EVALUATION OF ACCESSIBILITY FOR ALL IN PUBLIC BUILDINGS: KONYA CASE

A THESIS SUBMITTED TO
THE GRADUATE SCHOOL OF NATURAL AND APPLIED SCIENCES
OF
MIDDLE EAST TECHNICAL UNIVERSITY

BY

MERVE ÇUBIKCI

IN PARTIAL FULFILLMENT OF THE REQUIREMENTS
FOR
THE DEGREE OF MASTER OF SCIENCE
IN
CITY PLANNING IN CITY AND REGION PLANNING

JUNE 2019

Approval of the thesis:

EVALUATION OF ACCESSIBILITY FOR ALL IN PUBLIC BUILDINGS: KONYA CASE

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ABSTRACT

EVALUATION OF ACCESSIBILITY FOR ALL IN PUBLIC BUILDINGS: KONYA CASE

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June 2019, 125 pages

Accessibility is one of the significant issues for contemporary societies. Since all people have equal rights to live in an accessible and barrier-free environment, there is a tendency to provide accessible and barrier-free environments which meet the needs of all people in the society. Although an accessible environment is usually considered only in relation to disabled people in literature review, this study examines accessible environments in terms of different user categories such as disabled, elderly, people who carry pushchair and healthy people eventually. Since public buildings are used by more people than private buildings and have more impact on accessibility rather than residential buildings, accessibility of public buildings are investigated. The aim of this study is to examine accessibility or deficiencies of places in terms of accessibility in the Konya case to display the extent of accessibility achieved by the existing legal framework in the context of public buildings. Konya Railway Station, Konya Training and Research Hospital and Konya Metropolitan Municipalities are chosen as case areas. These public buildings are examined in terms of some benchmarks which are developed throughout this study based on the literature and existing accessibility standards. Accessibility is studied under the headings of arriving to the place, entering the place and using the place in evaluation form. Findings of the study reveal that the laws in legislation are not enough for implementation and there

are deficiencies. Although the improvements are not comprehensive, the developments and improvements in term of accessibility are not negligible.

Keywords: Accessibility; Barrier-free Environment; Legal Frameworks of Accessibility in Turkey; Accessibility of Public Buildings

ÖZ

HERKES İÇİN ERİŞİLEBİLİRLİĞİN KAMU BİNALARINDA İNCELENMESİ: KONYA ÖRNEĞİ

Çubıkcı, Merve
Yüksek Lisans, Şehir Planlama
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Haziran 2019, 125 sayfa

Erişilebilirlik konusu modern toplumlardaki önemli konulardan biridir. Tüm insanlar eşit bir şekilde erişilebilir ve engelsiz çevrelerde yaşama hakkına sahip olduklarından, toplumda, insanların ihtiyaçlarını karşılayan erişilebilir ve engelsiz kentler sağlama eğilimi görülmeye başlamıştır. Yurt dışı örnekleri incelendiğinde erişilebilirliğin öncelikle yasal düzenlemelerle zorunlu hale getirildiği, sonrasında uygulama aşamasının devam ettiği ve bu düzenlemelere dayalı erişilebilir çevreler elde edilmeye çalışıldığı görülmüştür. Türkiye'de ise erişilebilirliği hedefleyen düzenlemelerin mekânsal yansımalarının yeterli düzeyde olmadığı gözlenmektedir.

Erişilebilirlik, ilgili yazında genellikle sadece engelli insanları ilgilendiren bir konu gibi ele alınsa da, bu çalışmada engelli, yaşlı, bebek arabası kullanıcıları ve sağlıklı insanlar olarak farklı kullanıcı grupları açısından incelenmiştir. Kamu binaları pek çok kişi tarafından kullanılmasından dolayı ve insanlar üzerinde daha fazla etkiye sahip olduğundan bu çalışmada kamu binalarındaki erişilebilirlik araştırılmıştır. Bu çalışmanın amacı, mevcut yasal düzenlemelerle birlikte Konya'daki kamu binalarının erişilebilirlik performansını incelemek ve mekânların eksikliklerini ortaya koymaktır. Konya Tren Garı, Konya Eğitim ve Araştırma Hastanesi ve Konya Büyükşehir

Belediyesi binaları çalışma alanları olarak seçilmiştir. Bu alanlar, yazın taraması ve standartlardan elde edilen bilgiler sonucunda oluşturulan değerlendirme formuna göre değerlendirilmiştir. Çalışma alanları, mekâna varmak, mekâna girmek ve mekânı kullanmak başlıklarına göre incelenmiştir. Çalışmanın bulguları, mevcut yasal düzenlemenin uygulama için yeterli ve kapsayıcı olmadığını göstermekte, yine de gerçekleştirilen yenilik ve düzenlemelerin göz ardı edilemeyecek nitelikte olduğunu ortaya koymaktadır.

Anahtar Kelimeler: Erişilebilirlik; Engelsiz Çevre, Türkiye'deki Erişilebilirlik Hakkında Yasal Çerçeve; Kamu Binalarında Erişilebilirlik

To my lovely daughter and to my beloved family,

ACKNOWLEDGEMENTS

The process of this study took long time. I am grateful to many people for it. I wish to express my appreciation to my supervisor Assist. Prof. Dr. Ö. Burcu Özdemir Sarı for her guidance, interest and encouragements throughout the study. In every point I want to give up this study, she gave me morale support and she always approached me with tolerance. I owe to her for everything.

There are many people who have contributed and extended their valuable assistance. I am grateful to my friend Esma Aksoy Khurami for her endless support during all my life. She has always been with me both my university life and private life. Whenever I have questions and I am trouble in something, she makes me feel her support and patience. I also express my sincere thanks to my family, Halil Özdemir, Hatice Özdemir, Sefa Can Özdemir and Kübra Özdemir deserve the greatest gratitude. You have been with me all the time and thank you for your invaluable encouragements. If your supports do not exist, I could not have done it on my own and I could not have been at this level. Thank you for everything.

I owe my innermost thanks to my love Sinan Çubıkcı for his endless presence and continuous support from the beginning to the end of the study. His encouragement helps me to complete this study. He tries to help me at the every sentence of it. I appreciate him for his love and patience. I also thank to my little daughter Nisan.

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LIST OF ABBREVIATIONS

ADA: The Americans with Disability Act

IT: Information Technology

KAMİS: Kamu İnternet Siteleri Rehberi Projesi

ÖZİDA: Başbakanlık Özürlüler İdaresi Başkanlığı

TOHAD: Toplumsal Haklar ve Araştırmalar Derneği

TS 9111: Özürlüler ve Hareket Kısıtlılığı Bulunan Kişiler için Binalarda Ulaşılabilirlik Gerekleri

TS 12576: TS 12576 Şehir İçi Yollar- Kaldırım ve Yaya Geçitlerinde Ulaşılabilirlik İçin Yapısal Önlemler ve İşaretlemelerin Tasarım Kuralları

UD: Universal Design

UN: United Nations

CHAPTER 1

INTRODUCTION

Accessibility is a significant concept for contemporary societies. The present interest and emphasis in the issue stem from the past experiences which were exclusionary and separative. Accessibility is seen as a key to inclusive cities.

Cities should seek to accommodate all individuals and enable them to satisfy their life needs without discriminating between the elderly, children or the disabled. Tibbalds (2001, p. 57) highlights this as "Urban areas need to be accessible to all, regardless of age, ability, background or income". Accessibility encompasses both public and private spaces. Such places enable people to live in their own home independently, to access public buildings and to participate in community activities in everyday life.

Physical obstacles and barriers are created and perpetuated by social barriers. These barriers make routine life difficult for citizens. In addition to physical mobility difficulties, disabled people and every segment of the society could experience a combination of hostile or negative reactions in their living environments. In other words, this situation will result in a greater number of people in society being exposed to some negative effects in their environments.

The term 'accessibility' mentioned above is a current and significant issue for contemporary societies which has gradually gained importance during the time. Moreover, it seems that the attention which barrier-free or accessible built environment attracts will become more significant in the near future. However, successful examples of accessible or barrier-free urban environments are rare not only in Turkey but also among the world cities.

Since achieving accessible and barrier-free urban environments are seen as a current necessity of contemporary societies, research focusing on these issues and related case

studies have increased in time. Nevertheless, theoretical discussions about accessible and barrier-free urban environments are noticed to be reflected insufficiently in practice. In parallel with this, accessibility issue is profoundly held in terms of analyzing especially from the point of disabled people rather than making places accessible for all people.

This thesis considers the problem from the spatial dimension arguing that although the necessary regulations to achieve accessible and barrier-free urban environments seem to exist in Turkey; these regulations consider solely the social dimension of the issue ignoring the spatial dimension. Furthermore, the legal arrangements are not compelling enough for relevant public or private authorities to act in accord with these regulations. Last but not least, spatial adjustments are mostly embraced in a partial manner rather than a comprehensive way.

In order to ensure an independent way of life for all people with varying abilities, the issues addressed above have to be dealt with.

1.1. THE AIM OF THESIS

In today's modern world, developed societies share the goal that everyone in the city should have full independence, and a full range of possibility and choices should be available to them. All users wish for the same chances to represent themselves enough in the cities as towns and cities have a significant amount of human interactions. Members of communities should have buildings to live in and places which are created and managed to be reliable, pleasurable, suitable and secure. If it is looked from a spatial dimension/perspective, members of the community should **enter**, **circulate** comfortably, **utilise** all of the services provided there and **exit** easily under normal conditions.

Accessible cities are supported by barrier-free environments. Lately, the term accessibility and barrier-free environment has been mostly interrelated with each

other. The barrier-free environment signifies to break up any obstacles which make some feel hardness to live their routine. By removing the obstruction, the surrounding will be barrier-free, and all citizens will become part of the living environment. As a result, barrier-free environment is considered as service lines that are available for all people, and it has to be rather unimpeded and free.

Accessible and barrier-free environments ought to be handled as a whole. This notion can be thought as a chain and if one of the rings is broken, it cannot be accessible (Scherrer, 2001). Accessibility is a formation that occurs from the smallest living unit called residential buildings that host even one person and public buildings which are used by most people to open spaces which occupy the remarkable amount of places. Only if all of the processes which comprise whole spaces are completed, accessible cities can be constituted. When pathways, buildings, places and spaces are built for people, they need to be accessible, when they are not; people are excluded from participating in the social or economic activity that is going on in these areas.

Public and residential buildings are the two major components of accessibility's field of interest. Since public buildings are used by the large masses and observable with more tangible data, in this thesis, accessibility is discussed in the context of public buildings in detail. The main aim of the thesis is to examine the issue of accessibility and barrier-free environment for all in public services in case of Konya Province.

Public buildings are used by more people and have different features and several user groups. Moreover, public buildings have more impact on accessibility rather than residential buildings because the effect of public buildings attains larger fields so that it can reach every sphere of life. For instance, when a residential building, such as a private house, is taken into account, the situation of the house which has necessary qualifications affects only the residents. However, the public buildings are used by the people who live in that region. In addition, observation of independency can be provided properly in public places. On the basis of what has been covered in this paragraph, the issue of accessibility can be examined in public places in a clear way.

1.2. SCOPE AND LIMITATIONS OF THE THESIS

When the issues of accessibility and barrier-free environment are examined as a worldwide concept, it is noticed that these issues are mostly taken into consideration for disabled and elderly people. Since the intended audience is assumed as disabled people, new regulations also focus on these groups. It is thought that if disabled people may use cities easily, cities can be used by all other people, too. In Turkey, this understanding has not been improved yet, because, like the studies of other countries, the accessibility issue is handled specifically to disabled people merely. Thus, the implementations of accessible cities become unsatisfying. However, in this thesis, accessibility and barrier-free environment will be considered from the standpoint of not only disabled people but also all people in a comprehensive way.

Accessibility and barrier-free environment should not be considered just from one point of view or should not be assessed just for a specific group. People have varied characteristics and diversified type of facility usage, therefore, barrier-free urban environment should be considered for entire people who live with or without inabilities.

The scope of investigation in this study is limited to evaluating accessibility in the chosen public buildings and their close environments. Public spaces and services are preferred over private ones because of the priority of accessibility in these places defined by the relevant legislation in Turkey. Efforts to achieve accessible and barrier free environments in Turkish cities have become significant recently. In parallel with this, a legal framework is established to ensure accessibility, including new legal documents as well as amendments on existing legal documents. The Law on Disabled People (2005), for instance, provides a definition of accessibility as ‘buildings, open spaces, transport and information services can be accessed safely and independently by persons with disabilities’ also highlighting that accessibility has priority particularly in public spaces and services. Not the whole Konya city but only the selected public buildings are covered in this study because investigating accessibility

at urban scale in detail is technically difficult and it requires an investigation of the whole transportation system and also information services. Therefore, the accessibility of public buildings and their close environments are examined in this study.

1.3. RESEARCH METHOD OF THE STUDY

With the aim of investigating accessibility and barrier-free environment for all in public services of Konya Province, this study employs case study approach as the research strategy. The case study approach is understood as a particular way of defining cases. It has notable contributions to political science (Gerring, 2004). By employing case studies, it is possible to focus on one or a few occasions of a particular phenomenon to provide a detailed account of events, relationships, experiences or processes taking place in that specific example (Denscombe, 2010). –In order to provide an in-depth evaluation of accessibility, or lack thereof, case study approach is essential for this study. Case studies are predominantly discovery led studies which follows an inductive logic (Denscombe, 2010). This study is also no exception. This thesis, in line with the case study approach, aims to describe what is happening in terms of accessibility in the selected cases, to explore the key issues affecting accessibility, and to compare similarities and differences between the cases. In this framework, Konya is chosen as case area because the municipalities have remarkable awareness and consciousness with regard to accessibility of public buildings. Moreover, it is noticed that there are attempts to create barrier-free environments and there are example places created to achieve accessibility.

As a research method, compatible with the case study strategy, this study employs observational research to collect data. In order to conduct a systematic observation, an evaluation form (a checklist) is developed employing the information and discussions provided in Chapter 2 and Chapter 3 of this thesis. As presented in Chapter 2 of this thesis, UD is the set of principles that direct designers, architects, and planners to obtain accessible urban environments, transportation and infrastructure systems at

every scale. However, the standards and codes of accessibility are much more technical issues compared to principles of UD. The principles of UD are used to provide and develop international integration of accessibility standards (Accessibility Advisory Committee, n.d.). To increase accessibility via good design, many countries benefit from checklists such as Canada, China and Australia.

In this study, an evaluation form is prepared based on the analysis of literature survey and example checklists which were prepared according to UD principles, considering also Turkey's local conditions and legal framework. According to legislation, exterior and open areas such as streets and avenues, pedestrian crossings, pavements, parks and squares must be accessible. Also, transportation systems namely; passenger loading and drop-off zones and sheltered stations, underpasses and overpasses, junctions and transportation vehicles must be barrier-free. Moreover, interior and closed areas as well as public service buildings and social infrastructures such as the buildings of education and health must be barrier-free. In this perspective, the evaluation form is classified in three headings namely; arriving to the place, entering the place and using the place.

Arriving to the place focuses on exterior and close environment. It includes bus stations, underpasses, overpasses, ramps, tactile surfaces, pavements, car parks and assistive listening systems. Entering the place is defined as the transition between exterior and interior environment. In this context, entrances of places, thresholds, handrails and tactile surfaces are analyzed. Interior environment is addressed completely at the part of using the place. Corridors, elevators, handrails, ramps and tactile surfaces are studied at this part (details are given in Chapter 3).

Accessible and barrier-free environments are necessary to provide the requirements of people who have different mobility. Public spaces and services gather every segment of society and comprise social livings. For this reason, Konya Railway Station, Konya Training and Research Hospital and Konya Metropolitan Municipality are chosen as case areas. These areas are selected as cases because they have many different user

groups such as people having disabilities, elderly people, people carrying strollers and luggage can benefit from them and they are located on the accessible points. In addition, it is observed that these three places are used frequently.

In this study, accessibility is considered for all people. Konya Railway Station, Konya Training and Research Hospital and Konya Metropolitan Municipality are observed for four different target groups namely elderly people, people who carry strollers, disabled people and healthy people under three main headings (arrive, enter, use). Therefore, accessibility is evaluated in three public buildings, in many different aspects and different user groups so conclusions are derived from the point of accessibility for all. The thesis concludes with a debate about the legal framework's success and failure in terms of implementation. Then, inputs are provided for accessibility policy in order to improve implementation.

1.4. STRUCTURE OF THE THESIS

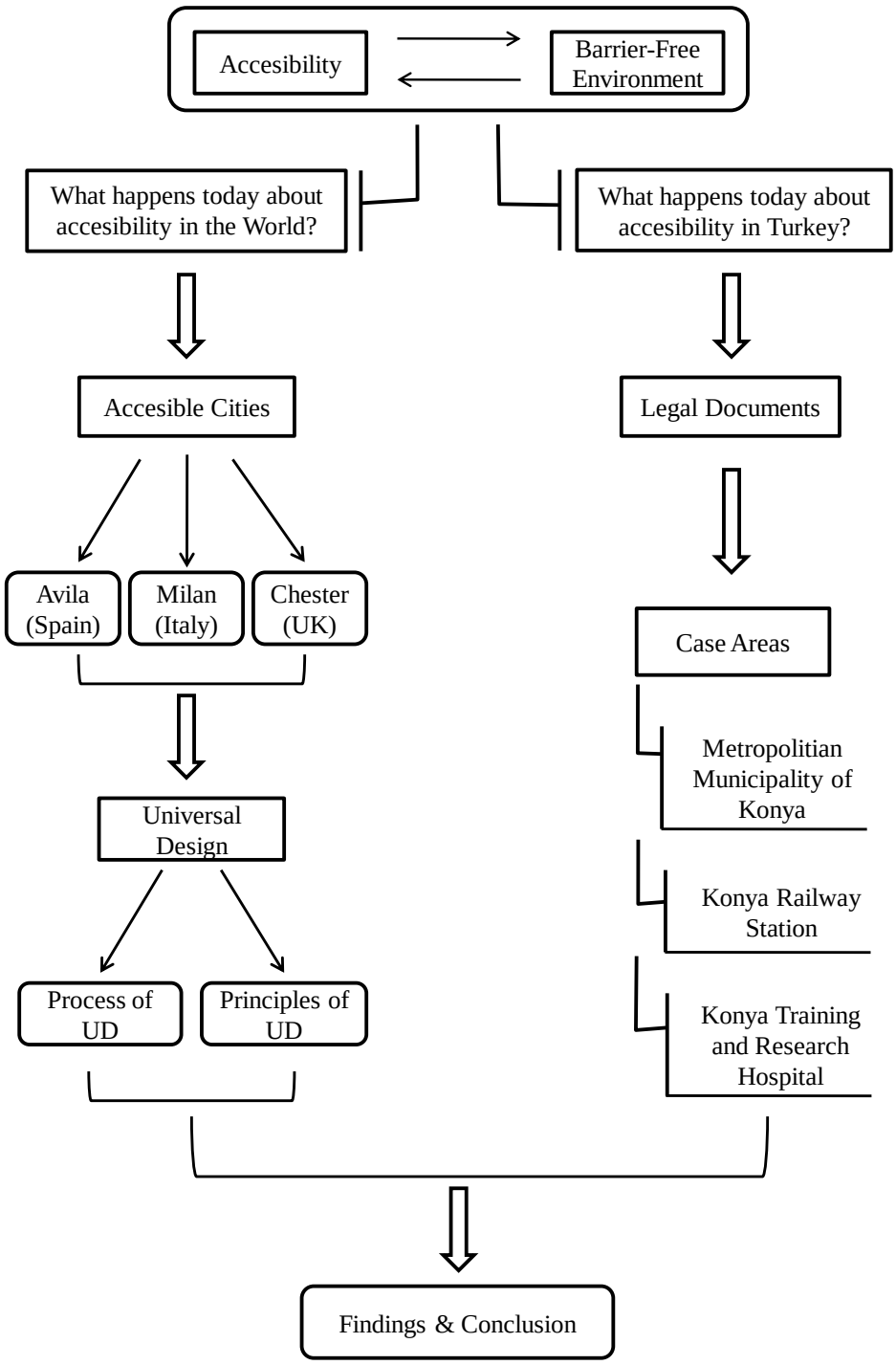

Figure 1.1. Structure of the Thesis

(Source: Developed by the author)

Structure of the thesis can be followed through Figure 1.1. In the following chapter (Chapter 2), the matter of accessibility and barrier-free environment will be identified. As it is well known, the issue of accessibility and barrier-free environment are connected with each other. Their relations, definitions and their scope will be examined in Chapter 2 through a literature survey.

