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Pedestrian Behaviour on Different Streets in Tirana's Context, Albania

Klodjan Xhexhi*[1]

Abstract: The aim of this paper is to make a comparison between different streets typology (with a distribution from center to suburb) specified in Tirana, taking into account the pedestrians' behavior on these streets. This paper will primarily focus on the following streets: "Myslym Shyri" street, "Bllok" area, "Kombinat" area, (an extension of Kavaja's Street), and also "Ana Komnena" street (former "Fusha e Aviacionit"). The pedestrian actions, likeness, dissatisfaction, walking distance while transferring to another zone, greenery effects on pedestrians, time spent, points of interest, level of frequency, pavement quality, the favorite time for walking, meeting points, benches usage, ambulant sellers, vegetation and greenery impact, water basins, public transport preference, and road signs are some of the topics to be addressed in this paper. Determination of these data will be made by employing a questionnaire and direct observation. The study should provide recommendations as guidance for municipalities and stakeholders to better understand the behavior of pedestrians in Tirana. The "Bllok" area and "Myslym Shyri" Street are the most frequented streets by pedestrians. "Myslym Shyri" street has a slight edge over the "Bllok" area and is populated by different categories of pedestrians involving children, youth, middle ages, and the elderly. Ana Komnena Street (former "Fusha e Aviacionit") is not lacking any urban components. Meanwhile, the pedestrians on Kombinati's street suffer a little bit more because of the traffic jam and vehicle pollution.

Keywords: street characteristics, pedestrian movement, street typology, pedestrian behavior.

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1. INTRODUCTION

It is crucial to pay close attention to every component of the streets, including similar-height buildings, fascinating facades, trees, windows that promote viewing, crossroads, beginnings, and endings, halting points, and areas for leisurely strolling. In order to effectively manage social interaction, it is crucial to understand how individuals actively utilize and change the physical environment rather than basically reacting to it. The behavior of pedestrians is largely impacted by culture, preference, and personality features as well as by environmental and situational variables. Walking as a physical exercise is influenced by environmental conditions (Beirlaire, & Robin, 2009).

It is significant to underline that every attractive street welcomes leisurely and secure strolling, particularly from automobiles. The most popular means of segregating and thereby protecting people from automobiles are sidewalks and curbs. They could be physically apart, but it is not a guarantee of safety or peace. A safe pedestrian area is created by trees. Separations are also made by a vehicle parking lane at the curb. Once begun, the spacing of trees along a street shouldn't be interrupted. It is extremely important to keep pedestrians and automobiles apart while also providing shade and aiding in the definition of a roadway. Typically, the conflict centers consist of the desire to prevent trees from blocking entry to a significant public or private structure. Many attractive streets are surrounded by trees, and these may play just as much of a role in defining a street as the buildings do (Allan B. Jacobs, 1995).

Great streets are well-defined. Streets may be categorized in two ways: vertically, which is determined by the height of the walls or trees that are lined in the street, and horizontally, which is determined by the length and distance between the defining elements (Allan B. Jacobs, 1995). Transparency on the street is a crucial problem. Typically, the roadway is made transparent by windows and doors. The maintenance component of the streets is also crucial. Since streets must begin and end someplace, their locations ought to be carefully planned. Doors may always be left open and welcoming.

Numerous elements such as fountains, gates, benches, kiosks, asphalt, lighting, signs, and canopies might be crucial to the effectiveness of the street. In terms of illumination, a streetlight that is positioned too high won't illuminate the immediate area surrounding it sufficiently. In order to better illuminate city streets, lowering the streetlight's height is one of the solutions. Special pavement can be quite expensive, and it rarely results in a noticeable improvement. The benches encourage our presence and assist in keeping people on the sidewalk. Generally, the finest streets are equipped

with benches. Great fountains, gates, pavement, or lighting alone are insufficient. An attractive street should mostly have expanding areas at the intersections, and of course, the great street seems to be accessible by public transportation. Of course, roadways need to consider variables like density, diversity, length, slope, and land use. Great streets exist in many shapes, sizes, and varieties (Allan B. Jacobs, 1995).

The chance of a physical accident, as well as the impression of the consequences of safety, comfort, and enjoyment of walking behavior, are key factors in pedestrian behavior. In the 1930s, Le Corbusier proposed his 'autostradas' as concrete ribbons woven through the canopies of skyscrapers, elevated above ordinary roadways and free of visitors and people for maximum motor speed. Modernism's physical manifestation, urban modernity, was all about speed and also the idea of limitless mobility (Norton, 2008). The young, the weak, the impoverished, and the marginalized are more likely than the wealthy and powerful to be injured by an automobile. Cultural variables, personal circumstances, preferences, and qualities, as well as environmental elements, all have a significant impact on walking. The potential of the environment to meet basic requirements, foster place connection, and foster a feeling of community are all highly significant primary factors and must be taken into account.

