

Design of Accessible Wheelchair Ramp for Public Transport

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Abstract

Movement accessibility is a vital empowering agent of methodologies to battle destitution through improving access to training, work, and social administrations. However, there are no unique facilities for the disabled individuals in Bangladesh in the transportation sector. People using wheelchair find hard to embark and disembark into a public transport. This paper represents the design parameters of wheelchair ramp on local buses so that people with physical disabilities in Dhaka city can gain access to public transportation. We focused on a simple and economical construction of the ramp, durability, easy and cost-efficient installation on the public bus with easy maintenance. The outline of the ramp is completed after careful assessment of different public transport buses around Dhaka city. Accessible design of the model is based upon the guidelines of Americans with Disabilities Act (ADA). The 3D model of the wheelchair ramp was created using SolidWorks. The model can be installed on public buses around Dhaka city with a simple modification of bus door and sitting arrangement. This design is based on manual mechanism because it was focused on low-cost installation on local public buses. A further modification of the ramp for the reduction of the ramp's weight is under consideration.

Keywords

Wheelchair ramp, Disability, Transportation, Modeling, SolidWorks