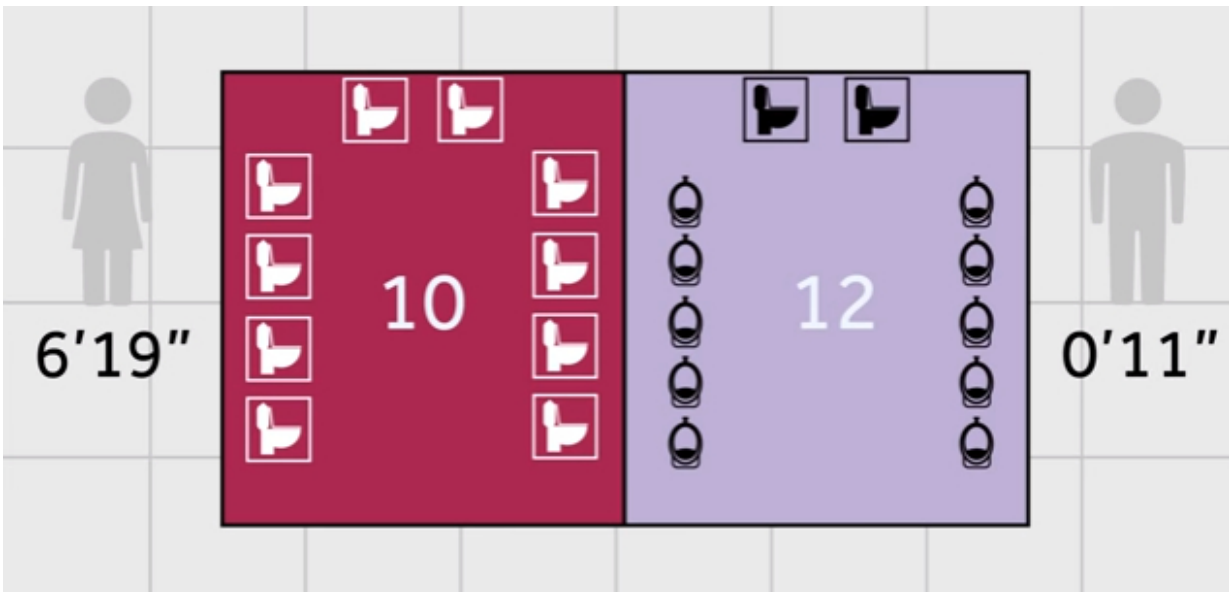


Researchers study lengths of restroom queues

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Two queueing theorists of Ghent University investigated why queues at restrooms are invariably longer for ladies than for men. Time and time again. What are the main causes for this disparity? And how can it be overcome? Moving to unisex toilets, it appears from this study, may reduce waiting times for women from over 6 minutes to less than a minute and a half. Already a symbol for transgender equality, unisex toilets can hence boast excellent figures when it comes to reducing

waiting times. Or, how transgender-friendliness may help in battling female-unfriendly toilet culture.

It turns out there are three main causes for the difference in waiting time between men and women. A first factor explaining why women wait longer is that the net number of [toilets](#) for women is smaller than that for men. This is because the total surface area is often divided equally while a toilet cabin inevitably takes up more space than a urinal. Overall, an average toilet area can accommodate 20 to 30 percent more toilets for men (urinals + cabins) than for women.

A second reason is that according to scientific studies women spend one and a half up to two times as long on the toilet. The reasons are mostly practical. In contrast to a urinal, a door must be opened and closed twice, a toilet seat needs cleaning, and more and more difficult clothes have to be taken off and on. This results in an average time spent at the toilet of 1 minute for men and 1 minute and 30 seconds for women.

A third factor is the overall activity at the restroom. As long as it's not too busy, the overall effect of ladies having a smaller number of toilets and spending more time on those toilets does not lead to long queues. However when for example everybody heads home, more women arrive at the toilets than the system can handle. This condition amplifies the above effects and results in outrageous waiting times for women.

Based on these three major causes, 6 different but comparable layouts were simulated using a scenario of alternating busy and calm periods. A layout with comparable waiting times for men and [women](#) is possible, yet requires that for each male toilet at least one and a half and up to two female toilets are present. The holy grail, however, is to use unisex toilets. In these mixed toilets layouts, the toilet cabins are available for both sexes and optionally complemented with extra urinals for the men. As sharing the toilet capacity across sexes is more efficient, the average

waiting time decreases. The available toilet surface can be used most efficiently when an ideally balanced layout with about two cabins per urinal is chosen. In this layout, men are still privileged, but to a much lesser extent than in the basic situation. The overall waiting time is reduced with 63 percent, which cannot be achieved by any other mixed layout, and definitely not by a separated layout.

Provided by Ghent University

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