



Appropriating the Sidewalks for Physically-Motional Handicapped with the Approach of Safety (Case Study: Shahrđari Street in the Tajrish Neighborhood of Tehran)

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Abstract. Disability, as a biological and social phenomenon, is a fact to be faced by all the societies regardless of their level of development; and their number is increasing every year as well. Due to a lot of issues like the war and the large numbers of handicapped and veterans in Iran, this has been considered so much. Therefore, developing the proper spatial and physical infrastructures is of particular importance. Today, so much physical deficiencies in cities have reduced the useful application of urban public spaces to minimum for the citizens and in many cases almost inconceivable to use. Meanwhile, we should note that among the urban spaces, sidewalks and walkways have specific importance, for the sidewalk is not only a passing way, but the major part of urban street network. Considering the limitations of physically- motional handicapped and the proper design of the sidewalks, by employing the useful physical and functional components, has great impact on improving safety, availability for pedestrians and as a result on the presence of citizens. Hence, the overall objective of this study is to develop the standards of appropriating the sidewalks for the physically-motional handicapped, in terms of safety. So Shahrđari street, located in Tajrish square of Tehran, as one of the most crowded streets of Iran`s capital has been chosen for the case study. This research is a descriptive-analytical study and the data is achieved by library and field studies. Afterwards, effective components of sidewalks` safety for physically-motional handicapped has been discovered by studying the former researches, appropriating sidewalks` criteria and interviewing with such disables, and these factors are categorized in two groups named physical properties and physical obstacles. Then by reviewing the questionnaires filled by the physically-motional disables, field observations in Shahrđari street`s sidewalks and interviewing with disables of welfare organization, there has been stated some strategies to improve these sidewalks` conditions, which the most important of them in terms of disables viewpoint is dedicated in the form of the appropriating design of Shahrđari street`s sidewalks.

Keywords: appropriating; sidewalk; physically-motional handicapped; safety; Shahrđari Street

1. INTRODUCTION

Undoubtedly, the equal and appropriate use of all the social groups, especially socially vulnerable groups, of the urban spaces should be considered and this is one of the most basic rights of citizenship in the community. As asserted in Islam to consider formation and establishment of social justice among social classes, this has special position in the urbanism literature nowadays, and much emphasis is on improving and appropriating the urban spaces for socially vulnerable groups and the elderly. The European Union document in terms of disables points out that although the urban spaces belong to all the social classes based on the equality of citizenship rights, most of the social classes are not able to use them. Furthermore, in the Improving the Life Chances for the Disabled People`s document it is noted that to have city and urban spaces for being involved in social activities and interactions is one of the citizenship`s rights; while most of the times, disabled people and socially vulnerable groups are not able to use these spaces. Demanding and hearing the disables more intensely, in the decision-making processes, have many positive impacts on the living conditions of disabled people [3]. The intercommunity of disabled people in decision making can also prevent the conditions which are denied mostly by ordinary people and in the stage of designing it could be considered [1].

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What is significant here, is to note that this issue, apart from its psychological aspects which is because of lack of adjustment and synchronization of these spaces with the socially vulnerable groups specially disables, is due to not designing urban spaces compatible with the type of disability, body or even specific psychological features that holds up social activities of vulnerable classes. Amongst the urban spaces, sidewalks and walkways have specific importance, for the sidewalk is not only a passing way, but the major part of urban street network. In spite of this, and that sidewalks are places for recreation, leisure and walking in most communities, and as a linkage and mediator between other urban spaces are of so much significance, however they are forgotten places of city in Iran, whereas the mega police of Tehran by over ten million constant population and having hundreds of miles pedestrian paths has certain conditions.

Noting that despite sufficient rules in appropriating urban spaces for the disabled people and the necessity of designing spaces compatible with the disabled restrictions due to these rules, still it can be seen that most of urban spaces are designed in a way that would not assist disabled in using them, and this is a good reason to study in this area. Hence, experts, engineers and urban planners have paid particular attention to this so that in their depiction of urban space they will consider disabled issues and conditions as a vulnerable group of the society. In this regard, preparing suitable urban conditions to be adapted to the disabled situations is a significant strategy in order to get them out of social isolation and to be adapted to their surroundings.

In this research, Shahr-dari Street located between Tajrish and Qods square in Tehran, has been chosen as the case study because of the heavy crowd.

Theoretical Framework

Disability

In fact disability is a physical or mental disorder that has harmful, impressive and long-term effects on the ability to carry out normal daily activities [2]. As a short description, disorders in people manifest physically or mentally, and in terms of theory disability is represented in two categories: Medical (individual) and Social [1]. The world health organization has defined disability as “having disorder in communicating between man and its surroundings” [11]. Center of Iran, in the Journal of General Population and Housing Census, in 2004 disability is defined as “Blind, deaf mute, deaf (not mute) people and also those who have amputated hands or feet or both, right hand defects, left hand defects, right foot defects, left foot defects or complete paralysis” [6]. The Research Center of Roads, Housing and Urban Development has excluded physically-motional disability of other disabilities and refers it to a person who has weakness, disorders or inability in sensory organs or limbs for any reason [13].

Types of Disabilities

- Physically- motional
- Sensory (impaired vision or hearing)
- Mental

Physically-motional disability is any loss, failure or deformation of the body and upper or lower limbs, visible in bone and muscles structure that causes limitations in daily routine skills [15].

