Journal of Civil Engineering and Architecture 17 (2023) 24-43
doi: 10.17265/1934-7359/2023.01.003

# Inclusiveness in City Centre—A Case Study: 30-E-Tir Street in Tehran

Sanaz Shobeiri

*School of Natural and Built Environment, Queen's University Belfast, Belfast BT9 5DL, United Kingdom*

**Abstract:** City centres in today's big cities, particularly in metropolises and megalopolises, play a crucial role in revival of human scale in an urban context. Nowadays, a city centre that corresponds to needs of various groups of users, contributes to creating a safe, healthy, vibrant, inclusive and sustainable city. Accordingly, identification of the major and minor groups of users of city centres as well as their likes, dislikes and preferences is a primary step. To this end, this paper investigates the city centre of Tehran and a recently pedestrianised street called 30-E-Tir. With a focus on the three indicators of age, gender and speed, this paper aims to elucidate the existing divergent groups of users of 30-E-Tir and their physical, mental, and spiritual expectations of this street. This 1.3-km street—as a linear path incorporating food & junk food kiosks and the associated small-scale canopies, and flagstone floorscaping—passes through many famous museums of Tehran. These specific features have converted 30-E-Tir Street into a convivial destination point for Tehranians. The existing problems, however, necessitate a detailed investigation of the current situation. The applied methodology for this qualitative-quantitative analysis of the present condition includes the literature review and the related analysis, direct appraisal, photography, and dot-based analysis.

**Key words:** City centre, age, gender, inclusiveness, pedestrian, Tehran, 30-E-Tir Street.

## 1. Introduction

As a result of the accelerating speed of the presence of automobiles in the current urban contexts worldwide, the big cities—and in particular the metropolises and megalopolises[1]—have faced serious challenges about the presence of pedestrians in urban spaces. In an urban platform, this trend—which started to appear as an outcome of the industrial revolution and the subsequent modernisation process—have made a turning point with an increasing momentum of changes in the history of mankind. In the context of Tehran, as a case study metropolis of this research, the growing number of cars has resulted in an unpredicted surge of disappearance of pedestrians and human scale in urban spaces, particularly in the area of city centre.

Since this gap—also known as a lack—has been appreciated, however, specific efforts have been made to bring back the pedestrians to the urban spaces of Tehran. In urban design and planning for Tehran, the revival of human scale has started to be taken into account particularly in the last two decades in order to achieve sustainability. The restoration of human scale is crucial for cities to achieve a lively, safe, healthy, inclusive, and sustainable city [1, 2]. This re-integration can potentially create a balance in the spectrum of scales in urban context particularly for the case study of this research, Tehran.

This paper mainly studies the current situation of pedestrians in urban spaces of the city centre of Tehran with a focus on a street called 30-E-Tir. This (approximately) 1.3-km street with its food & junk food kiosks has been recognised as a recreational destination point by many Tehranians in the past few years. In addition, the location of this street in the city centre and its accessibility to the several palaces and museums in its neighbourhood has made this street distinctive from the majority of the existing streets in Tehran's city centre [3, 4].

**Corresponding author:** Sanaz Shobeiri, Ph.D., postdoctoral researcher, research fields: urban design and planning.

This paper investigates how this recreational and pedestrianised street responds to the needs and expectations of the users and what the current potentials and problems are. The final aim is to find out how this street can be completely integrated in future design and planning for the city centre in a way to achieve inclusiveness and sustainability. To this end, the applied methodology incorporates qualitative and quantitative methods and techniques. This point is explained in detail in the following section of this paper.

## 2. Methodology

The In order to study the case study street of 30-E-Tir in this research, the applied methodology includes an integration of literature review and the related analysis, direct appraisal, photography, and dot-based analysis. Through a qualitative-quantitative process of data analysis, this combination of methods provides the opportunity of identifying the major and minor groups of users and their characteristics. All on-site data gathering was carried out in September 2019 in a common day in 10 a.m.-4 p.m. This timespan was applied in order to consider the role of the indicator of "time" on the presence of various age-gender groups of users in Tehran's city centre and in particular in 30-E-Tir Street [5, 6].

Literature review and its critical evaluation in different stages of a research is carried out to provide an in-depth information on the context and background of the study. In other words, literature review provides selective details about the history of the subject of study, Tehran and particularly the city centre [5, 7, 8]. As further explained by Hart in 2018, "a lot of information will be gathered by the literature review, so it is important to have a system of project and information management in place…" [8, p. 63]. Developing the findings of literature review, direct observation, as a naturalistic method, investigates the natural and non-interfered status of 30-E-Tir Street. Watching with care on the ordinary scenes of this street can reveal in-depth details of users' needs and expectations, potentials, and problems as well as the likes, dislikes, and preferences [5, 6].

As a complementary method to direct observation in this research, photography has been applied. Photography is crucial to record the detailed characteristics of the whole length of this 1.3-km pedestrianised street. The number of the photos taken in 30-E-Tir Street was deliberately defined as non-predetermined in order to allow the researcher to experience this street similar to the common users as well as to cover all existing varieties in this street while passing through. As further explained by Gehl and Svarre about photographing, "While the human eye can observe and register, … [Photographing is] a good tool for fast-freezing situations for later documentation and analysis. By later studying photographs or film, it is possible to discover new connections or to go into detail with otherwise complex city situations that are difficult to fully comprehend with the naked eye" [6, p.31].

A dot-based analysis has been applied in this research to further analyse the photographs. In the dot-based system in this research, each category of users is specified with a particular colour. The numbers of each category of dots (users) have been then counted and inserted to the software of Excel to clarify the major and minor groups of users as well as their ratios. This would thus be helpful to highlight the aspects that need to be prioritised while proposing the design strategies for this street.

In this research two sets of dot-based qualitative-quantitative analyses have been carried out. The first is based on the gender and age. The identified sub-groups in this set are: (1) woman; (2) man; (3) child; (4) woman in car/on motor; (5) man in car/on motor; (6) child in car/on motor; and (7) car/motor. The second set of analysis is based on speed and automobile usage and the sub-groups in this set include: (1) pedestrian/on foot; (2) car/motor (vehicle); and (3) in car/on motor. An integration of the findings of these two sets of analysis reveals the major as well as minor groups, their

associated features that need to be taken into foreground, and the characteristics that have been neglected or faded and thus need to be revived.

## 3. Context: Tehran and Its City Centre

Tehran has been the capital of Iran since 1794. Since then, it has experienced three historical eras. These include: (1) the Qajar dynasty (1794-1925); (2) the Pahlavi dynasty (1925-1979); and (3) the Islamic Republic (1979-present). Throughout these years, the entire area of the city has undergone constant development. The structural and spatial changes to Tehran, particularly since the city became the capital, have resulted in the transformation of an enclosed city with the population of 15,000 in 1794 to an ever-growing metropolis or megalopolis[1] with a provincial population of 13 million in 2017 and around 10 million just in the city of Tehran. At present, Tehran province comprises around 17% of the whole population of the country [9-14].

In short, the capital as a ramparted city in 1794 has been transformed into an ever-developing and ever-expanding city at the present time. In most current literature about Tehran, what is recognised as "Old Tehran" mainly refers to Tehran in the times of Safavid (1501-1723), Afsharid (1735-1748), Zand (1750-1794) and Qajar in the Section I (1794-1848) dynasties. In other words, the term "Old Tehran" addresses Tehran from 1501 to 1848. The reason is that in the time of Nasser-eddin Shah Qajar (1848-1896), the effects of Western designs, and in particular the French styles, started to appear in the designs of various functions of the city. This was a result of the presence of European architects in Iran and, simultaneously, the return of Iranian-educated architects and engineers from Europe, and specifically from France.

As further explained by Banimasoud, until the middle of the reign of Nasser-eddin Shah Qajar, Tehran was recognised as a city with Iranian-Islamic features. From the middle of the reign of Nasser-eddin Shah Qajar onwards, as a result of the emergence of some Western indications, Tehran experienced a cultural eclecticism. Hence, while the old part of the city mainly kept its traditional characteristics in its design, the developing parts of the city developed more European and Western characteristics [9, 10, 15].