Chapter 2, this part is started by a discussion on the Universal Design (UD). Since 1950, there has been a tendency for employing the concept of "design for all". In the course of time, the issues of universality and design are combined with the concept of UD which was firstly mentioned in 1985. In those days, UD is described as an aesthetic and a practicable concept which is used for all people who have different characteristics, abilities and ages. In addition, this definition is modified and new description has started to include the issues of a comprehensive apprehension, the shape of design which dignifies differences of people, solidarity and social responsibility (Arslantaş, 2003). UD will be divided into two subheadings namely principles and processes.

Then, accessibility and barrier-free environment concepts will be investigated worldwide. What happens today about accessibility in the world is the main subject of this part. Who has the responsibility, what they make and what are their breakthroughs stand as other questions to be replied. In this context, several international organizations and their works concerning accessibility are investigated. Within these international organizations, European Commission’s documents are examined as being the most efficient guide, having the wider-range of participation and continuing to operate currently. The contribution and strategies of the Commission will be shown. For instance, to encourage and support countries to provide accessible and barrier-free environments, European Commission organizes "The Access City Award". European Commission gives these awards to promote countries to obtain accessible cities.

Within this part, the examples of accessible cities which were awarded by European Commission will be analyzed. Avila (Spain), Milan (Italy) and Chester (United Kingdom) are the sample cities. They are named as "accessible city" by the Commission. How they break up barriers and achieve accessible cities will be searched. Their priorities, planning concepts, stakeholders, and design principles are examined.

After the developments in the world countries, in Chapter 3, the thesis will be continued with the question of what happens today about accessibility in Turkey. This part will be analyzed with regard to the legal arrangements and basic standards about accessibility. Earlier laws and regulations covered only disabled people to a certain extent. Then, they have started to include both disabled people and other able-bodied people. The legislation which is changed in the process and the laws which are added will be expressed. After laws and arrangements, basic standards in terms of accessibility from TS 12576 and TS 9111 will be shown.

Chapter 4 introduces and discusses the case studies of the thesis which take place in Konya city. Konya is a planned city and has a regular settlement. Besides, it has a well-planned organisation in terms of accessibility compared to other cities since the city is established on flat land and local administrations have several efforts and activities to improve accessibility in the city. The public buildings, namely, Metropolitan Municipality of Konya, Konya Railway Station and Konya Training and Research Hospital will be investigated in Konya in terms of accessibility. The data which is necessary to examine accessibility is gathered through observations in the case study areas using an evaluation form which is created by the author based on the information provided and discussions elaborated in Chapter 2 and Chapter 3 of this thesis. The physical characteristics of the places, open and enclosed areas are examined by evaluation forms. The aim here, in employing an evaluation form, is not creating a numeric data to test accessibility scores of different cases, rather the functionality of the implementations are investigated. For instance, whether a complete and an appropriate tactile walking surface exist or not will be questioned,

rather than questioning the sensibility of a tactile walking surface, or comparing cases on the basis of scores obtained for different accessibility elements.

Chapter 5 will review the findings of the case studies. Based on the results of the assessment forms, the level of accessibility is discussed for each case study area. The problems and deficiencies are exhibited entirely and policy options to improve accessibility are discussed.

CHAPTER 2

ACCESSIBILITY AND BARRIER-FREE ENVIRONMENT

2.1. UNIVERSAL DESIGN

Universal Design (UD) has its origins in the USA and it has spawned a range of research initiatives and practical applications (Salmen & Ostroff, 1997). UD is the design and composition of an environment so that it can be accessed, understood and used to the greatest extent possible by all people regardless of their age, size, ability or disability.

UD is a social movement underpinned by a range of foundational principles. Foremost is its concern with integrating disabled people into society by making products, environments and communication systems usable to the greatest extent possible by the broadest spectrum of users. Impairment is not seen as unique to a specific population, but as intrinsic to the human condition (Zola, 1989). UD seeks to respond to everyone, regardless of whether or not they have impairment, or, as Greer notes:

"… improved design standards, better information, and new products and lower costs make it possible for design professionals to begin designing all buildings' interiors and products to be usable by all people all of the time instead of responding only to the minimal demands of law that requires a few special features for disabled people (1987, p. 58)."

An environment (or any building, product, or service in that environment) should be designed to meet the needs of all people who wish to use it. This is not a special requirement, for the benefit of only a minority of the population. It is a fundamental condition of good design. If an environment is accessible, usable, convenient and a pleasure to use, everyone can benefit. By considering the diverse needs and abilities

of all throughout the design process, UD creates products, services and environments that meet peoples' needs (National Disability Authority, n.d.).

Designing any product or environment involves the consideration of many factors, including aesthetics, engineering options, environmental issues, safety concerns, industry standards, and cost. Often, designers focus on the average user. In contrast, UD is “the design of products and environments to be usable by all people, to the greatest extent possible, without the need for adaptation or specialized design" (Burgstahler, 2015, p. 1).

Accessibility is known as an integral part of city planning. To make cities accessible, the principle of UD can be used as a guide. UD proposes accessibility for everyone. It varies according to the product or service to be procured. In all cases, the requirements focus on ensuring that the design of the environment, products or techniques enables them to be used by the greatest possible number of people (Imrie, 2004). UD approach deals with the problems of people who have different specialties such as age, size and ability to both live in their own home and participate in the outdoor environment comfortably (Demirkan, 2015). Besides, UD enables people to consolidate physically and communally (Önal Hoşkara, 2013).

2.1.1. THE PROCESS OF UNIVERSAL DESIGN

The process of UD requires a macro view of the application being considered as well as a micro view of subparts of the application. UD can be applied to a variety of applications. The following list suggests a process that can be used to apply UD:

1. Identify the application

2. Define the universe

3. Involve consumers

4. Adopt guidelines or standards

5. Apply guidelines or standards

6. Plan for accommodations

7. Train and support

8. Evaluate (Burgstahler & Cory, 2010)

Firstly, an environment that UD is applied to is determined. Then, overall population is described and diverse characteristics in terms of gender, age, ethnicity, size etc. is analyzed. People with diverse characteristics should be considered in all phases of the development, implementation and evaluation of application. UD standards or guidelines are adopted in the field of the specific environment to maximize the benefit of the application to individuals with the wide variety of characteristics. Processes are developed to address accommodation requests from individuals. Training and support are delivered to stakeholders and people should be aware of institutional goals and accessible and inclusive experiences for everyone should be shared. The application should be evaluated by a diverse group of users. After the feedbacks from them, modifications should be made.

The key principles of UD are provided below in Table 2.1.

Table 2.1. The key principles of Universal Design

Principle	Description
Simple and intuitive use	The use of the design is easy to understand regardless of the user's experience, knowledge, language skills, or concentration levels.
Equitable use	The design does not disadvantage or stigmatise any groups of users.
Perceptible information	The design communicates necessary information

	effectively to the user, regardless of ambient conditions or the user's sensory abilities.
Tolerance for error	The design minimises hazards and the adverse consequences of accidental or unintended fatigue.
Flexibility in use	The design accommodates a wide range of individual preferences and abilities.
Low physical effort	The design can be used efficiently and comfortably and with a minimum of fatigue.
Size and space for approach and use	Appropriate size and space is provided for approach, reach, manipulation and use, regardless of the user's body size, posture or mobility

(Source: Center for Universal Design, 1995 cited in (Imrie, p. 280))

When these principles are examined in a detailed way, design should be easy to understand. It is avoided from unnecessary complication. The necessary usage information should be regulated in order of priorities. After usage, feedback and beneficial informing should be ensured. Moreover, design does not disadvantage or stigmatise any group of users. Means of usage should be equal even if people have different ability levels. If it is possible that same opportunities should be provided. Privacy and security should be protected for everyone equally and all rules and regulations involve all users. The design communicates necessary information effectively to the user, regardless of ambient conditions or the user's sensory abilities. The presentation of main information should be diversified in terms of visual, verbal and tactile ways. The design should be maximized legibility of essential information.

It minimizes hazards and the adverse consequences of accidental or unintended actions. People should be reached to the mostly used components easily. The warnings of hazards and errors should be provided. The design should offer people choice in methods of use. In terms of accessibility, it is an important principle that the design should provide a minimum fatigue and minimize sustained physical effort. Apart from these seven principles, there are three principles related to UD. Those are;

1. Adding to human delight

2. Functional and aesthetic integration

3. Social cohesion and participation (Duman, 2017).

Accessibility must be incorporated into the built environment, transportation systems and the infrastructure. All three must be addressed together to ensure accessibility. Good design should incorporate principles of UD, offering solutions as to how spaces can be designed and developed to meet the needs of all users (Accessibility Advisor Committee, n.d.). Although UD is a set of principles used by designers, accessibility codes and standards are technical specifications used for the built environment. Therefore, there is a difference between them. To obtain an environment designed with reference to the principles of UD, harmonization of accessibility criteria is promoted internationally. Moreover, cultural and geographical considerations must also be considered and these criteria should be suitable for developing countries. Checklists are created to promote the concepts of UD. However, standards can change from countries to countries. For instance, the slope of curb ramps is 1:12 in Canada and China but it was steeper at 1:8 in Australia. This checklist provides only a minimum standard for accessibility. If there is an aging population or involvement of persons with disabilities in the community, there is a need to exceed minimum standards for accessibility if it is possible.

In the examples of the City of Edmonton Accessibility Advisory Committee, a checklist is determined in terms of parking areas, ramps, entrances, signage, stairs/escalators, elevators, handrails and interior building elements. They determine

two colors, blue one refers that implementation is required and red one means that implementation is at best practice (Figure 2.1.). User groups can be categorized as physical access, blind or low vision access, deaf or hard of hearing access and cognitive limitations access. Every item in the checklist is evaluated for every user groups.

2. ENTRANCES		Y/N	N/A
	2.1 Barrier-free path of travel to entrance		
	2.2 Signage at all non-accessible entrances should clearly indicate location of accessible entrance		
	2.3 Doorway clearance is 800mm/31.5" when the door is in the open 90 degree position (920mm/36" preferred)		
	2.4 Door operating device should not require tight grasping or twisting of the wrist (doors should have lever handles)		
	2.5 The primary entrance is accessible (automatic sliding doors are optimal; power doors with large paddle/push plate is the next best alternative)		
	2.6 If entrance is through doors in a series, leave enough room (1200mm/47" plus the width of the door) for a wheelchair to occupy the vestibule while opening the 2nd door		
	2.7 Automatic door button is 800mm/31.5"-1200mm/47" from the ground and is located 1200mm/47" back from the door. Large well marked opener/button		
	2.8 Level, or beveled doorway threshold (maximum of 13mm/0.5" rise)		
	2.9 Color contrast to identify doorway threshold, frame or entrance. Corridors should be 1100mm/43" (recommend 1800mm/71")		

Figure 2.1. Checklist for accessibility and Universal Design

Source: (Accessibility Advisor Committee, n.d.)

2.2. GENERAL VIEW OF ACCESSIBILITY

Accessibility, as Burton and Mitchell (2006, p. 94), is a key factor that makes urban areas safe and independent for all users. Urban areas should offer certain choices in

terms of mobility and availability of different activities, building and resources. (Tibbalds, p. 58) Thereby, urban areas provide open and feasible spaces and places.

Built environment, especially in large cities, may create permanent or temporary obstacles and barriers for people, particularly for those who have disabilities. Harikae (1999) states that the present urban infrastructure is mostly built for healthy people who have no physical problem in their life (Harikae, 1999, p. 4). With an increasingly diverse society, and against a backdrop of an ageing population, accessibility should be taken into account across a wider range of policies than it used to be a few years ago, when it was perceived as the remit of disabilities' policy alone (European Commission, 2003, p. 3). Accessibility expresses that any product, service, function and technology or environment are reachable and usable for all people including disabled and elderly ones (KAMİS, 2017). To achieve an society that relies on equal rights for user groups, an accessible built environment is indispensable. In addition, it provides its citizens self-rule and it supplies the means to get an active social and economic life.

An accessible environment means that a person will be able to seek employment, receive education and training. Moreover, accessibility is a freedom to provide continuity of life quality to meet basic needs and capability (Özdemir Sarı, 2014). Accessibility in this context is defined as an opportunity that fulfills ones' demand by arriving at a required place, benefit from its facilities and return to their residences. People should be able to enter and exit a building without constraint to welcome their needs. The benefits of accessible buildings according to European Commission (2003) could be summarized as:

- An accessible building is safer and healthier, thus avoiding accidents, while allowing more people to enter.
- An accessible building is more comfortable: it can be visited more easily and it is more accessible.
- An accessible building is more adaptable (European Commission, 2003, p. 9).

In parallel with these matters, the Commission (2003) investigates an area in the light of these four principles mentioned below:

1-Accessibility is a concern for everyone, not only for a minority with physical disabilities.

2-Accessibility should be dealt with in a global and integrated way, cutting across all policy areas.

3-Accessibility policies can only be designed and implemented with the participation of the people and of the non-governmental organizations which respect them.

4-Accessibility is a key to sustainable development, because it enhances the quality of life, and makes the urban environment more livable (European Commission, 2003, p. 3-4).

The issue of accessibility has gained importance by United Nations and the precision and policies are composed by them. Accessibility is to attain rights and services in whole living space and benefit from them (Yılmaz, 2012). In literature review, it is observed that the subject of accessibility changes in terms of many aspects. These changes can be classified in two different ways namely; user groups and planning.

When it is thought in terms of user groups, firstly, the question of accessibility for whom is not replied and user groups are eliminated in the literature. Secondly, it is emphasized that the issue of accessibility is substantially related with disabled people. With regard to this, if physical environment is suitable and liveable for them, accessible environment can be obtained. In most of the examples, a physical environment is mentioned in terms of disabled people's perspective. Then, this consideration changed and an accessible environment that is aware of different user groups without causing social segregation tried to be obtained. Moreover, accessibility is not only related with disabled people but also all people in a society. Tibbalds (2001) revived this issue by emphasizing that urban areas should be accessible for all without considering people's/society's age, ability, past and income level (Tibbalds, 2001, p.

57). Participation necessity of disabled people in a social life is different from the people who do not have any impairments but similar with them as a basis. Instead of displaying that disabled people are in the different societies, perceiving them in an integrated way as a part of society to provide them opportunities at places is necessary to obtain accessible physical environment (Yılmaz, 2012).

The differences between user groups and transportation systems caused social segregation. This situation has taken place in planning literature at the beginning of 2000s (Solomon, 2003).

When the topic of accessibility is thought in terms of planning in the literature, accessibility is examined by searchers that accessibility is to arrive from one point to another point. However, some new opinions are added to this consideration. Like attaining the places, entering, using and walking around the places are examined with the accessibility issue.

Burton and Mitchell (2006), in their elderly people-focused studies, describe accessibility concept as enabling elderly people to arrive, enter, use and walk to place that they need regardless of their physical, emotional or mental conditions (Burton & Mitchell, 2006, p. 92). In other words, accessibility has some dimensions in terms of arriving, entering, using and walking inside. After all of considerations, new changes were made in 1950s and comprehension of design for all (barrier-free design) was accepted. After 1980s, the issues of sustainable urban planning and its principles took part in urban design.

The efforts have been focused UD in the last decades in literature especially by Rob Imrie, Peter Hall and Brendan Gleeson (Kaplan & Öztürk, 2004, p. 71). The notion of universality and design are integrated at the first time by Ronald Mace in 1985 and used as a UD (Dostoğlu et al., 2009, p. 25). Universal design is also known as design for all and barrier-free designs (Uslu & Shakouri, 2014).

The main requirement of becoming self-sufficient in daily life in perspective of disabled people and being equal with other citizens depend on proposing accessibility

problems of physical environment (Yücesoy, Aysel & Gülmez, 2007, p. 94). Places are required to be used by different user groups so that they can be used by everyone.

Cities gain importance when they meet the needs of all people living there. City planning should ensure choices about accessibility of different activities, buildings and sources and it should address every segment of society. Madanipour (2006) underlines that urban places are multi-purpose places. When they meet the needs of diversity, they will become successful. Moreover, he emphasizes that physical and social accessible places for all are required to be created. Urban planning promotes to create accessible and inclusive environments for majority and replies the problem of social segregation (Madanipour, 2006). In parallel with this, as public spaces shape social life, the accessibility of them is required to be examined.

Since accessibility is essential to have an ideal public space, city planning studies related to public space become accelerated in the 1970s. By the force of the non-governmental organization on disabled people, the problems about disabled people are begun to be argued mostly public spaces rather than private places (Çağlar, 2012, p. 559).

2.2.1. PUBLIC BUILDINGS AND ACCESSIBILITY

Public spaces are used and shared commonly by all people; they have an important role to create an accessible and a participatory social life (Mehta, 2014). Public space is conceived as open or closed spaces which constructed for the usage of every individual without any discrimination in the society (park, garden, stop etc.) (Özdemir, 2017 cited in Yılmaz, 2018, p. 3). Francis defines public spaces that public spaces are participatory landscapes. Through human action, visual involvement, and the attachment of values, people are directly involved in public spaces. People claim places through feelings and actions.

Lynch (1981) emphasizes that the qualification of a place is determined the interrelation between the place and people who live there (Lynch, 1981). According to Carmona et al. (2003), it is impossible to think a place that both do not have a social content and a society that does not have a spatial component (Carmona et al., 2003, p. 128).

Accessibility of public services is essential for all community members, without emphasis on any specific user group. The physical environment is full of spatial obstacles that affect significantly life choices and desires (Dinç Uyaroğlu, 2015, p. 45). The first definition that spring to mind for public spaces are literally known as places used by all society. Moreover, Kostof (2010) emphasizes two dimensions of public spaces that unlike private areas, public spaces are used by everyone separately and they provide freedom of movement to people and receive different activities. In other words, public spaces are the areas that gather every segment of people. When public spaces and buildings are accessible, coming together will be easy. Streets, public buildings, squares, public transport services and the buildings that these services offered can be given as examples of public spaces. Accessibility is examined in terms of public buildings at this study.

