

Perception Based Evaluation of Pedestrianization at Liberty Market Lahore



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Abstract: Numerous individuals believe that non-motorized modes normally, walking, cycling, and biking, are less privileged to utilize public roads than motor vehicles. More often, pedestrians and cyclists are not facilitated to use the public road to avoid traffic delays. This highlights the biasness of transportation planning practices towards motorized travel and constant negligence in the planning of pedestrian infrastructure. Pedestrianization is adopted as a distinctive practice around the globe; it implies the expulsion of vehicular traffic from the avenues of urban regions as it holds significant social, affordable, and ecological advantages. But in Pakistan, there are no such instances of pedestrianization, especially in Lahore there are three models Liberty Market, Anarkali and Fortress Stadium. In Anarkali Market pedestrianization venture was a disappointment, while in Liberty Market pedestrianization task is a triumph. This study explores the factors contributing to the success of pedestrianization through literature review and detailed survey from shopkeepers and pedestrians of Liberty Market. It was gleaned out that landscaping, street furniture and overall ambience are not the only factors for the success of a pedestrianization, but security, parking facilities, adherence to law and maintenance of order plays a vital role as well.

Key Words: Pedestrianization, Liberty Market, Landscape Design, Walkability, Mobility Plan

Introduction

Pedestrianization is becoming a common practice nowadays around the world, which refers to the removal of vehicular traffic from the streets of urban areas. A lot of people think that non-vehicular modes, i.e., cycling, walking, etc., have a lesser right to use public roads as compared to vehicular modes. This radiates the school of thought that vehicular modes of transportation are more imperative to society than non-vehicular modes and that the funding for road infrastructure comes from people owing vehicles. Pedestrianization is gaining importance in developing countries. Due to the increase in motorized vehicles, the turnout of pedestrians in urban spaces is less. Countries around the world are now promoting pedestrianization in their urban spaces. Europe voted for pedestrianization in the early 1960s and has marked success in this regard. In Norway, the accidents per year reduced to 0.5 from 2.8 accidents/year ([Iranmanesh, 2008](#)). Due to pedestrianization, the increment of air pollution, sound pollution and accidents can also be decreased, and it has many other health benefits too. Pedestrianization also has an

economic impact on the retail income in the district. There has been a study that after closing the gates for vehicular access in a commercial district, the rate of retail turnover has been increased. The social benefits of pedestrianization are endless. First, of all, it promotes walking as a mode of transport is a good healthy environment where people enjoy urban city life and socialize with their acquaintances. So, the concept of pedestrianization has many benefits and will serve as a key for the solution of many traffic problems in the areas of congestion, specifically commercial areas.

Literature Review

Pedestrianization has been the topic of discussion since the twentieth century as the solution to ensure better traffic condition, a more sustainable and healthier environment, road safety, economic growth and sustainability, and reduced pollution. There have been various terminologies associated with it as well ([Mutahir & Sidra, 2004](#)).

Table 1. Terms Related to Pedestrianization

Terms	Description	References
Pedestrian Mall	In American English the term pedestrian mall is used instead of pedestrian street	(Brambilla & Longo, 1977; Redstone & Louis, 1976)
Walkways	A clearly defined path for pedestrians	(Initiative & of City Transportation Officials, 2016)
Pedestrian Crossing	Street crossing is marked usually with diagonal stripes, where pedestrians have a passage to cross the road	(Association., 1917)
Pedestrian Precinct	An area reserved for pedestrians only with few exceptions of some vehicles allowed under specified conditions, such as to make deliveries, or cyclists	(Kendig, 2012)
Pedestrian Permeability	The extent to which an environment or setting allows pedestrians to walk by pathways to their desired places,	(National Association of City Transportation Officials, 2016)

There have been multiple objectives to pursue the pedestrianized streets, but what the pedestrianization itself defined for is represented by Nasim Iranmanesh in its simplest form as, “The removal of vehicular traffic from city streets” ([Iranmanesh, 2008](#)). EMBARQ Turkiye defines pedestrianization as “The conversion of streets into walkways exclusive to pedestrians or the extension of areas suitable for walking through the implementation of development plans” ([Öztaş & Aki, 2014](#)). Literature also shows a positive relation between livability and pedestrianization and how pedestrianization can improve livability ([Yassin, 2019](#)). Whatever objectives that have been aimed for earlier through pedestrianization can be categorized into three fields of impacts of pedestrianization, as Nasim Iranmanesh says: environmental impact, economic impact, and social impact. An assessment of pedestrianized streets in Nicosia Walled City Cyprus also shows the importance of pedestrianization in achieving the social, cultural and economic potential of the city ([Kozan & Uzunoğlu, 2020](#)). Following studies have been taken in to build the literature into these categories:

