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Urban strategies for the reactivation of public space in the central area of Cuenca, Ecuador.

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Abstract— **Urbanism in cities has consolidated a means of accelerated real estate development that does not have enough development of public spaces that go unnoticed by most users, a similar case is visualized in the Central Helmet of Cuenca where crime and the characteristics of the design of furniture in public space give way to being abandoned and that they are dangerous steps for users. Several strategies can be used to reactivate public spaces, including Encouraging community participation, creating a sense of ownership, improving pedestrian accessibility, creating a sense of security, place relevance, encouraging active transportation, and improving the green areas used. Through the study of the territory by components, the integral diagnosis is proposed to obtain new urban strategies for the design of public spaces. The general objective of the project is the creation of strategic guidelines that contribute to the reactivation of public space. In conclusion, it is obtained that the application of strategies guided to the accessibility, safety, and relevance of the place would generate growth in the use of public spaces for their reactivation in 86% of the users surveyed.**

Keywords: Urban strategies, public spaces, green areas, strategic guidelines and urban furniture.

I. INTRODUCTION

Santa Ana de los Ríos de Cuenca, or known as Cuenca, is a city full of many cultural manifestations, seen in its architecture, traditions, customs, behaviors, gastronomy, and way of speaking, among other characteristics, under this idea it is sought that one of its bases for its development and improvement as a city is the creation of urban strategies that are governed by dissemination, promotion, and preservation of its identity because territorial planning does not have a management model between public space and cultural activities in the historic center [1]. This type of activity has a greater concentration in a very busy and distinguished area nationally and internationally, this is the historic center of the city.

This sector over the years has been losing its abundant and rich essence, making it look so full and active for several hours of the day, but then it becomes an inhospitable place where the streets, squares, and parks look empty and silence takes over the area, taking into account this abandonment that arises, It seeks to bring back life to the central hull, to make it a more habitable, more inclusive, more participatory and sustainable space [2].

Several strategies can be used to reactivate public spaces, including:

- Encourage community participation: This can be done by organizing events, such as concerts, festivals, and markets, in the public space.
- Create a sense of ownership: Encouraging local businesses and organizations to take ownership of public space through beautification and maintenance projects can help create a sense of community pride and increase use.
- Improve accessibility: Making public space accessible to a wide range of users, including those with disabilities, can increase use and participation.
- Create a sense of security: Improving lighting, adding security cameras, and increasing patrols can help make public spaces feel safer and more welcoming [3].
- Create a sense of place: Designing the public space with unique features and elements that reflect local culture and

history can make it more engaging and memorable.
- Encourage active transport: Providing bike lanes, bike-sharing programs, and other active transportation infrastructure can encourage more people to use public space [4].
- Improve green spaces and access to nature: Incorporating more green spaces and natural elements [5] can provide a more comfortable and enjoyable experience for visitors.

II. MATERIALS AND METHODS

The methodology to be applied is qualitative, where graphic analysis of the public space of the central helmet of Cuenca will be carried out and, in turn, of the cultural spaces offered by the site, to later determine urban strategies that manage to reactivate human activity and make it a space where people feel a state of belonging.

The center presents a morphology of colonial character [6], presents narrow streets in rugged topography, follows an orthogonal grid, and where several institutional buildings, restaurants, squares, churches, commercial premises, and something very characteristic, the elements of the cultural heritage of the city are located. The form of organization of this seeks to privilege the vehicle, making people feel alienated, attacked, and displaced from public space.

When this road configuration exists, there are problems of noise and environmental pollution, congestion, and saturation of roads [7], which little by little has made people leave the area, in such a way that the feeling of insecurity has increased and the deterioration of some buildings and the heritage itself is remarkable, from these it is remarkable that the center must be intervened to make it a more habitable place, Integrated, dynamic and sustainable, given that much of the city's tourist activity is concentrated in this place.

Figure 1 shows the vehicular influx in the streets of the center, where a high turnout is concentrated around Calderón Park, since in this part different buildings offer various services such as tourist, commercial, labor, cultural, among and others, while streets surrounding this point, the automotive perception begins to reduce, Becoming very low in several sectors, but this does not represent that there is little automobile mobility, but they are streets that do not suffer from saturation, the tram circuit that passes through the site is also identified, which is located in the northern area of the park.

