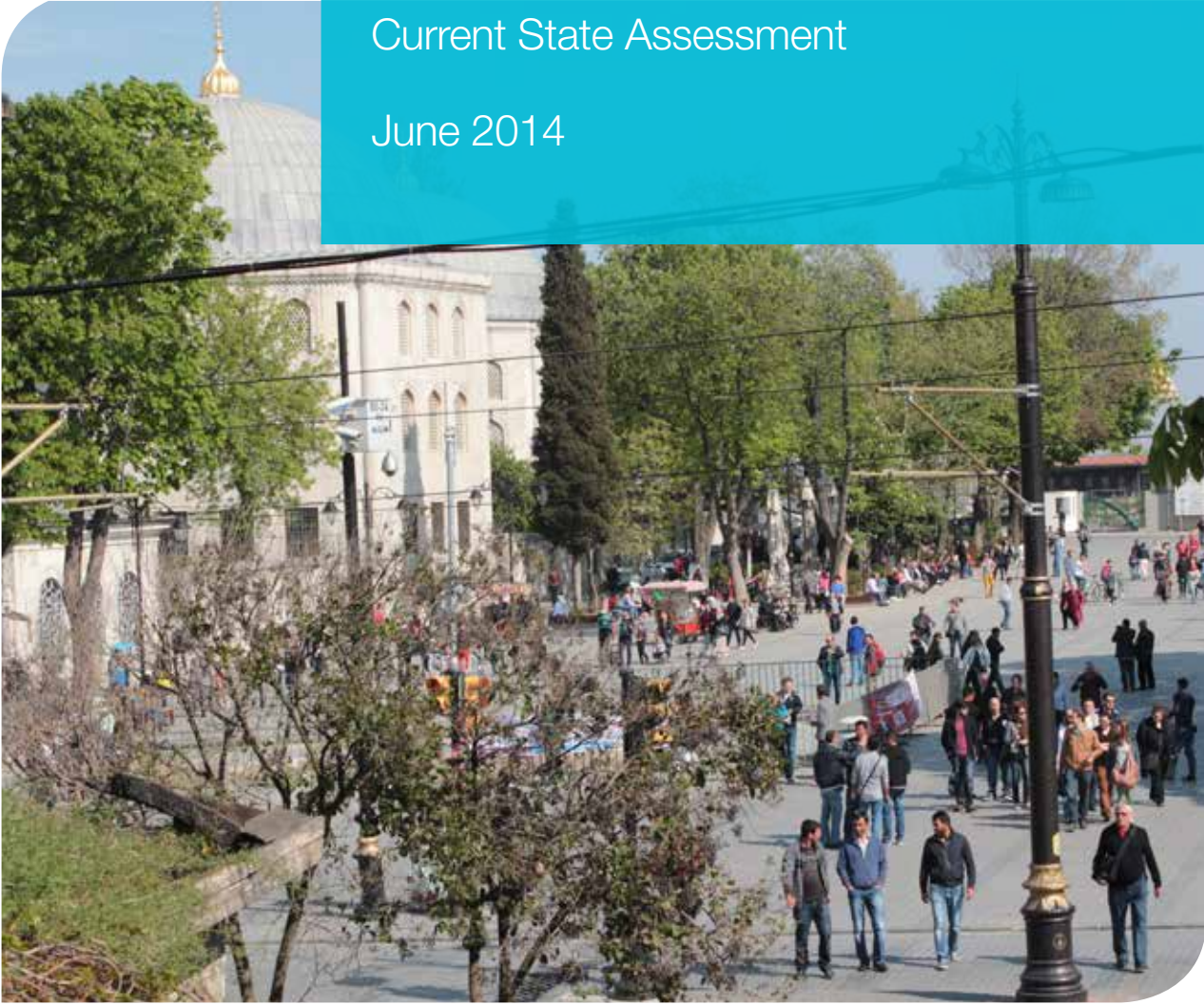


ISTANBUL HISTORIC PENINSULA PEDESTRIANIZATION PROJECT

Current State Assessment

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EMBARQ®
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FOREWORD



Safe, attractive, and accessible spaces for community interaction are a vital component of sustainable, livable cities. Too often, city leaders sacrifice public space and walkable neighborhoods in the name of urban growth and expansion. Pedestrianization - the process of closing streets to vehicle traffic, either permanently or during certain hours - not only improves safety and accessibility for pedestrians but also brings larger social, environmental, and economic benefits for cities. Pedestrianization improves public health by providing opportunities for physical activity through active transport, curbs local air pollution, and improves traffic safety. It decreases the number of cars on the road, helping to reduce greenhouse gas (GHG) emissions and mitigate global climate change. Finally, pedestrianization supports local businesses and fosters economic growth through tourism and cultural exchange, building thriving and prosperous urban communities. These changes combine to create cities that are livable and sustainable, improving quality of life for urban residents.

The founding purpose of EMBARQ Turkey – Sustainable Transportation Association is catalyze and help implement environmentally, socially, and financially sustainable urban transport and urban development solutions to improve quality of life in cities. In 2010, EMBARQ Turkey, in cooperation with Gehl Architects and the Fatih Municipality, proposed a pedestrianization project to expand sustainable mobility and create a more accessible Historic Peninsula for Istanbul. The project aimed to reshape the Historic Peninsula as a space for people, not cars, detailing specific strategies for sustainable transport and urban design and planning.

Since 2011, the Fatih Municipality has pedestrianized 295 streets, benefiting the roughly 2.5 million people that walk the streets of the Historic Peninsula each day. This report details the project's impact on students, residents, and local businesses in the Historic Peninsula, and assesses the how the redefined space has affected their lives. The report aims to assess the impact of the project both in terms of environmental sustainability as well as social impact in order to improve future efforts at pedestrianization and other people-centered design strategies.

I would like to sincerely thank my colleagues who have contributed to this report; the local businesses of the Historic Peninsula, who have helped us to a great extent; Fatih Municipality; and finally, the students and the people of Istanbul.

Arzu Tekir
Director of EMBARQ Turkey



EXECUTIVE SUMMARY

Istanbul Historic Peninsula, which served as the capital of Roman, Byzantine and Ottoman Empires, has been the center of many civilizations over the past 8500 years. Surrounded by the Golden Horn, the Bosphorus, and the Sea of Marmara, and bordered by Byzantine city walls on its western side, the Historic Peninsula, or “Suriçi” as it was called during the Ottoman period, marks the location of the first settlements in Istanbul.

Urban planning efforts for the Historic Peninsula were initiated in Turkey’s early Republican period. The Prost Plan (1936-1951) marked the beginning of efforts to conserve and sustain the Historic Peninsula, with objectives including the conservation of Istanbul’s historical silhouette, the restoration of historical buildings, and the construction of new modern buildings.

The rapid population growth of the 1950s strained the historic nature of the urban fabric. During 1960-1967, Professor Luigi Piccinato developed the Greater Istanbul Master Plan, which recommended certain strategies to prevent the transformation of Istanbul into an ever-growing concrete landscape, and to reorganize local administration with a metropolitan view of the city. Nevertheless, the Historic Peninsula’s continuing development as an urban center resulted in the transformation of its functional character. Largely driven by the growth of production industries, this period of urbanization triggered immigration and the rise of illegal settlements, rendering a holistic plan for the old city nearly impossible. Residential buildings were transformed into boarding houses, storage facilities, small-scale workshops and ateliers. Although the Historic Peninsula had always been home to intense commercial practice, its spread throughout the entire Peninsula eventually resulted in the loss of the area’s residential qualities, leading to a major decrease in resident population and an increase in the number of workplaces.

Historically, the Peninsula was characterized both as the densest residential area and the central commercial area of Istanbul. Today, the Historic Peninsula is characterized by zones of dense functional uses, including service industries, education, housing and tourism. Inhabitants are concentrated in certain areas, such as Eminönü and Alt Laleli, while educational and commercial activities are dispersed over the entire Peninsula. Tourist activities are foremost present in Sultanahmet and its immediate surroundings.

The Historic Peninsula is also a transportation hub, serviced by many different types of public transportation systems. In addition to an overwhelming student population, the area’s established identity as a “commercial center” attracts many urban users. Eminönü harbors the intersection of tram and ferry lines, while Yenikapı houses the intersection of Marmaray and metro lines, connecting both of these districts to important transfer hubs.

Despite the presence of effective and various modes of mass transportation, the Historic Peninsula still suffers from the pressures of an ever-growing and highly motorized city. Surrounding coastal streets such as Kennedy, Reşadiye and Rağıp Gümüşpala carry especially high volumes of vehicle traffic. The demand for parking in the Historic Peninsula, even at its pedestrianized center, is accordingly high. It must also be mentioned that transportation opportunities within the Peninsula are insufficient, with only a single high-capacity railway system crossing the district.

In 2005, the Istanbul Metropolitan Municipality (İBB) decided to re-evaluate the Historic Peninsula’s multi-layered structure. Taking into account the Peninsula’s role as a historical, cultural, and transportation center, İBB launched a series of pedestrianization projects with the aim of increasing the quality of life

in the area. A set of accompanying regulations by the municipality's Transportation Coordination Center (Ulaşım Koordinasyon Merkezi (UKOME)) intended to reduce the negative effects of vehicle traffic on tourist and commercial activities were introduced throughout 2005-2009, and pedestrianization projects for Eminönü, Beyazıt, Ayasofya Square, and Gülhane Park were completed. Sultanahmet Square and its surrounding streets were pedestrianized in 2010, and the administrative plan for tourist buses and heavy vehicle traffic was enacted within the same year. 2010 also marked the completion of the "Istanbul Public Spaces and Public Life" project, in cooperation with EMBARQ Turkey, Gehl Architects, and the Istanbul Metropolitan Municipality. This project conducted detailed analyses of the area and helped further develop pedestrianization proposals and strategies, resulting in a 2010 report of the same name.

Since 2010, 295 streets in Eminönü, Tahtakale, Beyazıt, Laleli, Gedikpaşa and HocaPaşa were pedestrianized. The municipality also carried out supporting infrastructure projects for the pedestrianized areas including repaving the newly pedestrianized streets with granite pavestones, signalization, and reorganization of waste management services.

This report was prepared to determine the state of satisfaction with the completed pedestrianization project among the main users of the Historic Peninsula: Istanbul residents, students at Istanbul University's Beyazıt Campus, and employees/business owners in the area. Using field interviews, observations, and existing data, it also aims to assess present conditions of the area after pedestrianization.



In order to measure the level of satisfaction, three surveys were conducted:

- a 10 question “resident survey” collecting information on demographics, opinions regarding transportation and evaluations of changes in the physical and environmental quality.
- a “student survey” targeting the students of Istanbul University’s Beyazit Campus, consisting of 10 questions on demographics, views on transportation and changes in physical and environmental qualities.
- a third “commercial survey” targeting local businesses. This survey encompassed the qualities of both the resident and student surveys while gathering additional sectoral information in a total of 33 questions. The questions in the commercial survey were categorized under seven main headings: social and economic structure; transportation; road safety; benefits; environmental quality; and general satisfaction.

Within this report, demographic characteristics of respondents, and the basic attributes of either their places of employment or personal businesses are presented in the “Social and Economic Structure” section. Aspects such as choice of travel mode, walking distances and parking are analyzed in the “Accessibility” section. Data on traffic accidents that occurred within the municipal borders of Fatih District and views of respondents concerning the accident rates after pedestrianization are presented in the section “Road Safety.” The perceived benefits of pedestrianization in the Historic Peninsula and its impact on the physical environment are discussed in the “Benefits” section; the section titled “Environmental Quality” includes views on topics such as air quality, street sanitation and motorized vehicle noise. Finally, the status of general satisfaction regarding the project is studied in the “Satisfaction” section through a comparative analysis of views before and after the completion of the pedestrianization project.



MAIN FINDINGS

SOCIAL STRUCTURE

The analysis of the survey conducted in the Historic Peninsula shows that, albeit with some exceptions, men are far more represented than women (76% and 24% of survey respondents, respectively). A total of 1290 people responded to the survey.

- Out of the total 459 respondents of the resident survey, 53% were women and 47% were men. 4% of respondents declared disabilities hindering their mobility.
- Of 91 student respondents, 45% were women and 55% were men. The respondents with a disability constituted 1% of survey takers.
- Of 740 responding employees/business owners, only 6% were women and 94% were men. In contrast to the gathered resident and student data, the majority of people associated with local businesses are men. The survey also revealed 1% of the commercial survey respondents to have disabilities that prevent their mobility.

ECONOMIC STRUCTURE

The data collected with the commercial survey shows that 47% of the respondents in the Historic Peninsula are retailers and 53% are wholesalers. Among commercial survey respondents, 50% indicated that the pedestrianization benefitted their delivery and collection activities, while 37% expressed negative views and dissatisfaction with this aspect of the project. In the retail sector, 51% of respondents agreed that pedestrianization had a positive impact on their business. 35% of retailers disagreed. This distribution was similar among wholesalers, 52% of respondents agreed that pedestrianization had a positive impact on their business. 38% of retailers disagreed. The increase in street dealers after the pedestrianization was a significant cause of concern among commercial survey respondents. 53% of employees/business owners confirmed such an increase and 77% expressed their displeasure regarding the issue.



ACCESSIBILITY

As the accessibility to different types of transportation is an important indicator for the projects' success and current rate of satisfaction, survey respondents were asked about their choice of travel mode to get to the Historic Peninsula.

- The transportation preferences of residents were railway systems (41%), ferry (30%), bus and personal vehicle (both 13%), on foot (2%) and by bicycle (1%).
- The survey revealed that the relative majority of students (45%) prefer to take the bus to reach the Historic Peninsula, while 25% used railway systems, 11% used the ferry and 15% arrived on foot. Only 4% of the students use personal vehicles.
- The commercial survey shows that 63% of employees/business owners use mass transportation (52% railway, 38% bus, and 10% ferry). 29% use personal vehicles to get to work, 7% arrive on foot and 1% ride bicycles. 79% of drivers use parking lots and 21% park on road-sides. In addition, 78% of respondents mentioned that parking spaces are insufficient.

ROAD SAFETY

The most critical issue concerning the Historic Peninsula's transportation network manifests itself at the intersections of pedestrianized streets and broad and busy roadways, which are used for various types of traffic and transit services. A total of 383 traffic accidents occurred in the district of Fatih in 2010 (accidents with pedestrians and between vehicles), whereas the number of accidents in 2011 reached 483. It seems plausible to suggest that constraints on vehicular traffic in the historic center caused an increase in traffic on nearby streets. The growing measures restricting vehicle traffic within the Historic Peninsula transferred transit traffic to streets surrounding the pedestrianized area; most conflicts between pedestrians and motorized vehicles occur on these roadways. Although no current data was available for the period following most recent implementations, the surveys revealed that 76% of total respondents felt that the pedestrianization had a positive impact on road safety.



BENEFITS

Respondents to the survey were asked about the benefits of the Historic Peninsula's pedestrianization and were presented with multiple choices. Participants could choose more than one answer. Among residents, the most common benefit reported was increased street safety (68%). Other acknowledged benefits included increased visual quality (58%), strengthened attraction of historical buildings (56%), and improved walkability (52%). The survey also asked about the Historic Peninsula's physical environment post-pedestrianization. Within this context, residents recognized the increase in resting and seating places and road space designated for walking, and improvements to the visual quality of streets. However, respondents mostly thought that there was no change, or a decline, in street lighting, informatory signs and mass transportation opportunities.

Student respondents were also asked to evaluate the benefits of pedestrianization projects in the Peninsula. Illustrating similarities with the residential survey, 55% of students indicated that pedestrian safety was significantly improved. Improved walkability (51%) and increased visual quality (50%) were also common responses. Student respondents mostly thought resting and seating places, general visual quality of streets and walking environment were improved. However, they also stated that street lighting, informatory signs and mass transportation opportunities deteriorated after pedestrianization.

In the commercial survey, 83% of employees/business owners identified improvements in walkability as the project's most significant benefit, followed by the increase of visual quality with 82%. 77% of commercial survey respondents thought that streets had become safer for pedestrians. Employees/business owners confirmed the positive developments in general visual quality of streets, walking environment and street sanitation. Street lighting, mass transportation opportunities, informatory signs and resting and seating places were considered unchanged.

ENVIRONMENTAL QUALITY

In each survey, views on post-pedestrianization environmental quality were divided into four categories: overall disturbance caused by motorized vehicles; vehicle noise; air pollution; and street pollution. Across surveys, respondents predominantly stated that disturbances caused by motorized vehicles, vehicle noise, and air pollution significantly decreased after pedestrianization. Street pollution was generally considered unchanged.

SATISFACTION

The overall satisfaction of users is the most important factor in evaluating the success of pedestrianization. The surveys show an overall satisfaction rate of 80% among residents, students and employees/business owners.

Additionally, the satisfaction of employees and business owners was analyzed separately, based on the years of service in the area and reactions about the project before and after its implementation. Businesses with a longer history in the area expressed more negative views during the early stages of the project compared to businesses with a 5-10 year history. The same applies to post-implementation rates of satisfaction. While 70% of businesses with over 20 years of history in the area reported satisfaction with the pedestrianization projects, 88% of newer businesses (operating for 5 years or fewer) were satisfied. Compared to initial rates of satisfaction gathered in an earlier EMBARQ survey, "Pedestrianization of Istanbul Historic Peninsula: Views of Local Businesses" (2012), there was a significant increase in the overall satisfaction rates, regardless of the age of the business.

SUGGESTIONS AND ASSESSMENT

Based on the survey results, field observation, existing data, and previous studies of the issue, this report outlines suggestions to continually improve pedestrianization efforts in the Historic Peninsula. These include:

- Providing accessibility for all in the historic peninsula is a prerequisite the essential basic principle underlying all interventions.
- Create common, effective and safe walking routes to enable users to benefit from all opportunities the Historic Peninsula has to offer.
- Put in place traffic calming policies in the Peninsula and develop an integrated mass transportation system to increase its efficiency.
- Study current routes used by private vehicles and particularly tour busses, in order to implement a holistic plan and management of their travel routes.
- Mass transportation on the Historic Peninsula should be subjected to an integrated planning process in order to create a system that will both feed the immediate area and connect it with other centers.
- Present tourists with multiple travel modes choices to reach and tour the Historic Peninsula, such as minibuses, light rail systems, walking and cycling routes.
- Create an urban design guideline for the Historic Peninsula as a whole, one that bases design on the specific identity and character of the streets. Streets that are exclusive to pedestrian use must be designed to reflect this specific function.
- Frequently used streets within the historic peninsula should be identified and services such as street art applications, seating and resting places and green spaces should be provided to meet people's needs.
- Re-plan parks on the shore of the Historic Peninsula in terms of their physical and visual interaction with the water and develop their recreational qualities.
- Informational signage must be installed at intersections, especially direction signs and way-finding information. .
- Urban elements, such as benches, artwork, pavestones, lighting and greenery, should be unique, distinguishable and characteristic of their environment, and be installed on main routes for easy discernment even from afar.
- Street lighting should enable streets to continue performing their function as vital veins of urban life at night. Squares should be illuminated so that their physical and visual characteristics are highlighted and various activities can be carried out.
- Resting and seating places, patches of plants, trash bins, lighting fixtures, street paving and indication signs are immediate critical components of streets and their implementation is vital to creating a safe and pleasant public space.

OVERALL EVALUATION

Istanbul Historic Peninsula Pedestrianization Project's scope, area of implementation and affected population indicate its tremendous scale. Given that the project only became fully operational three years ago, some outstanding issues remain. However, the overall satisfaction rate was very high among users, and additional issues may be resolved with the continued use of collected feedback. The satisfaction rates could also be improved through continued planning, enforcement, and changes to the built environment. Sustainability of the project over time will only be achieved by developing community ownership. Users should view the streets as their 'living space'. Designing better, safer, more accessible, and visually appealing- streets with improved environmental and physical qualities will be instrumental for increasing the level of satisfaction amongst urban users.

LIST OF TERMINOLOGY

Accessibility: The opportunity to reach products, services, and activities.

Archeological Sites: Overground, underground or undersea settlements built, and areas inhabited by ancient civilizations throughout the history of humankind, which reflect the products and social, economic and cultural qualities of their era.

Bicycle Lane: A road exclusive to the use of bicycles, distinguishable by the color of its paving and usually implemented near sidewalks.

Center of Attraction: An urban hub with an immense potential to grow, supported and empowered by continuous investments.

Cross Roads: A shared way for the passage of vehicles formed by the intersection or junction of two or more motorways.

Freight: Commercial transportation of goods.

Gehl Architects: An urban research and design practice, founded in 2000 in Denmark, which focuses on the interrelation of the concepts of built environment and life quality.

Historic Peninsula: The region, surrounded by Marmara Sea, the Bosphorus, and the Golden Horn, where the former Byzantium and Constantinople were founded.

Historical Site: An official location where historical pieces of national, military and social significance are preserved.

Migration: The geographical relocation of a person from one dwelling to another, for the purpose of residing permanently or for an extended period of time and for various reasons including religious, economic, political and social.

Informational Sign: Sign displaying information on the road and its immediate surroundings, nearby settlements and service units.

Level of Service: A qualitative measure for operational conditions within traffic streams and generally describing factors such as speed and travel time, freedom to maneuver, traffic interruptions, comfort and convenience, and safety.

Marmaray: A railway enhancement and development project which connects the railway networks from the

European and Asian sides of Istanbul with a 76km long transit tunnel under the Bosphorus.

Mass Transportation: The common name of all transportation systems where the travel is performed without the use of personal vehicles.

Master Plan: A plan with a detailed report, which is drafted in 1/2000 or 1/5000 scale and serves as the foundation of implementation plans, while listing data sets involving the types of use, types of zones, projected population densities, structural densities and principles of the size and direction of growth of various settlements on official land survey plans.

Metropolitan Area: The area pertaining to a major city and its suburbs.

Multi-Functional: An area that possesses more than one function.

Multi-Layered: An urban structure formed by the substitution of old urban and socio-cultural elements by the new.

Pedestrianization: The conversion of streets into walkways exclusive to pedestrians or the extension of areas suitable for walking through the implementation of development plans.

Pedestrian Crossing: A path across a road marked as a crossing for pedestrians.

Physical Environment: A medium where people live and physically perceive their existence and characteristics.

Preservation Master Plan: The set of plans, notes, reports, goals, tools and strategies drafted according to the archeological, historical, natural, architectural, demographic, cultural, socio-economic, territorial and structural data sets, and for the conservation a specific site.

Public Space: An area for social interaction that is open to all. A mutual field of social interaction where ideas, discourses and actions are created and developed for determining the common benefits of the society.

Ranking: A system that grades people from a community or an institution based on their hierarchical positions, duties and authorities.

Recreation: Refreshment of one's mind or body outside of work through voluntary activities that amuse or stimulate, such as entertainment or sports.

Resident: An occupant of the city, one who belongs to the urban public.

Resting Place: A place to gather strength, catch one's breath and reduce fatigue.

