

Building Safe Toilet Design into Shared Urban Space

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Public Hygiene Lets Us Stay Human (PHLUSH)

Abstract

For too long North American public toilet facilities have remained on the margins of service provision and urban design. Local governments have been reluctant to provide them and many people have been reluctant to use them. Now with increasing demand for welcoming urban spaces, mass transit, and walkable streets that encourage healthy living, active aging and childhood fitness, there appears to be new interest in public restrooms. This study focuses on innovative open space toilet structures that exhibit principles of Crime Prevention through Environmental Design (CPTED). Particular attention is given to facilities in cities and communities that welcome tourists and respect diversity in the cultures, ages, abilities, and sexual identities of toilet users.

Keywords

design, toilet, restroom, washroom, bathroom, safety, CPTED, crime prevention, natural surveillance, surveillability, walkable streets, culture, space, non-gendered space, livability, complete streets, urban planning, urban design, architecture

Thinking about Space

Public, semi-public and private spaces normally call for different kinds of behavior and interaction. What is fitting may change from one decade to the next. Hemlines rise, necklines fall. Be it language, topics of conversation, the ways we show affection, what is considered appropriate in different types of space continues to evolve. This is reflected in the media: before the 1970s not even matrimonial sex occurred in television bedrooms and human activity in bathrooms is still taboo, although television's first toilet flush is attributed to Archie Bunker.¹

Space can also be gendered, exclusive to males or to females, or welcoming to everyone. North America's barbershops, hair salons, college dormitories, gymnasiums, hot tubs and saunas that were gender-specific in the 1950s have by and large become gender neutral. Restrooms, however, have persisted as the most gendered of spaces. There are men's rooms and women's rooms, a binary designation of space that has all but disappeared in other areas of the public realm. The basic layout of open space urban restrooms has barely changed since the 1950s, when facilities were designed for the middle-class-suburban-dad-mom-and-kids-in-a-car type of family. Gender-prescribed gang-style restrooms continue to function with inadequate consideration of the dynamics of contemporary society.²

Consequently, a variety of individuals are ill-served by facilities found in our shared urban space:

- The father whose 5-year-old daughter needs a bathroom.
- The female caregiver taking a man in a wheelchair on an outing.

- The gender-questioning teenager who must choose which “side” is safer.
- The restroom cleaner who must close down half of the premises each shift.
- People waiting for the cleaner to finish cleaning.
- People waiting in line, generally for the women's room.
- People whose various toilet needs require more privacy.
- People whose gender does not conform to expectations of other restroom users.
- People whose medical conditions make them vulnerable to curiosity or bullying.
- People with paruesis or irritable bowel disease, diabetics who must inject insulin, and those who need to change an ostomy bag or a continence pad.
- Members of any minority group who face discrimination that can escalate into harassment or violence.

In order to inform the design of safe public toilet spaces, it is helpful to overlay the public/private and gendered/gender-neutral continua. Defecation is and probably will remain the most intensely private of human acts. Urination is also likely to stay a very private act for most women and some men. If public toilet stalls where people perform these actions are appropriately private, the gender continuum need not apply. In our view, a feature of well-designed private toilet stalls *is* gender neutrality.

As for other functions of the washroom, however, much has changed in the past 50 or 60 years. Most people no longer object to handwashing, hair combing, limited self-grooming, or changing a baby's diaper in the presence of opposite sex strangers. Some may be nostalgic for the department store ladies lounge, which effectively kept women from smoking in public. But for twenty- and thirty-somethings who have grown up with co-ed university dormitories, gender neutral spaces are the norm.³

Human rights laws in many North American cities now protect people from discrimination on the basis of gender identity or expression. In the words of New York's Sylvia Rivera Law Project, “..if for any reason you are being denied access to services or accommodations you need on the basis of your gender identity or expression, you are now protected by the law.”⁴

Crime Prevention Through Environmental Design (CPTED)

The goal of CPTED (pronounced “sep-ted”) is to reduce specific crimes (and fear of them) by manipulating environmental variables. It is not a prescriptive set of principles but rather a creative inquiry into the design and management of human activities. CPTED is a holistic and cross-discipline collaboration between architects and developers on the one hand and crime prevention specialists on the other. It anticipates and designs out security problems and safety vulnerabilities from the start.