The majority of studies investigate elements like expansion pattern compactness, housing and employment density, accessibility, variety in land utilization, and architectural characteristics like shading setting, the aesthetic appeal of the local environment, neighboring shops, distance from shopping centers, and the availability of appealing stores and homes to determine the environmental matches of walking (Handy et al., 1998); (Ball et al., 2001); (Handy, & Clifton, 2001). According to some studies, users are more inclined to walk to districts that have dining outlets including cafés and restaurants, a range of stores, and local and retail purchasing options (Handy, & Clifton, 2001); (Montgomery, 1998); (Hass-Klau et al., 1999); (Brown et al., 2007).

According to some studies, a person's perception of their level of street safety can be affected by a variety of elements, including the preservation and overall condition of the environment, the design of the streets and spaces, various land uses, the environment's adjustments and adaptations, people's presence or absence, as well as the type of users. "Third places," including shops, bars, and eateries, were highlighted in research on city streets as crucial components of daytime security and monitoring. According to several additional researchers (Perkins et al., 1993); (Jacobs, 1961), people reported that streets with businesses and other nonresidential properties on them were safer.

Just the psychological and environmental influences of the surroundings can provide pedestrian comfort. Outdoor activities need favorable microclimatic conditions, which include temperature, sunshine, shade, and wind (Bosselmann et al., 1984). Protection from the sun, wind, and rain offer an environment that is physiologically acceptable.

According to Xhexhi (2023) some of the most classical examples of Greek cities, using the typical east-west axes, Islamic cities with the prevalence of the narrow streets and north-south axis dominant in Roman cities, are designed to benefit from the use of the winds. Besides geography, climatic change has an impact on urban density, directions, the street network, as well as their shape. On the other hand, trees are a part of the vegetation that contributes to a strong sense of attachment to certain locations. The utilization of trees ensures diversity and prevents monotony. They are essential in shaping the microclimates that affect a certain area's thermal comfort. The incorporation of green areas in urban life, pollution reduction, alternative modes of transportation, the presence of vegetation, greater vertical and horizontal urban corridors, and the presence of vegetation are also important factors that enhance the quality of life of the residents (Xhexhi, 2023).

According to another questionnaire conducted within a neighborhood in the city of Tirana, it is revealed that the residents are also concerned about noise and air pollution, regardless of the fact that the level of nostalgia and place attachment for the inner neighborhood is very high (Xhexhi, 2023).

2. METHODOLOGY

The approach consists of direct investigation, direct observation, and direct contact with the pedestrians. The questionnaire has been created in a manner that makes it simple for users to get as much data as possible. There are three methods followed to inquire about pedestrians:

1. Direct confrontation (with the pedestrians)
2. Indirect confrontation (the questionnaires were left in a bar (nearby this road) and the clients respond to them).
3. Memory confrontation (pedestrian memory analysis)

All the responses were collected, digitalized, and analyzed. Each question will be compared for each street, creating different graphs, tables, and findings.

2.1. Location of the streets and areas

The main scope of this survey is to make a comparison between these streets in order to become acquainted with the most frequented street, and of course to show evidence of the deficiencies and the benefits of these roads.
A total of 18 questions were answered. There were collected 28 responses for the “Bllok” area, 25 responses for “Myslym Shyri" street, 27 responses for the "Kombinati" Area, and 23 responses for the "Fusha e Aviacionit” area.

Figure 1. Location of the streets (Source: Google Earth; author's elaboration)

Figure 2. “Kombinat” area, (extension of Kavaja street), by night and by day (source: Xhexhi, K)

Figure 3. “Myslym Shyri” Street in the morning (source: Xhexhi, K)

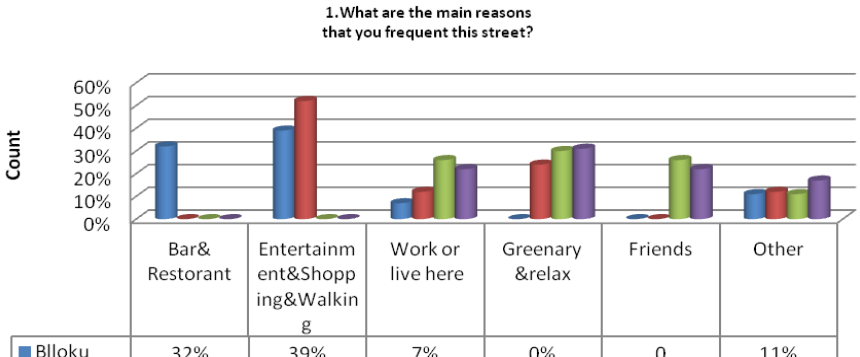
Figure 4. "Bllok" area in the morning (source: Xhexhi, K)

Figure 5. "Ana Komnena" street (former "Fusha e Aviacionit") in the morning and in the afternoon (source: Xhexhi, K)

3. RESULTS OF THE QUESTIONNAIRE

The results of each question are analyzed in the next graphs.

