED features); and attractive and appealing” (The Portland Loo, n.d.). The design of the fixed unit would need to have

“Vents that are angled for privacy and security, equipped with stainless steel metal with graffiti powder coating, ADA compliant with room for bicycles and strollers, outside hand washing station, energy efficient LED lighting system, skylights, self-contained supply cabinet for easy cleaning, and attractive and discreet with added CPTED benefits” (The Portland Loo, n.d., p. 6).



Source: The Portland Loo



Source: The Portland Loo

The benefits of the Portland Loo are what make its model most appealing to other cities and countries that are considering a pilot program to implement more public restrooms. The Loo has “low initial costs and maintenance, built to order in as fast as 45 days, quick and simple installation, years of extensive research and development in the field resulting in improvements to overall design, low water and power consumption compared to automated public toilets, aesthetically pleasing designs, and one-year limited warranty and continual assistance” (The Portland Loo, n.d., p. 7). The costs associated with installation and maintenance of a Portland Loo include an initial cost of \$90,000, up to \$5,000 for shipping, up to \$12,000 for yearly maintenance, and added costs for any extra design options, (The Portland Loo, n.d.). Portland has led the way in innovation for public restrooms as their model has been adopted and piloted in several cities and countries across the world. The implementation of these public restrooms continues to make way for new ideas and ways to address the issue. The Portland Loo is not necessarily attractive. Its design is austere, and meant to curb bad behavior. The toilet bowl is made out of stainless steel and sits on a concrete slab floor. There’s no sink, to prevent users from washing clothes. Outside the loo, there is a spigot for handwashing that dispenses only cold water. The outside is made from graffiti-proof paint.

San Francisco, California is another city that has made significant progress in implementing public restrooms that are beneficial for their city. The Pit Stop Program in San Francisco was started in 2014 which was sparked by neighborhood middle schoolers who were fed up with having to carefully navigate around human waste on their walk to school (Pit Stop Program, n.d.). Like Denver, San Francisco has implemented mobile trailer units which cost around \$100,000 per year (Rodriquez, 2015). The mobile trailers are equipped with toilets and sinks, needle disposal containers, dog waste stations, and paid attendants. The results of these public restrooms have helped people to take care of their bathroom needs with dignity, made neighborhoods more livable, and reduced complaints about human waste in public spaces (Pit Stop Program, n.d.). San Francisco also renovated 25 existing fixed units within the city that were installed in 1995 but later closed due to lack of maintenance and cleanliness. Three of these fixed units have been made available 24 hours a day for seven days a week. The city approved \$6 million in funding to ensure these 24 hour fixed facilities were able to be maintained and open.



Source: San Francisco Examiner



Source: San Francisco Examiner

Other cities are also finding ways to address the concerns surrounding the lack of public restroom availability and accessibility by following in the footsteps of the cities mentioned above. **Orlando, Florida** piloted a program called “DTO GO” that mimics that of the Denver program. In 2019, the “DTO GO” program included the implementation of six non-permanent mobile trailers in Downtown Orlando with attendants and limited hours of operation, which cost \$505,000 for the one-year it piloted its program (Baratelli, 2019). Furthermore, the pilot program was a temporary solution that would allow the Community Redevelopment Agency (CRA) to find long-term solutions (Baratelli, 2019).

Meanwhile, in 2018, **Washington DC** was torn between three types of public restrooms - automated public toilets (ATP), The Portland Loo, and Community Toilet Scheme - that would benefit their city the best. Since then, Washington has piloted two different programs including The Portland Loo and an incentive program (Community Toilet Scheme) for business owners to allow access to their restrooms free of charge to the public in exchange for an incentive (Merino, 2021). The free-standing fixed units like The Portland Loo would cost around \$270,00 to build and \$64,000 in custodial services (CleanLink, 2019). The People for Fairness Coalition (PFFC) conducted a survey in 28 cities across US and Canada that had installed Portland Loos in city parks. This research found that nine of 13 cities kept the restrooms open on a 24-hour basis, eight of nine cities reported that the facilities were always clean, and all cities were committed to the importance of clean, safe public restrooms (American Restroom Association, 2022). The PFFC has recently included Washington, D.C. in the list of cities that must ensure access to clean, safe public restrooms is available to everyone in the city (PFFC, 2018). Washington, DC is considering starting a public restroom model that was introduced in London, England where businesses are paid a stipend by the city for allowing members of the public to use restroom facilities inside of the business (Community Toilet Scheme, 2022).

Chicago, Illinois is also having a hard time determining how to best implement public restrooms that would address the needs within its city as well. However, the city has looked to

mimic The Portland Loo and similar designs to those in London like the Community Toilet Scheme, but cost seems to be a huge barrier for implementation (Cobbs & Greenfield, 2022).

In **New York City**, Gonen (2019) described the cost of public restrooms in various locations within the city. The publication found that the typical city Parks Department bathroom – a no-frills rectangular structure with four walls, several toilets and a number of hand-washing sinks – costs taxpayers just under \$3.6 million on average (Gonen, 2019). The elected officials within this district have stated their opinions of the issue. “It’s a borderline astronomical cost — but at the end of the day, we’re paying those costs everywhere,” said City Council Member Joe Borelli (Gonen, 2019).

According to the report by Stringer (2019) New York has a ratio of just 16 restrooms per 100,000 inhabitants for its 8.5 million population.

According to the American Restroom Association (ARA) In the late 1970s, municipalities began closing public toilet facilities based on the expectation that strengthened “customer restroom building codes” would fill the need for public restrooms. As it becomes apparent that many people hesitate to visit areas that lack public toilet facilities, there is now a trend to provide year-round public restroom facilities. ARA has studied and published many design ideas for public restrooms. The ARA website (americanrestroom.org) includes the best US toilet design rankings as well as many international designs. Also included are other trends and factors related to the restrooms, such as noise canceling devices, restroom security devices, advertising, stand-alone steel bathrooms, and connections to public water and sewage.

Global Best Practices

Other countries are also dealing with the issue of public restrooms. In **Ireland**, many citizens feel that there are not enough public toilets and that access is not easy enough. In **New Zealand** they are building more public toilets, with an emphasis both on accessibility and bringing in public art. **Australia** seems to have the most comprehensive public toilet system, and even there the populace believes there should be more. Many of these countries also have websites devoted to finding public toilets, making it easy for both visitors and locals to find the nearest public toilet when needed. In some cases, these websites are part of a greater wayfinding project, but in others the toilets are the heart of the website. **The Netherlands** has creative and cutting-edge public toilets, but they typically come with a cost. The country also installed toilets that are eco-friendly and environmentally friendly. Public park restroom design offers an excellent prototype as many of the design issues and implications are the same as those facing downtown restroom design. Key design elements include the number of people visiting the area per day, who the users will be, and security. One priority is inclusivity, making sure to include both child and adult changing tables and enough space to be able to change these individuals with privacy. Public park restroom design also emphasizes matching the architecture to the area, something that seems to resonate across stakeholders.

Bremen, Germany and **London, England** both have created their own inexpensive ways to deal with the issue surrounding public restrooms in their respective cities. The innovative ideas are also beginning to expand to other cities. In Bremen, the program is called “Nette Toilette”, or “Nice Toilet” and has been active in 210 cities since 2000 (Sorrel, 2018). The program includes a partnership between city governments and local businesses in which local businesses are being paid to open their restrooms to the public. The city government is paying \$34 - \$112 per month to participating businesses. The business displays a sticker in their window to show their participation in the program; additional information about the accessibility of the restroom is also listed. Using restrooms inside of the participating businesses is free to the

public. Bremen has saved at least \$1 million per year by using this program instead of building its own public restrooms (Sorrel, 2018). The program costs around \$168,000 per year in Bremen to pay local businesses for public restroom use. This model has created “the best ratio of public toilets to citizens in Germany” (Sorrel, 2018). The success of this program has caught the attention of Munich, the largest city to join the scheme (Sorrel, 2018).

London, England has a similar program called the “Community Toilet Scheme” (CTS) in which shops, restaurants, and bars provide the public with free access to their restrooms (Community Toilet Scheme, 2022). Public restrooms within local businesses that are not a part of the Community Toilet Scheme program may require a cost to the public to use their facilities. A toilet map called “TFL” that shows the location of toilets on the TFL network or close to it (Public Toilets in London, n.d.).

Another city that has taken the initiative to address the issue of public restrooms is **Tokyo, Japan**. The city has taken a new approach to public restrooms with the Tokyo Toilet Project. The project “aims to create unique restroom facilities at 17 locations across the municipality that provide a comfortable user experience and are accessible to all members of the public” (The Tokyo Toilet, 2020). The project includes the renovation of 17 existing public restrooms in Shibuya, Tokyo that will be aesthetically pleasing and provide a dedicated cleaning staff to keep up with cleanliness and maintenance. There are 16 creators that are working within the

Tokyo Toilet Project to build structures that meet the needs of those residents, tourists, and others.

The issue of public restrooms may not be as problematic in many North American cities as in some older cities like Tokyo, London or Paris. Restroom facilities in those cities are conveniently located away from sidewalks and typically have assigned attendants.

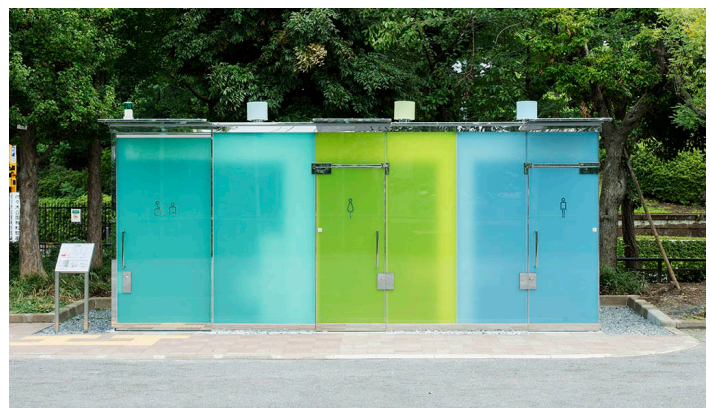
British Columbia. The British Columbia version on Langley Street won an award for the best washroom in Canada in 2012. This example can be demonstrated as an ideal state where the city is willing to provide the facilities in order to provide a comfortable, safe experience for everyone in the city.

A recent United Nations report has emphasized the need for public restrooms, especially for groups such as street workers or other vulnerable social groups (UNGA, 2019). Based on other research, in most cases, the municipality oversees creating and maintaining the facilities. According to Breitenbach (2017), groups like PHLUSH (Public Hygiene Lets Us Stay Human) and the American Restroom Association (ARA), encourage policymakers to make restrooms more available and accessible. In a report from the Thoman Rutgers Foundation, results showed that the community would take responsibility and show respect for the facilities when they are modern and in good condition (Sundas, 2017). A study by Breitenbach (2017), found that by creating public restrooms, people are more likely to walk, bike and use public transit to attend gatherings in downtowns, where parking is a concern. She emphasized that using public toilets in cities not only cleans up the streets from human urination and defecation, but also encourages tourism and physical movements.

Public Restroom Index

Our group effort to find a minimum standard for public restroom per capita wasn't successful. As the governmental responsibility for these codes is very fragmented across the USA (something we would like to see changed to a minimal standard), it is very difficult to know the answer to this question as it can depend on the state, county, city, and town requirement of the intended location.

Based on research that is done by QS Supplies (2021) the public restroom index differs across the world. The company QS Supply which is a bathroom supplier in UK has retrieved information on the number of public restrooms in different countries. According to QS Supplies (2021) The country with the highest density of public bathrooms is Iceland: 56 toilets per 100,000 population. Madison, WI, is the US city with the most toilets per 100k (35). Mississippi and Louisiana each have just one restroom per 100k population, the worst-served states in America. San Francisco is on top for toilets per 100km² (18.7), far ahead of second-placed Oakland (8.8). The streets of Frisco are lined with self-cleaning toilets, which are run at zero cost to the city. Contractor JCDecaux is licensed to install public service/advertising kiosks on the pavements to recoup their costs. Pittsburgh with a total of 35 toilets has provided 12 toilets per 100K population and 2.5 toilets per 100 SQ KM. (<https://www.qssupplies.co.uk/the-public-toilet-index.html>)



Source: LiveJapan

PRIMARY RESEARCH

The main focus of this project was to conduct primary research with stakeholders in Downtown Pittsburgh. Stakeholders included business owners, representatives from nonprofit organizations, churches, healthcare, cultural and environmental organizations, parks, and the City of Pittsburgh, along with tourists, visitors, residents and individuals living with homelessness. The project team conducted three different types of primary research during the summer of 2022. These included:

- 9 person focus group with organization representatives
- 7 long form interviews with organization representatives
- 101 intercept (on the street) interviews

SPSS and NVivo software were used to both quantitatively and qualitatively analyze the data from the interviews.

Qualitative analysis resulted in ten major themes to the interviews. These themes were things that the interviewees considered to be important in the discussion of public restrooms. They included:

1. Safety and security
2. Accessibility
3. Location
4. Need
5. Benefits and costs
6. Responsibility
7. Maintenance
8. Wayfinding
9. Design
10. Payment

Stakeholders often stated being in the middle between recognizing the need for public restrooms but concerned about the actual implementation of a successful program. Most felt a strong need for public restrooms downtown, recognizing the issues revolving around homelessness and a lack of facilities creating negative consequences in both reality and perception, while also seeing the benefits that would come from the city having public restrooms along with the other welcoming aspects of Downtown Pittsburgh to welcome potential tourists, event coordinators, and trade groups. Stakeholder concerns focused heavily on who would be responsible for ongoing maintenance as well as cleanliness and security, with different agencies saying:

“I’d want it to stay clean and I want it to be protected so that the people that need the restroom could use it.”

“I think you need to set a minimum standard for cleanliness that is applied even if there are even if the service is being provided by different sectors”

“... two things we would need a full time custodian, and we would need a full-time security person”

“I do not have an opinion on the design, but there is such a high possibility for abuse. So, they need to be as simple and easily maintained as possible.”

Most stakeholders felt the bulk of the financial responsibility should be taken on by public entities, saying costs should be paid *“100 percent by the city”* and *“...I think obviously it’s a public service. It should be supported by the public”* but also recognized the multifaceted nature of the problem and the diversity of benefits, saying *“I think it’s a public good... I would say the public probably should be in charge of owning and managing those, but obviously... there’s private support out there.”*

One participant simply stated *“It’s so complicated”, while another argued “But I think there’s general consensus among the private sector that these are needed, and I think that there could be potential support from the private sector too”.*

Other organization representatives felt similarly, but are overwhelmed in the current situation, *“... we would definitely consider...having...restrooms open, but we need help. It is probably gonna be... some sort of joint effort. Maybe the building owners would contribute some of the cost”.*

Others interviewed remained open to possible solutions and potential partnerships, *“...and so there should be - I think there is a possibility for - a profit driven public restroom option as well as a sort of a public sector model”* and *“So I do think there’s a role for the public sector to provide... restrooms in common areas like parks or when there are events downtown to provide additional resources for restrooms or for... the nonprofit and public sectors will provide restrooms that are targeted towards homeless individuals. And then I think there’s a role for the private sector to provide paid toilets that might have additional amenities that tourists or people who work downtown would appreciate”* recognizing that there are a number of ways private organizations and businesses could and should support public restrooms. In fact, several stakeholders interviewed already provide restrooms or support for them and see the need for all people, including those experiencing homelessness, to have ready access to public restrooms and emphasized that while there is currently a clear problem, they support all efforts to solve the current lack of restrooms.