■ Roads high vehicular traffic
■ Roads medium vehicular traffic
■ Roads under vehicular traffic
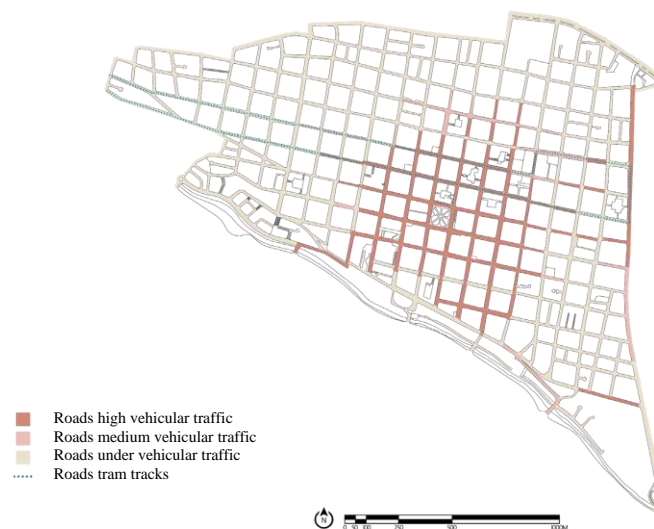····· Roads tram tracks

Fig. 1 Mobility plan and public spaces. Note: Prepared by the authors

From obtaining information on the intensity of automobile activity, it will be possible to define the streets that can be intervened to free the central area of greater sensitivity, which are located around Parque Calderón, in such a way that corridors are created for motorized traffic, which will be controlled and efficient [8].

According to Roa in 2018, the historic center of a city must be a space where citizens live the encounter between the past and the future, while living the contradictions of the present, which refer to the enormous cultural wealth of its heritage and the poverty that invades its streets and squares, in this way it is of vital importance that the area is intervened to transform and recover public spaces so that they are coupled to the human scale and relate directly to space [9].

The objective of the revitalization of the old centers is that the cultural and urban heritage that they contain is accessible to all citizens, for this, their economic, social and urban development must be guided by the principles of plurality and heterogeneity since it is common knowledge that these places evolve, They have adopted different characteristics and values of the societies that have inhabited it, therefore they bring together a set of several manifestations and representations, which must be strengthened so that people feel that these sites belong to them and highlight their identity as a city.

It is understood that you cannot design urban or other strategies without first understanding the context in which they will be carried out, because these cannot be suitable for a few, resulting in a large part of society feeling alien and in a certain way excluded from its own space, having their right to the city denied. The city has been characterized by carrying its identity as a flag, because of this the development that is lived every day is based on reflecting the way of being and living of the inhabitants, in turn, tries to make both national and international tourists feel comfortable, welcomed and that they can call home to this town.

The cultural identity of Cuenca began to develop in the central helmet and later this was taken to places beyond the limits drawn at the time of its creation, year after year, the impulse and empowerment of this is sought, that is why culture is a fundamental pillar to take the city to an inclusive space, diverse, equitable and sustainable. The authorities have created a Cantonal Strategic Plan for Culture of Cuenca to 2030, where the main objective is for the city to be a leader in culture, through proposals that give meaning to its identity through arts, cultural goods and services, cultural heritage, expressions, traditions, customs, festivals and celebrations [9].

From the conception of culture as an engine for the design of urban strategies, many cities have been renovated and revitalized, so Cuenca will not be an exception, as an example we have Barcelona, Curitiba, Bogotá, Bilbao or Medellín, which through policies and the application of artistic and cultural proposals, managed to give a new face to their cities, These were part of planning that aimed to improve conflictive spaces. In almost all these strategies the cultural equipment and, especially, the quality and attractiveness of the architecture are conceived as catalysts of the recovery of the urban space, the change of the image of the city where it occurs and as a focus of multiplication of economic activity. Thanks to this type of proposal focused on culture, cities managed to recover from the fertilizer that increased progressively and now have a view to being spaces of economic and socially active integration, where society is considered for progress, these are designed by and for the people of these times and the generations to come, therefore, they would be called sustainable spaces. In the downtown area of Cuenca, there are several spaces where these types of activities are developed, museums, theaters, premises with religious activities, and libraries, among others, in this way it has been sought to identify these facilities to know if the study area has many these. When viewing *Figure 2*, it is determined that there are about 31 buildings of these characteristics, which are concentrated in the area of greatest vehicular and pedestrian influx, but the services and activities offered by the places usually take place until the end of the afternoon and due to the lack of public space, the stay and enjoyment in these parts are not encouraged, Because of this, the sector comes to look abandoned at certain times of the day.