There is a delicate difference between the two phrases of "Old Tehran" and "Tehran's city centre". It should be noted that, in majority of academic references, what is recognised as Tehran's "city centre" nowadays is the area of Tehran in the time of the King Pahlavi I (King Reza Shah Pahlavi (1925-1941)) particularly in 1937-1941. Tehran of 1937-1941, strongly overlaid, or more precisely, substituted the ramparted Tehran with many signs of cultural eclecticism remaining from the Section II of Qajar dynasty (1848-1925), in particular from the time of the king time of Nasser-eddin Shah Qajar (1848-1896) until the end of this dynasty in 1925.

Although the approximate periphery of these two periods is the same, the structural and fundamental changes have completely changed the essence and meaning of the area. The spontaneous street network for instance, which was one of the main human-scale platforms for presence of Tehranians, got converted into an automobile-dominated irregular-grid network of transport vessels [9-15]. The following two diagrams in Fig. 1 illustrate the details of the key dynasties as well as the kings who promoted changes in Tehran, in the process of the city's development and expansion. Furthermore, the third image, depicts the scope of the city centre of Tehran and the location of 30-E-Tir Street.

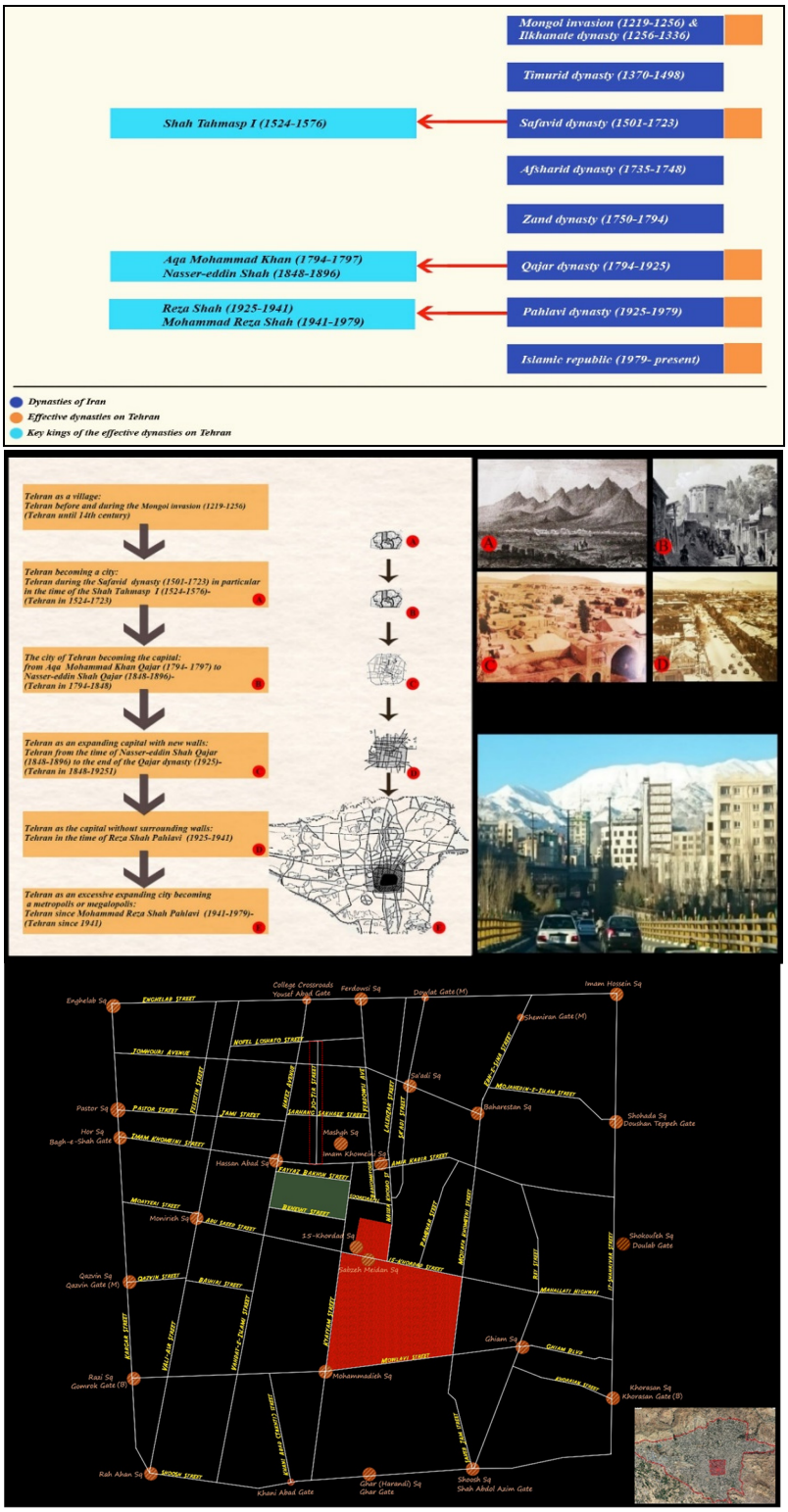



**Fig. 1** (Top) The dynasties and kings that helped to bring about changes in Tehran (Source: Author). The applied sources for providing this diagram are Refs. [9-11, 15-18]. It should be noted that during the years of the Afsharid and Zand dynasties there were minor changes to various resources. However, the most noted dates are applied in the diagram; (middle) Tehran and its developments and expansion, and related images (Source of the maps: Refs. [9-11]; Source of the applied dates: Refs. [9-11, 16-18]; Source of the old images: Refs. [18-22]; source of the bottom-right image (current situation): Author); (bottom) the scope of Tehran's city centre and the location of 30-E-Tir Street in the city centre (Source of the base map: refs. [23]).

## 4. 30-E-Tir Street and Revival of Pedestrians (Human Scale)

The former name of 30-E-Tir street was "Ghavam-ol-Saltaneh". Ahmad Ghavam, also known as Ghavam-ol-Saltaneh (1882-1955) was a politician and prime minister (for 5 times) in the last years of Qajar (1794-1925) and Pahlavi (1925-1979) dynasties in Iran. The honorary title of Ghavam-ol-Saltaneh was granted to him in the time of Qajar dynasty and subsequently an important street in Central Tehran was named as his title, Ghavam-ol-Salataneh. The existing cultural, historic, touristic, and religious buildings adjacent and in the neighbourhood of this street are shown in Fig. 2. The particular location of this street among these buildings reveals its precious role in pedestrian-based accessibility, particularly before the domination of automobiles in Tehran [24, 25].