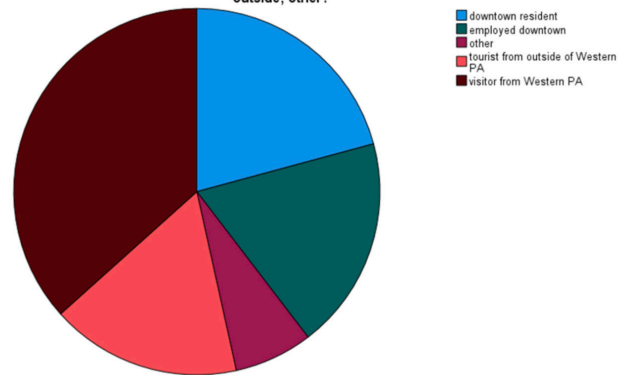
Most stakeholders agreed having attendants on site was a priority for both cleanliness and as a deterrent to unwelcome bathroom behaviors including drug use, saying *“... it’s possible to expand the workforce to have a specific group of individuals to maintain those spaces as long as the funding is available to expand upon the group... certainly it could be a special project or an ongoing established group of that chair of the team.”*

Overall, while those interviewed shared deep concerns regarding the current situation and harbored worries about responsibility and safety issues, data showed they wanted to find meaningful solutions for all people sharing the downtown space to have access and were willing to partner with others and work to make that vision happen.

Intercept (on-the street) surveys were also conducted with residents, tourists, visitors, and individuals living with homelessness between July 1-14, 2022 on various days and times of day throughout Downtown Pittsburgh with 101 participants giving informed consent, surveyed by 10 different investigators. Those interviewed represented:

- 37% visitors from Western PA
- 21% downtown residents
- 19% downtown employees
- 16% tourists from outside Western PA
- 7% Other

Are you a downtown resident; visitor from Western PA from western PA; employed downtown; tourist from outside; other?



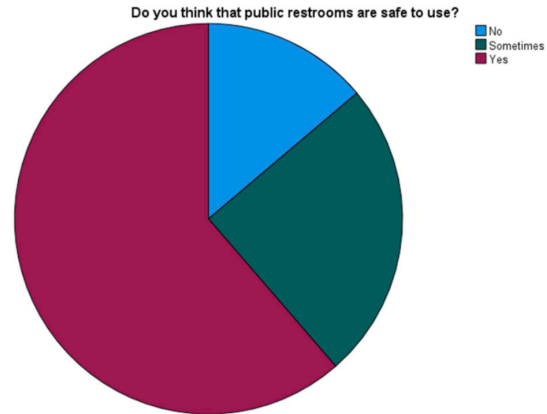
Interviewees were asked about how much time they typically spend Downtown. They ranged from:

- 14% 1-4 times/year
- 23% monthly
- 10% weekly
- 36% daily
- 17% first-time visitors

Seeing or smelling urine or feces makes for an unpleasant experience for any visitor or resident and can impact tourism. Participants were asked if they had ever smelled human feces or urine downtown to which 58% replied yes; this question was followed up by asking if they had ever seen someone urinating or defecating downtown, and 49% said yes.

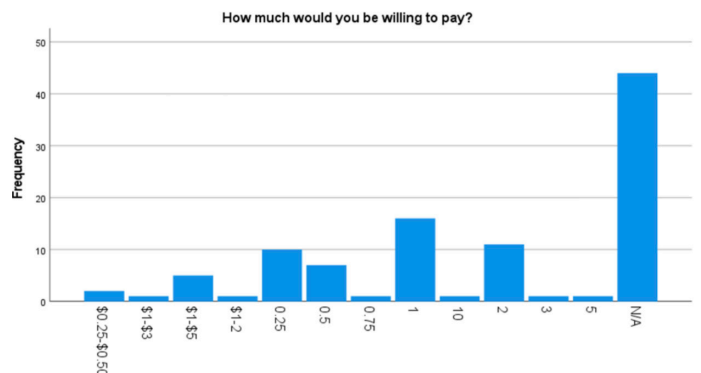
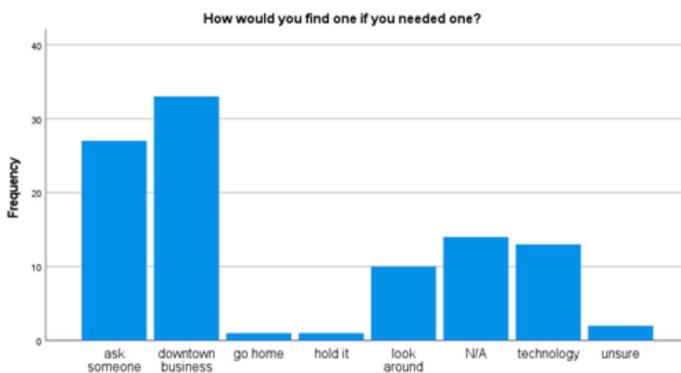
Finding a public restroom was a concern for most respondents. 67% of respondents said no when asked if they knew where public restrooms were available downtown, accessible without making a purchase.

Most respondents did express a need to use a restroom while visiting Pittsburgh. 81% of participants answered yes when asked if they had ever needed to use a restroom while downtown, and while 61% found a restroom, most chose to purchase an item in a restaurants, not free or accessible to all); many people who could not find one left the downtown area or went home. Over half of those reporting they did find a restroom were referring to using one at a downtown business (which are not considered public restrooms). When asked how they might go about finding a public restroom, the majority of respondents said they would use a downtown business (although those are not considered public restrooms).



Concerns

We asked respondents what might stop them from using a public restroom. Dirtiness was by far the strongest reason for individuals saying they would not want to use a public restroom, followed by a lack of maintenance. 23% interviewed said they or someone they knew had been unable to access a public restroom in the past due to a lack of accessibility. The most commonly suggested amenities were changing tables and hand sanitizer, followed by handwashing, menstrual products, toilet paper, self-cleaning facilities, and all amenities. But a majority, 61% of respondents, believe public restrooms are safe.



A large majority of people said they would pay to use a public restroom (63%). However, a large number of respondents also said that there should be a mechanism in place to ensure that all members of the community had access to the bathrooms, regardless of ability to pay. Based on interview responses, even though some respondents had negative experiences and strong emotional responses due to difficulties around bathroom maintenance, the strong response was the belief that there should be access to bathrooms for all. Ideal locations for public restrooms included many spaces as shown in the chart.

Finally, we asked where respondents thought restrooms should be placed. Some were very specific with answers like Market Square (the most popular answer) and others stated general areas like transit hubs, parks, and in high traffic areas.

Full survey results are located in the Appendix.

Qualitative Data

Qualitative research data obtained from the focus group session and seven individual interviews. The interviews were transcribed and coded by employing NVIVO software.

As presented, ten codes were identified and evaluated for reliability and consistency of measures. Each code has come with an in-text citation to quote the ideas that arose from the interview sessions.

Accessibility

“Accessible in a way that these individuals who are coming from Washington County or from more rural areas that they don’t they’re not intimidated.”

Benefits & Cost

“For me, it’s more about kind of a welcoming place, that’s accessible, family friendly. So, I think it’s certainly not only impacting the perception, but the reality of a place where people are meant to be.”

Design

“self-cleaning toilets where you just close the door, and something spin around and just hose everything down. A well-lit place with actual hot water, hand dryers that are built in that are not easily damaged.”

Location

“Central locations, parking garages, places where public infrastructure exists, and there’s some capacity to manage them. I think Mellon Square Retail is an option.”

Maintenance

“I think if the restrooms are not maintained well, or if they’re sort of initial setup, it’s not user friendly.”

Need

“If somebody comes to the church, we will let to use the restroom. But we do not have the resources to keep the thing clean or to keep people from doing drugs or prostitution in our restrooms before. So, the lack of public restrooms is a major challenge.”

Payment

“It requires some sort of potentially a token or something like that. You do have to technically pay.”

Responsibility

“It is probably going to be a joint effort. Maybe the building owners would contribute some of the cost.”

Safety & Security

“I think there is an expectation that everywhere you go, you are gonna have a camera.”

Way Finding

“They should be marked down on tourist maps, they would make their way eventually to tourism apps, and websites that do tourist things.”

GAP ANALYSIS

The gap analysis and decision criterion are based on data collected from interviews with stakeholders and persons on the street to address the concerns and ideas surrounding public restrooms throughout the City of Pittsburgh's Downtown region. **Based on the statistical data collected from 101 individuals who participated in an intercept survey interview, 97% agreed that there is a need for public restrooms in Downtown Pittsburgh.** Out of these participants, 81% have needed to use a restroom during their visit to the Golden Triangle, encompassing the PPG Arena, Market Square, and Point State Park areas. Of the respondents, 25% would like to see public restrooms in Market Square specifically. Approximately one-quarter of the participants (27 out of 101) stated they could not find a public restroom, while 14 out of 101 opted to go home or uncomfortably waited to use a restroom in another location. Those 14 respondents, although a small percentage, represent money lost to the local economy. By going home, individuals left the city earlier than they had anticipated. Refraining from using the restroom for long periods of time creates possible health implications and removes enjoyment of the city surroundings due to being uncomfortable during the visit.

Results also found that charging a small fee to use safe, clean public restrooms meets the needs of the public. Based on the intercept data, 63% of respondents are willing to pay upwards of one dollar to use a public restroom. With a cost for restroom use, respondents also requested that certain amenities be included, such as changing tables for infants or individuals with disabilities, regular cleaning/maintenance, adequate ventilation, lighting, soap and running water. Ease of finding public restrooms is also important, with 54% of respondents stating that adequate public signage is important or technology such as phone applications or Google Maps (23%) would aid in the process of locating safe and clean restrooms quickly. These distinctive attributes would create a more vibrant and innovative method for an attractive solution to the lack of readily available public toilets in the Greater Pittsburgh Downtown community.



Source: Point Park University

ECONOMIC AND SOCIAL COST OF MAINTAINING THE STATUS QUO

Tourism is a major economic driver for Pittsburgh. Allegheny County's tourism industry lost \$3.6 billion in visitor spending, not to mention 24,540 jobs, by the end of 2020 due to COVID-19. State and local tax revenue, generated by visitors to the County, is estimated at \$413.2 million dollars. Each Allegheny County household saves upwards of \$763 a year on taxes when tourism is at its peak (Economic Impact, 2020). A lack of public restrooms perpetuates social isolation. An incontinent person, or one who has other underlying health issues, or personal needs, may need to use a restroom numerous times throughout the day. An area lacking in public restrooms will be avoided if the person cannot find a dependable public restroom. Decreased tourism post-pandemic, combined with limited restroom facilities continues the downward economic trend; more money will continue to be lost, raising taxes for county residents. Tourism dependent businesses may shutter as the decrease in visitors reduces profits. Additional jobs could be lost, with vacant storefronts adding to dismal city streets, further decreasing tourism.

As the pandemic increased the option for remote work, many Downtown Pittsburgh office buildings have become vacant. Mayor Gainey's office is working to increase affordable housing by renovating these uninhabited buildings. He has proposed a \$2.1 million allocation from the American Rescue Plan (ARP) to fund a program to increase affordable housing while supporting Downtown Pittsburgh (Felton, 2022). Akin to negatively affecting tourism, this project may be for naught. Without public restrooms, individuals are forced to urinate and defecate wherever they can. An unflattering aesthetic will not attract new residents to purchase real estate in the Downtown area, possibly creating vacant properties that developers will be unable to sell.



Source: Point Park University

FINANCIAL ANALYSIS

The variable and fixed costs are based on local financial conditions in the Pittsburgh area and are subject to change. Costs of installing portable restrooms in Pittsburgh may vary based on a number of factors. Some of those factors consist of the number of restrooms needed, location, size and design of the unit, types of amenities included, range of contractor fees, and more. The difference in price to install one unit could range from several thousand dollars to well over \$100,000. Powell (2022) suggests that adding a bathroom to an existing space costs an average of \$7,600.

In addition to the Portland Loo, which is a viable option at around \$140,000 per year, manufacturing companies such as Sanitronics International, based out of The Netherlands, Hitech based out of India, and Exeloo based out of New Zealand, have all aided different cities in providing uniquely designed automated public restrooms that fit their cities needs. These companies are leading the way in innovation of sustainable, automated public toilets that are eccentric and self-cleaning to ensure that these structures can last and provide each city with a public restroom that fits their specific needs.



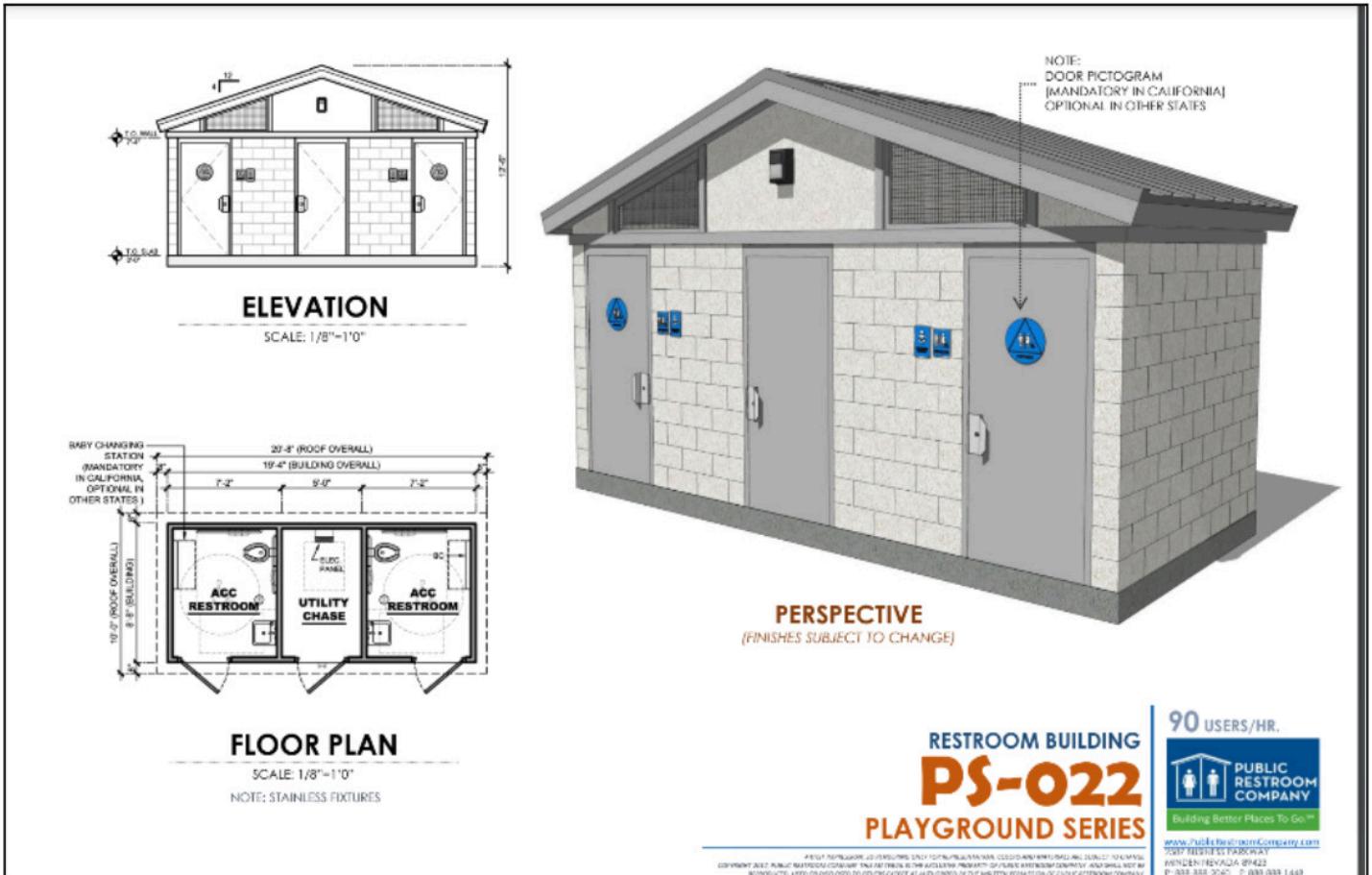
Source: Sanitronics

Another option is the **Throne**, produced by Thone Labs. The Throne provides handwashing stations, touchless entries and no-touch flushing toilets, changing tables, and solar power, all without needing to be hooked up to water or sewer. The Throne's high tech security feature sends notifications to a central dashboard when there is vandalism, maintenance issues, abnormal occupancy or servicing is needed. Throne toilets connect identity to each use, promoting prosocial behavior and providing the ability to remove access privileges for repeat offenders. The current cost structure of a Throne is a monthly rental fee of \$2,500-3,500 per month per unit. That includes all cleaning and servicing. The exact price is determined by projected use volume, order volume, duration of rental and a few other factors. The downside to the Throne is that it must be accessed with a cell phone, so it might not be a viable solution to help marginalized individuals.