CPTED owes a debt to Jane Jacobs whose writings about her Greenwich Village neighborhood in the early 1960s explore the relationship between urban design and crime. In *The Death and Life of Great American Cities*, Jacobs advocated vibrant neighborhoods that had “eyes on the street” and crime reduction features that also enhanced the beauty and livability of the overall environment. The term Crime Prevention Through Environmental Design originated with C. Ray Jeffery in his 1971 book of that title. The 1972 work *Defensible Space* by architect Oscar Newman advanced the discussion.⁵ CPTED found its fullest elaboration in the work of criminologist Timothy Crowe in the 1990s.⁶ CPTED has slowly found its way into local design review ordinances and building codes. Florida leads the US states in adoption of CPTED frameworks at the state and local level. Canada has embraced the concept in most provinces and large cities. For example, the police in Vancouver, British Columbia have participated in decisions regarding urban planning and design for a number of years.

Environmental design is defined like this:

Environment	=	physical surroundings + social surroundings
Design	=	physical, social and management decisions that affect human

behavior.

CPTED relies on natural, intuitive approaches. Both potential offenders and bona fide users pick up on environmental clues that tell them, “This is a safe place,” or “This place isn't” and act accordingly.

The two key overlapping design concepts are natural access control and natural surveillance, for which we prefer to substitute the term “surveillability”.⁷ Natural access control defies space in ways that “create a perceptions of risk in offender.”⁸ Natural approaches to access control may be supplemented with organized (guards, attendants) and mechanical (locks) means. Natural surveillability facilitates observation so that users can see and intruders can be seen. It is achieved by improving sightlines, strategically placing windows, eliminating blind corners, and adding activity centers of some kind. Organized approaches to surveillance might be police or citizen patrols while mechanical means include remotely triggered lighting or cameras.⁹

Community Involvement and Simplicity of Approach

The practice of CPTED empowers citizens to contribute to community safety by examining the relationship of the environment to human behavior and crime. Crowe is very clear that professionals cannot do the job alone.

*For CPTED to be a success, it must be understandable and practical for the normal users of the space. That is, the normal residents of a neighborhood and the people who work in buildings or commercial areas must be able to use these concepts. Why? Because these people know more about what is going on in that environment and they have a vested interest (their own well-being) in ensuring their immediate environment operates properly.*¹⁰

CPTED tools must be simple and transparent. Crowe proposes that we analyze space in terms of designation, definition and design. Human space has a designated purpose, has legal, social or cultural definitions that determine acceptable behavior, and is designed to support or control the desired behavior. In the case of public toilets we might ask questions such as the following.

Designation

1. What is the designated purpose of the structure?
2. What are the actual uses?
3. How well does the space support intended uses? Actual uses?

Definition

1. How is the space defined? Areas within restrooms? Area around restrooms?
2. What are the social and cultural definitions that affect use of space? What about legal or administrative rules?
3. How do space definitions and uses for women’s rooms differ from those of men’s rooms?
4. Is there conflict or confusion between the designated purpose and the definition?

Design

1. How does the physical design support the designated use?
2. How does the physical design conflict with the designated use?
3. Does the design enable normal¹¹ users to promote desired behavior, control access and provide surveillance in a natural way?

Additional data to inform the public restroom CPTED process is supplied through desk research, observation, and users’ surveys. Desk research includes analysis of crime data showing geographic distribution and type of offense, information on demographics, employment data from businesses and estimates of numbers of visitors and others served by the facility. It’s also important to have maps from the local government showing residential, commercial and industrial land use, the location of parks and schools, and pedestrian, bike and vehicular traffic flows.

Observation of the site and behavior of actual or future users can be done unobtrusively. A randomized schedule of short restroom visits allows community researchers to commit to memory and later record data on age, gender, and ethnicity of users, choice of activities (urinal and stall use, handwashing, grooming, duration of use (of stalls, of overall facility), and wait times.

