

# Node Analysis in Central Public Spaces in Guayaquil, Ecuador

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**Abstract**—Guayaquil is one of the cities that presents a high rate of shortcomings in terms of its pedestrian and vehicular mobility; it is essential to focus on the fact that the mass transport of the city and its urban environment need a change to mitigate the high incidence of contamination and influence sustainable transport, creating places, squares and connection centers for pedestrians. A solution is proposed to the lack of parking, passable public space, and multimodal and accessible mobility. The proposal is based on submitting recreation and leisure spaces for the citizens of the city of Guayaquil through a pedestrian route where the focus is centered on Avenida 9 de Octubre, to motivate the use of public spaces free of vehicular pollution to take advantage of the city's heritage facilities. At the same time, it proposes an approach to its most emblematic buildings, which have currently been restored without losing the individuality that makes them representative. The purpose of the project is to promote a connection square is created, with the different public spaces that are on the main road that connects Av. 9 de Octubre with the Malecón 2000 and its surroundings. The detailed exploration of theoretical tools, based on the Jan Gehl methodology, and the investigative approaches of Pin Guerrero, points out a strategic proposal of a mixed nature, presenting a connection of heritage nodes oriented towards diverting the vehicular collapse that exists on the avenue, and creating a central esplanade that is complemented with urban furniture and green areas.

**Keywords:** Reduced mobility, mass transportation, pollution, public spaces.

## INTRODUCTION

Guayaquil is a city with heritage rescue due to its origin in the history of the city of Buenos Aires. Since the 80s and 90s, the town has begun to create ways to promote tourism, in general, and the different facilities that preserve the history of the colonial era. At the same time, it presents a few architectural features that are interesting for visitors, tourists, and locals, focusing on the "regenerated" areas characterized by being the central part of the city.

This editorial will detail the processes on which the research is based, the methodologies, and the extrinsic characteristics of the emblematic buildings in the center of Guayaquil, which aesthetically reflect the uses and architectural strategies, such as the arcades that are in the constructions of the center, and its great boom of tourist interest. The porch is part of the roof of a building that generates shade through which efficient pedestrian circulation can be caused; in this, only pillars can be built, and it must be a free area with a non-slip surface (Saltos, 2018).

This brings economic advantages to the inhabitants because it allows the development of tourist activity in

an empirical way, thus generating the spirit of tourist commerce, which is generally the one that characterizes Guayaquil. The definition of equipment is to provide spaces conducive to social practice in totality, in compensation for goods and services of social assistance. They can be classified as follows: education, health, trade, social security, culture, supply, transport, sports, entertainment, communication, administration, and urban transport. (Cordona, 1999 )

Not only is it a city with several monuments, but it also has living spaces that allow interaction between the observer and the object, which will enable the visitor to have comfort. It aims to determine and demonstrate the need for more enhancement of historic buildings, the lack of parking, and the importance to pedestrians and their circulation.

It has an architecturally exciting feature to awaken tourism of visitors and locals, in addition to proceeding with an influx of scientific research, which is not generally recognized; these characteristics are due to the great magnitude of arcades it has. Guayaquil and its urban expansion have been governed by Municipal Ordinances, which were established to regulate and normalize the development of the city, its rural and urban parishes, and its growth and expansion zones (Moncayo, 2015). In addition, if we focus on the history of the city of Guayaquil, it is interesting to know that the urbanism and architecture of the city come from the colonial era, commercial and naval exchange. As mentioned previously, the arcades are the potential analysis of historical and functional perspectives. It's worth noting that Guayaquil needs a well-described historic center compared to many Latin American cities. In other words, there is no "historic" area in the city, but one that guarantees a commercial rather than a cultural method (Moncayo, 2015).

About the above, a resolution is proposed regarding the significant incidents in the "historic area." Guayaquil is generally divided between cultural and commercial facilities. It is decisive that Guayaquil is a commercial city, and due to its high index of tourist impact, this generates a significant problem in terms of the mobility of the locals, whether these are transported on foot or in cars, buses, and nothing else. Guayaquil, in its urban planning, only sometimes has public places en masse for parking; it is reflected that more has been accommodated to the commerce that the center presents. That is why a connection between heritage facilities, local people, and significant precedents such as the famous and unique 9th of October is proposed. Street with significant tourist impact and economic development. The proposal is reflected in the creation of underground pedestrian crossings, which help reduce environmental and noise pollution.