Source: Throne Labs

Public Restroom Company, another available option, included current pricing in an interview with our team, saying their public restrooms can range anywhere from \$125,000 to \$575,000 for standard units. Units that are equipped with more amenities or better quality designs can result in prices that reach the lower millions. Below includes an example of a standard public restroom the Public Restroom Company offers its clients starting around \$200,000 to install in the Downtown, Pittsburgh area:



Source: Public Restroom Company

Other costs associated with installing public restrooms may include but are not limited to fees associated with construction, consulting, advertisement, state approval, engineering, construction, inspection, design, and delivery. Companies such as the Public Restroom Company offer plans that include all of the necessary expenses into one set cost, whereas with other companies the price may vary depending on if the unit is built on site. Operating public restrooms requires a great amount of time, money, and effort. Depending on the amount of time needed for

upkeep and safety of the property costs will vary. Considering the maintenance costs associated with installing public restrooms is a critical piece in the planning stage. Some maintenance costs may include but are not limited to the following: cleaning/sanitation, waste removal for non-flushing toilets, and sanitary refills including paper towels, soap, and toilet paper (Powell, 2022).

RECOMMENDATIONS

Issues concerning accessibility, access to, and availability of public restrooms extends beyond Downtown Pittsburgh and impacts people from different walks of life. As human beings, everyone shares the same feeling of needing to relieve themselves throughout the day. Many cities have been working to solve this issue by piloting programs that include renovating existing restrooms within their cities, adding additional public restrooms (mobile and fixed units), and incentivizing local businesses to open their restrooms to the public to ensure they are meeting the needs of those who are impacted by this problem. Furthermore, BOMA Pittsburgh has joined the efforts to begin addressing the lack of public restrooms in Downtown Pittsburgh to ensure those living, working, and visiting can do so without interruption due to a lack of public restrooms. To revamp public restrooms in Downtown Pittsburgh, insight was gathered from those who frequent the downtown triangle because they either live, work, or visit the area for various reasons.

Primary and secondary data was gathered to determine what an “ideal state” would look like for Downtown Pittsburgh with regard to public restrooms in terms of where public restrooms would be located and how to find them, how many restrooms would be needed, what amenities would be available, who would maintain the restrooms and the costs associated, what the design and aesthetics would look like, what the costs of implementing public restrooms would be, and possible incentive programs as an alternative.

Implementing public restrooms requires strategic planning and an understanding of the Downtown Pittsburgh Triangle and knowing where everything is located to be able to determine where they would be most needed, how many to account for, and ways for people to find them once placed. However, knowing the specific design, amenities, aesthetics, maintenance of a facility, and cost plays a huge role in implementation as well to ensure needs are being met. The recommendations that have been made are based on primary and secondary research gathered from interviews (intercept, focus group, and one-on-one) and pilot programs that have been done in other cities. In terms of implementation, there are three recommendations that have been made to begin solving the issue of public restrooms in Downtown Pittsburgh.

Recommendations for public restrooms in Downtown Pittsburgh include

- Providing **incentives to local businesses** to allow the public to access restroom facilities,
- **Renovating or reopening facilities** currently located in parking garages and other public spaces throughout the city and
- **Installing high-end semi-permanent or permanent restroom facilities** that will receive regular maintenance and supervision.
- **Creating a wayfinding system** that will help people find available public restrooms
- **Developing a long-term maintenance plan** for public restroom facilities

The first recommendation can be implemented almost immediately, while the options could be phased in during the next several years.

Recommendation 1: Incentive Program

- We recommend creating an incentive program for local Downtown Businesses. The incentive program would allow BOMA Pittsburgh to partner with The City of Pittsburgh to pay local businesses monthly, or offer them some other kind of tax or discount incentive to open their restrooms free of charge to the public during their normal hours of operations.
- This could be marketed as a way to increase foot traffic and sales inside local businesses.
- Signs could be created for the windows of the participating businesses letting the public know that the business offers a free public restroom because they care about their community (see example)
- The business would be seen by the public as offering social good and engagement in the local community.
- Within the Golden Triangle, there are 237 buildings (Emporis, 2018) and approximately 500 retailers and/or restaurants, museums and cultural centers, eight hotels, and seven parks (Golden Triangle Business Improvement District, 2018).
- The incentive program is a low cost, low maintenance way to implement public restrooms while also bringing increased visibility and goodwill for local businesses.



Table 1: Incentive Program Pros and Cons

Design & Location

Pros:
Provided by local businesses as a part of their existing building.

Cons:
Cannot make changes to existing facilities without approval.

Location varies.

Location varies.

Amenities

Pros:
Current facilities will have the most common amenities such as changing tables, hooks, automated machines, toilet paper, and more.

Cons:
Would be hard to add extra amenities not currently existing in the restrooms.

Aesthetics

Pros:
Aesthetics may already exist within the existing facilities.

Cons:
Aesthetics may not exist within the existing facilities.

Maintenance

Pros:
Cleaning to be maintained by the local businesses.

Cons:
Facility may not be well kept by the staff of the local businesses.

Hours already set by businesses.

Hours will vary between businesses.

Budget Costs

Pros:
Low costs (\$33 to \$110 monthly per location in Bremen, Germany)

Cons:
The more businesses that are added the costs will continue to increase.

May have to pay taxes.

Recommendation 2: Renovate/Reopen Existing Public Restrooms

- Renovate/reopen existing public restroom facilities (i.e., parking garages, parks, trails) in Downtown Pittsburgh and extend hours of operation to accommodate the needs of those who need to use the facilities outside of normal business hours.
- There are existing public restrooms in Downtown Pittsburgh (in Point State Park, parking garages, alleyways, government buildings, etc) that are either closed, in need of updating or could benefit from extended hours or staffing.
- For example, there are several public parking garages in Downtown Pittsburgh that have existing public restrooms (including the Third Avenue garage and the Boulevard of the Allies garage) that were closed due to vandalism or the pandemic. These could be reopened and renovated where necessary with support from project funding. Existing portable toilets in the city could be replaced by more functional units.



Table 2: Renovation and Reopening Pros and Cons

Design & Location

Pros:
Already existing public restroom facilities.

Location varies.

Cons:
Location varies.

Porta Johns are less appealing and desirable to the public.

Amenities

Pros:
Amenities may be able to be added with correct approval. Attendant, security cameras, changing table, hooks.

Cons:
Amenities may not exist within the existing facilities

Aesthetics

Pros:
Amenities may be able to be added with correct approval. Local artists can create murals for a more attractive facility.

Cons:
Aesthetics may not exist within the existing facilities and may not be able to be added.

Maintenance

Pros:
Cleaning can be completed by The Clean Team through a new program.

Hours already set.

Cons:
Hours will vary between businesses.

Budget Costs

Pros:
Individuals willing to pay to use restrooms, which can go towards overall costs.

Cons:
Costs can vary depending on size of facility, upgrades needed for existing plumbing, appliances, amenities, security maintenance, and attendant

Recommendation 3: Implement New Mobile and/or Fixed Public Restrooms

- Implement new restroom facilities (i.e., mobile and/or fixed units) in Downtown Pittsburgh in high traffic areas within the Golden Triangle.
- While standards exist for International Plumbing Codes for the number of toilets inside buildings based on usage and occupancy, there is no standard available for the number of recommended restrooms for cities. Data does exist on the usage of existing public restrooms. Denver’s public restrooms each service about 200+ people per day, and other cities are comparable.
- Units can be single stall units or multiple unit buildings. Units can be permanent or mobile and moved as needed (some cities have them in tourist areas during the day and move them to areas with a high population of homeless at night).
- The recommendation is to install a permanent restroom facility in **Market Square**, as this is the most requested location in Pittsburgh according to our research, and then install several mobile units in other high traffic areas including transit hubs, the Cultural District and Mellon Park.
- A combination of smaller, single units (like the Portland Loo, which could replace the existing portable toilets) and larger units with additional amenities (like changing tables) is recommended.



Source for Restroom Examples: Creative Commons

Table 3: New Mobile and/or Fixed Public Restroom Pros and Cons

Design & Location

Pros:
BOMA (or grantee) can choose between a plethora of different models or create a new unique model best fit for Pittsburgh.

Cons:
Design choices can be overwhelming.

Porta Johns are the least expensive option but tend to be less appealing to the public.

Units can be single stall units or multiple unit buildings. Units can be permanent or mobile and moved as needed (some cities have them in tourist areas during the day and move them to areas with a high population of homeless at night).

The recommendation is to install a permanent unit in Market Square as this is the most requested location in Pittsburgh according to our research, and then install mobile units in other high traffic areas including transit hubs, the Cultural District and Mellon Park.

Final locations would be set by BOMA (or grantee).

Amenities

Pros:
Most popular amenities can be incorporated in a new built out facility or some prefabricated units. According to our research, the most requested amenities are automatic systems, hand sanitizer, changing tables and menstrual products.

Cons:
It's harder to add amenities to pre-fabricated mobile units as the size varies.

A combination of single small units and larger units with additional amenities is recommended

Aesthetics

Pros:
Partnerships can be explored with local artists to design and create murals for the new facilities.

Cons:
Vandalism, Ownership Issues, Theft

Research has shown that adding art to facilities creates a sense of ownership and respect and people are less likely to damage or graffiti buildings with public art.

Maintenance

Pros:
Cleaning can be completed by The Clean Team or other community partnership through a new program (see recommendation #5)

Cons:
Hours can vary depending on location, long restrooms lines for events

Hours can be set by BOMA.

Adding a budget line for facility supervision on larger units or cameras on smaller units is recommended.

Budget Costs

Pros:
Costs vary but some possible prefabricated options include

Portland Loo (~\$140,000 per year)

The Throne - (\$2,500-3,000 per month per unit)

Denver Mobile Unit (~\$34,000 monthly)

San Francisco Mobile Unit (~\$100,000 per year)

Unique Design costs vary depending on design and amenities. Sanitronics and Public Restroom Company both offer multiple options.

In addition to the cost of the facilities, funding should be secured for annual maintenance, supplies and security (cameras or staffing)

68% of individuals surveyed were willing to pay for clean, safe restrooms. Could implement a program where individuals pay if they could, but those who cannot afford or are unable to pay could use an Access card. If implemented, adding the ability to pay by cash, card or app (venmo, etc) was important according to our research.

Cons:
High costs

Recommendation 4: Create Wayfinding System

- Once additional currently-existing restrooms have been made available to the public, as well as once additional new restrooms have been implemented and placed in various locations, there will need to be a system in place for the public to be able to locate them. Wayfinding recommendations include:
 - Developing a wayfinding system including developing a logo representing a restroom unique to Pittsburgh (see example) and putting this logo on all restrooms and signage, maps, etc. In addition to designing a restroom logo, the Wayfinding system should include:
 - Common signage on all public restrooms and private businesses offering restroom use to the public free of charge
 - The City of Sacramento found that The Department of Public Works can implement the wayfinding signage for about \$5,000 (Conlin, 2018).
 - Downtown Pittsburgh kiosk-style maps in highly traveled locations (public transit stations, Market Square, Cultural District) that include restroom locations.
 - A toilet app could be designed. People could use the technology to locate the nearest restroom. Alternatively, adding Pittsburgh public restrooms into existing apps like Flush, Sit or Squat and Bathroom Scout are an easy way to create an instant wayfinding.



Recommendation 5: Develop Long-Term Maintenance Plan

- Once additional currently-existing restrooms have been made available to the public, as well as once additional new restrooms have been implemented and placed in various locations, there will need to be a system in place for ongoing long-term maintenance of the facilities. Two options are outlined as follows:
 - A partnership with BOMA Pittsburgh and the Pittsburgh Downtown Partnership Clean Team to expand the Clean Team program to include maintaining the cleanliness of restroom facilities that are implemented within the Golden triangle.
 - Partner with nonprofit organizations to offer a work program for clients (Light of Life, Pittsburgh Mercy, etc). Individuals could be given incentives (housing, meals, stipend) or paid to help maintain the restrooms. They could check in on the facilities on their own schedules and clean, restock toiletries, etc.
 - Provide two paid staff positions as full time employees of the city. One for a day shift and one for an evening shift to restock toiletries and clean stalls 7 days a week. These staff members could be stationed at one of the larger (Market Square) restrooms, but travel to the others throughout the day for cleaning.



Downtown Partnership Clean Team
Source: The Pittsburgh 100

RECOMMENDATIONS

These recommendations provide a wide range of ways to begin solving the lack of public restrooms in Downtown Pittsburgh. Each recommendation can be implemented itself or used in combination.

The combination of recommendations is more likely to meet more needs of those impacted including but not limited to residents, visitors, those experiencing homelessness, families with children, and those with bowel and bladder conditions. Creating a cleaner and more vibrant Central Business District with public restrooms available to all residents and visitors is of key importance when planning for the future of Pittsburgh. The implementation of any of these recommendations will add value to the overall community downtown by increasing the number of people visiting the golden triangle without the fear of unsuccessfully locating a public restroom during a visit. The attraction to downtown becomes more desirable for visitors, residents, and local businesses. Addressing the lack of public restrooms also calls attention to other issues that are directly related as a result. After implementation, there should be a

- Decrease in open urination and defecation in the streets and sidewalks
- Decrease in incidents of Hepatitis A
- Decrease in inappropriate behaviors in and around public restrooms
- Decrease in overall public health concerns related to lack of proper sanitation

Providing facility maintenance and attendants help to safeguard against the spread of germs from unclean surfaces and unsafe activities as people will think twice before acting if an attendant or maintenance person is seen on site. The continued effort to confront the issues that directly impact public's health and safety and their ability to engage and enjoy the events and festivities in Downtown Pittsburgh, expresses a high level of care for the city overall and those who inhabit it. If residents and visitors feel that the city cares about them and their well-being, the more likely it is that they will care for the city and the well-being of others.

With the combination of reopening existing restrooms in public parking garages, installing as few as four new restrooms (Market Square, Mellon Square, Katz Plaza and Firstside Park) and adding a wayfinding system to notify people of their availability, we can envision a city that has restrooms accessible at the locations indicated below, with additional restroom units added in areas of desert. Additionally, encouraging local business to open their restrooms will add additional availability truly making restrooms accessible for all.

