Research Article GU J Sci, Part B, 11(3): 423-439 (2023)

Gazi University

Journal of Science

PART B: ART, HUMANITIES, DESIGN AND PLANNING

http://dergipark.gov.tr/gujsb

Evaluation of the Accessibility of the Disabled in Urban Areas on the Sample of the National Library

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Article Info

Received: 10/07/2023
Accepted: 08/09/2023

Keywords

Architectural Design, Accessibility, Accessible Library, Barrier-free City, Physical Disability

Abstract

Disability, in simplest definition, is a state of being disadvantaged and limited. This situation forces them to struggle with various problems in daily life. When disability is handled holistically, not just as an individual feature, but with social and environmental factors, the accessibility of disabled to the areas they need emerges as a human rights issue. Accessibility means access to physical and virtual environments, resources. The aim of this study is to test the compliance of the urban physical space with the standards through a selected library so that the physically handicapped can access the libraries, which are areas for accessing information and research, without encountering any obstacles in the city. In addition, it is to identify the failing aspects and guide them to make them suitable. The main aim is to provide an assessment that contributes to the use of urban spaces and library buildings independently, without any accompanying persons. As a method in the study; the accessibility of a library selected as an example from the urban area was evaluated. The evaluation was made within the framework of compliance with the TSE12576- Structural Measures for Accessibility in Urban Roads, Sidewalks and Pedestrian Crossings and the Design Rules of Markings, which are the current standards in Turkey. As the scope of the study, the National Library and its immediate surroundings were chosen as an example. The urban physical conditions used by disabled individuals to reach the library were observed and measured, and their compliance with the standards and planning criteria was evaluated. A table was created in line with the criteria specified in the standards. Findings obtained through observation and measurements are shown in the table as a numerical value. The total values obtained revealed how easily disabled individuals can use urban physical spaces and the accessibility of the library building. As a result, it has been seen that the library building is suitable for disabled access in terms of urban accessibility. Situations that are not suitable for access can be made suitable by regular repairs.

1. INTRODUCTION

According to the 2002 data of the Turkish Statistical Institute (TUIK, 2002), the needs of disabled individuals, who constitute 12.3% of the country's population, must be met on an urban and spatial scale so that they can socialize together with individuals without physical disabilities and integrate into society [1]. Individuals who become disabled due to various reasons at birth or afterwards face some problems in participation in social life and in urban spaces. In urban life, the needs of individuals with disabilities and those who do not have any disabilities are different from each other. For this reason, urban spaces should be designed and arranged in accordance with all user types so that disabled people can integrate with the society without the need of anyone, spend more time outdoors (in the urban space) and feel comfortable [1].

Accessibility is important in the interaction of the human being, who is a social being, with his social and physical environment and other individuals in the society. However, there are some factors that limit the participation of disabled people in social life. Chief among these is that the physical environment has not undergone proper design, planning and implementation processes [2].

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The aim of this study is to examine the immediate environment of all users, including the disabled, in the context of accessibility standards, to determine the deficiencies in the design and/or construction process, to observe and measure the architectural obstacles, and to evaluate them according to Turkish Standards regarding accessibility. The relevant standard, TSE12576, contains the design rules of structural measures and markings for accessibility in urban roads, pavements and pedestrian crossings. [3] "TSE12576 covers the design rules of structural measures and markings to be created so that all pedestrians, including those with limited mobility, can use pedestrian roads and sidewalks, pedestrian crossings and intersections safely and comfortably." [4]

In order for people with disabilities to benefit from the right to education, research, information and/or fulfill their public duties, library buildings and their immediate surroundings should be arranged in accordance with Turkish standards regarding accessibility. In this study, urban physical spaces in the immediate vicinity of the National Library in Ankara are discussed. Observations were made in the immediate vicinity of the building, measurements were taken and access roads were supported with photographs. By creating a table, one (1) point was given for the criteria of the building's immediate surroundings that comply with the standards, and it was tried to find the accessibility score among the total criteria examined. Thus, the suitability of the immediate surroundings of the building, that is, access to the building, for the disabled will be determined numerically, and if it complies with the regulations specified in the Turkish Standards, it will be determined whether it is a structure that can be accessed by people with disabilities without assistance from someone else. However, it is possible to offer solutions for these problematic areas in transportation to the selected building by identifying the accessibility problems caused by physical environmental obstacles in the immediate vicinity of the selected building. It is aimed that the study made specifically for the National Library will set an example for all library structures.

