

PEDESTRIANS' PERCEPTION OF SUB-SPACES ALONG URBAN ROADS AS PUBLIC SPACES –CASE OF ESKİŞEHİR ROAD IN ANKARA

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INTRODUCTION

Increased motorized traffic has in many ways affected the urban form and the public qualities of spaces in cities since 1950s. The settlement pattern introduced by the increased means of motorized transportation, that is the extensive use of private automobiles, has been giving way to new urban space types like areas characterized with sparse settlements lead by roads which have become worldwide today.

As the motorized traffic became an ultimate definer of contemporary urban form and its perception, the way circulation and speed relates to urbanity and to the public character of spaces has attracted attention as a major field of study. An ultimate contribution in the field was made by Nijenhuis (1994), who claimed that primarily the city was formed and informed by heterogeneous speeds; by the difference between inertia and traffic. Furthermore, Read (2006) has shown that in history the 'urban' has been generated with the placement of a trading place or market centrally on the high-street which is always at the crossroads in a much larger network. In that framework, generators of urbanity comprise the specific areas which embody the speeds for two different scales of circulation; a local and a further larger scale.

In Montgomery's (1998) definition, activity is one of the three main factors in the formation of urbanity and involves land uses, pedestrian flow, behavior patterns, noise, smell and vehicle flow. Montgomery (1998, 97) introduces activity as the product of vitality and diversity, where vitality refers "generally to the extent to which a place feels alive or lively" and can be gauged by measuring pedestrian flows and movements. Spaces of vehicular and pedestrian flow; streets and their sidewalks were defined as the main public spaces of a city, its most vital organs by Jacobs (1961, 29) who also indicated that they needed to involve vitality and diversity to provide rich public space. Vitality and diversity are mostly promoted by high vehicular and pedestrian accessibility, which brings together

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those from various inner and outer parts of the city. Accordingly, dense pedestrian areas with high accessibility and diverse functionality are potential centers and areas with high urbanity.

Togetherness and co-affectation of pedestrian and vehicular circulation in cities; specifically in densely used pedestrian spaces along motorized traffic routes, generate urban public space. The present study concentrates on sub-spaces along urban roads, as a specific public space type where the effects of high-speed motorized traffic on pedestrians are strongest. The study aims to elaborate the perception of qualities related to the public character of these spaces, and the negative factors introduced by high-speed traffic, and also their co-relation.

After a brief theoretical overview including the definition of roads as urban public spaces and a discussion on the characteristics of sub-spaces along urban roads; the perception of sub-spaces by pedestrians will be described through a two phased study that has been held through a dense road that is Eskişehir road in Ankara (1). The first phase is before and the second phase is after a major road expansion on this road, testing pedestrians’ perception at its most vivid section which presents public character due to its critical location offering high accessibility. This section has developed rapidly in the past ten years as reflected by the rising buildings and activity types accompanying increased pedestrian flow.

LITERATURE REVIEW: PUBLIC CHARACTER OF SUB-SPACES ALONG ROADS

Based on Arendt’s (1958) definition of the public realm as implying an individual or a group that presents his/her/its specific qualities with public observing them from diverse perspectives and aspects; and Lofland’s (1998) suggestion that the “public” character of space emerges according to particular conditions like “diversification” and “exchange”, the public character of spaces was found to evolve with regards to two main groups of conditions: (a) the capability of spaces to bring together many and diverse users, and (b) the possibility spaces provide for their users to express themselves (Alanyalı Aral, 2009). These two groups of conditions relate both to the physical properties like accessibility and specific form, and to the programmatic properties like diverse functionality and processes of production and use promoting users’ participation and self-expression in spaces. Consequently, main circulation arteries in the city, particularly if densely used by pedestrians and embody functional diversity, emerge as highly potential public urban spaces.

Roads –Types and Evolution

Regarding Jacobs’ (1969) research on ancient settlements in Anatolia, circulation arteries appear as the definers of first human settlements. Jacobs (1969) claims that the first human hunter-gatherer camps were located at strategic nodes in a sub-continental network of trade in strategic materials. Accordingly Read (2006) emphasizes the fact that a large scaled network of pathways -thus roads, were the prime condition for the establishment of human settlements.

The word road connotes to ‘a wide way leading from one place to another, especially one with a specially prepared surface which vehicles can use’ (Oxford Dictionaries, n.d.). The idea of urban as an outcome of a greater network giving way to social and economic relations is structured

upon a centrifugal spatiality which brings about new pathways and a new grid which is local (Read, 2006) and this co-existence of different networks with different speeds brings the diversity of people from different areas and a group that is local. This togetherness engendered face to face contact as a basic condition of urbanity since the first settlements, until the boost in circulation speed was instigated with the increase in private car use in the 20th century.

Street as a public road in a city, town or village, typically with houses and buildings on one or both sides (Oxford Dictionaries, n.d.) connotes to being located in a settlement area and to the existence of buildings placed on its sides, whereas road serves mainly to the movement of vehicles through and could be existing in or outside a settlement area. Roads have evolved and taken various shapes and properties in history according to their functional and physical qualities. Urban roads served both vehicular and pedestrian circulations in usually an undetermined priority and order until the emergence of the type 'boulevard'.