Map of potential restroom facilities (in yellow) if existing restrooms were reopened and four new facilities were added in high traffic areas.



REFERENCES

Allegheny County Department of Human Services. (n.d.). *August 2020 - Allegheny County Analytics: Reports, visualizations, and ...* Allegheny County Analytics. Retrieved May 20, 2022, from https://www.alleghenycountyanalytics.us/wp-content/uploads/2020/08/20-ACDHS-13-Homeless_PIT2020_Brief_v3.pdf

Allegheny County 2020., *Point-in-Time Homelessness Data for Allegheny County*, August 2020. https://www.alleghenycountyanalytics.us/wp-content/uploads/2020/08/20-ACDHS-13-Homeless_PIT2020_Brief_v3.pdf

American Restroom Association (ARA) retrieved May 17, 2022, from <https://americanrestroom.org>.

Annex A Title 34. Labor and Industry. Pennsylvania Code. (n.d.). Retrieved July 4, 2022, from <https://www.pacodeandbulletin.gov/Display/pacode?titleNumber=034&file=%2Fsecure%2Fpacode%2F-data%2F034%2F034toc.html>

ASAP Site Services. (2022, May). *Portable Toilets and Accessories.* <https://www.asapsiteservices.com/portable-toilet-rentals/>

Background information need for clean, safe public restrooms in DC... (n.d.). Retrieved July 5, 2022, from <https://americanrestroom.org/wp-content/uploads/2021/04/Background-Information-on-DC-Public-Restroom-Pilots-Dupont-Circle.pdf>

Banks, T. L. (2020, May 6). *Disappearing Public Toilets, Public Health and the COVID-19 Pandemic.* Retrieved from The Network for Public Health: https://www.networkforphl.org/news-insights/disappearing-public-toilets-public-health-and-the-covid-19-pandemic/?blm_aid=5322755

Baratelli, M. (Ed.). (2019). *Downtown Orlando testing out public restrooms-on-wheels.* The Daily City. Retrieved July 4, 2022, from <https://www.thedailycity.com/post/downtown-public-restrooms>

Bartram J, Cairncross S. Hygiene, Sanitation, and Water: Forgotten Foundations of Health. *PLoS Medicine*. 2010; 7(11):1-9.

BOMA Pittsburgh. (2020). *BOMA Pittsburgh.* Retrieved from BOMA Pittsburgh: bomapittsburgh.org

Bowser, M. Public Restroom Facilities and Promotion Act of 2018: Report on the Sites with Frequent Incidents of Public Defecation and Urination, <https://dcist.com/wp-content/uploads/sites/3/2021/04/bathroom-report.pdf>

Bowel & Bladder Community (n.d.) Retrieved July 7, 2022 from www.bladderandbowel.org

Bradley survey: Americans rely on public restrooms. phcpross RSS. (2019, June 12). Retrieved May 24, 2022, from <https://www.phcpross.com/articles/9645-bradley-survey-americans-rely-on-public-restrooms>

Breitenbach, S. (2017). *Cities look to public restrooms to clean up downtowns, Attract Tourists.* The Pew Charitable Trusts. Retrieved May 17, 2022, from <https://www.pewtrusts.org/en/research-and-analysis/blogs/state-line/2017/09/05/cities-look-to-public-restrooms-to-clean-up-downtowns-attract-tourists>

- Bright, B. (2020, February 27). *Public toilet system impact and associated problem (A case study of Andoni L.G.A in Rivers State, Nigeria) paper* by. Academia.edu. Retrieved May 24, 2022, from https://www.academia.edu/42086572/PUBLIC_TOILET_SYSTEM_IMPACT_AND_ASSOCIATED_PROBLEM
- Bryan, N. (n.d.). *A restroom for everyone - urban planning and design - architecture and Design*. Gensler. Retrieved May 24, 2022, from <http://www.gensler.com/cities/2017/3/17/a-restroom-for-everyone.html>
- Bryan, N., All, &. (2017, March 17). *A restroom for everyone*. Gensler. Retrieved May 24, 2022, from <https://www.gensler.com/blog/a-restroom-for-everyone>
- Building Owners & Managers Association (BOMA) retrieved May 17, 2022, <https://bomapittsburgh.org/>.
- Building Owners & Managers Association (BOMA). (2022, March 28). About us. Retrieved May 16, 2022, from <https://bomapittsburgh.org/about/>
- Chandra, P. (2021, October 23). *How to find public restroom near me*. QuickOnlineTips. Retrieved June 21, 2022, from <https://www.quickonlinetips.com/archives/2021/10/public-restroom-near-me/>
- Chapman, S. (2021, October 25). The public restroom shortage and how to cure it. Bartlesville Examiner-Enterprise. <https://www.examiner-enterprise.com/story/opinion/2021/10/25/public-restroom-shortage-and-how-cure/6142954001/>
- Chapter 67b. Commonwealth of Pennsylvania Universal Restroom Policy Statement of Policy*. Pennsylvania Code. (2018, May 12). Retrieved July 5, 2022, from <https://www.pacodeandbulletin.gov/Display/pacode?file=%2Fsecure%2Fpacode%2Fdata%2F004%2Fchapter67b%2Fchap67btoc.html>
- Chapter 601 Public Order* www.pittsburgh.gov. Municode Library PUBLIC URINATION AND DEFECATION. (n.d.). Retrieved July 4, 2022, from https://library.municode.com/pa/pittsburgh/codes/code_of_ordinances?nodeId=COOR_TITSIXCO_ARTIRERIAC_CH601PUOR_S601.11LIDU
- Cheung, C. (2019, August 29) Real Cities Give Their People Places to Pee. The Tye.ca
- Chou, J., Gurley, K. A., & Hong. (n.d.). *The need an analysis of public for public - urban design forum*. urbandesignforum.org. Retrieved May 25, 2022, from <https://urbandesignforum.org/wp-content/uploads/The-Need-for-Public-Bathrooms.pdf>
- Cities debate operating public restrooms*. CleanLink. (2019). Retrieved July 4, 2022, from <https://www.cleanlink.com/news/article/Cities-Debate-Operating-Public-Restrooms--23993>
- City of Portland. (2022, May 27). The Portland Loo. Retrieved June 12, 2022, from <https://portlandloo.com/>
- Closing toilets: more than a public inconvenience. www.thelancet.com/gastrohep Vol 7 January 2022. <https://ex-eloo.com/projects/1/homeless-community-response/>.
- Cobbs, C., & Greenfield, J. (2022). *Possible Chicago public restroom pilot could help improve access to public space*. Streetsblog Chicago. Retrieved July 4, 2022, from <https://chi.streetsblog.org/2022/05/25/possible-chicago-public-restroom-pilot-could-help-improve-access-to-public-space/>
- Community toilet scheme (CTS). City of London. (2022). Retrieved July 5, 2022, from <https://www.cityoflondon.gov.uk/services/streets/clean-streets/community-toilet-scheme-cts>

- Conlin, C. (2018, July 3). *Options for Additional Public Restrooms in Central City*. City of Sacramento. Retrieved July 14, 2022, from https://sacramento.granicus.com/MetaViewer.php?view_id=22&clip_id=4220&meta_id=528726
- Cooper, J.J. (2015) <https://www.npr.org/sections/health-shots/2015/08/10/431240543/san-diego-installed-public-loos-but-now-theyre-flush-with-problems#:~:text=Portland%20Loos%20are%20designed%20to%20ease%20the%20daunting,sewer%20lines%2C%20which%20is%20where%20some%20cities%20stumble>
- Corporation, B. (2021, April 7). *Americans continued to use public restrooms during pandemic but want touchless fixtures*. Americans Continued to Use Public Restrooms During Pandemic but Want Touchless Fixtures. Retrieved June 21, 2022, from <https://www.prnewswire.com/news-releases/americans-continued-to-use-public-restrooms-during-pandemic-but-want-touchless-fixtures-301264118.html>
- Corradi, G., Garcia-Garzon, E., & Barrada, J. R. (2020). The Development of a Public Bathroom Perception Scale. *International Journal of Environmental Research and Public Health*, 17(21), 7817. <https://doi.org/10.3390/ijerph17217817>
- Cromwell, B. (2021, November 14). *The toilet guru*. Toilets of the World. Retrieved May 11, 2022, from <https://toilet-guru.com/>
- Emporis. (2022, June 13). Pittsburgh Downtown Golden Triangle. From. <https://www.emporis.com/borough/102614/golden-triangle-pittsburgh/15>
- Facilities, Maps and Rates Chart. Pittsburgh Parking Authority. Retrieved May, 2022 from https://apps.pittsburghpa.gov/redtail/images/7718_Map-And-Rates-November-1-2019.pdf
- Follow the Flush. Alcosan. Retrieved May, 2022 from <https://www.alcosan.org/what-we-do/track-your-flush>
- Fozouni, L., Buchheit, B., Walley, A. Y., Testa, M., & Chatterjee, A. (2019). Public restrooms and the opioid epidemic. *Substance Abuse*, 41(4), 432–436. <https://doi.org/10.1080/08897077.2019.1640834>
- Garcia, A. M. (2020, September 8). *Empathy in architecture: Using trauma-informed design to promote healing*. E4H. Retrieved June 12, 2022, from <https://e4harchitecture.com/empathy-in-architecture-using-trauma-informed-design-to-promote-healing/#:~:text=The%20goal%20of%20trauma%2Dinformed,%2C%20art%2C%20and%20biophilic%20design.>
- Golden Triangle Business Improvement District. (2018). *Business Plan for Charter Renewal*. https://dslbd.dc.gov/sites/default/files/dc/sites/dslbd/page_content/attachments/2.Business%20Plan_2018.pdf
- Greed, C. (2007). *Inclusive urban design: Public toilets*. Routledge.
- Gruer, C., Hopper, K., Maroko, A., Jaffe, M., Zhen, E., and Sommer, M. (2021). Public restrooms, periods, and people experiencing homelessness: An assessment of public toilets in high needs areas of Manhattan, New York. <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0252946>
- Han, L., Cheng, Y., Cui, Z., & Xi, G. (2021). Optimal layout of tourist toilets using resilience theory: An empirical study on Dunhua City in ethnic region of China. *Plos One*. <https://doi.org/10.1371/journal.pone.0251696>
- Health, C. P. (2014, February 13). Public toilets initiative. Retrieved from Cambridge Public Health: <https://www.cambridgepublichealth.org/policy-practice/public-toilets/index.php>

- Healthy People 2020 [Internet]. Washington, DC: U.S. Department of Health and Human Services, Office of Disease Prevention and Health Promotion.
- Hitech. (2022, January 3). *Gallery*. Hitech eSmart. Retrieved July 14, 2022, from <https://hitechesmart.com/gallery/>
- Home. Pit Stop Program. (n.d.). Retrieved July 4, 2022, from <https://sfpublicworks.wixsite.com/pitstop>
- Innovation & Performance, Interactive Maps. The City of Pittsburgh. Retrieved May, 2022 from <https://gis.pittsburghpa.gov/pghmap/>
- Kageyama, Y. (2022, May 11). *Wenders making a film about fancy public restrooms in Japan*. The Middletown Press. Retrieved May 24, 2022, from <https://www.middletownpress.com/entertainment/article/Wenders-making-a-film-about-fancy-public-17164549.php>
- Kelleher, S. R. (2021, June 30). *Here are the contenders for America's best public restroom in 2020*. Forbes. Retrieved June 12, 2022, from <https://www.forbes.com/sites/suzannerowankelleher/2020/09/26/here-are-the-contenders-for-americas-best-public-restroom-in-2020/?sh=4d15504318a7>
- Lindstrom, N. (2021, November 23). *Downtown Pittsburgh winter homeless shelter reopens, but Covid limits capacity to 68 people per night*. TribLIVE.com. Retrieved May 28, 2022, from <https://triblive.com/local/downtown-pittsburgh-winter-homeless-shelter-reopens-but-covid-limits-capacity-to-65-people-per-night/>
- Liu, Y. (2020, March 5). *Public Toilet Cubicle Design in CMU*. Medium. Retrieved May 22, 2022, from <https://yuntin-gliu.medium.com/public-toilet-cubicle-design-in-cmu-a948af509d35>
- Lowe, L. (2018). *No place to go: How public toilets fail our private needs*. Melville Home UK.
- Mantis Europa. (2021, July). *R/Pittsburgh - new sign on 6th ave*. reddit. Retrieved May 12, 2022, from https://www.reddit.com/r/pittsburgh/comments/oxwg8c/new_sign_on_6th_ave/
- Maroko, A. R., Hopper, K., Gruer, C., Jaffe, M., Zhen, E., & Sommer, M. (2021). Public restrooms, periods, and people experiencing homelessness: An assessment of public toilets in high needs areas of Manhattan, New York. *PLOS ONE*, 16(6). <https://doi.org/10.1371/journal.pone.0252946>
- McCabe, C., Hiple, A. Bolivar, D., Cameron, E. The Trust for Public Land, "City Park Facts," 2018
- McIntosh, M. (2020). *Sign the petition*. Change.org. Retrieved May 12, 2022, from <https://www.change.org/p/mayor-bill-peduto-please-stop-pittsburgh-from-turning-into-shittsburgh>
- Merino, M. (2021). *As DC lapses on Porta Pottie contract, public restroom pilot programs inch forward*. Street Sense Media. Retrieved July 4, 2022, from <https://www.streetsensemedia.org/article/dc-lapses-porta-pottie-contract-public-restroom-pilot-programs/>
- Modular restrooms*. 360Connect. (2021). Retrieved July 5, 2022, from <https://www.360connect.com/modular-buildings/modular-restrooms/>
- Molotch, H., & Noren, L. (2020). Learning from the Loo. In *Toilet: Public restrooms and the politics of sharing* (pp. 1–24). New York University Press, W. Ross MacDonald School Resource Services Library.