2. DISABILITY AND ACCESSIBILITY

The World Health Organization (WHO) defines disability in its document titled "International Classification of Impairments, Disabilities, and Handicaps" published in 1976 as "the state of diminishing or losing the ability to function in a normal person as a result of health problems". In the same document, WHO defines disability as a state of disadvantage that limits and/or prevents a person from performing a function.

Disabled individuals cannot act independently due to the limitations of the environment, apart from their own disabilities, so both they and their families experience great difficulties. According to Ürker (2010), the concept of disability is a broad limitation and is affected by environmental conditions [5]. According to the called "social model" of disability, people with disabilities are a socially oppressed group. This pressure is caused by social or environmental factors, not by their physical deficiencies [6]. The emphasis on limitation and disadvantage has led to the handling of disability within the framework of fundamental rights and freedoms over time. Violations such as discrimination, inequality, and denial of personal autonomy experienced by people with disabilities have made disability a direct human rights issue [7]. In this direction, disability rights emerged as a new field on the basis of equal and active citizenship. This area includes fundamental rights such as independent living, non-discrimination, equal opportunity, quality of life, equality, accessibility, self-actualization and empowerment [8].

Accessibility is one of the rights at the heart of disability. The social model and rights-based approach focuses on the subject of access to the physical environment, within the framework of fundamental rights and freedoms, before the person's physical or mental deficiencies. It is advocated that individuals with disabilities should adapt the environment according to their needs, desires and abilities, rather than adapting to their physical environment [9]. The problems that disabled people have to face arise due to restrictive and obstructive environmental factors. Physical and spatial constraints caused by the environment prevent the use of many rights, especially accessibility [10].

Accessibility is the ability of all individuals in the society, including the disabled, to reach a settlement or a public service without the need of anyone, and to use that place or service without any problems and

support when they reach it. In order for any place or service to be fully accessible, it must be accessible to everyone, regardless of disability, disability, elderly or children [11]. The United Nations (2008) defines accessibility within the scope of the "Convention on the Rights of Persons with Disabilities" as "providing disabled people access to the physical environment, transportation means, information and communication technologies on equal terms like all other individuals, living independently and actively adapting to social life." [12]. In social life, all areas and structures must be designed to suit everyone. The "design for all" approach aims to create spaces that will meet the individual, social and spatial needs of all user groups, including disabled individuals with reduced mobility [13].

The needs of persons with disabilities in their participation in urban life are different from those of non-disabled individuals, but are basically similar. The physical environment should be accessible in order to perceive the disabled individuals as an integrated part of the society and to allow the use of the space, rather than as a separate segment or group of the society [14]. One of the solutions to the accessibility problem of disabled people in urban physical space is the "barrier-free or accessible city" approach. Access to needs, services and places is a necessary and valid right for all individuals and is defined as "accessibility". This concept is considered as a subject related to the physical environment and space. In this context, accessibility is defined as "ease of reaching goals" [15]. Based on this definition, the concept of accessibility describes "the ability to go from one place to another in the desired time, safely, comfortably, economically, without harming oneself and the environment" [16].

The right to education and access to information is one of the fundamental issues of a democratic public life. In order for people with disabilities to have access to different types of information, such as scientific, artistic, technical or daily, when they need it, they need to be able to access the places where this information is produced or researched. In article 30 of the United Nations Convention on the Rights of Persons with Disabilities, it is stated that "individuals with disabilities have the right to participate under equal conditions with other individuals in places such as theatre, museum, cinema and library where various activities are held or services are provided" and taking all necessary measures to ensure that they benefit from these building types. emphasizes the need [12]. Libraries, where information resources are provided and various services are provided for access to information, are social institutions established to meet the information needs of societies [17]. To represent the needs of libraries and library users, The International Federation of Library Associations and Institutions [IFLA]) leads libraries internationally with methods, rules and regulations. IFLA (2005) states that access to and expression of information without restrictions is a fundamental human right [18]. In this context, first of all, library structures should be spatially accessible for all users, including disabled users.