Istanbul’s Historical Peninsula Case Study

A study was conducted to assess the environmental and social impacts of pedestrianization in the Istanbul Historical Peninsula ([Demir, Cakiroglu, Alyuz, & Demir, 2016](#)). They build on the study by contributing the different types of pedestrianization into the research. They broke pedestrianization into three types: Semi mall, Transit mall and Full mall. Full mall

means a fully pedestrianized area with no permission to any traffic; transit mall means public transport is permissible, and semi mall means that only speed and volume of the vehicular traffic is restricted as required to pedestrians. The need for pedestrianization is capitalized as a predestination scheme that is being used by the local authorities to ensure public safety, enhance street life, deflate isolation reasoned by the life outside the city, eradicate transportation issues and depict social life. Pedestrianizing squares mostly belongs to the older parts of the city, which have been used by the developed and developing countries to improve the urban fabric, which was conventionally planned for more vehicular use. As with the increasing slope of pedestrianization in the global perspective, Turkey has also fabricated a historical peninsula pedestrianization project whose assessed results will steer the future of pedestrianization. The project was placed for Sultanahmet Mosque, Topkapi Palace, Grand Bazaar, Hagia Sophia and other historical places. Two types of surveys were conducted to assess the results of the project: pedestrian survey and tradesman survey. In a pedestrian survey, the dominant part of people felt that the project has affected positively and, in a way, that people felt more comfortable and safer. Further, the project has also managed to attract more people to the visits of these areas and for the predominant purpose of recreation. It has also managed to provide a better experience of various activities such as shopping, entertainment, business, and social interactions. In the second survey, it was depicted that the tradesmen, in comparison to the visitors, preferred the public bus and private car as a

mode of transportation over rail system. They are reasoned by the argument that tradesmen have a residence in proximity to the workplace. Further, the tradesmen who used private cars as a mode of transportation parked their cars in auto-parks instead of roadside. Next to that, tradesmen also expressed a climbing trend of the profits after the project of pedestrianization. Moreover, real estate values of the areas also took a stair upward and boosted the worth of the location. An increase in the clients and people's visits have also been observed that are caused by pedestrianization. An increase in sales volumes has also been quantified and correlated to pedestrianization in a study of Spanish Cities ([Yoshimura et al., 2021](#)).

The pedestrianization in the area has also managed to affect the shopping habits of the people. In remarks, tradesmen spoke that pedestrianization not only caused the increase in sales and in the number of visits and cycle usage but also made the commercial experience more comfortable, serene and safe for them. Damage to the environment due to the pollution caused by the vehicles is alleviated by pedestrianization. It has also managed to uplift the perceptibility of the building and urban structure of the area and have managed to introduce some robustness into it.

Pedestrianization in Istanbul's Historic Peninsula

As 295 streets have been pedestrianized since 2010, a study on the effects of pedestrianization on air quality was also conducted, in a wake that such a huge scope of intervention must have an impact on the social, environmental, and economic conditions of the area. Businesses and visitors will change the logistics, and the mobility patterns of the area and the most important change will be sensed in the environmental conditions of the local area. This research focuses on tracking the environmental change down. It is well known that accumulative risk management of the urban atmosphere includes a thorough assessment of air pollution and air quality as well as exposure risk prevailing in that urban area. The US Environment Protection Agency (EPA) envelopes exposure analysis integral to air pollution risk management. Therefore, it becomes a compulsion to have an air quality assessment as in 2005, Istanbul Metropolitan Municipality reevaluated the Historical Peninsula's multi-layered structure and initiated many pedestrianization projects aiming to improve the

quality of living and lifestyle. The municipality started pedestrianizing the Historical Peninsula in 2010 to save its image as a cultural, historical and transportation hub. The research also reports the benefits of pedestrianization while quoting an EMBARQ Turkey's 2013 survey with the residents and businessmen, and students of Historical Peninsula. The satisfaction level of the respondents was measured as increased safety, increased visual quality, improved walkability, and strengthened attraction to historic buildings. When the respondents were specifically asked for the post-environmental effect of pedestrianization, they responded that disturbances from motorized vehicles and vehicle noise have significantly been reduced by this effort. Overall, the survey represented a positive response to the satisfaction level of the resident. Professor Ferhat Karaca of Fatih University assessed the pre-pedestrianization air quality level throughout the various parts of the city between December 2010 and January 2011.

The findings expect pedestrianization to inhibit vehicle emissions and to reduce the corrosion effects by traffic-related emissions in the area. A study on the evaluation of emissions reduction through pedestrianization shows positive evidence in the city of Madrid ([Sánchez, Ortega, López-Lambas, & Martín, 2021](#)). Traffic related emissions inherent by the combustion in the engines, produce many pollutants which have a negative effect on the public health. Therefore, urban policies proscribe vehicular traffic and promote pedestrianization. In research methodology, the current condition of the air quality was measured through various technical methods at different places of the city and scheduled for different time intervals. In order to make the research more accurate, values were taken at the exact same spots as the earlier research. Surface pollutant distribution maps were prepared using the health risk assessment tools of Arc GIS 9.1. Moreover, several instruments, software and techniques have been used to find out the results. The average concentration of NO₂ was found to be like that of Barcelona, but higher than that of London and Paris. Overall, decrease in the concentrations of NO₂, and SO₂ was detected, which is alleviating. Those concentrations were found to be following the global trends as they were compared to the other European countries. In a comparison with the WHO (World Health Organization) standards the concentrations of the pollutants included in the

research, had values below the limits. Traffic density (traffic per unit area) was also tracking the emission and distributing the values of pollutants throughout the city. Surface maps of pollutants were assessed as before and after pedestrianization. The surface map after the pedestrianization, was found to be as lighter than the before pedestrianization. In public health risk analysis, areas were identified which were still needing the attention as the pollution level was up to the mark, which became the cause for the further interventions in three ways: avoiding motorized travel through sustainable transport and land use planning, moving to safer, healthier, and more environment friendly modes of transport, and improving the vehicle's fuel consumption and emission for all the modes of transport. Ultimately, study entails an effective way of finding out the success of the pedestrianization related projects through the assessment of the air quality.