A boulevard is defined as a wide street in a town or a city, typically one lined with trees (Oxford Dictionaries, n.d.). Particularly boulevards are wide, tree-lined streets with separate spaces for pedestrians, riders and vehicles of different types (Jacobs et al., 2002, 76). As a specific type of street, first boulevards appeared in late 16th century when the ramparts, the wide elevated inner earthworks built for staging heavy weapons behind town walls, were planted with trees and began to be used for limited public recreation after the city walls became obsolete in European cities like Amsterdam and Strasbourg (Jacobs et al., 2002, 74). In 1670, when Louis IV abandoned the walls of Paris and ordered them turned into public pleasure promenades, the definitive character of boulevards as the places for leisure and public encounter was established. Boulevards were principally associated with pleasure but also through-traffic movement until mid-19th century; with Hausmann's reconstruction of Paris in the 1850s they were integrated with cities' street networks and were spread as a popular street type in major cities in Europe and the United States (Jacobs et al. 2002, 77). In early 1900s, new boulevards were usually straight and radial rather than the earlier circular ones, and interestingly their purpose was to open up areas adjacent to the city for new urban development .

Physical form of the boulevard was refined by Hausmann with the addition of paved roadway and raised curbs; and types evolved as: *boulevard street*, the *center-median boulevard*, and the *multiway boulevard* (Jacobs et al., 2002). Boulevards were later designed for new vehicle types added to the traffic like bicycles and automobiles, and served them together with wide pedestrian spaces. Though spread to many cities on the world with sometimes different names like avenues, or parkways; or sometimes named as boulevards only for achieving the sense of grandeur the name implies; boulevards were seen outmoded starting after the World War II especially in the US where traffic engineers began to designate road systems according to functional categorizations mostly disregarding their urban impacts.

Albeit the rich urbanity they offered and just like the unpopularity of the complexity and diversity of the traditional city for the Modernist architects of the period, boulevards' complex schemes for the togetherness of various speeds and diverse users were disregarded and considered unsafe (2). A system of classifying streets based on their functions started to be applied and this Functional Classification system implied no possibility for streets

2. Modernist structures and urban schemes for movement developed separately for fast vehicular traffic and pedestrian circulation –as detached with level differences can be seen in examples like Le Corbusier's urban schemes.

enjoying both high access and high movement functions (Jacobs et al., 2002). Functional classification is still in use in many countries.

Planning processes of circulation network for motorized traffic introduced new terms and alterations in definitions. The term highway which was in use since 17th century connoting to main roads, especially Roman roads either in the country or town (Online Etymology Dictionary, n.d.), was later transformed to mean an inter-city road as 'a main road, especially one connecting major towns or cities' and was also used as 'another term for expressway' in the U.S., where expressway connoted to 'a highway designed for fast traffic, with controlled entrance and exit, a dividing strip between the traffic in opposite directions, and typically two or more lanes in each direction' (Oxford Dictionaries, n.d.).

Functional classification defined the terms "freeway, expressway, arterials, collector streets, local streets" from the highest speed highest capacity with fully-controlled access and no at-grade intersections to the lowest with only access to abutting land uses and short trips (Jacobs et al., 2002, 94). The system is designed with reference to motorized traffic, not to pedestrians and mainly for separating fast traffic from slow traffic for the sake of safety. For the detachment offered, this system diminishes complexity thus the possible contribution of roads to urbanity. Halprin (1966), in his critical book on freeways, presents the problems, potentialities and possible alternative design attitudes for network systems; emphasizing that the qualities of roads in the context of urban settings, should be concerned and designed in accordance to their sociological as well as physical impact on communities.

Critical approach to Modernist urbanism after 1960s and the evaluation of the effects of previous road planning introduced reactions including both public campaigns and professional attempts for freeway removals, walkable urban thoroughfares and 'highways to boulevards' movements in many cities especially in the US. Still most contemporary cities suffer the effects of high-speed roads designed which produce disapproving conditions with severe effects on pedestrians. According to Alfonzo's (2005) "walking needs", motorized traffic has negative effects not only on pedestrian safety; but also on the comfort level –for the reason of noise and poor air quality; whereas it contributes to the accessibility and partly adds pleasurable characteristics because of the liveliness it introduces.

In literature, urban roads are among everyday spaces and Crawford (1999) claims that the incoherent landscape of roads defeats any conceptual or physical order. According to Augé's (2008) theorization, roads remain among non-places being spaces experienced through journeys. As Read (2006) asserts, the contemporary urban space presents a different character than historic cities, for the high-speed metropolitan network deteriorates the pedestrian life and threatens urbanity. Problems related to motorized traffic in cities have been found as impoverished environment due to dirt, noise and visual pollution (Gehl and Gemzoe, 2001; Carmona, 2010), detached (Alanyalı Aral, 2008), recessed and invaded urban space; remaining unattractive and unattended spaces in-between destinations of car journeys; thus ignored or marginalized pedestrians (Gehl and Gemzoe, 2001; Carmona, 2010; Lefebvre, 1991); safety problems and restrictions to the freedom of movement for pedestrians both within and between spaces (Carmona, 2010).

