Specifying Bathroom Fixtures for Public Spaces

Durability, Performance, and Compliance



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Introduction

Public bathroom design has been shaped by shifting societal needs, technological advancements, and design priorities. While communal bathhouses of the past offered essential hygiene services to urban populations, today's public bathrooms reflect a nuanced balance of functionality, sustainability, and inclusivity. Modern toilet facilities are no longer merely utilitarian spaces; they are key contributors to public health, user satisfaction, and environmental stewardship. For architects and specifiers, the challenge lies in selecting fixtures that seamlessly address these evolving demands while ensuring durability and compliance with strict building standards.

In high-traffic environments such as airports, shopping centres, and stadiums, fixtures must withstand constant use without compromising performance or ease of maintenance. At the same time, sustainability has become a critical consideration, with water-saving taps, low-flush toilets, and touchless systems now standard in many specifications. These innovations not only conserve resources but also reduce operational costs and contribute to broader green building objectives.

Specifying fixtures for public bathrooms requires a comprehensive understanding of the unique challenges posed by different spaces and user groups. From vandal-resistant components in schools to antimicrobial surfaces in healthcare facilities, each application demands tailored solutions. This paper explores the critical factors involved in selecting bathroom fixtures for public spaces, offering insights to help specifiers create environments that are functional, durable, and future-ready.







Understanding the challenges of public bathrooms

Designing public bathrooms comes with distinct challenges, largely driven by their high levels of use. Continuous foot traffic quickly accelerates wear and tear on fixtures and there is a risk of vandalism and accidental damage. Frequent maintenance requirements place significant financial and logistical burdens on facility operators. For example, according to council data, public toilets in the South Australian city of Onkaparinga experience over 800 incidents of vandalism annually, costing ratepayers approximately \$100,000 in repairs each year.¹

Hygiene is another critical concern in public bathroom design. Studies from institutions such as the Australian National University and the University of South Australia have highlighted the significant risk of infectious disease transmission in public washrooms linked to widespread evidence of contaminated surfaces.² These findings underscore the importance of specifying materials and finishes that are easy to clean and resistant to microbial growth, alongside systems that minimise shared touchpoints. Efficient maintenance and cleaning protocols are essential to reduce downtime and ensure public safety.

Accessibility also poses a significant challenge in public bathroom design. Despite regulatory requirements, many accessible bathrooms still fail to meet the needs of all users. A recent study found that a majority of washbasins in accessible bathrooms are not usable for some wheelchair users.³ To address these issues, specifiers must carefully select fixtures that comply with accessibility standards while also accommodating diverse user needs.

Key considerations for specifying public bathroom fixtures

Durability and materials

High-quality materials like lead-free brass are ideal for their strength and longevity. Anti-corrosion and impact-resistant properties are essential to reduce wear and tear, particularly in high-traffic areas. Additionally, fixtures should be designed to resist vandalism and tampering, such as low-profile designs with rounded edges to reduce leverage and systems with concealed mechanisms.

Hygiene and sanitation

All facilities must be designed to facilitate efficient cleaning and sanitation. Antimicrobial coatings can help reduce the risk of microbial growth on surfaces, while touchless technologies, such as sensor-operated taps and soap dispensers minimise user contact and prevent the spread of germs.

Easy-to-clean designs with smooth surfaces contribute to quicker maintenance turnaround, keeping facilities operational and safe. Materials that are resistant to harsh cleaning agents and layouts that reduce hard-toreach areas are also essential.

Water efficiency and sustainability

Water-saving fixtures are vital for both environmental sustainability and cost management. Specifying

products with high WELS (Water Efficiency Labelling and Standards) ratings ensures compliance with water-saving regulations. Features like dual-flush mechanisms, timed-flow taps, and waterless or lowflush electronic urinals significantly reduce water consumption in high-traffic facilities.

Compliance with regulations and standards

Fixtures in public bathrooms must adhere to strict regulations to ensure safety, accessibility, and environmental responsibility. Compliance with Australian Standards for plumbing and fixtures, AS1428 for accessibility (when required), and WELS ratings is critical. For schools, specific guidelines, such as the ESFG (Educational Facilities Standards and Guidelines) in New South Wales, should also be met.

User experience and accessibility

Public bathrooms should be inclusive and user-friendly, with fixtures designed for comfort and ease of use. Accessible fixtures that comply with AS1428 ensure that individuals with disabilities can use the facilities without difficulty. Features such as adjustable heights, clear signage, and intuitive controls for water pressure and temperature enhance the overall user experience.