- Montano, E. (2018). The bring your own tampon policy: Why menstrual hygiene products should be provided free in restrooms. *U. Miami L. Rev.*, 73, 370. <https://dcist.com/wp-content/uploads/sites/3/2021/04/bathroom-report.pdf>
- Morcelle, M., Johnson, W., Drew Hensley, Hess, A., & Hodge, J. G. (2018). *Health Justice for People Experiencing Homeless: Confronting the U.S. Public Sanitation and Hygiene Crisis*. Retrieved May 17, 2022, from <https://www.networkforphl.org/wp-content/uploads/2020/01/Health-Justice-for-People-Experiencing-Homeless-and-Public-Sanitation-Crisis.pdf>
- Moreira, F. D., Rezende, S., & Passos, F. (2021). Public toilets from the perspective of users: A case study in a public place, Brazil. *Journal of Water and Health*, 20(1), 41–53. <https://doi.org/10.2166/wh.2021.127>
- Network for Public Health Law. *Disappearing public toilets, public health, and the COVID-19 pandemic*. (2020). Retrieved May 16, 2022, from https://www.networkforphl.org/news-insights/disappearing-public-toilets-public-health-and-the-covid-19-pandemic/?blm_aid=5322755
- Organization for International Economic Relations. (2020). *Clean, safe, and accessible public restrooms make cities livable - news*. Retrieved May 17, 2022, from <https://www.oier.pro/news/clean-safe-and-accessible-public-restrooms-make-cities-livable-87/>
- Pit Stop Program. (n.d.). *Home*. Retrieved July 4, 2022, from <https://sfpublicworks.wixsite.com/pitstop>
- Pittsburgh Downtown Partnership. (2022). Data Shows Downtown Rebound is Well Underway. June 2022, from <https://downtownpittsburgh.com/2022/03/22/data-shows-downtown-rebound-is-well-underway/>
- Pittsburgh Downtown Partnership. (2022). *Downtown Pittsburgh Clean & Outreach Program*. Retrieved June 12, 2022, from <https://downtownpittsburgh.com/about-pdp/clean-outreach-program/>
- Pittsburgh Downtown Partnership. (2021). *State of Downtown Pittsburgh*. Retrieved July 3, 2022 from <https://downtownpittsburgh.com/research/state-of-downtown/>
- Gallery*. The Portland Loo. (2021, June 15). Retrieved July 14, 2022, from <https://portlandloo.com/gallery/>
- Powell, K. (2022). How Much Does It Cost To Build A Public Bathroom? <https://kylonpowell.com/how-much-does-it-cost-to-build-a-public-bathroom/>
- Problem space, solution space*. Writing Commons. (2021). Retrieved May 24, 2022, from <https://writingcommons.org/section/rhetoric/rhetorical-situation/occasion-exigency/problem-space/>
- Project stockholm - en*. Sanitronics. (n.d.). Retrieved July 14, 2022, from <https://sanitronics.eu/project-stockholm-en/>
- Progressive Urban Management Associates (P.U.M.A.). (2018). *City of Denver Public Restrooms Pilot Project*. Retrieved July 4, 2022, from <https://www.denvergov.org/content/dam/denvergov/Portals/705/documents/projects/Denver-Public-Restrooms-Pilot-Final-Report-2018.pdf>
- Public restrooms, periods, and people experiencing homelessness*: Retrieved June 1, 2022, from <https://pdfs.semanticscholar.org/2507/b7aee7a16bb87b4307be9c208700e8cf8031.pdf>
- Public Toilets in London*. Transport for London. (n.d.). Retrieved July 5, 2022, from <https://tfl.gov.uk/help-and-contact/public-toilets-in-london#on-this-page-1>

- Ross, B. (2021, November 23). *San Diego Still Can't Solve Its Public Restroom Problem*. Retrieved from Voice of San Diego: <https://voiceofsandiego.org/2021/11/23/san-diego-still-cant-solve-its-public-restroom-problem/>
- San Diego Hand Washing Stations, Restrooms and Public Libraries. Retrieved May, 2022 from <https://webmaps.sandiego.gov/portal/apps/webappviewer/index.html?id=dc8bf0d749784fe58326b21f71c4be83>
- Saner, E. (2021, December 1). *The Urinary Leash: How the Death of Public Toilets Traps and Trammels Us All*. Retrieved May 16, 2022, from www.theguardian.com: <https://www.theguardian.com/lifeandstyle/2021/dec/01/the-urinary-leash-how-the-death-of-public-toilets-traps-and-trammels-us-all>
- Sanitronics International: Self-cleaning public toilet systems*. Sanitronics. (2020). Retrieved May 30, 2022, from <http://sanitronics.eu/>
- Sasakawa, Y. (2020, February 20). *What we do*. The Nippon Foundation. Retrieved May 24, 2022, from <https://www.nippon-foundation.or.jp/en/what>
- Schaub, A. (2022, May 4). Public Restroom Research Project. (C. 7. cohort, Interviewer)
- Shaw, S. (2019). Annexes to technical guidelines for construction of institutional and public toilets.
- Sorrel, C. (2018). *German cities are solving the age-old public toilet problem*. Fast Company. Retrieved July 5, 2022, from <https://www.fastcompany>
- Stanwell-Smith, R. (2010). Public toilets down the drain. Why privies are a public health concern. *Public Health*, 124(11), 613-616. <https://doi.org/10.1016/j.puhe.2010.07.002>
- State of Downtown - Downtown Pittsburgh (PDF). *Downtown Pittsburgh*. Archived from the original (PDF) on December 22, 2018. Retrieved June 20, 2022.
- Stone, L. (2021, March 28). *Katherine toured the world researching public toilets. This is how she thinks ours could be better*. ABC News. Retrieved May 14, 2022, from <https://www.abc.net.au/news/2021-03-28/public-toilet-guidelines-so-australia-can-improve-loo-management/100028866>
- Sundas, S. (2017, April 28). *Toilet volunteers' help clean up Bhutan in public health push*. <https://www.reuters.com/article/us-bhutan-health-sanitation/toilet-volunteers-help-clean-up-bhutan-in-public-health-push-idUSKB-N17U2G1>
- The Crohn's & Colitis Foundation (n.d.) Retrieved July 7, 2022 from www.crohnscolitisfoundation.org
- The Nippon Foundation. (n.d.). Retrieved May 24, 2022, from <https://www.nippon-foundation.or.jp/en/>
- The Portland Loo, <https://portlandloo.com/the-loo/>
- The Portland Loo: World Class Solution to Your City Public Restroom Needs*. (n.d.). Retrieved 2022, from <https://pffcdc.org/wp-content/uploads/2017/03/Portland-Loo-Presentation-DC-march-2017-1.pdf>
- The Times Editorial Board. (2017, September 16). *Editorial: Refusing to build public toilets doesn't make homeless people go away. It creates a public health crisis*. Retrieved from Los Angeles Times: <https://www.latimes.com/opinion/editorials/la-ed-homeless-toilets-20170916-story.html>

- The Tokyo Toilet Project: Top Creators cast public restrooms in a new light.* nippon.com. (2020). Retrieved July 5, 2022, from <https://www.nippon.com/en/guide-to-japan/gu900161/>
- Touma, R. (2022, January 16). *Loos with views and porcelain thrones: What's Australia's best public toilet? – open thread.* The Guardian. Retrieved May 14, 2022, from <https://www.theguardian.com/travel/2022/jan/17/loos-with-views-and-porcelain-thrones-whats-australias-best-public-toilet-open-thread>
- UAJSA. (2018). *Upper Allegheny Joint Sanitary Authority.* Retrieved from Upper Allegheny Joint Sanitary Authority: <https://uajsa.com/>
- United Nations General Assembly – UNGA 2019, *Human Rights to Water and Sanitation in Spheres of Life Beyond the Household with an Emphasis on Public Spaces.* Retrieved May 31, 2022
- Wenders, W. (n.d.). *Legendary filmmaker Wim Wenders announced new film starring Koji ...* Retrieved May 25, 2022, from https://tokyotoilet.jp/downloads/TheTokyoToilet_ArtProject_EN_220511.pdf
- Which Countries and Cities Have the Most Restrooms? (Nov,10,2021) <https://www.qssupplies.co.uk/the-public-toilet-index.html>
- Windswept Entertainment and Events. (2022, May.) *3-Station Restroom Trailer.* Restroom Trailers. <https://www.windswept.com/Product-3-Station-Restroom-Trailer>
- Winter shelter.* Pittsburgh Mercy. (2022, March 1). Retrieved May 28, 2022, from <https://www.pittsburghmercy.org/homeless-services/pittsburgh-mercys-operation-safety-net/winter-shelter/>
- World Health Organization. (2022). *Sanitation.* World Health Organization. Retrieved May 17, 2022, from <https://www.who.int/news-room/fact-sheets/detail/sanitation>
- Writing Commons. (2021). *Problem space, solution space.* Retrieved May 24, 2022, from <https://writingcommons.org/section/rhetoric/rhetorical-situation/occasion-exigency/problem-space/>
- Yuko, E. (2021). *Where Did All the Public Bathrooms Go?* Retrieved May 31, 2022. <https://www.bloomberg.com/news/features/2021-11-05/why-american-cities-lost-their-public-bathrooms>

APPENDICES

- I. Intercept Survey Questions
- II. Long Form Interview Questions
- III. Focus Group Interview Questions
- IV. Intercept Interview Card
- V. Intercept Survey Definitions
- VI. Intercept Survey Results
- VII. Chapter 67b Commonwealth of Pennsylvania Restroom Policy Statement of Policy
- VIII. Rules and Regulations - Title 34 Labor and Industry - Restroom Equity
- IX. Chapter 601 Public Order

APPENDICES

Appendix I - Intercept Survey Questions

[Type here] [Type here] CONSENT GIVEN _____

Stakeholder

Are you a... (circle)

-Downtown resident

-Visitor from Western PA

-Other _____

-Employed downtown

-Tourist from outside of Western PA

Approximately how often are you in Downtown Pittsburgh? (circle)

-Daily

-Weekly

-Monthly

-1-4 times per year

-First time visitor

Finding Restrooms

Have you ever needed a restroom in Downtown Pittsburgh? YES NO

If yes, did you find one? YES NO

If yes, where did you find/use one? _____

If you were not able to find one, what did you do? _____

Do you know where public restrooms are available in Downtown Pittsburgh? (Accessible to the general public without making a purchase?) _____

How would you find one if you needed one? _____

What would make it easier to find public restrooms? _____

Comfort Level

What would prevent you from using a public restroom? _____

Do you think that public restrooms are safe to use? _____

Have you ever witnessed or smelled human feces or urine in the streets in Downtown Pittsburgh?

YES NO. _____

Have you ever witnessed a person urinating or defecating in public in Downtown Pittsburgh?

YES NO. _____

APPENDICES

[Type here]

[Type here]

CONSENT GIVEN _____

Suggestions

Do you think there is a need for more public restroom facilities in Downtown Pittsburgh?

YES NO. _____

Where do you think is an appropriate place to put a public restroom in Downtown Pittsburgh?

What amenities would you like to see in a public restroom?

Have you ever not been able to use a public restroom because of different abilities (adult changing tables, etc.) or know anyone that has?

YES NO. _____

Would you be willing to pay to use a public restroom in Downtown Pittsburgh? How much? How would you prefer to pay? Cash, card or code?

YES NO AMOUNT _____

CASH CARD CODE

Anything else you'd like to add?

APPENDICES

Appendix II - Long Form Interview Questions

Pittsburgh Public Restroom Project - Individual Interview Questions

MODIFY FOR INDIVIDUAL INTERVIEWS AS NEEDED

INTRODUCTION

You are invited to participate in a study about public restroom installation in Downtown Pittsburgh, Pennsylvania. You are eligible to participate because of your status as a stakeholder in Downtown Pittsburgh. The following information is provided in order to help you make an informed decision whether or not to participate.

The purpose of this study is to understand the need, demand, cost, options and roadblocks for installing public restrooms in Downtown Pittsburgh. Study participants are asked to complete an interview that should last approximately 30 minutes or participate in a focus group with other participants that should last approximately one hour.

Your participation in the study is voluntary. You are free to decide not to participate in this study or to withdraw at any time.

We appreciate your time and consideration.

General Knowledge

What is your perception of Downtown Pittsburgh public restrooms ?

Do you think there is a need for more public restroom facilities in Downtown Pittsburgh?

Do you see public restrooms as a way to promote tourism, support economic development or address the homelessness initiative? Or something else?

Location

Where would you like to see public restrooms located?

How do you think we can help people find public restrooms?

If you are a property owner, would you be willing to have a public restroom be put on your property or nearby?

Cost/Benefits/Investment/Drawbacks

APPENDICES

What has your business or organization experienced due to current public restroom options in Pittsburgh?

Are there benefits or drawbacks of having more public restrooms in Downtown Pittsburgh?

What safety measures do you think would be appropriate if public restrooms were installed throughout Downtown Pittsburgh? (limited hours, security cameras that are looped to the police station)

Should downtown public restrooms be operated and maintained by the public or private sector (or a joint effort... note for interviewer that the idea is from Washington, D.C. regarding pay/fee for businesses to maintain restroom facilities.)

APPENDICES

Appendix III - Focus Group Interview Questions

Pittsburgh Public Restroom Project - Focus Group (Town Hall) Questions

INTRODUCTION

Good Evening,

My name is JCKK and I am a doctoral student in the Community Engagement program here at Point Park University. As you know, you are here to participate in a focus group about public restroom in Downtown Pittsburgh. The purpose of this study is to understand the need, demand, cost, options and roadblocks for installing public restrooms in Downtown Pittsburgh. The focus group should last approximately one hour. Your participation is voluntary. You are free to decide not to participate withdraw at any time. We appreciate your time and consideration and thank you for being here with us tonight.

General Knowledge

What is your perception of Downtown Pittsburgh public restrooms?

Do you think there is a need for more public restroom facilities in Downtown Pittsburgh?

Do you see public restrooms as a way to promote tourism, support economic development or address the homelessness initiative? Or something else?

Location

Where would you like to see public restrooms located?

How do you think we can best help people find public restrooms?

If you are a property owner, would you be willing to have a public restroom be put on your property or nearby?

Cost/Benefits/Investment/Drawbacks

What has your business or organization experienced due to current public restroom options in Pittsburgh?

Are there benefits or drawbacks of having more public restrooms in Downtown Pittsburgh? What safety measures do you think would be appropriate if public restrooms were installed throughout Downtown Pittsburgh? (limited hours, security cameras that are looped to the police station)

Should downtown public restrooms should be operated and maintained by the public or private sector (or a joint effort)?
(idea from Washington, D.C. regarding pay/fee for businesses to maintain restroom facilities)

APPENDICES

Appendix IV - Intercept Interview Card

Point Park University Community Engagement



Point Park University Community Engagement is researching the demand and feasibility of installing public restrooms in Downtown Pittsburgh. Participation is completely voluntary. There is no penalty if you decide not to participate or stop at any time, and your relationship with myself or Point Park University will not be affected by this decision

If you participate it could help us understand both the need and potential roadblocks in implementing such an initiative here in Pittsburgh. We do not anticipate any risks to you, and your participation will remain anonymous. The questions should take less than 5 minutes.

Contact Heather Starr Fiedler at hstar@pointpark.edu with any questions

Public Restroom

A public toilet, restroom, public bathroom or washroom is a room or small building with toilets (or urinals) and sinks for use by the general public.



APPENDICES

Appendix V - Intercept Survey Definitions

Definitions:

Downtown business includes restaurants, hotels, shops, etc. operating in the Downtown Pittsburgh area which may be privately owned, chain businesses, or franchises. Specific examples include, but are not limited to, Starbucks, Dunkin Donuts, McDonalds, Rite Aid, Primanti's, Pizzaiolo, etc.

Handwashing includes all the items needed in order to thoroughly wash hands. These may be sinks, basins, running water, and soap. They may be within the restroom facility or located just outside it. Hand sanitizer is not included.

Maps include downtown maps, transit maps, and online maps.

N/A means that the individual being interviewed did choose to answer the question for any of a variety of reasons. For example, when asked if they were unable to find a restroom downtown, N/A might mean they went home, held it, went to another part of town, or went to an event.

Technology includes responses that used some type of search function or application (often on a phone) and may include Google Search, online checkpoints, and restroom applications.

Transit includes bus lines and stations, the T (Pittsburgh light rail system), and train systems. It may also include ride sharing and cab stops.

Transit hubs are those locations where a large number of buses or other forms of transit share a stop.