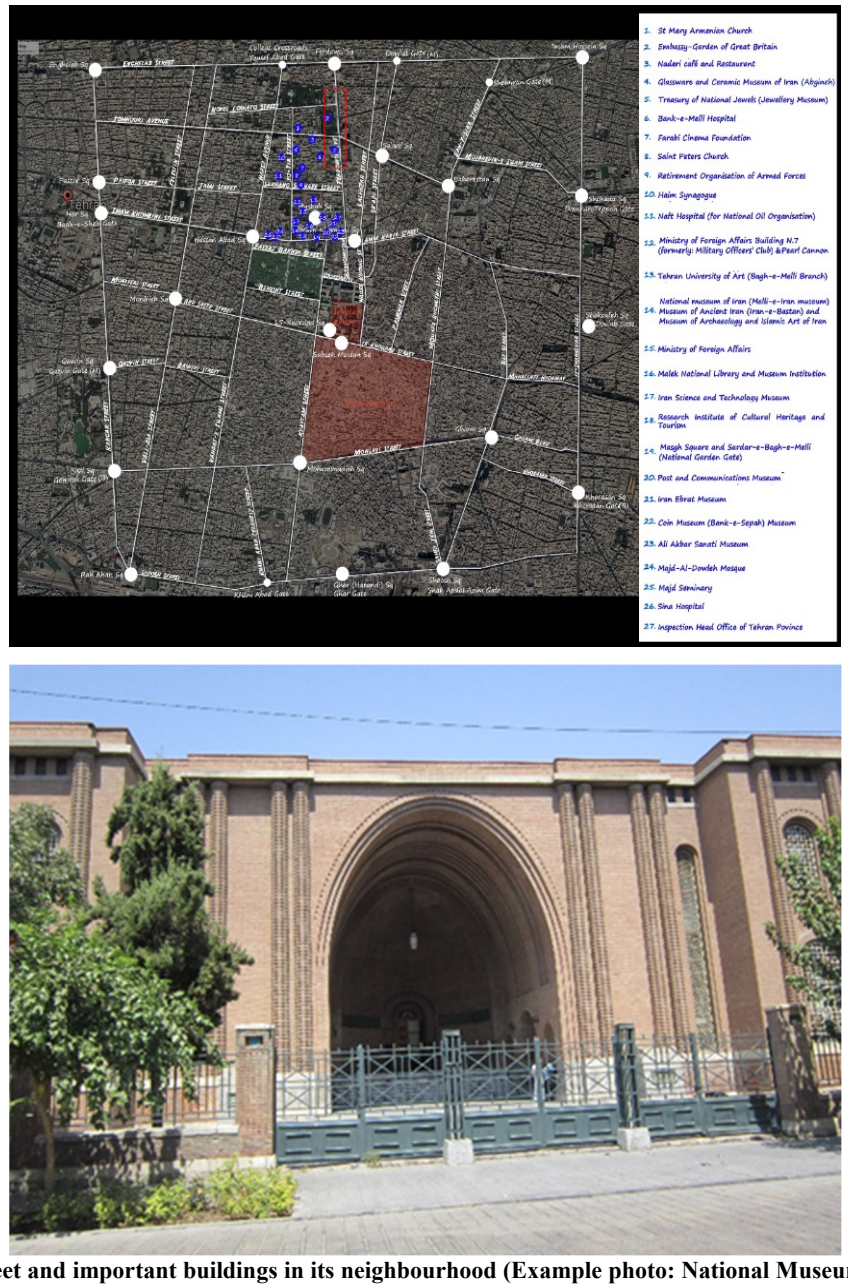



**Fig. 2 30-E-Tir Street and important buildings in its neighbourhood (Example photo: National Museum of Iran—Section of Museum of Ancient Iran) (Source of base map: Ref. [20]; source of the diagram and images: author).**

Later, as a result of political challenges and demonstrations in the last five days of the month "Tir"[2] (26-30th) in the year 1952 (1331 in Persian calendar) in Iran against Ghavam-ol-Saltaneh, he had to resign from prime ministership by the order of the King Mohammadreza Shah Pahlavi (1941-1979). Subsequently and as a result of the consolidation of two dominant parities of the time, led by Dr. Mohammad Mosaddegh and Ayattollah Kashani, Dr. Mosaddegh took the official place of Ghavam-ol-Saltaneh as the prime minister on 30 Tir 1952 (1331). The concerns and movements of those days were mainly associated to Nationalisation of the Iranian oil industry. As a result of this political event, the name of street got converted into 30-E-Tir. It should be noted that the home and workplace of Ghavam-ol-Saltaneh is located adjacent to this street and it is now recognised as Glassware and Ceramic Museum of Iran (Abgineh Museum) (please see No. 4 in Fig. 2 for the exact location). For further details about the occurrence of the day 30-e-Tir please see, for example Refs. [23-26].

As Figs. 3 and 4 show, similar to the majority of the streets in Central Tehran, following the advent of automobile to Iran in 1902 and the growing process of modernisation, the pedestrian-based streets started to gradually fade. In the recent years, however, recent movements including the pedestrian-based floorscaping and adding street-food kiosks and furniture have been carried out by the Municipality of District 12 of Tehran, to revive the pedestrians in the streets of Central Tehran. This start, however, needs to be fully studied to create an inclusive pedestrian-based axis [2, 10, 15].

**Fig. 3 An overall view of 30-E-Tir Street at present time (Source: author).**

As further explained by Gehl, "If we are to encourage pedestrian and cycle traffic and realise the dream of lively, safe, sustainable and healthy cities, we must begin with a thorough knowledge of the human scale. Understanding the scale of the human body is important if we are to work purposefully and appropriately with it as well as address the interplay between the small slow scale and the other scales also in operation" [1, p. 55].

To this end and in order to identify a suitable way to revive the role of pedestrians in the currently vehicle-oriented streets of the city centre in Tehran, it is first required to acknowledge the major and minor groups of users, their scales, and detailed characteristics. The following section of this paper investigates these details and how this might be reflected in future design and planning.

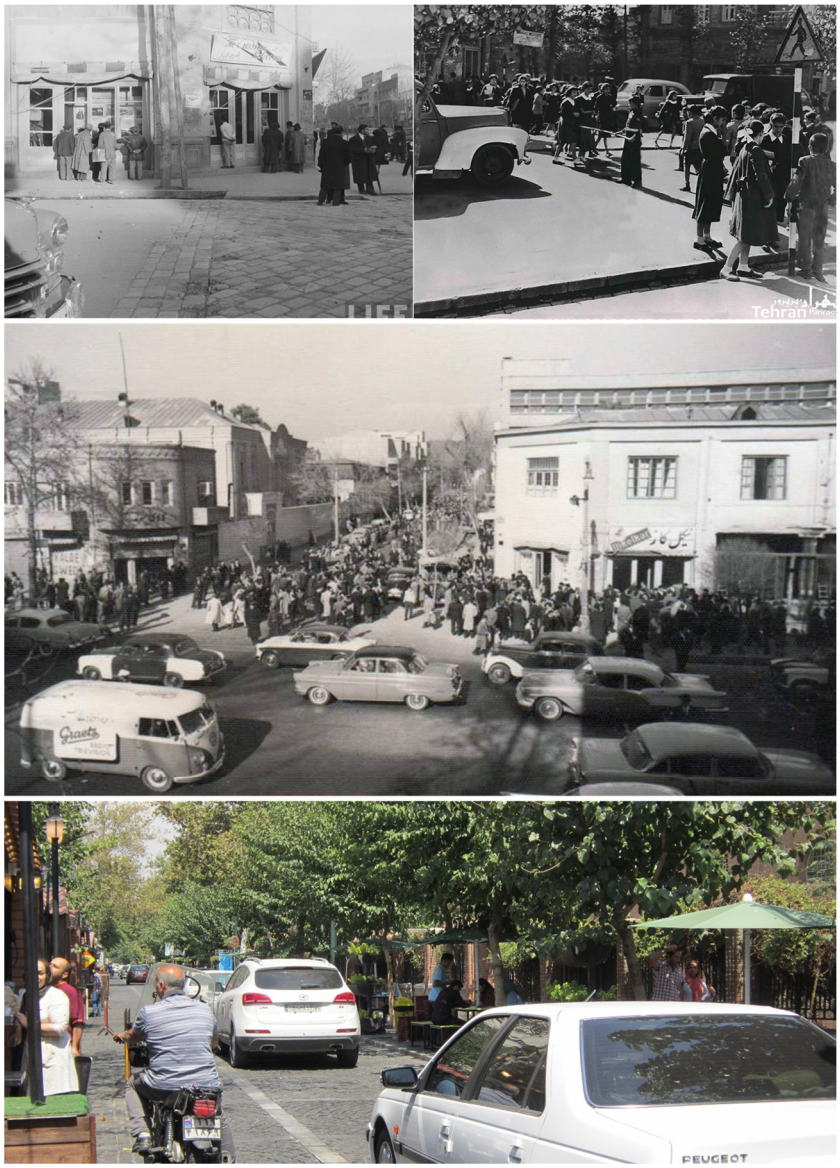



**Fig. 4 The past and present of 30-E-Tir Street: human-scale transformed into a chaotic mixture of movements of pedestrians and vehicles. Top: presence of pedestrians in Ghavam-ol-Saltaneh (30-E-Tir) Street in the past (Source: Ref. [27]; Middle: intersection of Ghavam-ol-Saltaneh (30-E-Tir) Street and Naderi (Jomhouri) Avenue and the growing number of pedestrians and vehicles though history (Source: Ref. [27]); Bottom: 30-E-Tir Street at present and co-presence of pedestrians and vehicles in an unorganised system (Source: author).**

## 5. Categorisation of the Users Based on Age and Gender

As already explained, in complementing the direct observation, a combination of photo-taking and dot-based analysis of the different groups has been applied. A single image is exemplified here to further clarify the point. As the example in Fig. 5 presents, based on the indicators of age and gender the identified sub-groups include: (1) woman; (2) man; (3) child; (4) woman in car/on motor; (5) man in car/on motor; and (6) car/motor (vehicle). The process has been implemented on all 21 captured images of 30-e-Tir Street. The findings have been inserted to Microsoft Excel in order to provide the possibility of identification and comparison between the age-gender groups individually and collectively.