Retail: The sale of goods or commodities in small quantities by a business and directly to consumers.

Sub-Region: Eminönü, HocaPaşa, Alt Laleli and Üst Laleli sub-regions within the Historic Peninsula, as defined by the "Historic Peninsula Pedestrianization Project Current State Assessment" Report.

Separated Road: A road separated by distinct elements defining separate lines for different means/modes of transportation

Traffic: The state of humans, animals and vehicles in transit on roads.

Traffic Calming: Physical design and other measures, including narrowed roads and speed humps, put in place on roads to slow down or reduce motor-vehicle traffic as well as to improve living quality and the safety of pedestrians and cyclists.

Urbanization: The process by which towns and cities are formed and become larger and greater in number as a result of industrialization and economic growth and leading to changes in social structure, labor and specialization as well as in human behavior and relations.

Urban Space: An area defined by the borders of a local political unit or one that extends to a larger scale by including adjacent suburbs, towns and rural areas.

Urban Fabric: The use of land which consists of plots, blocks and neighboring units which are partitioned by roads, streets and alleyways, and serve residential, practical, commercial, industrial and recreational needs.

Urban Furniture: All objects facilitating people's lives within the urban space, providing safety and comfort, and contributing to the conditions of urban living.

Urban Space of Use: An area of use involving urban activities.

Urban Site: Urban sites are spaces which accommodate cultural and natural elements

(buildings, gardens, floras, habitats, walls) architecturally, locally, historically, aesthetically and artistically far more valuable together than individually.

Visual Pollution: A contamination perceptible to the eye, caused by elements that influence environmental and urban aesthetics negatively.

Walkability: A measure for determining how friendly an area is for walking. Factors influencing walkability include the presence or absence and quality of footpaths, sidewalks or other pedestrian rights-of-way, traffic and road conditions, land use patterns, building accessibility, and safety, among others.

Wholesale: Large scale enterprises acting as mediators between the manufacturer and retailer by storing, moving and distributing goods.



SECTION 1

INTRODUCTION

The large scale pedestrianization project in the Historic Peninsula, which involved the pedestrianization of 295 streets, was finalized in October 2013, corresponding with the opening of the undersea railway tunnel project Marmaray. The pedestrianization project was an opportunity to conserve and sustain the Historic Peninsula's built environment and public spaces, and to improve quality of life in the area.

EMBARQ Turkey, in partnership with Gehl Architects and with the support of Istanbul Metropolitan Municipality and Fatih Municipality, created the "Istanbul Public Spaces and Social Life" project in 2010. The project aimed to develop the overall quality of life in the Historic Peninsula by proposing comprehensive approaches for transportation and pedestrianization of the area. These approaches were outlined in the 2010 report of the same name. Within this framework, EMBARQ Turkey prepared supplementary reports on transportation, accessibility, economic structure and now, satisfaction regarding the pedestrianization project. Based on surveys conducted with residents of Istanbul, students at Istanbul University's Beyazit Campus and businesses operating in the Peninsula, this report presents information on user demographics, the economic makeup of different sub-regions within the Peninsula, and perceptions of pedestrianization in the area.

This report is composed in three main sections.

The first section of the study summarizes current conditions and planning efforts in the Historic Peninsula in order to establish a foundation for the survey results in the second section. The first section presents information on the Historic Peninsula's changing dynamics, land uses, and transportation system. It also provides an overview of the area's recently implemented pedestrianization projects.

The second section provides a review of the survey results, including social and economic structure, accessibility, road safety, benefits of the pedestrianization project and satisfaction with pedestrianization.

The third section discusses opportunities and challenges for creating people-oriented and well-operating streets and public spaces in the Historic Peninsula. Issues regarding street design and safety are emphasized, as well as suggestions to improve current projects' user-friendly qualities for the benefit of all.



SECTION 2

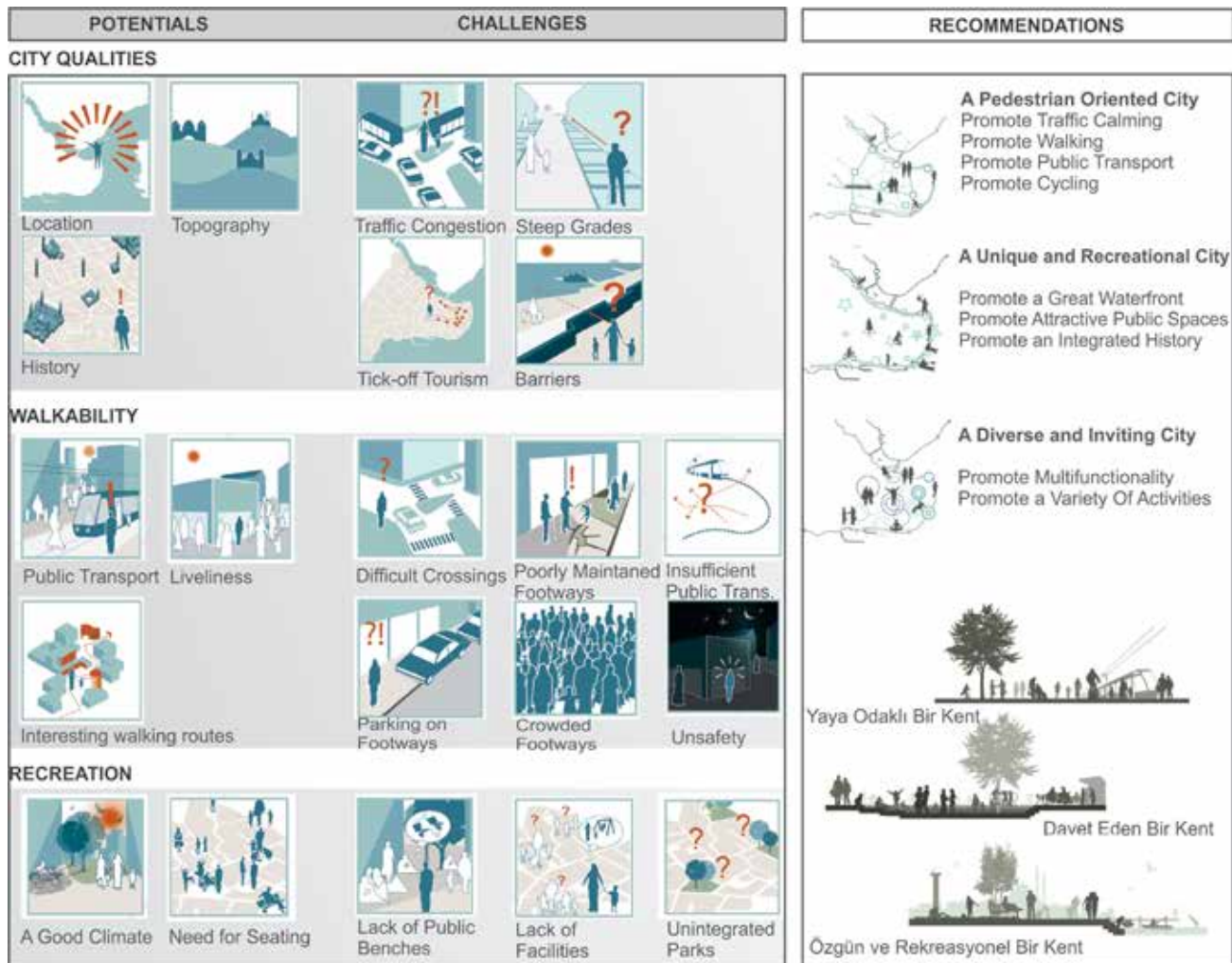
METHODOLOGY

In 2010, EMBARQ Turkey started to prepare a report called “Istanbul Public Spaces and Public Life” in cooperation with Gehl Architects. This report mapped the current problems and potential of the Historic Peninsula and investigated the social life of the area within the context of safety perception, user satisfaction and economic activity.

In that 2010 report, a series of streets, access roads, squares and parks representative of the area were

chosen to create a working sample to study networks of mobility. The study looked into various perspectives concerning public spaces and the interactions between vehicles and pedestrians in order to present a people-oriented planning approach. “Istanbul Public Spaces and Public Life” (Figure 1) presents a framework of potentials, challenges and proposals that contributes both to the project itself and to further studies.

Figure 1 Istanbul Public Spaces and Public Life, Gehl 2010



This current report focuses on data collected from the October 2013 surveys. Adding to the 201 perception study¹ on businesses operating in the Historic Peninsula, this report focuses on businesses in the Peninsula, while also incorporating the views of students of Istanbul University's Beyazit Campus

and Istanbul's residents into the research. The level of satisfaction with the pedestrianization project was determined with three surveys, different yet composed of similar questions and oriented towards three main user profiles. The surveys were prepared based on the views of experts from the EMBARQ network and other scholars.

¹ The condition study conducted by EMBARQ Turkey in 2012-2013 was published online on March 2013 under the title "Pedestrianization of Istanbul Historic Peninsula: Views of Local Businesses."

Figure 2 Method Flow



The resident and student surveys, which aimed to measure the level of satisfaction among town-dwellers and students of Istanbul University's Beyazit Campus, were conducted online between October 10 and November 3, 2013. Both surveys were structured to focus on issues regarding demographics, transportation, benefits of pedestrianization and changes in physical and environmental structure (Appendix 1).

The resident survey was conducted via the Internet in order to reach diverse segments of Istanbul's inhabitants. 495 people participated, living across diverse neighborhoods of Istanbul. Considering students' intense use of the Internet and relevant technologies, the student survey was also conducted online, and 91 people responded. Although the surveys cover a limited sample size of residents and students, they are valuable in terms of evaluating related user groups' thoughts on the pedestrianization project. The survey responses are not representative of the larger urban and student populations.

The commercial survey sought to measure the level of satisfaction among local businesses in the Historic Peninsula. It was conducted during the last week of October 2013 between 9 am and 6 pm. Ten pollsters conducted 740 in-person interviews of owners, managers and employees of businesses operating in the area. The 33-question survey covered the following topics:

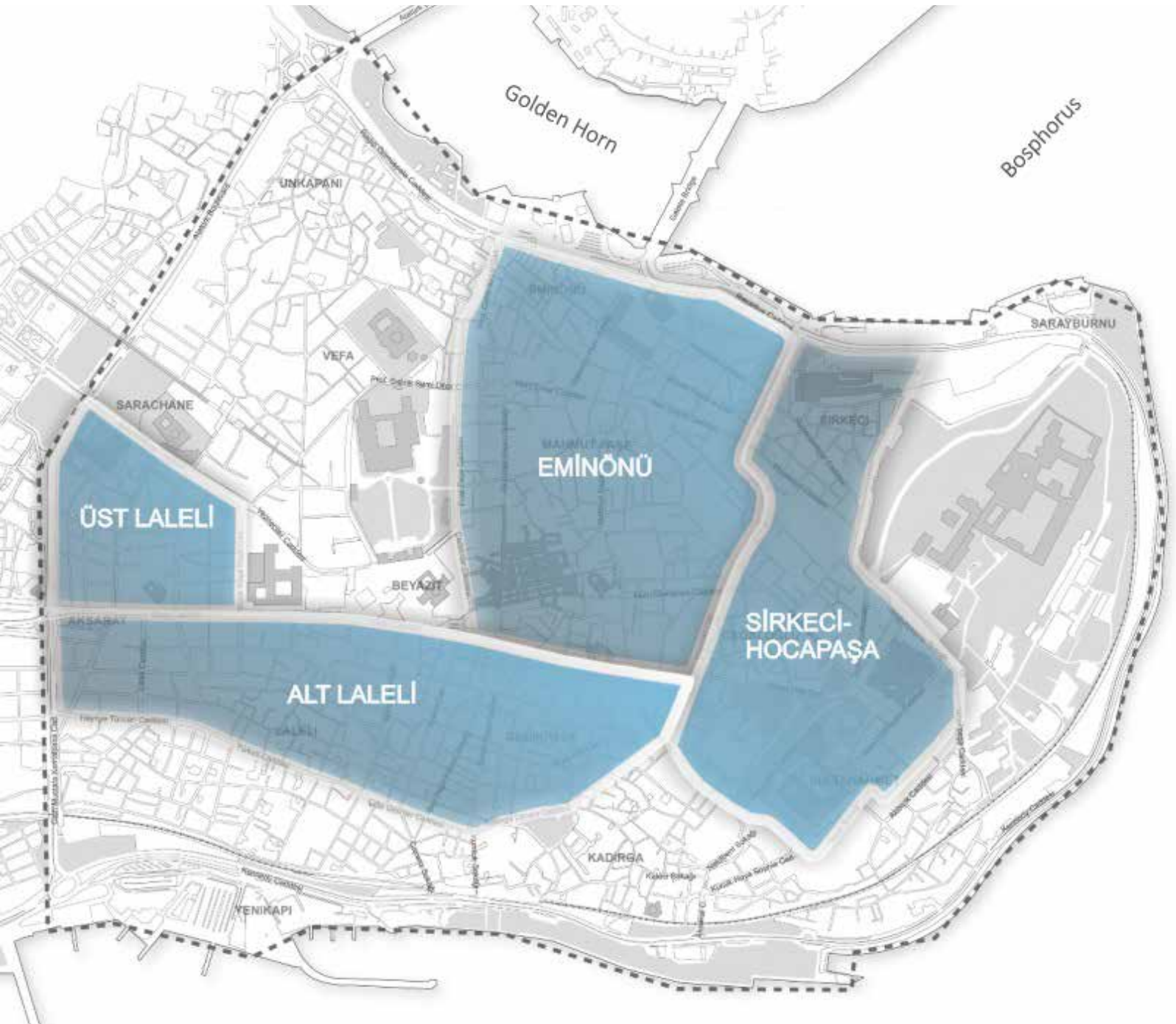
- Demographics,
- Business characteristics,
- Accessibility,
- Benefits of the pedestrianization project,
- Changes in physical environment, economic status and environmental quality after pedestrianization,
- General satisfaction (Appendix 1).



In order to manage the survey process, the Historic Peninsula was divided into “sub-territories” based on attributes of land use and stages of pedestrianization, formulated by Fatih Municipality during the implementation process. The commercial survey covered pedestrianized zones in Eminönü, Üst

Laleli, Alt Laleli and Hocaapaşa/Sirkeci (Map 1). The sample for the commercial survey was constituted from businesses in Historic Peninsula’s pedestrianized lower territories. In addition, the field work utilized the “simple random sampling method” and businesses surveyed were randomly selected.

Map 1 Historic Peninsula Sub-Regions



The Historic Peninsula is home to approximately 3500 businesses, excluding those in the Grand Bazaar. During the field work, every pollster surveyed only one person per business. Out of 740 commercial surveys, 250 were conducted in Eminönü, 116 in Üst Laleli, 250 in Alt Laleli and 124 in Hocapaşa/Sirkeci (Map 2).

740 business units were surveyed on their satisfaction with the pedestrianization project, bringing the estimated rate of surveyed businesses in the Historic Peninsula to approximately 20%.

Map 2 Streets Where Surveys Were Conducted





SECTION 3

HISTORIC PENINSULA FROM PAST TO PRESENT

There has been much research done by various disciplines regarding Istanbul Historic Peninsula, which has been at the center of the 8500 year-old capital city through East Roman, Byzantine, Ottoman, and modern times. This section provides an overview of the systematic planning studies and current conditions of land use and transportation structures beginning with the establishment of the Republic.

Surrounded by the Golden Horn, the Bosphorus, and the Sea of Marmara, and confined within the Byzantine city walls on the western side, the Historic Peninsula, or “Suriçi”, as it was called during Ottoman period, was the primary site of the founding and development of Istanbul. The fact that the area is the oldest part of Istanbul, in addition to the sheer number of historic buildings it contains, have led to it becoming known as the “Historic Peninsula.”

Palaces, mosques, churches, fountains, obelisks and houses from both Byzantine and Ottoman eras are important symbols of the Historic Peninsula. Although the structural aspects of these forms change in relation to their periodic socio-economic and cultural attributes, their symbolic importance has endured. Over time, the Historic Peninsula developed by replacing older elements with the newer ones, as opposed to integrating urban and socio-cultural structures from multiple eras. Because of this, the Historic Peninsula has a “multi-layered” composition.

“Historic Peninsula’s topography and its integration with the sea have played a role in the formation of the city’s main structure and its unique character since the beginning. During all ages of the city, the bodies

of water, as a part of the main spatial aspects of the city, have determined the size and development of the city in addition to providing defensive measures. The foundations of harbors and water supply infrastructures, which are among the distinctive elements of the city, have been laid during the period of the colonial city of Byzantium, and taken over, improved and propagated in the following periods.” (Istanbul Site Management Directorate, 2011, p. 26).

Urban Development Approaches in the Republic (After 1923)

Because of their inherent features, the Historic Peninsula and the rest of Istanbul have been at the center of various planning studies since the beginning of the Republican Era, which guided zoning procedures. The 1933 Elgötz Plan was the first planning study of the Republican Era. Although it was not implemented, most of the proposals in the plan were largely realized in the long term (Istanbul Site Management Directorate, 2011).

After the Elgötz Plan, Dr. Martin Wagner’s 1935 “Plan of Istanbul and Its District” also failed to meet expectations and was rejected.

In 1936, Prof. Henri Prost was invited to Istanbul to begin his planning studies, which would continue until 1951. The Prost Plan was formed around the ideas of beautification of the city and establishing totality by creating new roads between various parts of the city. In order to accomplish these goals, preservation of the historic silhouette of Istanbul, restoration of historical buildings and construction of new buildings

with architectural value were planned. Since some of the principles set forth by the Prost Plan were incorporated into later plans, it can be argued that the plan still carries validity today (Istanbul Site Management Directorate, 2011).

Between 1950 and 1960, zoning practices under Prime Minister Adnan Menderes's lead, coupled with the demographic pressures, created a new image of Istanbul. The results were highly destructive to the historic urban fabric (Istanbul Site Management Directorate, 2011).

The "Great Istanbul Regulatory Plan" was created by Prof. Luigi Piccinato, who was invited to Istanbul between 1960-1967. This plan established principles to stop the concrete growth of Istanbul, and included the preservation of the cultural and historic landscape, establishment of a metropolitan government for "Great Istanbul," and the inclusion of citizens in metropolitan planning procedures (Istanbul Site Management Directorate, 2011).

During the 1950s and 1960s, rapid urbanization, industrial growth, immigration and illegal construction made it nearly impossible to create holistic plans for the Historic Peninsula. The Historic Peninsula, in its development process, has always been both the densest residential area and the central

commercial zone. Continued development of the central Historic Peninsula and the increase in the number of commercial entities such as workshops and wholesale trade shops resulted in the transformation of old residential zones, which were then repurposed into bedsitters, warehouses, small businesses and ateliers (Istanbul Site Management Directorate, 2011). The expansion of already existing dense commercial activity in the Historic Peninsula eventually destroyed residential zones, decreased the residential population in the districts and increased the number of commercial buildings. Eminönü and Beyoğlu (Karaköy) were the most important service industry zones of the Historic Peninsula up until the 1960's, when accelerated urbanization, industrial growth, and transportation development began pushing companies to choose locations outside the area (Dökmeci & Berköz, 2000). Over time, the Historic Peninsula transformed into a central location for historical and cultural values, and tourism and commerce became more prominent (Sepetçi, 2007). This situation has resulted in the formation of new axes, where the service industry was densest. The most distinctive of these axes, the "Zincirlikuyu – Maslak axis" is a commercial zone where mostly financial service industries and head offices of large corporations are located (Sepetçi, 2007).



The “1/50.000 Scale Istanbul Metropolitan Area Regulatory Plan” was drafted and authorized in the 1980s. The waterfront of the Golden Horn was cleared of all industries and new zones were established on both sides of the Golden Horn. Empty buildings were demolished, the zones were converted into public parks and the already existing waterfront roadways were widened and their continuity was established (Istanbul Site Management Directorate, 2011).

The 1/5000 scale “Istanbul Historic Peninsula Preservation Regulatory Zoning Plan” was drafted by Gündüz Özdeş in 1990.

In 2005, the 1/5000 scale “Historic Peninsula (Eminönü – Fatih) Conservational Regulatory Zoning Plan” and the 1/1000 scale “Zoning Implementation Plan” were drafted. According to the 1/5000 scale plan, which was authorized in May 2007, certified structures such as historic landmarks and exemplary civil architecture were to be stripped of their extensions, restored, and some areas were to be revived. The plan moved some of the detrimental industrial entities outside of the Historic Peninsula, and aimed to adapt existing traditional commercial, administrative and service functions to the area. Also in this period, regulations to limit rubber tire traffic and to increase pedestrianization were established (Çalışkan, 2011). Although the drafts were authorized

in 2007, the plans were eventually cancelled piece by piece and only partly implemented.

In 2012, the 1/5000 scale “Conservational Regulatory Zoning Plan” was authorized. The following provisions were stated in the plan: “Regulations can be made in accordance with the studies conducted on types of tram and rubber tire mass transportation that are suitable to the identity of Historic Peninsula. Other than those stated in the plan, green spaces on Marmara coast of the Golden Horn and the Land Walls inner preservation green space are to be unified with existing pedestrian access. In spaces qualified as historic landmarks, existing pedestrian roads are to be preserved and unified with pedestrian axes. Pedestrian only squares are to be designed in the scale of urban design projects, the squares are to be enriched with traditional urban fixtures which match the historical, cultural, physical and natural characteristics of Historic Peninsula with the help of urban design guides, and planned in a fashion appropriate to Historic Peninsula’s traditional architectural identity. Projects emphasizing the historical identity of the immediate surroundings and the area, such as exhibitions, ceremonies, pageants, thematic parks are to be created in these spaces. In these spaces, subway exits for the types of underground mass transportation detailed in the



plan, and outdoor stations for types of overground mass transportation can be planned; however indoor stations are prohibited” (1/5000 Koruma Amaçlı Nazım İmar Planı Plan Notları, 2012).

World Heritage Sites of the Historic Peninsula

The Historic Peninsula has four areas that carry “outstanding universal value” and have entered UNESCO’s World Heritage List in 1985; the Archaeological Park at the tip of the Historic Peninsula; the Süleymaniye Quarter with the Süleymaniye Mosque complex, bazaars and vernacular settlement around it; the Zeyrek area of settlement around the Zeyrek Mosque (the former church of the Pantocrator); and the area along both sides of the Theodosian land walls including remains of the former Blachernae Palace (Istanbul Site Management Directorate, 2011).

These areas have been included in UNESCO’s World Heritage List based on the following four main criteria:

(i): The Historic Areas of Istanbul include monuments recognised as unique architectural masterpieces of Byzantine and Ottoman periods such as Hagia Sophia, which was designed by Anthemios of Tralles and Isidoros of Miletus in 532-537 and the Süleymaniye Mosque complex designed by architect Sinan in 1550-1557 (whc.unesco.org, 2014).