Sidewalk

Sidewalks are the most important access network of the city; since it is on human movement`s scale, therefore while designing and performing pedestrian network, it is recommended to consider sidewalk`s width, floor material and its slope for easy moving. This precision should be doubled when considering disabled people using this network [19]. Jane Jacobs think that the

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street and its sidewalks are the most important public places of a city. If the streets are attractive, the attractiveness will cover the entire city. The sidewalks also have decisive role in maintaining security in the city [7]. Lawrence Halprin refers to more tangible experiences of the city, reviewing open urban spaces and notes that pedestrian levels are one of the most basic elements that people deal with in a day [4].

Safety

Safety is a situation in which, through a continuous process of identifying dangers and risk managing, the probability of people's injury or property damages would be reduced and maintained on an acceptable level. One of the main concerns of a pedestrian for in-city trips is to get safe and secure to the destination. Pedestrians on walking paths may be in danger of hitting obstacles, at risk of falling in canals and also being injured on foot in the cracks of connecting iron bridges. Other pedestrian safety items are to lighten the paths and foggy air [10]. Pedestrians should always be safe against vehicles and motorcycles in the sidewalks and any vehicle access have been prevented intensely.

Another significant point for the sidewalks is the safety of them all along the path. The design of walls and paths should be in a way that the walking space is visible from the walls and vice versa. In this way, creating a dark and hidden corner would be prohibited. More lively life at night needs lighting. Artificial light has made using the sidewalk possible at night, and has provided safety against crimes. Active presence of people in cities is also another factor of increasing safety in urban spaces, since people's gatherings cause a safe environment, discouraging to crimes. Elimination of vision obstacles on path field and avoiding dark and hidden corners would also provide safety.

Appropriating

Appropriating is preparing the situation for all the citizens with any kind of physical and psychological conditions to use amenities such as welfare, social, economical and cultural, according to their needs. Regarding the subject of study it refers to removing physical, architectural and traffic obstacles and modifying the environment, in a way that all people including those with physical and mobility limitations would be able to move freely through their surroundings – public spaces, roads, urban environment and public buildings- with no fear and could use environmental, social, cultural and economical amenities with individual independence [12].

Since disabled people using wheelchairs have the most problem in movement and it is the most assistive device in terms of volume, weight and space occupied [16]; wheelchairs are considered to be the basic.

Rojers declares that nowadays big cities are often known by their large public spaces and the functional quality of these spaces is one the assessment tools for measuring the power of cities and their ability to create entertainment, natural beauties and open spaces for citizens [14]. Lewis Mumford mentions the importance of walking paths and believes that they should be designed in a way to be accessible for every one [8]. Yeats suggests in the form of an article that by integrated designing the urban spaces, mobility (Dynamism) and accessibility for everyone could be achieved in order to let one step freely in urban spaces. He says by integration of urban design the life style of disabled people could be improved [18].

Venter and his coworkers (2002) have indicated in a study that improving the disables accessibility and mobility affects intensively on reducing poverty, creating jobs, decreasing disabilities and accessibility of them to urban facilities and services [17].

Hanniff and Kheder on 2007 have concluded in a research named “women with disabilities” that disabled women would not be absorbed to city if urban spaces are improper, being drawn toward the economic city borders, would suffer multi-identity in poor urban spaces. Thus, by appropriating and designing suitable urban spaces there could be a full support in their social and economical issues so that they would get involved in community activities in an intense way [5].

Standards of appropriating sidewalks and bridges between street and sidewalk

The purpose of formulating urban and architectural rules and regulations for physically- motional disabled is to organize status quo and to form the future development of urban spaces for the physically- motional disabled, in order to achieve their individual independence and social rights. According to the topic of this research and in terms of the need we declare the standards of appropriating sidewalks and bridges [12]:

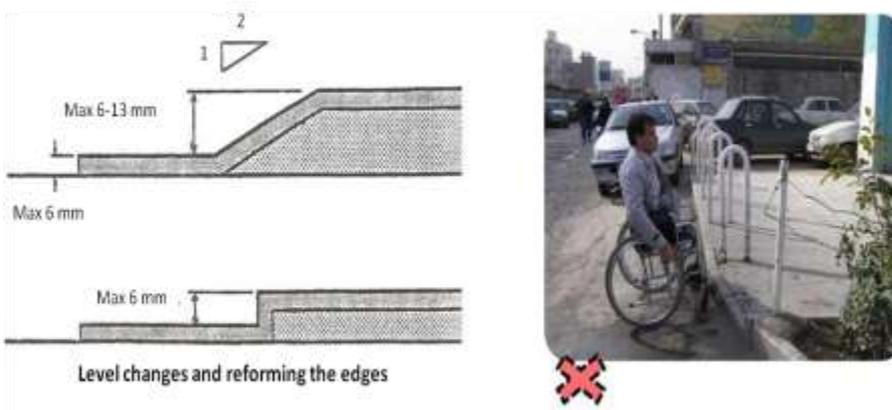
- Using the facilities, the minimum width of narrow sidewalks reaches to 90 cm. These facilities include covering water streams, incorporating part of the roadway to the sidewalk, reducing the width of sidewalk flowerboxes and etc.
- All the obstacles being on the way by any reason that reduce the minimum 90 cm width of the sidewalk should be replaced.
- At least 90 cm of steps` width of the sidewalk should be reformed to inclined surfaces or ramps suitable for the disabled.
- All sidewalks` floors should be covered and repaired by stiff, stable, non-slippery and flat materials.
- All the cracks greater than 70 cm should be filled with hard materials.
- Any projection more than 10 cm (like boards, signs, shop awning and etc) should elevate to the height of minimum 210 cm.
- On emergency occasions that the sidewalk`s floor is drilled any way, installation of a temporary bridge with a minimum width of 90 cm and a non-slippery surface is necessary.
- To warn the blind people of the obstacles on the sidewalk, embedding sensory signals in the floor with a radius of 90 cm from the obstacle is necessary.
- Networks and coverings located on the sidewalk`s path should be on the same level with the sidewalk, if not possible its edge should be coordinated with sufficient slope to the floor.
- Providing accessible bridges between sidewalk and roadway is necessary every 500 meters, with the minimum width of 150 cm.
- The existing bridges` width along the sidewalk should be the same as sidewalk`s width.
- The bridges` surface should be stiff, stable and non-slippery; and in the case of grooved metal bridges if the cracks` distance is over 2 cm, they should be filled with hard material.
- On the both transverse sides of the bridge between sidewalk and the street, providing a good protection fence is necessary.