**Fig. 5 The process of dot-based analysis – example (red: women; blue: men, cyan: children; hatched red: women in vehicles; hatched blue: men in vehicles; hatched cyan: children in vehicles; and green: vehicles[3]) (Source: Author)**

As explained by Paumier in 2004, "The image of a great city stems largely from the quality of its public realm – its streets, boulevards, parks, squares, plazas, and waterfronts… it is the quality of the overall public environment that makes a city livable and memorable. A well-designed and well-managed public realm evokes community pride and creates a strong, positive image" [28, p. 3].

In order to achieve inclusiveness in design and management of public realm, in this research, photography and dot-based analysis (with counting) have been the requisite methods of study. An integration of these two processes of analysis results in recognition of major and minor groups of users.

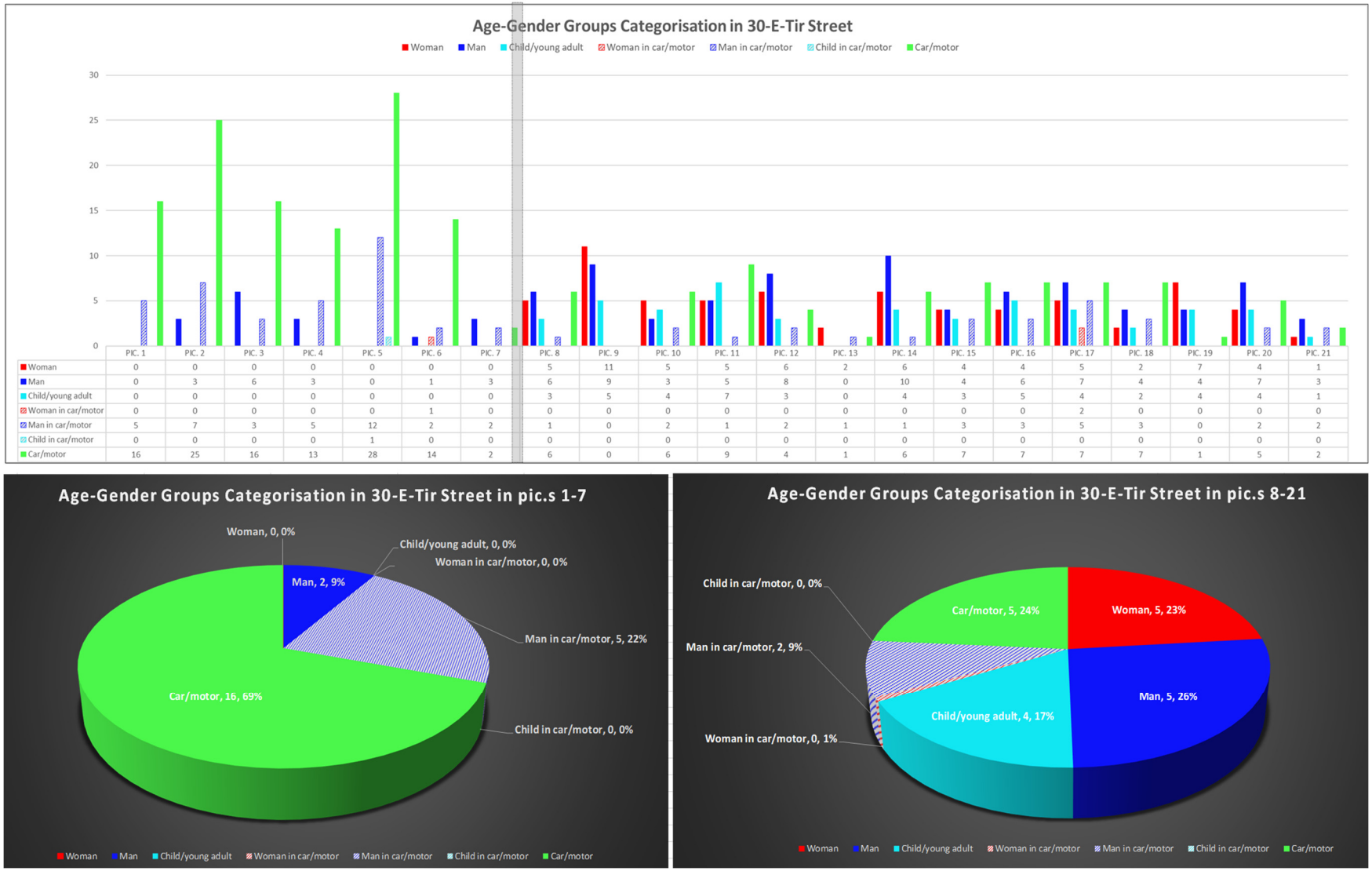
In other words, this integrated analysis elucidates the major as well as the minor groups of users, preferences and dislikes, as well as the latent potentials and problems. It should be noted that in counting (in dot-based analysis), certain degree of imprecision is inevitable. As further discussed by Gehl and Svarre in 2013, "the general question of gender and age can be registered by observation, naturally allowing for a certain degree of inaccuracy in making a subjective evaluation of age group" [6, p. 14].

As shown in Fig. 6 and the diagram in Fig. 7 (for Pictures 1-7), in the entrance area (and its neighbourhood) and the car-dominated one-way access path of Imam Khomeini street, the automobiles form the major group of around 70% of the users. The two other groups of users in this entrance-access point include men in cars or on motorcycles, and pedestrian men. As a result, the access street (Imam Khomeini Street) and the entrance point (junction of Imam Khomeini and 30-E-Tir Streets) is mainly car- and male-dominated. Two pictures of the entrance (junction) and Imam Khomeini Street have been presented in Fig. 6 to further clarify this point.

Inside the area of this street (for Pictures 8-21 in Fig. 7), however, pedestrian men and women constitute bigger proportions in an approximately the same ratio of automobiles. With a slight difference, children are the next main users of this street. Simultaneous analysis of these ratios and the details of images shows that 30-e-Tir Street is used by pedestrians as a whole family. In other words, this street is recognised as an interesting recreational destination point for all members of a family. The significant presence of all groups of pedestrians—men, women and children—however, hasn't resulted in removal of cars.

In short, inside 30-E-Tir Street the significant presence of automobiles has resulted in a chaos of movements and thus has resulted in poor movements' safety particularly for families with children. It should be noted that in Fig. 7, the average of the three groups of women, men and cars in Pictures 8-21 is 5; however, their percentages are 26%, 23% and 24%. The reason of this differences is associated with the rounding up and rounding down functions in Microsoft Excel to omit the decimal sections.