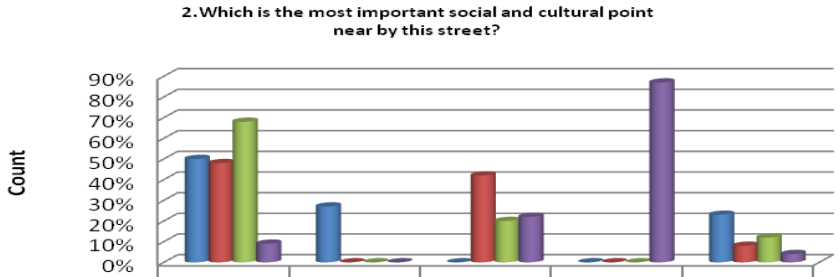
Table 1. Frequency of the streets (source: Xhexhi, K.)



	Bar& Restorant	Entertainment&Shopping&Walking	Work or live here	Greenary &relax	Friends	Other
Blloku	32%	39%	7%	0%	0	11%
M.Shyri	0	52%	12%	24%	0	12%
Kombinati	0	0	26%	30%	26%	11%
Fusha Aviacionit	0	0	22%	31%	22%	17%

The main reasons for the level of frequency of the first two streets category are entertainment, shopping, and walking mostly in the “Bllok” area and in “Myslym Shyri” street. For the other ones, the most popular choices are greenery and relaxation, work, and friends. According to Table No. 1, the first two streets are the most preferred by pedestrians in terms of entertainment.

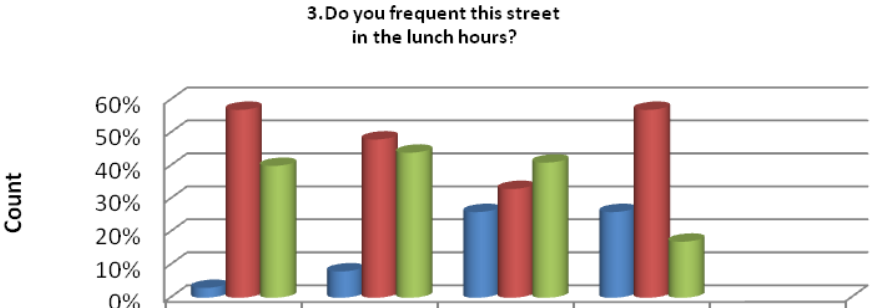
Table 2. Most important social and cultural points (source: Xhexhi, K.)



	Bar& Restorant	Sky Tower	Entertainment&Shopping	Walking &Parks& Greenary	Other
Blloku	50%	27%	0%	0%	23%
M.Shyri	48%	0%	42%	0%	8%
Kombinati	68%	0	20%	0%	12%
Fusha Aviacionit	9%	0	22%	87%	4%

It is observed that the most specific social and cultural points of interest for pedestrians on all these streets are bars and restaurants. The second place belongs to entertainment and shopping. It is rather interesting to observe that in the "Bllok” area the Sky Tower is the most interesting point of contact, meanwhile in Ana Komnena Street (Fusha e Aviacionit) is the new pedestrian area recently build as seen in Table no.2. Considering the large extent of this pedestrian area (promenade), the users prefer to walk in order to take advantage of the park and green spaces.

Table 3. Frequency of the streets in the lunch hours (source: Xhexhi, K.)



	Blloku	M.Shyri	Kombinati	Fusha Aviacionit	
Yes	3%	8%	26%	26%	
No	57%	48%	33%	57%	
Sometimes	40%	44%	41%	17%	

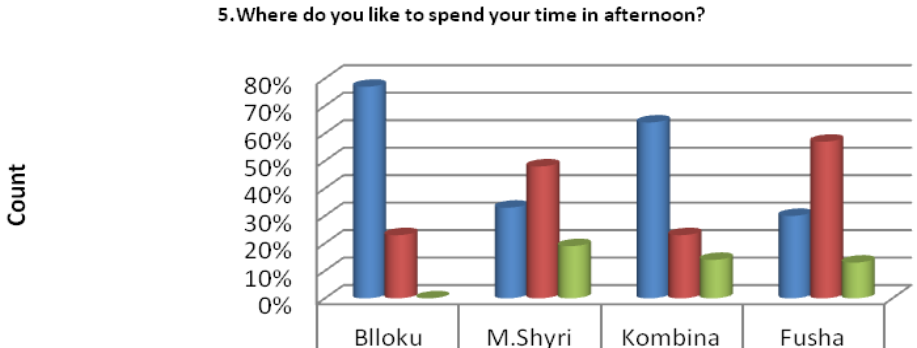
The level of frequency of the lunch hours in all the streets dropdown. The “Bllok” area and the “Ana Komnena” (Fusha e Aviacionit) street have a higher percentage of non-attendance during lunch hours. Meanwhile, the higher value of the attendance is in “Kombinati’s” street as seen in Table no.3.

Table 4. The favorite time for walking (source: Xhexhi, K.)