The development of underground pedestrian bridges as a response to the current trend of mobility in the urban aspect is based on a series of criteria, among which is the trend that some cities in developing countries are following in terms of greater availability of multifunctional underground spaces, the reduction of the risk of road accidents compared to level pedestrian bridges, lower construction costs and less occupation of public space at the entrances. Urban development in Latin America is limited in its infrastructure in road changes; that is, the design goes hand in hand with the processes of pedestrian mobility currently, the underground approaches under the guideline of developing a better quality of life and improving climatic conditions (Urazán, 2013).

## **MATERIALS AND METHODS**

In its broadest sense, cultural heritage is both a product and a process that provides societies with a reservoir of resources that come from the past, are created in the present, and are passed on to the next generation in their favor (UNESCO, 2017).

### **a. SPACES FOR INTERVENTION**

Although it is known that 9 de Octubre Avenue is one of the busiest places for both locals and tourists who visit the city due to the high rate of commerce and attractions that the town has, currently, it is a sector purely

for vehicular use, that is, the municipality in terms of urban structuring has prioritized this type of mobility.

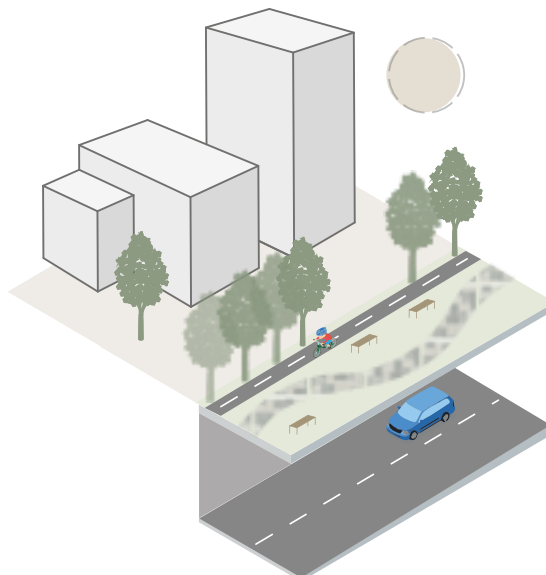
Under the research, the use of the heritage facilities that surround the avenue and the nearby streets to create a pedestrian plaza with urban furniture and green areas stands out. According to Kevin Lynch, we do not profoundly live the events, but rather the contour of it and relate them to later memories; in this way, we establish a link with the urban image of the city, which contains meanings and memories (Lynch, 2015).



**Fig. 1.** Connection of Patrimonial Spaces. Note: Prepared by the authors.

#### **b. VEHICULAR UNDERGROUND SPACES TO ENHANCE URBAN DEVELOPMENT**

Traffic problems are common in urban areas where there has been a rapid development of service and commercial activity, resulting in visible actions on the wireless network. By that development, it becomes unable to provide a high level of service to car traffic and causes congestion in networks—underground infrastructures. For Arce-Cavallini (2000), developing countries making room for the human dimensions within cities has been a considerably more difficult task. A large part of the population seems to be forced to carry out their daily activities within the boundaries of urban space, and it is fair to say that this has worked quite well. This brings us to the fact that the proposal above for an urban intervention on 9 de Octubre Avenue and in it, an underground vehicular tunnel is proposed to create a healthy, comfortable, and harmonious place for citizens (Décima, 2018).



**Fig. 2.** Proposed underground route. Note: Prepared by the authors.

### **c. TRANSPORT AND PUBLIC SPACE**

The research orientation is mixed because the collection of data and information will be carried out through observation and analysis through different techniques and instruments. This analysis begins with recognizing the infrastructures generated by mass transport and how this affects public space. According to the books that support this research, the research methodology is provided with a series of practical, theoretical tools, with the use of scientific methods, organizing the information that has been obtained. Organizing the information that has been investigated, and at the same time focusing the intervention on a strategic action plan that allows accessible pedestrian and vehicular passage, without freezing, and a mass transportation system (González, 2016).