Sub-Spaces along Urban Roads

The spaces that are left over beside/under/between/within the circulation arteries in the cities have been defined as sub-spaces (Alanyalı, 2009). When along urban roads, these spaces show certain particularities according to high speed and dense motorized traffic. With their varying sizes, shapes and treatment, sub-spaces along urban roads present their potentials for the public realm due to their high visual and physical accessibility. Sub-spaces along urban roads can be considered as part of the new public domain, in Hajer and Reijndorp's (2001, 129) terms, for they are places where different worlds of inhabitants of the urban field touch each other.

Sub-spaces become leftover spaces (Alanyalı Aral, 2009) when they are not maintained properly. Lampugnani (2006) mentions them as the emblem of globalization and defines them in two categories: benign residual spaces as spaces which may contribute to the city like the spaces left between the carriageways on roads, and malignant residual spaces such as viaducts and underpasses which he claims as hopeless cases that should not be allowed to arise in the city.

Sub-spaces often acquire public character and are used by urbanites for a wide range of activities: In many cities, surfaces facing sub-spaces beneath elevated roads are used as boards for graffiti exposed to passers-by. Cupers and Miessen (2002) exemplify in Berlin that sub-spaces along urban roads obtain a certain stage character, as a result of their transparency; no matter how ephemeral or small-scale, they attract theatrical behavior. In the context of contemporary Turkish cities, sub-spaces along urban roads were found to be used as self-adapted walkways, as vending spaces or as recreation spaces where urbanites spent their time resting and making picnic (Alanyalı Aral, 2008).

Pedestrians' Perception of Sub-spaces

Although there may be common effects like stress caused by traffic congestion (Alanyalı Aral, 2008), the perception of urban roads by various groups shows particularities. The experience of commuters and drivers in the motorized traffic involves basically the isolation from the surrounding space, increasing as the speed of the vehicle increases, and signifies the hindrance for the actual encounter in urban space (Appleyard et al., 1964; Virilio, 1997; Urry, 2000; Gatersleben and Uzzell, 2007). The visual perception of the study area from inside the car, taken within a longer section of the road, has been elaborated in an analytic study by Çalışkan (2011), where he indicated the visual perception of urban space decreased significantly with increased acceleration offered by the road. On the other hand, urbanites living in areas close to the heavy motorized traffic and the relevant oversized structural elements are affected in many ways. In Robertson's (2007) study on Westway, which encompasses a considerable distance as an elevated road within the urban tissue in London, inhabitants were reported to be disturbed by the road for the lack of care for its surrounding, the disregard for pedestrian mobility and settlement, loss of street life, segregation of communities, social isolation and the ambiguities of control.

The utmost definer of pedestrians' perception on sub-spaces along roads is the state of being adjacent to motorized traffic which is usually dense and fast. Gatersleben and Uzzell (2007) have found that the sheer volume of traffic causing noise, pollution and danger, was one of the main sources for pedestrians' displeasure. Research on aspects defining the preference

of walking routes and on the factors encouraging or discouraging pedestrian circulation in the city reveal the dimensions of the effects of motorized traffic on pedestrians' perception. Pedestrians' spatial choices and preference of routes have been explained by factors such as functional density and diversity with the presence of attractors and pedestrian amenities (Handy, 1996; Cervero and Kockelman, 1997; Rodriguez and Joo 2004; Hoehner et al. 2005; Brown et al. 2007); physical layout and visual corridors (Hillier, 1984); and pedestrian safety (Patton, 2007; Carver et al., 2005).

Research has found that mixed land use and the density of movement generators promote pedestrian movement (Handy, 1996; Cervero and Kockelman, 1997; Rodriguez and Joo 2004; Foltête and Piombini, 2007). Walking is found to be more likely when the area provides good access to desired destinations like shopping areas or malls, recreation facilities, parks and /or open space or public transportation stops (Brown et al. 2007). For the pedestrian routes, it was found that environmental qualities like quietness and landscape features, and pleasantness of pathways, such as those with appealing scenery (Hoehner et al. 2005) were factors for preference of routes. Safety problems, involving traffic safety, were found to prevent or reduce walking, as less walking was reported in areas along speedy and dense roads with high risk of accidents; areas with greater traffic or traffic noise (Carver et al., 2005).

On the other hand, despite the effects of negative factors introduced by heavy traffic, Chang (2002) has found that pedestrians showed such a strong tendency to follow the simplest route in terms of direction change –even not always the shortest one; that it surpassed the effects heavy vehicular traffic, along with the effects of factors like area familiarity and people congestion on those particular routes.

Furthermore, Lee and Moudon (2006) have found that the effects of traffic volume –along with street width– were insignificant on walking when compared to the effects of some other factors like specific destination land uses. In another study by Foltête and Piombini (2007) only the number of lanes among the descriptors of integration in urban environment, was found in positive correlation with pedestrian intensity, whereas sidewalks were interestingly found not to play any role.

Research questions

In relation to the duality with regards to the relationship and effects of motorized traffic on pedestrians, current study aims to figure out the pedestrians' perception of the sub-spaces along roads.

The research focuses on two separate factors as the negative factors on the one side and the public character introduced by the urban roads on the other. The negative factors have been found to involve safety, noise and pollution problems related to fast and dense traffic. On the other hand, the public character of sub-spaces has been found to be based on the high accessibility, diversity and vitality of these spaces. In that context, pedestrians' perception has been tested and evaluated in a densely used area embodying a wide range of pedestrian attractors by Eskişehir road in Ankara.