	Morning	Afternoon	Evening	Morning &afternoon	Morning &evening	Afternon&evening	other
Blloku	4%	57%	21%	11%	0%	4%	4%
M.Shyri	13%	48%	5%	8%	0%	13%	13%
Kombinati	5%	85%	5%	0%	0%	0%	5%
Fusha Aviacionit	5%	50%	15%	5%	15%	5%	5%

The results of the above table are pretty clear. The majority of the pedestrians interviewed prefer to walk in this street in the afternoon and some of them in the evening. Pedestrians do not like to walk in the "Kombinati" area in the morning they prefer mostly in the afternoon as seen in Table no.4.

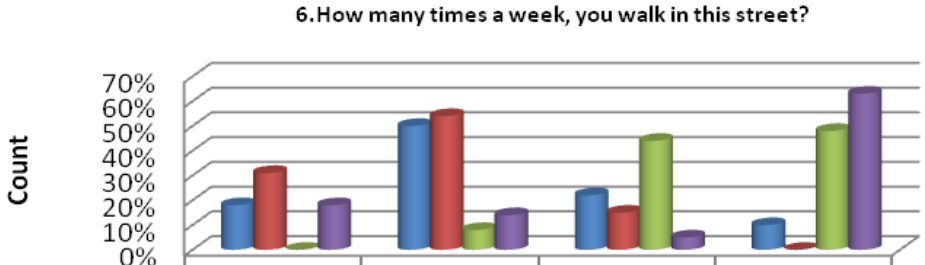
Table 5. Leisure time spent in the afternoon (source: Xhexhi, K.)



	Blloku	M.Shyri	Kombinati	Fusha Aviacionit
Bar&Restorants	77%	33%	64%	30%
Walking,shopping,parks	23%	48%	23%	57%
Other	0%	19%	14%	13%

The majority of pedestrians like to spend time frequenting bars and restaurants. "Ana Komnena" (Fusha e Aviacionit) is the exception. The majority of the pedestrians on this street like to walk on the new pedestrian route. Meanwhile "Myslym Shyri" street has the second biggest value on walking, shopping, and parks as seen in Table no.5.

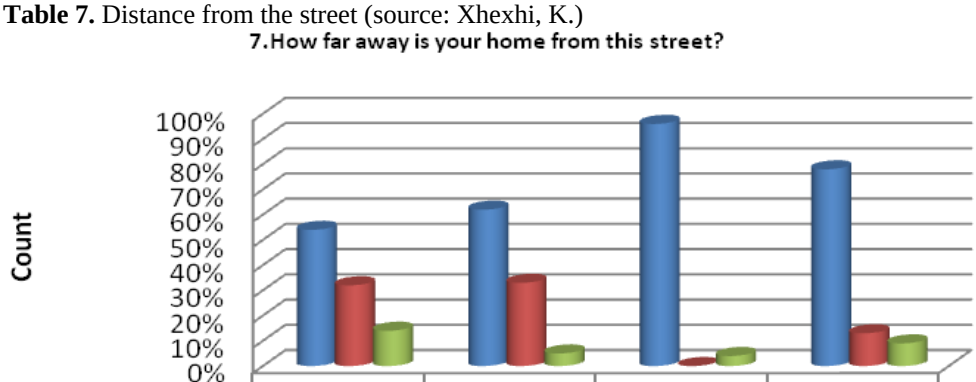
Table 6. Frequency during a week (source: Xhexhi, K.)



	Once	2-4times	4-7times	more than 7times
Blloku	18%	50%	22%	10%
M.Shyri	31%	54%	15%	0%
Kombinati	0%	8%	44%	48%
Fusha Aviacionit	18%	14%	5%	63%

The higher percentage for this question goes in favor of the "Ana Komnena" (Fusha e Aviacionit) and "Kombinati" streets. The second place goes to "Bllok" and "Myslym Shyri" streets. According to the observations, it is clearly defined that the suburban pedestrians frequent mostly the streets near their homes, and a minimum of twice a week the inner city streets like "Bllok" area or "Myslym Shyri" street as seen in Table no.6.

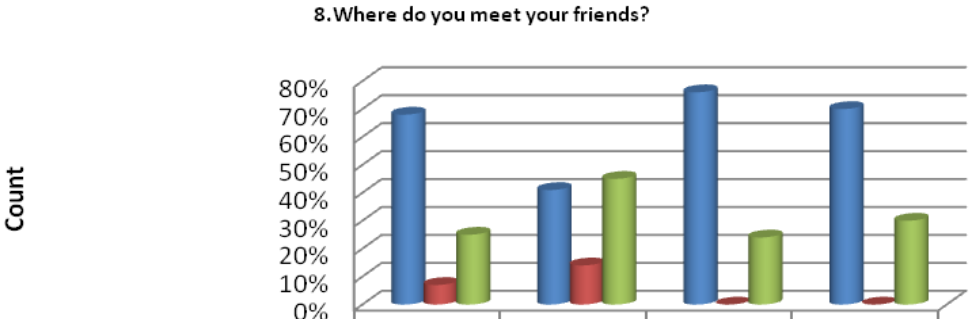
Table 7. Distance from the street (source: Xhexhi, K.)