Public spaces are open and used by everyone in accordance with its definition. However, they can include barriers for some specific groups at some conditions (Carmona et al., 2003). Accessibility of public buildings can be increased when physical barriers are removed for the people who have different needs and wishes and planning efforts include all people.

2.3. BARRIER-FREE ENVIRONMENT

Accessible cities are provided by barrier-free environments. Recently, many people begin to realize the importance of barrier-free environment. The term refers to removing any obstacles which make some person feel difficult to live their daily life (Harikae, 1999). With removing any obstacles, environment will be barrier-free and

all people will become part of the living space. In other words, in a barrier-free environment, disabled people, pregnant women, elderly people, healthy people and children can move in the city without receiving any help or being restricted. Çakır Sümer (2015) defines the barrier-free environment as a place that allows people to move freely and safely. Also, it is accessible for everyone without noticing the age, gender, and the condition (Çakır Sümer, 2015, p. 141). This place is considered as a chain of services that is available for all people, and it must be quite independent and unobstructed. Barrier-free environment provides a city and a city life that people can move comfortably and freely and fell themselves secure in it (Özdemir Sarı, 2014). It is a necessity to create movement for people who have different abilities. The opportunity should always be taken to remove barriers and open up the town or city to greater accessibility and pedestrian freedom when new development occurs (Tibbalds, 2001). A society in which the opportunities are the same for everyone is enriched by the diversity of its active and contributing members. A well-designed environment which is safe, convenient, comfortable and readily accessible benefits everyone (Central Public Works Department, 2014).

In the literature, the issues of accessibility and barrier-free environment are mentioned mostly for disabled, elderly people or children and their implementations are shown as troubles. The target group is shown as generally disabled people. It is thought that if cities are well organized for disabled people, cities are assumed as accessible and barrier-free. However, it can be seen that handling this subject from one point of view or evaluating it for just a specific group is not a proper approach. Being aware of these differences is important but not sufficient. The issues should not be mentioned only for specific groups. Instead of the demands of disabled people, the requests of whole people should be given importance. Topics should be tackled in a comprehensive perspective.

Cities should address to everyone not for a minority group. When cities meet all citizens' needs, barrier-free environment can be achieved and accessible cities can be

created. Thus, all users are able to have opportunities to express themselves well in the cities because towns and cities contain a considerable amount of human relations.

2.4. WHAT HAPPENS TODAY ABOUT ACCESSIBILITY IN THE WORLD?

It is seen that the issue of accessibility for all people has gained importance lately. One of the most important attempts about "accessibility for all" belongs to European Commission. One of the reports of the council emphasizes that promoting accessibility for all will contribute to the success of the European strategy of "economic and social renewal". The report has four strategic goals (European Commission, 2003, p. 3);

1-Raising competitiveness

2-Achieving full employment

3-Strengthening social cohesion

4-Promoting sustainable development

The Commission makes some activities in order to realise its goals. To encourage and support countries to provide accessible and barrier-free environments, European Commission organizes "The Access City Award". The award is for cities in Europe and it aims making everyone's life easier to live there. The award intends to induce cities with at least 50.000 inhabitants to share their experience and to improve accessibility for the benefit of all. The award has been given since July 2010. This award is given every year. This is one of the broadest participated organizations. There was 43 cities competed out of 21 EU countries, for the Access City Award 2017. The honor should inspire and motivate cities that still have more progress to make. The basic principle in this event is to meet the accessibility needs of all citizens. The EU and all its member states have committed themselves to creating a barrier-free Europe. In compliance with the report of European Commission, accessibility is a priority area that makes goods and services accessible and promotes the market for assistive

devices (2003). The Access City Award recognizes efforts and achievements in improving accessibility in five main areas:

1- The built environment and public spaces
2- Information and Communication Technologies (ICT)
3- Public facilities and services
4- Transport and related infrastructure
5- Other

The Access City Award recognizes and celebrates a city's willingness, capability and efforts to ensure accessibility in order to:

- guarantee equal access to fundamental rights;
- improve the quality of life of its population and make sure that everybody - regardless of age, mobility or ability - has equal access to all the resources and pleasures cities have to offer (European Commission, n.d.).

The Access City Award rewards a city's willingness, capability and efforts to procure accessibility. By doing so, that it aims to assure equal access to basic needs. Besides that, improving the quality of life and making sure that everybody - regardless of age, mobility or ability - has the same opportunity to all resources and pleasures that cities offer, are some of its targets. (European Commission, n.d.).

2.4.1. THE EXAMPLES OF ACCESSIBLE CITIES

The examples are compiled from the awards that the commission gives to the cities from the year 2010 to 2017 in order to indicate the process of evaluation. In this study, the winners of the competition in the year 2010, 2016 and 2017 are examined.

2.4.1.1. AVILA- SPAIN

Avila which is a Spanish City won the first-ever European award for improving accessibility. Its motto is "a city for everyone". Its aim is to improve accessibility in urban environment and to increase participation of people equally with disabilities. The European Commission awarded Avila in December with the Access City Award 2011.

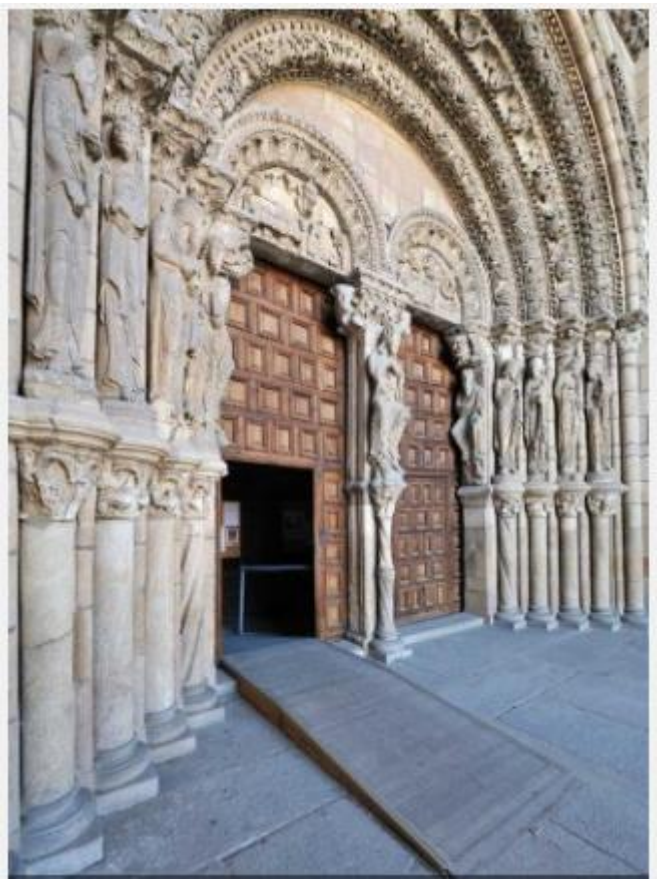

Figure 2.2. Avila Monumental

(Source: www.avilaturismo.com, 2018)

Avila was selected by the European jury because of its comprehensive plan, the high level of political commitment, the progress achieved so far and effective involvement

of people with disabilities in the process (Ethical Accessible World of Travel, 2011). Avila has developed a plan since 2002. This plan is related to obtain accessible environment both public buildings and private initiatives. It has also developed accessible tourism facilities and improved job opportunities for people with disabilities-working directly with disabled and elderly people's organizations (Ethical Accessible World of Travel, 2011). It is one of the actions under the Commission's new strategy for a barrier-free Europe for disabled people.

Figure 2.3. Avila

(Source:www.avilaturismo.com, 2018)

Local society has been involved in the design of a city for all and the mainstreaming of persons with disabilities through access to employment, culture and leisure has been encouraged. It recognizes efforts and achievements in improving accessibility in four main areas: the built environment and public spaces; transport and related

infrastructures; information and communication (including information and communication technologies); and public facilities and services.

A Europe-wide jury selected four finalists: Avila, Barcelona (Spain), Cologne (Germany), and Turku (Finland) in 2011. At the same way, Barcelona has almost same motto. It follows a "design for all" approach to improving accessibility with a strong focus on built environment and transport facilities. Cologne has tried to obtain an accessible environment due to political commitment since 2004, involving a wide range of city departments with clear responsibilities and extensive coordination, including special training for designers in city departments and building supervision employees. Lastly, Turku's comprehensive accessibility program generates an effective strategy with a strong involvement of people with disabilities for a smaller historical city confronted with challenging conditions for accessibility, particularly in the built environment (European Commission, 2010).

2.4.1.2. MILAN – ITALY

Milan is the 2016 access city award winner. In 2011, Milan adopted the principles of the UN Convention on the Rights of Persons with Disabilities and made a commitment to develop a new culture of accessibility and a strategic integrated approach to delivering the concept of a “city for all”. From that time, specific access provisions on the removal of barriers have been included as a priority in the rolling three year program of public works with budget provisions to meet them. In 2014, the guidelines for the adoption of a plan for eliminating barriers were adopted to give the city a strategic tool for planning, scheduling and monitoring accessibility initiatives in public spaces and buildings, social integration, safety and quality of life.

Figure 2.4. Wheelchair access in Milan

(Source: European Commission, 2016)

The main goals of the plan include mapping all the areas in which interventions are needed, defining what needs to be done, by whom and what it will cost. There is also information technology (IT) support to monitor and evaluate each measure and to get immediate feedback on how effective it has been. Its principal aim is to remove architectural barriers in key aspects of everyday life to disabled access, with numerous buildings being made wheelchair-friendly. Moreover, it aims at enhancing disabled people's independence (European Commission, 2016). The city is committed to full engagement with disabled people in deciding on plans and priorities. Since 2011, the Welfare Strategic Plan has been developed on the basis of an ongoing dialogue with disability stakeholders. In 2014 this was further enhanced by the service “No Barriere alla Comunicazione” which provides deaf people with a wide range of support services including sign language interpretation. In addition to this, there is a scheme to promote training and internships to help disabled people get into the workplace. Improvements were also made to the city's transport network, making taxis and buses more accessible. It highlights the most successful initiatives that allow people with disabilities to participate fully in society and to enjoy their rights on an equal footing with others. (European Commission, 2016, p. 6)

Figure 2.5. Accessibility in front of Duomo Di Milano

(Source: www. italiangoodnews.com, 2018)

The cities which are chosen as accessible cities developed projects in different aspects. The website known as Accessible Milan was created. The city's website is fully compliant with international accessibility guidelines. The "Accessible Milan" section of the website describes specific mobility services and 10 accessible tourist routes. For each route there are details on pedestrian paths, public transport, monuments and other points of interest.

2.4.1.3. CHESTER- UNITED KINGDOM

The Access City Award is a chance for cities to show how they are making their cities easy to live in and see what they should improve more and become better for their citizens. In 2017, the European jury selected Chester (United Kingdom), Rotterdam (Netherlands), Jürmala (Laturia). Chester is located in the North West of the United Kingdom, it is the largest and most populated city within the area of Cheshire West and Chester. The region has a population of 329,000 of whom some 18 per cent have a disability and 21 per cent are aged over sixty five (European Commission, 2017). Cllr Angela Claydon who is the Lord Mayor of Chester stated that improved accessibility brings not only reassurance and the necessary support to those who struggle with accessibility, but lasting economic and social benefits to the city and

they will continue to place accessibility at the hearth of everything they deliver (European Commission, 2017, p. 4).

Figure 2.6. Access to the city walls

(Source: European Commission, 2017)

All sections of the elevated Rows have been made accessible with a combination of ramps, level access routes, a lift and an escalator. Access points are widely advertised on panels around the city and in the city centre access leaflet (European Commission, 2017).

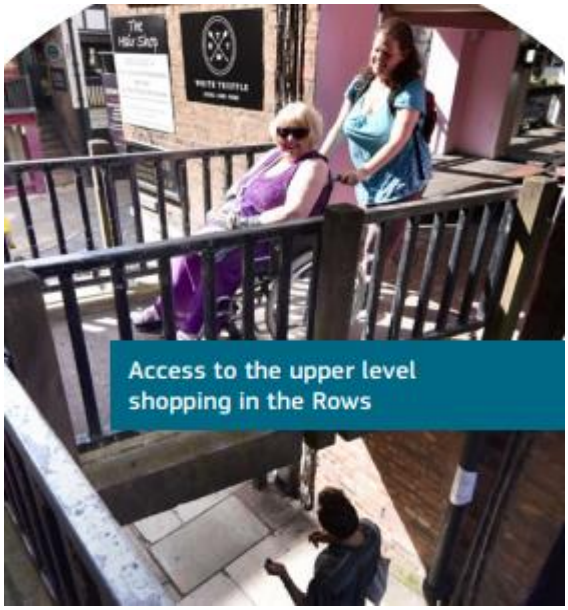

Figure 2.7. Accessibility of wheelchair user

(Source: European Commission, 2017)

All the buses serving the Park and Ride facility into the city are also accessible. To help disabled people get around the shops, the city provides a large number of designated parking spaces and operates a Shopmobility scheme which enables older and disabled people to hire a wheelchair or scooter to help them access the shopping areas. The scheme is available seven days a week and also provides “Ability Angels” who will act as companions to assist those who need help with their shopping (European Commission, 2017). Almost all existing municipal buildings in Chester have been adapted to make them accessible and all new public services and facilities are designed to be accessible from the outset. Apart from all that information center technologies are common to help disabled people and older people. The One City Plan is prepared for 15 year strategy.

Figure 2.8. Access to tourist information

(Source: European Commission, 2017)

The planning processes include participation of different stakeholders and local governments. Legal regulations necessitate the accessibility of whole city from private buildings to public buildings. Policies dealing with accessibility issues are mostly the responsibility of member states (building regulations, disability policy, transport, spatial planning etc.). All legislation, standards, guidelines, etc. should be designed and implemented with an aim to make the built environment accessible and usable by all those who could be expected to use it. Every level of governance and all sectors of society should have responsibility to mainstream accessibility within their own domain. This requires that they should acquire and develop the necessary competencies to make their environment and services accessible (European Commission, 2003).

On the basis of the information concerning example cities, some common features draw attention. These features are summarized in the diagram below (Figure 2.9.):

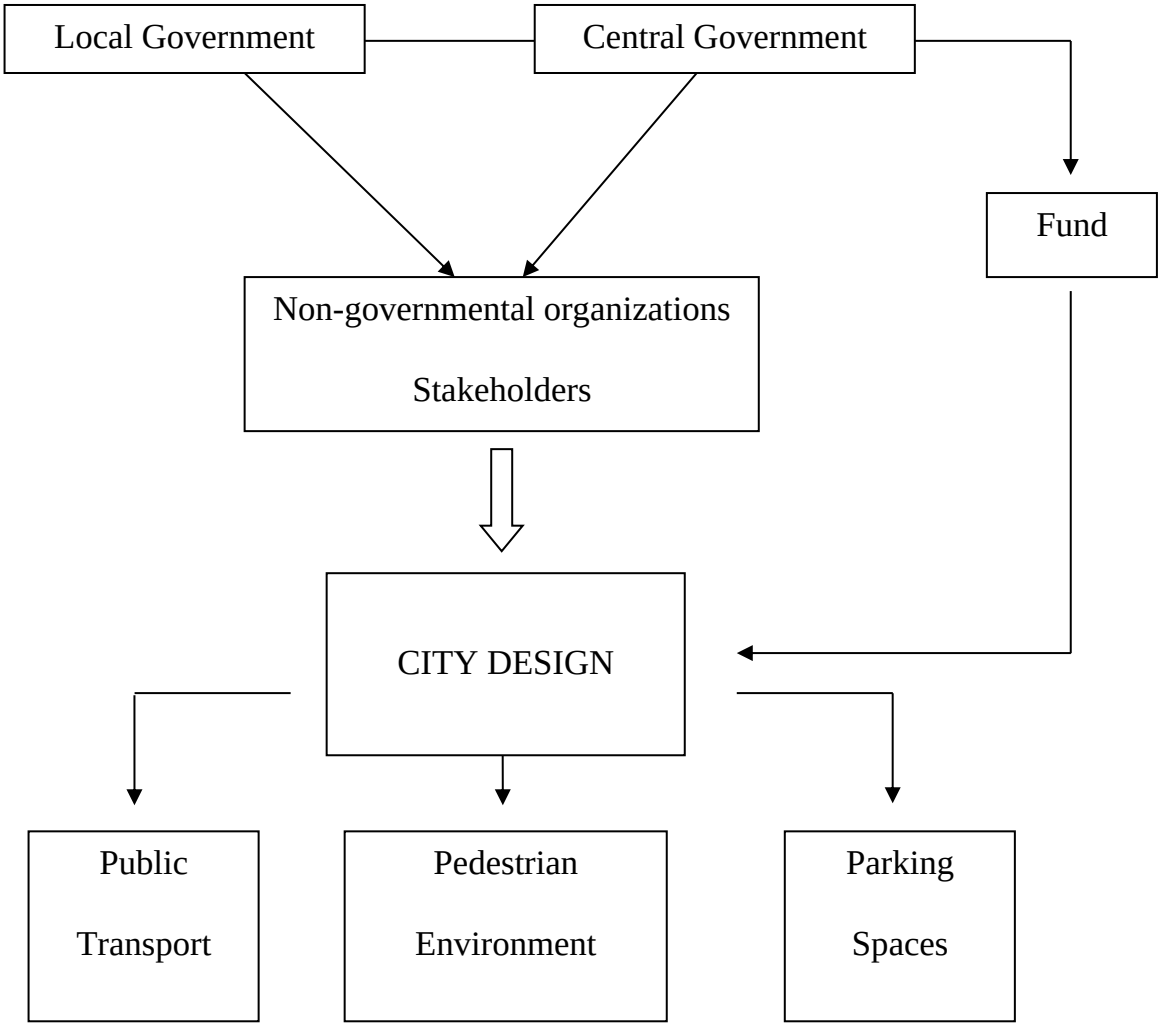

Figure 2.9. Summary about accessible cities

(Source: Developed by the author)

It is noticed from the samples of accessible cities and their principles that they require many interventions. It can be seen that the main responsibility belongs to central government especially in terms of financial matters. It basically provides the needed fund and regulates the relations between local governments, non-governmental organizations and stakeholders. Local governments occupy an important place because the alterations will be applied to their territory. After the decisions which are taken from local governments, central government and stakeholders together, the process of design can be started in order to obtain accessible and barrier-free

environment. In other words, after the related actors (local governments, central government, stakeholders and non-governmental organizations) arrive at a consensus, the process of design follows to obtain accessible and barrier-free environment. The part of the city design is examined in terms of public transport, pedestrian environment and parking spaces.

2.5. CONCLUSION

In this chapter, the relations between UD and accessibility are displayed. UD has principles to obtain barrier-free environment for all people. These principles are used to determine accessibility standards via good design so checklists are composed. In this thesis, an evaluation form that is the main component of the study is created as inspired from UD principles and literature review. Like UD, the order and headings of the evaluation form are designated from the literature review of accessibility and barrier-free environment. These headings are arriving to the place, entering the place and using the place.

European Commission emphasizes that five main areas need to be accessible.

