

TEAM 19

Chromatic Axis



Figure 1. Map of Wuhan from . Source: Amazon.com: Wuhan City Map Poster - China Map Prints | Wuhan China Map Travel Theme Decor Wall Art Posters & Prints | Asian Inspired Chinese Poster Gift Ideas | House Of Commons Souvenirs Geography Posters (16 x 20, Vintage) : Books.

"Without moving externally, one can know the whole world: without looking out the window, one can see the path to the sky. The more you move, the less you know."

Lao-Tse

Indeed, without knowledge and without movement, one cannot understand the world, and without it, it cannot be improved due to the lack of comprehension and understanding.

From the above, the importance of understanding the context before intervening in a project emerges. In this case, it's about understanding and dignifying the history of Wuhan, China; otherwise, there would be no integration with the site. That's why this document encompasses the research methodology and design proposal for the intervention of Gejiaying Road, a street located in Wuhan, China, with the purpose of highlighting the urban and architectural criteria used to intervene in the said street. Therefore, it is important to hint that this initiative aligns with the goals of the competition: to enhance the urban environment and the quality of life in spaces to create dignified, vibrant, responsible, and sustainable cities, where the community finds happiness through participative design and the strengthening of its social fabric. For this reason, the historical context of the study area is narrated below:

01. Context: Location.

According to the information provided by the competition, Gejiaying Road is a street located in the Wuchang district of Wuhan, one of the current megacities in China in the eastern area of the Jiangnan Plain, adjacent to the Yangtze River and its tributary, the Han River. The context is characterized by economic and commercial activity, which is why it is known as the "Route of the 9 Provinces." In particular, the streets and alleys retain traces of their history and culture, making it an essential point when analyzing the context in terms of heritage values.

02. Historical Context

Before 1949

During the Ming and Qing Dynasties, Wuchang was the primary political and military center of Hubei, as well as its provincial district capital.

The history of China is a long, complex, and extensive one, and for centuries, the Chinese people have shaped their history not only based on internal factors but also through interactions with other foreign peoples and nations, which in certain cases have left an indelible mark on its history (Santander, Occidente y la Caída de la dinastía Qing, 2009.). In the 16th century, the Portuguese were the first Westerners to establish direct contact with China. At that time, Portuguese naval power was quite notable. Although initially, the ruling Ming Dynasty (1368-1644) did not yield to Portuguese demands, they eventually allowed the Portuguese to establish a permanent commercial outpost in a small port south of Canton, which would later become the city of Macao (Wakeman, 1975, 114).

With the fall of the Ming Dynasty and the rise of the Manchus, under the Qing Dynasty (1644-1911), a new era began in Chinese history, initially marked by expansionism and later by consolidation and the splendor of the ruling Qing Dynasty. However, starting in the year 1800, a gradual decline set in that the dynasty could no longer overcome, leading to the end of the millennia-old Chinese Empire in 1912 (Santander, Occidente y la Caída de la dinastía Qing, 2009.).

1940-1978

Based on the details supplied to us, predominan las instalaciones públicas insuficientes y el entorno de vida básico hacen difícil satisfacer las necesidades de la vida moderna y retener a los jóvenes, lo que habla de una ciudad en acelerado crecimiento y expansión.

1978-now

Drawing from the information presented, there is a prevalence of inadequate public facilities, and the basic living environment makes it challenging to meet the demands of modern life and retain young people, indicating a city in rapid growth and expansion.

2019-2022. Pandemic for COVID-19.

The Coronavirus pandemic that originated in Wuhan in December 2019 represented "the unjustified stigmatization of the city" because it led to a cultural closure of its borders beyond health measures. This, combined with the fact that the global population began to discriminate against, reject, and blame the community, created an atmosphere of social oppression that weakens social bonds. However, the people of Wuhan are resilient, and they

are undergoing social restructuring, relying on their identity, sense of community, and culture in terms of heritage values in response to the current situation and constraints of the times.

Now

During this period, artists from all walks of life come together, gradually forming a cultural and artistic atmosphere within the community. The cultural value of the community has become prominent, and social capital has started to flow in.