(ii): Throughout history the monuments in Istanbul have exerted considerable influence on the development of architecture, monumental arts and the organization of space, both in Europe and the Near East. Thus, the 6,650 meter terrestrial wall of Theodosius II with its second line of defense, created in 447, was one of the leading references for military architecture; Hagia Sophia became a model for an entire family of churches and later mosques, and the mosaics of the palaces and churches of Constantinople influenced both Eastern and Western art (whc.unesco.org, 2014).

(iii): Istanbul bears unique testimony to the Byzantine and Ottoman civilizations through its large number of high quality examples of a great range of building types, some with associated artworks. They include fortifications, churches and palaces with mosaics and frescos, monumental cisterns, tombs, mosques, religious schools and bath buildings. The vernacular housing around major religious monuments in the

Süleymaniye and Zeyrek quarters provide exceptional evidence of the late Ottoman urban pattern (whc.unesco.org, 2014).

(iv): The city is an outstanding set of monuments, architectural and technical ensembles that illustrate very distinguished phases of human history. In particular, the Palace of Topkapi and the Süleymaniye Mosque complex with its caravanserai, madrasa, medical school, library, bath building, hospice and imperial tombs, provide supreme examples of ensembles of palaces and religious complexes of the Ottoman period (whc.unesco.org, 2014).

Key features of these four areas and the decisions regarding their inclusions in the conservation process are as follows:

Archeological Park: In the Prost Plan, the surroundings of Sur-i Sultani and Sultanahmet are aimed to “be preserved as an Archeological Park and developed with touristic functions,” and in light of this regulation, the area was declared an “Archeological Park” in 1953. Sultanahmet Archeological Park was declared a 1st Degree Archeological Site, and Sultanahmet District, with its historical monuments and residential, commercial and touristic functions, was declared an Urban Archeological Site Area (Istanbul Site Management Directorate, 2011).

Süleymaniye Quarter: Süleymaniye Mosque and its surroundings were declared a site area and preserved in 1977. With the decision to declare the entire Historic Peninsula as a site area in 1995, Süleymaniye District was also declared an Urban and Historic Site Area (Gülersoy-Zeren et al., 2008).

Zeyrek Area: Zeyrek Mosque and its surroundings were declared a site area in 1979, and Zeyrek District was declared an Urban and Historic Site Area in 1995 (Istanbul Site Management Directorate, 2011).

Land Walls Area: The first regulation concerning the archeologically and historically significant Land Walls, constructed in 447 to protect the city against ground attacks, was drafted in the Prost Plan. The “Istanbul Walls Conservation Project” was authorized in 1981, and Land Walls were preserved as a site area with the help of wall isolation zones inside and outside of the walls (Istanbul Site Management Directorate, 2011).

LAND USE AND TRANSPORTATION SYSTEM OF THE HISTORIC PENINSULA

The Historic Peninsula is home to many different land uses. Eminönü District, for example, still has a mix of

residential and commercial functions, even though some types, such as high value service industries, have departed. Historic monuments and their accompanying tourism play an important role as well (Map 3).

Map 3 Distribution of Land Use in the Historic Peninsula, Gehl 2010



Education is another essential function in the Historic Peninsula. Istanbul University's Beyazıt Campus and Istanbul Commerce University's Eminönü Campus contribute to the student population of the area. As stated in the "Istanbul Public Spaces and Public Life" report, students generally tend to use the city in a more creative and intensive fashion, bringing momentum, liveliness, and cultural richness to the city. The number of students and the central location of the universities are of great potential to the city. However, neither Istanbul University nor Istanbul Commerce University is well-integrated into the city. Only a limited number of students actually reside in the Historic Peninsula; therefore the city is deprived of a natural contribution that would enrich city life.

Historic Peninsula has unique features In terms of land use.

Eminönü is the center of wholesale and retail commerce in the Historic Peninsula. Commercial zones are spread over 74 hectares and have multiple sub-centers with separate, continuously developing branches of business. The Grand Bazaar and its surroundings are at the center of retail, traditional, and wholesale commerce. Tahtakale, Mercan, Küçükpazar, Eminönü Square and its surroundings are central business spaces, which include a diverse selection of wholesale and retail trade shops and business centers. Tahtakale District has many wholesale and retail electronics businesses, in addition to many other commercial businesses, warehouses, and street vendors.

Laleli has become a very important commercial center in recent years. Residential zones in this district have completely transformed into business centers and multi-story stores. Laleli has become the area's largest export sub-center, thanks to demand especially from countries of the former Soviet Union. The momentum and importance of trade activities have resulted in accelerated renewal of the physical fabric of the district.

Production and storage areas are mostly situated around Gedikpaşa, Süleymaniye. In Gedikpaşa, production and storage facilities are typically located on the upper floors of the buildings, while ground floors are used as storefronts (Ayan, 2010).

In terms of transportation, the Historic Peninsula is a center for many modes of travel. Its prominent commercial identity and educational institutions attract many users to the area. The transfer hub at Eminönü, which connects marine, land and railway transportation, increases the area's use (Çalışkan, 2011).

In addition, the Historic Peninsula is affected by the trends of the Istanbul Metropolitan Area. Private transportation ownership and usage rates are increasing in Istanbul – automobiles made up 26% of travel in the city in 2006, up from 19.3% in 1996 (EMBARQ,2012). The rapid increase in automobile-centric urbanization puts pressure on the entire city, including the Historic Peninsula. Therefore, regulation of automobile transportation in the Historic Peninsula has become more important.

Traffic volume is high, especially on the roads along the coastline and surrounding the Historic Peninsula, such as Kennedy, Reşadiye and Ragıp Gümüşpala. Parking spaces are in serious demand all around the Historic Peninsula, including at the center of the pedestrianized zone.

The T1 Tram Line has a considerable passenger capacity, since it crosses the Historic Peninsula and is fed by frequent stops. The Historic Peninsula became even more central as a transport hub with recent projects such as the Marmaray Motorway Tube Project and the Taksim – Yenikapı Subway Line. The initial Yenikapı Station of Marmaray opened on October 29, 2013, followed by Sirkeci Station on December 1, 2013, becoming the Historic Peninsula's important transfer stops. The Marmaray Tube Project also connected railway systems between the Asian and European sides of Istanbul, therefore providing continued rail travel between two continents. The Taksim – Yenikapı Subway Line, which began service in February 15, 2014, helped reinforce the public transportation network of the area and increase the daytime population, similar to the effect of Marmaray (Map 4).

With these new modes of transportation, accessibility in the Historic Peninsula will improve, therefore increasing the circulation of people and making the

improvement of pedestrian spaces which connect different modes of travel to each other and the accessibility of streets a priority.

Map 4 Transportation Connections in the Historic Peninsula



THE PROGRESS OF THE PEDESTRIANIZATION PROJECT

The Istanbul Metropolitan Municipality began a number of pedestrianization projects starting in 2005 to increase the quality of life in Historic Peninsula.

The tasks of Transportation Coordination Center (UKOME), which is the decision-making body on matters of transportation and traffic services within the duties, jurisdiction and responsibilities of Istanbul Metropolitan Municipality, are set forth in the Metropolitan Law of July 10, 2004. In order to accomplish these tasks, UKOME drafted a number of resolutions for the Historic Peninsula, which aim to reduce the negative effects of vehicular traffic on tourism and commercial practices in the area with the help of pedestrianization.

In light of UKOME's resolutions and the information provided by the 2010 study "Istanbul Public Spaces and Public Life," Fatih Municipality prioritized streets for pedestrianization efforts and accelerated infrastructure works. As a result, 295 streets in Eminönü, Tahtakale, Beyazıt, Laleli, Gedikpaşa and Hocapaşa have been pedestrianized and supporting infrastructure projects such as traffic signalization, granite paving and waste management improvements were completed.

General rules regarding the use of these streets are as follows:

- Streets and roads are accessible to pedestrians only during daytime hours (10:00-18:00). During the rest of the day, vehicular traffic is limited.
- Only official vehicles such as embassy, police, postal service, bank, firefighter and ambulances are allowed access during daytime hours.
- Vehicles with commercial licenses are allowed access for loading / unloading outside the hours of 10.00-18.00.
- Street vendors are prohibited from accessing some streets and roads.
- Inspections and enforcement are conducted by the municipal police forces of Fatih Municipality.
- Tourist buses will use routes and stops in the area determined by UKOME.

Pedestrianization progress in recent years is detailed in Figure 3.



Figure 3 Pedestrianization Progress Between 2005 – 2013

| | | |
|-------------------|--|--|
| 2005 - 2009 | | <ul style="list-style-type: none"> ● Pedestrianization project for Eminönü square and roads nearby ● Beyazıt square pedestrianization and İETT perons recovery project ● Ayasofya square pedestrianization project ● Pedestrianization project for Gülhane Park |
| 2010 | | <ul style="list-style-type: none"> ● Site management project for tourist buses; parking area rearrangement and Shuttle route project ● Pedestrianization project for Sultanahmet square and roads nearby <p>“İstanbul Public Spaces and Public Life” by Gehl Architects and EMBARQ Türkiye</p> |
| 2011 - 2012 | | <ul style="list-style-type: none"> ● 90 streets are pedestrianized in Eminönü, Tahtakale ve Beyazıt ● 23 streets are pedestrianized in Üst Laleli ● 115 streets are pedestrianized in Alt Laleli ● 15 streets are pedestrianized in Hocapaşa ● 7 streets are pedestrianized in Çemberlitaş |
| 2013 | | <p>Perception analysis completed and “Pedestrianizing İstanbul’s Historic Peninsula: Perspectives from Local Business” report is prepared.</p> <p>Road safety inspection completed and “İstanbul’s Historic Peninsula Design Concepts for Safe, Accessible Streets” report is prepared.</p> <p>“Assessment of Pedestrianization Project in Historic Peninsula” report is completed</p> |



SECTION 4

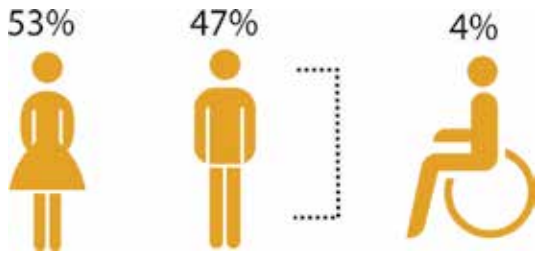
ANALYSIS

This section presents the data collected from the three surveys. The data is evaluated under the headings of social and economic structure, opportunities of access, environmental quality and benefits of pedestrianization.

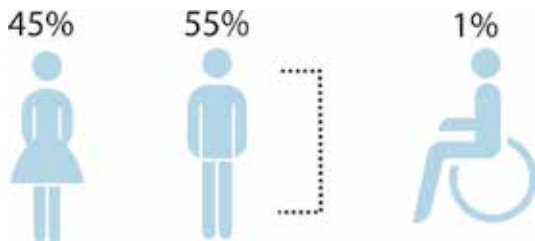
SOCIAL AND ECONOMIC STRUCTURE

Social Structure

Out of the total 459 respondents to the Istanbul resident survey, 53% were women and 47% were men. 4% of respondents declared disabilities that hindered their mobility¹.



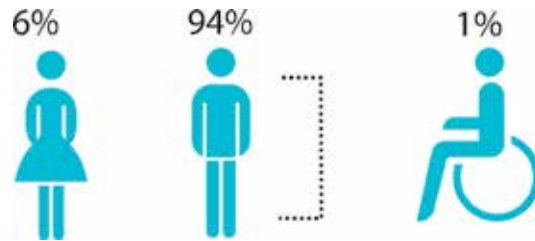
Of 91 respondents to the student survey, 45% were women and 55% were men. 1% of respondents declared disabilities that hindered their mobility².



¹ According to 2012 TÜİK data, Istanbul has a population of 13,854,740. 49.8% of the population is male, and 50.2% is female. The population of the Fatih Municipality is 428,857; with 49.5% male and 50.4% female. As the Historic Peninsula, the subject matter of this study, is part of Fatih district, population of the area is not further specified.

² As indicated in the Istanbul University Strategic Plan, the number of enrolled students in total is 58,850 as of 2008. 55% of students are male and 45% female.

Of 740 respondents to the survey of Historic Peninsula employees/business owners, only 6% were women and 94% were men. In contrast to the gathered resident and student data, the majority of people associated with local businesses are men. The respondents with a disability constituted 1% of survey takers.



The distribution of age groups amongst employee/business owner respondents is as follows: The relative majority of respondents (35%) were between the ages of 31-40, while 27% were between the ages of 41 and 50, 25% between 20 and 31 and 12% between 51 and 60.

Of the commercial respondents, 55% indicated that they graduated middle school, 29% indicated that they had graduated elementary school only, and 16% had graduated from college.

The residency distribution amongst respondents to the commercial survey was as follows: 24% live in Fatih, 7% in Bahçelievler, 6% in Bağcılar, 5% in Esenler, 5% in Gaziosmanpaşa, 4% in Zeytinburnu, 4% in Bakırköy and 4% in Başakşehir (Map 5).

Economic Structure

As questions about the economic structure of the area fundamentally relate to local businesses, they were only included in the commercial survey.

36% of commercial survey respondents were business owners, whereas 9% identified themselves as managers and 55% as employees. Among business owners, 76% were tenants and 24% were

landlords of the commercial property. 47% of the businesses respondents in the Historic Peninsula are retailers and 53% are wholesalers.

While 75% of retailers in the Peninsula are merchandisers, 16% are in the food and beverage business, 7% in accommodation and 2% in production. Among wholesalers, 96% dealt with trade while 4% dealt with manufacturing.

Retailer and wholesaler employees/business owners were asked about the impact of pedestrianization on the timing and choice of route of their delivery and collection activities. 50% of respondents indicated that pedestrianization benefitted their delivery and collection activities, while 37% expressed negative views and dissatisfaction.

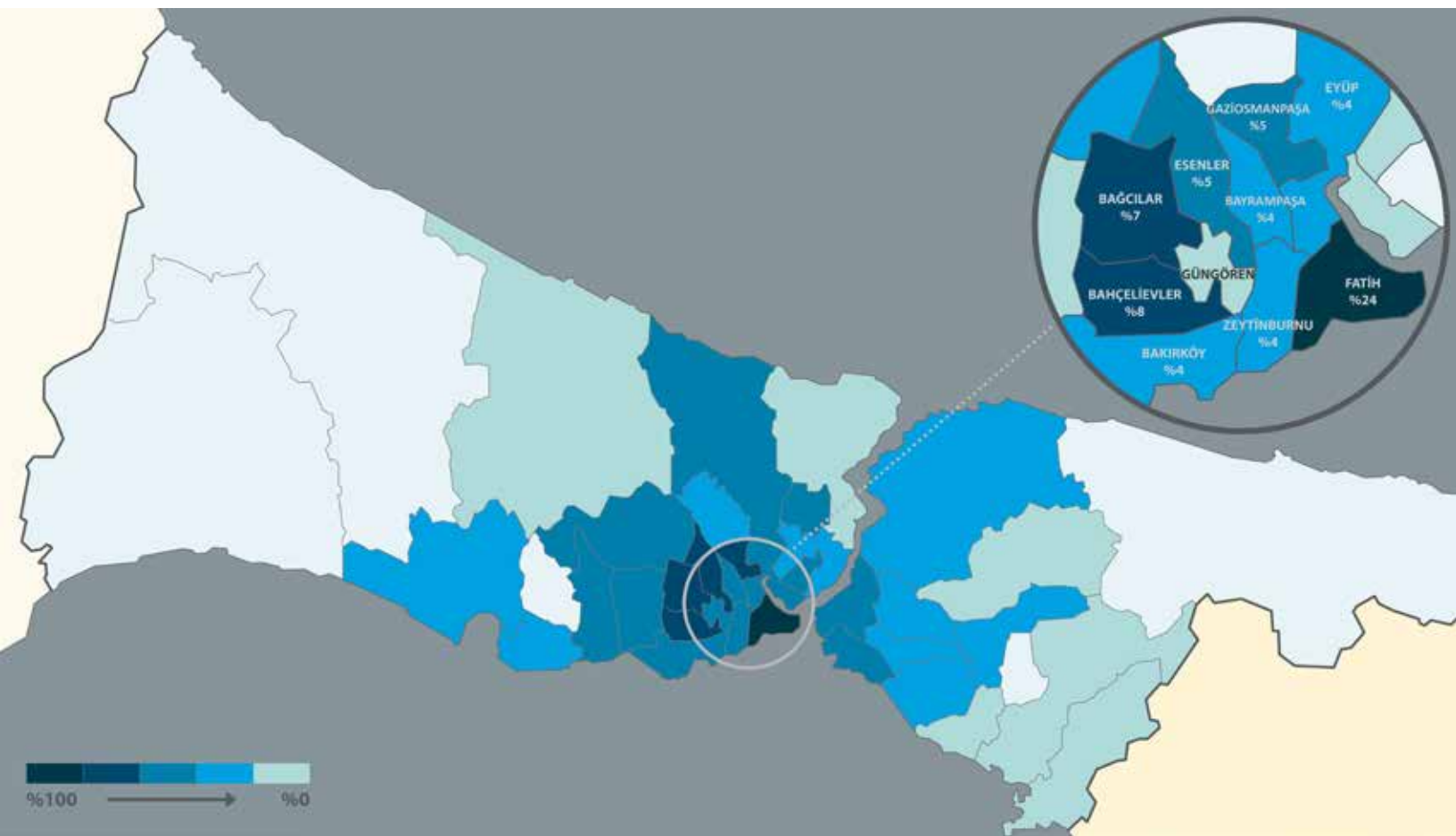
The pedestrianization project was positively received in the retail sector, with 51% expressing positive views regarding its impact on freight activities.

However, 35% of retailers expressed negative views on the subject. Wholesalers' responses revealed similar results, as 52% approved of pedestrianization effect on their freight activities and 38% expressed unfavorable views of the project in this regard.

The increase in street dealers after pedestrianization is a significant cause of concern among commercial survey respondents. 53% of employees/business owners confirmed such an increase and 77% were dissatisfied with this. 47% of respondents demanded the extension of municipal control to resolve the problem, while 30% demanded street dealers be required to pay rent. 23% of respondents declared that street dealers should be provided with permanent spaces.

Evaluation of collected economic data reveals that every sub-region possesses unique economic qualities. A region-based examination of fundamental findings is listed below.

Map 5 Districts Where Employees/Business Owners Reside



FUNDAMENTAL FINDINGS: EMINÖNÜ SUB-REGION



Eminönü sub-region, as defined by the Historic Peninsula pedestrianization project, comprises the neighborhoods of Rüstempaşa, Hobyar, Eminönü, Tahtakale, Mercan, Taya Hatun, Sururi, Molla Fenari and Beyazıt. Functions characteristic of the region are traditional trade, retail, and service industries.

Among the respondents of the commercial survey conducted in the Eminönü sub-region, 34% were retailers and 66% wholesalers. 85% of retailers are in the business of trade and 15% in production. The percentage of wholesalers who deal with trade is 98% and those who manufacture is 2%. These rates exhibit

that the majority of businesses in the Eminönü region are wholesalers, with trade as the most dominant commercial activity (Map 6).

In the previous survey conducted in 2011, one of the major concerns among employees/business owners in the Historic Peninsula regarding the pedestrianization project was the potential emergence of problems in their delivery and collecting activities. In the current survey, employees/business owners in the area were asked about this matter after the project was finalized;

- 59% of Eminönü retailers indicated that pedestrianization had a positive impact on their delivery and collection activities, while 35% described this impact as negative.
- 57% of Eminönü wholesalers indicated that pedestrianization had a positive impact on their delivery and collection activities, while 36% described this impact as negative (Map 6).

These results demonstrate that the project's arrangements regarding freight activities were more beneficial to wholesalers than to retailers in the Eminönü sub-region. This inference was also supported by field-based interviews. Wholesalers expressed content with the freight arrangements at specific hours. They also mentioned that they had favored the re-organization of delivery and collecting activities in general, as such a scheduling and restriction also prevents problems in loading and emptying caused by vehicles parked outside of their work places.



FUNDAMENTAL FINDINGS: HOCAPAŞA/ SİRKECİ SUB-REGION



Hocapaşa/Sirkeci sub-region, as defined by the Historic Peninsula pedestrianization project, comprises the neighborhoods of Hocapaşa and Alemdar and parts of the neighborhoods of Binbirdirek, Cankurtaran and Sultanahmet.

This region is home to intense economic activity, and encompasses functions such as retail, accommodation, and housing. Istanbul's most

important historic and tourist center, Sultanahmet, is also a part of the Hocapaşa/Sirkeci sub-region. With Istanbul City Hall and Istanbul District Government situated within its defined boundaries, the region embodies governmental activities in metropolitan scale.

95% of commercial survey respondents in the Hocapaşa/Sirkeci sub-region were retailers and 5% were wholesalers. The occupation of retailers is distributed between merchandise (61%), food & beverages (21%), accommodation (16%), and production (2%). The majority of wholesalers in the territory (67%) are in the business of trade, while 33% are manufacturers.

These rates exhibit that the majority of businesses in the Hocapaşa/Sirkeci sub-region are wholesalers, with trade as the most dominant commercial activity (Map 6). In contrast to other three sub-territories defined within the scope of this study, the Hocapaşa/Sirkeci sub-region embraces both accommodation/hotels and food & beverage-based trading extensively, which indicates the area's tourism potential (Map 6).

Among the retailer respondents from the Hocapaşa/Sirkeci sub-region, 57% declared positive views regarding the impact of pedestrianization on their delivery and collecting activities, while 27% expressed negative views. The sub-region's wholesalers were equally divided on the subject (Map 6).



FUNDAMENTAL FINDINGS: ALT LALELİ SUB-REGION



Alt Laleli sub-region is composed of Emin Sinan, Mimar Hayrettin, Saraçışhak, Mimar Kemalettin and Mesihpaşa neighborhoods and encompasses parts of Nişanca and Şehsuvar Bey neighborhoods.

Characterized by extensive commercial activity, the Alt Laleli region has evolved into an important commercial center in recent years. This development resulted in the rapid transformation of residential buildings into

business quarters and multi-story commercial outlets. Businesses of Alt Laleli mainly operate in textile industries.

Among the respondents of the commercial survey conducted in the Alt Laleli sub-region, 73% were wholesalers and 27% retailers. 87% of retailers are in the business of merchandise, 15% food & beverages and 3% in production. The percentage of wholesalers who deal with trade is 97% and of those who manufacture is 3%. These rates exhibit that the majority of businesses in the Alt Laleli sub-region are wholesalers, with trade as the most dominant commercial activity (Map 6).

Among retailers, 36% felt positively about pedestrianization's impact on freight activities, while 48% felt negatively. Respondents from the wholesale sector were more positive on the issue: 56% felt that pedestrianization had improved freight activities while 35% disagreed. These results indicate that wholesalers experienced fewer difficulties with their delivery and collecting activities after the pedestrianization project. This point was also supported by the outcomes of field interviews. Interviewed wholesalers pointed to a decrease in traffic problems that occur during loading and emptying of freight. Prohibition of storefront parking was one of the main reasons employees and business owners cited to explain why freight activities had improved.