1- The built environment and public spaces
2- Information and Communication Technologies (ICT)
3- Public facilities and services
4- Transport and related infrastructure
5- Other

All of the above mentioned elements and areas are seen as important in this thesis. However, the analysis in this study mainly focuses on the accessibility of public services as discussed earlier in Section 1.2, Scope and Limitations of the Thesis.

CHAPTER 3

WHAT HAPPENS ABOUT ACCESSIBILITY IN TURKEY?

3.1. LEGAL FRAMEWORK OF ACCESSIBILITY IN TURKEY

Since the people who have physical disabilities participate in the process of seeking rights, it is inevitable that both inner and outer spaces are redesigned for them. Davies (1999, p. 76) says that traditionally, someone who has disability says "I cannot enter museum or cinema as I have a trouble to go up the stairs because of my wheel chair." Instead of improving the places, people and their disabilities were seen as problems. Modern approach has changed this statement as "I cannot enter museum or cinema because of stairs." Removing obstacles and reshaping the places are seen as solutions. Due to this point of view, barrier-free environment becomes important and necessary especially in built environments (Çağlayan Gümüş, 2015).

The intensive requests of non-governmental organisations convinced the members of United Nations to prepare an agreement for disabled people. As a result, Convention on Rights of Disabled People (Engelli Hakları Sözleşmesi) is signed by the members. The agreement is composed of 50 articles and it is related to protect the rights of disabled people such as accessibility, education, employment, participation in political and public life and strengthen independence of them. It imposes some obligations to contracting countries in order to remove discrimination to disabled people and raise life standard. Turkey signed the agreement on 30 March 2007 in New York and it is approved on 27 May 2009 by council of ministers as Law No. 5825 (Gül, 2014).

According to the Convention on the Rights of Disabled People, accessibility provides disabled people to:

- Live independently,

- Join/participate in the life efficiently and completely,
- Reach to:

    - physical environment and transportation with the healthy people on the same footing,

    - the opportunities of getting information and communication including information and communication technologies and systems,

    - services and other public facilitates in both rural and urban area,

    in parallel with the principles of UD (TOHAD, 2014).

From this point of view, physical and architectural regulations consist of the notion of accessibility. Although, physical regulations are made and considered to be necessary only for disabled people in the earlier phases of accessibility research and implementations, today it is understood that these regulations are essential for all people. Moreover, producing accessible places or systems are not only necessary for disabled people. Such places should be created for different user groups such as children, elderly people, the people who carry pushchair or have temporary disability and the people who carry bags or feel tired (TOHAD, 2014, p. 57).

The first time accessibility appears in Turkish legal documents dates back to 1997 in a statutory decree numbered 572. This regulation inserted some specific information regarding the arrangements for disabled people into the Development Law (No:3194), statutory decree on the Administration of Metropolitan Municipalities (No:3030), Municipal Law (No:1580), Law on Social Services and Child Protection Institution (No:2828), Law on Social Assistance and Solidarity (No:3294), Law on Social Insurance (No:506), Law on Government Retirement Fund (No:5434), Law on Social Insurance Institution for Tradesmen and Craftsmen and Other Self Employed (No:1479), Health Services Fundamental Law (No:3359), Census Law (No:1543), Law on Basic Provisions on Elections (No:298).

The arrangements done by the statutory decree into the Development Law (No:3194) revive 3 fundamental matters. These matters are presented with additional and temporary articles.

Additional Article 1-To ensure that physical environment is accessible and livable for disabled people, it is obligatory to abide by the relevant standards of Turkish Standards Institute in development plans along with urban, social, technical infrastructure areas and buildings.

From 1997 to 2005, neither public nor private sector undertook action for accessibility implementations. Since the proposals of the above mentioned statutory decree failed to be implemented, in 2005, Law on Disabled People (Engelliler Kanunu) was enacted with the law (No: 5378), legal arrangements came to the turning point about accessibility and disabled people. When this law was prepared, the main goal was to fulfill the needs of disabled people. The essential issues were related with care, health, improvement, education, employment, social security, enhancing the physical region and institutional environment (Özarslan, 2010). Temporary Article 2 and Temporary Article 3 were brought into the force in 2005.

Temporary Article 2-All existing public buildings, roads, pavements, pedestrian crossings, open and green areas, sports facilities and similar social and cultural infrastructure areas, in addition to all buildings built by natural or legal bodies which serve as public places should be adapted to be accessible for disabled people during the seven years after this Law has been enacted.

Temporary Article 3-Metropolitan municipalities and other municipalities, either as service providers or supervisors, should take precautions to ensure accessibility of transportation services for people with disabilities. Existing private and public transport vehicles should be adapted to be accessible for disabled people during the seven years after this Law has been enacted.

It is assumed that the public buildings which were built after the year of 2005 will already complied with the regulations of accessibility. The buildings which were built before 2005 have to make necessary arrangements until July, 2012. Disability Law No. 5378 gives seven years to complete preparations. However, only a few days to the end of seven years, the duration for necessary arrangements were extended to eight

years with the regulation of Law No:6353. With this amendment, monitoring, controlling and paying administrative fine became the main topic of conversation. It was estimated that this administrative fine will support the projects of accessibility. Moreover, it was decided that the authorized organizations responsible for monitoring and controlling are Ministry of Family and Social Policy, Ministry of Interior, Ministry of Environment and Urbanization, Ministry of Transport, Maritime and Communications and the commissions which are comprised from agents working for disabled people.

When the process of controlling and monitoring continued, Disability Law (No:5378) was changed. Although recent Municipal Law (No:5393), Law for Metropolitan Municipalities (No:5216) and Law for Provincial Special Administration (No:5302) have consisted of articles related to disabled people, these articles are not associated with accessibility directly. In these articles, general items about accessibility are mentioned and proper methods were tried to be found. However, the details and processes were not mentioned explicitly.

Accessibility Strategy and National Action Plan (Ulaşılabilirlik Stratejisi ve Eylem Planı) was prepared by the Administration for Disabled People (ÖZİDA) with the participations of related public institutions (2010-2011). With this national plan, accessibility issue was debated. National Plan was developed in terms of three aspects namely legislation arrangements, raising social awareness and implementation (Çağlar, 2012). In plan, existing situations are determined in Turkey and faults and deficiencies in legislation arrangements were observed. The discussed issues are physical and social environment for disabled people, the problems of accessing technology, education, rehabilitation and health, and finance for institutions.

It is a fact that legal arrangements are essential to achieve accessible and barrier-free built environment. Nevertheless, legal arrangements alone are not sufficient. They should be supported with other dynamics such as the relations between non-governmental organisations and public institutions and increasing awareness about

accessibility. When all of them work together, desired result can be obtained. Hence, Turkey is far away from this desired outcome.

According to the decisions of High Planning Council, with the coordination of Administration of Disabled People (Özürlüler İdaresi Başkanlığı), monitoring and control mechanisms have been highlighted as one of the key factors in the elimination of physical barriers in the built environment in the "Accessibility Strategy and Action Plan (Ulaşılabilirlik Stratejisi ve Eylem Planı)" of 2010 (Dinç Uyaroğlu, 2015). Furthermore, the year of 2010 was assumed and accepted as Accessibility Action Year for All. In this process, the definition of accessibility was argued and current situation was designated in Turkey. The inadequacies and problems about legislation were determined. Moreover, financial deficiencies, public knowledge, strategic priorities, monitoring and evaluation were the other items that are examined. Therefore, action plan was prepared.

At the end of 2012, Ministry of Family and Social Policies started the Accessibility Support Project (Ulaşılabilirlik Destek Projesi). The methods and principles of project were determined. In accordance with the methods and principles, budget was allocated for buildings and open spaces in terms of the alteration of accessibility.

In 2013, Accessibility Support Project was continued. The budget support for metropolitan municipalities, provincial special administrations and municipalities' district governorship was decreased.

With the alterations in Disability Law, there have been regulatory explanations about accessibility for the first time on February 19, 2014. According to the 3rd Article of the Law;

- Accessibility: Buildings, open spaces, transportation and information services with information and communication technologies should be accessible, available to use independently and safe for people with disability,
- Standards of Accessibility: The standards which are published by Turkish Standards Institution is accepted. With the same article;

- Disabled Person: Someone who has trouble to participate in life freely because of the physical, mental, psychological and sensual deficiencies and is affected by environmental conditions.
- Discrimination based on Disability: The rights and independence of people should be used or benefited equally in political, economic, social, cultural, civilised or different areas (Çağlayan Gümüş, 2015).

The issue of accessibility is mentioned in many laws at legislation. Some of them are Building Bylaw for Planned Areas (Planlı Alanlar Tip İmar Yönetmeliği), Building Bylaw for Unplanned Areas (Plansız Alanlar İmar Yönetmeliği), Bylaw for Principles of Planning (Plan Yapımına Ait Esaslara Dair Yönetmelik) and Bylaw for the implementation of Squatter Housing Law (Gecekondu Kanunu Uygulama Yönetmeliği), Car Parks Bylaw (Otopark Yönetmeliği).

3.2. THE FRAMEWORK OF ACCESSIBILITY STANDARDS

Standards and regulations are examined before the case studies at this phase of the thesis because they will aid as benchmarks for the accessibility evaluation in case studies.

3.2.1. BUS STATIONS

According to TS 12576, the location of stations should be easy to notice. They should be seen and found easily. To take or get off the buses, 20 cm long curb ramp should be made from carriageway to pavements. There should be sitting benches, city maps and transportation route maps. In addition, an empty area for wheelchairs should exist. Bus stations should be sheltered against external factors. Parking and standing should not be allowed to vehicles apart from transportation vehicles in front of bus stations. This prohibition should be showed with signage. There should be 10 cm long clear transit area in front of or back of stations to provide accessibility.

3.2.2. PEDESTRIAN WAYS AND PAVEMENTS

The width of pedestrian ways varies from density of using, road class and their groups. The width of an accessible pedestrian pavement should be at least 1.5 m. Pavements near bus stations should be at least 3.0 m and this length should be at least 3.5 m in front of shops (ÖZİDA, 2008).

Cross-slope should be maximum gradient of 2%. Running slope should be maximum 5% for wheelchair users to move freely (Figure 3.1.). Ground and floor surfaces should be firm, slip-resistant and stable. They should have a matte finish to minimize glare and they should be well-drained (Newell and Eng, 2015). The covers of them should be adjacent. They should have joints between surfaces no wider than 0.5 cm. There should be no obstacles on pavements such as gratings and infrastructure materials. If they exist, they should be at the same level with surfaces of pavements (Tiyek, Eryiğit and Baş, 2016). There should not be sudden level changes. Constant or ground at same level should be created (TS 12576). There should be tactile walking surfaces on pavements and the width of them should be 60 cm. There should be no barriers to prevent accessibility. The tactile surfaces and grounds should have high tonal contrast. The materials for tactile surfaces should not restrict the movements of wheelchair users.

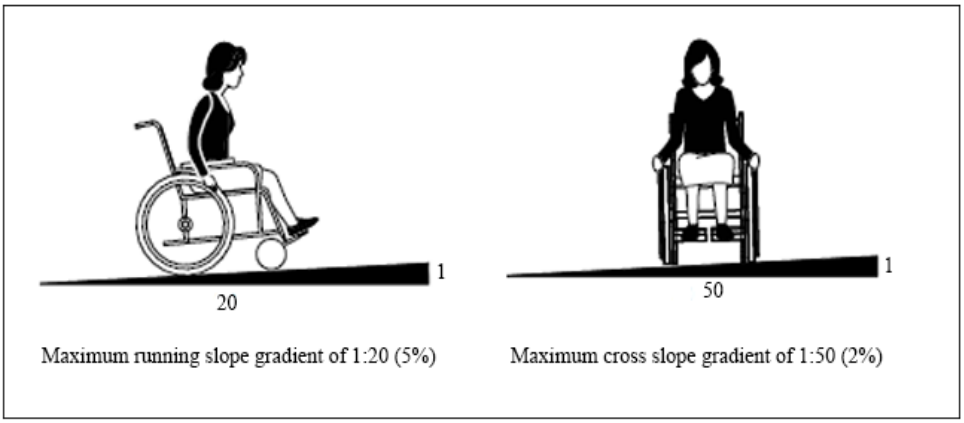

Figure 3.1. Running and cross slope of ramps

(Source: Newell & Eng, 2015 and adapted by the author according to TS 12576)

The height of pavements is the distance between the surface of roads and pavements. This height should be between 3 cm (min.) and 15 cm (max.). Ramps or curb ramps should be created on pedestrian crossings at pavements and roadways. Their running slope should be maximum gradient of 8%.

3.2.3. PEDESTRIAN CROSSINGS

These areas are composed so that pedestrians can pass or move safely at different directions at roadways. It should be provided that pedestrians do not face any difficulties on pedestrian crossings. There should be street traffic control lights on crosswalks. They should be colorful, lightened and should have figures of mobile person for persons having impaired hearing. Moreover, tactile surfaces and signals of verbal warning should be made for sight-disabled people. Tactile surfaces should start 30 cm (min.) before crosswalk and should end 30 cm (min.) after it finishes. The length of pedestrian crossings should be 1.8 cm (min.) and pedestrian crossing lines (zebra crossing) should be stable, firm and slip-resistant (Figure 3.2.).

Turkish Standard (TS 12576) has principles about pedestrian crossings:

- Pedestrian crossings apart from intersections should be located on places that drivers can see them.
- As flower bed and flower pots, symbols, advertisement hoardings and lampposts on crosswalks reduce mobility; these obstacles should not be put on there.
- Pedestrian crossings should be brightened enough and lighting should be located on top of the crosswalks. The color of lightening of crosswalks should be different from the lightening of roads and it should be brighter than other.
- Pedestrian crossings should be indicated with zebra crossings.

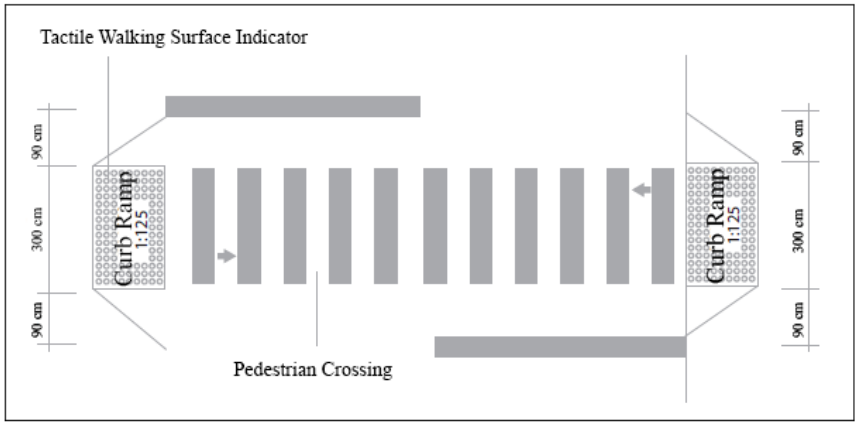

Figure 3.2. Pedestrian crossing and curb ramps

(Source: World Disability Union, 2017and adapted by the author)

Overpasses should have transit areas that are 1.5 m (min.) width. If there is an available place, ramps that have gradient of 6% or elevators should be applied instead of stairs. Both overpasses and underpasses should have tactile walking surfaces for disabled people. Since overpasses cause energy loss for pedestrians, underpasses should be preferred. There should not be obstacles on them to prevent accessibility. If there exits, they should be at the same level with surface.

3.2.4. RAMPS

When ramps are designed, the main aim is to provide necessary conditions for wheelchair users, people who carry pushchairs and visually impaired people to climb over height difference. Ramps should have proper gradient to pass barriers at pavements (TS 12576, 2012).

The width of ramps differs from UN, ADA to TS 12576 standards. According to UN (2004), if ramp is straight ramp, its width should be 90 cm long. If ramp is dog-leg ramp (90 degree turn), its width should be 140 cm long and if ramp is switch-back ramp (180 degree turn), its width should be 90 cm long (Figure 3.3.). With reference to ADA standards, the width of ramps is determined as 91.5 cm long without considering its type. In comparison with TS 12576, ramps are designed as regards two wheelchairs transition. The width of ramp should be 1.8 m (min.). If ramps are longer than 10 m or there is a transition from one ramp to other, landings that are 2.5 m (min.) should be provided.

When there are elevation differences more than 2 cm, ramps should be designed. If the length of ramps is 10 m (max.), running slope of ramps should have gradient of 8% (max.). However, ramps should have gradient of 6% (max.) if the length of ramps is more than 10 m.

Landings that are 1.5 m long should exist at the top and bottom of ramps for visually impaired people. These landings should be smooth textured and have different surfaces from ramps. Tactile walking surfaces should start 30 cm before ramp and 30 cm (min.) distance away from the end of the ramp. The surfaces of ramps should be stable, firm and slip-resistant.

Handrails at exterior environment should be continuous beginning and at the end of the ramps. They should continue for 45 cm in length. When elevation differences are more than 20 cm, handrails should be provided one side or both sides of ramps.

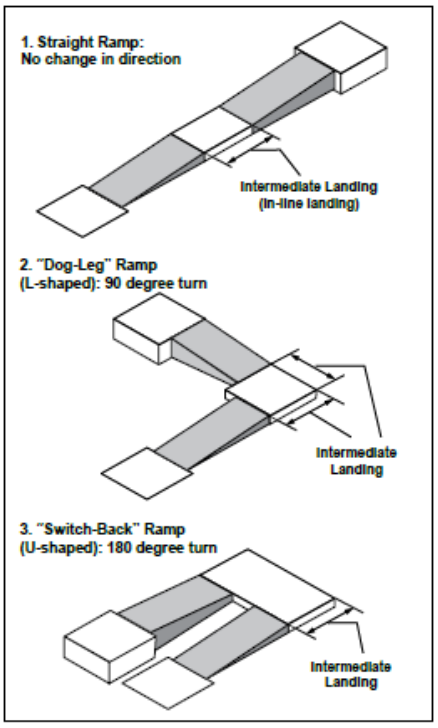

Figure 3.3. Types of ramps

(Source: Newell & Eng, 2015)

3.2.5. STAIRS

As stairs prevent the mobility of disabled people, ramps are more usable in terms of accessibility to be passed from elevation differences. Nevertheless, if stairs must be designed, handrails should be applied both sides of stairs (World Disability Union, 2017).

According to TS 12576, the clear width of stairs should be 180 cm. Tread depth of stairs should be 30.4 cm (Figure 3.5.). The surfaces of stairs should be slip-resistant and rough. Riser height should be 15 cm (max.). If height difference is more than 1.8 m (or one in every 8-10 treads), landings that are 2 m long should be designed. If the direction changes at landings, an area of 1.8 m x 1.8 m in size should be provided. The end of treads should have a slip-resistant strip whose width is 2.5 cm. It should be at

the same level with the surface of stairs. At the beginning of stairs there should be tactile surfaces so that visually impaired people can find stairs easily. They should start before first tread. There should be a space in same size with a tread depth distance between the end of stairs and end of the tactile surface (Figure 3.4.).