	Blloku	M.Shyri	Kombinati	Fusha Aviacionit
0-2km	54%	62%	96%	78%
2-5km	32%	33%	0%	13%
more than 5km	14%	5%	4%	9%

It is observed that the higher values go in favor of the shorter distances, a maximum of 2km for all the streets. In the "Kombinati" area and the "Ana Komnena's" (Fusha e Aviacionit) pedestrians are more attached to the place they live meanwhile the values in the other two streets are smaller. The distance is a key factor for the level of the frequency of the street. Suburban pedestrians do not prefer to frequent these streets as a consequence of the long-distance as seen in Table no.7.

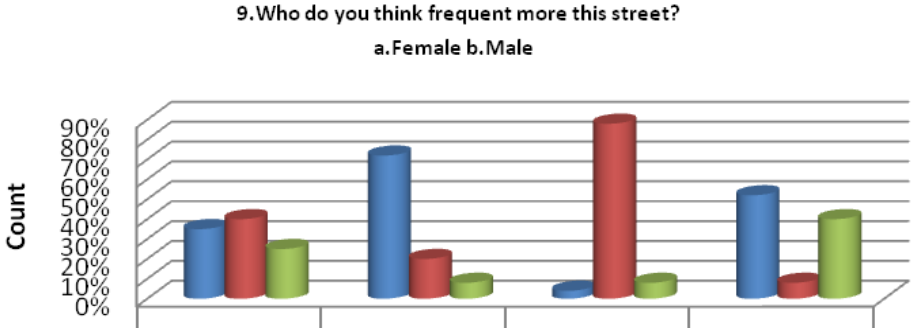
Table 8. Meeting point (source: Xhexhi, K.)



	Blloku	M.Shyri	Kombinati	Fusha Aviacionit
Bar&restaurants	68%	41%	76%	70%
Bllok area	7%	14%	0%	0%
In the street,park&around of this area	25%	45%	24%	30%

Mostly the pedestrians meet their friends in suitable bars and restaurants on the appropriate streets. This logic is applied to the four streets. The second place goes to the parks around the appropriate area as seen in Table No. 8.

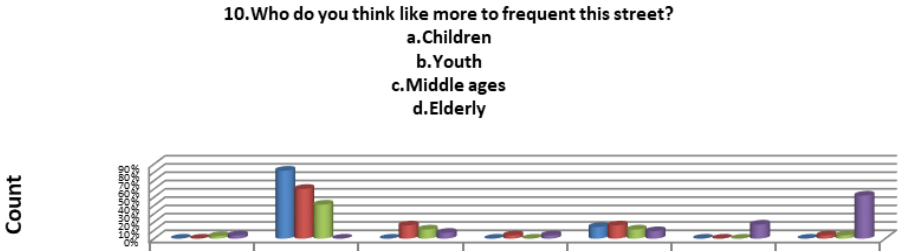
Table 9. Gender frequency (source: Xhexhi, K.)



	Blloku	M.Shyri	Kombinati	Fusha Aviacionit
Female	35%	72%	4%	52%
Male	40%	20%	88%	8%
Both	25%	8%	8%	40%

There are relatively different points of view related to the above question. The first place in “Kombinati’s” street goes to the males. Meanwhile in “Myslym Shyri” street and in “Fusha Aviacionit” street the first place goes to the female. The "Bllok” area is relatively compact. According to the observation it was emphasized that males respond to this question by supporting their gender and the same reasoning is also valid for the females too. Furthermore, in “Kombinati” street is clearly visible that the majority of the interviewed pedestrians are male as seen in Table no.9.

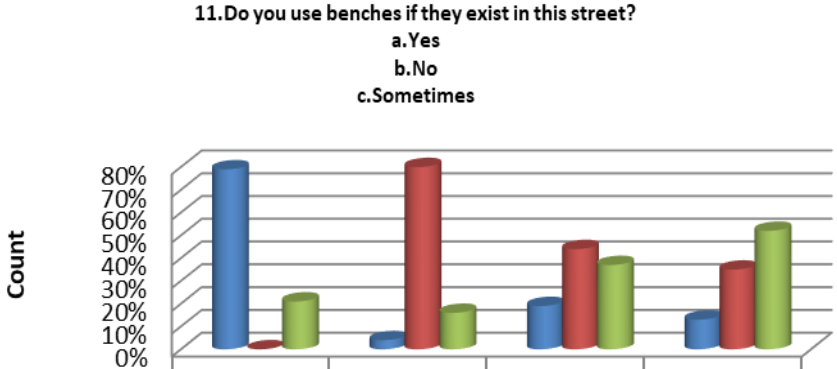
Table 10. Frequency by age (source: Xhexhi, K.)