2. RESEARCH METHODOLOGY

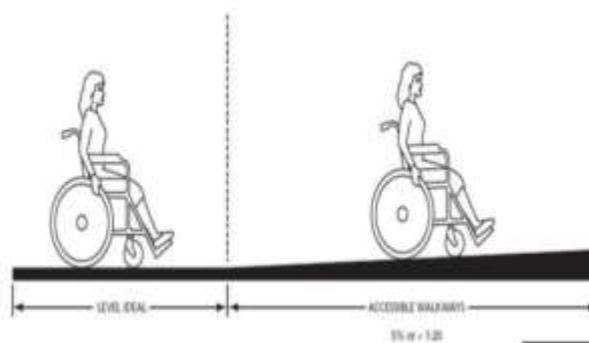
This research is descriptive- analytical survey. The data is gathered in library, by using existing documents and field studies, interviewing, observation and questionnaires. The statistical population includes the disabled of welfare organization and also disabled pedestrians who have passed Shahr-dari Street during a day accidentally. Considering that the population size is uncertain and we have no detailed information of the number of people passing this way during a day or a week, so by using Cochran formula we have determined the sample size.

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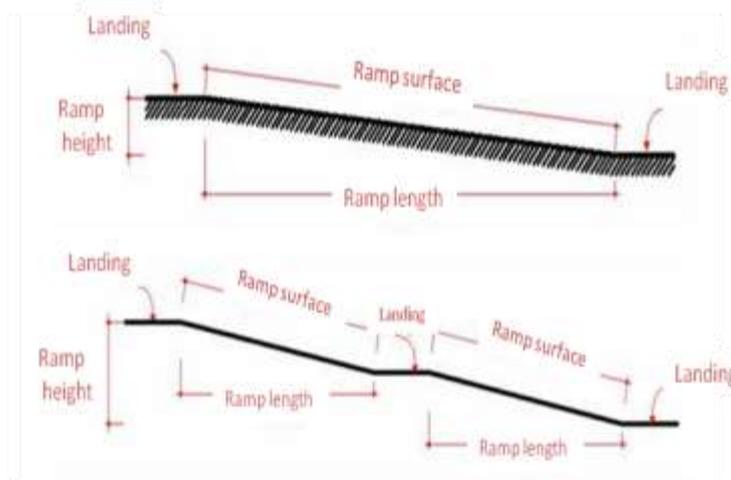
By reviewing the studies on appropriating urban spaces for the physically- motional disabled and the existing standards for sidewalks and also interviewing with the disabled using a wheelchair, (it is the most problematic assistive tool in terms of occupied space and weight, and if this problem is solved, other disabled problems would be greatly) 27 factors causing problem for the physically- motional disabled in using the sidewalks, have been determined. After that these factors were reformed as a questionnaire to 27 components affective on suitability of Shahr-dari sidewalks, in which the disabled were asked to define the effectiveness of each on the improvement of movement in the sidewalks, by specifying one of the following options: very high; high; medium; low; very low. This questionnaire was filled by a few disabled who were passing Shahr-dari Street by chance and the disabled of welfare organization who have known this street. The problems are placed in two groups: physical features and physical obstacles; physical features are divided to 3 categories: pedestrian network`s width, pedestrian network`s slope and pedestrian network`s material; and physical obstacles into two categories: temporary obstacles and permanent obstacles, which are shown in the following chart:



(1) Maximum of level change between two paths (6 mm) [20]