Downtown Baton Rouge

This dissertation gives a picture of American downtowns narrowing down on issues pertaining to

pedestrian environments and problem-solving with different techniques, as well as a summary on the revitalization principles, to emphasize the need for pedestrianization for healthy life (Miyakoda, 2004). Traditionally large population shared a compact and dense area, for diversity of uses and activities, which entailed a built environment of human scale with active street environment which catered both residential and commercial sectors. Today's revitalization techniques trudge towards the traditional downtowns as in the pedestrian environments. But the decline of contemporary downtowns can be traced back to the intervention of motorized movement and vehicular traffic in the area, providing people with the option of living outside and working inside of a downtown area. High incomes, excessive car ownership and better infrastructure development, resulted in the sprawl of the population to the frontiers and beyond. Huge distances between the destinations have caused the traditional pedestrian-friendly environment to collapse into a quagmire of environmental, economic, and social problems.

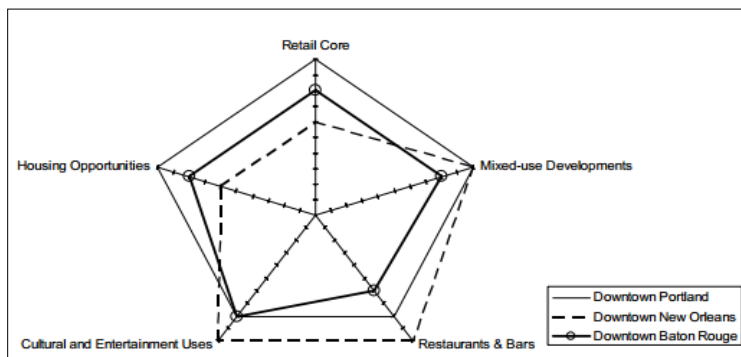


Figure 1: Current Situation of Downtowns in Baton Rouge

Source: [Miyakoda, 2004](#)

In response to these problems, many strategies have been made, and these strategies have been examined by many scholars. These strategies included indoor shopping malls, pedestrian malls and transit malls, historic preservation, pedestrianization improvements, transportation enhancement, following a certain set of principles as diversifying the land use, emphasizing compactness, fostering intensity, ensuring balance, providing accessibility, and creating functional linkages. The earlier stages of thriving downtowns depict the contribution of pedestrian-friendly environments to the success of

downtowns. However, the success of those downtowns cannot be reasoned to one component rather than a mixture of multiple techniques. Still, the responsiveness of the environment with respect to pedestrianization is crucial. Moreover, the decline of the contemporary downtowns was supported by the failure in maintaining the assets veritable to pedestrianization. This is why many downtowns in America are looking for restructuring of the lost traditional downtown assets. Pedestrian-friendly environment in the revitalization of downtowns was reasoned by the word those traditional downtowns

were shaped by this activity. Yet, it is difficult to find the desirable walking environment in the prevailing condition as of the dominance of automobiles and little room for public transport. Subsequently, the researchers examined the two case studies: New Orleans, Louisiana, as larger size and Portland, Oregon, as mid-size, to check the central elements to sustain a pedestrian-friendly environment and how these elements are interrelated to each other in making pedestrianization a success. These elements and principles extracted out of these two case studies built a platform to examine and make recommendations for the improvement of the city of Baton Rouge, Louisiana.

In over-viewing these two case studies, three main components were established to sustain a pedestrian-friendly environment. Three components include the formulation of multiple reasons to go downtown, the provision of efficient and convenient accessibility, and walking permeability downtown ([Miyakoda, 2004](#)). Various destinations of the three towns were compared to each other by weighting the factors affecting the fundamental elements gleaned out of the abovementioned two case studies. After a comprehensive study of those variables, the weightage was given, which was emanating. In a similar way, many other factors were assessed to build a strong backing to the recommendation, which were: improvement of bus services, implementation of proposed River Transit Centre, extension in the hours of parks, establishing a retail corridor, planting a tree and street amenities, the introduction of mixed-use developments, and promotion of restaurants and bars.

Pedestrianization in Fazilka Town

The research area of Fazilka Town has the same cultural backings as the Liberty Market. There exists a common perception that roads are privileged to serve motorized vehicles first and then pedestrianized traffic. In a reason to that pedestrianized traffic is not welcomed on the roads. This study tries to break this perception by studying the impacts of a newly pedestrianized corridor in Fazilka Town, India ([Asija, 2005](#)). Pedestrianized pathway in Fazilka (Food Art Cultural Street and Car Free Zone), planned by the graduate Welfare Association Fazilka, was perceived to generate a greater number of pedestrianized traffic and to create an eco-friendly environment. This street

is further liked to a heritage site of the city, alluring people to this street. The after impacts of the projects were assessed by a survey among the people occupying the street-based upon the random sampling technique. This opinion survey itself was an awareness scheme for the people there.