FUNDAMENTAL FINDINGS: ÜST LALELİ SUB-REGION



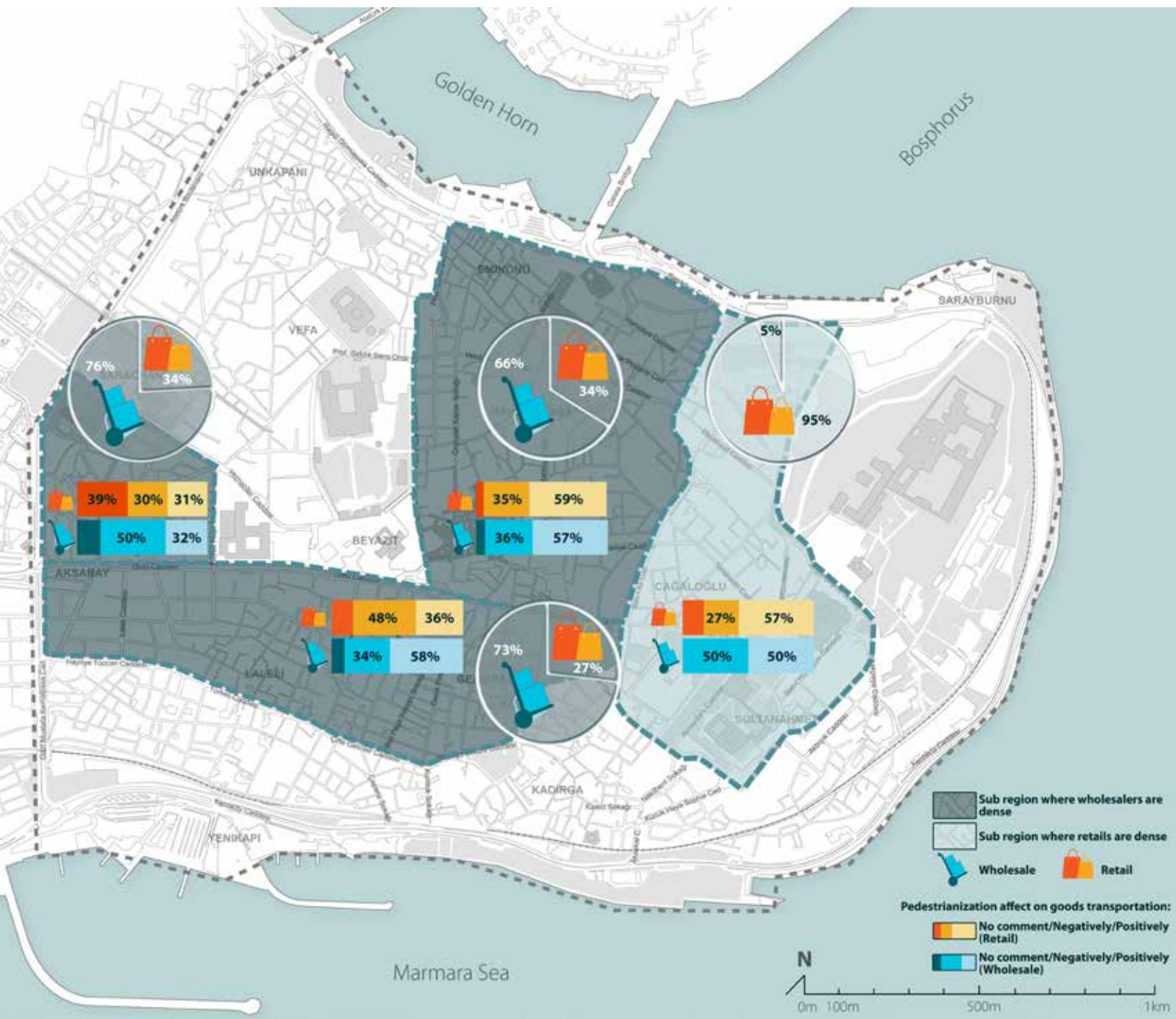
Üst Laleli sub-region is comprised of the Kemalpaşa and Balabanağa neighborhoods. Similar to the Alt Laleli sub-region, commercial activities in Üst Laleli are significantly based on textile industries. Istanbul University's Beyazıt Campus is also situated within the borders of Üst Laleli, namely in the Balabanağa neighborhood, meaning that daily human activities within the area are educational as well as commercial.

76% of commercial survey respondents from the Üst Laleli sub-region are wholesalers and 24% are retailers. Among retailer respondents, 56% were in merchandising, 19% were in the food & beverage business and 25% were in the business of accommodation. The vast majority of wholesalers in Üst Laleli Region are occupied with trade and only 9% are manufacturers. Most businesses are wholesalers, and trade is the region's dominant commercial activity.

31% of retailer respondents from the Üst Laleli sub-region indicated that pedestrianization benefitted their freight activities and 30% expressed negative views and dissatisfaction. A large number of respondents, 39%, did not comment on the issue. 32% of wholesalers approved of pedestrianization's impact on delivery and collecting activities, while 50% disagreed (Map 6). In contrast to Alt Laleli, where wholesalers were largely satisfied with the implementation, wholesalers from Üst Laleli seem to be experiencing more difficulty with their freight activities after the pedestrianization project. In addition, difficulty in transferring customer baggage during periods of traffic blockage was a concern emphasized by hoteliers working in the territory.



Map 6 Distribution of Retailers and Wholesalers by Sub-Region



OPPORTUNITIES OF ACCESS

Transportation

As the use of different types of transportation is an important indicator for the project's success and current rate of satisfaction, respondents in all three surveys were asked about their choice of travel mode to get to the Historic Peninsula. The most commonly used transportation types are railway systems, and ferry¹.

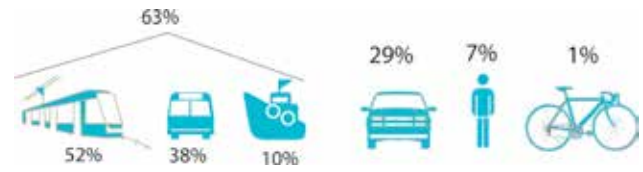


As part of the residents survey, respondents were asked whether they can comfortably access their destination at the Historic Peninsula by foot. 55% of the respondents gave affirmative answers, while 45% said that they could not.

The relative majority of students from Istanbul University's Beyazit Campus (45%) prefer to take the bus to reach campus. This is followed by railway systems (25%), travelling on foot (15%), and taking the ferry (11%). Only 4% of surveyed students indicated their travel preference as personal vehicle.



Employees and business owners working in the Historic Peninsula were also asked about their transport preference. The survey results revealed that 63% of employees/business owners reach the Peninsula by mass transportation, 29% prefer to use their personal vehicle, 7% arrive on foot and 1% ride bicycles. The distribution of mass transportation preferences between railway systems, bus, and the ferry was 52%, 38%, and 10% respectively.



All commercial respondents were asked whether they would prefer to ride bicycles to work if roads were equipped with bicycle lanes and renting stations. 20% responded affirmatively, adding that they would ride bicycles if appropriate conditions were provided.

The transportation preferences from the commercial survey can be broken down by sub-region. Most commercial respondents from Eminönü (69%) use mass transportation. This is followed by personal vehicle with 27%. 44% of those who reach the Peninsula by means of mass transportation take the bus (44%), use railway systems (34%), and take the ferry (24%). Respondents also indicated that transportation to the Historic Peninsula became more difficult after the closing of regional trains, as no alternative means of transportation were created (Map 7).

The most frequented travel mode in Hocaşa/ Sirkeci is mass transportation (49%), followed by personal vehicle (34%). A significant percentage of employees/business owners in the area said that they travel on foot (17%), giving this area one of the highest pedestrian rates. This should be examined in conjunction with the fact that the majority of employees/business owners live in nearby residential areas. Of those who use mass transportation, 92% prefer railway systems and 8% the ferry (Map 7).

The most common travel mode in Alt Laleli is mass transportation with 66%, which is followed by personal vehicle (28%) and travel on foot (6%). Of those who use mass transportation, 62% prefer railway systems and 38% take the bus (Map 7).

The distribution of transportation preferences in Üst Laleli was mass transportation (53%), personal vehicle (38%) and traveling on foot (9%). Of those who use mass transportation, 62% prefer railway systems, while 38% take the bus. In this regard, travel habits and preferences were similar between Alt and Üst Laleli (Map 7).

¹ As reported in the 1/100.000 Scale Istanbul Environmental Development Plan, the distribution of intercity travel mode in Istanbul is between motorway (88.8%), railway systems (8.3%) and seaway (2.9%). Percentage of travels by personal vehicle is 29% and by mass transportation 71%. (1/100.000 Scale Istanbul Environmental Development Plan, 2009).

Parking Conditions

Commercial respondents were also asked about parking. The survey revealed that 79% of those who reach the Historic Peninsula in personal vehicles park in parking lots, while 21% park on roadsides. Furthermore, 78% of respondents expressed that parking spaces at the Peninsula are insufficient.

In **Eminönü**, 97% of employees/business owners who use personal vehicles park in parking lots and 3% park on roadsides. Parking spaces were described as insufficient by 86% of commercial survey respondents.

In **Hocapaşa**, 74% of commercial survey respondents who use personal vehicles use parking lots and 26% park on roadsides. 61% of drivers report insufficient parking spaces.

80% of employees/business owners at **Alt Laleli** park their vehicles in parking lots, whereas 20% prefer to use roadsides for parking. 86% said that the number of parking spaces in the Historic Peninsula is insufficient.

95% of respondents of the commercial survey conducted in **Üst Laleli** prefer to park in parking lots and only 5% park on roadsides. 93% of respondents said that parking spaces are insufficient.

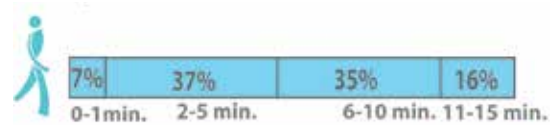
During field interviews, commercial survey respondents cited parking fees as one of their most significant parking problems, as the fees had increased two-and even three-fold after the pedestrianization project. On the plus side, many respondents emphasized the benefits of the prohibition on storefront parking. Respondents to the commercial survey reflected upon this by mentioning that the change had increased the visibility of their businesses.

Walking Time

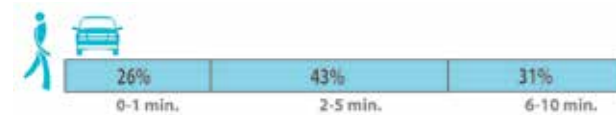
Surveys conducted in the Historic Peninsula also focused on the changes in walking times and distances after pedestrianization for students and employees/business owners (residents were not asked this question).

77% of student respondents claimed that pedestrianization of the Historic Peninsula did not increase walking distances, while 23% expressed the opposite view. The chart below exhibits how long students need to walk to arrive at the university after

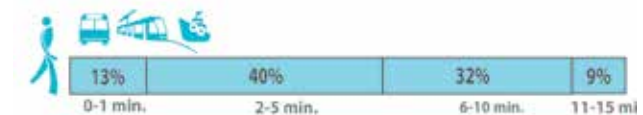
getting off the transportation mean of their choice. According to the data shown, 37% of students walk about 2-5 minutes and 35% walk about 6-10 minutes to reach the university.



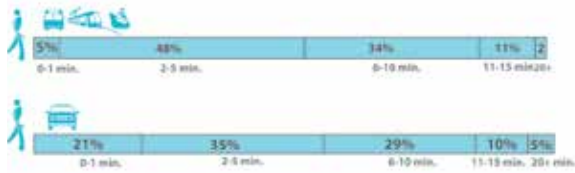
Employees' and business owners' perception regarding post-pedestrianization walking distances are similar to that of students. 76% of the commercial survey respondents indicated that walking distances did not increase after pedestrianization and 24% stated otherwise. Walking distances of employees/business owners after their arrival by personal vehicle is listed in the chart below. According to the data shown, the relative majority (43%) walk about 2-5 minutes to reach their working places.



13% of those who reach the Historic Peninsula by means of mass transportation walk for a minute or less, 40% about 2-5 minutes, 32% about 6-10 minutes, and 9% about 11-15 minutes.



Data collected from businesses in **Eminönü** regarding changes in walking distances are similar to overall results, with 76% of respondents indicating that walking distances remained the same and 24% reporting an increase. The charts below list the walking times to places of work in Eminönü, once people have arrived via mass transportation or private vehicle. A comparison between two charts demonstrates that walking times are generally between 2 to 5 minutes. Walks that exceed 20 minutes are common among drivers, as are walks that are less than a minute.

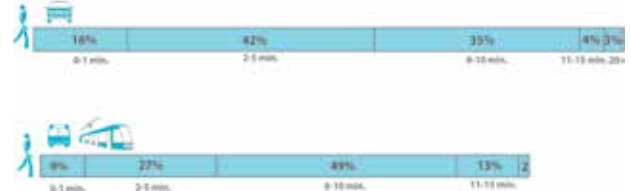


88% of respondents to the commercial survey conducted in **HocaPaşa** declared that pedestrianization did not change walking distances, and 12% said that walking distances had increased. Walking times after arrival by mass transportation or personal vehicle in HocaPaşa are listed in the chart below. In both cases, the relative majority of employees/business owners reach their working places in about 2-5 minutes. The number of respondents who walk for 6-10 minutes is higher among those who use mass transportation than for those who drive.



Among respondents to the commercial survey conducted in **Alt Laleli**, 91% reported no change in walking distances and 9% declared an increase. The

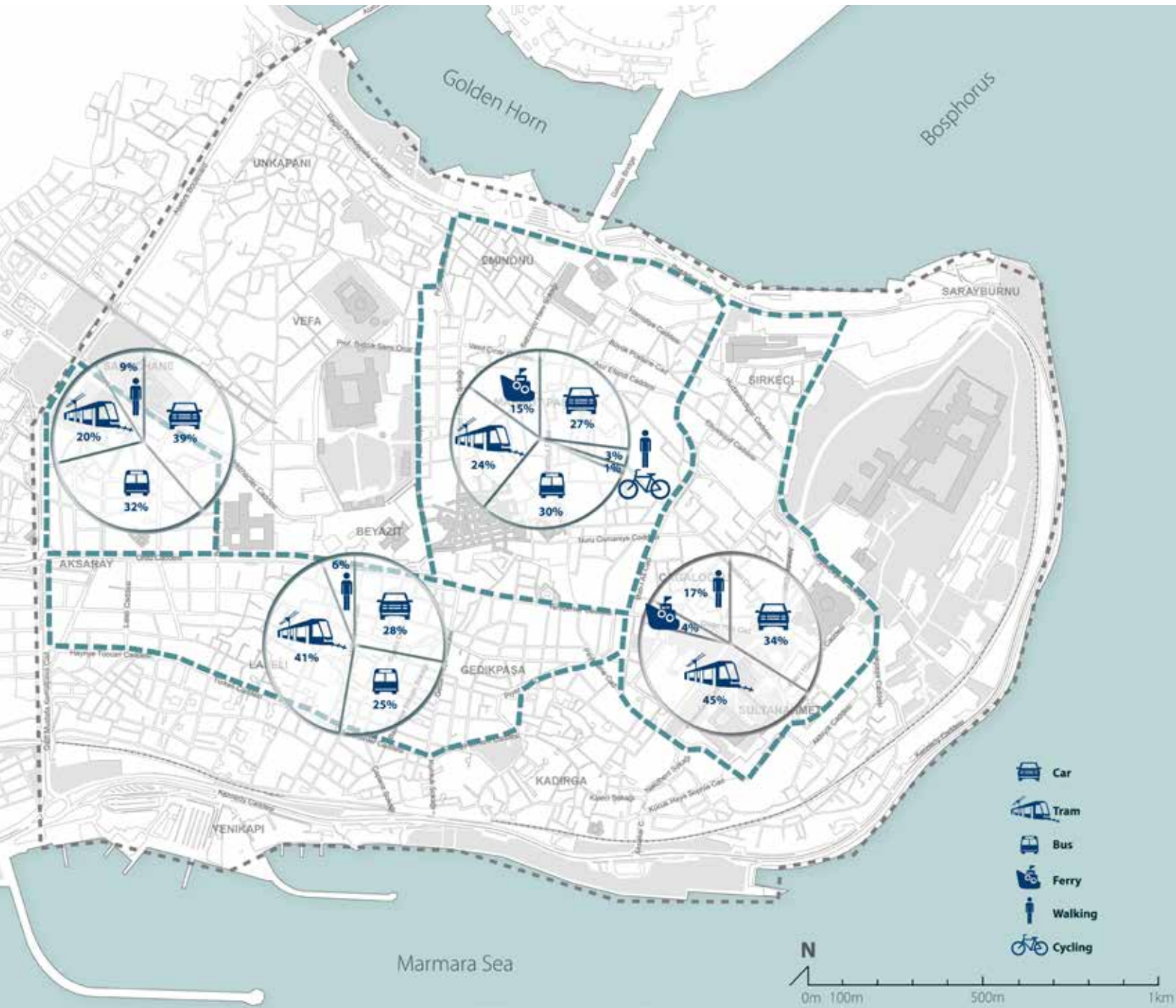
chart below shows that walking times essentially vary from about 1-10 minutes. Walking times exceeding 10 minutes are most common among mass transportation users.



82% of employees/business owners working in **Üst Laleli** state that walking distances did not change after pedestrianization, while 18% said that distances have increased. 84% of drivers walk a maximum of 5 minutes after getting out of their vehicles, and reported walking times within the area never exceeds 15 minutes. 70% of the respondents declared that their walk from their point of arrival via mass transportation takes no more than 5 minutes and 7% said that they walked 10 minutes or more.



Map 7 Types of Transportation by Sub-Region



ROAD SAFETY

The information in this report regarding road safety in the Historic Peninsula comes from an evaluation of traffic accidents that occur within the governmental boundaries of Fatih Municipality and data collected from the commercial surveys. However, the pedestrianized area of the Historic Peninsula is only a specific portion of Fatih district. In this regard, data shown below presents only a general framework for the district.

In addition to aspects already scrutinized, this study focused on the changes in traffic accidents rates after the pedestrianization project. Respondents of the commercial survey were asked about this issue, as employees/business owners spend their whole days in the territory and have plenty of opportunity to observe these changes. Such an inquiry also provided more information on urban users' changing perception of the area.

Statistical data show that in 2010, a total of 383 traffic accidents occurred in the district of Fatih. In these accidents, 542 people were injured and 8 people died (Table 1). In 2011, a total of 483 traffic accidents occurred in the district. 136 of these accidents were caused by vehicles that hit pedestrians, while in 99 of accidents vehicles hit other vehicles on the side and in 64 of the cases the vehicles crashed others from the back (Karaman, 2013).

Table 1 Fatih District Traffic Accidents Data, 2010

| MONTH / YEAR | NUMBER OF ACCIDENTS | INJURED | DEAD |
|-------------------|---------------------|------------|----------|
| JANUARY 2010 | 32 | 47 | 2 |
| FEBRUARY 2010 | 17 | 20 | 0 |
| MARCH 2010 | 31 | 48 | 0 |
| APRIL 2010 | 42 | 62 | 1 |
| MAY 2010 | 40 | 56 | 0 |
| JUNE 2010 | 31 | 46 | 0 |
| JULY 2010 | 40 | 57 | 1 |
| AUGUST 2010 | 28 | 40 | 0 |
| SEPTEMBER 2010 | 37 | 49 | 0 |
| OCTOBER 2010 | 24 | 28 | 0 |
| NOVEMBER 2010 | 29 | 49 | 2 |
| DECEMBER 2010 | 32 | 40 | 2 |
| Total 2010 | 383 | 542 | 8 |

Source: (Fatih Municipality, 2010). * 2011 Fatih Municipality data is it not available.

Road Safety in Sub-Regions

Although vehicle traffic is technically not permitted on pedestrianized streets between the hours of 10:00-18:00, many vehicles are still present. Vehicles are allowed to cross pedestrianized areas occasionally, especially to make deliveries. Municipal and security vehicles are also exempt from these rules. Unauthorized use of pedestrianized roads and streets by delivery vehicles and motorcycles is an issue. Despite legal prohibition of vehicle traffic, some pedestrianized streets are uninterrupted busy with traffic flow of motorized vehicles and carts. Many respondents also pointed out these issues, explaining that the constant occupation of pedestrianized streets by motorcycles, carts and porters is a fundamental obstacle to the project's success. Respondents highlighted accidents caused by motorcycles as a particular issue.

Eminönü

Regarding the correlation between pedestrianization and road safety, 76% of commercial respondents in Eminönü indicated that the area had become safer for pedestrians, while 24% reported no change in the conditions of road safety. Additionally, 82% of respondents said they thought that traffic accident rates in Eminönü had decreased. Respondents identified the high volume of pedestrians at Eminönü Tram Station as another road safety problem. Although it has the highest pedestrian volume in the Historic Peninsula, traffic signalization of the zone does not meet the necessary criteria to regulate the heavy pedestrian flow. Field observation shows that while trams run in 2-3 minute intervals, traffic lights for pedestrians show red almost all the time. Consequently, many pedestrians cross the street before it turns green.

Hocapaşa

64% of commercial respondents from Hocapaşa/ Sirkeci declared that roads became safer for pedestrians after the pedestrianization project and 67% stated that traffic accident rates have decreased (Map 8). In field interviews, many respondents expressed feelings of insecurity and uneasiness caused by the speed of the tram running on Hüdavendigâr Street. The street is used by both the tram and other vehicles, and sidewalks are too narrow for the high volume of pedestrians. As a result, crowds flood tram tracks, causing a major safety risk for all pedestrians.

Another dangerous factor is that pedestrians are often unaware of the fact that the tramline is used by other vehicles. These circumstances, especially in cases with narrow sight lines such as at the northern crossroad of Sirkeci Tram Station, may cause accidents.