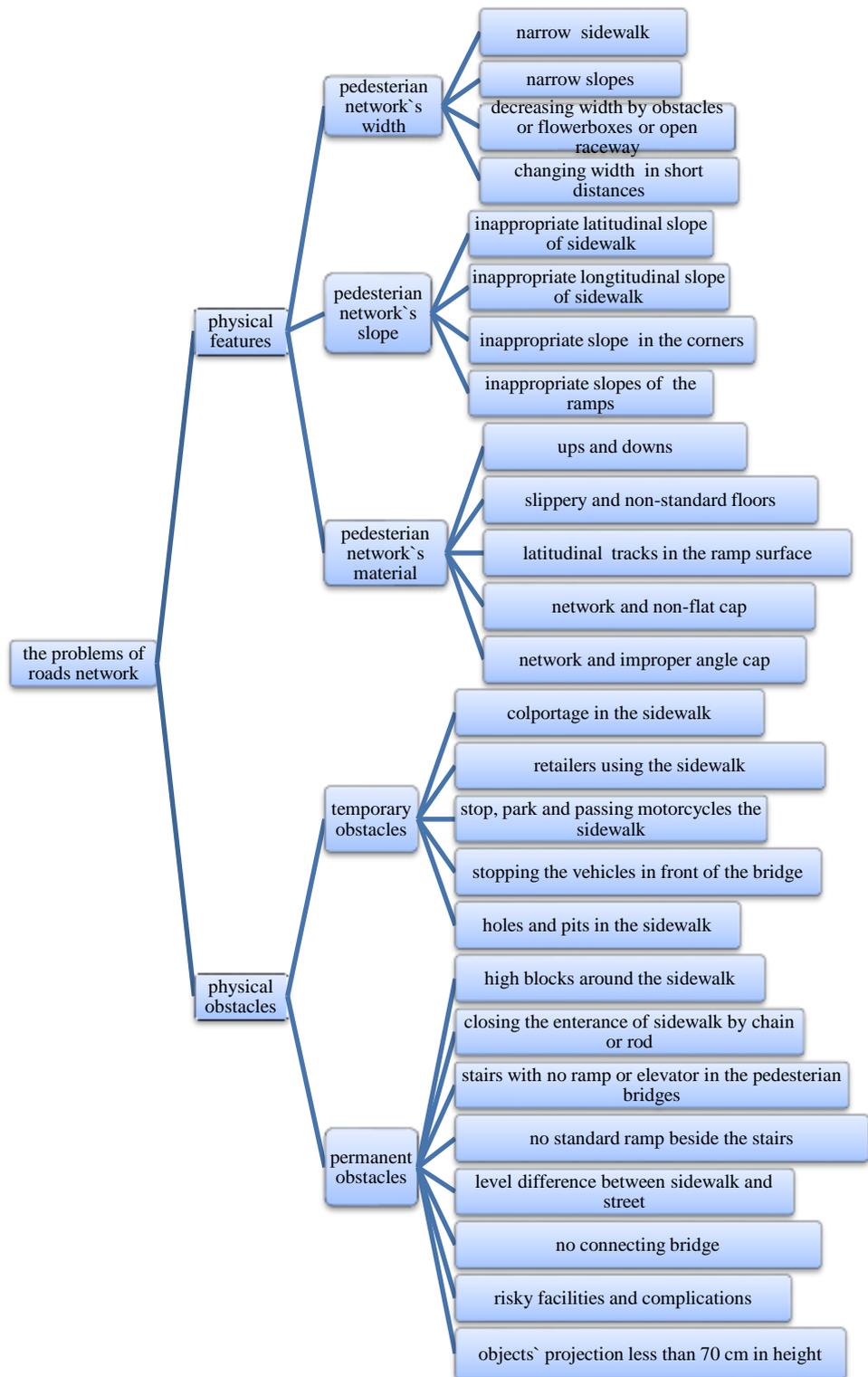


(2) Proper slope of sidewalk [20]

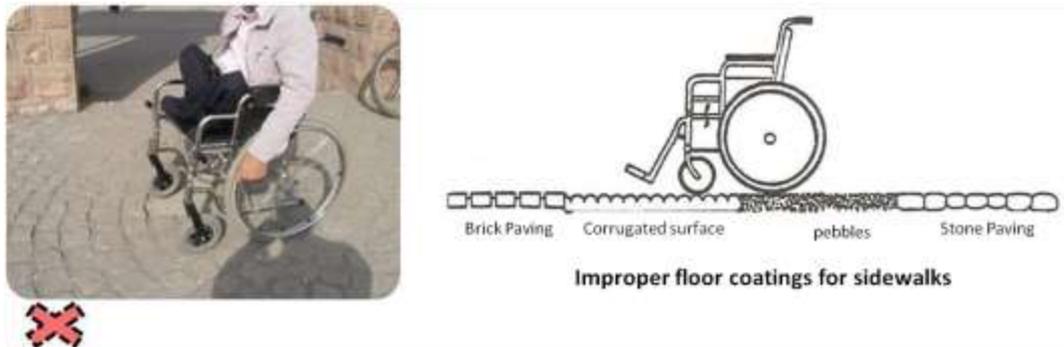


(3) How to build a proper ramp for the disabled [20]

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(4) Sidewalk network's problems chart



(5) Improper floor coatings for sidewalks [20]

3. RECOGNITION OF STUDY AREA

First of all, we present the reasons of choosing Shahr-dari Street as the case study, so that its importance and the results of the study on it would be determined. Tehran is the capital city and the symbol of Iran from the viewpoint of the world. The study area is one of the most important streets and elements of Tehran body. Some actions called as appropriating for the disabled had been taken here so far, however it is still observed that the disabled have so much problem passing this street as other paths of the city and other cities as well. The reasons for choosing this street are:

- 1) Tehran is the capital and symbol of Iran in the viewpoint of the world.
- 2) The field between Qods square and Tajrish square is one of the most significant streets and elements of Tehran body.
- 3) This area is the most crowded and most referring part of this street.
- 4) This area as one of the few examples of appropriating actions done, has better situation than other streets, so discussing the disabled problems here indicates the worse situation in other urban spaces.