MUSEUMS
1. MUSEUM OF MODERN ART
2. PAINTING BIENNIAL
3. TOAQUILLA STRAW MUSEUM
4. PEOPLE'S HALL. HOUSE OF CULTURE
5. MUSEUM OF THE CITY
6. MUSEUM OF SKELETOGY
7. MUSEUM OF CONCEPT MOTHERS
8. REMIGIO CRESPO TORAL MUSEUM
9. INTER-AMERICAN CENTER FOR POPULAR ARTS
10. MUSEUM OF ABORIGINAL CULTURES
11. MANUEL AGUSTIN LANDÍVAR SITE
12. MUSEUM NUMINASTIC OF CUENCA

THEATERS
1. BAROJO THEATER
2. SUCRE THEATER
3. HOUSE OF CULTURE THEATER
4. PUMAPUNGO THEATER

LIBRARIES
1. MUNICIPAL LIBRARY "DANIEL CÓRDOVA TORAL"
2. LIBRARY HOUSE OF CULTURE AZUAY

CHURCHES
1. SAN SEBASTIAN CHURCH
2. HOLY CENACLE CATHOLIC CHURCH
3. HOLY ROSARY CATHOLIC CHURCH
4. SAINT FRANCIS CATHOLIC CHURCH
5. MARIA AUXILIADORA CATHOLIC CHURCH
6. IMMACULATE CONCEPTION CATHEDRAL
7. CARMEN OF THE ASSUMPTION CHURCH
8. CHURCH OF THE TABERNACLE
9. BASILICA AND CATHOLIC NUESTRA SEÑORA DEL PERPETUO SAGRARIO
10. ALL SAINTS CHURCH
11. NUESTRA SEÑORA DE LA MERCED CATHOLIC CHURCH
12. CHURCH OF THE GOOD SHEPHERD

Fig. 2 Mapping of cultural facilities in the center of Cuenca. Note: Prepared by the authors

In the center, the absence of public spaces that offer good quality to its inhabitants and visitors is identified, because they do not meet the demand that is presented in the area. There are several squares, squares, and parks that are intended to be spaces of human concentration [10], but having a large part of the streets occupied with automobile activities, these aforementioned facilities are not enough. The sidewalks due to their design concept since years of their creation are very narrow, for this reason, a spatial redistribution is sought to give more space to pedestrians, and several activities are developed that manage to give life to the central helmet.

Fig. 3 Identification plan of the existing public space in the center. Note: Prepared by the authors

III. METHODOLOGY

The analysis of public space is a qualitative methodology used to evaluate the quality and functionality of public spaces, around the evaluation of the strategic components for the reactivation of public space [11]. It usually involves collecting data on various aspects of the space, such as the amount of foot traffic, the types of activities being carried out, and the physical characteristics of the space. This data is then analyzed to identify patterns and trends and used to make recommendations to improve the space. Some common techniques used in the analysis of public space included observation, surveys, and spatial analysis.

IV. RESULTS

Based on the results obtained through the analysis carried out in the central helmet, it can be determined that one of the existing problems is given by the road configuration that has been developed many decades ago and that over time was adapted to the vehicle, so that pedestrian circulation was registered in the background, Taking as an example narrow sidewalks that only serve for the passage of people and not for the development of other types of activities that allow the stay in this area.

In this way, an urban strategy will be proposed where treatment is proposed in the vehicular and pedestrian organization to improve mobility, in addition, a circuit is proposed in some streets to connect several cultural facilities and the location of furniture at several points of the sector to create spaces where people develop activities of passage and stay. Below are the urban criteria that will take place in the historic center:

1.   Pedestrianization of streets: Several roads surrounding Calderón Park, considered as of great vehicular and pedestrian influx, will be of special use for people because in this sector several types of activities are concentrated, therefore, the public space will be much wider.

TRAM RIDE
BUS BROKERS
PRIVATE CAR TOUR
PEDESTRIANIZED STREETS
···· CULTURAL CORRIDORS

Fig. 4 Urban strategies: pedestrianized streets, public and private transport routes, and cultural corridor. Note: Prepared by the authors

2. Placement of furniture: In the pedestrianized streets, benches, garbage cans, tables and luminaires will be distributed to create places suitable for society, where a spatial extension of the commercial premises will be created towards the public area and artistic activities can be carried out on the outside of the cultural buildings.