The questionnaires were held aiming both an overview of the pedestrians' perception of the area, and the change in relation to the increase in the road

capacity, which was implemented during the study. To test the perception of negative factors in the area, three sets of semantic adjectives were defined as *noisy/tiresome*, *polluted/unhealthy* and *fast/unsafe*. The adjectives describe the main problems in sub-spaces, as found to be noise, pollution and safety, with their effects on pedestrians. Then the adjective to define the public character as *well-known*; and another set of semantic adjectives describing positive pedestrian space characteristics as *dynamic/lively*, *enjoyable* and *green* were placed in the questionnaire. To test the urbanity of the area, the adjective *dynamic/lively* was purposefully placed among other positive defining adjectives. The research aimed to find out whether these spaces are perceived predominantly with their negative characteristics related to dense motorized traffic, or with their public and positive urban space characteristics.

Another research question was whether and how pedestrians' perceptions were altered with the implication of a major road expansion on the road. Accordingly, the questionnaire was designed and applied in two phases before and after this expansion.

It was hypothesized that the sub-spaces along urban roads offered a significant level of urbanity as being well-known and lively, in spite of being uncomfortable pedestrian areas as being fast, unsafe, noisy, tiresome, polluted and unhealthy. It is also hypothesized that despite the negative effects of motorized traffic, the urbanity and public character of these kinds of areas are even more fostered by the increase in the capacity of the traffic load by road expansion, and also that pedestrians' perception of the area was related to the factors like frequency of use and user contentment.

METHOD

Setting

The study is held on the eastern section of Eskişehir road, which is one of the two inter-city connections on the western corridor that is the main spreading zone of Ankara (**Figure 1**). This road leads to numerous accommodation areas: neighborhoods that continuously expand, as well as public institution buildings, university campuses, shopping and business centers, hospitals etc. The rapid development also brings about heavy vehicular traffic with a high rate of private cars due to the fact that new settlements on this axis are usually where high-income groups are accommodated. As the urban areas accessed by the road grow, spaces along the road become heavily loaded by new buildings accessed from this road: hospitals, business and shopping centers, café-restaurants and recently hotels, in addition to earlier gas stations, public institute buildings and intercity bus terminals. The study area comprises about 500-600 m. long section between Konya Road (also named Mevlâna Boulevard on that section) connection in the east and Söğütözü-Çukurambar neighborhoods junction on the west, which is the busiest and most populated part with ongoing building activity and observed dense pedestrian use. The area also functions as a transit area for inner-city public transportation and for bus travelers from the close-by inter-city bus terminal AŞTİ.

Ankara center starts immediately to the east of Konya road (also named Mevlâna Boulevard) intersection. This section of Eskişehir Road—starting the intersection till the ring-road about 20 km. to the west, has also been named as 'Dumlupınar Boulevard', yet usually it is known as Eskişehir road (3). The general preference for the name is understandable, for the

3. The duality in the names indicate the inherent paradox of the actual condition: Not originally designed as 'boulevard's in essence or in physical means, these sections of Eskişehir and Konya roads have been named as Dumlupınar Boulevard and Mevlâna Boulevard: As inter-city roads originally, they have been transforming their immediate surroundings into urban areas being also fostered by the rapid urban growth, yet without providing for the necessities of being 'boulevard's in definition.



Figure 1. The study area on Eskişehir road in July 2013 (indicated by authors on googleearth images).

‘designed’ boulevard of Ankara; Atatürk Boulevard from 1940’s until recently has provided the city with an example of a boulevard as a pedestrian and urban place (**Figure 2a** and **2b**).

Increased density and functional diversity bring about pedestrian use along the road. Yet the extraordinarily dense pedestrian use relies on this area’s role as a connector of the districts on both of its sides and on its character as a transit area for a wide range of directions in the city. The area is also very close to Ankara’s inter-city bus terminal (AŞTİ) and to the transit stops on Konya road - leading to the inner city and further districts on north-south directions. The area has been becoming denser and more active since the study period (October 2005-May 2007) with buildings like Ankara Trade Chamber; Congressium holding public fairs and events since 2011, the extension building to Armada shopping center since 2013, Next Level shopping mall, office and accommodation complex since 2013, Via Tower shopping and business complex since 2009 and business centers being constructed in close vicinity, in addition to a number of hotels including the 26-storey high JW Marriott since 2011, and Mövenpick functioning since 2012. Besides this ongoing addition of buildings and activities, the construction site on the south side of the road held a huge structure which was started in April 2005 and has recently been torn down for a new 60

Figure 2. Views of Ankara’s ‘designed’ boulevard; Atatürk Bulvarı (a) in 1948, (b) in 1977 (Source: <http://www.eba.gov.tr> [Erişim:16.12.2014]).





Figure 3. Current (2014) views showing the continuing increase in building density and functional diversity (a) in the surrounding section of the city (b) in the study area.

storey- high business complex to be the tallest building in Ankara (**Figure 3**).