According to the subject of study, the population of neighborhood and the region, local accesses and located functions which shows the usage of street, is examined in this part. This street is in Tajrish neighborhood located in 7th part of 1st region of Tehran. The north area of Tehran was one of the most important areas of the city since 40s.

Population studies

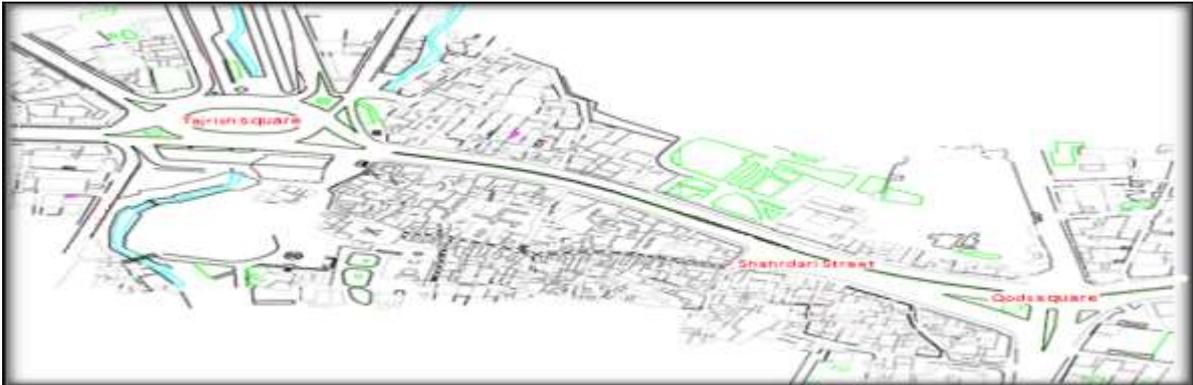
The purpose of population studies in this part is to understand the capabilities and limitations of the population in the region and area. This region has rapid population growth and is one of high population regions. The city's north-south highways, one end in the study area, linking some other regions to this region, shows the population deep linkage of this region to other regions of Tehran. The majority of this bond is due to business relations which connects daily this region's residents to other regions, especially to those with shopping centers and bazaars. On the contrary, part of the population in other regions and suburbs are travelling daily to this region, for office activities such as public, private and constructional.

Accesses

The main connection of Tajrish neighborhood with Tehran is through two main avenues called Dr. Shariati (by the south-east) and Valiasr (by the south-west). Moddares highway also connects Tehran to Shemiran indirectly, as a first class arterial street. This complex is near Chizar, Farmanieh, Pasdaran and Niavaran neighborhoods, by the east and through Shahid Bahonar Street; and through this way has access to Sohanak, Darabad and kashanak settlements. Darband

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and Emamzade Qasem neighborhoods connect to Tajrish through Darband Street by the north and through Sabt and Jafarabad Streets directly to Tajrish square (by the bridge). By the south-west of Tajrish's bridge, through Ebrahim Darbandi's Street, it is linked to Maqsdubeik and Pole Roomi districts (Map 6). The connection to Velenjak, Evin and Darakeh areas which are located in the west and south-west of Tajrish is through Moqaddasi Ardebili, Pesian and Valiasr Streets. Another subsidiary and poor connection between these areas and Tajrish Bridge is through Sadabad Neighborhood.



(6) Plan of connections of Shahr-dari Street

Land Use

Land use reflects different environment features. Features of functions like density, day and night use and also the distribution of functions, defines the type and amount of transportation in that particular urban space. Since the studies done considers the ease of disabled access and their safe and secure use of an urban space (sidewalk), and as the mentioned street is an important shopping street, so type and amount of the functions affects much on the need and usage of the disabled of this street.

On the urban divisions of Tehran, Tajrish square plays the role of administrative, business-service center of this region. There are over 1000 business and service units in Tajrish (on the ground floor, basement, inside the passages and in the context). In fact, almost 20% of this neighborhood belongs to business and services. Due to long-term power of Tajrish Bazaar, it also covers regions number two, three and four as a shopping center. Tajrish square has many shopping centers, for being located in this area and high amount of citizen's need to shopping, like Qaem, Nikoo, Miri, 110, Besat, Fereshteh, Maryam, Kish, Soheil, Parseh and Razavi centers.

Most of these shopping centers include luxury goods, clothing, bags and shoes, and specially fruits, vegetables and groceries, which are mainly centralized in Shahr-dari Street and Tajrish old bazaar. In general terms, most of the shopping units belong to light, consumeable and small goods that have caused easy transporting and welcoming people to this area. Catering units like restaurants, juice shops and caterings are also there to serve customers and shopkeepers. Administrative units and the banks, government agencies, insurance center, notary, translator office, building companies and travel agencies are located on the sidelines; and educational functions (institutes, high schools and universities) are also on the surrounding area. Urban utilities (like post office, police station, Bus Company, fruit and vegetable market, etc) and other industrial, sport, cultural and health centers are there too, but less than the others.

Another functions in the area which is used to define Tajrish square, is the holy shrine of Emamzade Saleh that attracts many people from all around the city to this place. Mosques and Tekie does this too on the days of Muharram and Safar.

At the end of this discussion it can concluded that Shahr-dari Street is mainly a trade center. It has effective edges and is located in a district with cross- regional activity centers like the old cultural Tajrish bazaar, the holy shrine of Emamzade Saleh and upper and lower Tekie, all of it indicating that this street is one of the most crowded ones in the capital, absorbing everyone including ordinary and the disabled, not only for the attractions but also for the variety of functions and even to meet the needs and doing required tasks in a day. This clarifies the necessity of appropriating this street.