**Fig. 6** Top: Moving directions in the neighbourhood area of 30-E-Tir Street (Source of the base map: Ref. [20]); source of the diagram and images: Author); Middle-Left: Imam Khomeini Street as the main access axis to 30-E-Tir Street and its one-way (East-to-West) automobile-based movement pattern (Source: author); Middle-Right: the crossroads of Imam Khomeini Street and 30-E-Tir Street as the entrance point of 30-E-Tir (entrance: Pictures 1-7) (Source: author); Bottom: Inside 30-e-Tir Street and simultaneous presence of pedestrians and vehicles in an unorganised manner (inside: Pictures 8-21) (source: author).




| | PIC. 1 | PIC. 2 | PIC. 3 | PIC. 4 | PIC. 5 | PIC. 6 | PIC. 7 | PIC. 8 | PIC. 9 | PIC. 10 | PIC. 11 | PIC. 12 | PIC. 13 | PIC. 14 | PIC. 15 | PIC. 16 | PIC. 17 | PIC. 18 | PIC. 19 | PIC. 20 | PIC. 21 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Woman | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 11 | 5 | 5 | 6 | 2 | 6 | 4 | 4 | 5 | 2 | 7 | 4 | 1 |
| Man | 0 | 3 | 6 | 3 | 0 | 1 | 3 | 6 | 9 | 3 | 5 | 8 | 0 | 10 | 4 | 6 | 7 | 4 | 4 | 7 | 3 |
| Child/young adult | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 5 | 4 | 7 | 3 | 0 | 4 | 3 | 5 | 4 | 2 | 4 | 4 | 1 |
| Woman in car/motor | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 |
| Man in car/motor | 5 | 7 | 3 | 5 | 12 | 2 | 2 | 1 | 0 | 2 | 1 | 2 | 1 | 1 | 3 | 3 | 5 | 3 | 0 | 2 | 2 |
| Child in car/motor | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Car/motor | 16 | 25 | 16 | 13 | 28 | 14 | 2 | 6 | 0 | 6 | 9 | 4 | 1 | 6 | 7 | 7 | 7 | 7 | 1 | 5 | 2 |

**Fig. 7 Dot-based analysis of major and minor groups of users in 30-E-Tir Street: Pictures 1-7 are related to the junction of Imam Khomeini Street and 30-E-Tir and Pictures 8-21 are associated to the area inside and alongside this street (Source: author).**

## 6. Scale: Small or Big? In Space or in Minds?

Considering the target point of public spaces is critical while defining design and planning strategies. The objectives as well as the final goal of each public space is a key part of its identity as well as of the identity of the citizens. As explained by Madanipour in 2010, "The particular characters of public spaces may be instrumental or expressive. As instrumental spaces, they are used as a means to an end, such as … the pedestrianisation of a street for the purpose of gaining commercial profit for businesses … As expressive spaces, they may be used to project and explore identity, such as the gathering of youth subcultures... The inclusive and participatory development of a common good such as public spaces can help combine instrumental and expressive concerns, creating places that people use and can identify with, while reinvigorating society through collective action" [29, p. 238].

As a result, in order to achieve inclusiveness in a public space, instrumental and expressive concerns might need to be investigated collectively. In 30-E-Tir Street as a public space, the study of the fulfilment of these two concerns necessitates an analysis of the existing different-scale functions alongside and in the neighbourhood area in the current situation. This mainly includes the kiosks of foods and drinks and the associated furniture in this street, the various museums in the neighbourhood, the specific administrative-governmental buildings, some religious buildings such as mosques and churches, and the two existing hospitals (for further details please see Fig. 2).

According to the Municipality of Tehran, in March 2016, Tehran's Municipality of District 12 started a new restoration project by replacing the floorscaping of 30-E-Tir Street. The new pedestrian-based floorscaping accompanied by the small-scale portable kiosks of food and drinks, and the small-scale relevant furniture have turned this 1.3-km street into a convivial target point for different groups as families. At present, this street addresses audience with various intentions of coming to this area to visit different parts through a planned, semi-planned as well as an unplanned manner [2, 30].

Direct observation of the site has revealed that the groups of families or individuals who visit the site include: (1) those who are interested in visiting the neighbourhood functions such as museums and turning their day out to a longer fun and leisure time by eating drinks, lunch or dinner with the whole family members; (2) users of non-recreational neighbourhood functions who might get stimulated in an un-predetermined sense to visit the other parts of street such as patients' visitors of the two hospitals or those who visit the ministry of foreign affairs for their administrative works; and (3) the users who are merely interested in the exciting ambiance of this street particularly for food and drinks.

"Life in city space is all-encompassing: from momentary glances to minor events to the largest collective manifestations. Walking through common city space can be a goal in itself—but also a beginning" [1, p. 29]. As the three above-mentioned categories show, visiting 30-E-Tir Street and walking through its linear path can be recognised as a target as well as an affiliate predetermined or undetermined occurrence [1, 2, 31].

As further explained by Whyte in 1980 about self-congestion, "what attracts people most, it would appear, is other people" [32, p. 19]. As also depicted by Whyte, food attracts people and in a synergised sense, the self-congestion invites more people to the area. In 30-E-Tir Street, although the kiosks follow a small-scale pattern, either of the three above-mentioned reasons for coming to the area, they appeal to large-scale crowds. In addition, through the self-congestion in these three categories—individually in each category or collectively as an integrated whole of these three groups—30-E-Tir Street has become a popular vibrant target point of recreation, known by Tehranians of all around the city.

In other words, as shown in Fig. 8, the spatial

characteristics in this 1.3-km street, and the existing facilities (the kiosks and sitting furniture) make the scale of this street "human" and compatible with the pedestrians' physical dimensions. However, in addressing the audience, it attracts Tehranians from all around the city and this makes the scale of this street "large-scale" in Tehranians' minds. In short, the physical and mental perceptions of 30-E-Tir Street vary in the scope of "scale" and thus it consolidates a small-to-large spectrum of magnitudes.

**Fig. 8 Scale: the question of "small-to-large" in "facilities-to-minds" (Source: author).**

As explained by Gehl in 2010, "city streets with soft edges have a significant influence on activity patterns and the attractiveness of city space. The transparent, welcoming and active façades give city space a fine human scale just where it means most: up close and at eye level" [1, p81]. As Fig. 9 shows, in 30-E-Tir Street, the welcoming small-scale kiosks that make the façade of the street "human scale", has created pleasant experience for users in the eye level. The importance of human scale by expanding soft edges becomes further elucidated while considering the existing tall buildings alongside the street such as the Sina Hospital and Museum of Ancient Iran (Iran-e-Bastan). Museum of Ancient Iran is one of the two buildings of the National Museum of Iran (Melli-E-Iran Museum). It should be noted that the second building of this complex is called Museum of Archaeology and Islamic Art of Iran [24-26].


**Fig. 9 The role of small-scale kiosks in breaking down the large scale and rigid façades of tall buildings alongside 30-E-Tir Street. Left: Sina Hospital; Right: National Museum of Iran (Melli-e-Iran Meusum)—Section of Museum of Ancient Iran (Iran-E-Bastan Museum) (Source: author).**

In investigating the issue of scale, one key indicator to analyse the area is the vehicles. Presence, limits or omittance of automobiles can strongly affect the magnitude as well as the quality of the presence of pedestrians in public spaces. To this end, the following section of this paper studies the juxtaposition of vehicles (cars and motorcycles) and pedestrians in the current situation of 30-E-Tir Street.

## 7. Scale: Cars or Pedestrians?

As explained by Gehl about the city at eye level, "the battle for quality is on the small scale… In many cities, particularly those in developing countries, a great deal of pedestrian traffic is generated by necessity. In other parts of the world, the number of pedestrians depends entirely on the extent to which people are invited to walk. City quality is important regardless of whether foot traffic is a question of necessity or invitation. Good city quality at eye level should be considered a basic human right wherever people go in cities" [1, p. 118].

As a result, necessity or invitation—either as separate concerns, or as integrated issue—can only be fully responded if the quality at eye level is addressed. In other words, high-quality experience of pedestrians on their on-foot traffic is a primary right that needs to be reflected in design and planning of urban spaces.

In 30-E-Tir Street as an urban space, one factor to achieve this high quality is to define the necessary limits between the scopes of pedestrians and vehicles. Direct appraisal in this street has revealed that although the Municipality of District 12 of Tehran has recently changed the floorscaping to make this linear path suitable for the movement of pedestrians, the entrance of vehicles has not been omitted so far. As a result, the interferences of cars, motorcycles, and pedestrians, have made the experiences of pedestrians unsafe. Furthermore, the uncontrolled vehicle traffic in this street has resulted in noise and air pollutions and thus has decreased the quality of experience of users.