3. Implementation of vegetation: Along several sections of the center trees of the site will be located, in this way the green area of the center will increase and help reduce polluting emissions by the vehicle that will have its circulation space.

4. Definition of roads for vehicular mobility: The streets surrounding Calderón Park will have a single lane for cars, this type of road will have as its primary function the passage of the inhabitants of the place, but the use of the same is not excluded in case of attending an emergency or if it is considered as a section for the entrance and exit of the center, where the mobilization of private vehicles will be allowed, therefore the vehicular influx will begin to decrease since this type of mobility will have fewer spaces to circulate, giving importance to the public transport service, in this case, the tram and buses.

5. Creation of a cultural corridor: This will be available in several streets for pedestrian use, to cover several facilities that develop artistic and cultural activities, such as museums, theaters, libraries, and churches, from this a connection network will be developed between all these, for the definition of this route part of the sidewalk will be painted.

PAINTED SIDEWALKS
TRASH CAN
PUBLIC SEATS
LIGHTING SYSTEM
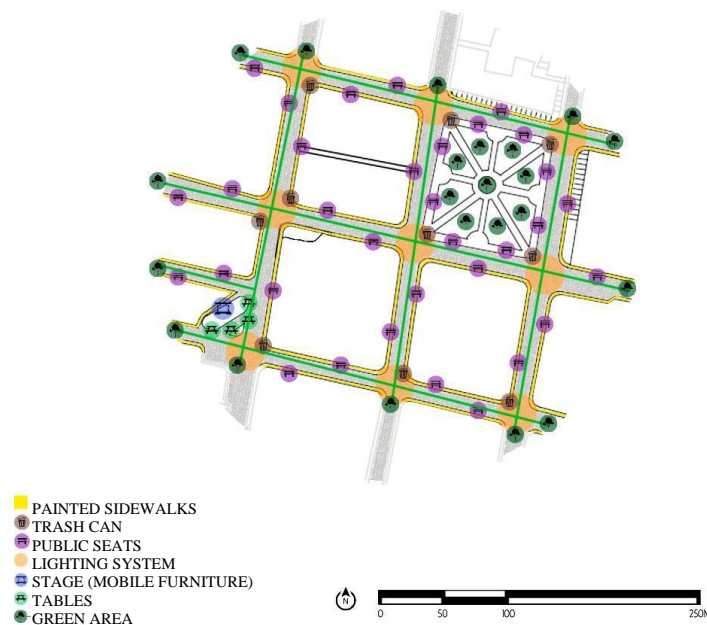STAGE (MOBILE FURNITURE)
TABLES
GREEN AREA

Fig. 5 Cultural corridor in the historic center. Note: Prepared by the authors

6. Incorporation of spaces and furniture that promote the realization of activities attached to culture: The streets defined as pedestrian and that are part of the route proposed above will become stages for public use and with the distribution of murals the creativity and expression of people will be encouraged, where they can capture their art or leave announcements of cultural activities that take place in the area.

V. Discussion

The authorities of the city for a few years began to consider the factor of culture for its continuous development because when the modernization movements arise, the historical testimonies were being destroyed. According Becerra in 2013 [13], in the name of modernity and technology, an attack against the urban and architectural forms of the historic city that had been molded for more than 400 years", in such a way that the municipality through its territorial planning has to propose strategies for the use of public spaces and cultural buildings. The title that carries the city as a World Heritage Site, should not only be taken with a name but should be the origin of a process that leads to improving the quality of life of people and the place, from urban, cultural, and historical projects. Because of this it is understood that society plays an important role because they are the ones who build their identity day by day and it is necessary that they can actively participate in the space of their city, that is, that they appropriate it, that they bring to life the place that represents them throughout the world. The stipulated urban strategies have been the product of the need of the city and the inhabitants to recover part of their historical value and their space, which must be carried out with correct planning so that they are accepted and understood as a benefit for citizens.

VI. Conclusion

The revitalization of the historic center is essential to lead the city to be sustainable, inclusive, and livable, where its identity is reflected, which is part of the construction of manifestations and behaviors of citizens over the years, for this reason, culture is the engine of the creation of urban strategies, where the understanding and promotion of the human scale in its space leads to provide streets for the exclusive use of pedestrians, detaching the importance given so far to motorized activity. The actors involved in this development, such as authorities and professionals in the field of urban architecture, must create and implement proposals that relate to the existing cultural context and to the idea of granting citizens a dignified and propitious place to carry out their activities. Through the proposed strategies it is sought that the inhabitants feel that the city is theirs, granting them the public space they need for their passage and stay in the center, facilitating a type of mobility through the public transport service, which is much friendlier to the environment and will be organized in a better way, avoiding problems such as traffic congestion, excessive noise, among others and getting people to reoccupy the spaces of the sector, which were abandoned.