It's also important to get direct input from users in ways that involve them in decision-making. Since there are taboos against "talking toilets" in polite company, informants need a trusting environment in which to share information on preferences or behavior. While questionnaires and structured interviews can lay the ground work, focus groups yield better information. Properly managed by trained facilitators, focus groups allow five to ten individuals to share time and expertise in exchange for promises of confidentiality and modest stipends (or donations from local businesses). To foster frank discussion about public restrooms, groups should be homogenous. Categories for a large North American city might include several of the following: commuters who walk, cycle and use mass transit, park users, elderly people, parents of toddlers, pregnant or menstruating women, teenagers, children, Muslims, Hindus¹², representatives of key immigrant communities, and lesbians, gay, bisexual, transgender and queer groups. In traditional men's and women's rooms, sexual and ethnic minorities may have experiences ranging from discomfort and confusion to bullying and violence¹³. As recent research attests¹⁴, members of the LBGQT community are emerging as leaders in both public restroom design¹⁵ and in the struggle for human rights and social justice.

"To change the toilets," writes Clara Greed, "we need to change the professional culture of toilet providers."¹⁶ The public restroom design expert feels that the male-led professions of planning, architecture and construction find public toilet work embarrassing, hold misleading assumptions about users, and are focussed on structural and technical issues rather than health, ergonomics, equity, livability, and social needs. A CPTED-oriented community design process is the route to improved facility design.

Safe Restroom Design in Theory and Practice

"Public toilet" is an oxymoron. In essence, the most private of human behaviors must be provided for in the public commons. Until cities get public toilet design right, citizens will not demand new facilities and local authorities will continue to close them down because of vandalism, crime and perceived threats of international terrorism. In the words of one city official "The only good public toilet is the closed public toilet".¹⁷

To build safe public toilet design into shared urban space we propose these guidelines:

1. Designate, define and design public, semi-public and private space.

Unlike most structures to which CPTED is applied, public toilet facilities need public, semi-public and private spaces in close proximity within and around the structure.¹⁸ The gang-style, gender-specific restroom is essentially semi-public - a windowless space with partially partitioned stalls - and offers neither adequate privacy nor safety. They fail to protect users from bullies and harassers or even dangerous intruders. Partial stall partitions mean users experience the sounds, odors, and foot language of strangers. Since urination, defecation, handwashing, and light grooming are very different activities, sub-spaces where they occur can be designated, defined and designed with care. Public acceptance of a facility shared by strangers depends on this. Design space use with natural barriers to conflicting activities.

At La Jolla, California's Kellogg Park Public Comfort Station, small unisex stalls open onto the surrounding area frequented by affluent neighbors, beach-goers, snorkelers, homeless people, and families with children.¹⁹ Users go from a thoroughly public space directly into a very private space. In front of the stalls is a long narrow garden with an attractive fence; this creates a natural barrier between public and private space. People with disabilities, individuals with opposite sex caregivers and parents with young children are accommodated in ADA-accessible stalls. At either end of the facility are semi public spaces with sinks and drinking fountains. This layout increases efficiency of use, avoids the needless cost of placing washing facilities in each stall and may encourage handwashing by both toilet users and others.

2. Provide for natural surveillability and access control.

Siting a stand alone restroom in the middle of a public space can maximize the “eyes” on it. The Gonville Place Public Conveniences are resulted from a 2003 design competition in Cambridge, UK. The attractive hexagonal structure features five direct entry unisex toilet stalls, including ones specially equipped for disabled visitors and for parents with small children. The washroom’s bold yellow and orange walls make it stand out from its surroundings during the day. At night it is bathed in gradually changing colored cold cathode lights, giving it the cheerful look of a merry-go-round in motion.

In Gonville Place, natural surveillability and natural access control overlap. It’s sited out in the open without other nearby structures, such as telephone boxes, where dangerous people can lurk and linger. Even the steel posts that support the modest overhang of the rainwater-harvesting roof are enlarged at the bottom to deter bike parking. This seems counterintuitive: whereas Jane Jacob’s “eyes on the street” applaud the safety afforded by dense pedestrian activity, this approach uses empty space and uninterrupted sightlines. This public comfort station is inviting but only for bonafide users; to others it send a message that they do not belong there.