Presenting the strategies for Shahr-dari Street sidewalks

Based on the outcomes of the questionnaires, field studies and analysis of this sidewalk by SWOT technique, 14 components out of 27 were derived as the most important problems of physically-motional disables in using Shahr-dari Street sidewalks. They are divided into 5 categories:

Ramps	<ul style="list-style-type: none"> ➤ No ramp next to the stairs ➤ No ramp when the level changes ➤ No protective fence on the ramp`s edge ➤ Improper slope of ramps (Picture 9) ➤ No ramp or elevator for the overpass
Sidewalk width	<ul style="list-style-type: none"> ➤ Decreasing sidewalk width by obstacles and flowerboxes unprotected ➤ Changing the sidewalk width in short distances (picture 10)
Blocking the Road	<ul style="list-style-type: none"> ➤ Motorcycles parking on the sidelines ➤ Shopkeepers using the sidewalks for their goods ➤ Colportage in the sidewalk
Floor Coating	<ul style="list-style-type: none"> ➤ Ups and downs on the floor ➤ Slippery and non-standard coverings (picture 12)
Sidewalk Entrance	<ul style="list-style-type: none"> - Level change without a ramp in the meeting point of sidewalk and street - A rod preventing to enter the sidewalk (picture 13)

(7) The existing problems of Shahr-dari Street chart



(8) Improper slope of ramps



(9) Width change in sidewalk

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(10) Motorcycles parking in the sidewalk



(11) Improper floor covering



(12) an obstacle in the sidewalk's entrance

After recognizing the existing problems of Shahr-dari Street sidewalk, using the results of the questionnaires and discussing with the physically- motional handicapped, asking them to suggest some solutions in this sidewalk, most of them had talk about separating their way from others because of the heavy traffic on the sidewalk and their difficulty to pass (for the improper width of this sidewalk). After that they mainly called for a ramp next to the stairs and when the level changes, besides providing an elevator for the overpass bridge. For them it is difficult or sometimes impossible to pass the street and to enter the sidewalk because of the unsuitable entrances (blocked entrance with a rod, no ramp next to the stairs and when the level changes in the sidewalk entrance). After interviewing the disabled and recognizing their needs and expectations of a sidewalk and studying the existing standards, strategies and approaches for improving the condition for the disabled are presented below:

Strategy	Approach
Improving and smoothing the disabled movement	<ol style="list-style-type: none"> 1- Replacing floor coatings, using proper covering all along the sidewalk 2- Installing rails the same level around the trees or creating continuous flowerboxes beside the sidewalk 3- Assigning one meter of the separated stairs of northern sidewalk to disabled ramp 4- Building disabled ramp when the level changes in the southern sidewalk 5- Providing an elevator or accelerator for the disabled in the overpass bridges 6- Serious prohibiting any kind of blocking and narrowing the sidewalk such as colportage, motorcycle parking and shopkeepers using the sidewalk 7- Making a longitudinal flowerbox with half a meter width in the sidewalk, where street and sidewalk meet and shifting urban utilities to these flowerboxes, or using a proper fence or reflective warning signs for those which cannot be moved 8- Assigning a space to blinds to pass, by using ridged floor coating 9- Separating a 100 cm space of sidewalk with some protective rods and dedicating them to physically-motional disabled
Probable access of disabled to the roadway and vice versa	<ol style="list-style-type: none"> 1- Making a gentle slope when level changes in the meeting point of roadway and sidewalk, in the sidewalk entrance and along the zebra crossings 2- Eliminating the annoying bars in the sidewalk entrance 3- Placing a smart gate in the sidewalk entrance which is opened just by a disabled smart card

Improving safety when using the disabled ramps	<ol style="list-style-type: none"> 1- Equipping all the ramps to protective handles 2- Appropriating the existing ramps in terms of slope and material
Enhancing the aesthetic aspect of the street to absorb disabled presence	<ol style="list-style-type: none"> 1- Creating longitudinal greenery space by using short decorative trees (at height of the disabled) and evergreen trees in the borders 2- Exchanging floor coatings with flat and beautiful ones 3- Making sided flowerboxes along the sidewalk where sidewalk meets the street 4- Placing fountains and proper urban furniture, and making green spots on the pause spots around Tajrish square 5- Lightening and redesigning open spaces around Qods square and pause spots around Tajrish square

(13) Table of strategies and approaches

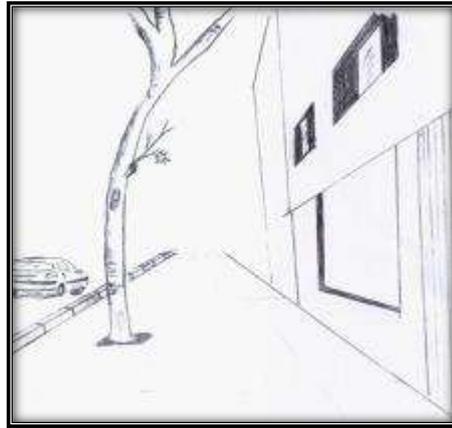
Offering plans for Shahrdari Street sidewalks

In this section, the effort has been to present an executive and efficient plan for solving the disabled problems, on the basis of the studies, observations, questionnaires and interviews. Due to the observed weaknesses and existing opportunities, some strategies and approaches were given, and the result of them is in this section as the proposal.