Importance of aesthetics in public bathrooms

Public bathrooms play a significant role in shaping the overall impression of a building, blending functionality with design. The choice of materials, colours, fixtures, and finishes can transform these spaces into welcoming and modern environments. Contemporary designs often incorporate natural elements like stone and wood finishes to create a calming and inviting atmosphere. These aesthetic decisions help elevate the user experience, making public bathrooms more than just utilitarian spaces. Beyond visual appeal, thoughtful aesthetic choices can address the common perception of public bathrooms as impersonal or clinical. By integrating warm tones, stylish fixtures, and cohesive design elements, bathrooms can feel more approachable and user-friendly. These enhancements not only improve user satisfaction but also reflect positively on the building as a whole.

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Guide to public bathroom fixtures by Caroma

With over 80 years of experience, Caroma believes public bathrooms should strike the perfect balance between durability, functionality, and aesthetics. The company designs fixtures that meet the diverse needs of Australians, from high-traffic public spaces to specialised facilities requiring enhanced accessibility and hygiene. Their commitment to innovation and quality reflects a guiding vision of creating products that seamlessly integrate smart design, sustainable solutions, and enduring performance across a variety of applications.

Cube CleanFlush® Electronic Urinal

Caroma's Cube CleanFlush® Electronic Urinal redefines public bathroom hygiene with its innovative rimless design, ensuring a thorough, splash-free flush while eliminating bacteria-prone crevices. Enhanced by GermGard® antimicrobial protection, it eliminates 99% of bacteria on contact, simplifying maintenance and reducing odours. With a WELS 6-star rating and Smart Demand technology, the urinal combines exceptional water efficiency with sustainability, using just 0.8L per flush. Its sleek, minimalist design integrates seamlessly into various interiors, offering customisable finishes for cohesive aesthetics.

The Cube CleanFlush® Electronic Urinal is compatible with Caroma's Smart Command system, enabling realtime water use monitoring for enhanced operational efficiency and sustainability. Its anti-vandal design ensures durability and reliability, making it an ideal choice for high-traffic commercial and public spaces where resilience and performance are paramount.

Civic Tapware

The Civic Tapware collection by Caroma combines robust functionality with refined aesthetics, setting a new standard for high-volume commercial bathroom installations. Engineered for durability, these fixtures feature anti-vandal and anti-ligature designs. With a timeless, universal style, Civic tapware is more aesthetically refined than alternatives on the market, seamlessly blending elegance with practicality.

Features like low-force push operation, auto-shut off to reduce water waste, and modular designs for easy customisation highlight this range's user-focused innovation. Crafted from lead-free brass and fitted with concealed aerators, the collection is leak-tested and water-efficient, boasting a WELS 6-star rating.

Undercounter basins: Liano II and Urbane II

The Liano II and Urbane II under-counter basins exemplify the perfect blend of style, durability, and functionality for modern public bathroom design. The Liano II basins feature a contemporary thin-rim design and a range of matte colour finishes, including black, green, and pink, allowing for bold, customisable aesthetics. Crafted from durable Caroma ceramic, they offer smooth, stain-resistant surfaces and a 4.9L bowl capacity, with optional pop-up plugs and wastes in finishes like chrome and PVD brushed brass for a cohesive look.

Complementing this, the Urbane II basins, made from durable vitreous china, provide a seamless solution with an integrated ceramic pop-up plug and waste system and a larger 10.2L bowl capacity, ideal for high-traffic spaces. Both collections are easy to clean, highly versatile, and backed by a 20-year warranty.

The integration of undercounter basins offers significant advantages in hygiene, durability, and maintenance. By recessing the basin, the benchtop surface remains flat and seamless, reducing crevices where dirt and bacteria can accumulate and enabling easier, more effective cleaning. This design also minimises damage risks, as there are no exposed edges prone to chipping or cracking, extending the installation's lifespan.

School Smart toilets

School Smart toilet suites are specifically designed to meet the rigorous demands of educational environments. Featuring Caroma's patented rimless Cleanflush technology, these toilets ensure superior hygiene with an easy-to-clean design that reduces bacterial build-up and minimises cleaning time.

Built to withstand heavy use, the suites include vandal-resistant cistern kits and load-tested pans that can handle heavy use. The soft-close, quickrelease seat with a 400kg load rating enhances durability while preventing sideways movement. With water-efficient dual-flush options, a stainresistant vitreous china finish, and versatile installation features like the Uni Orbital Connector, School Smart suites provide an ideal solution for maintaining functional, safe, and aesthetically pleasing bathroom facilities in schools.



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