	Children	Youth	Middle ages	Elderly	Youth& Middle ages	Children& Elderly& Middle ages	Children& Elderly& Middle ages&Youth
Blloku	0%	82%	0%	0%	14%	0%	0%
M.Shyri	0%	60%	16%	4%	16%	0%	4%
Kombinati	3%	41%	11%	0%	11%	0%	4%
Fusha Aviacionit	4%	0	7%	4%	9%	17%	52%

It is observed that the power of the youth is concentrated in the “Bllok” area. Meanwhile, it is observed that approximately no one considered an important or powerful group the children and the elderly in these streets as seen in Table no.10. According to the responses these categories are unfortunately neglected.

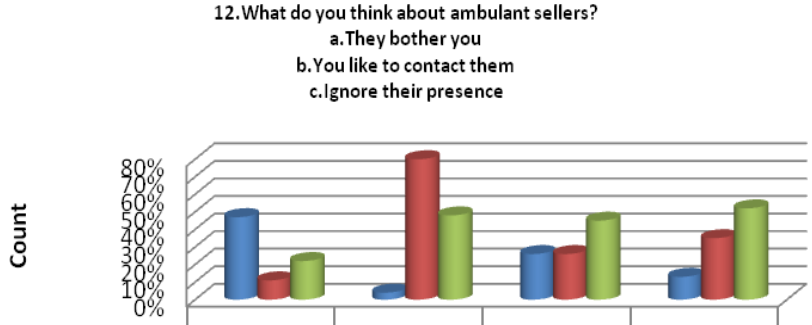
Table 11. Benches usage (source: Xhexhi, K.)



	Blloku	M.Shyri	Kombinati	Fusha Aviacionit
Yes	79%	4%	19%	13%
No	0%	80%	44%	35%
Sometimes	21%	16%	37%	52%

There are different points of view related to the above question between the "Bllok” area and “Myslym Shyri” street. These two areas are relatively close to each other but according to the questionnaire, their responses are different. It is noticed that the average age of the pedestrian interviewed is relatively young. The young generation in the “Bllok” area enjoys sitting down, watching, and experiencing a lot, meanwhile, in the “Myslym Shyri” street they just pass through. This is due to the character of the area. The lack of benches in these two areas is evident. The will of the pedestrian is to use them if they exist. Meanwhile, the pedestrians of the suburban areas do prefer sometimes to use benches as seen in Table no.11. The benches in these areas are a common component. The need for benches in the “Bllok” area and “Myslym Shyri” street is necessary in order to revitalize these areas even more.

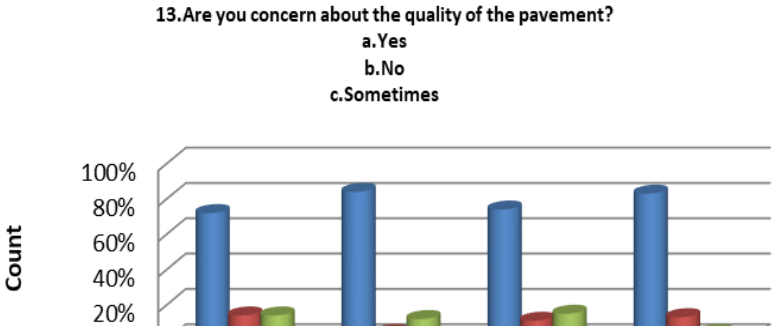
Table 12. Ambulant sellers (source: Xhexhi, K.)



	Blloku	M.Shyri	Kombinati	Fusha Aviacionit
They bother you	47%	4%	26%	13%
You like to contact them	11%	80%	26%	35%
Ignore their presence	22%	48%	45%	52%

There are a lot of imbalanced values in the above table. The most powerful one is the likeness of the pedestrians to contact the ambulant sellers in "Myslym Shyri" street. According to the observations such responses are related to the commercial character of the street. The pedestrians are prepared for such an impact. Meanwhile, the "Bllok" area is a different story because of the different characters of the street.
In "Kombinati" and "Fusha e Aviacionit" streets the pedestrians prefer mostly to ignore the presence of the ambulant sellers as seen in Table no.12.

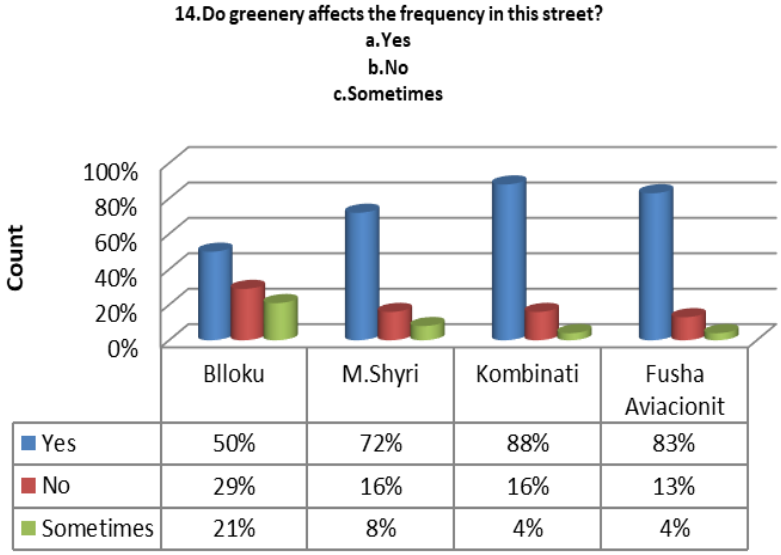
Table 13. Pavement quality (source: Xhexhi, K.)