The research was inspired by the quote of Prof. Heman Knolacher, "City is a thing that came from social contact, social relationships and economic relationships and city is a social structure and not just physical structure" ([Asija, 2005](#)). It established a basis for research correlating the behavioral aspects of the people to the physical structure of the surroundings and entailing a finding that needs for social and physical infrastructure must be provided to make a city sustainable. We can also use this behavioural-data-structure principle to comprehend the transportation needs of a city. In most of the cities, the different modes, including motorized vehicles, cycles, animal-driven carts and pedestrians, use the same road and indicate captive cum vulnerable users of these means of transport. Lack of concern by the government towards the infrastructure demand for the vulnerable group have become a reason for increasing car accidents, causing more fatalities. Thus, making a base for incorporating the needs of non-motorized traffic into the transportation planning. The result presented that the pedestrianized street has managed to create harmony among masses by maximizing interactions. It has also managed to increase the economy of the vulnerable groups as hawkers and vendor etc. Further it has also uplifted environment by alleviating air, increased tourism, promoted culture and heritage, increased walking and frequency of visits. Pedestrian streets have been fruitful to many problems of the areas as the results have depicted. Some of the more efforts are required to support this pedestrian-friendly environment as of this research to break the prevailing perception among the masses [16].

Research Methodology

Various tasks were performed to carry out the research in an order to organize and maintain the quality of work in the given time frame. Usually, methodology is defined as:

"Methodology is the systematic, theoretical analysis of the methods applied to a field of study. It comprises the theoretical analysis of the body of

methods and principles associated with a branch of knowledge. Typically, it encompasses concepts such as paradigm, theoretical model, phases and quantitative or qualitative techniques" (Ishak & Alias, 2005). It is very difficult to accomplish any work without any systematic procedure of work. A

systematic approach in carrying out research increases the reliability and validity of findings. It has been tried to explain the methodology in a systematic and simplified way using following pictorial diagram in order to facilitate understanding of the reader:



Figure 2: Research Methodology

An in-depth literature review is done to glean out the information about the factors which makes a pedestrianization project a successful one. Information gathered from the literature review helps in formulating a questionnaire that will consequentially be surveyed in Pedestrianized Street of Liberty Market after the determination of the sample size. Data collected through the questionnaire is entered in SPSS/MS Excel and progressively subjected to certain analysis techniques. Lastly, inferences will be drawn from the results of data analysis which are helpful in concluding the entire research and for making the recommendations for the overall benefit and welfare of the society.

For the purpose of collecting data, questionnaires were prepared, and there was a separate questionnaire

for Shop Keepers and Customers. The questions were made easy to understand as people should not find any difficulty answering them. The sampling was done using a random sampling technique, i.e., "a method of selecting a sample (random sample) from a statistical population in such a way that every possible sample that could be selected has a predetermined probability of being selected". After this, a detailed survey of the case study area was carried out in a professional manner using a convenience sampling technique. Every part of the market was covered. The sample size was selected according to Slovin's formula.

$$n = \frac{N}{1 + Ne^2}$$

Where

Total Number of Shops = N

Expected error = 5%

$$n = 150 / 1 + 150 (5\%)^2$$
$$n = 109$$

The total number of plots facing the pedestrian walkway was 36, according to the land use map of Gulberg, Lahore. But there were about 150 shops facing the walkway, which were taken for the sample size calculation. Similarly, to get a response from the pedestrians and overall population was needed to determine the sample size, which was unknown because it varied from day to day and from time to time as well. For example, if you visit the market on holidays such as Eid Holidays, the market will be thriving with people, or when you visit the market on the weekend or on-peak hours, it will be congested with people as compared to any other day. So, a sample size of 34 was taken for customers' responses from the minimum sample table using the multistage nonfinite population method (Louangrath, 2014). For table reference the value were $Z_{0.95} = 1.65$; $\sigma_{N(0,1)} = 1$; and $E = 0.05$ for 0.95 confidence interval.

Detail of the Study Area

Lahore is the capital of Punjab province and the largest metropolitan city of Pakistan, which has been recognized as a historically rich city for over a millennium. And also, a main cultural centre of not only Punjab but Pakistan. It is one of the most densely populated cities in the world that is significantly

considered as an economic, political, transportation, entertainment, and educational hub.

Liberty Market

Liberty Market in Lahore is one of the core commercial areas of Lahore are located at prime locations. The customer catchment area of liberty is quite wide, attracting customers not only from Lahore but other cities as well. The market mainly comprises of shops for clothes, shoes, jewellery, vendors and many more. Its popularity attracts people from abroad. When they visit Lahore, they must visit Liberty market. Especially when the festivals such as Eid, Christmas arrive then the area becomes so congested and crowded that it becomes difficult for the people to move.

Location

Liberty market is situated in the busiest yet elite area of Lahore. It is also famous for its round about that is a masterpiece of architecture named as Liberty round about which leads towards the market. There are many famous plazas and restaurants around the corner which makes it a flexible place to shop. Temporal growth of the Liberty Market has also been observed through the satellite imagery and is shown in figure 4. Whereas the existing location is shown in figure 3.