For the urbanity and the public character, the area presents an easily observed value for its high activity, as the product of vitality and functional diversity. Being the ground for the togetherness of both dense vehicular and pedestrian traffic the area provides the basis as a public space for the city; and is hosting an extraordinarily dense pedestrian use, though not designed for that. The study aimed to examine the perception and effects of an environment that is so close to heavy traffic and that presents difficult conditions for the pedestrians.

Research

The research was designed to test pedestrians' perception of sub-spaces and the effect of a major road expansion on this perception. Accordingly, the study was conducted in four different time periods through interviews that were handled in two successive years. In the first phase, the first questionnaire was held in October 2005, at a peak hour between 16:30 to 17:00 during Ramadan, and the second one was held in May 2006 at a non-peak hour between 11:00 to 11:30. In the second phase, the third questionnaire was held in November 2006 at a peak hour between 17:15 to 17:45 and the fourth one was in May 2007 at a non-peak hour between 11:00 to 11:30. The participants were selected randomly and the participation to

the questionnaire was voluntary. All of the participants were pedestrians and they were acknowledged that the personal information collected through the questionnaire would be kept confidential.

The interviews were handled in 6 pre-defined locations that provide a different existence for the selected area as:

- a. connection to Konya road and AŞTİ inter-city bus terminal,
- b. main entrance plaza of Armada shopping mall and business center,
- c. connection to Söğütözü district,
- d. bus stops and connection to the under-passing vehicular link to northern and southern areas,
- e. pedestrian overpass,
- f. bus stops and connection to Çukurambar district (**Figure 4a** and **4b**).

During these two years, the vehicular density and capacity of the road has increased. In summer 2006, Ankara Metropolitan Municipality expanded the road by increasing the number of lanes from a total of seven to



Figure 4. The study area and pre-defined locations for the questionnaires (a) in June 2005 -just before the first phase and (b) in May 2007-during the last phase (lanes and buildings indicated by authors on googleearth images).



Figure 5. View of the area towards the city center (a) in 2003 on the opening day of Armada Shopping Mall (Source: A Tasarım Mimarlık); (b) in 2009 after the road expansion.

4. The number of lanes were totally seven in 2005: three lanes on both sides and one sub-lane towards the center. After the road expansion, total number increased to twelve with four lanes plus three added sub-lanes towards west, and three lanes towards the city with two added sub-lanes.

twelve (4) minimizing the pedestrian areas on both sides, and blocking pedestrians' surface crossing of the road by placing high concrete blocks in the middle. There were no other significant changes in building stock and the activities during these two years. Building construction in the area continued. The road expansion changed the overall character of the setting; pedestrians' only crossing possibility of the road became the pedestrian overpass whereas there were surface crossings before (**Figure 5a** and **5b**).

In the period of both phases, the overall quality of the walking environment was poor in the area, as seen in **Figures 8, 9** and **11**. Existing sidewalks were uncomfortable in many ways, and there were even no sidewalks in some parts. Only in a limited area in front of Armada shopping mall and its connection to inter-city bus terminal, there were better walking conditions (**Figures 6-11**).

Demographic Data

A total of 233 participants were questioned, but 214 of them completed the questionnaire. Among these, 43 participants were from the first phase, 54 were from the second, 59 were from the third and 58 were from the last phase of the study. The questionnaire was applied to different groups in every phase, making it impossible to compare personal changes in perception before and after the road expansion. Totally, there were 130 males (60.7%) and 84 females (39.3%). Most of the participants were between the ages 21-30 (56.5%). 11.2% were 20 years old or younger, 19.6% were between the ages 31-50 and 12.6% were older than 51. More than half

Figure 6. Area a in June 2005.

Figure 7. Area b in June 2005.





Figure 8. Area c in June 2005.



Figure 9. Areas c and d in June 2005.



Figure 10. Area e in June 2007.



Figure 11. Area f in June 2007.

of the participants had a university degree or a higher degree (53.80%); 35.7% of the participants were high school graduates and only 10.5% had primary school degree.

RESULTS

The participants of the study were from different parts of the city and also from outside Ankara, which was considered to be an indicator of the high public character of the selected area. In order to make this variation useful in the analysis, the participants were clustered under four main categories according to their access method to the selected area as; access by walking (walking distance), access by single vehicle, access by more than one vehicle and access from outside of Ankara (Figure 12). It was noticeable that most of the participants were living relatively close to this area; they

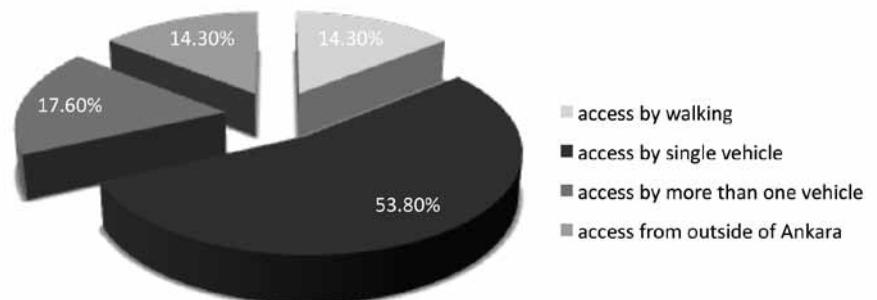


Figure 12. Accommodation subgroups according to the access conditions to the area.

accessed either through walking (14.3%) or by single vehicle-less than 15 minutes of travel time (53.8%). Yet, it was interesting that there were users from almost every section of the city, and also a remarkable ratio of users (14.3%) comes from outside of Ankara.