3.DISABLED ACCESS TO LIBRARIES FROM URBAN SPACE: THE EXAMPLE OF THE NATIONAL LIBRARY

The right to access information is accepted as one of the fundamental rights for all individuals. The National Library (Fig 1) and its immediate surroundings were chosen as an example in this study, in which access to libraries, which are accurate and reliable information sources, is desired to be evaluated especially in terms of disabled individuals.

The National Library, the first national archive library of our country, was established in Ankara in 1946 and served temporarily in different buildings over time. In order to meet the needs of the library, which is growing in scope, plans were made for the new building between 1965 and 1973 and the building was completed in 1982. The National Library started to serve its users in its new building on an area of 39.000 square meters in Ankara's Bahçelievler district on August 5, 1983. There are administrative offices, general and special purpose reading rooms, group study rooms, staff rooms, study rooms for fine arts, warehouses, exhibition and meeting rooms in the building. There are also Computer Center, Talking Library, Atatürk Documentary, Book Pathology and Restoration Laboratory, Microfilm Archive, Printing House, Microfilm and Photography Laboratory [19].

Figure 1. *The current building of the National Library [19]*

In the study, urban physical spaces from the public transportation stops in the immediate vicinity of the National Library to the building entrance were examined in order to evaluate the access of disabled individuals to the library. It has been tried to determine the compliance of the roads that any disabled person will use when coming to the library from the public transport stops, with the relevant standards (TS12576_ Urban Roads - Structural Measures and Design Rules of Markings on Streets, Avenues, Squares and Roads for the Disabled and Elderly). For this purpose, on-site observations and measurements were made and the criteria selected from TS12576 were supported by photographs in the context of access to the library.

The National Library is located in Bahçelievler, in the area between Wilhelm Thomsen, Aşkabat, Hakkı Turaylic Avenues and İsmet İnönü Boulevard. There are two bus stops and a metro stop in the immediate vicinity. Wilhelm Thomsen Street, Aşkabat Street and İsmet İnönü Boulevards are used extensively to access the library building. Therefore, the study focused on these three avenues. The building has two garden entrances on Wilhelm Thomsen Street and İsmet İnönü Boulevard (Fig 2).

Figure 2. *The relationship of the National Library with public transport stops*

The physical possibilities of the streets and sidewalks that provide access from the stops to the garden entrances are observed as follows:

The main garden entrance with vehicular and pedestrian access to the national library is located on Wilhelm Thomsen Street. The nearest bus stop to this entrance is on the route of Aşkabat Street known as Old 7th Street (Fig 3). Since the cafes and shops on this street are located in the other direction of the stop, pedestrian traffic in the direction of the National Library can be described as low density.

Figure 3. *Road relationship between the National Library and the stop on Old 7th Street*

The width of the pavement from the stop on the old 7th Street to Wilhelm Thomsen street is 350 cm and meets the minimum 200 cm measurement required for a pavement with low density. The height of the pavement from the road is measured as maximum 15 cm and it is in the appropriate standard. It is forbidden to park vehicles on the sidewalks and it was observed that no vehicles were parked in these parts during the periods examined within the scope of the study. There are no bulletin boards on the corners that block the view. There is a billboard, a clothes box and trees on the pavement. However, the width of the pavement where the boards are located is 185 cm, and the width of the pavement at the place where the clothes piggy bank is located is 200 cm. The trees are enclosed in a 120x150 cm frame and there is a distance of 240 cm from the garden wall. In this case, it has been observed that even if there are elements on the pavement, the disabled individuals do not restrict their passage. Since the manhole covers on the sidewalk are at the same level with the floor, they do not constitute an obstacle for the wheelchair. Rainwater grates are positioned on the vehicle road. The pavement is made of non-slip material and is suitable for wheelchair movement. The difference in elevation between the pavement and the property border was eliminated with a garden wall and railing. There are curbstones in different colors so that the road can be noticed on the sidewalk. However, the walking strip, which was glued to the floor for the visually impaired to find their way, was dismantled in most places and its continuity was broken. The lines at the pedestrian crossing are fixed, visible and permanent in accordance with the standards. Therefore, visually impaired people crossing the road can distinguish between the road and the pavement. Opposite ramps that provide transitions between pavements are suitable in terms of width (100 cm) and slope (7-8%). There is no problem in the beginning and end of the ramps. The ramp cannot be used due to the fact that the stop on the 7th Street was later placed on the disabled ramp. Instead, it is possible for those getting off the bus to walk along the sidewalk in the direction of the library. There are audible signals for the visually impaired at the illuminated pedestrian crossings for crossing. There are also sufficient lighting elements for night vision (Fig 4).