Figure 3: Existing Site

The Need of the Hour, Pedestrianization

Due to the increase in the number of customers every day, liberty is becoming congested, and many problems were getting a head start. When it came to the notice of higher authorities, many professionals

were recruited to provide the solution to the problem. They shaped the pedestrianization pattern of the market by cording off the area for vehicles from the entry points of liberty and providing enough parking space in the middle of the market. This phase of

pedestrianization started in the early 2000s and the following are the problems that were addressed in this project:

Parking Problem

Parking is the main issue that is to be addressed in liberty. Customers usually drive on their own vehicles, and due to the insufficiency of the parking area allotted, they used to park their vehicles randomly, either in front of the shops or elsewhere for their convenience. Which altogether results in congestion as the right of way is not greater than 20 feet. In this way, space for the circulation of visitors is reduced, and the experience of shopping becomes a headache. There may also be cases when the people parked their cars behind the other person's car and the other person had to wait and time was wasted. Now, a system of Metered Parking has been introduced in the main ground of liberty; the space is enough to park more than 200 cars. There is also a Liberty Parking Plaza close to the roundabout, but due to the distance from the market, it is less functional as compared to the metered parking area.

Encroachments

Lahore Development Authority has been active in removing encroachment throughout the city and has devised anti-encroachment policies, but still, the implementation strategy is lacking, and results can be seen clearly in the markets. In liberty, encroachment was one of the other issues that were dealt with. The hawkers that encroach the area in front of the shops pay heavy dues for their occupancy. But the profit that they got out of those stalls was not greater than their rent. The issue should also be taken into consideration for the convenience of both customers and shopkeepers.

Environmental Problems

Environmental problems were one of the main concerns that liberty was facing before pedestrianization. The smoke coming out from every vehicle entering the market caused air pollution. The overcrowdedness and the horns of the vehicle were adding to the noise pollution. There were social-environmental problems as well, for example, pickpockets used the crowd to their advantage, when the customers were tired of shopping and wanted to enjoy and have a good meal there was no place to sit.

LDA noticed all these issues and problems faced by the customers and the shopkeepers. Pedestrianization was the tool that was used to overcome all the environmental problems explained and efficient planning was carried out for its implementation. There were two main types of environmental problem there:

Physical Environmental Problem

Due to the increase in number of vehicles both private and public in the area there was increase in the overall smoke level, and in addition to that the market was very noisy too so both these factors were having diverse effects on the health of both shopkeepers and customers. The amount of plantation before the pedestrianization in liberty was not adequate, few pots were seen here and there but this was not given in significant amount. As a result, the place was getting unbreathable due to low oxygen levels and high smoke emissions from cars bikes and other vehicles.

Social Environmental Problem

The place was getting congested every passing day and social crimes such as pick pocketing, women harassment, mobile snatching was taking a heads up in the area. There were few cases reported from the shopkeepers too, who were robbed in the nighttime when they were closing the shop. In addition to this the person who went on shopping was also worried about his vehicle at the back of his mind, so there was a constant state of tension in the area socially.

Designing of Liberty Market

The liberty has been designed twice in the past, in 1982 and in early 2000's. The design of liberty proposed and implemented in early 2000's was according to the increasing customer rate and keeping in view all the problems related to parking, environment, and encroachments. The market has a U-Shaped design having paved tiles on which the pedestrian walks. Below the paved tiles is a drainage system that is well planned to serve space for rainy water.

Pedestrian Movement

Arcade is provided in front of the sale area for the walk of pedestrians, more over the paved tiled U-shaped Street provides a unique walking experience too. The pedestrian movement is not hindered by encroachments in the arcade and people can move

from one shop to the other with ease. Moreover, there are places for sitting in the area where pedestrians can sit when they are tired and can enjoy a leisure time. The paved walkway that is provided in the front of the arcade is 20 feet wide. The arcade and a separate tiled walkway separate the people who come for shopping and people who come for spending time and meeting their friends and enjoy a meal.

Street Furniture and Plantation

The street furniture provided in the area involves pole lights, benches, dust bins and there are some areas which are designed for both plantation and sitting purposes. The plantation has been increased in the area after the new design was implemented and the area looks much greener as compared to what it was

before. The central area reserved for parking is accompanied by a green space too which balances the overall oxygen level of the area.

Parking Area

The Parking is provided at the center of the market, with separate entry and exit point. There is an electronic parking ticket system incorporated regulated and controlled by Le'Park (Lahore Parking Company). The Parking Design is also U shaped as the market, cars that are parked in the area are mostly at the angle of 60 degree and the flow of traffic in the parking area is one way, and parking ticket is of 20 rupees for cars.

