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Standard Lavatories for Wheeled Mobility Device Users

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Abstract. In the contemporary world, building regulations and norms need to be updated to reflect the evolution in mobility devices. This research is suggesting new proposals for norms and standards for standard lavatories by taking the evolution in new wheeled mobility devices into account.

Keywords. Built environment, building regulations, wheeled mobility device

1. Introduction

Developments in design of assistive equipment will have a huge bearing on the built environment and corresponding accessibility norms. This evolution has meanings in different parts of the built environment such as building facilities, entrance to the building, lavatories, parking spaces and etc. Main goal of this study is to investigate the new accessibility standards for lavatories based on the evolution in mobility device.

2. Standard Lavatories

Calculations for the dimensions of standard lavatories based on new mobility device dimensions are presented in this chapter. The dimension of toilet room is dependent on the size of equipment (washbasin, toilet seat) plus the minimum suggested maneuvering space between them.

2.1. Dimensions of Toilets; Based on New Mobility Aid Device Dimensions

Two different scenarios are defined for the mobility aid devices in toilettes:

- When the mobility device is a scooter or a manual wheelchair with user and helper, the minimum required maneuvering area is 2100 x 2100 mm and in that case, the minimum suggested dimension for toilet room is 2700 x 2900 mm (Figures 1A and 1B).

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- For calculating a typical accessible WC size, suggested minimum maneuvering space for electric wheelchair with user (this space is calculated based on a sample device with maximum dimensions driven from a market-based survey) of 1750 x 1750 mm used as the bench-mark size and is added to the current standards for WC equipment. In this case, minimum suggested dimension for toilet room is 2350 x 2650 mm (Figure 1C). Suggested distance between the door and side wall is 375 mm.

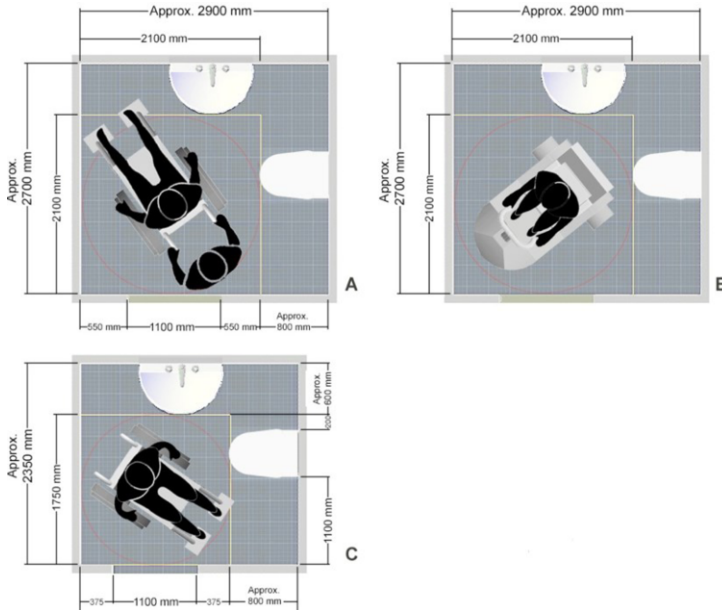


Figure 1. Configuration of wheeled mobility devices in lavatories

3. Conclusions and Comparisons

New proposals are made for dimensions of toilet rooms. Suggested length/width of the current study based on the new mobility devices (2900/2700 mm in Figures 1A and 1B and 2650/2350 mm in Figure 1C) is longer/wider than the length/width recommended by the other benchmark literature and building regulations. For manoeuvring space, approximate dimension in the toilet room in the current benchmark literatures and building regulations is smaller than the suggested maneuvering space with same quality level in this research (1750 x 1750 mm and 2100 x 2100 mm in Figures 1 A-C).

The suggested door width in the current study (1100 mm) is wider than the door width recommended by the other benchmark literature and building regulations. Minimum free clearance beside the toilet seat in this report (1100 mm) is larger than the suggested size by SBi Guidelines 222, BR10 and SBi Guideline 230. The preferred size for lateral transfer and assistance and also for powered wheelchairs in ISO 2011 is 1200 mm which is larger than the suggestion in this report, but minimum suggestion of ISO 2011 for both type A and C is smaller than the new suggestion of this research.

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