	Blloku	M.Shyri	Kombinati	Fusha Aviacionit
Yes	72%	84%	74%	83%
No	14%	4%	11%	13%
Sometimes	14%	12%	15%	4%

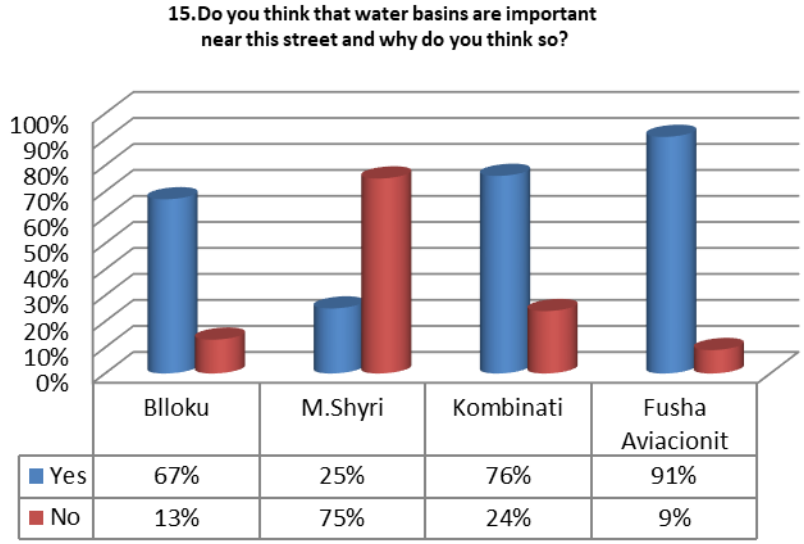
The responses to the above question are clearly understandable. The pedestrians in all the areas are very sensitive and have a lot of concern about the quality of the pavement as seen in Table no. 13.

Table 14. Vegetation and greenery impact (source: Xhexhi, K.)



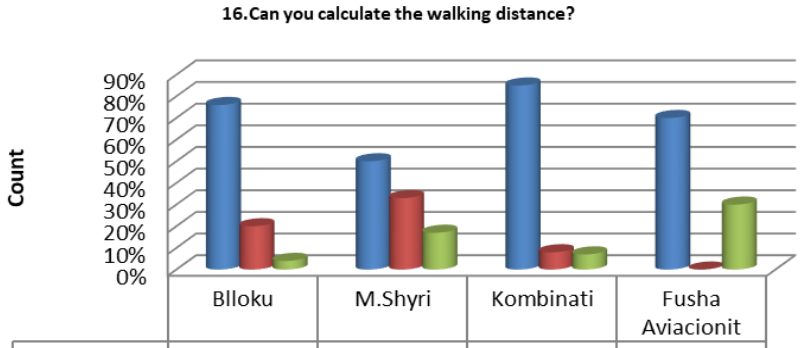
Approximately the same responses are archived also for the vegetation and greenery impact in all the areas. They do consider that the vegetation is important during the frequency of the street. The pedestrians in the "Bllok" area are not so convinced of the impact of the green spaces in the frequency of this area. They consider also other parameters as seen in Table No. 14.

Table 15. The importance of water basins (source: Xhexhi, K.)



The responses are mostly related to the creation of the microclimate on the streets because of the water basins. Because of the density of high vegetation, and shade provided on “Myslym Shyri” Street, pedestrians do not consider water basins to be essential in this area. Meanwhile, the lack of such commodities for the rest of the streets is associated with the need for water basins as seen in Table No. 15.

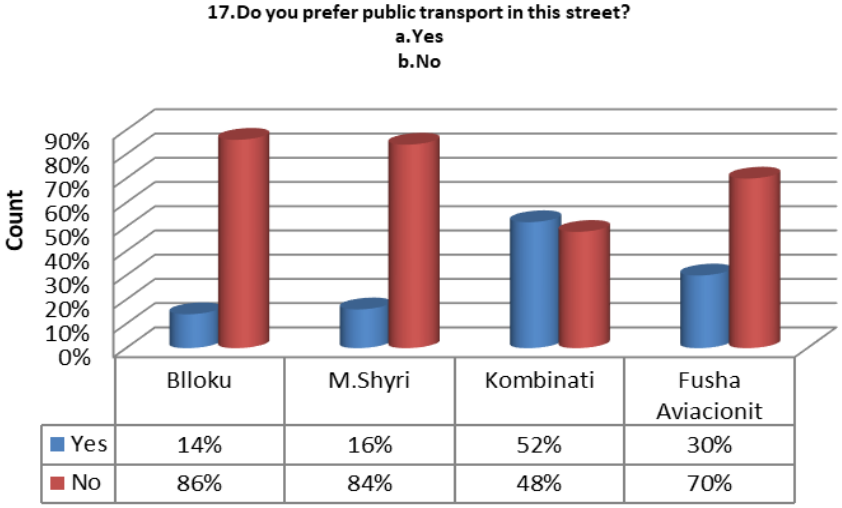
Table 16. Walking distance calculation (source: Xhexhi, K.)