In short, as shown in Fig. 10, the uncontrolled entrance of vehicles, and subsequently the interferences of two different-scale movements have caused the lack-to-absence of safety and pleasure for pedestrians in this street. High-quality experience of walking as well as sitting under the small-scale canopies can be merely realised in case of providing the necessary bounds between pedestrians and vehicles. Users' leisure time in transit as well as in pause points needs to be high-quality, safe and pleasant in order to make this street an interesting and sustainable target point in Central Tehran [2, 7, 33].

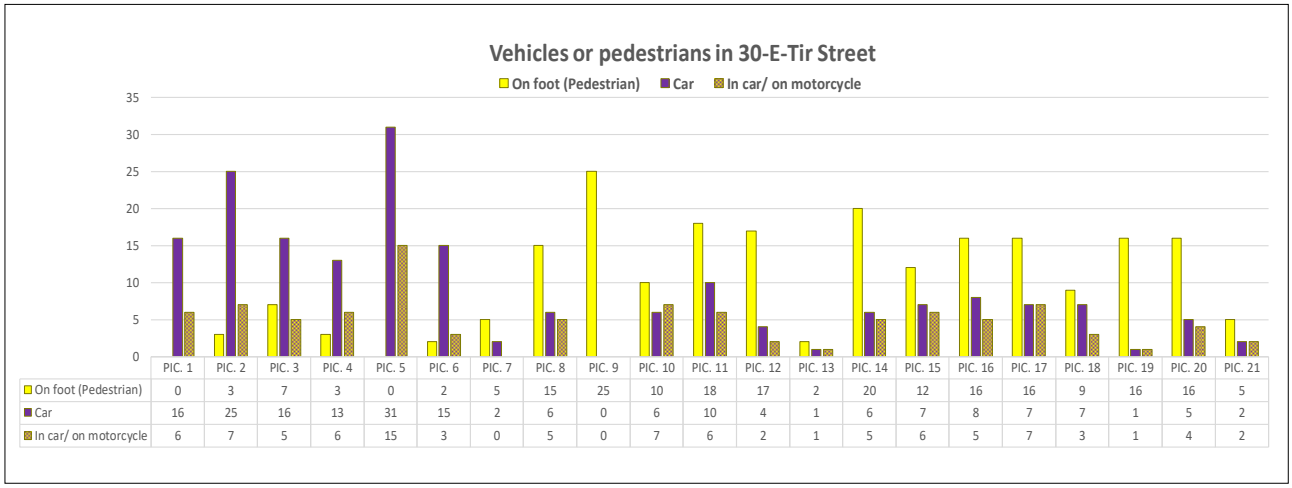

**Fig. 10 Interferences of movements of pedestrians and vehicles, and the challenge of the subsequent air and noise pollution for users in transit as well as in pause points (source: author).**

Similar to the Section 5 of this research, in further investigating the relative ratios of cars and pedestrians in 30-E-Tir Street, a dot-based process of analysis and counting have been applied. (see Fig. 11). The findings have been presented in the following diagrams of Fig. 12. As shown below Fig. 12 shows, the entrance point of this street (Pictures 1-7) is mainly vehicle-oriented. Eighty-nine percent (89%) of the entrance point includes the vehicles and users in vehicles (in cars or on motorcycles). As a result, only 11% of users are the pedestrians. Comparing these two numbers reveals the excessive number of car-traffic in comparison to users on foot at the entrance point (junction of Imam Khomeini Street and 30-E-Tir).

The reason is mainly the existence of Imam Khomeini Street in the southernmost point of 30-E-Tir Street. This one-way, wide and high-volume traffic route eases the entrance and fluid movements of cars in the north-to-south streets of neighbourhood such as 30-E-Tir. However, as seen in the parts related to Pictures 8-21 in the following diagrams of Fig. 12, inside this street, the proportion of pedestrians is 61% in comparison to the total ratio of vehicles and users in vehicles (in cars/on motorcycles) of 39%.

A massive decrease of (approximate) ratio of 90% to 40% in total number of vehicles and users in vehicles and a considerable increase of 10% to 60% in number of users on foot show a significant change of scale between the two streets of Imam Khomeini and 30-E-Tir. In other words, the entrance point (junction of these two streets) is a fissure point of scale that incorporates a conversion of vehicle-orientation to pedestrian-orientation. The remaining 40% of cars and motorcycles, and their occupants in 30-E-Tir Street, however, is a high percentage which represents the prevention of the fully safe and pleasant experience for pedestrian users.

**Fig. 11 The process of dot-based analysis according to the use of vehicles. Yellow dots: pedestrians; violet dots: vehicles; gradient violet-yellow: people in vehicles (Source: author).**




| | PIC. 1 | PIC. 2 | PIC. 3 | PIC. 4 | PIC. 5 | PIC. 6 | PIC. 7 | PIC. 8 | PIC. 9 | PIC. 10 | PIC. 11 | PIC. 12 | PIC. 13 | PIC. 14 | PIC. 15 | PIC. 16 | PIC. 17 | PIC. 18 | PIC. 19 | PIC. 20 | PIC. 21 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| On foot (Pedestrian) | 0 | 3 | 7 | 3 | 0 | 2 | 5 | 15 | 25 | 10 | 18 | 17 | 2 | 20 | 12 | 16 | 16 | 9 | 16 | 16 | 5 |
| Car | 16 | 25 | 16 | 13 | 31 | 15 | 2 | 6 | 0 | 6 | 10 | 4 | 1 | 6 | 7 | 8 | 7 | 7 | 1 | 5 | 2 |
| In car/ on motorcycle | 6 | 7 | 5 | 6 | 15 | 3 | 0 | 5 | 0 | 7 | 6 | 2 | 1 | 5 | 6 | 5 | 7 | 3 | 1 | 4 | 2 |

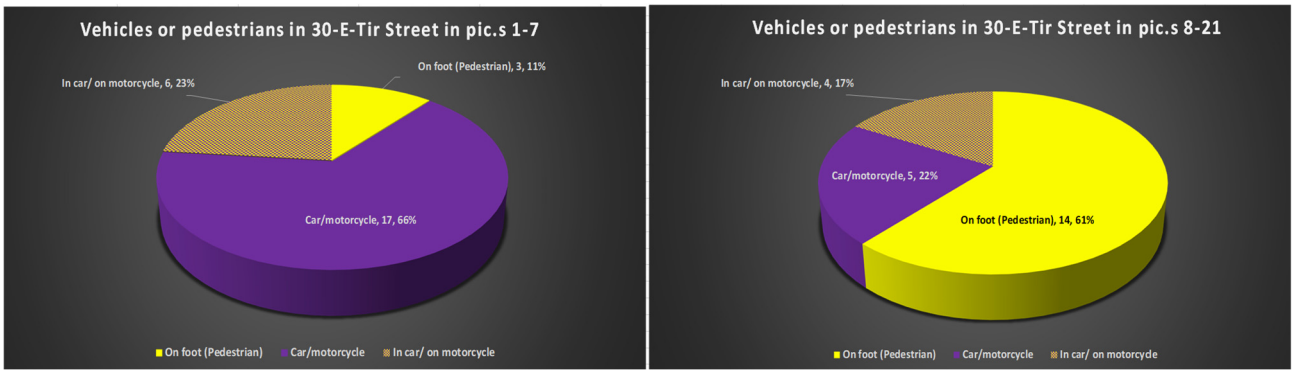



**Fig. 12 Vehicles or pedestrians at the entrance from Imam Khomeini Street (Pictures 1-7) and inside (Pictures 8-21) the 30-E-Tir Street (Source: author).**

As also explained by Paumier in 2004, in streets with significant volume of pedestrians, the capacity and speed of vehicles need to be kept as the minimum possible so that the noise and air pollution decreases and the on-foot safety increases. In 30-E-Tir Street, the entrance of vehicles has not been omitted or restricted by means of regulation or preventive elements (such as metal bars). However, the presence of pedestrians has spontaneously forced the drivers to reduce their speed. Simultaneously, the parallel automobile-based south-to-north paths in the neighbourhood of this street motivate the drivers with the preference of higher speeds and faster transits to select an alternative car-oriented access [2, 28].