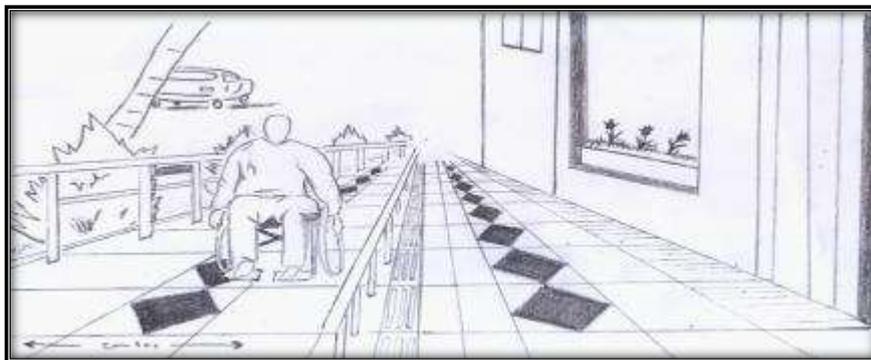
It has different parts:

- 1) The first and most important factor for the disabled presence in the sidewalks is a secure and safe path for them to pass. So the first step of final proposal appropriating the main path of sidewalk.
 - In this plan according to too wide and proper parts of Shahrdari Street sidewalk, this space has been divided spatially.
 - All along the curbs of Shahrdari Street sidewalk is considered to have flowerboxes that are cut just where the passerby should pass the street or where there is urban furniture or utilities. In these flowerboxes beside the trees, add some short and decorative plants to freshen the environment.
 - A 100 cm path next to the flowerboxes is divided with rods on both side, dedicated to the physically- motional disabled.
 - Beside this path a row of floor covering is of ridged material for the blinds, in order to help them pass and other rows are for the ordinary people.
 - Along the sidewalk except for the blind path, use uniform and patterned flooring so that make passing easy and the environment beautiful as well.
 - In this plan it has tried to use as much plants as possible to improve refreshing the environment.

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(14) Existing sidewalk.



(15) Suggested sidewalk

2) The second section is devoted to sidewalk entrance.

- All along the sidewalk have curbs or dividing rods between roadway and sidewalk to increase safety.
- All the entrances are equipped to smart gates, in a way that on both sides of the gate it has sufficient space for the people passing, but motorcycles cannot as they are narrow. Passing the gates also needs a smart card belonging to the disabled.

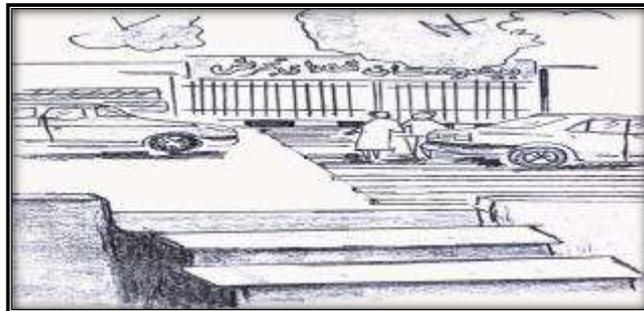


(16) Existing entrance

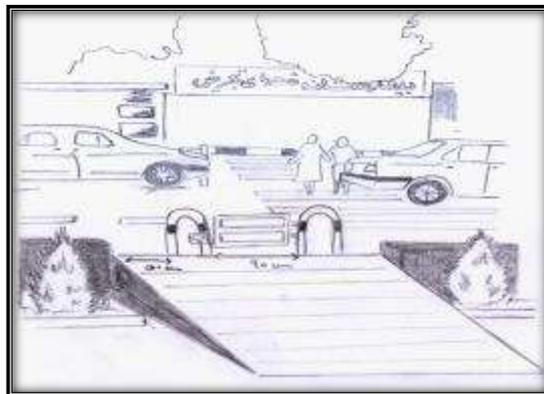


(17) Suggested entrance

- 3) In the last section there are arrangements to ease the disabled to roadway and sidewalk.
- The first step is to abate all the level changes with an inclined surface or a ramp with proper slope and material (max 8% slope) and a protective rail.
 - Also it has suggested in this section to appropriate the existing ramps which have improper slope and material. All the existing or suggested ramps should have a slope of max 8% and should be equipped with a protective handle on both sides.
 - Allow people or the disabled to the sidewalk just through the entrances on both sides of it and those along zebra crossings.
 - In order to improve the disabled safety, both of the overpass bridges in this street are equipped to elevators so that the disabled can use them instead of passing the street with so much danger.