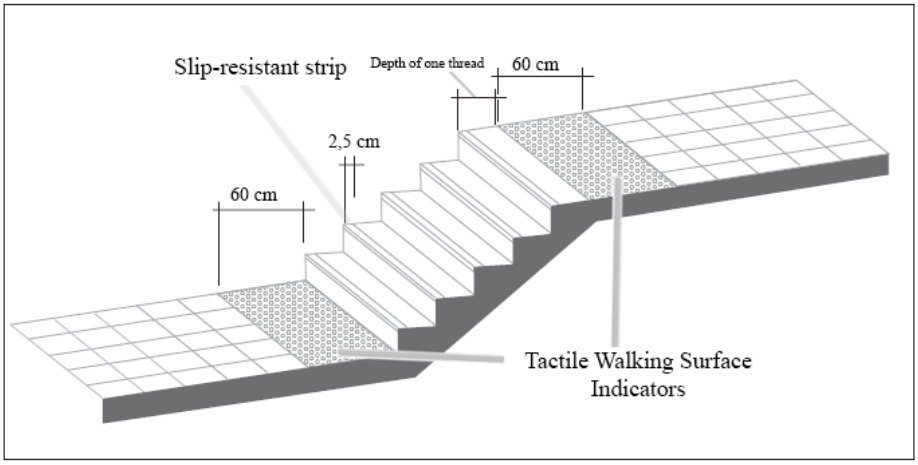

Figure 3.4. Tactile surfaces at stairs

(Source: Newell & Eng, 2015 and adapted by the author according to TS 12576 or TS 9111)

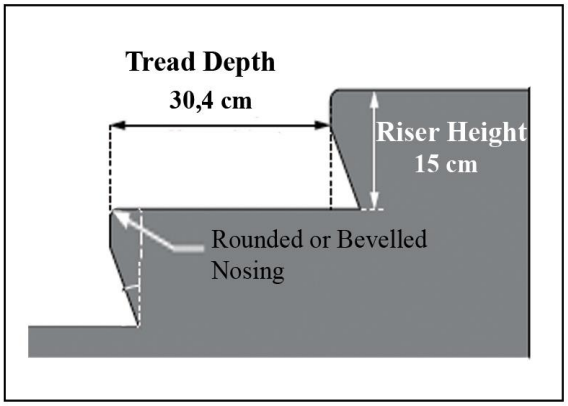

Figure 3.5. Stair design features- Section view

(Source: Newell & Eng, 2015 and adapted by the author according to TS 12576 or TS 9111)

3.2.6. CAR PARKS FOR DISABLED PEOPLE

If cars are allowed to be parked near roads, car parks should also be provided for disabled people. According to 4th Article of Car Parks Bylaw, car parks of public buildings, regional car parks should provide car parks for disabled people between at least one and 5% of whole parking area (World Disability Union, 2017).

With reference to TS 12576 (Figure 3.6.),

-The distance between car parks and destination should be 25 m (max.) and preferably 10 m.

- Car parks for disabled people at outdoor parking and parking garage should be close to elevators, entrances/exits or entrances of buildings.

-Public or private places such as hospital, shopping mall, railway station etc. should have car parks for disabled people and they should be located close to their entrances, car parks entrances (TS 12576, 2012).

The width of a car park for disabled people should be 3.6 m, preferably 3.9 m (UN, 2004). The distance between two car parks for passage of wheel chairs should be 1.2 m long and corridors of access should be offered. The signals that show car parks for disabled people should exist at car parks.

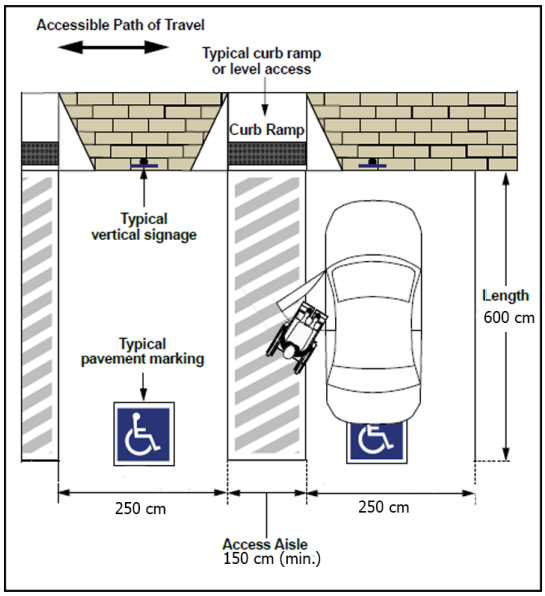

Figure 3.6. Accessible parking space dimension

(Source: Newell & Eng, 2015 and adapted by the author according to TS12576)

3.2.7. ENTRANCES OF BUILDING

Every user group should be considered when entrances of building are designed. All commercial, public, administrative buildings and residences should be accessible from pedestrian ways to building entrances. At least one main or primary entrance into a facility is required to be accessible. Large landings should exist in front of them. It should have one entrance at least to provide accessibility. If entrances have stairs, ramps or curb ramps should be made for disabled people. Whole accessible routes should be 90 cm (min.) long. However, this length should be 1 m (min.) at public buildings. Running slope of ramps should have gradient of 5% (max.). It should be offered that the length of ramps should be no longer than 6 m. If height of ramps is more than 15 cm, guards 90 cm long should be applied at both sides of ramps. Guards should start 30 cm before ramps and they should continue 30 cm more after ramps end. If there is an entrance for disabled people, accessible pedestrian signals should be provided. Ramps should be designed to reach roadway.

The main entrance of buildings should be 1.5 m (min.). Threshold should not be at entrances. Revolving doors should not be existed. If there is a revolving door, buildings should include hinged doors or doors have photocell.

3.2.8. CORRIDORS

Corridors should be at least 90 cm long for wheelchairs' transition. However, this space is not enough for wheelchair users or partially walking people and one person's passing. To pass all of them at the same time, the length should be at least 1.22 m (TS 9111) (Figure 3.7.). For wheelchairs' 180 degree turn, at least 1.5 m long is provided. Therefore, when all of conditions are ensured, at least 1.5 m long is sufficient for entire user groups' transition. There should be no barriers at vertical and horizontal directions of corridors.

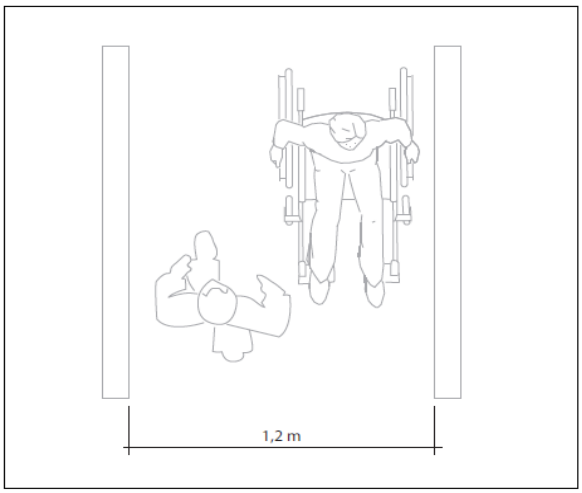

Figure 3.7. The width of corridors

(Source: World Disability Union, 2017)

Ramps, elevators and stairs provide vertical circulation of buildings. There should be an empty area suitable for its usage in front of elevators. The doors of elevators should have at least 91.5 m long clear opening. Moreover, they should be automatic and

should have photocell. They should be proper for wheelchairs' transition and wheelchairs should maneuver inside of elevators. Elevator car should include hall call buttons, visual and audible signals and grab bar.

Buildings such as office, store, hotel and theatre should have washrooms for disabled people. Washrooms should be on the accessible points.

3.2.9. SIGNAGE AND WAYFINDING

Signage should be legible and comprehensible for everyone. High tonal contrast between signage and mounting surfaces for full visibility should be provided. Information should be supported by symbols and it should be short and simple (Figure 3.8.). There are different types of signage for various purposes:

-regulatory signs, which include prohibition signs denoting an order forbidding an action, and mandatory signs which denote an order requiring an action;

-warning signs such as caution and danger signs denote a potential hazard and a definite hazard, respectively; and

-identification signs, which include rooms, titles, names or numbers are provided for general orientation or specific information, such as washrooms, routes of egress, stairwells, doorways or offices (Newell and Eng, 2015).

Signage should be seen easily by every user groups such as wheelchair users. It should steer people to usages directly. Reasonable guidance order should be composed. Information signage that shows entrances and exits should exist at flight of stairs. Floor numbers should be located at every flats of building.

Mounting surfaces should be 1.2 - 1.6 m height from the ground and they should be read with ease. However, signage should be at least 2.2 m height from the ground in

some exceptional places such as crowded places to be seen well. This height is also valid for signage that is assembled to wall or to ceiling.

Figure 3.8. Examples of international symbols of accessibility

(Source: Newell & Eng, 2015)

3.2.10. TACTILE WALKING SURFACES

As tactile surfaces have truncated dome, this tissue eases accessibility for visually impaired people. It should be at proper height and necessary shape. However, domes should not be higher to disturb other users such as wheelchair users (ÖZİDA, 2008). Tactile walking surfaces should be at pavements, other surfaces separated for walking, pedestrian crossings, pedestrian plots, stations, bus shelters, stairs, entrances of garden and building, parks, car parks, washrooms and information desks. The width of tactile walking surfaces should be 60 cm (min.) and should be different in terms of color and tissue (Figure 3.9.).

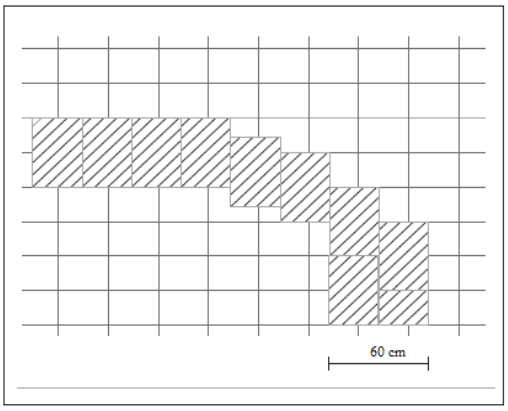

Figure 3.9. Implementations of tactile surfaces

(Source: BM, 2004)

3.3. CONCLUSION

In this chapter, Turkey's legislation about accessibility and its developments examined. Basic discussion of the chapter is the capacity and limitations of the legislation to obtain accessible environments. It is highlighted that there are some definition and implementation problems. According to legislation, standards in terms of accessibility in TS 12576 and TS 9111 are displayed. These standards are used as benchmark criteria to evaluate the cases in this study. Standards that are mentioned above is organized in the evaluation form under the headings of arriving to the place, entering the place and using the place according to their usage. For instance, whether the widths of curb ramps are enough or not is determined with reference to the standards.

CHAPTER 4

FIELD RESEARCH: EXAMINATION OF PUBLIC BUILDINGS IN TERMS OF ACCESSIBILITY

4.1. GENERAL INFORMATION ABOUT KONYA

Konya is the largest province of Turkey in terms of acreage. It is composed of 31 districts 3 of which are central districts; Meram, Selçuklu and Karatay. Konya has been a significant settlement area for many civilizations throughout the history and it combines its historical heritage and cultural accumulation with present time.

The city of Konya is considered the first place of the permanent settlements which became a center for many societies, nations and civilizations from Çatalhüyük to Hittites; from Phrygians to Cimmerians; from Lydians to Persians; from Greeks to Great Iskender; from Romans to Seljuks, Ottomans and the period of the Republic of Turkey.

At this step for this thesis, public institutions located in central districts such as Meram and Selçuklu will be examined in terms of accessibility for all. Three service buildings located at Meram and Selçuklu district and their close environments are chosen as sample areas. These are Konya Railway Station, Konya Training and Research Hospital, and Konya Metropolitan Municipality.

4.1.1. KONYA RAILWAY STATION

Konya Railway Station was built on July 29, 1896. It was rebuilt in 2011. It is observed that arrangements were made to have accessible place in accordance with Disability Law in 2005. Railway station offers services to go to Ankara, Eskişehir, İstanbul, Afyon, Uşak and İzmir. In Konya Province, there are one high speed rail line and two

conventional rail lines. High speed rail line goes to Istanbul passing through Eskişehir 3 times a day and goes to Ankara 7 times a day. Moreover, conventional rail line goes to Istanbul passing through Afyonkarahisar and goes to Mersin and Adana passing through Karaman.

Konya Railway Station is assumed to move to Konya High Speed Train Station in 2019. It is thought that whole high speed rail lines will be integrated in the Konya High Speed Train Station. Although in short term, it will give service to Konya-Ankara, Konya-Istanbul, Konya-Mersin, in the long term, the rail lines belong to Kayseri, Adana and Antalya will be added. Konya High Speed Train Station is supposed to be distributing and gathering ground. Moreover, subway line will be completed and combined with the Konya High Speed Train Station. Therefore, it is thought that Konya will gain importance in terms of railway access.

While this study continues, the new high speed train station has not been completed yet. That is why; existing railway station was chosen as a case area and evaluated in terms of its accessibility.

4.1.2. KONYA TRAINING AND RESEARCH HOSPITAL

Konya Training and Research Hospital was built in 1954 near Eski Buğday Pazarı as a dispensary. Then, it moved to its current location on Meram Yeni Yol in 1967. It became the SSK Konya Service Hospital (SSK Konya Hizmet Hastanesi) (www.konyaeah.saglik.gov.tr, 2019). Although the date that arrangements about accessibility were made is not known, it is clear that regulations were made after Disability Law.

Konya Training and Research Hospital provides services at 52 different field of study such as emergency medicine, family practice, anaesthesiology and intensive care, general surgery, paediatrics, paediatric surgery, internal medicine, physical medicine and rehabilitation, genetics, thoracic surgery, chest diseases, eye diseases, obstetrics

and gynecology, internal diseases, ear nose throat diseases, orthopedics and traumatology, pediatric intensive care unit with 1131 bed capacities. It is one of the far-reaching hospitals in the region for especially old, healthy and pregnant people or someone who have children (www.konyaeah.saglik.gov.tr, 2019).

Konya Training and Research Hospital provides services in five different locations.

- 78th Training and Family Health Centre
- Central Building
- Zafer Building
- Konya Training and Research Hospital Beyhekim Psychiatry Clinic
- Physical Treatment Clinic (Konya Eğitim ve Araştırma Hastanesi internet sitesi)

In this thesis, Central Building and its environment are determined as a case area and its accessibility is investigated.

4.1.3. KONYA METROPOLITAN MUNICIPALITY

The building of Konya Metropolitan Municipality has been used since 1964. With the law (No:3399) in 1987, Konya Municipality became Konya Metropolitan Municipality. From 1989 to today, Konya Metropolitan Municipality has provided services with reference to this status. The development has been planned for all society since 2004 (www.konya.bel.tr, 2019).

The border of Konya Metropolitan Municipality became the territorial boundary of Konya in 2014 with regard to the law (No: 6360) which was accepted in 2012. After that date, village and town were removed and they became neighbourhood of the districts. The regulations were made for accessibility in 2015 near the municipality.

4.2. EVALUATION FORM

In the light of accessibility perspective, an evaluation form is developed, based on Chapter 2 and 3 of this study, in line with the purposes of this research. The form is presented as an appendix (see Appendix A).

In this evaluation form under the heading of arriving to the place, elements of the external built environments such as bus stations, underpasses, overpasses, ramps, tactile surfaces, pavements, car parks and assistive listening systems are examined to see if they comply with the standards.

Under the heading of entering the place, the transition area between the exterior environment and interior environment is examined. At this phase, existing built environment, entrances of places, thresholds, handrails and tactile surfaces are investigated.

At the part of using the place, interior environment is addressed completely. Accessibility is observed in the interior parts of the environment horizontally and vertically. Direction signs, circulation in corridors, elevators, ramps and tactile surfaces are studied in this part.

4.3. FIELD STUDY

At the phase of this study, systematic observations and investigations are conducted, through the use of evaluation form, at Konya Railway Station, Konya Training and Research Hospital and Konya Metropolitan Municipality and their surrounding environments. The study covers pedestrian crossings, pavements, bus stations, parking areas, entrances of buildings, guiding means, ramps, stairs, elevators and corridors.

In the evaluation form, as mentioned earlier in this study, accessibility is studied under three headings: These headings are arriving to the place, entering the place and using the place. These three main sections also have their subheadings which are examined in the context of the implementations at the examples of Konya Railway Station,

Konya Training and Research Hospital and Konya Metropolitan Municipality. These three places are detailed for four different target groups (disabled people, elderly people, people who carry pushchair and healthy people) under three main headings. It means that the issue of accessibility is evaluated in many different aspects for many different user groups. Therefore, the results are discussed from the point of "accessibility for all".

4.3.1. KONYA RAILWAY STATION

Konya Railway Station, which is located at central district named Meram, stands at a significant point. It is built near the urban square, Alaeddin Hill, Mevlana Tomb and an important commercial line of city centre. Konya Railway Station is used mostly by students and employees, particularly travelling between Ankara and Konya.

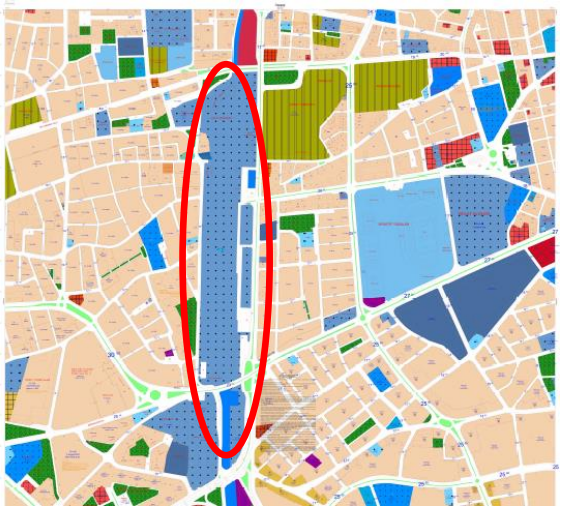

Figure 4.1. Location of the railway station

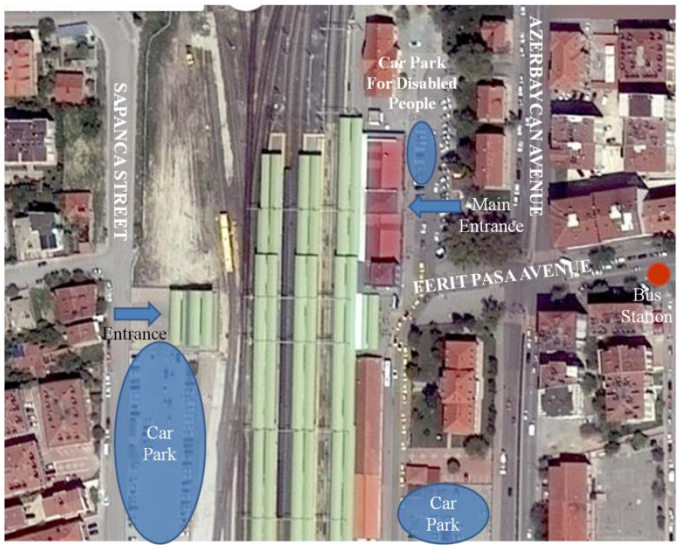

Figure 4.2. Konya Railway Station and its close environment

(Source: Google maps, 2018)

4.3.1.1. ARRIVING TO THE PLACE

When Konya Railway Station is examined in terms of arriving to the place, it is seen that there is no loading and drop off zones or sheltered stations near railway station. There are pedestrian crossings and an underpass to reach both front and back entrances (Figure 4.3.).