In short, the floorscaping and small-scale facilities can be recognised as significant efforts to prioritise pedestrians

in this street. Furthermore, the recreational and touristic functions such as museums in the neighbourhood, are suitable factors that potentially contribute to (re)prioritising on-foot movements. This would contribute to restoring the life of pedestrians in this street as well as in the Central Tehran. The lack of restrictions of automobiles, however, has resulted in a chaos of movements. This has caused the pedestrians to move to the more peripheral area such as the lateral pavements of this linear path. Subsequently, the main area of this axis with its pedestrianised floorscaping is mainly occupied by vehicles (see Fig. 13). This challenge needs to be reflected in design and planning strategies for this street particularly in traffic management of Central Tehran.

**Fig. 13 The lack of restrictions on vehicles' movement and the outcoming leading pedestrians to the peripheral area of the side pavements (Source: author).**

## 8. Conclusions and Future Steps

Present Tehran, as a city that tops the list of the largest capital cities in the world started to grow as the capital since 1794. Transformation of a ramparted city into an ever-expanding metropolis at the present time has been significantly accelerated by modernisation process, and particularly since the advent of automobile in Iran in 1902. Similar to many big cities worldwide, this trend resulted in domination of vehicles and the subsequently the diminishment of pedestrians. The global awareness of the fading of pedestrians, however, has resulted in recent growing upsurge for a revival of the human scale particularly in the recent decades. The word "recent" here, implies on a range of one-to-six decades depending on the context, the magnitude of the problem, and the acknowledge of this necessity. This re-integration of human scale with design and planning

of cities would thus create a balance in the spectrum of scales in urban contexts [1, 2, 10, 28].

In compliance with this recreation of a range of scales in cities, few segregated projects can be traced in Tehran's city centre. In 30-E-Tir street, for example, food & junk food kiosks and the associated small-scale canopies, and flagstone floorscaping reveals a starting point for re-prioritising pedestrians. These small-scale facilities attract Tehranians—as groups of families in particular—from all around the city to spend the time of leisure in their city centre. The unlimited presence of vehicles, however, has affected the quality of their experiences in this 1.3-km street. As a result, requisite steps to prevent the interferences of pedestrians and vehicles are necessary. Traffic transfer to adjacent parallel streets, and rules and regulations on speed and entrance of cars, for instance, can lead to re-prioritisation of pedestrians in this recreational linear path.

Furthermore, in order to fully revive 30-E-Tir Street as a pedestrian-based axis, it is necessary to depict a detailed scene as well as an overall one. In other words, it is necessary to consider this street separately as well as collectively, to investigate how to re-integrate it with the wider scene of city centre. To this end, studying the mutual effects of the key characteristics of the traffic, potentials, and problems of the neighbourhood area of the city centre and of the case study street is crucial. In short, 30-E-Tir Street and the surrounding context of the city centre needs to be investigated individually and collectively.

As explained by Gehl and Svarre in 2013, "Although today it is hard to imagine, 100 years ago, there were few cars in cities. In the course of the 20th century—particularly from 1950—cars became an integral part of daily life and the street scene" [6, p. 42]. In the recent decades, and in particular in the last two decades in the 21st century, however, a reverse trend including the revival, the pedestrians and on-foot movements has created a priority in design and planning for city centres. This prioritisation which is recognised as "spurs regeneration" by Parumier [28] in 2004 might lead to the healing and subsequently the conversion of city centre into a convivial and vivid urban space for citizens.

As already explained, in 30-E-Tir Street, the floorscaping and food kiosks can be recognised as suitable starting point of the revival of pedestrian movements. "If you want to seed a place with activity, put on food… vendors have a good nose for spaces that work. They have to... This will draw more people… more vendors, and sometimes so many converge that pedestrian traffic slows to crawl" [32, p. 50]. As a result, these eating stimulations invite various groups of age and gender groups including families and friends.

In order to create the feeling of physical and mental satisfaction through experiencing this street, however, defining the necessary bounds between the movements of pedestrians and vehicles movements is necessary. To this end, it is proposed to convert this street to a fully pedestrian-based linear path. Considering the adjacent streets through direct appraisal has revealed that there are possible substitute streets for the transit of vehicles in the neighbourhood of 30-E-Tir Street. The parallel wide south-to-north streets—such as Ferdowsi Street—with similar movement direction to 30-E-Tir (one-way movement direction of south-to-north), for instance, can potentially bear the burden of the additional load of the omitted and thus transferred traffic of 30-E-Tir Street (for further details on the movement direction of neighbourhood street please see Fig. 6). In other words, in case of converting 30-E-Tir merely to the pedestrians, the vehicle transit could be divided and transferred to adjacent parallel streets which can potentially cover the additional load of traffic.

In case of converting 30-E-Tir to a car-free street, adding recreational facilities that are compatible with the area is proposed. For instance, in accordance with the eating and drinking kiosks and the relevant furniture, creating the opportunity of small-scale shopping with variety of themes is suggested. In continuity of the current path of kiosks, a path including the proposed

themes includes the seasonal, handicraft, occasion-based or charity-based, children-based (such as games, competitions like painting or small shows) Bazaarcheh[4].

Temporary or permanent, these linear recreational facilities can be inviting for various groups of users, even for the children. As further explained by Whyte, "it is often assumed that children play in the street because they lack playground space. But many children play in the streets because they like to" [32, p. 11]. These facilities would thus be helpful to transform 30-E-Tir into a convivial, inclusive, overarching, and sustainable street that addresses various users with diverse targets to come to the area.

In addition to the inside area of this street, its particular location and the neighbourhood opportunities of the city centre, create the possibility of (re)generating connections in a wider context. In achieving inclusiveness and sustainability of this street through a more urban scale, considering potentials and problems within the wider distances in the city centre is also necessary. This would thus lead to making the area walkable through a pleasant and interesting excursion for users who visit the city centre with divergent motives.

It should be noted that an integrated pedestrian-based network not only creates a pleasant and inclusively interesting experience for various types of users, it can lead people towards undetermined paths which can create future motivations to return to the area. In other words, each experienced segment through navigation of every visit to the city centre can create future sparks and subsequently stimulations for future returns and next visits. As a result, in the proposed depicted image, 30-E-Tir Street can be recognised as a reason to come to city centre and to explore the recreational-touristic functions of Central Tehran.

## Endnotes

(1) The term "megalopolis" was first applied for Tehran by Dr Mansour Falamaki in order to clarify the existing complexities of this over-populated and over-expanded city (for further details see Ref. [34]).

(2) The main calendar in Iran, which was originally formed in the time of the Sassanid empire, is called Shamsi (Iranian solar calendar). This calendar has been modified and revised over time. In the present format—also known as the Jalali clender—there are 12 months called Farvardin, Ordibehesht, Khordad, Tir, Mordad, Shahrivar, Mehr, Aban, Azar, Dey, Bahman and Esfand. The year starts at the exact moment of the vernal equinox. The first six months have 31 days, while the next five months have 30 days, and the last month, Esfand, may have 29 or 30 days. The start of Norouz (currently known as the New Year) and the first of the month Farvardin in the Persian calendar is equivalent to the 21st or the 20th of March. In order to clarify the difference and also the relation of the Shamsi and Gregorian calendars, one example is provided. 20 March 2020 is equivalent to 1st day of the first month (Farvardin) of the year 1399. For further detail please see Ref. [35, pp. 177-179]. The Zoroastrian Sassanid, also known as the Sassanian empire (224-651 AD), fell to the Arab Islamic Invasion in 651 CE, but the Shamsi calendar that was formed in 621 CE remained as the main calendar of Iran up to the present [36, 37].

(3) Some colours (categories of users) are not included in this particular image. However, the colour-legend applies to all images and thus needs to incorporate all groups of users in the whole area of this street.