Considering the historical context of the city, it can be concluded that the city has a rich history, marked by significant economic, political, and cultural growth. Additionally, the gathered information affirms that Wuhan is a city of markets, which is reflected in its history. This is why the city maintains the patina of time expressed in its architecture and social life. This is argued based on the fact that the streets bordering Gejiaying Road: Lihuangpi Road, Hanzheng Street, and Lingdao Street are distinguished by their historical and antique value, with a focus on trade, gastronomy, and more. These aspects have persisted over the years, suggesting that the area is deeply rooted in its cultural heritage, creating an atmosphere where art, history, culture, and values converge. However, people have been stigmatized because the site was the birthplace of the aforementioned pandemic, which is harsh given the heritage value it possesses and its social capital and identity, as elaborated in the following section.

03. Context: Community Profile

There are 918 buildings covering an average area of 50,414 square meters. It's worth mentioning that there is a total area of 1,211,624 square meters, of which 96% consists of buildings with varying levels (1-3 floors). These buildings, despite their historical context, were constructed between 1980 and 1990, so the urban profile is characterized by modern architecture. However, they still retain elements that hark back to the city's past, which will be considered as part of the project intervention proposal.

Regarding the population, there are over 11 million residents in total, with an average of 1,435.49 inhabitants per square kilometer in Wuhan. Gejiaying Road spans approximately 5 kilometers, so the project intervention would benefit around 7,182 residents. It's worth noting that the Chinese population is becoming increasingly older and more urban. According to the national census conducted at the end of 2010, China already had 1.339 billion people, with nearly half living in cities, while population growth was slow and there were fewer young people. The census also revealed that 49.7% of the citizens lived in cities in 2010, up from around 36% in 2000. In 2010, those under 14 years old accounted for 16.6% of the population, representing a decrease of 6.29% since 2000, while those over 60 increased by 2.93 percentage points, reaching 13.26%. According to estimates from the National Committee on Aging of the State Council, there will be 248 million elderly adults by 2020, and by 2040, more than 400 million, which means 26% of the total population will be over 60 years old. By 2050, it is estimated that the number of elderly people will reach 487 million, equivalent to nearly one-third of the total population (Lie-Tan-Pan, Aging and the Elderly in China, 2017).

04. Context: Immediate Urban Layout of the Study Street

Wuhan is a city of markets, which is reflected in its history. This is why the city maintains the patina of time expressed in its architecture and social coexistence. This argument is based

on the fact that the streets bordering Gejiaying Road: Lihuangpi Road, Hanzheng Street, and Lingdao Street, are distinguished by their historical and antique value, highlighting trade, cuisine, and more, which have persisted throughout the years. This suggests that the area is deeply rooted in its cultural heritage, creating an atmosphere where art, history, culture, and values converge.



Figure 2. Satellite View of Wuhan. Source: The Division of China by the West since the 19th Century - Infinite Geography (geografiainfinita.com).

According to the research conducted, the project area is situated in the heart of Wuhan, and its spatial configuration and urban morphology are deeply rooted in its history and culture. It has solidified itself as a traditional historic community, despite the formal treatment of new constructions, which still convey its historical context. It's essential to highlight that the community has a residential character with certain commercial tendencies, and it preserves urban elements from its history. For example, some buildings were constructed during the Ming Dynasty and the Republic of China. Notably, there is an untouched public green space, making it an opportunity to create areas that activate and revitalize the area.

As seen in Figure 2, the urban layout is characterized as linear with tendencies towards a grid-like structure. These are satellite neighborhoods interconnected, with Gejiaying Road acting as a central spine to which neighborhoods connect horizontally. It's worth mentioning that this axis is oriented from east to west on a flat terrain. However, due to the configuration of the buildings, space utilization extends beyond the ground floor, including rooftop areas where daily activities take place.

Figure 2 shows that two types of rooftops are evident throughout the urban infrastructure: pitched roofs, reminiscent of local construction knowledge, and flat roofs, a product of new modern and contemporary constructions.

The pitched roofs are constructed using brick tiles and colored steel sheets as primary materials. This is of great significance because they add color to the area, contributing to its perceptual richness and personalization, while also invoking a sense of antiquity.