Alt Laleli

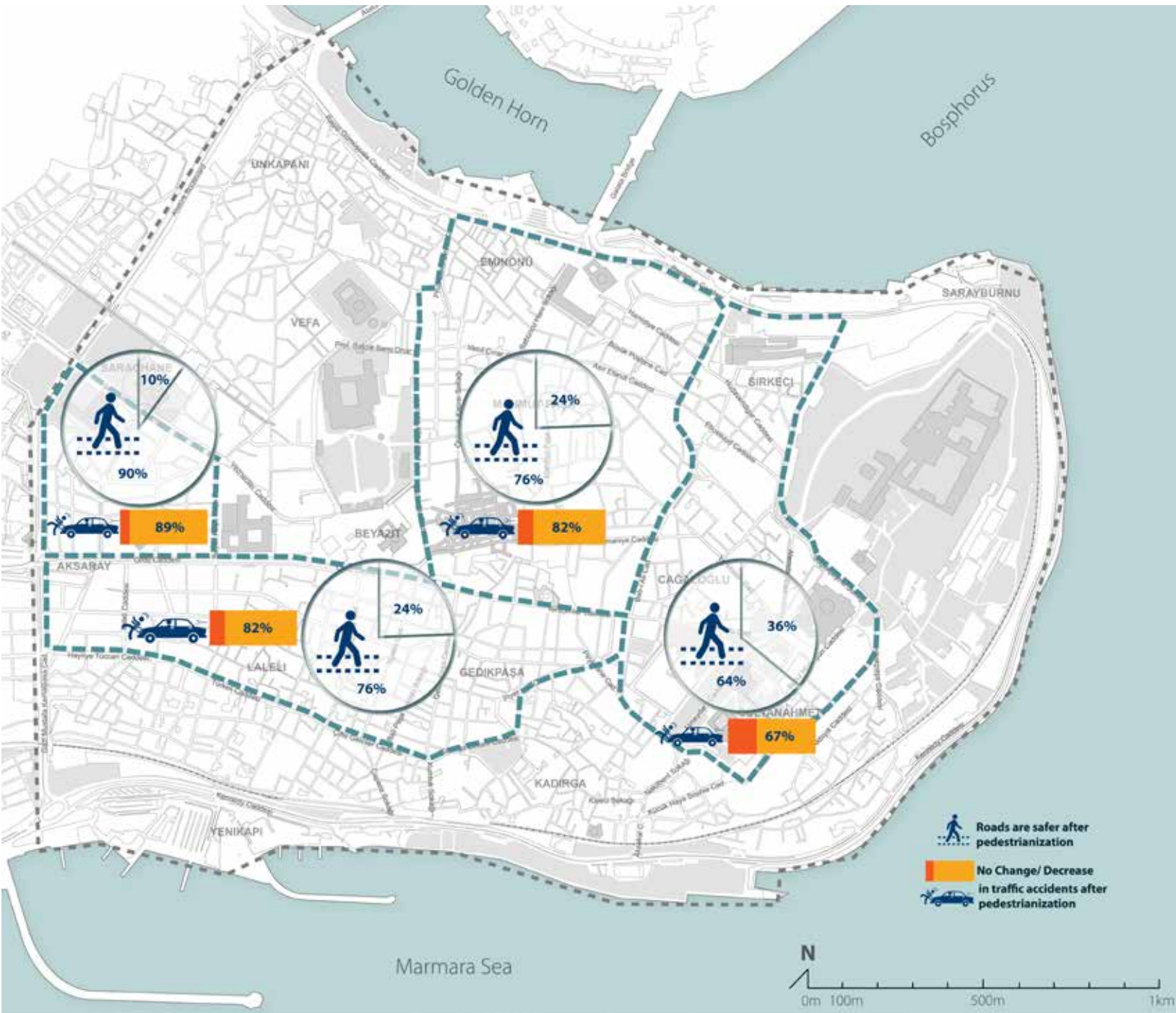
76% of respondents from Alt Laleli have indicated an increase in road safety for pedestrians and 82% said they thought that traffic accidents had decreased after

the pedestrianization project (Map 8).

Üst Laleli

90% of respondents from Üst Laleli said that roads had become safer for pedestrians, while 67% stated that fewer traffic accidents have occurred after the project (Map 8). Similar to the Eminönü Region, respondents mentioned that motorcycle couriers, carts and porters often access pedestrianized zones of Üst Laleli, and conflicts between pedestrians and vehicles arise.

Map 8 Road Safety Perceptions by Sub-Region



Buffer Zone and Impact of Pedestrianized Zones

As a result of vehicle restrictions in the Historic Peninsula, streets in the immediate surroundings are expected to become more crowded². Although pedestrianization provides essential improvement in terms of road safety for pedestrians, it may also lead to an increase in traffic based conflicts in buffer zones. In order to avoid these potential complications, buffer zones³ should be included in pedestrianization plans.

Restrictions on vehicle traffic within the Historic Peninsula transferred traffic to streets surrounding the pedestrianized area; most conflicts between pedestrians and motorized vehicles occur on these roadways. The most critical safety issue concerning the Historic Peninsula's transportation network manifests itself at the intersections of pedestrianized

streets and broad and busy roadways, which are used for various types of traffic and transit services. Therefore, designing a seamless transition between the pedestrianized area and the rest of the city is an immediate necessity.

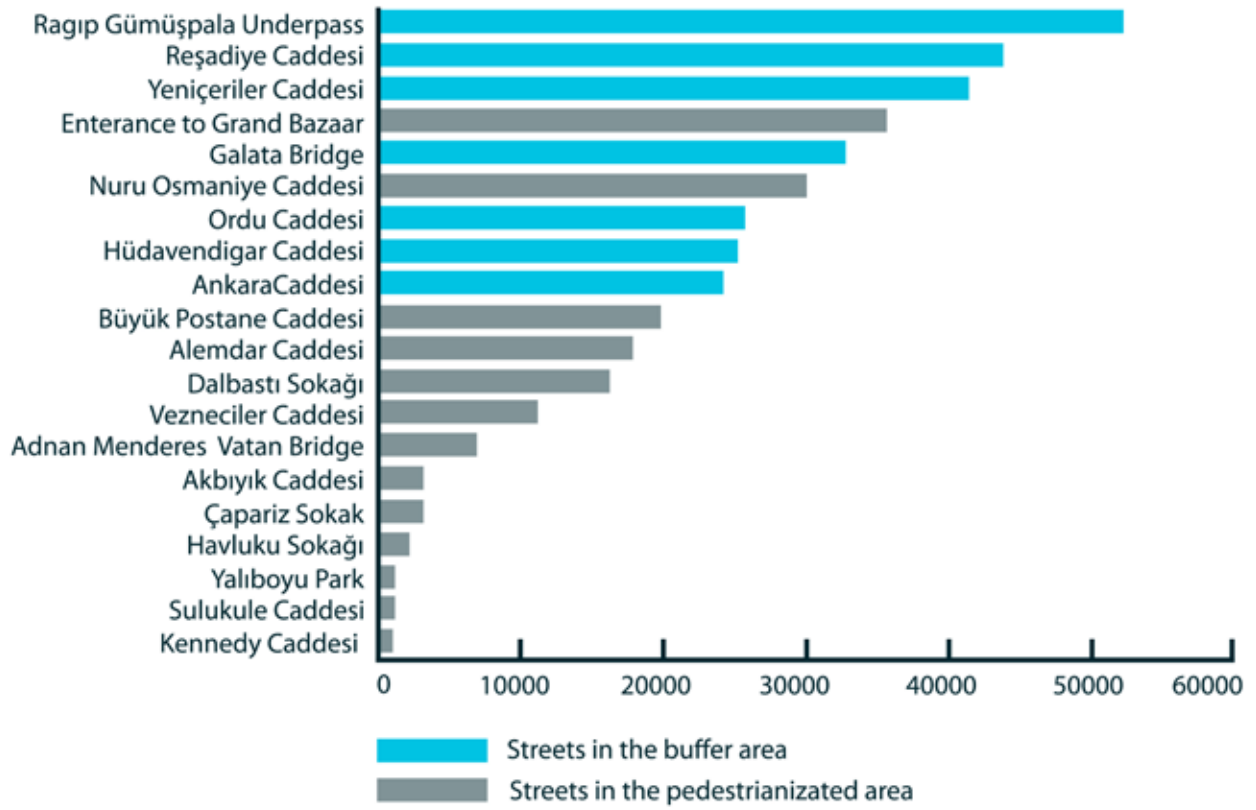
The importance of reconsidering the conditions of buffer zones is also evident in findings regarding pedestrian count. Within the Historic Peninsula, 7 out of 10 of the busiest streets for pedestrians, including the top three, are situated within the buffer zones of the pedestrianized area. These are **Ragıp Gümüşpala Geçidi, Reşadiye Caddesi, Yeniçeriler Geçidi, Galata Köprüsü, Ordu Caddesi, Hüdavendigâr Caddesi and Ankara streets** (Figure 4). This is mainly because of the route of the T1 tram line, the main line feeding the Historic Peninsula. T1 runs through the buffer zone, which encompasses primary destinations such as Eminönü Ferry Terminal, Topkapı Palaca, Hagia Sophia and Sultanahmet Mosque.

² London Congestion Charge and the impact of side roads surrounding the charged area on the overall traffic may be viewed as examples. Transport for London (TfL). 2005. Central London Congestion Charging. Impacts Monitoring. Three Year Report. April 2005, London.

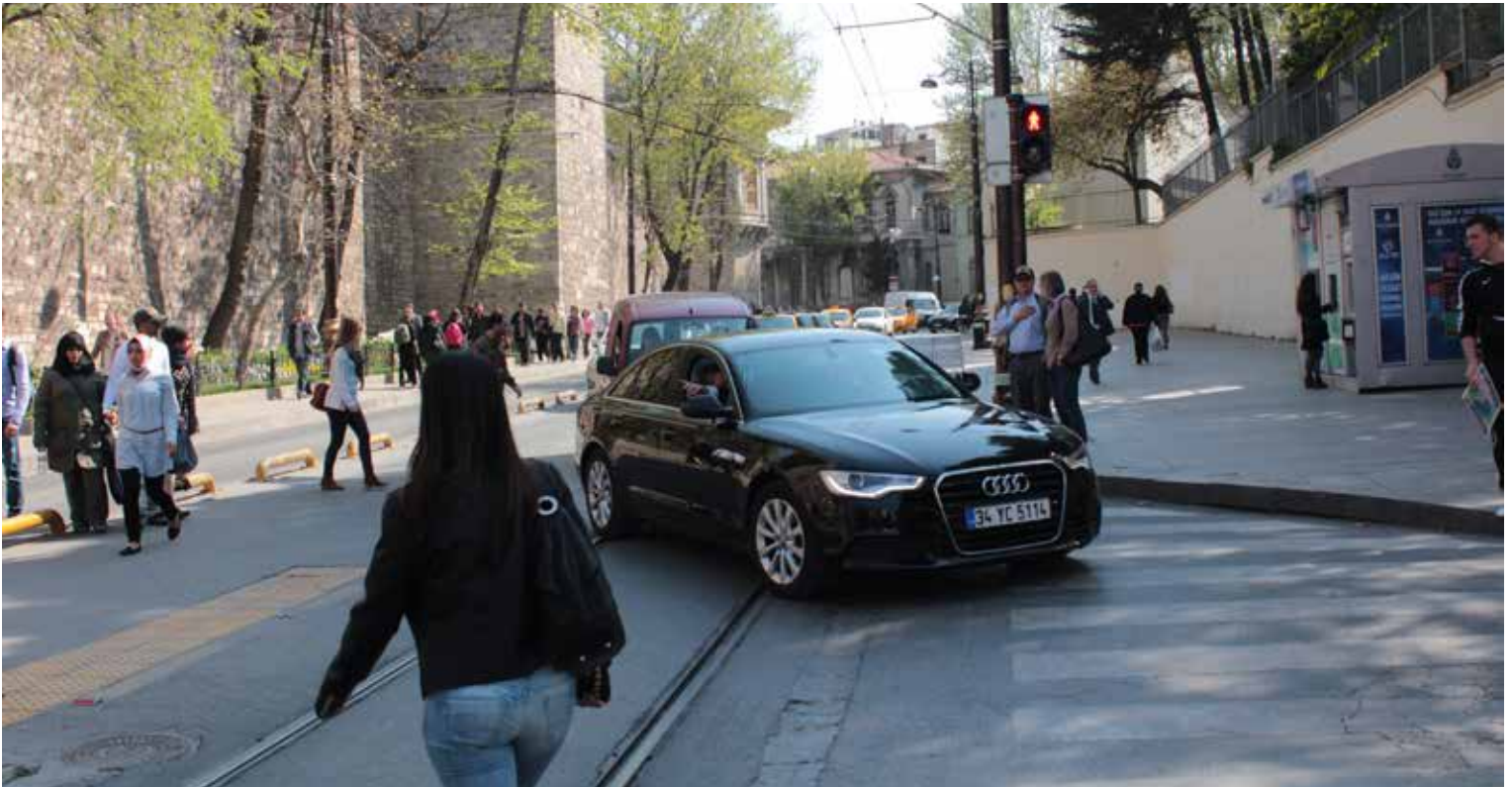
³ Elvik, R.,T. Vaa. 2008. The Handbook of Road Safety Measures, Part III: 3. Traffic Control Devices. 3.3. Pedestrian Streets, Bingley UK: Emerald Group.

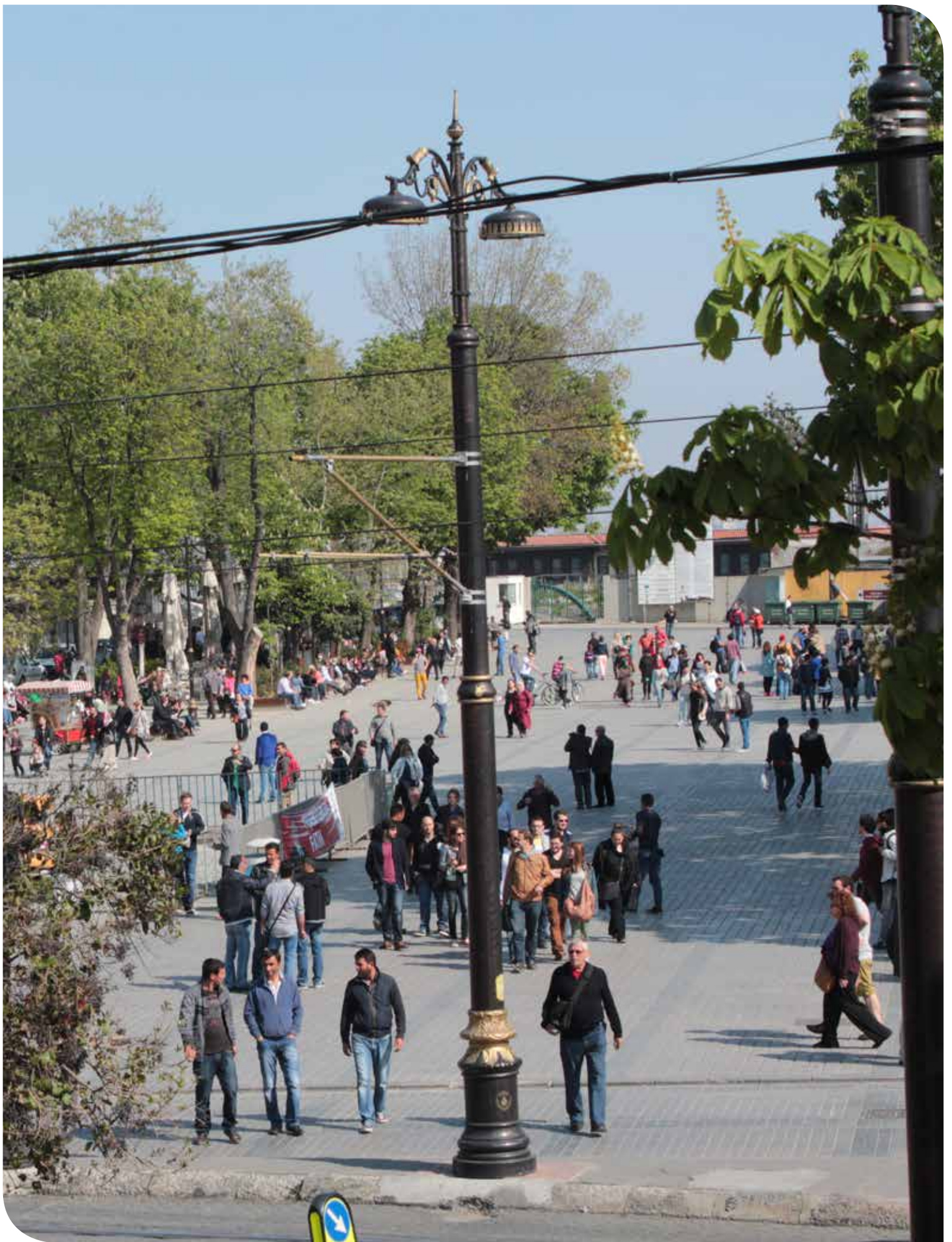


Figure 4 Buffer Zones and Pedestrian Volumes in Selected Zones of Pedestrianized Area⁴



⁴ Cited from EMBARQ's "Approaches to Safe and Accessible Street Design" report, published in 2012.



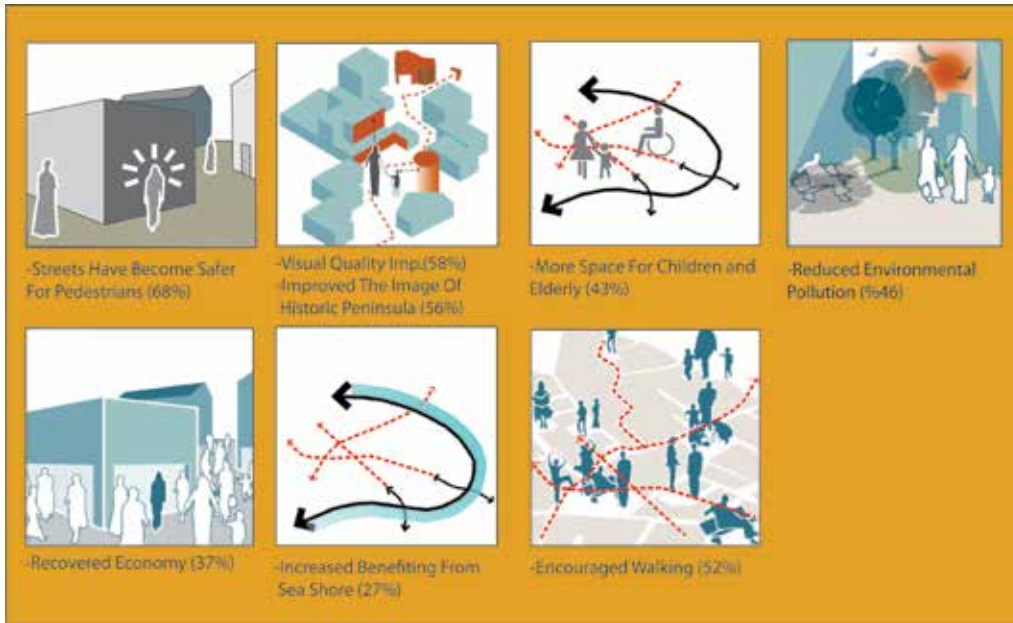


BENEFITS OF THE PEDESTRIANIZATION PROJECT

All survey respondents were asked about the benefits of the Historic Peninsula’s pedestrianization and were presented with multiple choices so that they could choose more than one answer.

In the residents survey, the most commonly selected benefit of pedestrianization was increased street safety with 68%. Other benefits selected by residents included increased visual quality (58%), strengthened attraction of historical buildings (56%), and improved walkability (52%) (Figure 5).

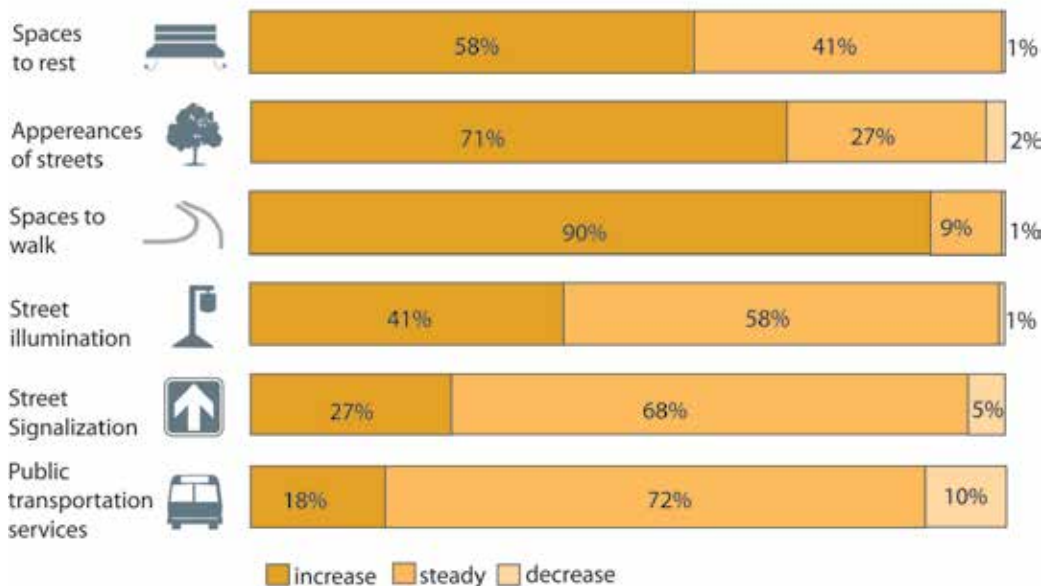
Figure 5 Benefits of the Pedestrianization Project According to Residents



The resident respondents were also asked about changes in the physical environment after pedestrianization. Within this context, respondents said that they noticed an increase in resting and seating places and in spaces designated for walking,

and improvements to the visual quality of streets. However, respondents mostly said that conditions had stayed the same or declined when asked about changes in street lighting, street signalization and mass transportation opportunities (Figure 6).

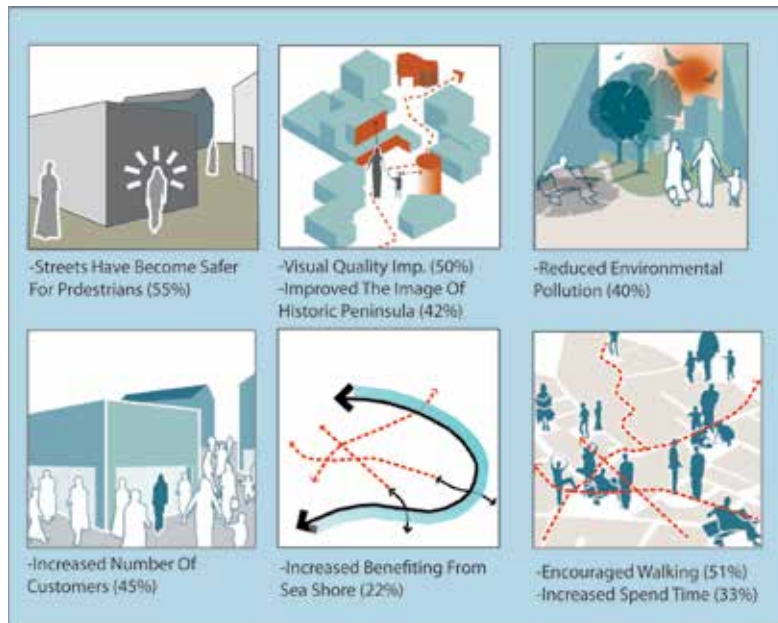
Figure 6 Post-Pedestrianization Physical Environment According to Residents



Student respondents were also asked to evaluate the benefits of pedestrianization projects in the Peninsula. 55% of the students indicated that pedestrian safety

was significantly improved. Improved walkability (51%) and increased visual quality (50%) were the next most common benefits mentioned (Figure 7).