(4) The term "Bazaarcheh" in the Persian language consists of two parts, "bazaar" and "cheh". The suffix of "cheh" has the meaning of "small" [38].

## References

[1] Gehl, J. 2010. *Cities for People.* Washington: Island Press.
[2] Municipality of Tehran. 2020. *Living in Tehran: About Tehran*. Accessed August 20, 2020. http://www.tehran.ir/Default.aspx?tabid=117.
[3] Eligasht Sightseeing Group. 2018. *Introduction of 30-E-Tir Street: The Most Memory-Making Paved Street of Tehran*. Accessed May 5, 2020. https://www.eligasht.com/Blog/travelguide/خیابان-سی-تیر/.
[4] Visman Touristic Club. 2018. *30-E-Tir Street: Yummy*

*food Street of the Capital*. Accessed June 10, 2020. http://www.vis-man.ir/news/ID/619/30.

[5] Groat, L., and Wang, D. 2002. *Architectural Research Methods*. New York; Chichester: Wiley.

[6] Gehl, J., and Svarre, B. 2013. *How to Study Public Life* Translated by Steenhard, K. A. Washington: Island Press/Center for Resource Economics.

[7] Finn, J. A. 2005. *Getting a PhD: An Action Plan to Help Manage Your Research, Your Supervisor and Your Project*. London: Routledge.

[8] Hart, C. 2018. *Doing a Literature Search: A Comprehensive Guide for the Social Sciences* (2nd ed.). London: SAGE Publications Ltd.

[9] Anvar, A. 2011. Preface. In *Tehran (Past & Present): The Heritage of Old Tehran*, edited by Norouzi Talab, H. R. Tehran: Yassavoli Publications, pp. 12-40.

[10] Behzadfar, M. 2007. *Case-Study: Tehran, The Identity of City*. Tehran: Nashr-e-Shahr.

[11] Hamidi, M., Habibi, M., and Sabri, R. 1997. *Structure of Tehran*. Tehran: Technical and Engineering Consulting Organisation of Tehran.

[12] Statistical Centre of Iran. 2017. *Country's Population and the Excel-Chart Categorisation Based on Gender Indicator in Urban and Rural Areas of Iran's Provinces in 2017*. Accessed November 20, 2017. https://www.amar.org.ir/سرشماری-عمو□ی-نفوس+□-□سکن/نتایج-سرشماری/نتایج-کلی-سرشماری-1395.

[13] Statistical Centre of Iran. 2018. *Tehran Province's Proportion in Population of the Whole Country*. Accessed August 14, 2020. https://www.amar.org.ir/news/ID/2648/166.

[14] Madanipour, A. 1998. *Tehran: The Making of a Metropolis*. Chichester: John Wiley.

[15] Banimasoud, A. 2009. *Iranian Contemporary Architecture* (2nd ed.). Tehran: Honar-e-Memari-e-Gharn.

[16] Qazvini, Z. B. M. B. M. 1275. *Issues of Lands and News of People*, translated from Arabic to Persian by J. Mirza Qajar, and revised and complemented by M. H. Mohaddes (1994). Tehran: Amir Kabir.

[17] Beytooteh Group. 2014. *The History of Iran*. Accessed August 15, 2020. http://www.beytoote.com/art/negah-gozashte/iran-history.html.

[18] Sadvandian, S. 2014. *The Story of Modernity in Iran.* Institute of Iranian Contemporary Historical Studies, The Section of Transformation of Tehran. Accessed August 23, 2020. http://www.iichs.ir/News-1/هایی-گوشه%E2%80%8C-از-حکایت-□خراش-تجددی-بیمارگون-(1)/?id=1.

[19] Dubeux, L. 1841. *La Perse*. Paris: Firmin Didot Frères.

[20] Flandin, E., and Coste, P. 1851-1854 (Approximate). Voyage en Perse de mm. Eugène Flandin, peintre, et Pascal Coste, architecte, entrepris par ordre de m. le ministre des affaires étrangères, d'après les instructions dressées par l'Institut. Publié sous les auspices de m. le ministre de l'intérieur. Paris: Gide et J. Baudry. (in French)

[21] The New York Public Library. 2016. *Paintings by Flandin and Coste, Derived of the Book: Voyage en Perse de mm. Eugène Flandin, peintre, et Pascal Coste, architecte, entrepris par ordre de m. le ministre des affaires étrangères, d'après les instructions dressées par l'Institut. Publié sous les auspices de m. le ministre de l'intérieur*. Accessed August 25, 2020. https://digitalcollections.nypl.org/collections/voyage-en-perse-de-mm-eugne-flandin-peintre-et-pascal-coste-architecte-entrepris?format=html&id=voyage-en-perse-de-mm-eugne-flandin-peintre-et-pascal-coste-architecte_entrepris&per_page=250&page=2#/?tab=about&scroll=33.

[22] Kiani, M. 2004. *Transformation of Concepts and Formation of a New 20-Year Old Contemporary Architecture (1921-1941).* Tehran: Institute for Studies of Iran's Contemporary History.

[23] Google Maps. 2019. *Tehran, Iran (detail) Map*. Accessed September 27, 2019. https://www.google.co.uk/maps/@35.6835556,51.3790918,11z.

[24] National Museum of Iran. 2020. *Introduction of the National Museum of Iran*. Accessed August 17, 2020. http://irannationalmuseum.ir/fa/معرفی-□وزه-□لی/.

[25] Institute for Iranian Contemporary Historical Studies. 2020. *Ahmad Ghavam: From Calligraphy to Prime Ministership*. Accessed September 8, 2020. http://www.iichs.ir/p/News.aspx?searchId=91846&id=8374&title.

[26] Hamshahri Online News. 2012. *Biography of Ahmad Ghavam*. Accessed September 17, 2020. https://www.hamshahrionline.ir/news/173310/.

[27] Tehran-e-Parirooz Group. 2015. *Ghavam-ol-Saltaneh Street and Its Crossroads*. Accessed July 27, 2020. https://www.facebook.com/media/set/?set=a.484490845064468.1073741933.367761816737372&type=3.

[28] Paumier, C. 2004. *Creating a Vibrant City Center: Urban Design and Regeneration Principles*. Washington: The Urban Land Institute.

[29] Madanipour, A. 2010. Whose Public Space? In *Whose Public Space? International Case Studies in Urban Design and Development*, edited by Madanipour, A. Abingdon: Routledge, pp. 237-42.

[30] IRNA News. 2017. *Paving the Streets of Tehran with Flagstones: Speeding Down or Making Obstacles*. Accessed August 16, 2020. https://www.irna.ir/news/82530378/.

[31] Tehran Municipality Information & Communication Technology Organisation. 2011. *Atlas of Tehran Metropolis*. Tehran: Tehran Municipality Information & Communication Technology Organisation.

[32] Whyte, W. H. 1980. *Social Life of Small Urban Spaces*. Washington: Conservation Foundation.

[33] Department of Transportation & Traffic of Municipality of Tehran. 2019. *Congestion Zone of Tehran: restrictions and fees*. Municipality of Tehran. Accessed June 25, 2020. https://my.tehran.ir/.

[34] Falamki, M. M. 2007. *In Conversation with Dr. Falamaki about Tehran.* BBC Persian, Section of Iran. Accessed September 24, 2020. http://www.bbc.com/persian/iran/story/2007/07/070706_ka-tehran-falamaki.shtml.

[35] Daniel, E. L., and Mahdi, A. A. 2006. *Culture and Customs of Iran*. Westport, Conn. London: Greenwood Press.

[36] Nabarz, P. (ed.). 2013. *Anahita: Ancient Persian Goddess and Zoroastrian Yazata*. London: BM Avalonia.

[37] Razi, H. 2004. *Ancient Iranian Festivals: Norouz, Abpashan, Abrizgan with the Religious Ceremonies and Customs of Zarathushtrian/Parses*. Tehran: Behjat.

[38] Dehkhoda, A. A. 1998. *Dehkhoda Encyclopedic Dictionary of Persian Language*. Tehran: University of Tehran in Collaboration with Dehkhoda Lexicon Institute & International Centre for Persian Studies.