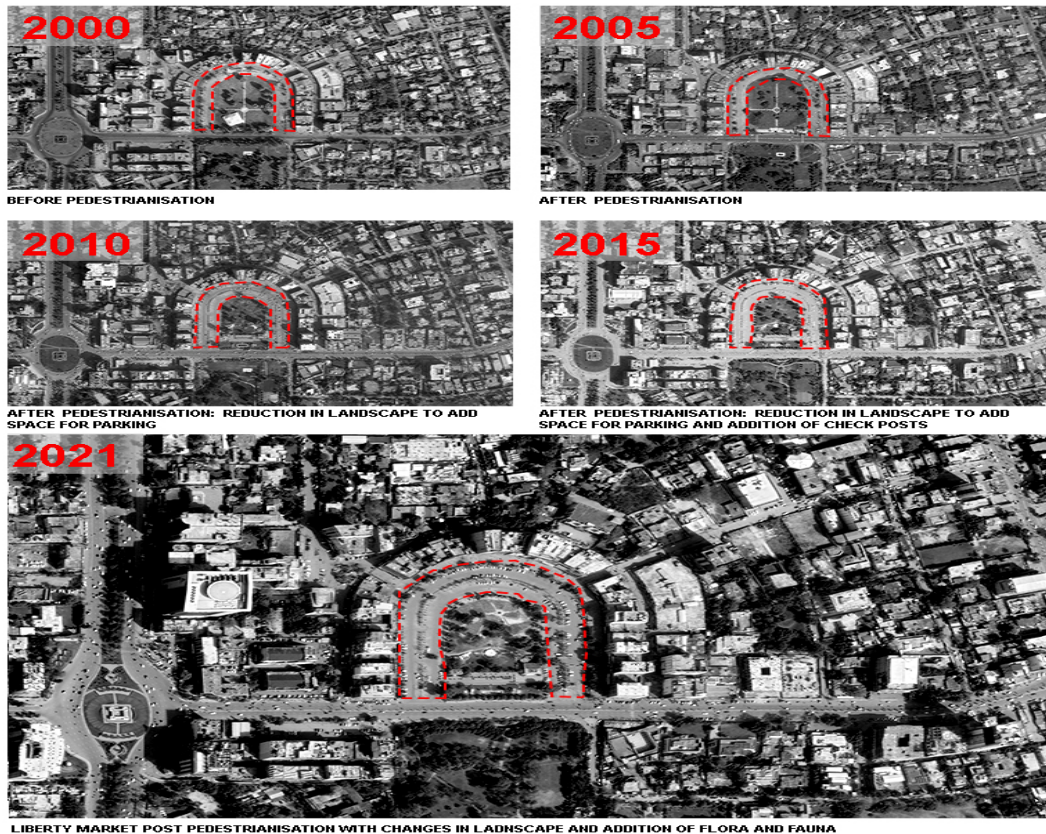


Figure 4: Temporal Growth of Liberty Market

Findings

In this analysis, the satisfaction level of Pedestrians is examined that whether they are satisfied with this

project or not. Whereby two categories have been made to carry out the analysis, i.e., Customers and Shopkeepers. Moreover, a pictorial representation of

the existing situation is also made in figure 7 because of on-ground observation.

Customers

Visits to Liberty after Pedestrianization

Visits to the liberty market were recorded after pedestrianization, and there was a mixed response when people were asked that whether their number of visits had increased after pedestrianization or not.

Traffic Options (Public or Private)

When customers were asked that what type of transportation they use on their way to liberty, 83% of

the customers said that they have their own transport and only 16% said that they use public transport. Then there is mode distribution in which 93% of the customers use bus service, and 50% customers use cars.

Benefits of Pedestrianization

After pedestrianization, 36% of the customers said they were satisfied with the better health conditions and 30% said they had to pay low for travel and there were 33% who responded indifferently with other benefits like better health, low-cost travel, better environment etc.

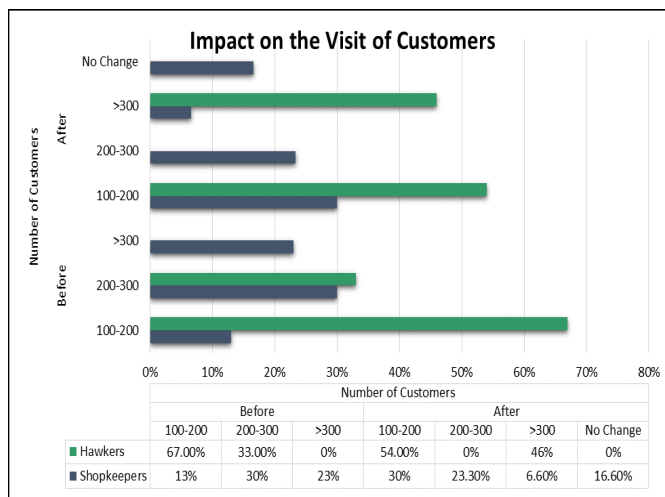


Figure 4: Number of Customers Before and After Project

Shopkeepers

Number of Customers Before and After Project

According to Shopkeepers, the following bar charts represent the situation of a number of customers before and after pedestrianization.

Effect on Sale after Pedestrianization

The overall effect on the sale after pedestrianization is positive where the sale has been improved up to 36% according to tradesmen and 10% according to hawkers, and 6% according to Students who work in shops.

Effect on Land Prices after Pedestrianization

According to Shopkeepers, Land prices have improved

by 36% according to the tradesman, 10%, 5% according to Students and Hawkers respectively.

The Use of Public or Private Transport

The use of public and private transport is differentiated as 13% tradesman uses Public Transport, 36% Tradesman use both, and 26% Tradesman use private transport. 13% of the students use public transport.