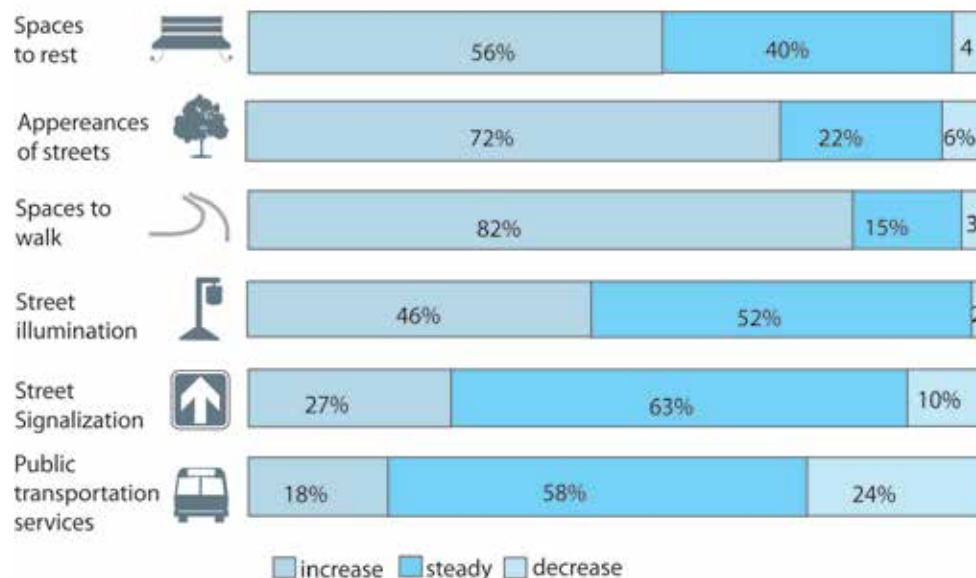
Figure 7 Benefits of the Pedestrianization Project According to Students



Student respondents mostly thought that resting and seating places, general visual quality of streets and spaces designated for walking were improved with

pedestrianization, whereas overall they felt that street lighting, informatory signs and mass transportation opportunities had deteriorated (Figure 8).

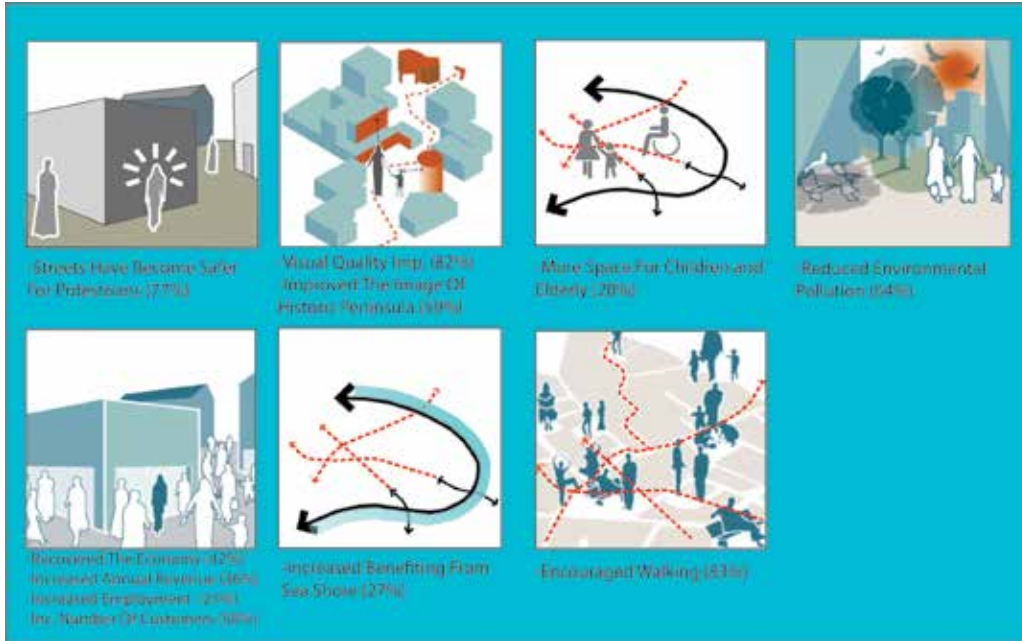
Figure 8 Post-Pedestrianization Physical Environment According to Students



Among employees/business owners, 83% identified improvements in walkability as the project's most significant benefit, followed by the increase in visual quality (82%). 77% of commercial survey respondents

pointed out that streets became safer for pedestrians. Views of respondents are shown in the chart below (Figure 9).

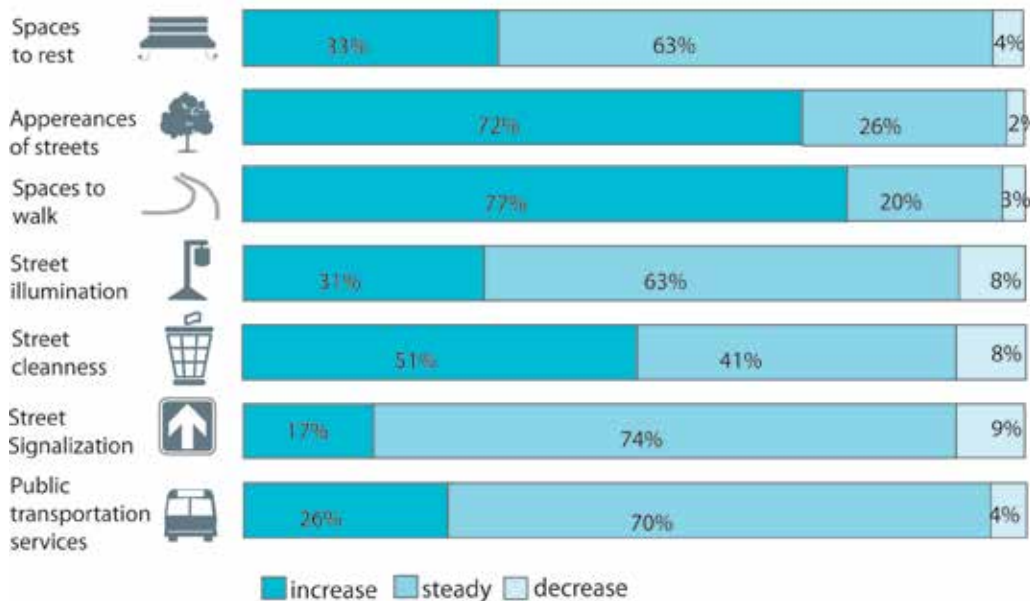
Figure 9 Benefits of the Pedestrianization Project According to Employees/Business Owners



In terms of the post-pedestrianization physical environment, employees/business owners confirmed improvements in general visual quality of streets, spaces designated for walking, and street sanitation.

Aspects of street lighting, mass transportation opportunities, street signalization and resting and seating places were considered unchanged (Figure 10).

Figure 10 Post-Pedestrianization Physical Environment According to Employees/Business Owners










According to participants of the commercial survey, the most significant benefits of pedestrianization in Eminönü were the rehabilitation of streets' general visual quality and the increase in walking spaces. In HocaPaşa/Sirkeci. Commercial respondents noted improvements in the general visual quality of streets and walking spaces. Mass transportation opportunities and street lighting were considered insufficient and unchanged. Respondents from Alt Laleli acknowledged the improvements in general visual quality of streets and the increase in walking spaces, although informative signs and lighting were considered insufficient and unchanged. Unlike survey

results from HocaPaşa, respondents from Alt Laleli thought mass transportation opportunities increased after pedestrianization. Surveys conducted in Üst Laleli revealed that walking spaces, general visual quality of streets and street sanitation were considered improved. Mass transportation opportunities and seating and resting places were among issues that respondents considered to be lacking (Table 2).

Respondents to the resident and student surveys mostly approved of the increase in walking spaces. A comparative analysis of all data collected from respondents is shown in the table below.



Table 2 Thoughts on the Post-Pedestrianization Physical Environment

| | | Space For Having Rest  | Overall Outlook of Streets  | Space For Walking  | Street Lights  | Cleanness of Streets  | Streets Guidance  | Public Transport Possibilities  |
|-----------------------------|---|--|---|--|--|---|---|---|
| Resident | ↑ | 58% | 71% | 90% | 41% | 59% | 27% | 18% |
| | ↔ | 41% | 27% | 9% | 58% | 40% | 68% | 72% |
| | ↓ | 1% | 2% | 1% | 1% | 1% | 5% | 10% |
| Student | ↑ | 56% | 72% | 82% | 46% | 51% | 27% | 18% |
| | ↔ | 40% | 22% | 15% | 52% | 40% | 63% | 58% |
| | ↓ | 4% | 6% | 3% | 2% | 9% | 10% | 24% |
| Employee/ Business Owner | ↑ | 33% | 72% | 77% | 31% | 51% | 17% | 26% |
| | ↔ | 63% | 26% | 20% | 63% | 41% | 74% | 70% |
| | ↓ | 4% | 2% | 3% | 8% | 8% | 9% | 4% |
| Eminönü | ↑ | 34% | 74% | 87% | 38% | 57% | 17% | 18% |
| | ↔ | 64% | 23% | 11% | 60% | 39% | 82% | 80% |
| | ↓ | 2% | 3% | 2% | 2% | 4% | 1% | 2% |
| Sirkeci | ↑ | 56% | 71% | 77% | 15% | 42% | 58% | 9% |
| | ↔ | 38% | 23% | 15% | 64% | 44% | 33% | 87% |
| | ↓ | 6% | 6% | 8% | 21% | 14% | 9% | 4% |
| Alt Laleli | ↑ | 29% | 60% | 59% | 31% | 38% | 21% | 56% |
| | ↔ | 65% | 39% | 40% | 60% | 49% | 75% | 37% |
| | ↓ | 6% | 1% | 1% | 9% | 13% | 4% | 7% |
| Üst Laleli | ↑ | 11% | 92% | 97% | 31% | 68% | 16% | 5% |
| | ↔ | 86% | 6% | 1% | 61% | 29% | 71% | 90% |
| | ↓ | 3% | 2% | 2% | 8% | 3% | 13% | 5% |

↑ Increase ↔ Steady ↓ Decrease

Pilot Analysis on Physical Environment

The “Istanbul Public Spaces and Social Life” report emphasized the need for transit zones into Grand Bazaar (such as Çemberlitaş and Nuruosmaniye Streets). Enabling the flow of urban networks to this important hub is of great importance in terms of highlighting Historic Peninsula’s significant values.

In the present study, Kılıççılar Street and Küçüküyıldız Hanı Street were chosen as samples to conduct pedestrian counts. Both of these streets are characterized as direct entrances to Grand Bazaar and facilitate continuity to Nuruosmaniye Street. A square is formed at the intersection of these lanes, which is intensively and effectively used by pedestrians.

Figure 11 Location of Selected Streets Within the Historic Peninsula



Data on pedestrian zone minimums and pedestrian level of service were collected via pedestrian counts at Kılıççılar, Küçüküyıldız Hanı and Mahmutpaşa Mahkeme Streets. The counts took 15 minutes each, extending to a total of one hour.

This study revealed that the highest volume of pedestrians was at Mahmutpaşa Mahkeme Sokak, as shown in Table 3. Mahkeme Street is of essential importance as it is the connection lane to Nuruosmaniye, Kılıççılar and Küçüküyıldız Hanı Streets, hence to Grand Bazaar. Vehicles parking on the street interrupt sidewalks and narrows walking paths. In addition, sidewalks do not meet the minimum width requirements. As a result, pedestrian level of service at Mahkeme Street was graded with E. In order to improve the pedestrian experience, parking on the

street should be prohibited and street furniture should be installed.

The conditions of Kılıççılar Street exhibit close similarities with those explained above. Expanding the street is not possible, as Kılıççılar Street is bordered by two historical buildings. The pedestrian level of service of this street with high volumes of pedestrian users was graded with E. Although surrounding jewelers and shop windows create an attractive street façade and increase visual quality for pedestrians, it also prevents the installment of urban furniture. The rearrangement of storefronts and signage is of significant importance for simplifying the street façade and highlighting the features of mentioned historical buildings. Additionally, lighting fixtures should be installed directly onto buildings and all physical obstacles to pedestrian flow should be removed.

Figure 12 Küçük Yıldız Hanı, Kılıççılar ve Mahkeme Streets

Compared to the previously evaluated streets, Küçük Yıldız Street has a lower pedestrian volume. With sidewalks of regular width, Küçük Yıldız Street was graded with a C regarding its pedestrian level of service and presents more convenient conditions for pedestrians. However, the dense installment of signage generates the need for standardization, which will also improve visual qualities of the street. Since the street opens to Grand Bazaar, informative signs and directional signs are much needed.

Table 3 Pedestrian Level of Service by Street

| STREET | Maximum hourly pedestrian volume per sidewalk ⁽ⁱ⁾ | Minimum sidewalk width ⁽ⁱ⁾ | Minimum pedestrian space ⁽ⁱⁱ⁾ (m ² / person) | Pedestrian level of service ⁽ⁱⁱⁱ⁾ (LOS) |
|---------------------------|--|---------------------------------------|--|--|
| Kılıççılar Street | 1464 | 1.5 | 1.02 | E |
| Küçük Yıldız Hanı Street | 788 | 2 | 2.54 | C |
| Mahmutpaşa Mahkeme Street | 2268 | 3 | 1.32 | E |

(i) Source: Field observations;

(ii) Computed using equations 17-27 through 17-29 from the Highway Capacity Manual 2010, Chapter 17: Urban Street Segments / Pedestrian Mode, p.17-48 and assuming an average walking speed of 1m/s.

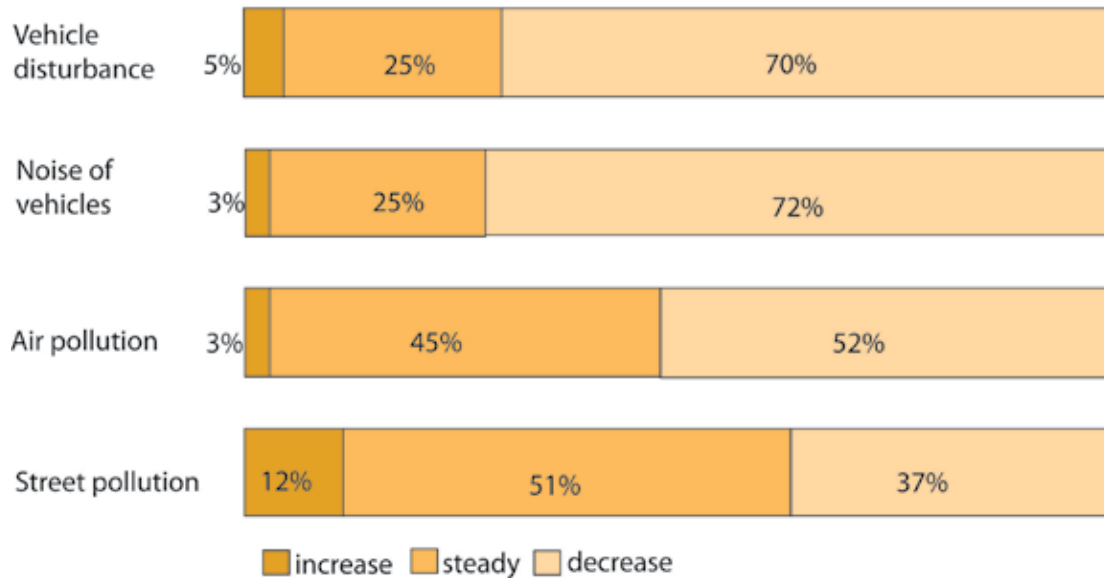
(iii) Estimated using Exhibit 23-1 from the Highway Capacity Manual 2010: Average Flow LOS Criteria for Walkways.

ENVIRONMENTAL QUALITY

Residents, students and employees/business owners were asked about post-pedestrianization environmental quality.

Resident respondents indicated that overall disturbance caused by motorized vehicles, vehicle noise and air pollution had decreased with pedestrianization. The majority of residents considered street pollution unchanged (Figure 13).

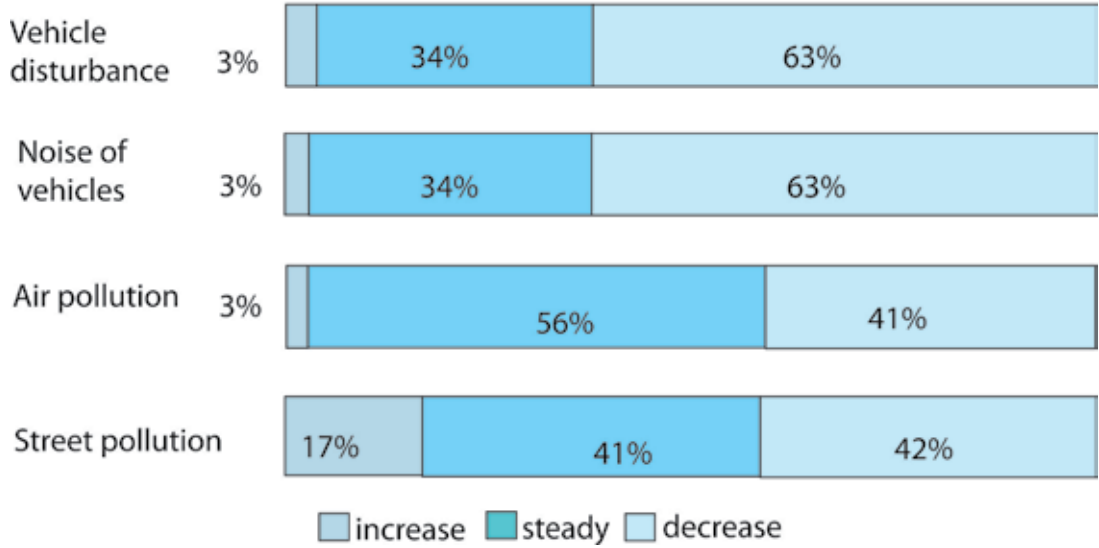
Figure 13 Post-Pedestrianization Physical Quality According to Residents



The majority of students participating in the survey said that overall disturbance caused by motorized vehicles, vehicle noise and environmental pollution

had decreased. A notable point of satisfaction among students was the decrease in vehicle noise (Figure 14).

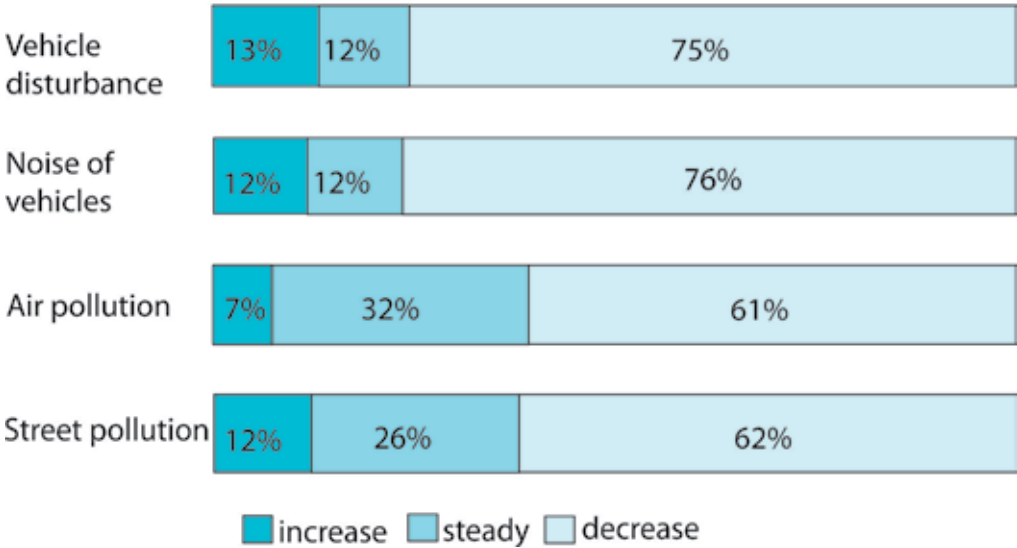
Figure 14 Post-Pedestrianization Physical Quality According to Students



The majority of respondents of the commercial survey conveyed that overall disturbance caused by vehicles, noise and air pollution had decreased after the

pedestrianization project. They were mostly satisfied by the decrease in the general disturbance from vehicles (Figure 15).

Figure 15 Post-Pedestrianization Physical Quality According to Employees/Business Owners





SATISFACTION

Overall Rate of Satisfaction

Surveys revealed that 85% of residents are satisfied with the pedestrianization at the Historic Peninsula. 86% of resident survey respondents declared that they will be supportive of this type of project if implemented elsewhere. The rate of satisfaction among students is 82%, with 18% stating their dissatisfaction. 81% of commercial survey respondents are satisfied with the project, while 19% are dissatisfied. Consequently, satisfaction rate among all participating groups is over 80%.

Satisfaction Regarding Traffic Hours

Respondents to the commercial survey were asked their opinion of the traffic hours in the pedestrianized zones. 72% of businesses expressed their satisfaction with the time periods of traffic blocking, whereas 23% disapproved.

Satisfaction According to Lifespan of Businesses

30% of businesses taking the survey have operated in the area for more than 15 years, 17% have operated for 10-15 years, and 24% for fewer than 5 years. 9% of businesses with fewer than 5 years of service at the Historic Peninsula indicated that the pedestrianization project motivated their decisions to move to the area.

The rate of satisfaction among businesses was also analyzed based on a comparison between their initial responses to the project (collected in the 2011 survey) and thoughts today. Businesses with a longer history in the area expressed more negative views during the early stages of the project compared to businesses with a 5-10 year history. The same applies for post-implementation rates of satisfaction. While the satisfaction rates of businesses with over 20 years of history in the area is 70%, businesses with a history of 5 years or fewer had a satisfaction rate of 88%. Furthermore, the comparison of initial responses and post-pedestrianization evaluations demonstrate an increase in satisfaction after the finalization of the project.

Satisfaction Based on Sub-Regions

Eminönü

77% of commercial respondents from Eminönü expressed their satisfaction with pedestrianization. By referring to jammed traffic in unrestricted roads and streets, respondents emphasized complications regarding the implementation.

79% of retailers and 76% of wholesalers working in Eminönü expressed their satisfaction with the project.

Hocapaşa /Sirkeci

The satisfaction rate among commercial respondents from Hocapaşa/Sirkeci is 79%. Nevertheless, respondents also mentioned problems such as traffic jams and noise pollution caused by the lack of alternative routes to streets open for traffic.

81% of retailers and 33% of wholesalers in service at the Hocapaşa/Sirkeci are satisfied with the project.

Alt Laleli

Among commercial respondents in Alt Laleli, 86% are satisfied with the pedestrianization project. According to respondents, the project's most significant benefit to the physical environment of Alt Laleli is the improvement of the general visual qualities of the streets and the increase in spaces designated for walking. However, field interviews revealed that people are still walking on sidewalks of pedestrianized streets. Insufficiency of seating and resting places was another issue emphasized by respondents. Local businesses expressed complaints about the lack of seating, explaining that their customers cannot find a proper place to rest when out shopping.