Results showed that the area was used frequently by most of the participants; 26.7% of the participants were using this area more than once a day, about 37.1% were using the area more than once a week, and only 36.2% of the participants stated that they were very rarely using this area. Although this place was a very busy and loaded area at the time the participants were asked if they met any acquaintance, 47.7% of the answers were "no". 29.4% of the participants mentioned that they were rarely meeting an acquaintance and only 22.9% of the participants responded as "usually". These numbers gave an idea about the diversity of users in the area, with the remark upon the variety of their accommodation areas. In addition to the observed crowd, the fact that most users stated that they were using the area very rarely and met no acquaintances, indicated the public character introduced by numerous and diverse users as a definitive property in public spaces (Alanyalı Aral, 2009).

The participants were asked to respond as "yes" or "no" for the semantic adjectives in the questionnaire. According to the participant responses, it was concluded that the area was more perceived as a noisy and tiresome environment (39.3% no, 60.7% yes). 41.6% of the participants stated that the area was a fast and unsafe environment. Although it was stated as fast, relatively very few of the participants claimed the area to be dynamic and lively (26.2%). According to the results it could be considered as a frequently used area (almost 65%) but it was mostly not considered as a well-known area by most of the respondents (67.3% no, 32.7% yes). The area was not perceived as green and enjoyable at all, however only 39 % stated the area as polluted and unhealthy. Pedestrian perceptions slightly changed according to the accommodation subgroups (Figure 13). These two outcomes were contradictory; the selected area was an actual public area but it was not seen as such and although because of heavy traffic of the road character and very few greenery, the area could be considered as polluted and unhealthy, yet the users of the area did not perceive it like that, or worst they did not care about the fact at all (Table 1).

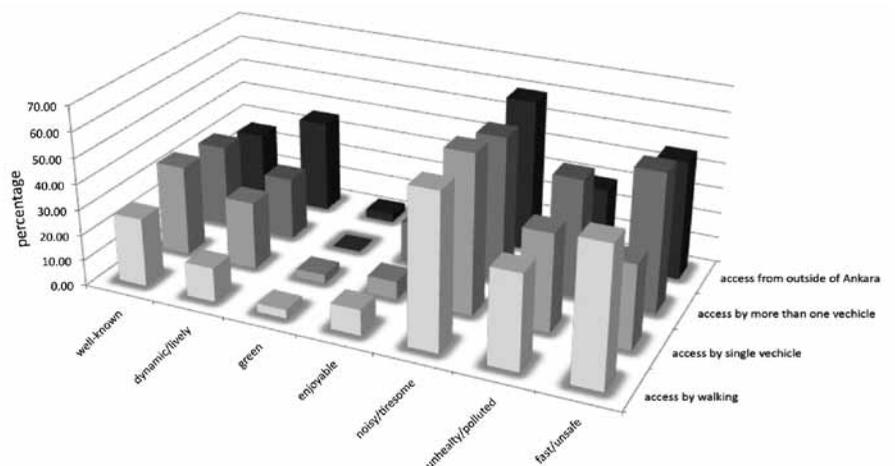


Figure 13. Users' perceptions according to the accommodation subgroups

| N (%) | publicity | positive perceptions | | | negative perceptions | | |
|-------|------------|----------------------|------------|------------|----------------------|----------------------|---------------|
| | well-known | dynamic / lively | green | enjoyable | noisy / tiresome | polluted / unhealthy | fast / unsafe |
| yes | 70 (32.7) | 56 (26.2) | 6 (2.8) | 21 (9.8) | 130 (60.7) | 84 (39.3) | 89 (41.6) |
| no | 144 (67.3) | 158 (73.8) | 208 (97.2) | 193 (90.2) | 84 (39.3) | 130 (60.7) | 125 (58.4) |

Table 1. Pedestrian perceptions related with the selected area.

The interview results shows that the area was firstly defined with the negative perceptions related to the road, then with its publicity, and then with positive perceptions of the users. Among the positive perceptions the semantic adjective dynamic and lively was mostly used for defining the character of the area; this adjective connoted to its 'urbanity' as in Montgomery's (1998) definition of the concept.

In order to see the relationship between the frequency of usage and contentment of the users with the given set of definitions (adjective sets), Pearson Correlation tests was conducted. There is a positive correlation between the frequency of use and enjoyable ($r = 0.157$, $df = 212$, $p < 0.05$), whereas contentment of the users have a positive correlation with well-known, dynamic/lively and enjoyable. Users who were using the space more considered that the area was entertaining and users who were happy with the area described the area with positive adjectives (Table 2). On the other hand, as expected, the participants who were not happy with this area also perceived the area as a noisy/tiresome, dusty/unhealthy and fast/unsafe space (Table 2).