Figure 4.3. The back of the railway station

Figure 4.4. A curb ramp intersecting pedestrian crosswalk

There are no obstacles at pedestrian crossing (Figure 4.4.). Escalator and elevator system exist at underpass between railway station and Havzan Neighbourhood for disabled people, elderly people, people who carry pushchairs and healthy people (Figure 4.5.).

Figure 4.5. An elevator for different user groups

It is noticed that railway station has ramps and curb ramps. Although the clear width of ramps is enough for one wheelchair's transition, the slope of ramps is upright according to TS 12576 (Figure 4.6.).

Figure 4.6. A ramp for wheelchair users

However, as there is no sign to show the roads for disabled people and the locations of ramps, it is difficult to find these ramps for users. There are tactile surfaces at the arrival point but it is noticed that it is not functional and it is not continuous (Figure 4.7)

Figure 4.7. A discontinuous and non-functional tactile walking surface

There are assistive listening systems to ease to arrive the place. Car parks for disabled people exist there and those are showed via signs. Car parks for disabled people are close enough to entrance of building (Figure 4.8.).

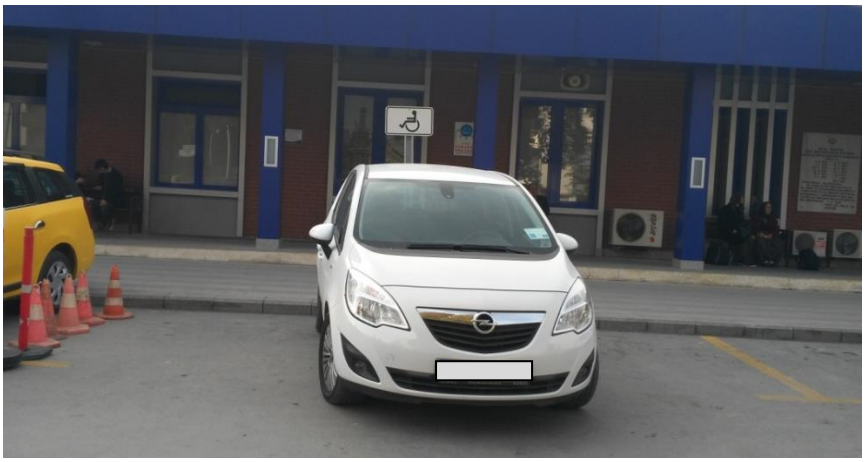

Figure 4.8. Car parks for disabled people but occupied by a private car

In addition, the distance between two vehicles for parking is enough. Pavements are designed well to reach the place and the width and height of them are adequate (Figure 4.9.).

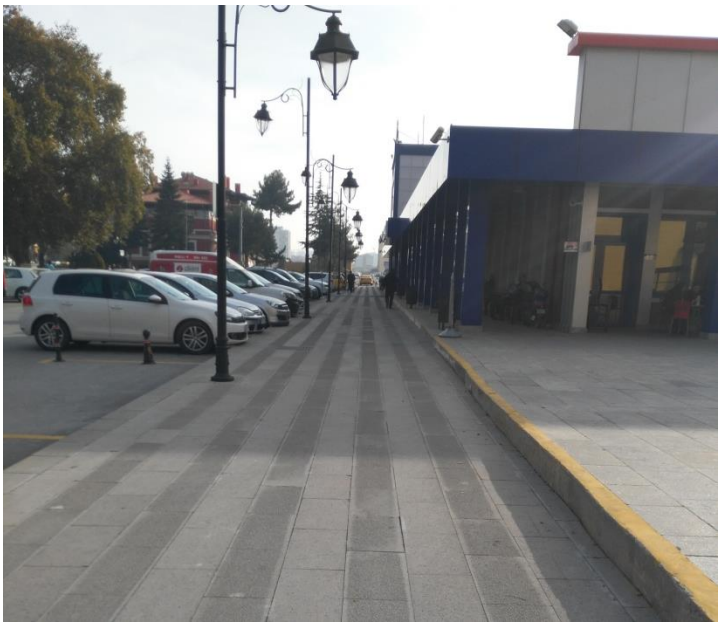

Figure 4.9. Well designed pavements in terms of width, height and level changes

4.3.1.2. ENTERING THE PLACE

The width of the entrances is suitable in terms of standards (Figure 4.10.).

Figure 4.10. The main entrance of the building

There is no threshold that prohibits entrances. The width of ramps is suitable but the gradient of ramps is more vertical than standards. Besides, it is seen that some ramps do not have slip-resistant strips at the top and at the bottom (Figure 4.11.).

Figure 4.11. Vertical ramps not having tactile walking surfaces

Although the building is not large and complicated, the signals are unsatisfying to find the areas for buying a ticket and getting on the train. Tactile surfaces for disabled people to enter the place are deformed. In addition, some of them are not continuous. It is noticed that elevators are wide enough for people who have wheel chairs and carry pushchair. It is observed that escalators are narrow for disabled people and people carrying strollers (Figure 4.12.).

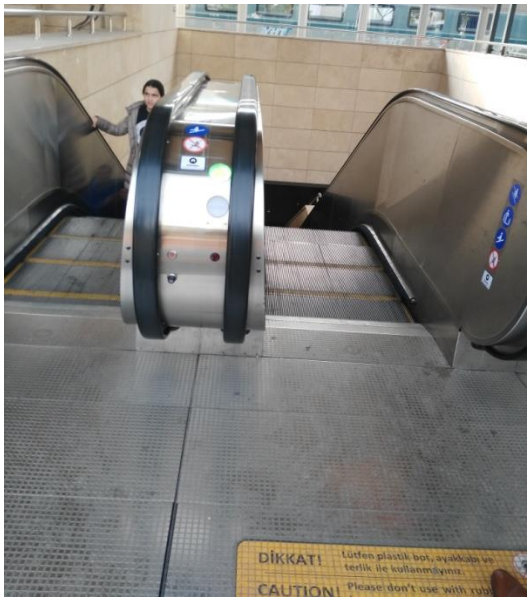

Figure 4.12. Narrow escalators through station and underpass

Moreover, firm and slip-resistant entrances that are necessary for all users do not exist.

4.3.1.3. USING THE PLACE

When it is examined in terms of using the place, the building has tactile surfaces. In addition, there are tactile surfaces at the top and bottom of the stairs for visually impaired people (Figure 4.13.).

Figure 4.13. Tactile walking surfaces inside of the railway station

Riser height and tread depth of stairs are appropriate for all users (Figure 4.14.) There are handrails at the top and bottom of the stairs.

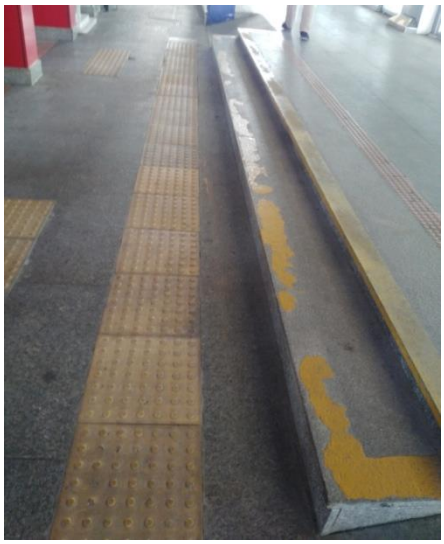

Figure 4.14. Stairs having proper riser height and tread depth but with deformed slip-resistant strip

A simple and comprehensible settlement plan exists inside of the building (Figure 4.15.). It can be seen easily and prepared in a simple and understandable way.

Figure 4.15. Settlement plan inside of the building

There is an easily accessible phone for disabled people at the entrance of the building (Figure 4.16.).

Figure 4.16. Assistant phone for disabled people

There is a washroom for handicapped inside the place. Moreover, there is an audible warning signal to direct users through railway platform and departure time. Before departure time, necessary announcements are made. Since the usage area of the building is without stairs, there is no bump to prevent usage for all people so no ramp is needed.

4.3.1.4. GENERAL EVALUATION OF ACCESSIBILITY IN KONYA RAILWAY STATION

When Konya Railway Station is evaluated in terms of disabled people, elderly people, people who carry pushchair and healthy people (Table 4.1.);

Having no bus stations near the railway station affects all target groups negatively with regard to arriving to the place. The nearest two bus stations are far from the railway station approximately 100 m away. Nonetheless, pavements are designed properly for them. Having no obstacles at pedestrian crossings, having elevator and escalator ease accessibility for all users. Since escalator is narrow, it makes accessibility difficult for especially disabled people and people who carry pushchair.

The width of entrances of places is enough for all in terms of entering the place. Moreover, there is no obstacle in front of entrances. However, the entrance of building does not have firm and slip-resistant material. Tread depth and riser height of stairs are suitable and there are handrails at the top and bottom of the stairs. After people come into railway station, it is hard for them to find which train to get on. Accessible pedestrian signals and wayfinding are insufficient. The width of elevators is appropriate but the slope of ramps is not proper especially for people having wheel chairs and pushchair, so their contribution to accessibility is limited. There are problems concerning tactile surfaces such as deformation of the material and discontinuity of the surfaces. Particularly, there are no tactile surfaces at the top and bottom of the ramps.

Having a settlement plan, existing audible warning signal and the shape of the building provide a convenient environment for all. In addition, the structure of stairs, having washroom for handicapped and phone for disabled people make the place accessible for elderly and disabled people and people who carry pushchair.

Table 4.1. Summary of the evaluation of accessibility in Konya Railway Station

ARRIVING TO THE PLACE		**ENTERING THE PLACE**		**USING THE PLACE**	
1-Are there any passenger loading and drop-off zones or sheltered stations to wait and take public transport vehicles?	✗	**1-Is the width of place entrances enough? Are there any thresholds?**	✓	**1-Are tread depth and riser height of stairs enough? Are there any tactile surfaces at the top and bottom of the stairs?**	✓✓
2-If crossing the road is necessary at the destination, are there any pedestrian crossings there? (Underpass-Overpass)	✓	**2-Are there any ramps? If exists, are their slopes appropriate?**	✓✗	**2-Are there any signage and wayfinding in places?**	✓
3-Are there any obstacles on pedestrian crossings?	✓	**3-Are there any handrails at the top and bottom of the stairs?**	✓	**3-Are the width of corridors enough? Is there enough area for wheel chair to pass and turn?**	✓✓
4-Are there any ramps at the destination? If exists, are their slopes appropriate?	✓✗	**4-Are there any guiding means or accessible pedestrian signals to reach entries and exists?**	✗	**4-Are there any assistive listening systems in elevators?**	✓

5-Are there any tactile surfaces for visually impaired people at the destination? If exists, do they provide continuity?	✓✗	**5-Are there any tactile surfaces for visually impaired people to enter places? If exists, do they provide continuity?**	✓✗	**5-Are the width of elevators enough for wheel chair?**	✓
6-Are there any assistive listening systems at the destination?	✓	**6-Is there at least one entrance for disabled people?**	✓	**6-Are there any ramps to make passing easier? If exists, are their slopes appropriate?**	✓✗
7-Are there any parking areas at the destination? Are they suitable for disabled people?	✓✓	**7-Are entrances firm, stable and slip-resistant?**	✗		
8-Are there any pavements at destination? If exists, are their width and height appropriate? Are there any obstacles on them? Are there any changes in level?	✓✓				

"✓" refers to YES. That is, there is no obstacle or deficiency to restrict accessibility

"✗" refers to NO. It means that there are obstacles or deficiencies in terms of accessibility

4.3.2. KONYA TRAINING AND RESEARCH HOSPITAL

Konya Training and Research Hospital is located on the Yeni Meram Avenue which is one of the most important axis in Konya. The vicinity of the hospital is predominantly residential use. Transportation is provided by both buses and dolmush.

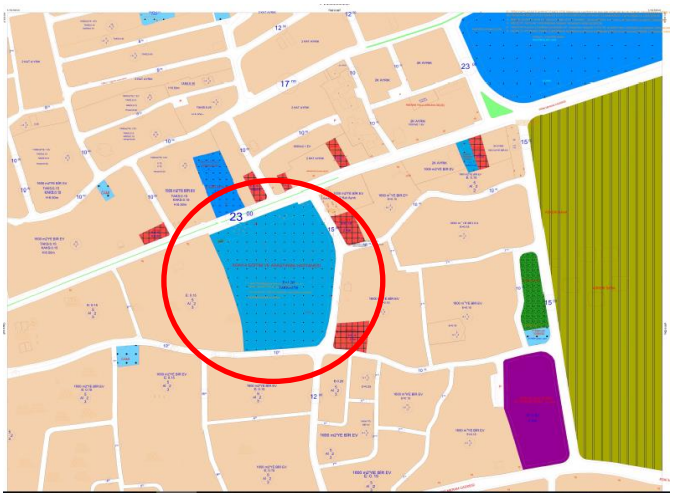

Figure 4.17. Location of the hospital

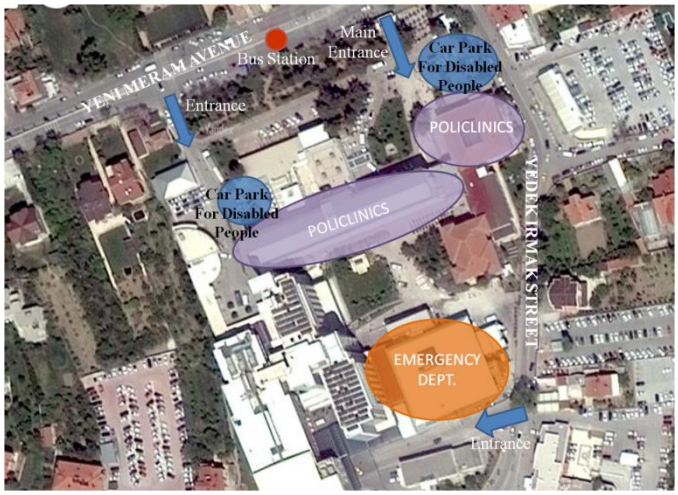

Figure 4.18. Konya Training and Research Hospital and its close environment

(Source: Google maps, 2018)

4.3.2.1. ARRIVING TO THE PLACE

There are sheltered bus stations in front of the main entrance of the hospital for usage of bus, dolmush and taxi. Stations have spaces for transition both in front and back of them. Location of the stations is close to the main entrance of hospital's territory (Figure 4.19.).

Figure 4.19. Bus stations the main entrance of the hospital

There is no underpass or overpass. There is a pedestrian crossing that has an assistive listening device at the arrival point but the crossing that is from the main entrance of the building does not overlap the pavement (Figure 4.20.).

Figure 4.20. Discontinuity of curb ramps on pedestrian crosswalk

Although this situation does not make accessibility difficult for healthy people, there is not a convenient environment for elderly, disabled people and people who carry pushchair.

Tactile walking surfaces are interrupted by different materials and they are impermanent and removed in the yard of the hospital (Figure 4.21. and Figure 4.22.).

Figure 4.21. Discontinuous and interrupted walking surfaces

Figure 4.22. Tactile surfaces occupied by different materials

There are car parks for disabled people at two different points. Both car parks are close to buildings in line with the regulations and standards. The distances between each two car parks for passage of wheel chairs and corridors of access are well designed. The plates that show car parks for disabled people exist at car parks (Figure 4.23. and Figure 4.24.).

Figure 4.23. Car parks for disabled people

Figure 4.24. Car parks for disabled people and corridors of access

In addition to that, it is noticed that there is a parking area for bicycles (Figure 4.25.).

Figure 4.25. Bike stand near car parks

Since Konya Training and Research Hospital is used by many people, it has a lot of points to reach it. Nevertheless, every point is not designed mindfully. The width and height of the pavements near the hospital vary. Some of them are large and smooth (Figure 4.26.). However, others are narrow, rough and have obstacles.

Figure 4.26. Pavement with no changes in level

For instance, the pavements going to emergency department, which are used more frequently compared to other departments, have low accessibility levels, even for healthy people apart from elderly, disabled and people who carry pushchair. Pavements are narrow and at the same time they are interrupted by lampposts and street lamps (Figure 4.27.).

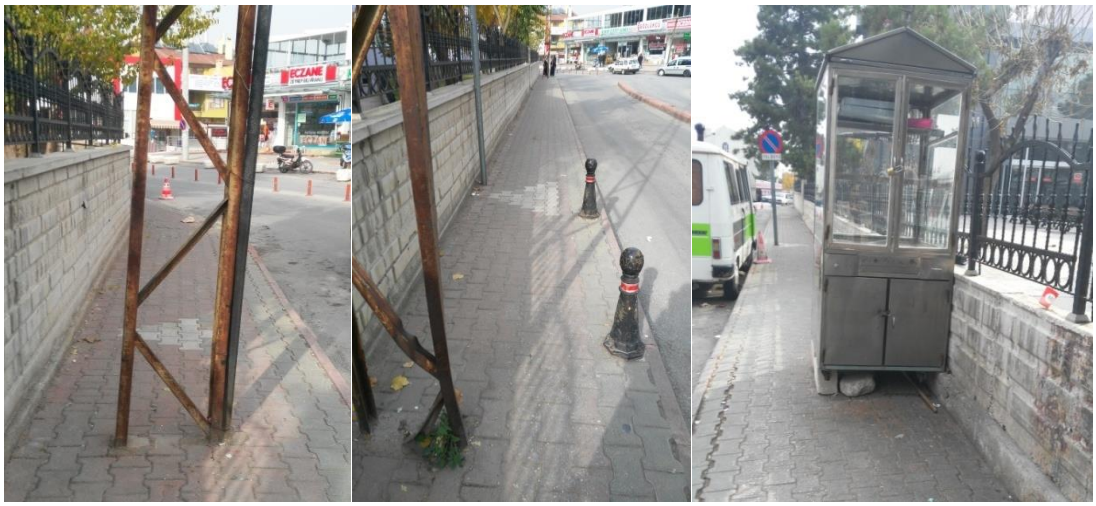

Figure 4.27. Pavements occupied by lamppost and other materials

There are level changes at pavements. The level differences are highest at the emergency department and there is no ramp to ease accessibility (Figure 4.28.).

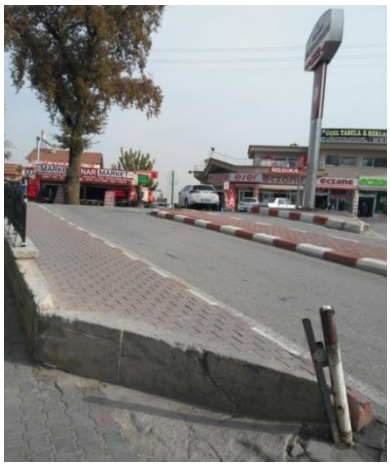

Figure 4.28. Pavement not having curb ramps

It is seen that ramps do not have handrails and lack tactile walking surfaces at the top and bottom of them. Moreover, when accessibility standards are considered, the width of ramps are insufficient and slope of them are quite upright (Figure 4.29.).

Figure 4.29. Narrow and deformed curb ramp

4.3.2.2. ENTERING THE PLACE

Konya Training and Research Hospital does not direct users to entrances because of its layout. Although there is an accessible pedestrian signal for users to go to the policlinics, finding the related policlinic entrance is difficult for all user groups (Figure 4.30.).