75% of retailers and 90% of wholesalers in Alt Laleli evaluate the pedestrianization project positively.

Üst Laleli

The satisfaction rate among commercial respondents from Üst Laleli is 86%. Respondents shared complaints regarding the stream of heavy traffic outside of traffic blocking hours. Ordu and Gençlik Streets were cited as having the most severe traffic issues. Both retailers and wholesalers are satisfied with the pedestrianization project at a rate of 86%.



SECTION 5

SUGGESTIONS AND ASSESSMENT

The aim of this chapter is to present a set of strategies which will increase safety and accessibility of pedestrianized streets and/or of streets with calmed traffic in the Historic Peninsula and enable harmony among all users.

The most significant outcomes of the Historic Peninsula Pedestrianization Project are those involving pedestrian safety. Issues such as environmental and visual quality, walkability and accessibility are expected to culminate in years to follow and therefore require sustainability and determination. In this respect, this section contains methods for establishing road safety rules and design principles in order to create more livable urban settlements.

Accessibility for All

- **Providing accessibility for all in the Historic Peninsula is a prerequisite.** The elderly, the handicapped and parents with small children and strollers should be taken into account while setting the design criteria. The “Istanbul Public Spaces and Social Life” report demonstrated that children below the age of 7 and elderly above the age of 65 are not well represented in design criteria. Despite the pedestrianization project, roads at the Historic Peninsula did not become adequately accessible to the elderly and the handicapped. 80% of respondents of the commercial survey and 85% of respondents of the resident survey have indicated that streets are not suitable for the use of the handicapped. The fact that the majority of tourists visiting the Historic Peninsula are of middle age and above must also be taken into consideration.

- **Developing implementations to create an environment in which women feel safer and**

- are encouraged to embrace the urban space is of utmost importance.** The analysis on the Historic Peninsula exhibited that, albeit with a few exceptions, men are far more represented than women within the demographic structure. This was also detected in Gehl Architects’ field research, which recorded more than twice as many male pedestrians as female pedestrians in many areas. This state of demographics portrays a gender-based imbalance. The scarcity of women in public spaces results in a vicious cycle, as people tend to avoid places where one gender is dominant over another, because they feel isolated and insecure.

Prioritizing Pedestrians

- **Prioritizing pedestrian traffic throughout the project area and at specific transit zones is another high-ranking necessity.** As noted in the analysis section of this report, many respondents felt that the zones of encounter between vehicles and pedestrians and the environmental and physical implementations were the main problem areas. In order for the project to achieve success and consistency, pedestrian needs such as safety, quality, convenience of use and accessibility must be provided for in full.

Traffic Density Within the Historic Peninsula

- **Approaches concerning the relocation of traffic within the Historic Peninsula must be developed. Policies on overall traffic calming in the Peninsula should be taken into account and an integrated mass transportation system must be developed to increase its efficiency.** The field study in the Historic Peninsula showcased that residents, college students and employees/business

owners consider mass transportation opportunities in the area insufficient. Marmaray and Taksim-Yenikapı Metro Line are important factors in fulfilling the need for mass transportation. However, plans for the Eurasia Transit Motorway Tunnel Project raise concerns as it will make the Historic Peninsula more accessible to personal vehicles.

- **Tools designed for traffic calming should be developed especially for wide streets, such as Atatürk Boulevard, Ragıp Gümüşpala, Reşadiye, Kennedy, Ordu and Şehzadebaşı Streets, and at intersections of different modes of travel.**

Methods of traffic calming are used to reduce vehicle speed in cases where speed limit signs are proven to be insufficient. Smooth speed bumps, elevated pedestrian crossings and other physical obstacles are among the diverse tools designed for regulating speed.

- **An integrated design addressing the interaction between trams and pedestrians along tram routes is required. The speed of trams must be reconsidered in areas with a high pedestrian volume.**

Parking Solutions

- **High-capacity parking spaces outside of the Historic Peninsula, with direct and easily accessible connections to walking routes and mass transportation stations, should be developed.** Parking spaces are of utmost importance in relocating transit traffic away from the Historic Peninsula. Parking spaces still have a dominant visual influence in specific areas of the Historic Peninsula and increase traffic levels.
- **78% of employees/business owners in the Historic Peninsula said that parking spaces in the area are insufficient and need improvement. Additionally, parking fees were deemed expensive.** The parking capacity within the Historic Peninsula should be regulated through pricing. The pricing must be based on demand and drivers should be able to find a parking spot as long as they pay the required price.

Tour Buses

- **Private vehicles routes, especially those of tour busses, should be investigated.** Routes and stations of tour busses, which operate in Sultanahmet most frequently, should be subjected to thorough planning. A regulation restricting their access to the Historic Peninsula within specific hours might also regulate traffic flow.

Mass Transportation System

- **Buses should be prioritized as transfer vehicles within the integrated mass transportation system and integration between railway and seaway lines should be developed.** Accordingly, relocating ferry stations at Reşadiye Street by incorporating them into a new ferry station and transforming emptied parcels of land into recreational spaces might be considered an option.
- **Mass transportation at the Historic Peninsula should be subjected to an integrated planning process** for creating a system that will both feed the immediate area and connect it with other centers.
- **The pedestrianized area must be integrated with existing and planned mass transportation lines.** Vehicle traffic is prioritized in most of the zones of mass transportation within the Historic Peninsula, which results in unsafe and difficult walking conditions both for pedestrians and travelers who use mass transportation. Mass transportation hubs and transit stations should be redesigned for providing comfort, accessibility and clear visual signage.
- **Seating and resting places, as well as urban furniture must be installed at zones of mass transportation in order to enrich physical and visual qualities of the area. Zones of mass transportation should not be considered as mere transit points with a single function.** As indicated in "Istanbul Public Spaces and Social Life," one of the most significant problems in the Historic Peninsula is that areas lack multi-functionality. Zones of mass transportation, which prove to be well-located and well-used, should be regarded as public spaces designated for recreation and resting.

- **The design of tram stations should also be reviewed. If applicable, stairs and elevations must be removed. If physical conditions do not allow such removal, necessary equipment should be implemented.** Most of the tram stations at the Historic Peninsula are accessed by stairs or elevated platforms, disregarding pedestrians with special needs including the handicapped, the elderly and children. As previously noted, designs for mass transportation spaces must take all user profiles into account and secure accessibility for all.

Effective and Safe Walking Networks

- **Common, effective and safe walking routes should be created for enabling users to benefit from all opportunities the Historic Peninsula has to offer.** With its pedestrianized roads and streets, the Historic Peninsula widely accommodates spaces suitable for walking. However, in order to fully establish efficiency in walking activities, pedestrian safety should be ensured.

- **Tourists should be presented with multiple travel modes to reach and tour the Historic Peninsula, such as minibuses, light rail systems, walking and cycling routes.** Creating streets appropriate for walking would not only enable tourists to access historic places by foot, but also would increase the touristic appeal of the area.

- **Frequently-used pedestrian crossings should be developed as simple and open grade crossings.** Crossroads and crossings without proper signalization create dangerous circumstances for pedestrians. Informatory signs which have become illegible because of poor maintenance also reinforce such risks. Traffic signalization and informatory signs should be managed and maintained thoroughly, particularly those on shared roads.

Accessibility by Bicycle

- Data collected in the survey at the Historic Peninsula showed that only 1% of employees/business owners in the area ride bicycles. Nevertheless, 20% have indicated that they would prefer to ride bicycles if necessary conditions were provided. It is plausible that there is a population ready to use cycling opportunities in the Historic Peninsula, if the relevant infrastructure is

AN EXAMPLE OF GOOD IMPLEMENTATION 1:

New York: Safe Routes to Transit Program



After: 86th Street and Bay Parkway, Brooklyn, NY. Source: New York City Department of Transportation

Created through New York City Mayor Michael Bloomberg's 2007 PlaNYC strategic plan, the Safe Routes to Transit program within the New York City Department of Transportation (NYCDOT) aims to improve pedestrian conditions in and around transit stops throughout the city. The Safe Routes to Transit program addresses three main transit conditions: unsafe bus stops under elevated subway structures, congested sidewalks next to subway entrances, and incomplete pedestrian infrastructure at bus stops. Forty-two locations were identified in the Bronx, Brooklyn, and Queens neighborhoods in need of safety improvements, such as changing the shape of the roadway and constructing raised bus stops to provide people a safer place to stand while waiting for the bus. Data was collected in a joint survey with the Department of City Planning to prioritize pedestrian safety improvements at 23 subway stops. Improvements at those locations include widening narrow sidewalks, extending crossing intervals, and reducing traffic congestion near station entrances and exits. In its third initiative, Sidewalks to Buses, NYCDOT is installing new sidewalks, crosswalks, and waiting areas at bus stops where that infrastructure currently does not exist. The agency has pledged to install up to a quarter-mile of new sidewalk and pedestrian improvements at up to 15 bus stops per year through 2030 (walksteps.org, 2013).

AN EXAMPLE OF GOOD IMPLEMENTATION 2:

User-Friendly Roads for Pedestrians and Cyclists



One of the challenges of traveling as a pedestrian or by bicycle is being confronted by motorized vehicles driving at high speed. In 2011, Rio de Janeiro Traffic Engineering Agency (CET-Rio) initiated the “Zone 30 Program” focusing on creating a safer environment for pedestrians and cyclists. The agency has selected sample streets with high pedestrian volume and listed measures to be taken for reducing both the volume of vehicle traffic and speed. Rules, requirements, signalization and applications for traffic calming were among these measures. According to data from the police, accidents at the project area have decreased by 75% within six months (CET –Rio, 2013).

improved. Supporting transportation via cycling would also correspond with traffic calming plans. Bicycle lanes may be implemented on selected streets (such as Kennedy, Ragıp Gümüşpala, Şehzadebaşı and Ordu streets) and based on the natural and historical thresholds of the Historic Peninsula, as inferred from the Gehl Report.

- **Cycling should be integrated with other travel modes, such as travelling on foot and by means of mass transportation. Bicycle lanes with specific destination points should be implemented along the current seaside walking track at the Historic Peninsula.**
- **By creating bicycle lanes on primary axes such as Vatan Boulevard and Millet Street, strategic locations such as Sirkeci, Gülhane Park and Istanbul University’s Beyazıt Campus might become strongly interconnected.**

- **If applicable, bicycle lanes should be situated within the traffic flow.** Additionally, parking spaces designated for bicycles should be organized and a system should be created regarding its pricing and hour-based usage.

Arrangement of Roads and Streets

- **There should be an urban design guideline composed for the Historic Peninsula as a whole, one that bases design on the specific identity and character of the streets.** In order to develop distinct urban areas of use, a ranking system must be established primarily for pedestrianized streets and secondarily for all roads and streets of the Historic Peninsula. The Historic Peninsula features well-implemented examples in terms of street design. However, attributes that could distinguish pedestrianized streets from shared streets are absent. Diverse street uses, such as streets exclusive to pedestrians, shared streets, elevated crossroads and tram corridors, may be physically defined by design. Thus, design principles should be developed based on specific identities and characters of streets.

- **Streets that are exclusive to pedestrian use must be designed to reflect their specific function.** Although vehicle traffic is permitted on pedestrianized streets in cases of emergency and

freight activity, the speed of allowed vehicles must be limited. This might be achieved through the implementation of a single type of paving across the street, as in removing sidewalks, and by utilizing urban furniture as traffic calming components.

- **Pedestrianization requires the treatment of motorcycles just as other motorized vehicles. Therefore, access of motorcycles to pedestrianized streets must be restricted to specific hours.** The speed of motorcycle traffic in specific areas, as with other traffic, must be regulated according to the prioritization of pedestrian access and speed limits must be strictly defined.

- **In mixed traffic areas, and in zones where pedestrianized streets meet mixed-traffic, the elevation of crossroads should be lifted to that of sidewalks.** This method not only enables pedestrians and cyclists to cross the street on the same level, it also serves as a measure for traffic calming.

- **Tram tracks and sidewalks should be distinguished by implementing high curbs along the narrow tram corridors throughout the Historic Peninsula.** One of the problems experienced at tram corridors of the Historic Peninsula is the high volume of pedestrians during peak hours exceeding the capacity of sidewalks. The walk speed of pedestrians and the ability of disadvantaged pedestrians to cross the street are extremely limited on narrow streets, such as Hüdavendigar, Ankara and Yeniçeriler Streets, where trams operate.

- With some exceptions, pedestrianized streets are exclusive to pedestrian traffic between 10:00-18:00. Nevertheless, pedestrian counts conducted at the Historic Peninsula exhibited that pedestrian flow continues outside these designated hours. **The specified hour-based traffic restriction should be reconsidered and expanded for meeting pedestrian demand.**

AN EXAMPLE OF GOOD IMPLEMENTATION 3:

New York: Pop-Up Galleries



The non-profit initiative “No Longer Empty,” founded in 2009, creates art installations in the empty lots of New York City. These installations serve as catalysts for crowd forming and economic development. “No Longer Empty” selects locations easily accessible by means of mass transportation and transforms them into influential places for urbanites. The making of installations take up to 3-4 months and exhibitions are open for 1-3 months. The site-specific installation at Bronx’s historic Andrew Freeman home was visited by 200 people per day, and by over 2500 people in total. Thanks to the exhibition, the street that reaches the site has become a more attractive and frequented pedestrian route and many businesses were established on this route. (Source: walksteps.org/case-studies/new-york-play-streets/)

Hand Carts and Porters

- **A system should be generated to facilitate day-time delivery and collection activities of wholesalers.** Design studies must be carried out in

order to assist wholesalers in arranging their time-restricted freight operations. Hand carts imperil pedestrian safety and restrict pedestrian mobility, thus should be redesigned. Also, new freight transport solutions should be developed (Figure 18).

Figure 18 Examples of Freighting with Hand Cart



Public Spaces

- **Streets of frequent use within the Historic Peninsula should be identified and services such as street art applications, seating and resting places and green spaces should be provided for fulfilling people's needs.**
- **A standard must be set for commercial signs in order to avoid visual pollution.** This approach will highlight elements comprising the Historic Peninsula's identity and increase its value for tourists.
- **Public spaces should be equipped with diverse and unique attributes.** This state of diversity should be promoted with refinements in design and character. Functional and visual quality and variety of shared spaces must be improved and all clutter should be removed.

- **Public spaces should be developed into centers of attraction enriched by a multiplicity of offered activities.** Current shared spaces do not present their users with many alternatives. Improving recreational merits of the Historic Peninsula, transforming streets, squares and parks into "locations" where people spend time and integrating the area with art practices important.
- **Recreational organizations targeting children must be increased.** 20% of commercial survey takers and 26% of resident survey takers have indicated that spaces for children are insufficient. Integrating shared spaces of the Historic Peninsula with playgrounds and other spaces suitable for children's physical activities is of utmost importance.

- **The network of shared spaces must be improved and connections between those spaces should be established with routes attractive for pedestrian.** Access to parks and green zones should be improved.
- **Parks on the shore of the Historic Peninsula should be re-planned in terms of their physical and visual interaction with water and developed in their recreational qualities.**
- According to the data collected by the field study at the Historic Peninsula; residents, students and employees/business owners consider opportunities of enjoying the seashore unchanged by 73%, 78% and 80% respectively. One reason for this may be that the boulevard surrounding the Historic Peninsula interrupts the connection between urban space and the seashore. In order to eliminate the negative impact of this set-up, a green belt surrounding the Peninsula must be planned, the volume of traffic on the surrounding boulevard must be decreased, and mass transportation opportunities and pedestrian routes reaching the sea should be more fully integrated.

Urban Furniture

- **Informatory signs must be installed on intersections and directional signs should be given more priority.** Using easily legible visuals for direction, position and indication signs must be a priority. 73% of respondents to the resident and student surveys and 83% of respondents to the commercial survey indicated that no improvement was made regarding this matter. Informatory signs are important components of urban design, not only for local users but also for tourists, especially as the area possesses a valuable historical and cultural identity that generates a significant touristic potential.
- **Urban elements, such as benches, artwork, pavestones, lighting and greenery should be unique, distinguishable and characteristic of their environment, and be installed on main routes for easy discernment even from afar (Figure 19).**

Figure 19 Examples of Urban Furniture, USA



- **Street lighting should enable streets to continue performing their function as vital veins of urban life at night. Squares should be illuminated so that their physical and visual characteristics are highlighted and various activities are carried out.** For streets where businesses such as cafes, restaurants and hotels do not exist, night lighting is of greater importance. In areas of Eminönü, Alt and Üst Laleli, where commercial activities are mostly performed during the day, streets are less populated at night, leading to dead zones and unsafe urban spaces.

- **Resting and seating places, patches of plants, trash bins, lighting fixtures, street paving and indication signs are immediate components of streets and their implementation is vital.** Apart from examples like Nuruosmaniye Street, which was pedestrianized before the widespread execution of the pedestrianization project, not many streets of the Historic Peninsula are equipped with urban furniture. These types of implementations not only improve visual qualities of streets, but also develop their commercial value by influencing people to more spend time in the area (Figure 20).

Figure 20 An Example of Good Implementation, Nuruosmaniye Street



Highlighting Historical Values as Elements of Identity

- **Monuments should be physically emphasized as places to visit and urban centers of attraction.** Within this context, monuments and their surroundings should be enriched in terms of use and design. Lighting implementations should also aim to highlight historical buildings and monuments at night.

- **Connections must be established between historical buildings and pedestrian routes.** Thematic routes should be initiated which focus on different experiences and re-establish inner city connections with new approaches. Examples could include “Sinan Route” for architectural excursions, alternative shopping routes, routes to visit workshops and inns, food routes and mosque routes.

CONCLUSION

On the agenda since 2010 and still in execution, the Historic Peninsula Pedestrianization Project is of high importance on both a metropolitan and national level. For Turkey, the project is a first in terms of its extensive scale, which covers the pedestrianization of almost an entire district. As such, the project is an important example for studies and implementations to come.

Data collected from the surveys and further studies show that even specific segments of users who initially opposed the project have come to terms with the implementation and have become increasingly satisfied with the results. Survey respondents have also begun to demand more qualified physical, urban and environmental solutions to accompany the pedestrianization project. Throughout this investigation, designs to develop community ownership and solutions to increase road safety have emerged as important steps to undertake.

The area of implementation is populated by 2.5 million people during the day. With the opening of Marmaray in 2013 and the Taksim-Yenikapı Metro Line in 2014, the number of daily users is expected to increase. Hence, it must be taken into account that all further urban improvements will be serving a growing audience.

Purported to relieve traffic density (by providing an alternative route to cross the Bosphorus) and to shorten travel time between Göztepe and Kazlıçeşme, the “Eurasia Transit Motorway Tunnel” Project is a matter of concern as it will encourage use of personal and motorized vehicles within the Historic Peninsula, where current implementations actually focus on developing pedestrianization and mass transportation. The execution of this project will also contradict other mass transportation and pedestrianization projects. In order to develop sustainable policies, all implementations with large-scaled physical and cultural impacts on the UNESCO World Heritage Site listed Historic Peninsula should be subjected to a multi-layered evaluation.



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APPENDIX 1: QUESTIONNAIRES FOR HISTORIC PENINSULA

QUESTIONNAIRE FOR HISTORIC PENINSULA (STUDENTS OF ISTANBUL UNIVERSITY'S BEYAZIT CAMPUS)

1. Gender: Female Male

2. Do you have any impairment which restricts your movement? Yes No

3. Which neighborhood do you reside in?

- | | | | |
|--|---------------------------------------|--------------------------------------|-------------------------------------|
| <input type="checkbox"/> Adalar | <input type="checkbox"/> Ataşehir | <input type="checkbox"/> Arnavutköy | <input type="checkbox"/> Avcılar |
| <input type="checkbox"/> Bağcılar | <input type="checkbox"/> Bahçelievler | <input type="checkbox"/> Bakırköy | <input type="checkbox"/> Başakşehir |
| <input type="checkbox"/> Bayrampaşa | <input type="checkbox"/> Beşiktaş | <input type="checkbox"/> Beykoz | <input type="checkbox"/> Beylikdüzü |
| <input type="checkbox"/> Beyoğlu | <input type="checkbox"/> Büyükçekmece | <input type="checkbox"/> Çatalca | <input type="checkbox"/> Çekmeköy |
| <input type="checkbox"/> Esenler | <input type="checkbox"/> Esenyurt | <input type="checkbox"/> Eyüp | <input type="checkbox"/> Fatih |
| <input type="checkbox"/> Gaziosmanpaşa | <input type="checkbox"/> Güngören | <input type="checkbox"/> Kadıköy | <input type="checkbox"/> Kağıthane |
| <input type="checkbox"/> Kartal | <input type="checkbox"/> Küçükçekmece | <input type="checkbox"/> Maltepe | <input type="checkbox"/> Pendik |
| <input type="checkbox"/> Sarıyer | <input type="checkbox"/> Sancaktepe | <input type="checkbox"/> Silivri | <input type="checkbox"/> Sultangazi |
| <input type="checkbox"/> Sultanbeyli | <input type="checkbox"/> Şile | <input type="checkbox"/> Şişli | <input type="checkbox"/> Tuzla |
| <input type="checkbox"/> Ümraniye | <input type="checkbox"/> Üsküdar | <input type="checkbox"/> Zeytinburnu | |

4. How do you commute to arrive at your university?

- | | | | |
|---|----------------------------------|------------------------------|--------------------------------|
| <input type="checkbox"/> Cycling | <input type="checkbox"/> Tram | <input type="checkbox"/> Bus | <input type="checkbox"/> Ferry |
| <input type="checkbox"/> Personal Vehicle | <input type="checkbox"/> Walking | | |

5. What is the average time of walking you spend to reach your university once you get off the vehicle of transport?

- | | | |
|---|-------------------------------------|--|
| <input type="checkbox"/> Less than a minute | <input type="checkbox"/> 1-5 mins | <input type="checkbox"/> 5-10 mins |
| <input type="checkbox"/> 10-15 mins | <input type="checkbox"/> 15-20 mins | <input type="checkbox"/> More than 20 mins |

6. Did the pedestrianization project at the Historic Peninsula increase your distance of walking?

- Yes No

QUESTIONNAIRE FOR HISTORIC PENINSULA (BUSINESS)

The purpose of this questionnaire is to evaluate the impact of the pedestrianization project in Istanbul Historic Peninsula on local businesses, and to get feedback about possible solutions to the existing problems. We appreciate your contribution to this survey.

Survey No:.....

Interviewed by:..... Date:..... Time:.....

Business address | street / neighborhood:..... Door No:.....