The flat roofs reflect the new construction systems of the site and are used as multifunctional living spaces. They serve various purposes, such as storage, drying laundry, planting vegetation, recreational areas, and places for leisure, among others.

05. Context: Urban Profile



Figure 3. Aerial Views of Gejiaying Road in Wuhan. Source: Information provided by the contest.

As seen in Figure 3, the buildings are characterized by being concrete constructions with gray and white finishes, varying in scale across different levels, with window openings protected by awnings and eaves. Both, the pitched tile roofs and the flat reinforced concrete roofs can be explained by what was mentioned earlier: the architecture and the use of public spaces reflect the history of the historical context, regardless of the aesthetics or materiality in the architectural language of the buildings along the study street. It's fascinating that the buildings incorporate local construction knowledge into their modern architecture. However, Chinese culture is highly diverse, enriching, and constantly evolving, which explains the use of prefabricated facades that respond to industrial, commercial, residential, and other contemporary needs.

In order to conduct a more comprehensive and thorough analysis, interventions on streets from around the world were examined to understand the various spatial configurations they adopt in the urban layout of their respective areas.



Figure 4. Pedestrian Zócalo Street in Mexico City.

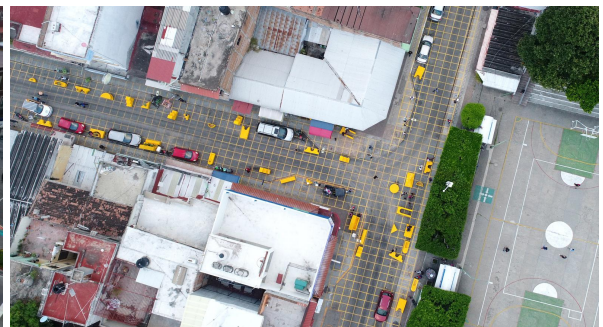


Figure 5. Street in San Roque, Tuxtla Gutierrez, Mexico.

Source: Art, Culture, and Design Page (2021).

Source: Archdaily (2022).

As seen in Figures 4 and 5, some streets stand out due to the use of color to revitalize the area and activate it in response to the need for vibrant spaces that trigger social and cultural hubs within the city. Similarly, there is vegetation to lower temperatures and provide protection from solar exposure, while furniture is designed as a form of ephemeral architecture, allowing people to make these public spaces their own and personalize them, thereby fostering a sense of belonging to the place. From this perspective, Gejiaying Road lacks these qualities, but the community possesses a strong sense of social cohesion. Therefore, participatory designs aimed at personalizing and appropriating the site by valuing its culture would result in vibrant environments.

