



Indonesian Journal of Community and Special Needs Education



Journal homepage: <http://ejournal.upi.edu/index.php/IJCSNE/>

Parking Area for People with Special Needs: Standard Design in Indonesia

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ABSTRACT

The goal of this research is to describe the concept of a disabled parking lot. This study was based on an examination of the literature from a variety of sources, particularly those in Indonesia. The results of the research are collected, processed, and provided in the form of an easy-to-understand explanation. As a result, it is envisaged that the research findings can be utilized as a guide for architectural and environmental construction, particularly in hospitals, schools, and public facilities for persons with special needs (i.e. wheelchairs, crutches, and canes for the blind).

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ARTICLE INFO

Article History:

Submitted/Received 14 Oct 2021

First revised 20 Dec 2021

Accepted 22 Jan 2022

First available online 24 Jan 2022

Publication date 01 Mar 2022

Keyword:

Building,

Car,

Education,

Parking area,

Special needs.

1. INTRODUCTION

The basic dimensions of 3-dimensional space (length, breadth, and height) are important points (Rahmat, 2021), especially when they were utilized to construct this space, which corresponds to the size of the vehicle movement, the equipment used by the disabled, and the space necessary. The data from each existing space is then adjusted to the function, and the maximum capacity of use is set. The paper will address the design of places for disabled parking areas in Indonesia in this study. People with special needs are people who experience limitations or extraordinariness, especially regarding physical (Maryanti *et al.*, 2021). Thus, they need special treatment and conditions (Zakharenko, 2020). They need some privilege and government must support them. In essence, the disabled parking section is distinct from the rest of the parking lot. This is owing to the fact that moving situations necessitate automobile storage and disability places. As a result, design estimates must take into account not only the various vehicles used for mobilization but also the basic size of the application. This will, indeed, make a difference in the way parking lots are planned.

As a result, the goal of this research is to describe the concept of a disabled parking lot. Many reports regarding parking areas for the disabled have been reported (Miniaoui *et al.*, 2016; Yannis *et al.*, 2009; Zakharenko, 2020). This study was based on an examination of the literature from a variety of sources, particularly those in Indonesia. The findings are intended to be utilized as a guide for architectural and environmental construction, particularly in hospitals, schools, and public facilities for persons with special needs (i.e. wheelchairs, crutches, and canes for the blind).

2. METHODS

A literature review of some facts about the standard size of space and the environment was utilized as the method. Specifically, this study was focused on the parking area for the disabled.

3. RESULTS AND DISCUSSION

In the standard parking area, to make more cars be parked well, the parking space dimension can be presented in **Figures 1** and **Figure 2**. **Figure 1** is for parking space with 90° , whereas Figure 2 is for 45° . The detailed design for the parking area is shown in **Figure 3**.

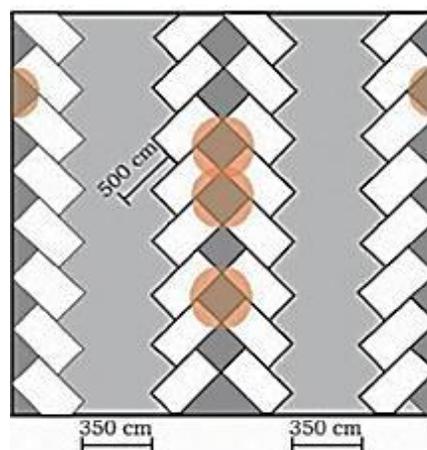


Figure 1. Parking space dimensions 90° . Images were taken from <https://eprints.uny.ac.id/63842/4/BAB%20II.pdf>

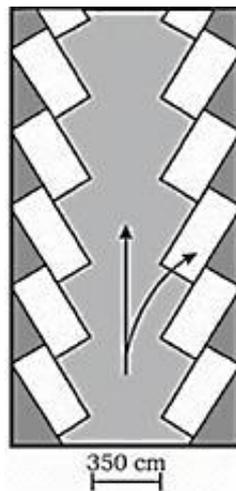


Figure 2. Parking space dimensions 45°. Images were taken from <https://eprints.uny.ac.id/63842/4/BAB%20II.pdf>