As mentioned above, Eskişehir road was expanded during this survey process. The first two questionnaires were handled one year before the construction as phase one and the third and fourth sessions were done just after the construction as phase two. *T-test* was used to figure out the possible changes in the perception of users in relation with the physical change by this road expansion. It was found out that there were statistically significant differences in the user perceptions before and after the road construction (Table 3). By the increase in the number of the lanes not only the traffic load but also the speed increased in the area. After the expansion, pedestrian surface crossing has been almost impossible and vehicular access to the road has been controlled by divided sub-lanes. The results also supported this case as the *t-test* scores of the participants from the first two groups (before road expansion) and the last two groups (after road expansion) showed statistically significant difference in the perception of well-known ($t = -3.84$, $df = 212$, two-tailed $p = 0.001$), dynamic/lively ($t = -2.00$, $df = 212$, two-tailed $p = 0.046$) and fast and unsafe ($t = -2.34$, $df = 212$, two-tailed $p = 0.02$). As expected, after the road construction, the area was more so reported as fast and unsafe.

Table 2. Pearson Correlations between the user perceptions.

* Correlation is significant at the 0.01 level (2-tailed)

| | well-known | dynamic / lively | noisy / tiresome | Green | polluted / unhealthy | fast / unsafe | enjoyable |
|------------------|------------|------------------|------------------|-------|----------------------|---------------|-----------|
| Frequency of use | -0.040 | -0.041 | -0.031 | 0.028 | 0.007 | -0.013 | 0.177* |
| Contentment | 0.181* | 0.261* | -0.333* | 0.049 | -0.321* | -0.241* | 0.276* |

| | T | df | Sig. | |
|---------------------|--------------------|-------|------|---------|
| Positive Perception | well-known | -3.84 | 212 | 0.001** |
| | dynamic/lively | -2.00 | 212 | 0.046* |
| | green | -1.06 | 212 | 0.289 |
| | enjoyable | -0.24 | 212 | 0.812 |
| Negative Perception | noisy/tiresome | -1.39 | 212 | 0.168 |
| | polluted/unhealthy | -1.43 | 212 | 0.155 |
| | fast/unsafe | -2.34 | 212 | 0.020** |

Table 3. T-test between the perceptions of the participants before and after the road expansion.

* p < 0.05 two-tailed

** p < 0.01 two-tailed

According to the scores, the perception of this area as well-known increased after the road construction (Mbefore road construction =0.20, SD=0.40; Mafter road construction=0.44, SD=0.50). Besides, there was also a statistically significant difference at 0.05 level in the perception of dynamic/lively (Mbefore road construction =0.20, SD=0.40; Mafter road construction=0.32, SD=0.47) which was considered as a positive perception by the users of this area.

DISCUSSION

The study is significant for understanding how an actual urban public space which offers inappropriate conditions, as sub-spaces along such a dense urban road, is perceived by pedestrians; and how a major road expansion affects this perception. Relevant studies mostly focus on travel modes, commuter preferences, perceptions of commuters and factors in pedestrians' preferences of routes; yet research on the public space character of urban roads has been specifically introduced in this study.

Sub-spaces along urban roads in densely used areas present a dual character, both as negative with reference to the effects of heavy and speedy vehicular traffic, and as positive especially with reference to their public character and the urbanity they provide. The study aimed to find whether these spaces were predominantly perceived as 'public' or with regards to their negative characteristics related to dense motorized traffic, bringing into focus an interesting public urban area which still keeps on developing though not intended for pedestrians. It was found that the area was mostly defined with negative perceptions as noisy/tiresome, fast/unsafe and polluted/unhealthy. Even the lowest value of perception of negative characteristics (polluted/unhealthy, 39%) was higher than the percentage of perception of 'public' (well-known, 32.7%). Yet this did not prevent users from highlighting the public character of the adjective well-known and the definition of the area as dynamic/lively. However, the other two adjectives enjoyable and green which were considered to be positive perceptions were stated in very low percentages for the area. The 'public' perception of this area was also observed during the case study through the existence of users who came to the area purposefully to meet a friend. The results showed that most of the participants (about 65%) were frequent users of the area, and although only 32.7% stated the area as well-known, it is still a preferable place to meet with others.

The second aim was to find whether the perception of these spaces altered with the implication of a major road expansion. The selected period was significant for a major expansion on Eskişehir road –increasing the number of lanes and sub-lanes for turns and entrances to facilities, while there were no additions to existing activities or the building stock in the area. The difference in pedestrians' perceptions of the area before and after the road expansion was seen as the increase in the semantic adjectives *well-known* and *dynamic/lively*, although there was not a significant increase in other attitudes related to the public character and urbanity. Among the adjectives related to the negative effects of motorized traffic, only the perception of the area as *fast/unsafe* increased.

This result verifies the hypothesis that the perception of the public character and urbanity of sub-spaces along urban roads are fostered by the increase in the capacity of motorized traffic. The findings are parallel with the results of Foltête and Piombini's (2007) study in which the number of lanes were found to be in positive correlation with pedestrian intensity. In this study, pedestrians' perception was also questioned and it was seen that pedestrians perceive the character sub-spaces along urban roads as more public when the number of lanes increase.