Figure 4. *Stalls and sidewalks on Old 7th Street*

Wilhelm Thomsen Street, which is the main garden entrance to the north of the National Library, has low pedestrian traffic on the National Library side (Fig 5).

Figure 5. *National Library and Wilhelm Thomsen Street*

When the section of Wilhelm Thomsen Street between the National Library entrance and 7th Street is examined, the following conclusions are reached: The pavement on the street has a width of 380 cm and the min. required for a low-density pavement. It meets the 150 cm requirement. The difference between the pavement curbstone and the road level, which should be 15 cm according to the standards, is appropriate on this street. Parking on the sidewalks is prohibited and there are no cars on the sidewalks. There are no bulletin boards on the corners that block the view. Along the sidewalk, there are no trees, signboards or boards that will pose an obstacle for wheelchair users or pose a danger to the visually impaired. The clothes piggy bank and billboards on the road are located on the side of the pavement and the remaining distance (270 cm) does not constitute an obstacle for the disabled passage. There is no rainwater grid on the pavement. The rainwater grid is on the road. The manhole covers on the pavement are at the same level with the ground. The pavement is made of non-slip material and is suitable for wheelchair movement. The difference in elevation between the pavement and the property border was eliminated with a garden wall and railing. The walking lane attached to the floor is suitable and continuous for the visually impaired to find their way. However, there is no curbstone application of different colors that needs to be done in order for the road to be noticed at the side of the pavement. The lines at the pedestrian crossing are fixed, visible and permanent in accordance with the standards. Therefore, visually impaired people crossing the road can distinguish between the road and the pavement. Opposite ramps that provide transitions between pavements are suitable in terms of width (100 cm) and slope (7-8%). There is no problem in the beginning and end of the ramps. There is an illuminated pedestrian crossing about 30 meters from the garden entrance of the National Library. There are audible signals for the visually impaired at the illuminated pedestrian crossings for crossing. However, it is not working properly. For night vision, it has been evaluated that the environment is perceptible in observations made at night. In this direction, it can be said that there are sufficient lighting elements (Fig 6).

Figure 6. *Wilhelm Thomsen Street*

Wilhelm Thomsen Street is connected to İsmet İnönü Boulevard by Aşkabat Street (Fig 7).

Figure 7. *The relationship between the National Library and Aşkabat Street*

When the pavement of Aşkabat Street on the side of the National Library is examined, the following observations were made: The width of the pavement on Aşkabat Street varies between 230 and 360 cm. The remaining distance for pedestrians from the billboards on the sidewalks has been measured as 260 cm. The distance between the narrowest place, which is at the intersection of the street with İnönü Boulevard, and the traffic light in front of it, is 120 cm. It is suitable for wheelchair access. The difference between the pavement height and the road level is 15 cm, which complies with the standards. There are no cars parked on the pavement. The pavement is made of non-slip material and there is no obstacle manhole cover on it. There is a garden wall separating the pavement and the garden of the National Library. There is no curbstone application on this pavement, which should be made in a different color so that the pedestrians can easily perceive the road and the sidewalk. The walking lane attached to the floor is suitable and continuous for the visually impaired to find their way. The lines at the crosswalk are fixed, visible and permanent. However, on one side of the opposite sidewalk, the disabled ramp and pedestrian crossing lines do not coincide. This situation does not constitute an obstacle for the wheelchair, but it can be misleading for the visually impaired following the pedestrian crossing lines. Opposite ramps that provide transitions between pavements are suitable in terms of width (200-220 cm) and slope (7-8%). There is no problem in the beginning and end of the ramps. There are audible signals for the visually impaired at the illuminated pedestrian crossings. There are sufficient lighting elements for night vision (Fig 8).

Figure 8. *Aşkabat Street*

There is a subway exit on the sidewalk of İsmet İnönü Boulevard on the library side, and the second garden entrance of the library is located right next to it (Fig 9). Therefore, it is used extensively by those who come to the library.