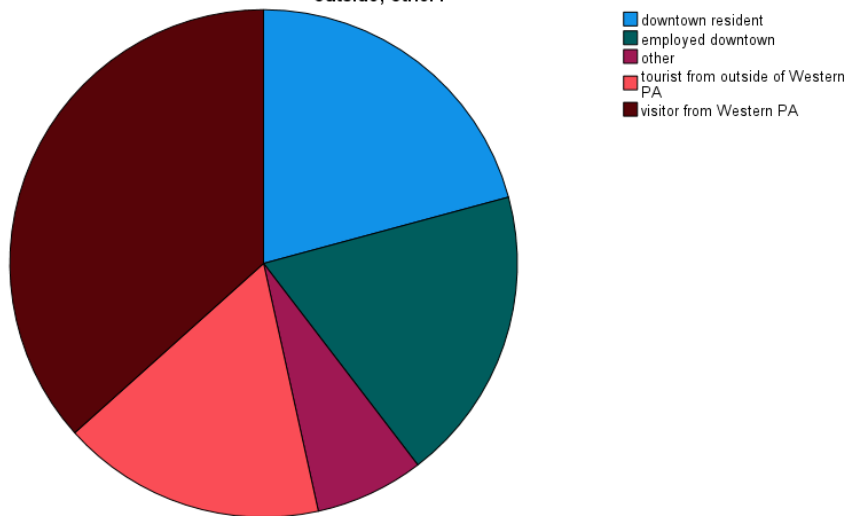
APPENDICES

Appendix VI – Intercept Survey Results

Are you a downtown resident; visitor from Western PA from western PA; employed downtown; tourist from outside; other?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	downtown resident	21	20.8	20.8	20.8
	employed downtown	19	18.8	18.8	39.6
	other	7	6.9	6.9	46.5
	tourist from outside of Western PA	17	16.8	16.8	63.4
	visitor from Western PA	37	36.6	36.6	100.0
	Total	101	100.0	100.0	

Are you a downtown resident; visitor from Western PA from western PA; employed downtown; tourist from outside; other?



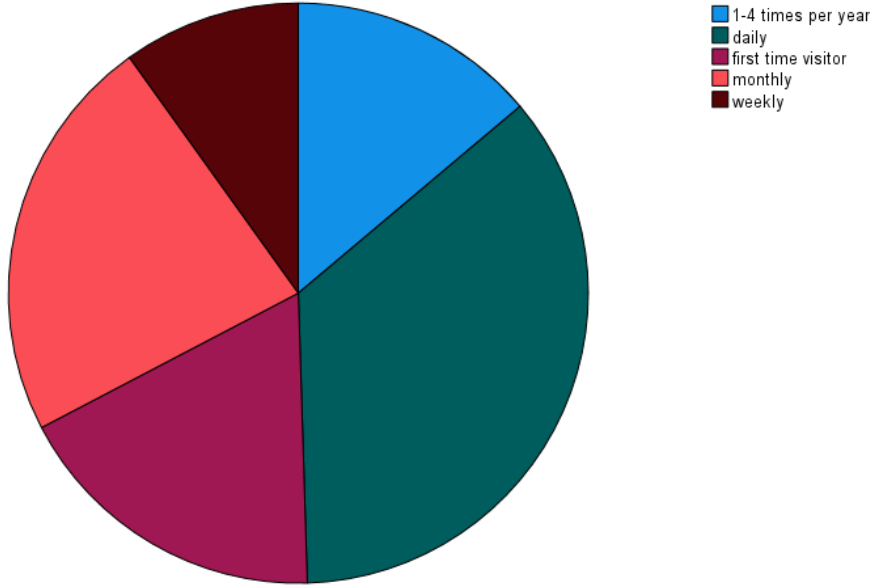
Approximately how often are you in Downtown Pittsburgh? (daily/ weekly /monthly /1-4 times per year/ first time visitor)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1-4 times per year	14	13.9	13.9	13.9
	daily	36	35.6	35.6	49.5

APPENDICES

first time visitor	18	17.8	17.8	67.3
monthly	23	22.8	22.8	90.1
weekly	10	9.9	9.9	100.0
Total	101	100.0	100.0	

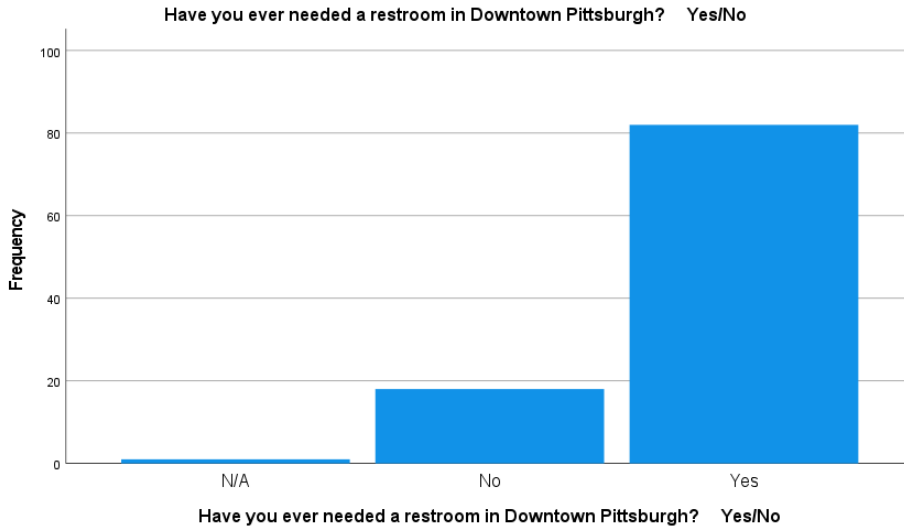
Approximately how often are you in Downtown Pittsburgh? (circle)- daily/ weekly /monthly /1-4 times per year/ first time visitor



Have you ever needed a restroom in Downtown Pittsburgh? Yes/No

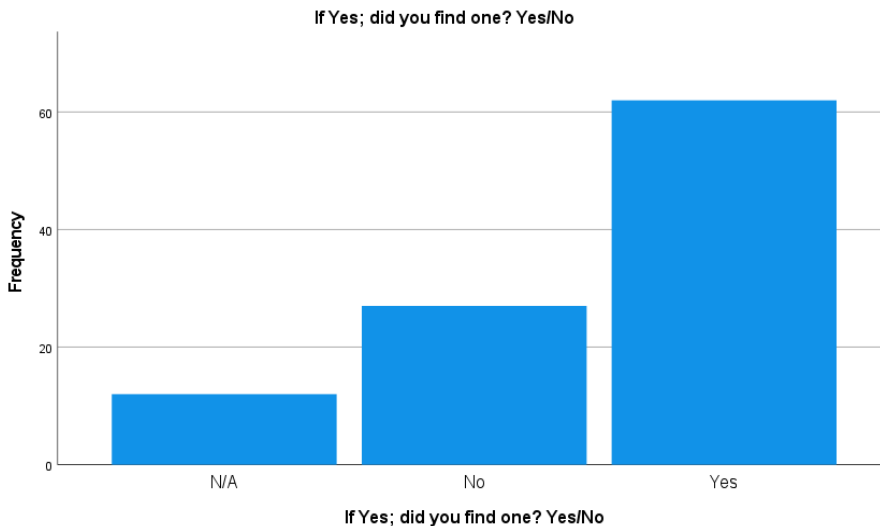
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	N/A	1	1.0	1.0	1.0
	No	18	17.8	17.8	18.8
	Yes	82	81.2	81.2	100.0
	Total	101	100.0	100.0	

APPENDICES



If Yes; did you find one? Yes/No

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	N/A	12	11.9	11.9	11.9
	No	27	26.7	26.7	38.6
	Yes	62	61.4	61.4	100.0
	Total	101	100.0	100.0	



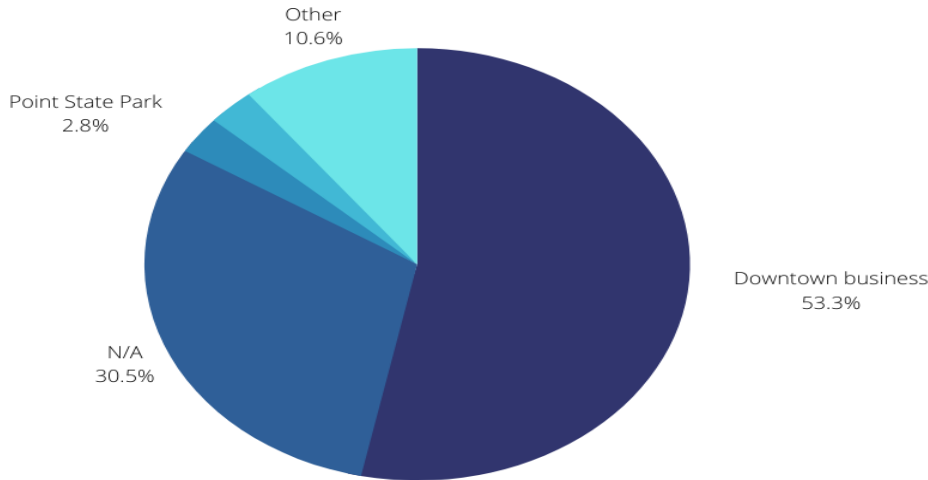
APPENDICES

If yes, where did you find it/ use one?

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid				
casino	1	1	1	
Cultural Trust Galleries	1	1	1	
downtown business	56	53.3	53.3	
govt bldg	1	1	1	
N/A	32	30.5	30.5	
near ballpark	2	1.8	1.8	
outside	1	1	1	
parking garage	1	1	1	
play center	1	1	1	
Point Park University	2	1.8	1.8	
Point State Park	3	2.8	2.8	
porta john	1	1	1	
workplace	3	2.8	2.8	
Total	106	100.0	100.0	

APPENDICES

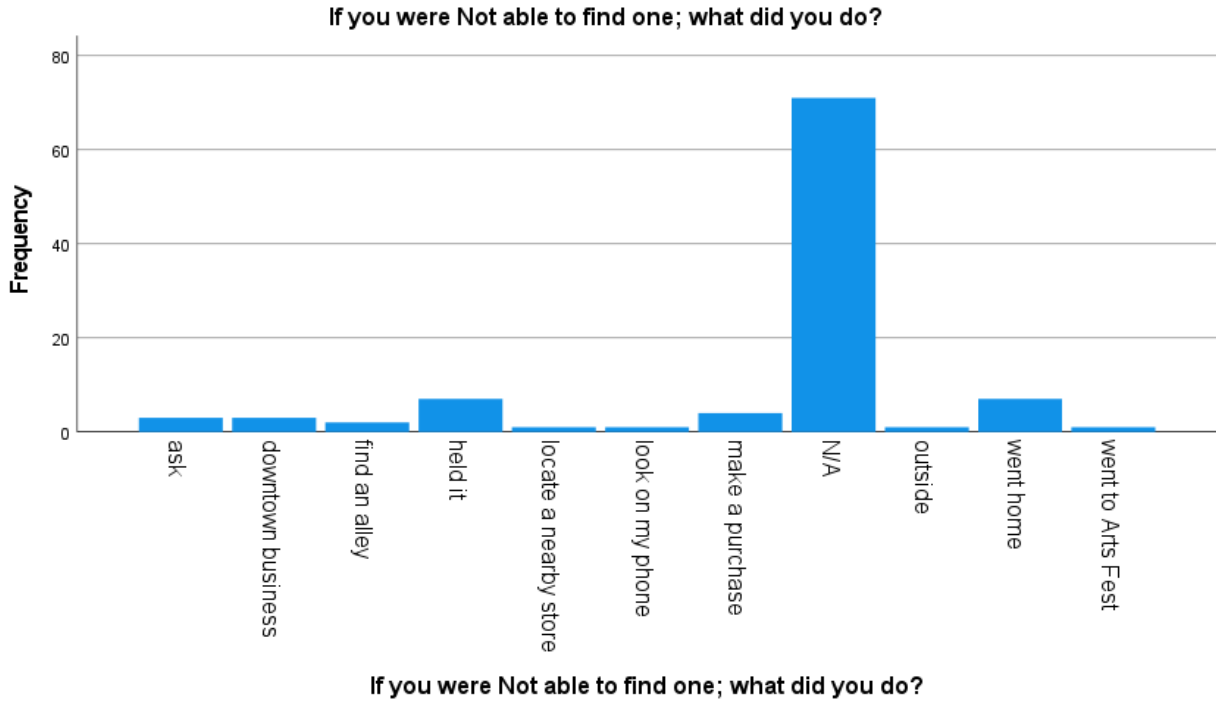
If yes, where did you find it/ use one?



If you were Not able to find one; what did you do?

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid ask	3	3.0	3.0	3.0
downtown business	3	3.0	3.0	5.9
find an alley	2	2.0	2.0	7.9
held it	7	6.9	6.9	14.9
locate a nearby store	1	1.0	1.0	15.8
look on my phone	1	1.0	1.0	16.8
make a purchase	4	4.0	4.0	20.8
N/A	71	70.3	70.3	91.1
outside	1	1.0	1.0	92.1
went home	7	6.9	6.9	99.0
went to Arts Fest	1	1.0	1.0	100.0
Total	101	100.0	100.0	

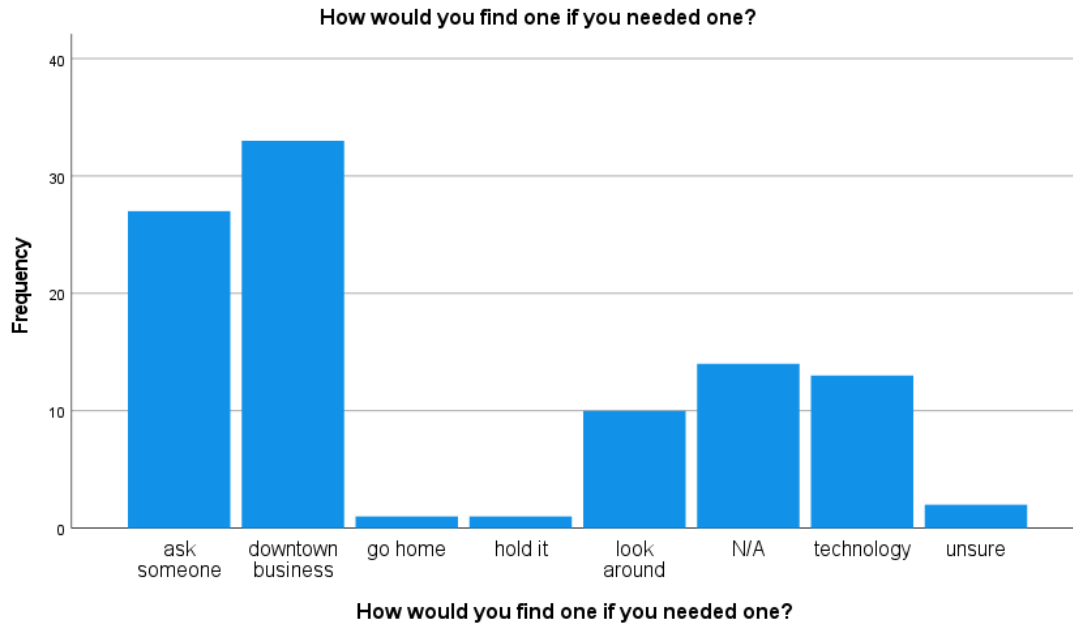
APPENDICES



How would you find one if you needed one?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	ask someone	27	26.7	26.7	26.7
	downtown business	33	32.7	32.7	59.4
	go home	1	1.0	1.0	60.4
	hold it	1	1.0	1.0	61.4
	look around	10	9.9	9.9	71.3
	N/A	14	13.9	13.9	85.1
	technology	13	12.9	12.9	98.0
	unsure	2	2.0	2.0	100.0
	Total	101	100.0	100.0	

APPENDICES

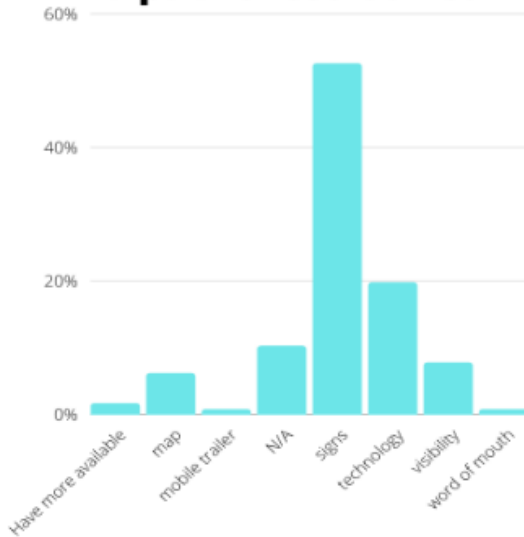


What would make it easier to find public restrooms?