Figure 4.30. One of the main entrances

There are ramps at entrances. The slope and width of ramps are not suitable for wheel chairs and strollers. Although there are handrails at stairs, ramps are not supported by them. Tactile walking surfaces do not exist at the top and bottom of the ramps and stairs (Figure 4.31.).

Figure 4.31. Upright ramp having broken handrail and not having tactile surfaces

Konya Training and Research Hospital has a policlinic service for disabled people (Figure 4.32.).

Figure 4.32. Signage for policlinic for disabled people

However, it is noticed that tactile surfaces do not exist even in this policlinic specialised for disabled people. Some of places have them but they are insufficient and discontinuous (Figure 4.33.).

Figure 4.33. Wide enough entrance but not having tactile surfaces

There is an entrance for disabled people but entrances of building do not have firm and slip-resistant material.

4.3.2.3. USING THE PLACE

Tread depth and riser height of stairs are in proper size. Stairs have handrails on both sides of them. However, slip-resistant strip does not exist at treads. There are ramps to ease accessibility inside the building but their slopes are not convenient to pass. There is no application of tactile surfaces inside the building (Figure 4.34.).

Figure 4.34. Stairs not having tactile surfaces and slip-resistant strips

In fact, there is no tactile surfaces generally inside the building (Figure 4.35.).

Figure 4.35. Interior environment of the hospital

It is surprising that tactile surfaces do not exist even in policlinic for disabled people. There is signage, wayfinding and pedestrian access signals to direct users to necessary clinics (Figure 4.36.).

Figure 4.36. Signage and wayfinding inside of the hospital

There is a settlement plan at entrances (Figure 4.37.).

Figure 4.37. Floor plan of the hospital

Moreover, there are maps and accessible pedestrian signals at required places and at assembly areas. Corridors are designed without a consideration of the need for benches for sitting while waiting, so when benches are added they become narrow. Actually, since stretcher carriages are usually used in hospital, the width of corridors is well enough for rotation of strollers and wheel chairs. Nonetheless, benches placed at corridors restrict accessibility (Figure 4.38.).

Figure 4.38. One of the corridors at the hospital

Elevators are not at accessible points and assistive listening devices do not exist through the elevators. Internal space of the elevators is big enough to carry wheel chairs. There are washrooms for disabled people.

4.3.2.4. GENERAL EVALUATION OF ACCESSIBILITY IN KONYA TRAINING AND RESEARCH HOSPITAL

When Konya Training and Research Hospital is examined in terms of arriving to the place, entering the place and using the place all together (Table 4.2.);

There is no obstacle to reach the place because many transportation modes are available in terms of arriving to the place. Problems are seen after users come to hospital in finding entrances. The points that direct users to entrances are designed without thinking all groups of people. The main problems are that tactile surfaces are discontinuous and occupied by barriers, the slope of the ramps are not entirely appropriate, the width of them is inadequate and the height of pavements is high.

When entering the place is considered, although there are accessible pedestrian signals and guiding means, the design of the building makes trouble to get entrances. In fact, finding main entrance and exit can be seen as problems. This situation restricts accessibility for elderly people, disabled people and people carrying push chairs and even healthy people. Entrances of buildings are wide enough. Because of the ramps, many people especially disabled people and people who have stroller can be affected negatively with regard to accessibility. It is a good development about accessibility that there is a special policlinic for disabled people.

When interior environment of the place is assessed, many obstacles can be seen to reduce accessibility. For example, corridors are narrow for passing strollers and wheel chairs and tactile surfaces do not exist inside. Signage and wayfinding are applied properly. Tactile surfaces are not available inside the building.

Table 4.2. Summary of the evaluation of accessibility in Konya Training and Research Hospital

ARRIVING TO THE PLACE		**ENTERING THE PLACE**		**USING THE PLACE**	
1-Are there any passenger loading and drop-off zones or sheltered stations to	✓	**1-Is the width of place entrances enough? Are there any thresholds?**	✓	**1-Are tread depth and riser height of stairs enough? Are there any tactile surfaces at the top and bottom of the stairs?**	✓✗

wait and take public transport vehicles?					
2-If crossing the road is necessary at the destination, are there any pedestrian crossings there? (Underpass-Overpass)	✓	**2-Are there any ramps? If exists, are their slopes appropriate?**	✓✗	**2-Are there any signage and wayfinding in places?**	✓
3-Are there any obstacles on pedestrian crossings?	✗	**3-Are there any handrails at the top and bottom of the stairs?**	✓	**3-Are the width of corridors enough? Is there enough area for wheel chair to pass and turn?**	✓✗
4-Are there any ramps at the destination? If exists, are their slopes appropriate?	✓✗	**4-Are there any guiding means or accessible pedestrian signals to reach entries and exists?**	✓	**4-Are there any assistive listening systems in elevators?**	✗
5-Are there any tactile surfaces for visually impaired people at the destination? If exists, do they provide continuity?	✓✗	**5-Are there any tactile surfaces for visually impaired people to enter places? If exists, do they provide continuity?**	✗	**5-Are the width of elevators enough for wheel chair?**	✓
6-Are there any assistive listening systems at the destination?	✓	**6-Is there at least one entrance for disabled people?**	✓	**6-Are there any ramps to make passing easier? If exists, are their slopes appropriate?**	✓✗
7-Are there any parking areas at the destination? Are they suitable for disabled people?	✓✓	**7-Are entrances firm, stable and slip-resistant?**	✗		

8-Are there any pavements at destination? If exists, are their width and height appropriate? Are there any obstacles on them? Are there any changes in level?	✗✗				

"✓" refers to YES. That is, there is no obstacle or deficiency to restrict accessibility

"✗" refers to NO. It means that there are obstacles or deficiencies in terms of accessibility

4.3.3. KONYA METROPOLITAN MUNICIPALITY

Konya Metropolitan Municipality is on an accessible and reachable point because of its location. It is located on the Ahmet Hilmi Nalçacı Avenue and it is close to the important public institutions and city centres.

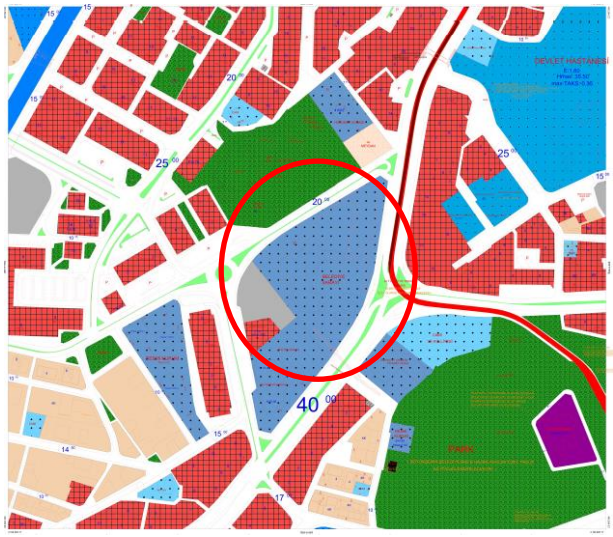

Figure 4.39. Location of the metropolitan municipality

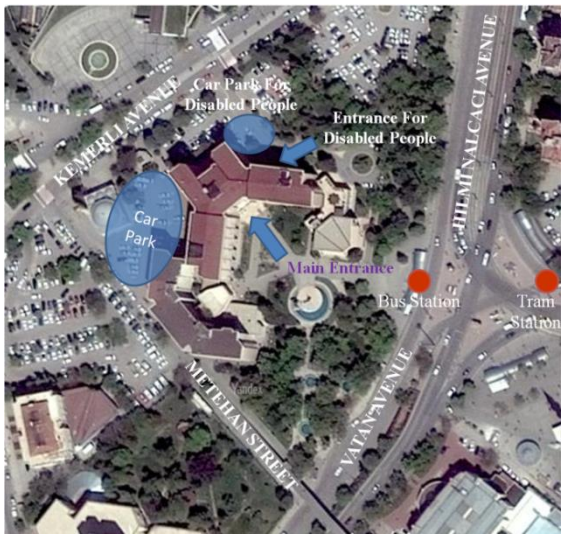

Figure 4.40. Konya Metropolitan Municipality and its close environment

(Source: Google maps, 2018)

4.3.3.1. ARRIVING TO THE PLACE

Because of the location, Konya Metropolitan Municipality has many transportation modes. Transportation can be provided by buses, tram and dolmush. There are sheltered bus stations, passenger loading and drop-off zones to wait and reach Konya Metropolitan Municipality.

Figure 4.41. An overpass through metropolitan municipality

There is an overpass to go metropolitan municipality directly. It is composed of ramps (Figure 4.41.). The slope of overpass is not suitable for all user groups. There are no obstacles on the overpass and arrival point includes ramps but slope of ramps is not proper (Figure 4.42.).

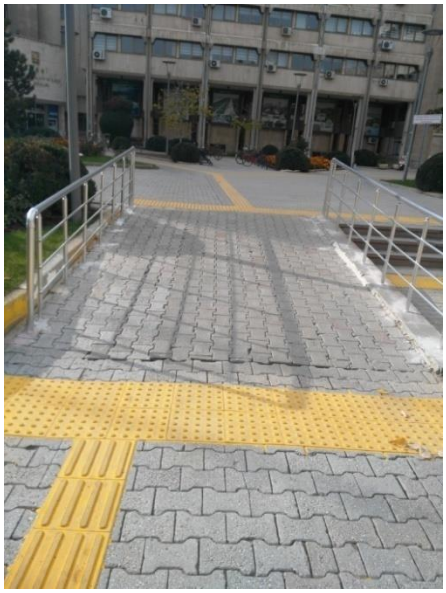

Figure 4.42. Tactile walking surfaces at exterior environment

There are tactile surfaces at the top and bottom of the ramps and stairs. In addition, sides of ramps are supported by handrails (Figure 4.43.).

Figure 4.43. Stairs with tactile surface and handrail

Tactile surfaces for visually impaired people exist at arrival point. They are implemented properly and they provide continuity (Figure 4.44.).

Figure 4.44. Tactile surfaces at outside of the municipality

There are car parks for disabled people and there is a fee-paying car park for all users. The width of car parks is enough in size. Moreover, there are corridors of access among parking areas. Car parks are close to entrance for disabled people (Figure 4.45.).

Figure 4.45. Car parks for disabled people and corridors of access

In addition, parking area for bicycle users is thought (Figure 4.46.).

Figure 4.46. Bike stand for bicycle users

There are pavements at arrival point. The width and height are suitable. They do not have any barrier or obstacles and it is observed that there are no changes in level at pavements. There are curb ramps at the intersection points between pavements and ground (Figure 4.47.).

Figure 4.47. Pavements of exterior environment

4.3.3.2. ENTERING THE PLACE

The shape of the building directs people to entrances easily (Figure 4.48.).

Figure 4.48. Outside of the metropolitan municipality building

The entrances of building are wide enough for users. They do not include thresholds. There is a revolving door but in addition to that, there are doors to pass entrances for disabled people and people carrying stroller (Figure 4.49. and Figure 4.50.).

Figure 4.49. The main entrance of the building

Figure 4.50. Revolving door and hinged door at entrance

Every entrance of municipality has an entrance for the use of disabled (Figure 4.51.).

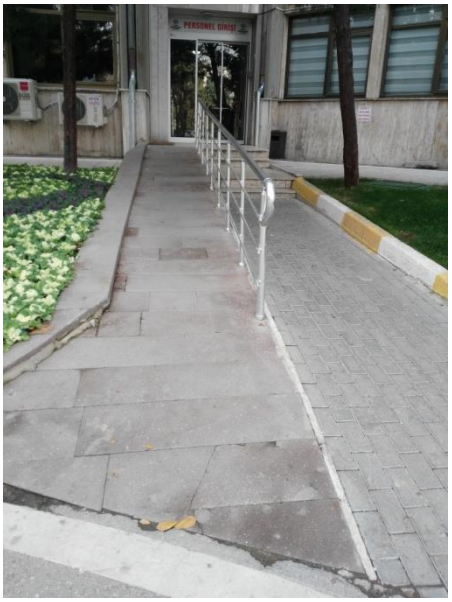

Figure 4.51. Entrance for wheelchair users

Every entrance is designed properly with the same precision (Figure 4.52.).

Figure 4.52. Entrance for wheelchair users

There are ramps at entrances. The slope and width of them are suitable according to the standards. They have handrails but some of them are inadequate. They include tactile walking surface at the top and bottom of the ramps (Figure 4.53.).

Figure 4.53. Ramps near the entrance

Stairs have handrails. Accessible pedestrian signals and wayfinding are suitable for directing people to entrances, exits and departments. Tactile surfaces exist and are continuous so that visually-impaired people can come inside. The entrances of building are firm and slip-resistant.

4.3.3.3. USING THE PLACE

When users come there, there is an information desk at an accessible and easily noticed place (Figure 4.54.).

Figure 4.54. Information desk inside of the building

Although disabled people and people carrying stroller can use building horizontally, they can use only elevators to move vertically because there is no ramps and tactile surfaces inside of the building. Stairs include handrails at both sides. Tread depth and riser height are appropriate with regard to standards (Figure 4.55.).

Figure 4.55. Stairs with handrails at both sides and slip-resistant strip

Moreover, there are necessary accessible pedestrian signals (Figure 4.56.).

Figure 4.56. Floor plan

Corridors are wide enough in terms of regulations and standards (Figure 4.57.).

Figure 4.57. The corridors of the building

Those are appropriate for wheel chairs and strollers. Elevators do not include announcing equipment. Their sizes are suitable for wheel chairs. There is a washroom for disabled people inside the building.

4.3.3.4. GENERAL EVALUATION OF ACCESSIBILITY IN KONYA METROPOLITAN MUNICIPALITY

When the accessibility of Konya Metropolitan Municipality is examined for different target groups (Table 4.3.),

It is noticed that when exterior environment is planned, whole users are taken into account. There is an overpass, and pedestrian crossing does not have any obstacles. It is seen that ramps, pavements and car parks are suitable for usage. Necessary arrangements are made. Especially, the yard is designed well in terms of the issue of tactile walking surfaces. They are in good condition and they provide continuity.

When entering the place is discussed, the entrances of building are prepared for healthy people, elderly people, disabled people and people who carry pushchair. When the conditions of entrances are not suitable for passing or are not accessible, essential regulations are made to provide accessibility. It is observed that entrances have accessible pedestrian signals. The width of stairs is appropriate but slope of ramps is not suitable.

When using the place is taken into consideration, it can be said that the sensitivity of planning the interior environment is not same with the issue of arriving to the place and entering the place because of the age of the building. Disabled people and people carrying pushchair use the building only by the way of elevators. Ramps and tactile surfaces do not exist inside the building. When elevators are stopped, there is no second choice to provide usage of the place. Place has signage and wayfinding and this situation is beneficial for all users. The width of corridors is enough with reference to the standards.

Table 4.3. Summary of the evaluation of accessibility in Konya Metropolitan Municipality

ARRIVING TO THE PLACE		ENTERING THE PLACE		USING THE PLACE	
1-Are there any passenger loading and drop-off zones or sheltered stations to wait and take public transport vehicles?	✓	**1-Is the width of place entrances enough? Are there any thresholds?**	✓	**1-Are tread depth and riser height of stairs enough? Are there any tactile surfaces at the top and bottom of the stairs?**	✓✗
2-If crossing the road is necessary at the destination, are there any pedestrian crossings there? (Underpass-Overpass)	✓	**2-Are there any ramps? If exists, are their slopes appropriate?**	✓✗	**2-Are there any signage and wayfinding in places?**	✓
3-Are there any obstacles on pedestrian crossings?	✓	**3-Are there any handrails at the top and bottom of the stairs?**	✓	**3-Are the width of corridors enough? Is there enough area for wheel chair to pass and turn?**	✓✓
4-Are there any ramps at the destination? If exists, are their slopes appropriate?	✓✗	**4-Are there any guiding means or accessible pedestrian signals to reach entries and exists?**	✓	**4-Are there any assistive listening systems in elevators?**	✗
5-Are there any tactile surfaces for visually impaired people at the destination? If exists, do they provide continuity?	✓✓	**5-Are there any tactile surfaces for visually impaired people to enter places? If exists, do they provide continuity?**	✓✓	**5-Are the width of elevators enough for wheel chair?**	✓

6-Are there any assistive listening systems at the destination?	✗	**6-Is there at least one entrance for disabled people?**	✓	**6-Are there any ramps to make passing easier? If exists, are their slopes appropriate?**	✗
7-Are there any parking areas at the destination? Are they suitable for disabled people?	✓✓	**7-Are entrances firm, stable and slip-resistant?**	✓		
8-Are there any pavements at destination? If exists, are their width and height appropriate? Are there any obstacles on them? Are there any changes in level?	✓✓				

"✓" refers to YES. That is, there is no obstacle or deficiency to restrict accessibility

"✗" refers to NO. It means that there are obstacles or deficiencies in terms of accessibility

4.4. CONCLUSION

The evaluation form, which is used in this study to assess different cases, is developed based on the literature review and existing examples of checklists, and refined according to the legal system of Turkey. With this form, accessibility performance of different case areas is evaluated. The issues of arriving to the place, entering the place and using the place are evaluated in three cases derived from the city of Konya in public buildings. This evaluation is considered basically elderly people, disabled people, people who carry pushchairs and healthy people as the target groups of the

study. All of these groups are examined separately. Moreover, accessibility is analysed not only for the selected buildings but also their surroundings.

Three public buildings are selected among all public buildings in Konya due the apparent characteristic of these buildings with accessible locations through different transportation modes. It can be seen that there are implementations in line with the regulations and improvements about accessibility in these places. However, these changes involve only their near environment. The tools that ease the accessibility are not consistent and comprehensive. For instance, tactile surfaces exist near Konya Metropolitan Municipality but do not continue at other pavements. There is no integrity and continuity. Although the improvements are not comprehensive, the developments and improvements in term of accessibility are not negligible.

When these case areas (Konya Railway Station, Konya Training and Research Hospital and Konya Metropolitan Municipality) are examined with regard to arriving to the place (Table 4.4.), many similarities and differences can be seen clearly. All these buildings are located in accessible points in Konya. They have many transportation modes. There are passenger loading and drop-off zones or sheltered stations to wait and take public transport vehicles except the railway station. Even though the railway station includes underpass, the metropolitan municipality has overpass. Konya Training and Research Hospital does not have overpass or underpass. There are no obstacles on pedestrian crossings in all of these places. Ramps are frequently used but there are problems in terms of their slopes. The gradients of them are so upright. However, application of ramps is suitable in the metropolitan municipality among case areas. Tactile walking surfaces are tried to be applied in all three places but the hospital has the worst condition and there is no continuity. It can be said that the metropolitan municipality is a good example in terms of application of tactile walking surfaces. Assistive listening devices exist except the metropolitan municipality. There are car parks both for private cars and cars of disabled people in all places. Moreover, car parks for disabled people are close enough to entrances in all three areas. There are pavements at destinations. Their width and height are

appropriate in the metropolitan municipality and railway station. There are no changes in level at pavements. Nevertheless, since arrived points are not designed with same precision in the hospital, the width and height of pavements are not suitable for all users. Moreover, there are changes in level at pavements.