Figure 9. *The relationship between the National Library and İsmet İnönü Boulevard*

The minimum width remaining after the billboards on İsmet İnönü Boulevard is 230 cm. In other parts, the width of the pavement was measured as standard 310 cm. There is a billboard right next to the subway exit. However, since the distance is measured as 210 cm, it does not constitute an obstacle. The difference between the pavement height and the road level is 15 cm. There are no vehicles on the pavement. Advertising boards do not obstruct the view at the corners. There are no trees on the sidewalks and the existing electricity poles do not hinder the use of the sidewalk. The lighting pole on the sidewalk divides the sidewalk into two. However, although the distance between the lighting pole and the garden wall is 82 cm, it is suitable as the road side is measured as 150 cm at the narrowest place. Sidewalks seem suitable because they are made of non-slip material, manhole covers do not pose a danger to people with disabilities, and there are no barriers on them. The garden wall surrounding the national library provides a suitable environment as it prevents the level difference between the sidewalk level and the garden level. However, the walking strip pasted on the floor has been removed so that the visually impaired can find their way. There is no curbstone application that needs to be made in a different color in order for the pedestrians to perceive the road and the sidewalk easily. The lines at the pedestrian crossing are fixed, visible and permanent in accordance with the standards. Although the ramp on the sidewalk on the library side of the street is suitable in terms of width, slope, beginning and end, the ramps located in the middle median are suitable in terms of width (137-148 cm), but steep in terms of slope (15% and 19%). This creates a negative situation for the wheelchair user who wants to cross the street. There is no audible signaling for the visually impaired at traffic lights. There is sufficient illumination for night vision (Fig 10).

Figure 10. *İsmet İnönü Boulevard*

It is seen that the slopes of the ramps in Fig 10 are very dangerous for the disabled. According to the relevant standards, the suitability and dangerousness of the ramp slopes are shown in Figure 11.

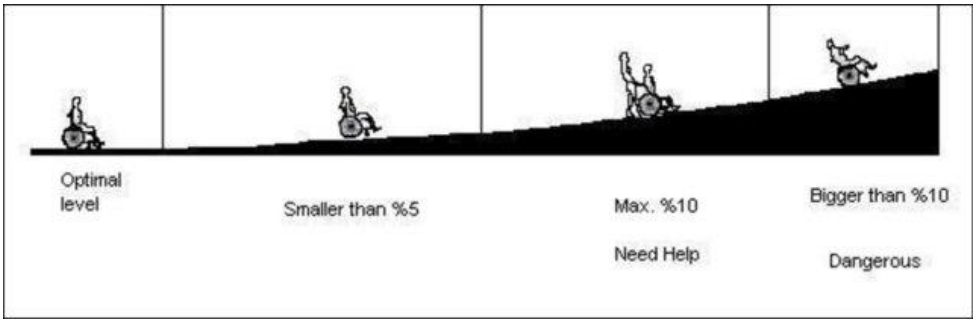

Figure 11. *The slope of ramp (obtained and altered from TS12576) [20]*

A table (Table 1) was created in order to evaluate the compliance of the streets in the immediate vicinity of the National Library, examined in the study, with accessibility standards and to express the results numerically. In this table, a total score is obtained for each street by giving 1 point for criteria that comply with the standards and 0 points for non-compliant criteria. The ratio of this score to the total number of criteria examined was evaluated as the degree of fitness for the disabled. High values indicate that the library is more accessible for people with disabilities.

In Table 1, the evaluation was made over 20 criteria. Accordingly, with a score of 19/20 (19 out of 20), it is the most suitable and trouble-free street of the Old 7th Street for disabled people. Wilhelm Thomsen and Aşkabat Streets were observed as less problematic streets with a score of 18/20. İsmet İnönü Boulevard is a partially problematic street with a score of 14/20. However, it can be said that the problems seen in all streets can be eliminated with regular maintenance and minor repairs.