BACKGROUND INFORMATION

1. Gender: Female Male

2. Age: 20-30 30-40 40-50
 50-65 65+

3. Education:
 - Primary school Secondary school
 - Undergraduate Graduate Masters/PhD

4. Do you have any impairment which restricts your movement? Yes No

5. The respondent is: An Employer A Manager An Employee

6. Your business is on: Retailing Wholesaling

7. Scope of Business:
 - Food & Beverage Accommodation (Hotel)
 - Production Consumption-Service

8. How did pedestrianization affect your delivery and collection activities?
 - Positively Negatively No comment

9. You are: the tenant of the shop the owner of the shop

10. For how long is your business operational at this address?

- less than 5 years
- 5 to 10 years
- 10 to 15 years
- more than 15years

11. If it is operational for less than 5 years, was it pedestrianization that helped you decide to move to the Historic Peninsula? Yes No

12. Which neighborhood do you reside in?

.....

13. How do you commute?

- Private Car
- Public transport
- Walking
- Cycling

14. If you commute by public transport, what is the last mode of transport that you use to reach your workplace?

- Bus
- Subway
- Tram
- Light railway
- Ferry / Sea-bus / Boat

15. What is the average time of walking you spend to reach your workplace once you get off the vehicle of transport?

- less than 1min
- 1 to 5mins
- 5 to 10mins
- 10 to 15mins
- 15 to 20mins
- more than 20mins

16. Did the pedestrianization project increase your distance of walking?

- Yes
- No

17. Would you prefer cycling more often for transportation, if there were cycle tracks and renting stations?

- Yes
- No

18. If you travel by your private car, where do you park it?

- in a parking lot
- on roadsides

19. Do you think parking spaces are efficient?

- Yes
- No
- No comment

20. Are you happy with the time slot of non-motorization which has been defined for your street?

- Happy Not Happy No comment

21. What benefits do you think pedestrianization has provided the Historic Peninsula with?

| | |
|---|--|
| <input type="checkbox"/> recovered the economy | <input type="checkbox"/> improved visual quality of the streets |
| <input type="checkbox"/> increased annual revenue | <input type="checkbox"/> streets have become safer for pedestrians |
| <input type="checkbox"/> increased employment | <input type="checkbox"/> encouraged walking |
| <input type="checkbox"/> increased number of customers | <input type="checkbox"/> reduced environmental pollution |
| <input type="checkbox"/> improved the image of the Historic Peninsula | <input type="checkbox"/> more space for children and elderly |

22. Feedback on physical environment after pedestrianization:

| | Increased | Unchanged | Decreased |
|--|-----------|-----------|-----------|
| Resting / Seating Places | | | |
| Overall visual quality of streets | | | |
| Space designated for walking | | | |
| Street lighting | | | |
| Street sanitation | | | |
| Efficiency of informatory and direction, position and indication signs | | | |
| Opportunities of mass transportation | | | |

23. Feedback on economic state after pedestrianization:

| | Increased | Unchanged | Decreased |
|--|-----------|-----------|-----------|
| Overall economic welfare of the Historic Peninsula | | | |
| Your annual revenue | | | |
| Number of Your Staff | | | |
| Number of Your Customers | | | |

24. Do you think that the number of street dealers has increased?

- Yes No No comment

25. If yes, is this an issue of concern? Yes No

26. What are your suggestions for resolving this issue?

- The municipal control should be increased
- Street dealers should be provided with a permanent space
- Street sellers should pay rent
- Street sellers should be expelled from the Historic Peninsula

27. Feedback on environmental quality after pedestrianization:

| | Increased | Unchanged | Decreased |
|---------------------------------|-----------|-----------|-----------|
| Overall disturbance by vehicles | | | |
| Vehicle noise | | | |
| Air pollution | | | |
| Street pollution | | | |

28. How did you react when you first heard about the pedestrianization project?

- I supported
- I opposed
- I had no comment

29. Are you happy satisfied with it now?

- Yes
- No

30. Do you think that you might need to switch to a different sector as a result of the changing demands?

- Yes
- No
- No comment

31. If you are not satisfied with the pedestrianization project, would you consider moving your business to somewhere else?

- Yes
- No

32. Do you think the pedestrianization project can be extended to other districts of Istanbul? What would you think if other neighborhoods and districts were also introduced with pedestrianization projects?

- I would support
- I would oppose
- No comment

33. How did pedestrianization affect the accident rates?

- Increased
- Remained unchanged
- Decreased

QUESTIONNAIRE FOR HISTORIC PENINSULA (RESIDENT)

1. Gender Female Male

2. Do you have any impairment which restricts your movement? Yes No

3. Which neighborhood do you reside in?

- | | | | |
|--|---------------------------------------|--------------------------------------|-------------------------------------|
| <input type="checkbox"/> Adalar | <input type="checkbox"/> Ataşehir | <input type="checkbox"/> Arnavutköy | <input type="checkbox"/> Avcılar |
| <input type="checkbox"/> Bağcılar | <input type="checkbox"/> Bahçelievler | <input type="checkbox"/> Bakırköy | <input type="checkbox"/> Başakşehir |
| <input type="checkbox"/> Bayrampaşa | <input type="checkbox"/> Beşiktaş | <input type="checkbox"/> Beykoz | <input type="checkbox"/> Beylikdüzü |
| <input type="checkbox"/> Beyoğlu | <input type="checkbox"/> Büyükçekmece | <input type="checkbox"/> Çatalca | <input type="checkbox"/> Çekmeköy |
| <input type="checkbox"/> Esenler | <input type="checkbox"/> Esenyurt | <input type="checkbox"/> Eyüp | <input type="checkbox"/> Fatih |
| <input type="checkbox"/> Gaziosmanpaşa | <input type="checkbox"/> Güngören | <input type="checkbox"/> Kadıköy | <input type="checkbox"/> Kağıthane |
| <input type="checkbox"/> Kartal | <input type="checkbox"/> Küçükçekmece | <input type="checkbox"/> Maltepe | <input type="checkbox"/> Pendik |
| <input type="checkbox"/> Sarıyer | <input type="checkbox"/> Sancaktepe | <input type="checkbox"/> Silivri | <input type="checkbox"/> Sultangazi |
| <input type="checkbox"/> Sultanbeyli | <input type="checkbox"/> Şile | <input type="checkbox"/> Şişli | <input type="checkbox"/> Tuzla |
| <input type="checkbox"/> Ümraniye | <input type="checkbox"/> Üsküdar | <input type="checkbox"/> Zeytinburnu | |

4. How do you commute?

- | | | | |
|---|----------------------------------|------------------------------|--------------------------------|
| <input type="checkbox"/> Cycling | <input type="checkbox"/> Tram | <input type="checkbox"/> Bus | <input type="checkbox"/> Ferry |
| <input type="checkbox"/> Personal Vehicle | <input type="checkbox"/> Walking | | |

5. Can you reach your destination conveniently by walking? Yes No

APPENDIX 2: COMPARISON TABLE

| 2010 HISTORIC PENINSULA ACCESSIBILITY STUDY | PERCEPTION STUDY – 2012 | PERCEPTION STUDY – 2013 |
|---|---|---|
| CREATING SUFFICIENT PARKING SPACE | %89 maintained that available parking spaces are insufficient. (%93 parks in parking spaces, and %7 on road sides.) | %78 maintained that available parking spaces are insufficient. (%79 parks in parking spaces, and %21 on road sides.) |
| CREATION OF CHARGED ZONES FOR REDUCING CONGESTION | Not created. | Not created. |
| PEDESTRIANIZATION ON STREET LEVEL | 256 streets are pedestrianized. | 295 streets are pedestrianized. |
| IMPROVEMENT OF VISUAL QUALITY | %65 claimed that it improved, %20 that it remained as it was, and %15 that it decreased. | %72 claimed that it improved %26 that it remained as it was, and %2 that it decreased. |
| ORGANIZATION OF TOURIST BUS ROUTES | Organization was completed. | It has been reported that routes caused additional traffic congestion. |
| INSTALLATION OF ADDITIONAL INFORMATORY SIGNS | This data was not studied. | %17 claimed the number of signs has increased, %74 claimed that the number of signs did not change, and %9 that it has decreased. |
| IMPROVEMENT OF MASS TRANSPORTATION INFRASTRUCTURE | It has been reported that mass transportation worsened after commuter train line was shut down. | It has been reported that mass transportation worsened after commuter train line was shut down. %26 claimed that it improved %70 that it remained as it was, and %4 that it decreased. |
| IMPLEMENTATION OF PEDESTRIAN ZONES FOR ALL | %69 claimed that it improved %25 that it remained as it was, and %6 that it decreased. | %77 claimed that it improved %20 that it remained as it was, and %3 that it decreased. |
| REGULATION OF ELEVATION DIFFERENCE IN PEDESTRIANIZED AREAS | Difference in elevation between the roads and the pavements has increased. | Difference in elevation between the roads and the pavements has increased. |
| IMPROVEMENT OF THE DEVELOPMENT OF IDENTITY AND HIERARCHY BETWEEN STREETS | It has been observed that the streets resemble each other, and sufficient differences and identities have not been generated. | It has been observed that the streets resemble each other, and sufficient differences and identities have not been generated. |
| ADDITION OF RESTING AND RECREATIONAL PLACES ON PEDESTRIAN ZONES | %45 claimed that it improved, %53 that it remained as it was, and %2 that it decreased. | %33 claimed that it improved, %63 that it remained as it was, and %4 that it decreased. |
| ADDITION OF SUFFICIENT LIGHTING FIXTURES FOR IMPROVING THE PERCEPTION OF SECURITY | %11 claimed that it improved, %64 that it remained as it was, and %25 that it decreased. | %31 claimed that it improved, %63 that it remained as it was, and %8 that it decreased. |
| INSTALLATION OF LEGIBLE MAPS FOR VISITORS | It has been observed that information points were insufficient. | It has been observed that information points were insufficient. |
| CREATION OF TWO RING TRAM LINES FOR CENTRAL AND SURROUNDING AREAS OF HISTORIC PENINSULA | New lines were not created. | New lines were not created. |
| EASY AND SAFE ACCESSIBILITY | This data was not studied. | %77 claimed that the area was now safer for pedestrians. |
| IMPROVEMENT OF GREEN AND RECREATIONAL SPACES IN PUBLIC AND PEDESTRIANIZED AREAS | There are no improvements on record, except for streets and avenues that were already pedestrianized. | There are no improvements on record, except for streets and avenues that were already pedestrianized. |
| PERCEPTION OF HISTORIC BUILDINGS AND LANDMARKS BY THE USERS | This data was not studied. | %60 claimed that their experience has improved. |
| CREATION OF UTILITIES FOR CHILDREN, THE ELDERLY, WOMEN AND THE HANDICAPPED | This data was not studied. | %20 claimed that the number of special utilities for these groups have increased. |
| EASE OF ACCESS IN AND SANITATION OF STREETS | %69 claimed that these have improved. | %50 claimed that they improved, %41 that they remained as they were, and %9 that they decreased. |

APPENDIX 3: PEDESTRIANIZED ROADS AND STREETS AT SUB-REGIONS

Pedestrianized Roads and Streets at Eminönü Region

Adem Yavuz Street, Alköşkü Road, Hamidiye Road, Han Arkası Cul-de-sac Street, Kızılhan Street, Köprücü Street, Kutlucu Street, Kutucular Road, Küçük Yıldızhan Street, Limoncu Street, Lütfullah Street, Macuncu Street, Mimar Vedat Street, Mahmutpaşa Hamamı Street, Mahmutpaşa Yokuşu, Mangalçı Street, Marpuccular Road, Mengene Cul-de-sac, Mercan Camii Cul-de-sac, Molla Fenari Street, Mühürdar Emin Paşa Street, Nargileci Street, Narlı Bahçe Street, Nasuhiye Street, Necip Efendi Street, Örucüler Kapısı Street, Paçacı Street, Paşa Camii Street, Rastıkçı Street,,Sabuncu Hanı Street, Saka Mehmet Street, Sandalyeciler Street, Selvili Mescit Street, Sultan Mektebi Street, Sultan Mektebi Cul-de-sac, Şeker Ahmet Paşa Street, Şeyh Davut Hanı Street, Tahmis Street, Tarakçılar Road, Tahtakale Road, Tarakçılar Hanı Street, Tasvir Street, Taşsavaklar Street, Tesbihci Street, Teskereci Street, Tığcılar Street, Tomruk Street, Uzunçarşı Road, Yeşil Dibekli Street, Yorgancılar Road.

Pedestrianized Roads and Streets at Hocapaşa Region

Darüssade Street, Dervişler Street, Erdoğan Street, Hocapaşa Street, Hocapaşa Cami Street, Hocapaşa Hamam Street, İbni Kemal Street, İstasyon Arkası Street, Kargılı Street, Kum Meydanı Street, Mehmet Murat Street, Nöbethane Road, Saffetpaşa Street, Serdar Street, Tayahatun Road.

Pedestrianized Roads and Streets at Alt Laleli Region

Abihayat Street, Abidin Daver Street, Arayıcı Street, Asma Kandil Street, Asmalıhan Street, Ayrancı Street, Bahçelikhahve Street, Balipaşa Yokuşu, Beyazıt Karakol Street, Bostan Street, Börekçi Ali Street, Büyük Haydarefendi Street, Büyük Tulumba Street , Cephaneci Street, Cilavcı Street, Çadircı Camii Street, Çadircılar Çeşmesi Street, Çoban Çavuş Medresesi Street, Çoban Çavuş Street, Daltaban Yokuşu, Darphane Street, Derinkuyu Street, Dibekli Camii Street, Divan-ı Ali Street, Doğramacı Street, Elmaspaşa Street, Emin Sinan Camii Street, Emin Sinan Hamamı Cul-de-sac, Esirci Kemalettin Camii Cul-de-sac, Esirci Kemalettin Camii Street, Esirci

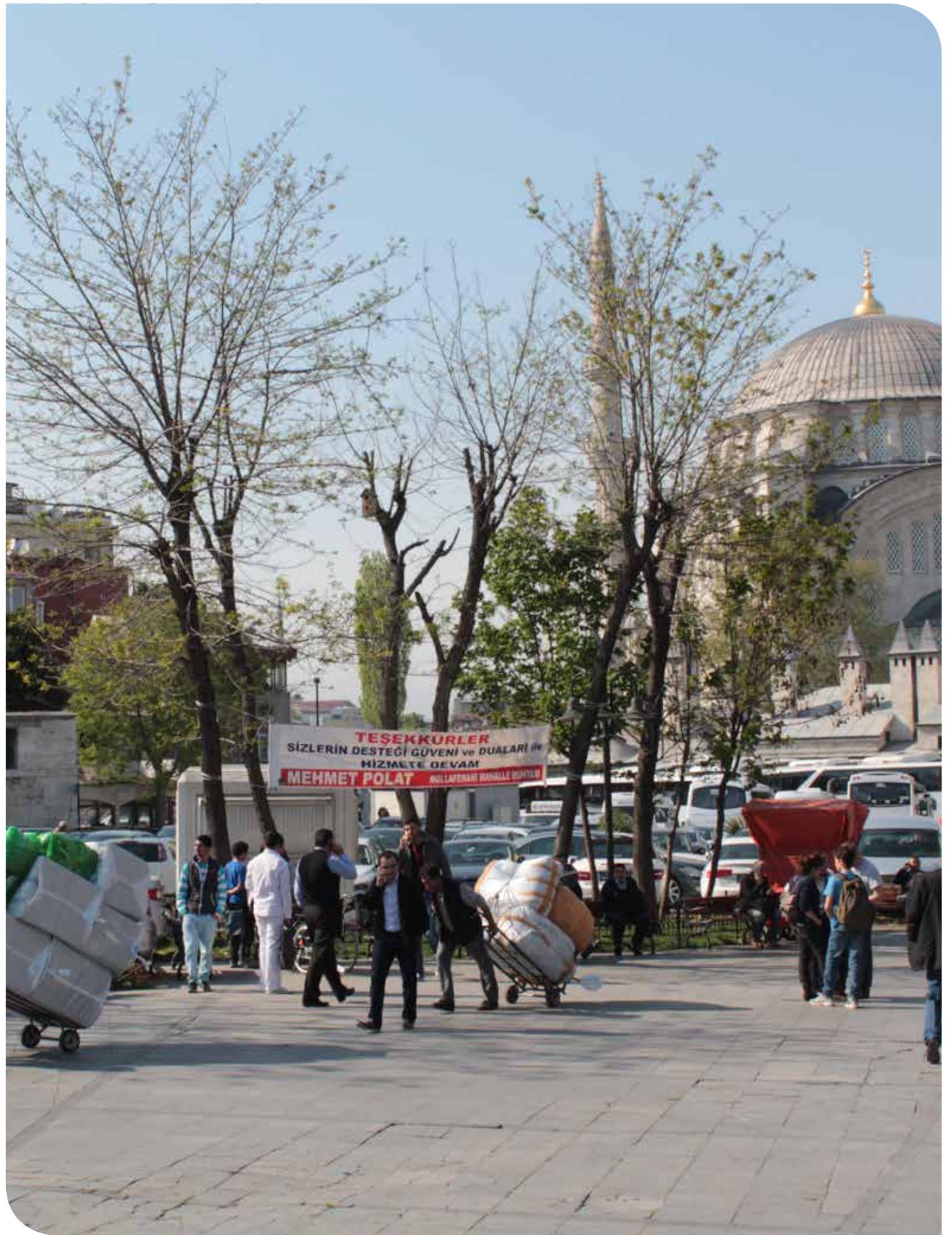
Kemalettin Street, Evkaf Street, Fermanlı Street, Gedikpaşa Akarcası Street, Gedikpaşa Road, Gedikpaşa Camii Street, Gedikpaşa Cul-de-sac, Gedikpaşa Fırını Street, Hamam Cul-de-sac, Hattat Street, Havuzlu Hamam Street, Havuzlu Külhan Street, Havuzlu Mescit Cul-de-sac, Havuzlu Mescit Street, Haznedar Street, İbrahimpasha Cul-de-sac, İbrahimpasha Yokuşu, İhtisap Ağası Street, İkbal Street, İşbaşı Street, Kadirga Hamamı Street, Kafesli Çadır Street, Kalaycı Şevki Cul-de-sac, Kara Baba Türbesi Street, Katip Sinan Mektebi Street, Katip Street, Kızıtaş Street, Köşklü Hamam Street, Kumkapı Değirmeni Street, Kumkapı Hanı Street, Kurban Street, Kürçübaşı Street, Latif Street, Mabeyinci 1. Cul-de-sac, Mabeyinci 2. Cul-de-sac, Mabeyinci Yokuşu, Mollabey Street, Mutrip Street, Mücellit Cul-de-sac, Mühendis Mektebi Street, Mühre Street, Müsellim Street, Neviye Street, Nişanca Bostanı Cul-de-sac, Nişanca Bostanı Street, Nişanca Mehmetpaşa Camii Cul-de-sac, Nişanca Mehmetpaşa Camii Street, Nişanca Yokuşu, Nur Street, Onur Cul-de-sac, Onur Street, Paye Street, Pehlivan Street, Pertevpaşa Street, Peştamalçı Selim Street, Saitefendi Street, Sandalçı İhsan Street, Saraç İshak Street, Sarayıcı Cul-de-sac Street, Sarayıcı Street, Sekbanbaşı Street, Semih Street, Silahtar Mektebi Street, Sinekli Medrese Street, Soğanağa Camii Cul-de-sac, Sucu Baki Street, Sümbül Sinan Street, Şair Haşmet Street, Şakirefendi Çeşmesi Street, Şehnameci Street, Şeyh Şamil Street, Taşdirek Çeşmesi Street, Tavşantaşı Street, Tayyareci Kemal Street, Tiyatro Aralığı Street, Tuğrakeş Street, Tulumba Cul-de-sac, Turanlı Street, Tülcü Street, Uysal Street, Yahyapaşa Street, Yakupağa Fırını Street, Yenibahar Street, Yenidevir Street, Yurdakul Street.

Pedestrianized Roads and Streets at Üst Laleli Region

118 Sekbanlar Street, Acemi Nefer Street, Ahmet Selahattin Street, Ahmet Şuayip Street, Bukalidede Street, Büyük Reşit Paşa Road, Çukurçeşme Street, Defter Emmini Street, Fethibey Road, Fevziye Road, Gümrük Emmini Street, Harikzadeler Street, Kurultay Street, Mahmudiye Çeşme Street, Mahvil Street, Mimarbaşı Street, Ömer Yılmaz Street, Reyhani Cul-de-sac, Saffet Paşa Street, Selim Paşa Street, Şirvanizade Street, Yeşil Tulumba Street, Zeynep Kamil Street.

Streets and Roads Closed to Traffic in 2011

Ağa, Alacahamam, Arifpaşa, Aynacılar, Balkapanı, Bestekar Basri, Bezciler, Büyükbaş, Büyükpostane, Çağaloğlu Hamam, Celal Ferdi Gökçay, Cemal Nadir (only partially), Cömert Türk, Çakmakçılar Yokuşu, Çarkçılar, Çarşıkapı Nuru, Ceridehane, Çökellik, Çuhacıhanı, Çeşneci, Deveoğlu Yokuşu, Direkli Hanı, Fındıkçılar, Fincancılar, Gümüş Haneli, Hanımeli, Hacı Küçük, Hakkı Tank Us, Yavaşca Şahin, İmameci, Kadioğlu, Kalçın, Kaputçular, Katircioğlu, Kefeli Han, Kılıççılar, Kızılhan, Köprücü, Kutlucu, Küçük Yıldızhan, Limoncu, Lütfullah, Macuncu, Mimar Vedat, Mahmutpaşa Hamamı, Mangalçı, Han Arkası Cul-de-sac, Molla Fenari, Mühürdar Emin Paşa, Nargileci, Narlı Bahçe, Necip Efendi, Örucüler Kapısı, Paçacı, Paşa Camii, Rastıkçı, Sabuncu Hanı, Saka Mehmet, Sandalyeciler, Selvili Mescit, Sultan Mektebi, Şeker Ahmet Paşa, Şeyh Davut Hanı, Tahmis, Tarakçılar Hanı, Tasvir, Taşsavaklar, Tesbihci, Teskereci, Tiğçılar, Tomruk, Adem Yavuz, Yeşil Dibekli ve Nasuhiye Streetları, Mercan Camii Cul-de-sac, Mengene Cul-de-sac, Muhmutpaşa Yokuşu, Sultan Mek. Cul-de-sac ile Arpacılar, Asmaaltı, Çadırcılar, Hasırcılar, Kutucular, Marpuccular, Tarakçılar, Tahtakale, Uzunçarşı, Yorgancılar, Yalılıköşkü and Hamidiye Streets.



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EMBARQ Turkey – SUD’s mission is to catalyze and help implement sustainable transport solutions to problems of urban mobility and improve quality of life in cities. EMBARQ was founded in 2002 in Washington, D.C. as an independent non-profit organization. Since 2002, the EMBARQ network has expanded to Mexico, Brazil, China, India, Turkey and the Andean Region, collaborating with local transport authorities to reduce pollution, improve public health, and create safe, accessible and attractive urban public spaces.



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