The result that the roads with higher number of lanes which become almost impossible to cross for pedestrians and thus which divide the urban space into parts are contradictorily perceived as more public and urban by pedestrians, is a significant outcome to be considered in planning actions and urban design. Planners and designers need to know more about these spaces in order to reply to the facts and needs of urbanites using them. Seeing that they were mostly perceived in relation to the problems introduced by the heavy vehicular traffic (as *speedy/unsafe*, *noisy/tiresome*, and *polluted/unhealthy*), the betterment of these places can be searched by way of improving comfort conditions in these spaces. Physical and psychological comfort types that involve ease of use and increase in social character (Sarkar, 2003) can be bettered by (re-)design of sub-spaces and activities by them; whereas the physiological comfort level (Sarkar, 2003) which involves noise and air pollution is more difficult to upgrade. This issue constitutes one of the main problems about pedestrian areas near motorized traffic; and solutions involve technical precautions like decreasing motorized traffic by the use of traffic planning and control of vehicular exhaust emissions, in the first phase. When considered as multi-modal passenger interchanges in Bertolini's (2006) definition as spaces signified not only with the multiplicity of links and mobility flows between them, but also with diverse activities; increasing the level of the interaction of interiors with good-quality outer spaces, as he suggests, may upgrade spatial qualities of these spaces due to a clear separation of vehicular and pedestrian circulation. Yet we need to improve more intricate planning and design strategies for this specific type to enhance their public space qualities.

For further research, present study implicates the consideration on the role of other variables possibly affecting the perception of sub-spaces along urban roads as public spaces. These variables involve sub-spaces' physical characteristics like form and surface properties, critical locations in relation to the immediate surroundings, activity types in them and in their neighboring buildings.

Another direction of further research is about the study area itself. Since the period of the current study (October 2005- May 2007) that was before

and after the road expansion, the area has kept on transforming in many means, getting denser for both vehicles and pedestrians. In addition to many new buildings with a variety of functions, the subway line with a major station in the area has recently started functioning and this will also increase the area's role as a transportation hub. As one of Ankara's focal points in the last years, the area needs to be analyzed for the rapid urbanization processes it has been undergoing; highlighting the effects of factors on pedestrian perception; like the increase in building density and newly introduced public activities in them, ongoing construction activities and alterations in transportation modes. The outcomes will positively elaborate the evaluation and will have implications for the planning and design applications for further betterment of the area.

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Anahtar Sözcükler: Kamusal mekân;
kentsellik; kent içi otoyol; yaya algısı; Ankara.

YAYALARIN KENT İÇİYOL BOYU YAN-MEKÂNLARDAKİ KAMUSAL MEKÂN ALGISI: ANKARA ESKİŞEHİR YOLU ÖRNEĞİ

Yol boyu yan-mekânlar, kent içinde sundukları yüksek erişilebilirliğe bağlı olarak yoğun yaya kullanımı barındırdıklarında kamusal mekân özellikleri gösterirler. Yollar, çeşitli ve çok sayıda kullanıcıyı bir araya getirerek karşılaşma olasılığı yaratmak yanında ortaya koydukları etkinlikler ve canlılıkla da kentselliğin oluşmasında temel oluştururlar. Günümüzde artan araç hızı nedeniyle araç sürücülerinin görsel algısı ve karşılaşma deneyimi indirgenmiştir. Bunun yanında, yan-mekânlardaki yayalar yüksek hız ve yoğun trafiğin sebep olduğu pek çok olumsuz etkiye maruz kalmaktadır. Bu çalışma, kentte kamusal mekân olarak hem olumlu hem de araç trafiği sebebiyle olumsuz özelliklere sahip olan yol boyu yan-mekânların kullanıcıları yayalar tarafından hangi özelliklerinin baskın olarak algılandığını ve bu algının örnek bir alanda gerçekleşen yol genişletme işlemi ile nasıl değiştiğini ortaya koymayı amaçlamaktadır. Çalışma alanı, Ankara'nın ana ulaşım hatlarından biri olan Eskişehir yolunun kentsel gelişim ve yaya kullanımının en yoğun olduğu doğu kısmıdır. Yayaların mekânı algılarını gürültülü/yorucu, hızlı/güvensiz, tozlu/sağlıksız gibi olumsuz özellikler yanında dinamik/canlı, eğlenceli ve yeşil gibi olumlu özelliklerle tanımlamaları istenmiş, bu tanımlar yanında kamusal mekân olarak algıyı ölçmek amacıyla herkesin bildiği tanım sıfatı da seçeneklere eklenmiştir. Olumlu tanımlar arasında dinamik/canlı tanımı, kentsellik algısını ölçmek için kullanılmıştır.

214 kullanıcının profillerine bakıldığında mekânın çevreden yürüyerek gelenler (%14.3) yanında araçla hem kent içinden (%53.8) hem de kent dışından gelen (%14.3) kullanıcı çeşitliliği oluşturduğu görüldü. Kullanıcıların mekânı öncelikle olumsuz özellikleriyle gürültülü/yorucu (%60.7), hızlı/güvensiz (%41.6) ve tozlu/sağlıksız (%39) olarak algıladıkları, sonrasında herkesin bildiği (%32.7) ve dinamik/canlı (%26.2) bir yer olarak tanımladıkları görüldü. Çalışmanın ikinci aşamasında, yol genişletme işleminden sonra mekânın algısı sorgulandı, tanımlayıcı sıfatlar arasında en büyük değişikliğin herkesin bildiği ve dinamik/canlı tanımlarındaki artışla gerçekleştiği, olumsuz algılar arasında ise sadece hızlı/güvensiz algısında artış olduğu görüldü.

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