That private toilet stalls open directly onto public space is potentially troublesome in terms of access control. Only the discomfort of crossing the openness of space deters an offender from following a user into a stall, and this deterrent is less effective at night. The space to be crossed, however, is *public*. Techniques of natural access control can be supplemented with electronic means precisely because the space is public. Contrast this with the semi-public area near the stalls inside the ladies’ or the gents’ where video surveillance is generally unacceptable. Any sense of security against intruders offered by gender-specific gang restrooms is misleading and consequently dangerous.

3 Site toilets in proximity to businesses or services.

When a business is designed into an original construction the results can be most pleasant and unexpected. London’s extremely urban Westbourne Grove Public Lavatories incorporates an attractive florist’s kiosk with a 270 degree view. Seasonal potted flowers are placed outside along the bright turquoise tiled walls encouraging purchase but deterring loiterers.²⁰

Efforts should so be made to integrate public toilets into firehouses, police stations and other buildings that are open long hours and have personnel present.²¹

Existing restrooms may have been deliberately kept out of sight, exacerbating dangers.²² To a toilet in an out of the way corner of a park can be added a counter for visitor information or the sale of balloons or hygiene items. Cities can incentivize such micro businesses or provide licenses to food carts that operate within sight and hearing range of the restroom.²³

4. Use attendants and schedule them effectively.

New York boasts successful attended restrooms,²⁴ including the award-winning one in Bryant Park.²⁵ When the Port Authority Bus Terminal was renovated to address safety concerns, a larger, attended restroom replaced several smaller ones.²⁶ Attendants appear to drive up use numbers²⁷. Gender-neutral facilities require only a single employee and cleaning does not put half the premises off limits.

Since attendants are often ruled out because of cost, it is important to weigh the benefits with the expense of not having them. Consider the costs of repairs following vandalism, of light maintenance and security duties the attendant can perform, and of wear and tear on restrooms in neighboring businesses. Consider the value of international-style comfort to normal users and of the deterrence to abnormal ones. Consider cost recovery through tips, contributions from neighboring businesses, use of volunteers, and/or an attendant-operated micro-business such as a souvenir shop, cold drink kiosk, clothing alteration station, key duplicator or shoe repair.)

For Harvey Molotch, attendants “provide security primarily through their helping”.²⁸ They can be hired to manage needle exchanges, distribute health leaflets and provide information about social services. Attendants need not be full time. An attendant might work a couple of hours on weekend nights after

pubs close before locking up the facility. A park restroom fitted with shower stalls could be managed by an attendant from 5 to 7 am weekdays to serve homeless workers and job seekers.

5. Enhance urban livability with toilets that connect with the street.

Healthy living, active aging and childhood fitness are served by pedestrian- and cycle-friendly streets that link to public transit. Putting toilets where the people are means putting them on the street. Automated Public Toilets, however, have barely taken hold in North American cities. Cities have removed them because of crime.²⁹ Most supplier contracts require they they double as billboards. They guzzle drinking water and devour energy. APTs remain a source of curious amusement, with users reluctant to enclose themselves in a cold, wet, unfamiliar contraption.³⁰

Much more promising are non-automatic street toilets. In Le Flon, the once-blighted neighborhood of Lausanne, Switzerland, an attractive glass-walled geometric toilet structure allows passers by to see inside when it is empty. Upon entry, the double paneled walls of liquid crystal glass fog up. If motion ceases for a period of time or if there is too much activity is detected the glass clears.³¹

The success of the Portland Loo results from a careful design process that included periodic CPTED reviews and a year-long pilot testing on site. Thanks to horizontal louvers at the top and bottom, the Loo balances privacy with connection to the street. At the bottom of this sturdy, compact, solar-powered, stainless-steel kiosk are angled louvers that make it possible for passers by to see if a person has fallen or is using the unit inappropriately. User calls for help can be heard, while ambient street noise camouflages most other toilet sounds.³²

The Victoria Urinal offers an even more remarkable connection with its urban surroundings. Building on previous efforts to deal with public urination after weekend pub closings, officials of British Columbia's capital city commissioned architect Matthew Soules to design what has become North America's first successful open space urinal.