	Blloku	M.Shyri	Kombinati	Fusha Aviacionit
0-30min	76%	50%	85%	70%
30-60min	20%	33%	8%	0%
more than 60min	4%	17%	7%	30%

The majority of pedestrians do not frequent these streets for an extended period of time. They relatively just pass through these areas. “Myslym Shyri” is the most frequented street considering the time period together with “Fusha e Aviacionit” street as seen in Table no.16.

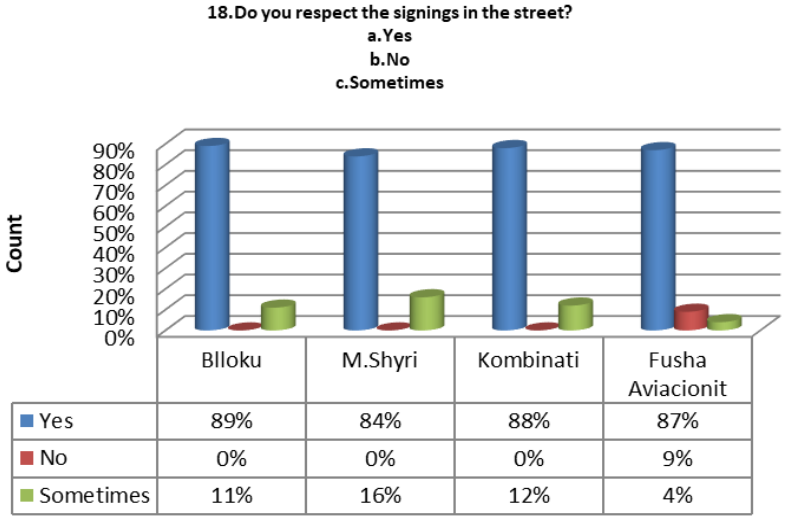
Table 17. Public transport preference (source: Xhexhi, K.)



	Blloku	M.Shyri	Kombinati	Fusha Aviacionit
Yes	14%	16%	52%	30%
No	86%	84%	48%	70%

According to the above table, the base response is no, except for “Kombinati’s” street. The large distance from the center is the answer to this problem. Public transport is necessary for the community in order to get to the center of the city, as an interconnection point. The necessity for public transportation is not as significant on the remaining streets. The pedestrians believe this one will be confusing for them, due to traffic jams and vehicle pollution as seen in Table No. 17.

Table 18. Road signs (source: Xhexhi, K.)



According to the above table, the majority of the pedestrians respect the signings in the streets but according to the direct observation, the responses do not match. It has been noted that pedestrian traffic on these streets may occasionally be chaotic disobeying traffic signs.

4. DISCUSSION AND FUTURE WORK

Due to various projects and numerous constructions, the city of Tirana is presently experiencing a reality that is changing every day. The city continues to place a high priority on building new roads as well as maintaining and repairing those that are already operating for both motor cars and pedestrians. The challenge of today's city is also the creation of roads that should serve the community in the best possible way by integrating all the aforementioned necessary urban components in order to enhance the quality of life of the residents. The study should provide recommendations as guidance for municipalities and stakeholders to better understand the behavior of pedestrians in Tirana. The future work of the study will focus more on the construction materials, the role of the vegetation, and the orientation of these roads as well as the focal points of interest located in them.

5. CONCLUSIONS

Pedestrians circulate along all the streets mentioned above. There is a tendency that the majority of the suburban pedestrians to frequent the central area (“Bllok” area, “Myslym Shyri” street) a minimum twice a week. The reverse situation happens very rarely and it happens just for any particular reason. “Bllok” area and “Myslym Shyri” street are the most frequented streets by pedestrians. “Myslym Shyri” street has a slight edge over the “Bllok” area, getting populated by different categories of pedestrians involving children, youth, middle ages, and the elderly. The lack of some urban components such as benches in these areas by adding them, will help to improve the quality of life of the pedestrians. However, such components do not exist in isolation. According to the observations, there are some missing parts of water basins and some minimal resting areas (small parks) mostly for the majority of the streets. The quality of life will be improved much more if such elements will be implemented along these streets.
“Ana Komnena’s” Street (Fusha e Aviacionit) is relatively a new walking path and does not lack any of the urban components (regardless of the fact that the water basins need to be fixed). For that reason, this promenade is too much frequented not just by the pedestrians nearby but also from the vicinity areas.
“Kombinati’s” street being part of the national street that passes through this area is relatively psychologically damaged. Pedestrians like passing through this street but also, they are all aware because of the traffic jam and vehicle pollution. According to them, this street is not the best place to raise healthy children. The other urban components are not absent in this street, giving it a constantly balanced appearance.

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