06. Diagnosis. Issues.

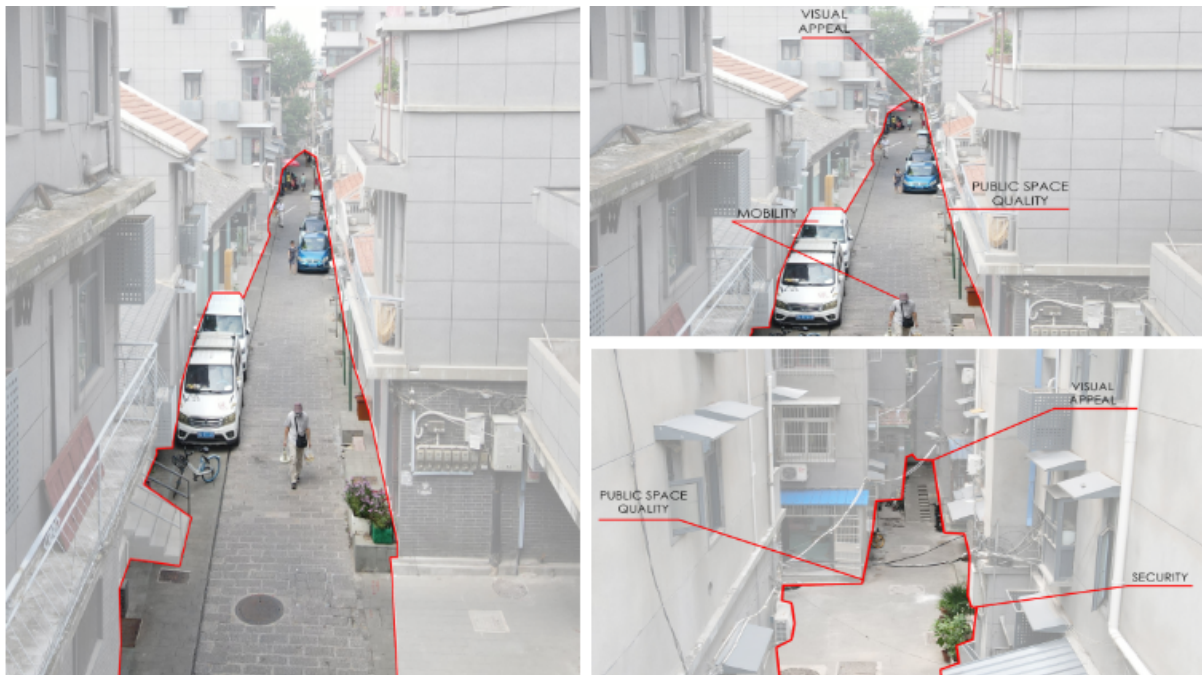


Figure 6. Aerial Views of Issues on Gejiaying Road in Wuhan. Source: Information provided by the competition.

Considering Figure 6, it can be established that the main issues on Gejiaying Road are related to infrastructure in terms of functionality due to the lack of clarity regarding space usage. Similarly, there are issues related to the aging and deterioration of the few historical buildings in the area. Additionally, there are problems associated with the aging population and low incomes, despite the community having a strong sense of belonging and a culture of participation and collective integration.

07. Diagnosis. Areas of Opportunity.

Despite the previously mentioned issues, the fact that Gejiaying Road is connected with alleyways, has buildings of various scales, maintains elements of antiquity in current architectural design, and possesses a strong sense of community dedicated to respecting the culture and dignity of the historical and heritage context, a communal park can be created that links each building through a public space that stimulates social and economic activity. This responds to the area's commercial and residential context through tactical urbanism, born from the initiative to reinterpret the local colors of the area and the pigmentation of the tile rooftops on the buildings. Therefore, the intervention proposal is presented below.

08 Intervention Proposal

Concept criteria. Design Intent.

The design intent for the intervention on Gejiaying Road is to create a chromatic connecting axis that links the transverse alleys along with a wooded area with the purpose of promoting integration and interaction in a multifunctional communal space. This initiative aims not only to improve the physical appearance of the space but also to strengthen the bonds and social interaction among residents, turning the park into a community gathering point to create dignified, sustainable spaces that respect the historical context and heritage values reflected in the site. In this way, it aims to build social cohesion to break the paradigm of the unjustified stigmatization of Wuhan (mentioned in this dossier) through its streets. It's worth mentioning that in this chromatic passage, mobile furniture, nodes, trees, and color palettes are proposed based on the contextual constraints to provide a greater variety of uses and versatility for people when using the space.

Likewise, the design proposes retractable roofs that draw inspiration from the building forms to protect against weather conditions, provide color, and unify the buildings and streets not only through the color on the ground but also on these roofs, which recall the projections of existing windows on the site.

Concept criteria. Functionality and Practicality.

Due to the clear education and road culture, reinforced by the sense of belonging among the community users, it is proposed that this chromatic axis and communal space be efficient in terms of mobility. To achieve this, the emphasis is on maintaining and maximizing the use of the existing street for both vehicular and pedestrian circulation within the same multifunctional space. Priority is given to pedestrians over vehicles, and a criterion for furniture, color palettes, and vegetation palettes is established within a spatial configuration where uses are compatible with each other. This provides the freedom for people to decide how to personalize and appropriate the street, expanding the range of activities. The goal is not to impose a scheme but to design in a participatory manner, listening to the population while respecting the culture and heritage of the site.

Concept criteria. Physical Contextual Integration.