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid				
Have more available	2	1.7	1.7	
map	7	6.2	6.2	
mobile trailer	1	.8	.8	
N/A	12	10.3	10.3	
signs	61	52.6	52.6	
technology	23	19.8	19.8	
visibility	9	7.8	7.8	
word of mouth	1	.8	.8	
Total	162	100.0	100.0	

APPENDICES

What would make it easier to find public restrooms?

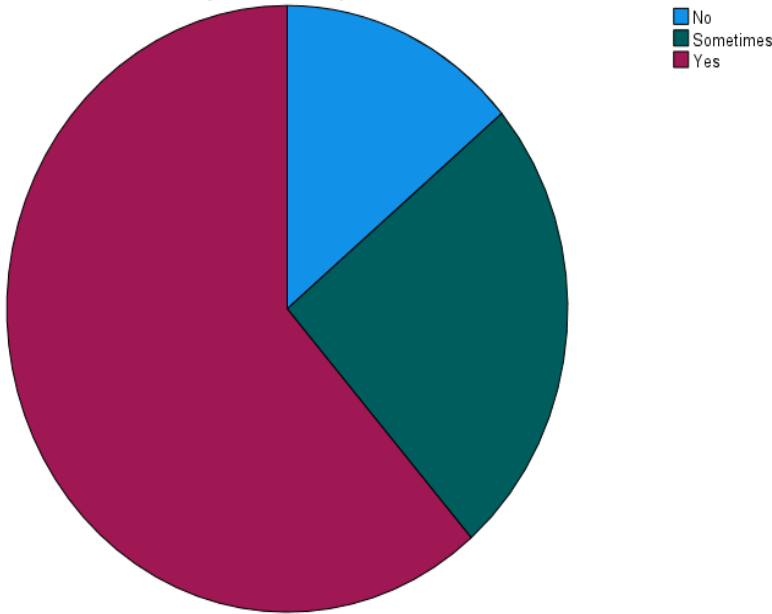


Do you think that public restrooms are safe to use?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	14	13.9	13.9	13.9
	Sometimes	25	24.8	24.8	38.6
	Yes	62	61.4	61.4	100.0
	Total	101	100.0	100.0	

APPENDICES

Do you think that public restrooms are safe to use?

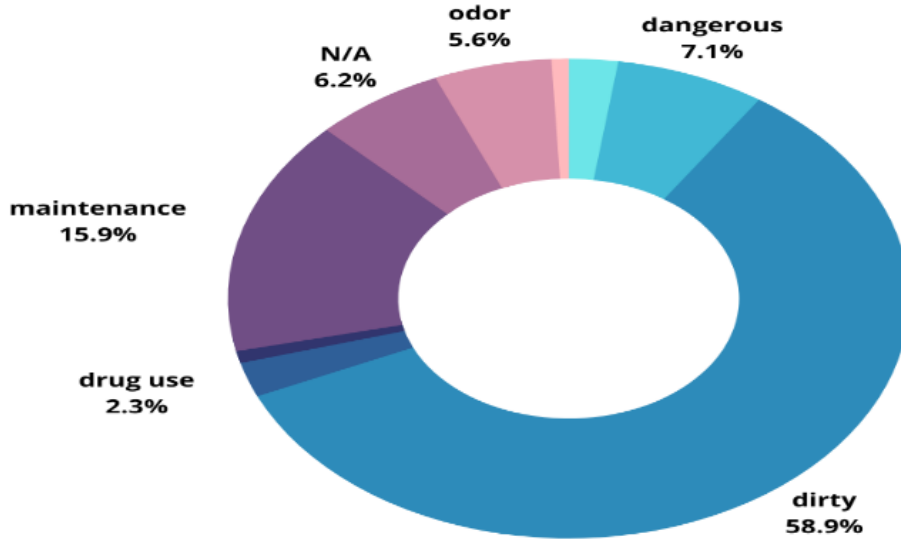


What would prevent you from using a public restroom?

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid				
crowded	3	2.3	2.3	2.3
dangerous	9	7	7	9.3
dirty	74	58	58	67.3
drug use	3	2.3	2.3	69.6
lighting	1	.8	.8	70.4
location	3	2.3	2.3	72.7
maintenance	20	15.7	15.7	88.4
N/A	8	6.1	6.1	94.5
odor	7	5.5	5.5	100.0
Total	128	100.0	100.0	

APPENDICES

What would prevent you from using a public restroom?



Have you ever witnessed or smelled human feces or urine in the streets in Downtown Pittsburgh ?

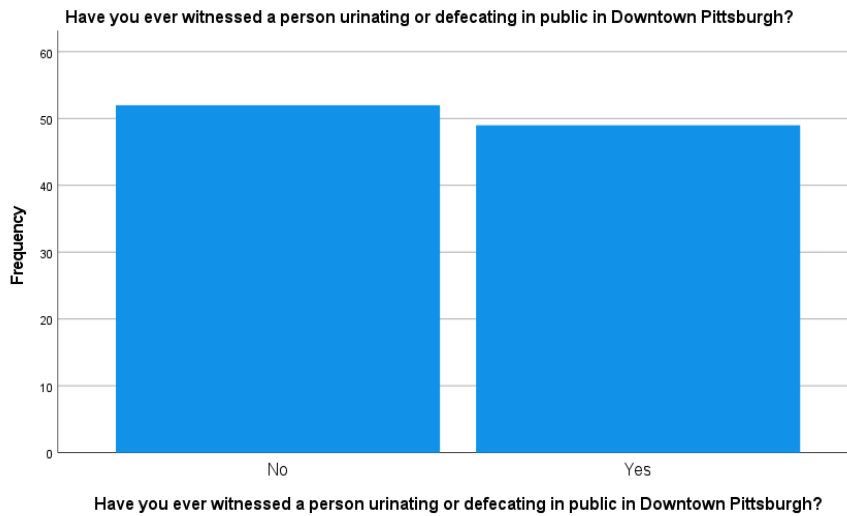
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Maybe	1	1.0	1.0	1.0
	No	41	40.6	40.6	41.6
	Yes	59	58.4	58.4	100.0
	Total	101	100.0	100.0	

APPENDICES



Have you ever witnessed a person urinating or defecating in public in Downtown Pittsburgh?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	52	51.5	51.5	51.5
	Yes	49	48.5	48.5	100.0
	Total	101	100.0	100.0	



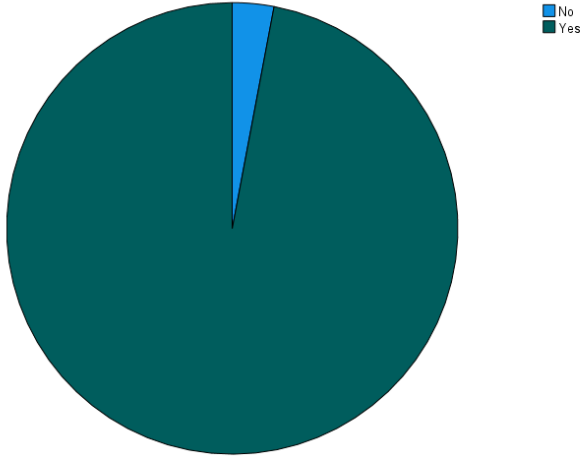
Do you think there is a need for more public restroom facilities in Downtown Pittsburgh?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	3	3.0	3.0	3.0
	Yes	98	97.0	97.0	100.0
Total		101	100.0		

APPENDICES

Yes	98	97.0	97.0	100.0
Total	101	100.0	100.0	

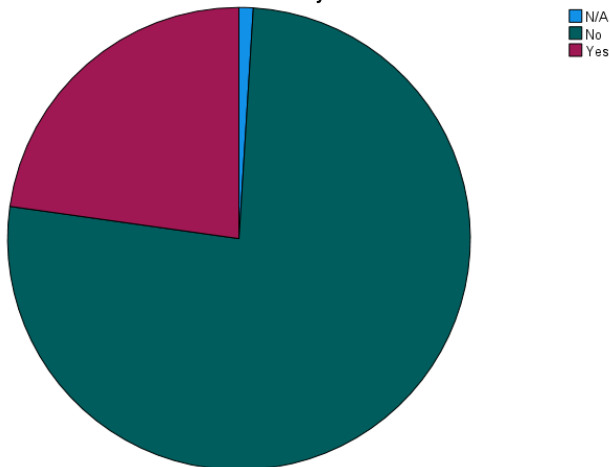
Do you think there is a need for more public restroom facilities in Downtown Pittsburgh?



Have you ever not been able to use a public restroom because of different abilities (adult changing tables; etc.) or know anyone that has not?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	N/A	1	1.0	1.0	1.0
	No	77	76.2	76.2	77.2
	Yes	23	22.8	22.8	100.0
Total		101	100.0	100.0	

Have you ever not been able to use a public restroom because of different abilities (adult changing tables; etc.) or know anyone that has not?

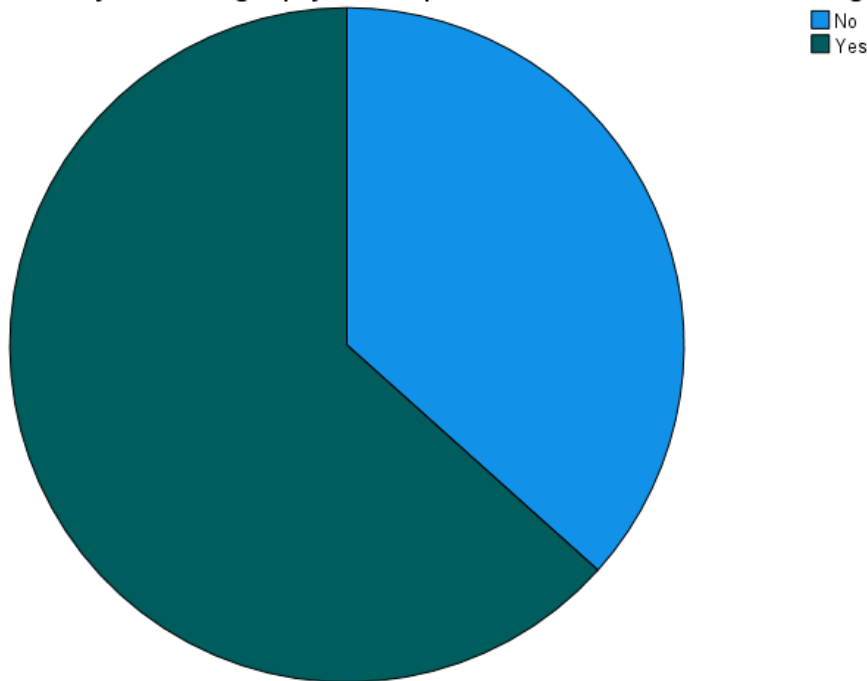


APPENDICES

Would you be willing to pay to use a public restroom in Downtown Pittsburgh? Yes/No

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	37	36.6	36.6	36.6
	Yes	64	63.4	63.4	100.0
Total		101	100.0	100.0	

Would you be willing to pay to use a public restroom in Downtown Pittsburgh? Yes/No

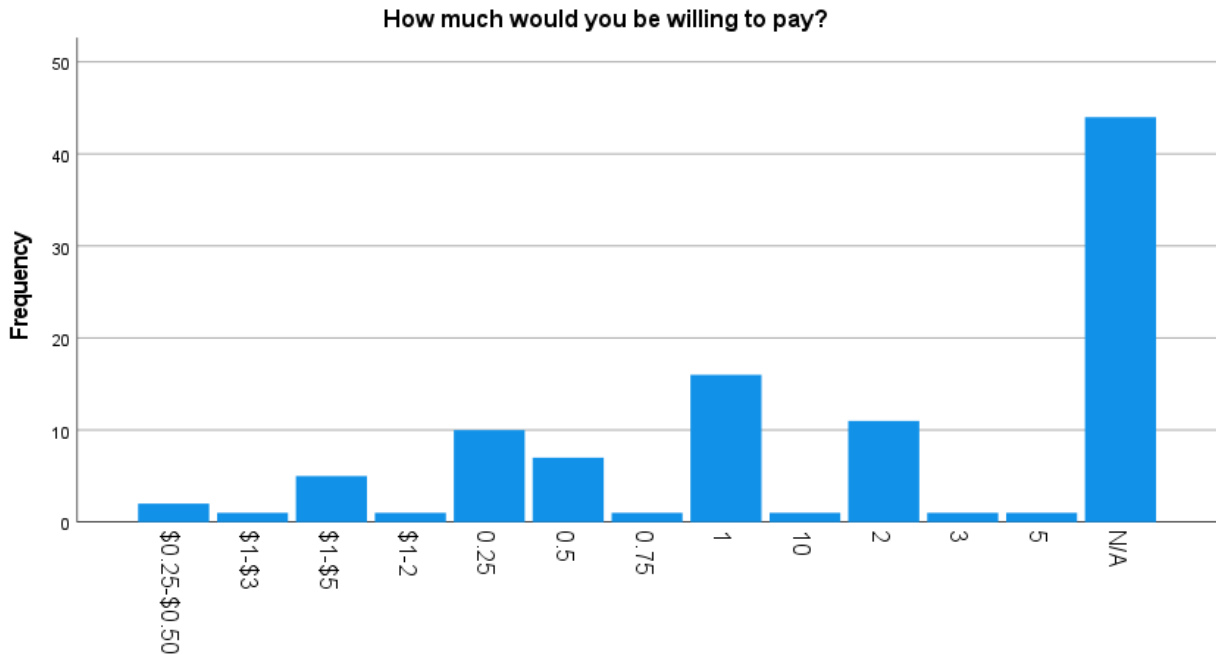


How much would you be willing to pay?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	\$.25-.50	2	2.0	2.0	2.0
	\$1-\$3	1	1.0	1.0	3.0
	\$1-\$5	5	5.0	5.0	7.9
	\$1-2	1	1.0	1.0	8.9
	0.25	10	9.9	9.9	18.8
	0.5	7	6.9	6.9	25.7
	0.75	1	1.0	1.0	26.7
	1	16	15.8	15.8	42.6
	10	1	1.0	1.0	43.6

APPENDICES

2	11	10.9	10.9	54.5
3	1	1.0	1.0	55.4
5	1	1.0	1.0	56.4
N/A	44	43.6	43.6	100.0
Total	101	100.0	100.0	



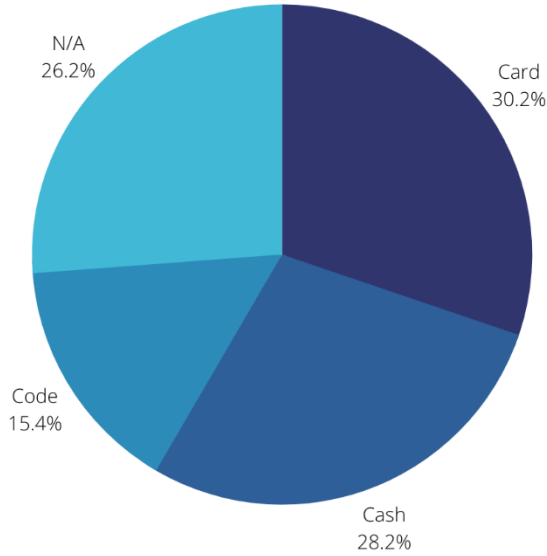
How much would you be willing to pay?