In the lengthy and painstaking design process the biggest challenge was balancing privacy and transparency. The elegant Victoria Urinal features a screen of vertical pipes - ordinary, tough, inexpensive steel pipes - that wraps around a concrete slab supporting the urinal. The design team experimented with pipes of different lengths and tweaked the gaps between them so that a person approaching can see that the urinal is in use but cannot identify the individual.³³

In 2011, the Washington DC-based International Downtown Association awarded the Victoria Public Urinal its Pinnacle Award.³⁴ According to the Mayor of the genteel capital of British Columbia, the urinal soon will be fitted with a locking gate to accommodate women as well as men.³⁵ Paper funnels will be distributed to female users, initially free of cost.³⁶

Conclusion

The sublime lines of the Victoria Urinal promise that it will become an esthetic icon of the city. Clara Greed's argument that public toilets "should be seen as features of public art in their own right" aligns with tenets of urban design and is similarly served by systematic input from citizens, technical experts and CPTED specialists.³⁷ It is only when city-dwelling toilet users, public safety officials, planners, and architects join in productive collaboration that we will succeed in building safe toilet design into shared urban space.

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References

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² Mary Coakley, Restroom Designer, personal communication, Dec 2008.

³ Restaurant restrooms have familiarized people with unisex facilities. See Frank Bruni, "Forget the Specials, Explain the Restroom," *New York Times*, 4 May 2005/ <http://www.nytimes.com/2005/05/04/dining/04john.html> Accessed 5/30/11 and Havey Molotch, "On Not Making History", in Molotch and Norén, p.260.

⁴ Sylvia Rivera Law Project, *Toilet Training: Companion Guide for Activists and Educators*, "Talking Points about Gender-Segregated Facilities", http://srlp.org/files/documents/toolkit/talking_points_gender_seg.pdf See also "Transgender New Yorkers Can Choose Bathrooms At MTA Stations", NY1 News 24 Oct 2006,

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⁵ See also Oscar Newman, *Creating Defensible Space*, (Washington, DC: U.S. Department of Housing and Urban Development, 1996), 9. <http://www.huduser.org/portal/publications/def.pdf>

⁶ Timothy D. Crowe, *Crime Prevention Through Environmental Design: Applications of Architectural Design and Space Management Concepts*, (Boston: Butterworth-Heinemann, 2000).

⁷ Used in Australia, the term "surveillability" suggests voluntary, non-intrusive observation. "Surveillance" implies scrutiny, often by authorities.

⁸ Crowe, 36.

⁹ Crowe, 37-38.

¹⁰ Crowe, 39.

¹¹ In community discussions it makes sense to talk about "normal users" and "abnormal users", as Crowe does, rather than use terms like "bonafide users" and "potential trouble makers" or "good folks" and "bad guys".

¹² New York University sociologist Harvey Molotch states unequivocally [in *Toilet*, p. 2] that "For an Indian in India, water through a wash pipe that can be directed toward anus or vulva is the utter necessity." We know that by and large the world's people are either squatters or sitters and either washers or wipers. But what steps have local governments or school systems taken to really support North American diversity?

¹³ "Vicious Beating of Woman Tragically Illustrates Restroom Safety Issues for Transgender People", Prevent Hate Blog, Center for Preventing Hate, 4 May 2011 <http://www.preventinghate.org/news-events/news/beating-of-woman-illustrates-restroom-safety-issues-for-transgender-people/>

¹⁴ See for example Ruth Barcan, "Dirty Spaces: Separation, Concealment, and Shame in the Public Toilet"; David Serlin, "Pissing without Pity: Disability, Gender and the Public Toilet"; Olga Gershenson, "The Restroom Revolution: Unisex Toilets and Campus Politics", and Mary Anne Case, "Why Not Abolish Laws of Urinary Segregation?" in Harvey Molotch and Laura Norén, *Toilet: Public Restrooms and the Politics of Sharing*, 2010.