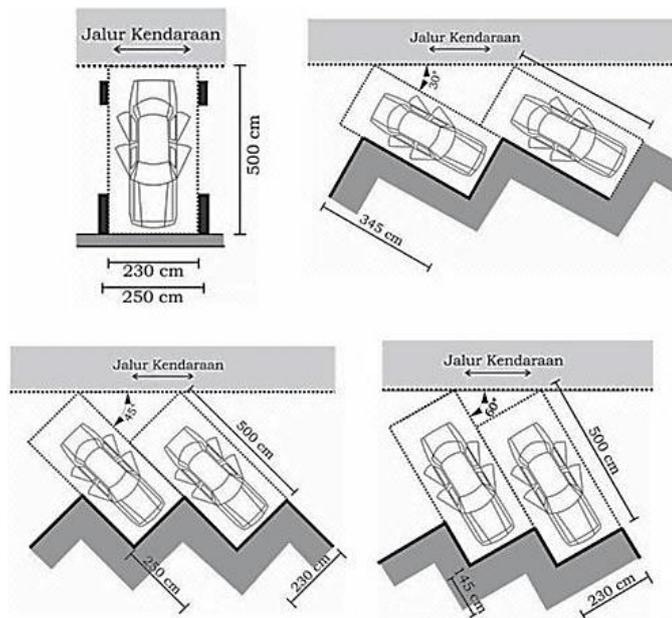


Figure 3. Suggested dimensions of the parking area. Images were taken from <https://eprints.uny.ac.id/63842/4/BAB%20II.pdf>

Although parking area for the normal condition is shown in **Figures 1, 2, and 3**, there are two requirements needed in making a parking area for the disabled: (i) car parking facilities; and (ii) Passenger pick-up and drop-off areas.

For the vehicle parking facilities section, there are several important points:

- (i) The disabled parking lot is located on the closest route to the intended building/facility, with a maximum distance of 60 meters.
- (ii) If the parking lot is not directly related to the building, for example in park parking and other open spaces, the parking lot must be located as close as possible to the entrance gate and pedestrian path.
- (iii) The parking area must have sufficient free space around it so that wheelchair users can easily get in and out of their vehicles.
- (iv) Special disabled parking areas are marked with a valid disabled parking sign symbol.
- (v) In the disabled parking lot provided ramp sidewalks on both sides of the vehicle.

(vi) The parking space is 370 cm wide for single parking or 620 cm for dual parking and is connected by ramps and roads leading to other facilities.

For the area to pick up and drop off passengers, there are several important points:

- (i) The minimum depth of the boarding area for passengers from roads or busy traffic lanes is 360 cm and with a minimum length of 600 cm.
- (ii) There are signs for people with disabilities that are commonly used to make it easier and distinguish them from similar facilities for the public.
- (iii) Equipped with ramp facilities, pedestrian paths, and signs for people with disabilities.
- (iv) Maximum slope of 5 degrees with a flat surface in all parts.
- (v) Standard implementation details:

An example of an application is presented in **Figure 4** regarding recommendations for accessible routes for parking lots. If the building prepares a parking area, the location can be chosen close to the pedestrian (**Figure 5**). If the parking space is double, the area can be made as shown in **Figure 6**. If it is made at an angle, the parking area can be made as shown in **Figure 7**. When designing a parking area, there is a regulation in estimating car parking size (see **Figure 8**).



Figure 4. Recommendations for accessible routes for parking areas. Images were taken from <https://eprints.uny.ac.id/63842/4/BAB%20II.pdf>

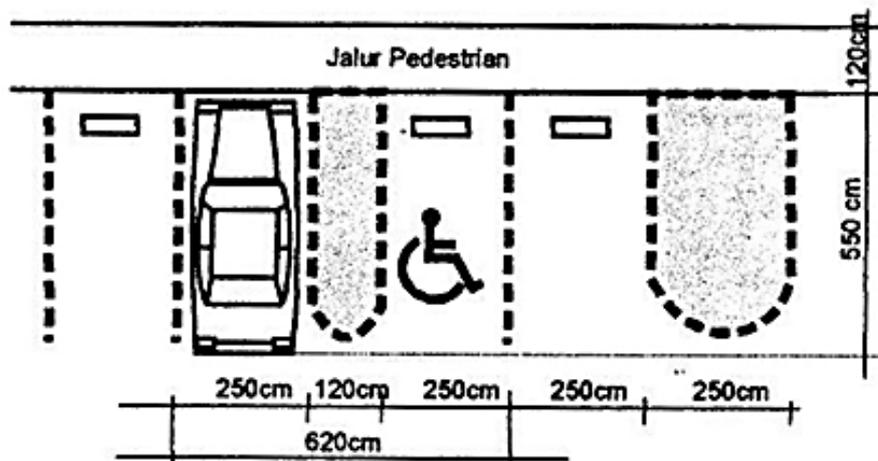


Figure 5. Recommendations for accessible routes for parking areas for the disabled. Images were taken from <https://eprints.uny.ac.id/63842/4/BAB%20II.pdf>