Table 1. *Evaluation Chart*

PEDESTRIAN SIDES			**OLD 7th STREET**	**WILHELM THOMSEN STREET**	**AŞKABAT STREET**	**İSMET İNÖNÜ BOULEVARD**
		TS 12576 Standard	Score	Score	Score	Score
1	Curb Width	min 25+150+50 cm	1	1	1	1
2	Curb height	Minimum 3-max 15 cm height from the road	1	1	1	1
3	Prohibition of vehicles on the curb	Parking must be blocked or obstacles with Ø10cm or 20x20 cm and h=min70-max90 cm	1	1	1	1
4	Obstacles on the pavement	Elements such as trees and billboards narrow the pavement	1	1	1	1
5	Sidewalk widening at intersections	Notice boards should not be placed on corners that obstruct the view	1	1	1	1
6	Tree, pole	in strip between min75-max120 cm	1	1	1	1
7	Drainage	Adequate drainage should be provided with a longitudinal and transverse slope and a water trough and a manhole	1	1	1	1
8	Drainage	Pedestrian crossings should not have a manhole grill set	1	1	1	1
9	Manhole Covers	At the Same Level	1	1	1	1
10	Paving Covering Material	Non-slip	1	1	1	1
11	Curb-property boundary	If there is a level difference, a railing should be made	1	1	1	1
12	Curb stone	Colored natural or artificial stone separate from the pavement	1	0	0	0
13	Walking lane on the ground for the visually impaired	Continuous walking lane for the visually impaired on the pavement floor	0	1	1	0
14	Pedestrian crossing with median	For the visually impaired, the flooring is in a separate material texture from the roadway	1	1	0	0
15	Crosswalk landmarks	Lines are fixed and permanent	1	1	1	1
16	Ramp at crosswalk	90 cm wide ramp with 8% incline	1	1	1	0
17	Ramp at crosswalk	Ramp starts and ends are at the same level as the road and pavement	1	1	1	0
18	Light uncontrolled passage	Min 20 m before pedestrian crossing and disabled sign	1	1	1	1
19	Traffic lights	Continuous sound warning sign with light, pedestrian figure and for the blind	1	0	1	0
20	Pedestrian crossing lighting	Top-lit, separate from the road and brighter	1	1	1	1
Total Score			19/20	18/20	18/20	14/20

In order to evaluate the accessibility of the disabled individuals to the library building, another evaluation was made within the building block. Here, open car parks, garden entrances, garden paths and ramps belonging to the building were evaluated (Fig 12). There are two pedestrian and one vehicle entrances from Wilhelm Thomsen Street and one pedestrian entrance from İsmet İnönü Boulevard to the garden of the National Library.

Figure 12. *Satellite photograph of the National Library site plan*

Since the garden entrance on İsmet İnönü Boulevard is located right near the metro exit, it is used extensively. From the subway exit, wheelchair users can access the National Library building entrance uninterruptedly and unhindered. The garden entrance of the National Library on this side is suitable for door width, road width (380 cm), ramp slope (10%) and wheelchair use as flooring material. There is sufficient lighting. However, along the route from the metro exit to the building entrance, there is no directional lane for the visually impaired (Fig 13).

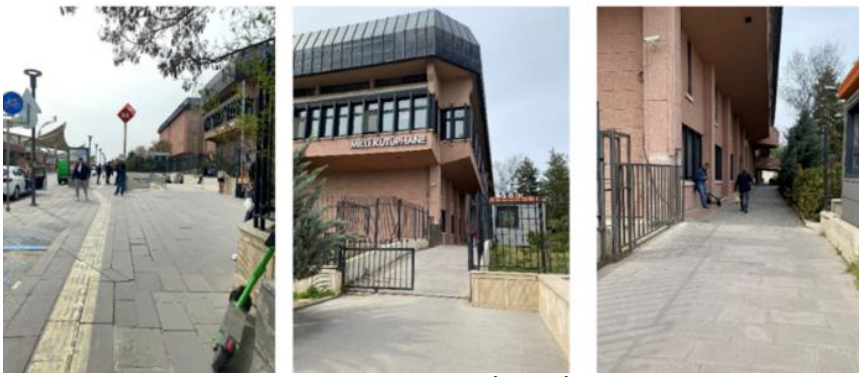

Figure 13. *Garden entrance on İsmet İnönü Boulevard*

The garden entrance gate on Wilhelm Thomsen Street is measured at 90 cm and is also suitable because there is no difference between the sidewalk and the garden level. The different textures of the flooring in the garden and on the sidewalk make it easier for the visually impaired to perceive their location. In addition, there is an open parking lot reserved for the disabled in the building block for those who come to the library by private vehicle. When you enter inside, the disabled parking lot sign can be seen on the