### **d. METHODOLOGY**

A mixed research methodology is contemplated, which integrates qualitative and quantitative techniques to analyze the problem raised. As for the qualitative, it is based on the observation and descriptive analysis of the architectural and historical characteristics of the center of Guayaquil, specifically the arcades and the heritage built. A documentary review of ordinances, urban regulations, and relevant previous studies is also carried out. In the quantitative aspect, numerical data are collected and analyzed, such as road dimensions, vehicle and pedestrian flows, and accident rates, among others.

## **RESULTS**

To determine a solution, an analysis is proposed, where the user is aware of the decisions made, to promote communication between the aspects that contribute to the urban increase if it is understandable that a sector cannot be created and intervened without first knowing the opinions of the influencers, in this case, the citizens who attend this avenue. With the results obtained, it is determined that the proposal has the purpose of recovering the urban subject, with an offer to close 9 de Octubre Street to vehicular access, thus creating a pedestrian plaza with various cultural spaces, implementation of urban furniture, green areas and an overpass that connects the Malecón 2000 with the 9 de Octubre Avenue. In addition, the massive vehicular access that the street has turns it into an underground detour.

According to all the above mentioned and researched, two types of opinions are determined in relation to the connection proposal: promoting and preserving the public, historical, and cultural space of Avenida 9 de Octubre, which is a central and essential street in the historical context of the city of Guayaquil; To recover the urban space that currently has flaws in its urban planning, to encompass various cultural spaces that characterize this sector, turning it into a tremendous tourist-cultural attraction with the different renovations proposed by the intervention of heritage facilities.

Point two needs to be related to point one because we cannot change the structure of the avenue. Still, we do propose a change in terms of vehicular congestion and turn it into a pedestrian crossing, giving priority to the user creating free and multi-use recreation space. Guayaquil is a city that has grown excessively, this has led it to become an urban spot, due to its little urban planning, but it has cultural attractions that are very little recognized, with which it is intended to promote relevant streets in the history of Guayaquil, through the decision-making of a restructuring of the connection of the most representative heritages that are in the cultural that are very little recognized, with which it is intended to promote relevant streets in the history of Guayaquil, through the decision-making of a restructuring of the connection of the most representative heritages that are on Avenida 9 de Octubre and its adjacent streets. It is necessary to affirm that by generating this open space for pedestrians, we are giving prominence and priority to citizens, in turn, to promote economic recreation and leave the boom in the degradation of cultural heritage.

## DISCUSSION

This research article focuses on the relevance of heritage rescue in Guayaquil and how the emphasis on culture, urban mobility, and city planning can play a vital role in revitalizing the city. Guayaquil has a rich heritage with monuments and historical buildings dating back to colonial times. However, despite this valuable legacy, the city has faced challenges preserving and promoting its cultural heritage.

One of the main focuses of the article is the function of arcades in the architecture of downtown Guayaquil. These architectural elements not only give an aesthetic appeal to the city but also serve a relevant functional purpose by providing shade and generating spaces for efficient pedestrian circulation. This unique architectural feature can boost tourism and commerce, generating economic benefits for residents. In addition, the importance of defining and classifying urban spaces according to their purpose, including aspects such as education, culture, commerce, security, and transport, is highlighted.

The article highlights the potential of 9 de Octubre Avenue as a critical location to implement changes in mobility and public space. This road is a relevant meeting point for locals and tourists due to its high commercial activity and attractions. However, it is currently mainly used for vehicular traffic. The proposal to close this street to traffic and turn it into a pedestrian plaza is being discussed at length. It is argued that this would preserve the cultural, historical, and artistic heritage of 9 de Octubre Avenue, revitalizing the area and turning it into a tourist-cultural attraction. In addition, an underground connection between the Malecón 2000 and other cultural facilities is proposed, further improving mobility and citizen experience.

## CONCLUSION

In summary, the article proposes a comprehensive approach to address the challenges related to heritage conservation, mobility in the city, and economic growth in Guayaquil. The need to involve the community in urban planning is highlighted as a crucial aspect. In addition, the text addresses the evolution and obstacles related to Guayaquil's architectural heritage, focusing on the revitalization of historic areas and the promotion of tourism. A thorough analysis of the architectural features has been carried out, with an emphasis on the arcades, which influence both aesthetics and functionality. It is argued that heritage conservation and tourism bring significant economic benefits to residents.

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