Parking

Parking is not allowed in front of the shops in liberty, but still, 23% of shop keepers park their vehicles in front of the shops. 23% of the tradesman use parking adjacent to commercial area and rest are using allotted parking place.

Effect of Pedestrianization on Social Environment

Pedestrianization has a clear effect on Social Environment, the responses of both customers and Shop keepers have been compared, where 83% customers think that the effect is good and 80% of Shopkeepers think that there has been a good effect on the social environment.

The market as a Meeting Point

Both customers and shop keepers were asked that after pedestrianization whether the liberty market serves as a meeting point for people or not. More than 80% of the shopkeepers said that the market had become a place where people meet, but in the case of customers, only 60% of the people think that market has become a meeting point after pedestrianization.

The market as a hub of Social and Cultural Events

The market is also used for social and cultural events; more

than 60% shopkeepers were satisfied with the amount of activity in the area whereas customers were happier, and more than 80% of customers were satisfied with the function that takes place in the area.

Effect of Pedestrianization on Physical Environment

Customers were satisfied with the physical environment of the market, and responses were also positive as 90% of the customers voted in favor of the physical environment. Whereas in the case of shop keeper 80% of the shop keepers were satisfied with the physical environment.

Is the Walking Area Comfortable?

Both Customers and Shopkeepers were asked that whether they were satisfied with the paved walking area of the market? There was a clear 100% satisfaction shown by customers. The shopkeeper said that the pavement that is being used emits heat in summers, but the response was positive, and more than 80% shop keepers said that the area is comfortable to walk on.

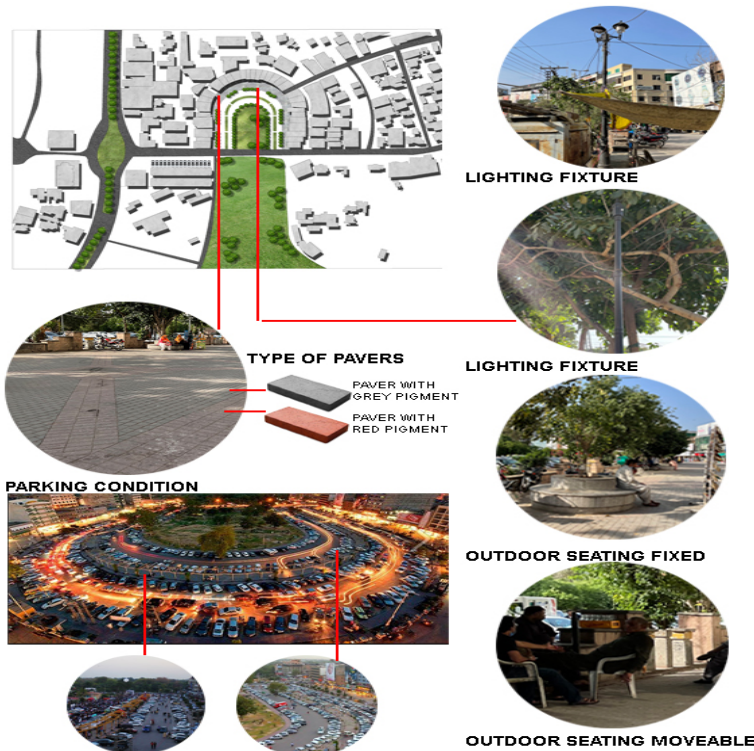


Figure 7: Existing situation of Liberty Market

Sitting Arrangements

Customers were not satisfied with the amount of sitting arrangement present in the area. The sitting areas were now covered with plants and cafés, or restaurants present in the area were the only places where people could sit. 50% of customers were satisfied with the sitting arrangement, and 60% of shop keepers were satisfied.

Are Street lights Sufficient

80% of customers were satisfied with the number of streetlights and other lighting arrangements present in the market, and almost 80% of the shopkeepers were satisfied with the number of light arrangements in the market. 90% of the customers and 83% of the shop keepers think that the effect of pedestrianization on the environment in liberty is good.

Cycling Activity in Liberty

Even after pedestrianization, there is no increase in the cycling activity in the area, and people still prefer other modes of transportation. Responses are also negative with 60% of customers and 55% of shopkeepers think that there is no increase in cycling.

Decrease in Traffic Problems

People were asked that whether the traffic problems have been decreased after pedestrianization or not, almost equal number of respondents i.e., 60% of both customers and shop keepers were satisfied that there has been a reduction in the traffic problems.

Recommendations

- Street lighting should enable streets to continue performing their function as vital veins of urban life at night. Market should be illuminated so that their physical and visual characteristics are highlighted, and various activities can be carried out.
- Resting and sitting 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.