opposite side (Fig 14). However, there is no sign of disabled parking on the ground. There is a difference of approximately 4.00 meters from the garden entrance level to the building entrance. A disabled ramp has been built for the disabled next to the garden stairs. A 45-meter-long and 252-cm-wide ramp was built in order to climb the 3.00-meter level difference from the entrance with sufficient inclination. Curbstones with a height of 5 cm were placed on both sides of the ramp for protection purposes, and cobblestones, which are non-slip materials, were used in its flooring. There are also rainwater gutters on both sides of the ramp. However, due to the length of the ramp, there is no landing that needs to be built every 9 meters to rest. There are no railings on the sides of the ramp to hold on. There is another 100 cm level difference from the end of the ramp to the entrance of the building. The second ramp built for this purpose complies with the standards with its slope and width. In the library, which is served until late in the evenings, sufficient lighting is provided both in the garden and in its immediate surroundings with the lighting elements placed on the facade of the building.

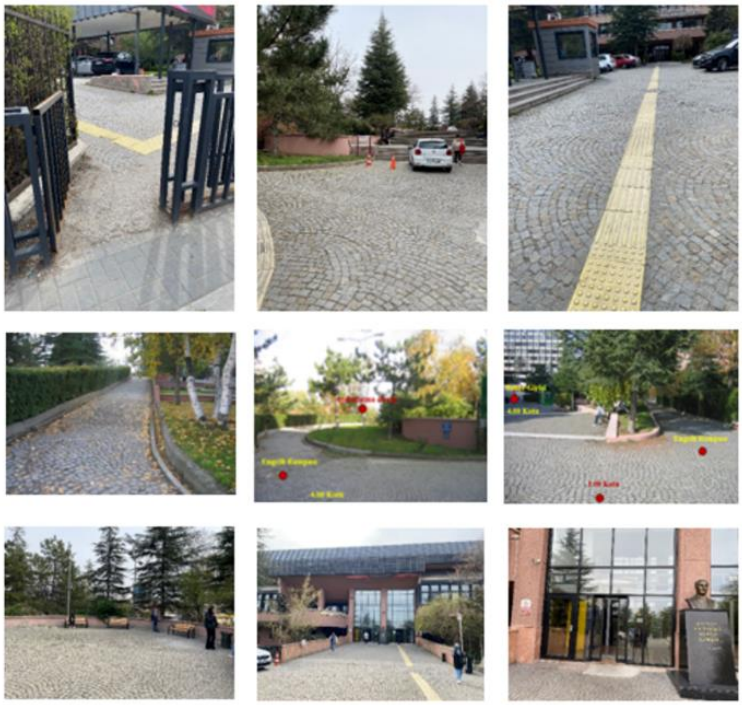

Figure 14. *Disabled parking and ramp signs for the disabled*

When the relations between garden entrances, car parks and building entrance are examined in terms of access to the building in the building block, it can be said that there are partially simple and correctable problems with 12/20 points, as shown in Table 2.

Table 2. *Parking Lot in Building Island - Building Entrance Evaluation Chart*

PARKING-BUILDING ENTRANCE RELATIONSHIP WITHIN BUILDING ISLAND						
		TS 12576-TS 9111 Standart	Suitable 1	Not conforming 0	Score	Note
1	Car park entrance	Warning sign seen from outside		0	0	No outside the garden
2	Parking lot road width	At least 3.00 meters	1		1	Current road width is 5.00 meters
3	Number of disabled parking spaces	2% of all facility parking spaces		0	0	The number is unclear as there are no ground lines
4	Parking lot dimensions	Width min 250+140=390		0	0	Could not measure because of ground lines

5	Location in the park facilities	The closest place to the building entrance should be reserved for the disabled	1		1	
6	Distance from the parking lot to the facility	max:25 m		0	0	It requires a long ramp as the level difference with the ground floor is large
7	Car park	Covered if possible		0	0	
8	Car park	Between the car park and the building and the entrance door should be illuminated at night	1		1	
9	Handicapped parking sign	On the floor in the outdoor park, on the floor in the indoor park, hanging on the wall and ceiling	1		1	
10	Guidance signboard	Directional pointer to where to park		0	0	
11	Landing/riding area	Flat surface at road level with anti-slip	1		1	
12	Landing/riding area	Non-slip material	1		1	
13	Parking lot-building relationship	If there is a level difference, a ramp should be built	1		1	
14	Ramp slope	max %8	1		1	
15	Ramp width		1		1	
16	Ramp flooring	Non-slip material	1		1	
17	Protection border on the ramp edge	at least 5 cm high	1		1	
18	Water trough on the ramp edge	at least 1525mm	1		1	
19	Landing on the ramp	If longer than 25 m		0	0	
20	Railing on the ramp	h: between 70-90 cm		0	0	
	Total Point	12/20			12	