Table 4.4. Summary of the evaluation of arriving to the place in case areas

ARRIVING TO THE PLACE	KONYA RAILWAY STATION	KONYA TRAINING AND RESEARCH HOSPITAL	KONYA METROPOLITAN MUNICIPALITY
1-Are there any passenger loading and drop-off zones or sheltered stations to wait and take public transport vehicles?	✗	✓	✓
2-If crossing the road is necessary at the destination, are there any pedestrian crossings there? (Underpass-Overpass)	✓	✓	✓
3-Are there any obstacles on pedestrian crossings?	✓	✗	✓
4-Are there any ramps at the destination? If exists, are their slopes appropriate?	✓✗	✓✗	✓✗
5-Are there any tactile surfaces for visually impaired people at the destination? If exists, do they provide continuity?	✓✗	✓✗	✓✓

6-Are there any assistive listening systems at the destination?	✓	✓	✗
7-Are there any parking areas at the destination? Are they suitable for disabled people?	✓✓	✓✓	✓✓
8-Are there any pavements at destination? If exists, are their width and height appropriate? Are there any obstacles on them? Are there any changes in level?	✓✓	✗✗	✓✓

"✓" refers to YES. That is, there is no obstacle or deficiency to restrict accessibility

"✗" refers to NO. It means that there are obstacles or deficiencies in terms of accessibility

The similarities and differences can be seen in the issue of entering the place (Table 4.5.). The width of entrances in all places is enough. There are not any thresholds at entrances. It is appeared that the metropolitan municipality gives due importance to all entrances for accessibility of disabled, old people and people who carry pushchair. There are ramps in these three areas but slopes of ramps are not suitable. There are handrails at the beginning and end of the stairs and uninterrupted. The guiding means and accessible pedestrian signals exist in all of them but although they are more necessary in railway station and hospital among case areas, it is observed that they are inadequate there. Tactile surfaces exist and have continuity except the hospital. There is no firm, stable and slip-resistant entrance in all places.

Table 4.5. Summary of the evaluation of entering the place in case areas

ENTERING THE PLACE	KONYA RAILWAY STATION	KONYA TRAINING AND RESEARCH HOSPITAL	KONYA METROPOLITAN MUNICIPALITY
1-Is the width of place entrances enough? Are there any thresholds?	✓	✓	✓
2-Are there any ramps? If exists, are their slopes appropriate?	✓✗	✓✗	✓✗
3-Are there any handrails at the top and bottom of the stairs?	✓	✓	✓
4-Are there any guiding means or accessible pedestrian signals to reach entries and exists?	✗	✓	✓
5-Are there any tactile surfaces for visually impaired people to enter places? If exists, do they provide continuity?	✓✗	✗	✓✓
6-Is there at least one entrance for disabled people?	✓	✓	✓

7-Are entrances firm, stable and slip-resistant?	✗	✗	✓

"✓" refers to YES. That is, there is no obstacle or deficiency to restrict accessibility

"✗" refers to NO. It means that there are obstacles or deficiencies in terms of accessibility

In terms of using the place (Table 4.6.), tread depth and riser height of stairs are enough. Tactile surfaces only exist inside the railway station. They are deformed in the hospital and they do not exist in the metropolitan municipality. There are signage and wayfinding in places. Although the exterior environment of hospital is inadequate in terms of accessible pedestrian signals, interior environment of it is a good example with regard to signage and wayfinding. Despite the fact that the width of corridors in railway station and metropolitan municipality is in proper size, the corridors of hospital is narrow for accessibility. The width of elevators is adequate for pushchairs and wheelchairs in all places. There is no ramp inside of the metropolitan municipality. The slopes of ramps are not suitable in the railway station and hospital.

Table 4.6. Summary of the evaluation of using the place in case areas

USING THE PLACE	KONYA RAILWAY STATION	KONYA TRAINING AND RESEARCH HOSPITAL	KONYA METROPOLITAN MUNICIPALITY
1-Are tread depth and riser height of stairs enough? Are there any tactile surfaces at the top and bottom of the stairs?	✓✓	✓✗	✓✗
2-Are there any signage and wayfinding in places?	✓	✓	✓
3-Are the width of corridors enough? Is there enough area for wheel chair to pass and turn?	✓✓	✓✗	✓✓
4-Are there any assistive listening systems in elevators?	✓	✗	✗
5-Are the width of elevators enough for wheel chair?	✓	✓	✓
6-Are there any ramps to make passing easier? If exists, are their slopes appropriate?	✓✗	✓✗	✗

"✓" refers to YES. That is, there is no obstacle or deficiency to restrict accessibility

"✗" refers to NO. It means that there are obstacles or deficiencies in terms of accessibility

When case areas are analyzed in a detailed way, although **Konya Railway Station** has many tools to ease accessibility, it has many deficiencies. As it does not have station systems, this situation affects whole groups negatively. However, it is seen that pavements are designed properly for them. There are no obstacles at pedestrian crossing. Since an elevator exists at underpass that goes to railway station, accessibility is easy for all. In addition, it is thought for disabled people and elderly people, there are tactile surfaces but it is seen that they are not functional. There are car parks for private cars and disabled people's cars. Car parks for disabled people are close enough to entrance.

The width of entrances of places are enough for whole groups of people. Moreover, there is not any physical obstacle at entrances but entrance of building does not have any firm and slip-resistant materials. Tread depth and riser height of stairs are proper for target groups. There is handrail at the beginning and end of the stairs and uninterrupted. When people come to rail station, it is trouble to know which train they get on. Therefore, plates and guiding means are insufficient. The width and size of elevators are adequate for people who carry pushchair and have wheel chairs. When it is thought for disabled people and people who carry pushchair, it is noticed that the width of escalator is inadequate. The slopes of existing ramps are not suitable for wheelchair users and people who carry pushchairs. However, some parts of tactile surfaces become deformed and considerable part of them is not continuous. To illustrate, there are no tactile surfaces at the beginning and end of ramps.

Since railway station have settlement plan, digital and analog warning signal, warning announcement, it can be said that accessibility is good for entire target groups but

signage and wayfinding is inadequate. The structure of building makes accessibility easier. Moreover, the tactile walking surfaces are applied properly and continuous inside of the building. The construction of stairs, phone for disabled people and washroom are also make the place accessible for disabled people and elderly people.

It can be said that the level of accessibility in **Konya Training and Research Hospital** and the sensitivity of it are at the worst condition among chosen places. There is no problem about arriving to the places. The problems are generally seen after users come to there. They are seen at the points that direct people to entrances. It is noticed that the points that direct users to entrances are designed without taking into consideration user groups. The main problems are that tactile surfaces are discontinuous and are not available and slope of ramps are steep and the width of them is insufficient. There are certain level differences at pavements. Although there is an accessible pedestrian signal at many places, the structure of building makes trouble to find entrances and exits. In fact, it is noticed that finding and entering the main entrance and exit of hospital seem hard. This condition causes constraint both elderly and disabled people and people who carry pushchair and even healthy people. The width of entrances is suitable for whole groups. The problems about ramps affect mostly disabled people and people who carry pushchair. An important improvement about accessibility that there is an policlinic of disabled people. As a result, this contributes to accessibility.

As there are signage and wayfinding inside of the hospital, accessibility is easy for whole target groups in terms of many aspects. When there are benches and seats at corridor, the width of corridor is inadequate to pass for wheelchair and pushchair. Tactile surfaces do not exist outside of the hospital continuingly. They are also absent inside of the hospital. Those are the examples restrict accessibility.

It can be thought that **Konya Metropolitan Municipality** is the best example among cases in terms of accessibility. When external environment is redesigned, it can be noticed that whole people is thought. There is an overpass and there are no obstacles

at pedestrian crossing. Pavements and parking areas are planned properly and necessary regulations are made. However, the gradients of ramps are not proper. Konya Metropolitan Municipality and its outside are accessible especially in terms of tactile surfaces. It can be shown as a good example.

The entry of metropolitan municipality is proper for elderly, disabled, healthy people and people who carry pushchair. All entries are proper. It is observed that necessary interventions are made to provide accessibility in entries. The width of entries is enough. It includes accessible pedestrian signals. It is noticed that the slope of ramps, tread depth and riser height is adequate.

When it comes to the issue of using the place, it is realised that the topics of arriving to the place and entering the place is more successful than others. Its reason can be oldness of the building of metropolitan municipality. Accessibility that is inside of the place can be provided only elevators for disabled people and people who have strollers. There is no ramp or tactile surface interior of it. If an elevator is broken down, there is no alternative. Accessible pedestrian signals, signals and wayfinding exist and they are beneficial for whole groups of people. The width of corridors is adequate. Therefore, wheel chair users and people who carry pushchair move easily and accessibility is provided.

Evaluation of the cases in this study displays that some certain accessibility implementions offered by the legislationin Turkey do not reach to their aim, and the performance of accessibility implementations varies from areas to areas. Although the same regulations are valid for all public buildings, implementations differ and the quality of the implementations are highly related with the condition and age of the structures. Since Konya Railway Station will be moved to another location, there seems no need to repair the failures or as the building of Konya Metropolitan Municipality is old, the implementations of interior environment about accessibility are limited. However, there is the possibility to fix the deficiencies of the building of Konya Training and Research Hospital immediately.

CHAPTER 5

CONCLUSION

5.1. AN OVERVIEW OF THE STUDY

The issue of creating accessible and barrier-free environments is one of the significant discussions in the field of planning today. Nowadays, professionals dealing with built environment such as architects, interior architects, urban planners and designers attempt to provide accessible and attainable environments which meet the needs of all people in the society. This issue is argued to be within the scope of equality of opinions or life chances over the world.

The topic of accessibility gains more significance worldwide and some measures/implementations are started to be carried into effect to create accessible and barrier-free environment in whole places. Examples from different countries display that in order to create an accessible and barrier-free urban environment, legal arrangements are inevitable and implementation phase follows and build upon these arrangements to create an accessible environment. Like other countries, Turkey obligates accessibility with legislative regulations since 2005; yet, there are a number of inconsistencies related to the continuity and coherence of laws and their application and deficiencies in terms of control mechanisms leading difficulties in implementation phase.

Considering the above mentioned issues, a major problem detected by this study in relation to accessibility in Turkey is that accessibility measures are not applied to places properly. In other words, these measures are not sensitive to the local character of places. Additionally, although legislative procedures necessitate accessibility, some other problems arise during the implementation phase such as misapplication of measures or piecemeal implementations lacking a comprehensive meaning.

Literature review displays that achieving an accessible environment is usually considered only in relation to disabled people. Regulations also support this view. However, this study examines accessible environments with regard to different user categories such as disabled, elderly, people who carry pushchair, and healthy people eventually.As everyone has a right to live in an accessible and barrier-free environment, accessibility is considered in a more comprehensive way throughout the study.

It is possible to examine accessibility in different contexts such as private spaces like residential units, semi-public spaces such as commercial uses, and public spaces like public services. From the urban planning point of view, accessibility of public services thus public buildings becomes much more significant as a research topic. Public buildings are used by more people and have different features and several user groups. Moreover, these buildings have more impact on accessibility rather than residential buildings because the effect of public buildings attains larger fields so that it can reach every sphere of life. Since public buildings make it possible to investigate different user groups, in this study, accessibility of public buildings are investigated. Konya Railway Station, Konya Training and Research Hospital and Konya Metropolitan Municipality are chosen as case areas. These public buildings are examined in terms of some benchmarks which are developed throughout this study based on the literature and existing accessibility standards. The aim of this study is to examine accessibility or deficiencies of places in terms of accessibility in the Konya case to display the extent of accessibility achieved by the existing legal framework in the context of public buildings.

5.2. EVALUATION OF THE DEFICIENCIES IN THE LEGAL SYSTEM AND ACCESSIBILITY IMPLEMENTATIONS

Turkey delayed the regulations and implementations of legislative arrangements related to accessibility compared to other countries. Nevertheless, starting from year

2005, changes and new arrangements have been initiated in the field. Existing regulations are insufficient to respond the needs for a number of reasons:

1. In order to achieve an accessible environment, there is a need for compulsivity with legislative arrangements. This compulsivity can be provided with laws and sanctions. Yet, in order laws to be effective for the society and institutions they should be design with care to refrain several amendments which could weaken the implementation of the laws. For instance, the related parts about accessibility of the law no. 5378 have been changed three times since 2005 and time for implementation of accessibility has also been affected.

2. To ensure that the enacted laws are truly adopted by the society and institutions, laws require establishing their relationship with the daily life. In other words, clear distribution of actors' roles should be determined, it is required that roles are distributed according to responsibility by authorities.

For instance, according to TOHAD (2014), the commission that includes the members of Ministry of Family and Social Policies, Ministry of Interior, Ministry of Environment and Urbanisation and Ministry of Transportation, Maritime Affairs and Communications have responsibility in monitoring and establishing the control mechanism. It is said that additional time and punishment will be given as a result of the deficiency in inspection. However, up until now, there is no news or information about additional time or punishment that is given as a consequence of inspection by government or related ministry.

3. There are essential laws concerning accessibility but the control mechanism and implementation phase have some certain deficiencies. Laws require that accessibility is obligatory in public buildings and some time limitations are provided for implementation. However, it is observed in case areas that there is an effort to obtain barrier-free environment but the question of whether implementation is proper or not according to the standards is not replied. To illustrate, ramps are necessary if there are elevation differences more than 2 cm with regard to standards. All case areas that

are examined have ramps and curb ramps. Nevertheless, it is noticed that any ramps do not have proper slope. Their slope is more than 8%. Moreover, some of them do not have handrails. In other words, ramps exist but their implementations are faulty.

4. To obtain an accessible environment, it is seen that piecemeal implementations are made. That is, an area is determined and only inside the borders are tried to be made accessible. The rest of the places or the relations among them are not taken into account. Case areas in this study have attempts to be accessible but it is noticed that implementations are fragmentary. For instance, tactile walking surfaces exist on pavements surrounding public buildings but the opposite pavements generally do not have any tactile surface implementations.

5.3. EVALUATION OF THE POLICY OPTIONS

Based on the literature survey results, assessment of the legal framework, and the findings of the case studies, there are a number of inputs to be provided by this thesis to improve the accessibility policies in Turkey. These can be grouped under five headings:

1-Definitions of the terms and distribution of roles: Definitions of the terms accessibility and barrier-free environment should be given clearly in the legal documents. Lack of proper definitions results in interpretation of regulations which leads to implementation differences and problems. Firstly, terms should be identified. Then, actors' roles should be characterized. For example, it should be decided what responsibility belongs to central government or what responsibility belongs to local government and how budget is obtained for implementation etc. The replies of these questions should be apparent and clear. Another important point in this matter is that time limitation that is allowed for implementation by laws should not be postponed repeatedly. Instead of delaying time limitation, the results of application should be controlled.

2- Integrated Planning: When it is considered from the planning perspective, primarily built environment, transportation and infrastructure must all be integrated and accessible to create an accessible environment. It should be noticed that arriving to the place, entering the place and using the place are all necessary to achieve accessibility, though require different precautions in built environment.The issues of accessibility and barrier-free environment should be thought both in planning and implementation phases. Plans and implementations should prevent new barriers. Instead of piecemeal implementations, an integrated approach should be adopted.

3- Regulations on accessibility: Having a legal framework only is not enough to have barrier-free environments. Although there are sufficient written laws in Turkey, they are not implemented consistently. Since practice of laws and sanctions do not coincided and society does not have awareness in this issue, implementations can be temporary and meaningless. To illustrate, there are ramp implementaitons in all case areas; however, none of them has proper slope. It seems that laws are applied but implementation is done only to fulfil a duty.Therefore, it can be said that laws should have compulsivity and implementations should be consistent with the standards.

4- Training and Education: It can be said that state institutions and organizations that give service to society and built environment generators such as designers, planners, architects have roles to create accessible environments. It is required that their awareness should be raised in the issue of accessiblity and barrier-free environment. Awareness raising for built-environment professionalists in relation to accessibility should be started in the phase of education life. For this purpose, for instance, Council of Higher Education require related faculties to add lectures into their curriculum related to barrier-free environment and accessibility to provide training and awareness raising for prospective professionalists.

5- Accessibility Licence or Certificate: In order to improve accessibility starting from the very initial stage of the construction of built environment, checklists or evaluation forms could be prepared and integrated to the building permit system. With

this forms, architectural project could be controlled before the construction takes place. If the project related to the structure itself and its surrounding do not comply with the predetermined accessibility standards then construction permit may not be issued. Further, after the completion of the construction, before occupancy permit is issued, a similar control could be done. Whenever construction supplies accessibility standards, construction/occupancy permits may have been granted. Such an inspection could help to enhance accessibility. Furthermore, checklists/evaluation forms could be used periodically to monitor the accessibility performance of the public buildings and services.

5.4. RECOMMENDATIONS FOR FURTHER RESEARCH

The topic of accessibility gains significance gradually and is made necessary by laws. This study can be seen as an example that increases awareness regarding accessibility and reducing the deficiencies in implementations of accessibility measures. The results of this study could help the authorities who are related with regulations and implementations of accessibility in removing physical obstacles in the built environment. As a result, different target groups can use public buildings and services easily.

The evaluation form designed for this thesis can provoke new ideas and be used as an initial step for further studies so obstacles and deficiencies that inhibit accessibility can be determined. It can provide new data for different studies. This data can be beneficial both for studies related to Konya and accessibility.

To ensure accessibility within the whole social and common activities without interrupting, necessary regulations are required in social life. As continuity is provided, research agenda could be developed to include accessibility issues related to urban roads, rail transport system, pedestrian crossings, bicycle trails and railway vehicles.

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APPENDIX-A

ARRIVING TO THE PLACE	ENTERING THE PLACE	USING THE PLACE
1-Are there any passenger loading and drop-off zones or sheltered stations to wait and take public transport vehicles?	1-Is the width of place entrances enough? Are there any thresholds?	1-Are tread depth and riser height of stairs enough? Are there any tactile surfaces at the top and bottom of the stairs?
2-If crossing the road is necessary at the destination, are there any pedestrian crossings there? (Underpass-Overpass)	2-Are there any ramps? If exists, are their slopes appropriate?	2-Are there any signage and wayfinding in places?
3-Are there any obstacles on pedestrian crossings?	3-Are there any handrails at the top and bottom of the stairs?	3-Are the width of corridors enough? Is there enough area for wheel chair to pass and turn?
4-Are there any ramps at the destination? If exists, are their slopes appropriate?	4-Are there any guiding means or accessible pedestrian signals to reach entries and exists?	4-Are there any assistive listening systems in elevators?
5-Are there any tactile surfaces for visually impaired people at the destination? If exists, do they provide continuity?	5-Are there any tactile surfaces for visually impaired people to enter places? If exists, do they provide continuity?	5-Are the width of elevators enough for wheel chair?
6-Are there any assistive listening systems at the destination?	6-Is there at least one entrance for disabled people?	6-Are there any ramps to make passing easier? If exists, are their slopes appropriate?
7-Are there any parking areas at the destination? Are they suitable for disabled people?	7-Are entrances firm, stable and slip-resistant?	
8-Are there any pavements at destination? If exists, are their width and height appropriate? Are there any obstacles on them? Are there any changes in level?		

(Source: Developed by the author)