References

[1]   A. Serra-Llobet and M. A. Hermida, "Opportunities for green infrastructure under Ecuador's new legal framework," *Landsc. Urban Plan.*, vol. 159, pp. 1–4, 2017, doi: 10.1016/j.landurbplan.2016.02.004.

[2]   K. B. de Castro *et al.*, "New perspectives in land use mapping based on urban morphology: A case study of the Federal District, Brazil," *Land use policy*, vol. 87, Sep. 2019, doi: 10.1016/j.landusepol.2019.104032.

[3]   A.-A. Gavrilidis, A.-M. Popa, M.-R. Nita, D.-A. Onose, and D.-L. Badiu, "Planning the 'unknown': Perception of urban green infrastructure concept in Romania," *Urban For. Urban Green.*, vol. 51, p. 126649, 2020, doi: https://doi.org/10.1016/j.ufug.2020.126649.

[4]   A. Macmillan, J. Connor, K. Witten, R. Kearns, D. Rees, and A. Woodward, "The societal costs and benefits of commuter bicycling: Simulating the effects of specific policies using system dynamics modeling," *Environ. Health Perspect.*, vol. 122, no. 4, pp. 335–344, 2014, doi: 10.1289/ehp.1307250.

[5]   A. J. Lynch, "Creating Effective Urban Greenways and Stepping-stones: Four Critical Gaps in Habitat Connectivity Planning Research," *Journal of Planning Literature*, vol. 34, no. 2. SAGE Publications Inc., pp. 131–155, May 01, 2019. doi: 10.1177/0885412218798334.

[6]   Z. Zhang, S. Meerow, J. P. Newell, and M. Lindquist, "Enhancing landscape connectivity through multifunctional green infrastructure corridor modeling and design," *Urban For. Urban Green.*, vol. 38, pp. 305–317, Feb. 2019, doi: 10.1016/j.ufug.2018.10.014.

[7]   R. Velho, C. Holloway, A. Symonds, and B. Balmer, "The Effect of Transport Accessibility on the Social Inclusion of Wheelchair Users: A Mixed Method Analysis," *Soc. Incl.*, vol. 4, no. 3, p. 24, Jun. 2016, doi: 10.17645/si.v4i3.484.

[8]   I. Essadeq, E. Dubail, and E. Jeanniere, "Modelling Passenger Congestion in Transit System –Benchmark and Three Case Studies," *Transp. Res. Procedia*, vol. 14, pp. 1792–1801, Jan. 2016, doi: 10.1016/J.TRPRO.2016.05.145.

[9]   U. Roa, S. Martínez, and J. A. Ponce, "Una ciudad caminable: elementos teóricos para el estudio de la movilidad peatonal," *realidades.uanl.mx*, 2018, Accessed: May 15, 2021. [Online]. Available: www.reibci.orgCaminarcomoprácticaparareforzarlaidentidadenespaciospúblicosenlaCiudaddeTehuacán

[10]   S. N. de Planificación, *Plan de Creación de Oportunidades 2021-2025*. Ecuador, 2021, p. 122. Accessed: Mar. 24, 2022. [Online]. Available: https://www.planificacion.gob.ec/plan-de-creacion-de-oportunidades-2021-2025/

[11]   V. R. Ibárcena, "Criterios de diseño y transformación de los espacios públicos en los asentamientos humanos de Perú: estudio del espacio público en las ciudades informales," Valencia, 2018. Accessed: Jun. 20, 2020. [Online]. Available: http://hdl.handle.net/10251/99585

[12]   A. C. Oliveira and C. Alho, "The new smart cities. Cities built from scratch and old cities transformed into smart cities. Sustainable growth," in *Challenges for Technology Innovation: An Agenda for the Future - Proceedings of the International Conference on Sustainable Smart Manufacturing, S2M 2016*, 2017, pp. 311–314. doi: 10.1201/9781315198101-62.

[13]   J. M. Becerra *et al.*, "Transport and health: a look at three Latin American cities," *Cad. Saude Publica*, vol. 29, no. 4, pp. 654–666, Apr. 2013, doi: 10.1590/S0102-311X2013000400004.

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