¹⁵ Elizabeth Beltramini, "Campus Restrooms' Role in Universal Design", *The Bulletin*, Association of College Unions International, Vol 75:3, May 2007,

<http://www.acui.org/publications/bulletin/article.aspx?issue=448&id=2300>

¹⁶ Clara Greed, "Creating a Nonsexist Restroom", in Molotch and Norén, 124

¹⁷ Quoted in Greed, 125.

¹⁸ For example, stalls might be private, urinals semi-private and handwashing public. An attended facility for homeless people that puts sink, shower and toilet into a single private bathroom space offers safety and respects human dignity at the expense of efficiency and per use cost. However, the 'sh'-behaviors - *shit*, *shower* and *shave* - are distinct and can be accommodated more efficiently and with less expense in private, semi-private and (nearly) public spaces, respectively.

¹⁹ La Jolla Shores Kellogg Park Public Comfort Station: APWA Project of the Year Award, 2006, <http://www.americanrestroom.org/us/lajolla/index.htm>

²⁰ Cristina del Valle Schuster, *Public Toilet Design*, (Buffalo: Firefly Books, 2005), 228.

²¹ Greed, 132.

²² Crowe points out that shopping malls and department stores have traditionally shoved these facilities that produce no revenue into the least desirable spaces. Fortunately, chains like Target realize that customers value restrooms and place them prominently near the entrance.

²³ For more on siting restrooms near shops see Felson, Marcus et al, "Redesigning Hell: Preventing Crime and Disorder at the Port Authority", Rutgers University School of Criminal Justice, 1997, 23ff.

²⁴ Molotch and Norén, 87.

²⁵ "America's Best Restroom Rankings" 22 Sept 2010. <http://blog.bryantpark.org/2010/09/americas-best-restroom-rankings.html>

²⁶ Felson, Marcus et al., 23.

²⁷ Irus Braverman, 82.

²⁸ Havey Molotch, "On Not Making History", in Molotch and Norén.

²⁹ Christopher Maag, "Seattle to Remove Automated Toilets", *New York Times*, July 17, 2008

<http://www.nytimes.com/2008/07/17/us/17toilets.html> Nina Frazier, "Sex, drugs, and filth plague city-sponsored restrooms", *SF Public Press*, April 4, 2011 <http://sfpublicpress.org/news/2011-04/sex-drugs-and-filth-plague-city-sponsored-public-restrooms>

³⁰ See William Saletan, "Crap and Trade", *Slate*, 9 July 2008 <http://www.slate.com/id/2195071> and The Automatic Public Toilet in Madison Square Park (video) <http://www.thedoctorschannel.com/video/2478.html>

³¹ See Joseph L. Flatley, "Transparent public restroom not for those with performance anxiety", 26 May 2009, <http://www.engadget.com/2009/05/26/transparent-public-restroom-not-for-those-with-performance-anxie/> and La Toilette transparent (video).

³² See Brian Libby, Portland Loo: Design, entrepreneurship, NiMBYism, Portland Architecture, 13 Sept 2010, <http://chatterbox.typepad.com/portlandarchitecture/2010/09/the-portland-loo-design-entrepreneurship-nimbyism.html> ; Carol McCreary, Sustainable Design: Case Studies from Portland, Oregon, World Toilet Summit Singapore, 3 Dec 2009. www.portlandonline.com/water/index.cfm?a=286261&c=51250 ; and The Portland Loo, www.portlandloo.com

³³ Adele Weder, World's Coolest Public Urinal and How it was Invented, The Tyee, 7 Feb 2011 <http://thetyee.ca/ArtsAndCulture/2011/02/07/CoolPublicUrinal/>

³⁴ International Downtown Association. IDA Downtown Achievement Awards 2010. <https://www.ida-downtown.org/eweb/Dynamicpage.aspx?webkey=bfc41ccf-cee6-4e50-851a-cf955e50e833>

³⁵ More Urinals for Downtown Victoria (video), 15 July 2010 <http://www.youtube.com/watch?v=pxdx1bASJg0>

³⁶ Michael Hill, Downtown Community Development Coordinator City of Victoria, personal communication, April 2011.

³⁷ Greed, 131.