4. EVALUATION AND CONCLUSION

As knowledge is shared, it multiplies and develops societies. Access to information is a fundamental right for all individuals. Libraries are the most reliable places to access accurate and up-to-date information. Therefore, it is important that all members of society have access to libraries. However, in many places, especially the disabled or the elderly, they encounter other environmental and structural barriers to accessing libraries besides their own limitations.

In this study, it was aimed to evaluate the spatial accessibility of the National Library, which is an important library of our country, especially in terms of individuals with physical disabilities. For this purpose, firstly, the access to the building from its immediate surroundings was examined and streets and sidewalks were observed, measured and photographed from the nearest public transport stops. Compliance with TS12576 standards of the immediate environment for access to the building was examined. Appropriate and unsuitable situations are explained in the table prepared in this direction, and

the percentage of conformity for different regions is determined by giving +1 point for the criteria that comply with the standards.

According to the observations and measurements made, the appropriate situations on the streets, sidewalks and gardens around the National Library can be listed as follows:

• Sidewalk widths on all streets are suitable for disabled access. Although the elements such as trees, billboards, cash machines, etc. located on the sides of the pavement narrow the pavement, they do not fall below the minimum width required for passage. There are no objects blocking the view at the corners of the pavements. Similarly, the level difference of 15 cm, which should be between all pavements and the road, is appropriate.
• The vehicle parked on all pavements was not seen during the study process.
• Manhole covers on all pavements are at the same level with the floor level and do not constitute an obstacle.
• All pavements are made with non-slip coating material.
• All sidewalks have ramp applications with suitable width and slope for wheelchair access. The starting and ending levels of the ramps are at the same level as the road and pavement.
• The lines at all pedestrian crossings are fixed and permanent.
• Adequate lighting elements are available at all pedestrian crossings.
• Due to the level difference from the garden gates of the National Library to the building entrance, the ramps built in the open area are suitable in terms of covering material, width and slope.

However, some negative situations that need to be corrected were also observed:

• In order to understand the difference between the pavement and the road, the curbstone application of a different color, which should be done on the side of the pavement, is only available on the Old 7th Street. There is no such practice in all other streets. This problem can be eliminated by painting the existing border stones in a different color or by replacing them.
• The walking strip on the ground, which should be done in order to help the visually impaired to find their way, has been made in the form of sticking on all pavements. However, over time, some streets (Old 7th Street and İsmet İnönü Boulevard) were dismantled. Such applications should be made with permanent materials that will not be dismantled over time, or they should be maintained frequently.
• In some of the pedestrian crossings with refuge (Aşkabat Street and İsmet İnönü Boulevard), it should be rearranged for the visually impaired as the flooring does not have a separate material texture from the vehicle road.
• Starting from the metro exit on İsmet İnönü Boulevard, the sidewalk on the library side is suitable from every angle. However, it is not useful for wheelchairs who want to come from the opposite side of the road, as the slope of the ramps on the sidewalks and the median is very steep (15-19%). These ramps need to be rebuilt.
• Audible warnings at traffic lights that warn the visually impaired at pedestrian crossings (on Wilhelm Thomsen Street and İsmet İnönü Boulevards) do not work because the necessary maintenance is not done. Traffic lights should be checked and repaired regularly.
• There is a sign indicating that there is a separate parking space for the disabled within the garden boundaries. However, it is not defined in terms of size and number, as there are no ground lines. Although the parking lot is located close to the building, the distance exceeds the required 25 meters limit due to the need to use a ramp due to the level difference. Since the parking lot is not covered, it does not comply with the standards. Disabled parking lot should be marked with a line and a car space should be reserved for the disabled in the covered area.
• Although the ramps in the garden are suitable in terms of material, width and slope, there is no landing and guardrail application required for long ramps. Necessary revisions should be made.

As a result, it has been seen that the library building is highly suitable in terms of accessibility for the disabled, from the public transportation stops in its vicinity to the building entrance. However, it can be said that unsuitable situations can become suitable with simple and regular maintenance and repairs.

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