- 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 far.
- Informational signage must be installed at intersections, especially direction signs and wayfinding information.
- Security should be increased in the market as there have been some cases of robbery, mobile snatching and purse snatching in the area.
- There is a need to have a proper check on the encroachments of the area, and it should be controlled by the anti-encroachment wing of Lahore Development Authority.
- People from the other side of the road opposite to liberty parking find it difficult to cross the road, there is a need to construct a pedestrian passing bridge so that people can easily move from other side of the road to the market.
- An integrated Pedestrianization plan is prepared to carve a way for interconnectivity between the places. There were three major propositions of the plan which are given below:
 - Installation of bridges is proposed to cross the road at liberty market these ridges are also support for cycles.
 - Cycling lane with a width of 5 feet, on both side of the road facing Liberty Market are supposed to connect the places such as commercial areas on MM Alam Road and Gulberg Main Boulevard. Further a street from the back of the Liberty Market is also proposed for cycling for the connectivity to MM Alam Road.
 - Better public transport holds much significance in this regard as vogue planning practices suggest.

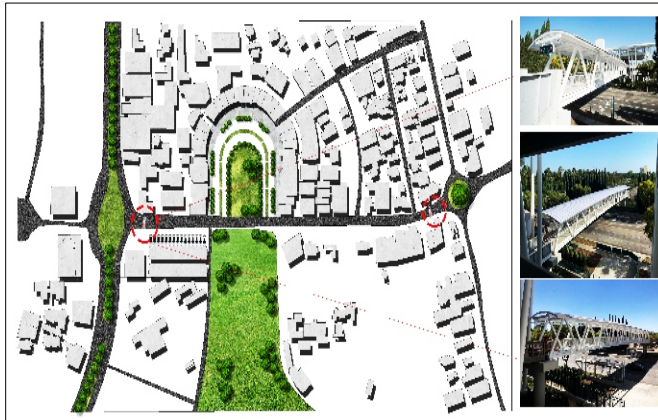


Figure 8: Pedestrian Bridge - Plan & Conceptual view

- Create an urban design guideline for the Liberty Market 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.
- Present tourists with multiple travel modes choices to reach Liberty market, such as minibuses, walking and cycling routes.
- Put in place traffic calming policies in the Liberty market and develop an integrated mass transportation system to increase its efficiency.

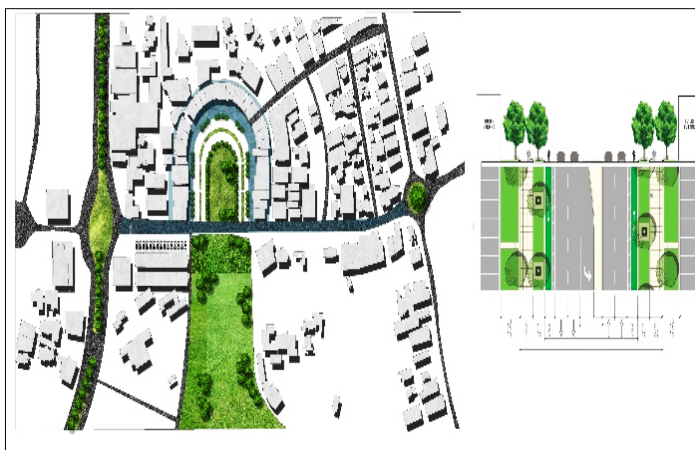


Figure 9: Pedestrianized Path

Conclusion

This research illustrates the basic elements that must exist to foster and support a pedestrianization friendly environment to create a healthy pedestrian-friendly space. Pedestrian Streets have been found the most sustainable solution to address the basic problems of the city like law and order, air pollution, economy and maintaining heritage and culture. Based on the results

attained in the analysis, it is concluded that the pedestrianization project has been a success, and it has been able to achieve the level of satisfaction of the users. When shop keepers were asked that whether they used to have more customers at their shop before pedestrianization, their opinion was that most of the people after pedestrianization come here only for window shopping and the potential customers usually

buy their stuff from the shops that are present in front of the arcade. But according to analysis, their sale has been improved after pedestrianization as a tradesman have given a positive response and are satisfied with the project. People were asked questions about the social, physical and environmental parameters. Both shop keepers and customers narrated their opinion in a positive manner, but people were also at the same time concerned about the security provided in the area on normal days as well as in the cultural and social event that is organized in the area. Customers and Shopkeepers were satisfied with the physical environment of the area. The only thing that needed to be improved in the area according to them was the sitting arrangement as there was not enough arrangement. Customers were satisfied with the paved street provided in the market and said that it is comfortable to walk on rather than a metal road. But shop keepers had an opinion that the material that has been used in the pavement emits heat in summers and the temperature of the area increases.

Both customers and shopkeepers were satisfied with the accessibility of the market. Parking is

provided in the middle of the area sometimes chocks at peak hours, and customers find it difficult to park their cars. When an opinion was taken from the respondents that what else can be done for the improvement of the area, both customers and shop keepers were concerned about the security situation of the area as there have been incidents of purse snatching and mobile snatching in the past. The issue of Eve teasing is usually rising when it is a time of cultural festivities and people demanded that this issue needs to be addressed on priority bases. Shop keepers had an opinion that they should be given parking space in front of their shops as the parking provided in the middle of the area costs them 20 rupees every single day and some elderly shop keepers must walk a long way to their shop. People demanded that street furniture should be added in the area, e.g., benches, flower pots, light poles, dustbins, etc. But still, it can be put from the words of end-users that that the pedestrianization in Liberty market Lahore has been able to achieve the satisfaction level of its users and holds the potential to become an example for other markets and commercial hubs to follow its footsteps.

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