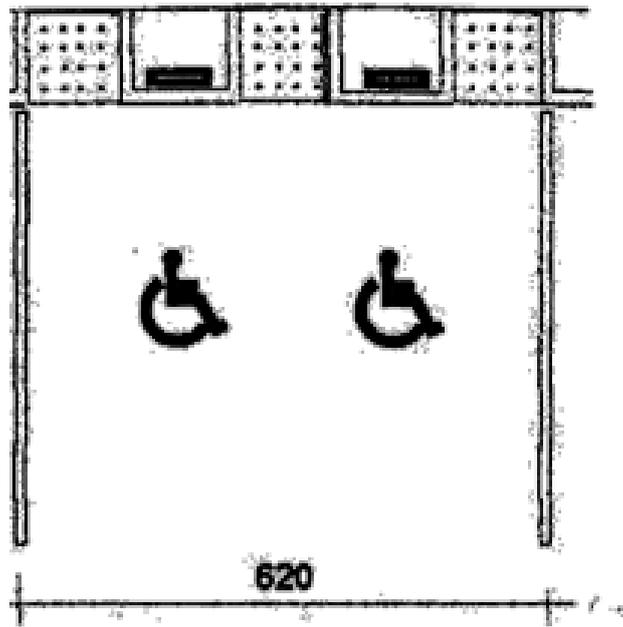


Figure 6. Double parking spaces for the disabled. Images were taken from <https://eprints.uny.ac.id/63842/4/BAB%20II.pdf>

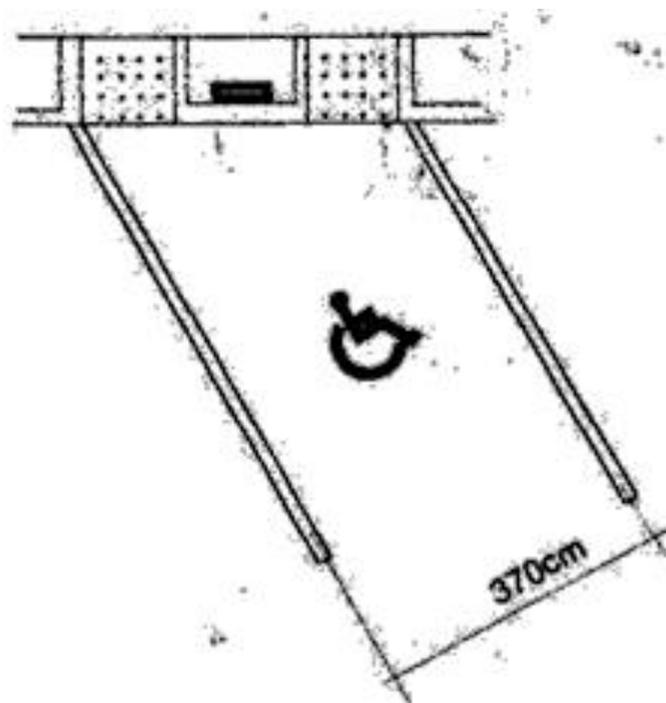


Figure 7. Angled parking space for the disabled. Images were taken from <https://eprints.uny.ac.id/63842/4/BAB%20II.pdf>

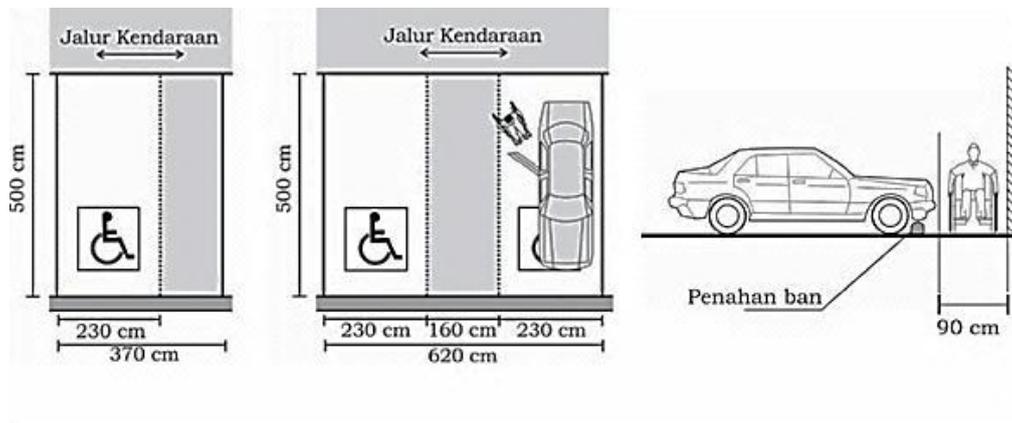


Figure 8. Car parking size for persons with disabilities. Images were taken from <https://eprints.uny.ac.id/63842/4/BAB%20II.pdf>

4. CONCLUSION

The present study explains the standard disabled parking lot based on an examination of the literature from a variety of sources, particularly those in Indonesia. As a result, it is envisaged that the research findings can be utilized as a guide for architectural and environmental construction, particularly in hospitals, schools, and public facilities for persons with special needs (i.e. wheelchairs, crutches, and canes for the blind).

5. AUTHORS' NOTE

The authors declare that there is no conflict of interest regarding the publication of this article. Authors confirmed that the paper was free of plagiarism.

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