How would you prefer to pay? cash; card or code?

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid				
card	45	30.2	30.2	30.2
cash	42	28.2	28.2	58.4
code	23	15.4	15.4	73.8
N/A	39	26.2	26.2	100.0
Total	149	100.0	100.0	

APPENDICES

How would you prefer to pay? cash; card or code?



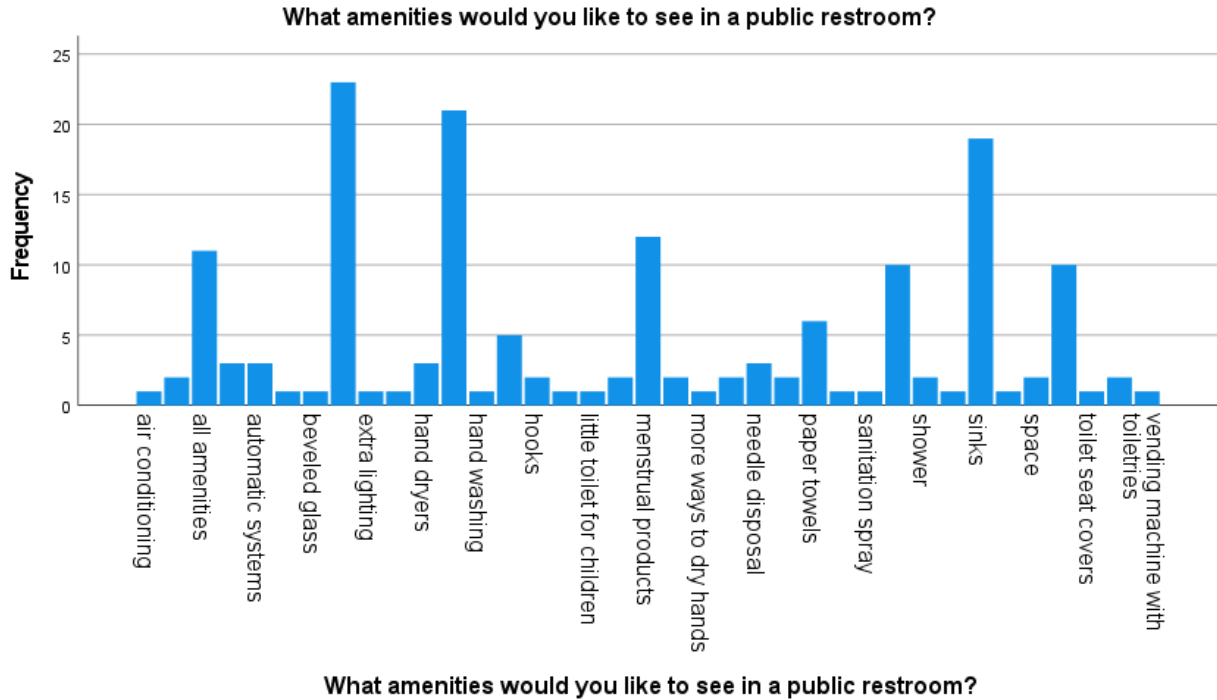
What amenities would you like to see in a public restroom?

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid air conditioning	1	.6	.6	.6
air freshener	2	1.2	1.2	1.9
all amenities	11	6.8	6.8	8.6
attendant	3	1.9	1.9	10.5
automatic systems	3	1.9	1.9	12.3
be clean	1	.6	.6	13.0
beveled glass	1	.6	.6	13.6
changing tables	23	14.2	14.2	27.8
extra lighting	1	.6	.6	28.4
garbage can	1	.6	.6	29.0
hand dryers	3	1.9	1.9	30.9
hand sanitizer	21	13.0	13.0	43.8
hand washing	1	.6	.6	44.4
handicap accessible	5	3.1	3.1	47.5
hooks	2	1.2	1.2	48.8
laundry	1	.6	.6	49.4
little toilet for children	1	.6	.6	50.0
locks	2	1.2	1.2	51.2
menstrual products	12	7.4	7.4	58.6

APPENDICES

mirrors	2	1.2	1.2	59.9
more ways to dry hands	1	.6	.6	60.5
N/A	2	1.2	1.2	61.7
needle disposal	3	1.9	1.9	63.6
not port a john	2	1.2	1.2	64.8
paper towels	6	3.7	3.7	68.5
running water	1	.6	.6	69.1
sanitation spray	1	.6	.6	69.8
Self Cleaning	10	6.2	6.2	75.9
shower	2	1.2	1.2	77.2
signs for cleanliness	1	.6	.6	77.8
sinks	19	11.7	11.7	89.5
sleep room (3/4 hour for homeless)	1	.6	.6	90.1
space	2	1.2	1.2	91.4
toilet paper	10	6.2	6.2	97.5
toilet seat covers	1	.6	.6	98.1
unisex	2	1.2	1.2	99.4
vending machine with toiletries	1	.6	.6	100.0
Total	162	100.0	100.0	

APPENDICES



Where do you think is an appropriate place to put a public restroom in Downtown Pittsburgh?

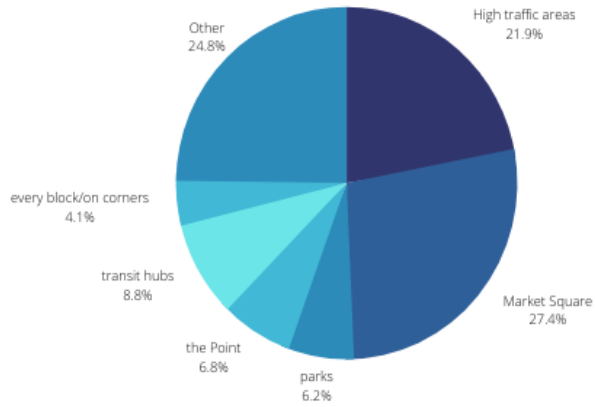
	Frequency	Percent	Valid Percent	Cumulative Percent
Valid				
5th Ave	1	.7	.7	.7
8th & Penn	1	.7	.7	1.4
bridges	2	1.2	1.2	2.6
businesses	1	.7	.7	3.3
City County Bldg	1	.7	.7	4.0
Convention Center	1	.7	.7	4.7
Courthouse	1	.7	.7	5.4
Cultural District	4	2.7	2.7	8.1
every block/on corners	6	4.1	4.1	12.2
high traffic areas	32	21.9	21.9	34.1
kid activity areas	1	.7	.7	34.8
Liberty Ave	1	.7	.7	35.5

APPENDICES

Market Square	40	27.4	27.4	62.9
N/A	9	6.2	6.2	69.1
near police stations	1	.7	.7	69.8
parade routes	1	.7	.7	70.5
parks	8	5.5	5.5	76.0
plazas	2	1.4	1.4	77.4
Point Park	1	.7	.7	78.1
River trail	1	.7	.7	78.8
Smithfield & Penn	1	.7	.7	79.5
special events	2	1.4	1.4	80.9
the Point	10	6.8	6.8	87.7
tourist locations	1	.7	.7	88.4
transit hubs	13	8.8	8.8	97.2
well lit spaces	1	.7	.7	97.9
where pee and poop happen most often	1	.7	.7	98.6
Wood Street	2	1.4	1.4	100.0
Total	146	100.0	100.0	

APPENDICES

Where do you think is an appropriate place to put a public restroom in Downtown Pittsburgh?



APPENDICES

Appendix VII

CHAPTER 67b. COMMONWEALTH OF PENNSYLVANIA UNIVERSAL RESTROOM POLICY STATEMENT OF POLICY

Sec.

- 67b.1 Purpose.
- 67b.2. Scope.
- 67b.3. Definitions.
- 67b.4. Universal restroom policy .
- 67b.5. Required design standards.
- 67b.6. Recommended design standards.

Source

The provisions of this Chapter 67b adopted May 11, 2018, effective May 12, 2018, 48 Pa.B. 2824, unless otherwise noted.

67b.1. Purpose.

The Commonwealth complies with Federal and State laws regarding nondiscrimination and strives to promote access and accommodation for all employees and visitors. The Commonwealth recognizes that employees and visitors may require special restroom accommodations for their health, safety, convenience or privacy. The underlying purpose of this chapter is to establish guidelines for the design and implementation of universal restrooms and restroom facilities, and to ensure that, to the extent feasible, Commonwealth buildings include universal single occupancy restroom facilities that are safe, accessible and convenient to all citizens.

67b.2. Scope.

(a) This chapter applies to all Capital Projects for new construction and, to the extent feasible, renovations of existing buildings. The requirements in this chapter apply to Capital Projects administered by all Commonwealth agencies and to Capital Projects that the Department of General Services (Department) delegates to other agencies or institutions. Deviations from this chapter require the written approval of the Secretary of General Services or a designee.

(b) This policy will be incorporated into all Agreements for Professional Services for new Capital Projects for new construction and, to the extent feasible, renovations of existing buildings. This policy will also be included as a condition of the Department's delegated Capital Projects.

APPENDICES

67b.3. Definitions.

The following words and terms, when used in this chapter, have the following meanings, unless the context clearly indicates otherwise:

- Capital Projects—Projects listed in a capital budget project itemization act.
- Commonwealth buildings—Buildings owned by the Commonwealth or owned by a Commonwealth agency.
- (gender-specific single occupancy restroom—A single occupancy restroom that has been designated men or women.

Universal single occupancy restroom—Any single occupancy restroom that does not designate a gender and can be used by anyone.

67b.4. Universal restroom policy.

(a) At least one universal single occupancy restroom will be created per floor/story for each floor/story that contains restrooms in all Capital Projects for new construction. To the extent feasible, at least one universal single occupancy restroom should be created in all renovations of existing Commonwealth buildings. To the extent feasible, all gender-specific single occupancy restrooms within existing Commonwealth buildings will be converted to universal single occupancy restrooms.

(b) The location of the universal single occupancy restrooms will be determined in consultation with the Department based upon the operational needs of the agency or institution.

67b.5. Required design standards.

All newly-constructed and renovated single occupancy restrooms subject to this chapter must:

- (1) Utilize appropriate signage as designated by the Department that indicates a universal single occupancy restroom.
- (2) Comply with all applicable Federal, State and local codes, laws and regulations including the following:
 - (i) All requirements in the Americans with Disabilities Act of 1990 (ADA) (42 U.S.C.A. 12213) applicable to single-occupancy restrooms, including ADA lever/closer hardware with secured locks that include occupancy indicators.
 - (ii) International Building Code accessibility requirements for single-occupant toilet rooms.
 - (iii) Uniform Construction Code.

APPENDICES

67b.6. Recommended design standards.

The following recommended design standards should be included in universal single occupant restrooms when appropriate and feasible:

- (1) A changing station.
- (2) A sanitary napkin disposal container.

This material has been drawn directly from the official Pennsylvania Code full text database. Due to the limitations of HTML or differences in display capabilities of different browsers, this version may differ slightly from the official printed version.

APPENDICES

Appendix VIII

RULES AND REGULATIONS

Title 34--LABOR AND INDUSTRY

DEPARTMENT OF LABOR AND INDUSTRY

[34 PA. CODE CH. 501

Restroom Equity

126 Pa.B. 1552]

The Department of Labor and Industry (Department), by this order, adopts regulations at Chapter 50 (relating to restroom equity) as set forth in Annex A.

A. Effective Date

These regulations are effective immediately upon publication in the Pennsylvania Bulletin.

B. Contact Person

For further information, the contact person is Edward L. Leister, Administrator, Buildings Division, Bureau of Occupational and Industrial Safety, 1529 Labor and Industry Building, Seventh and Forster Street* Harrisburg, PA 17120, (717) 787-3323.

C. Statutory Authority

These regulations are adopted under the authority contained in section 4 of the Restroom Equity Act(act) (35 P. S. 5820.4).

D. Background and Purpose

The act was adopted to mitigate the delays which women face when they need to use restroom facilities in certain places. These regulations satisfy the act's requirement that the Department adopt, by regulation, standards with respect to all public and private facilities covered by the act.

E. Public Comments

Notice of proposed rulemaking was published at 23 Pa.B. 6078 (December 25, 1993) and set forth a 30-day public comment period.

F. Summary of Comments and Changes from Proposed Rulemaking

The Department received comments about the proposed regulations from the Independent Regulatory Review Commission (IRRC). The Department received no other comments.

APPENDICES

Section 50.81. Purpose

The Department has incorporated IRRC's suggestion that the act be referred to by its title and its Purdon's citation.

under the regulations has been integrated with the plan approval process under the Fire and Panic Act. Thus, there will be no additional paperwork required by the regulations.

H. Sunset [Dale]

A sunset date is not appropriate because these standards will be necessary as long as buildings or structures covered under the act or regulations are being built or renovated.

I. Regulatory Review

Under section 5(a) of the Regulatory Review Act (71 P. S. 745.5(a)), on December 10, 1993, the Department submitted a copy of the notice of proposed rulemaking published at 23 Pa.B. 6078 (December 25, 1993), to IRRC and to the Chairpersons of the House Committee on Labor Relations and the Senate Committee on Labor and Industry. In accordance with section 5(b.1) of the Regulatory Review Act, the Department provided the Committees with a copy of IRRCs comments.

In preparing these final-form regulations, the Department has considered all comments received from IRRC.

These final-form regulations were deemed approved by the House and Senate Committees on February 8, 1996. IRRC met on February 7, 1996, and approved the regulations in accordance with section 5(c) of the Regulatory Review Act.

J. Findings

The Department finds that:

- (1) Public notice of the intention to adopt these regulations was given in accordance with sections 201 and 202 of the act of July 31, 1968 (P. 1, 769, No. 240) (45 P. S. 1201 and 1202) and the regulations promulgated thereunder, 1 Pa. Code 7.1 and 7.2.
- (2) A public comment period was provided as required by law, and that all comments received were considered.
- (3) Modifications to the proposed text do not enlarge the original purposes or the scope of the proposed regulations.
- (4) These regulations are necessary and appropriate to the administration and enforcement of the act

K. Order

The Department, acting in accordance with the authorizing statutes, orders that:

- (a) The regulations of the Department, 34 Pa. Code Chapter 50, are amended by adding 50.81--50.86 to read as set forth in Annex A.

APPENDICES

Appendix IX

CHAPTER 601 PUBLIC ORDER

§ 601.16 - PUBLIC URINATION AND DEFECATION

(a) Definitions:

"**APPROPRIATE SANITARY FACILITY**" means a urinal, toilet, commode, or other facility that accommodates or is designed for the sanitary disposal of human bodily fluids or waste and that is enclosed from public view.

"**PUBLIC PLACE**" means any walkway, street, highway, sidewalk, building façade, bridge, overpass, alley or alleyway, plaza, park, driveway, transportation facility, park, recreational area, parking lot, vacant or undeveloped lot or the stairwells, alcoves, doorways, and entrance ways to such places.

Prohibited Conduct

1) Any person who urinates or defecates in, on, or about any of the following places, other than in an appropriate sanitary facility, commits a violation in:

a) Any public place

b) Any private property into or upon which the public is admitted by easement or license.

Any private property without the consent of the owner.

It is a separate violation for any person who has urinated or defecated in, on, or about any public place, other than in an appropriate sanitary facility, to fail to clean or remove the material deposited immediately, or to fail to dispose immediately of the material used in the cleaning or removal process in a container designed for such disposal.

(Ord. No. 26-2009, § 1, eff. 9-28-09)