(18) Existing stairs with no ramp



(19) Creating a ramp where level changes in the suggested plan

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(20) Existing improper ramp



(21) Appropriating the existing ramps in the suggested plan



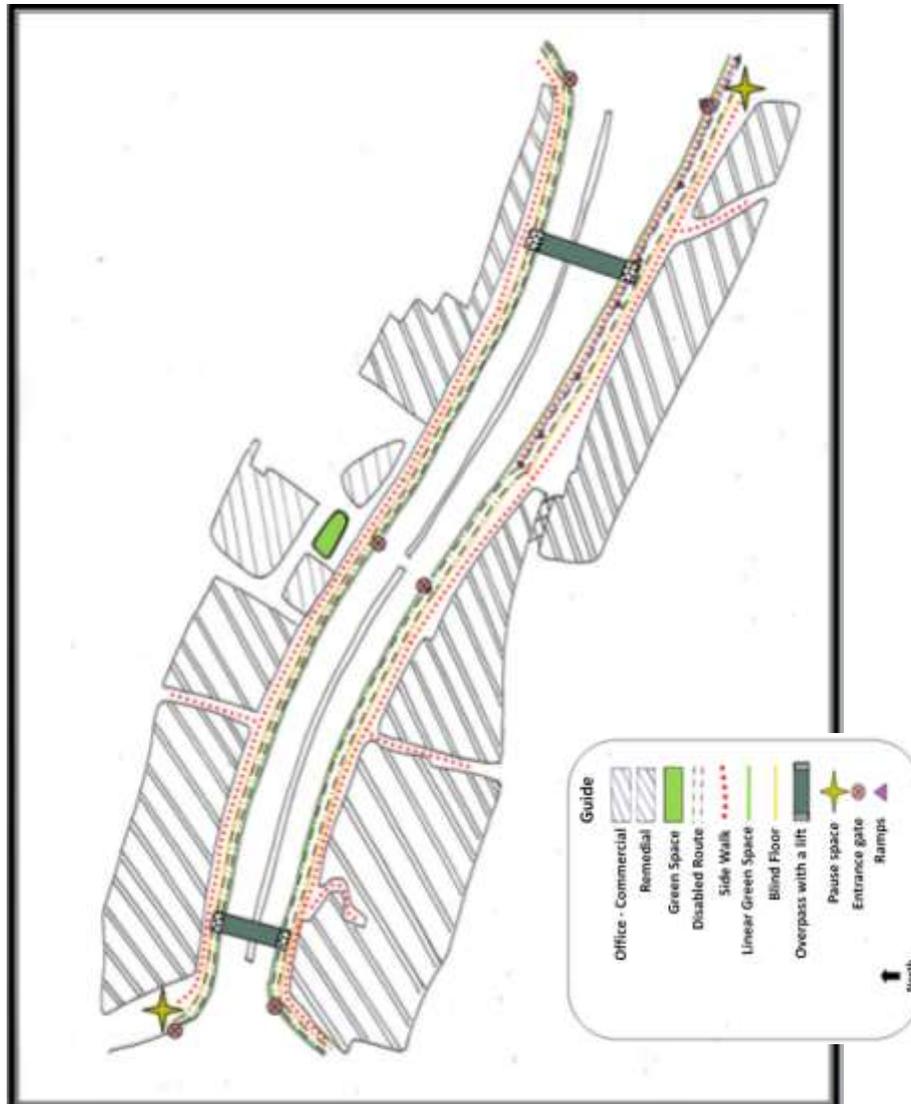
(22) No fence exists where the level changes in the sidewalk



(23) Placing a protective fence where level changes in the suggested sidewalk plan



(24) Providing the overpass bridge with elevators



(25) Suggested plan for the sidewalk of Shahr-dari Street

4. SUMMARY AND CONCLUSION

As it was said the problems of pedestrian network for passing the disabled, is divided to physical features and physical obstacles; physical features are categorized to pedestrian network's width, pedestrian network's slope and pedestrian network's material, and physical obstacles are temporary or permanent. After studying the existing documents of Shahr-dari Street's sidewalk, reviewing the filled questionnaires, interviewing with physically- motional disabled and field studies as well, it has determined that among 27 factors derived from the questionnaires that

causes problems for the physically- motional disabled passing, 14 factors are the most important problems of this street on the disabled opinion: no ramp next to the stairs, no ramp or improper ramp where the level changes, no protective handle on the ramp sides, improper ramp slopes, no ramp or elevator in the overpass bridges (are the problems of ramps), narrowing the sidewalk with obstacles or unguarded flowerboxes, width change of sidewalk in short distances (are problems of the sidewalk`s width), motorcycles parking on the sidewalk edges, shopkeepers using the sidewalk by placing their goods there, colportage in the sidewalk (are problem related to blocking the way), ups and downs of the floor, slippery and non-standard floor covering (are the problems of floor coating), level change with no ramp where street meets sidewalk, a rod preventing entry of sidewalk (are problems of the entrances).

After reviewing the questionnaires, in order to present the approaches for solving these problems, we were not satisfied with studying the appropriating standards of sidewalks and tended to interview for a second time to gain the disabled opinions. It is notable that in spite of this perception that the proper sidewalk width leads to disabled pass easily, on this occasion although the sidewalk is wide enough, all the disabled people are not satisfied first of the impassable sidewalk because of too much crowd there and demand separating their way from others. Secondly they want ramps next to the stairs and where level changes and elevators for the overpass bridges. From their view point passing Shahr-dari Street is difficult or sometimes impossible for the bridges do not have elevators and entering the sidewalk as well, for the improper entrances (blocked with a rod, no ramp by the stairs and on the level change there).

After field observations in this sidewalk and its implementation to the disabled demands, it was determined that they spoke exactly in coordination to the observations. So studying these problems and appropriating standards of sidewalks for physically- motional disabled several plans are presented to improve this occasion, it seems that the disabled presence in urban spaces could be improved by studying the appropriative components of sidewalks and carrying them out especially on important and crowded streets, so that they would be prevented of isolation and withdrawal.

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