Building upon the reference mentioned, the concept responds to and integrates with the surrounding context as a product of the historical and cultural analysis. Given that the buildings are gray, and in addition to the flat roofs, there are sloped roofs with color, this fact is valued and reinterpreted in the flooring to recall the history of local construction knowledge in integration with the current architecture. In this way, the color palette is based on those used in the region, not for aesthetic purposes but for their significance, to create a dynamic and versatile communal park, contextually well-situated, where people can engage in their activities. The goal is to activate the area through color, which the users themselves can personalize and appropriate. The design is not a chain of force; it is planned to be integrated collaboratively and democratically.

Concept criteria. Aesthetics and Visual Appeal.

The name of the proposal is the "Chromatic Axis," so color is an integral part of the communal space. It's not about painting the streets arbitrarily; the aim is to revitalize and reactivate the area through sensory experiences that enhance perceptual richness based on

the existing site conditions expressed through color and local significance. Therefore, the composition contrasts with the gray volumes to link, connect, and activate not only the main axis but also the alleys that terminate with tree-covered nodes to welcome users.

Concept criteria. Cultural Sensitivity.

Due to the city's commercial activity, markets, and residential areas, the proposal considers that the communal space (connecting the transverse alleys) should have flexibility and adaptability so that its users can freely express themselves on the site, without vehicular traffic posing a problem. Therefore, the concept is based on how users live and move, which is why the furniture is mobile and designed based on the context's constraints, and the colors are vibrant and warm, reflecting their culture, with the ability to change and adapt in the future to new needs. This way, the community is provided with opportunities to take ownership of the space, personalize it, and configure it within the space according to the mentioned design criteria.

Concept criteria. Sustainability and Environmental Considerations.

The proposal is mainly characterized by tactical urbanism, which means using color to connect spaces, employing vegetation and the existing green space to reduce the temperature, providing tree-shaded areas for people to engage in activities while considering the existing sunlight and ventilation conditions on the site. It suggests using local and recycled materials from the community's own users and incorporating waste collection criteria, although the community is very clean.

Concept criteria. User-Centered Design.

Because the proposal is based on how the community members live in the area, it suggests that the main street be a multifunctional space where people engage in activities with the mobile furniture, while the color serves as a conceptual guide for the journey. Leveraging the sense of belonging so that people appropriate, respect, and dignify the space. This is why it also refers to their culture and history, which justifies the idea of linking even the transverse alleys.

Concept criteria. Operational Efficiency.

Taking the previous mentioned into consideration, the concept supports the operational needs of the street in terms of staying, recreation, and commerce because the layouts are designed in such a way that it does not affect vehicular and pedestrian flow. The furniture is ephemeral to provide users with the freedom to decide when and how to use them. Hence, the users themselves configure and appropriate the space.

Concept criteria. Flexibility and Future Adaptability.

As mentioned, the concept operates due to its versatility, allowing users to participate and take ownership of the space through the use of mobile furniture and color. It can be adapted to future changes and expansions. Now that the conceptual intentions of the proposal have been outlined, the following urban criteria are presented:

Urban Design Criteria. Functionality.

Regarding functionality in urban terms, planters with native vegetation from the area are proposed, in addition to the tree-lined park in the western area, in order to mitigate solar incidence and reduce temperature. Likewise, it is ensured that movement is efficient in

transitioning from one end of the street to the other by virtually dividing the space so that pedestrians, cyclists, and users with vehicles can access not only from the ends but also from the transverse alleys that connect to Gejiaying Road.

Urban Design Criteria. Accessibility.

Reiterating the previous criterion, the proposal assumes accessibility for pedestrians, cyclists, and drivers since it is a multifunctional connecting axis where people can move using any of these means. Considering that the transverse alleys are connected, urban legibility, permeability, and versatility are reinforced. Regarding ramps and elements for people with disabilities, changes in textures are taken into consideration, making use of the site's natural slope to accommodate individuals with physical disabilities. This way, all users can access and enjoy the street without distinction

Urban Design Criteria. Public Space Quality.

Building on the mentioned criteria, it is essential to revisit that the proposal addresses urban furniture as presented in the conceptual sheet. These include benches and planters conceptualized based on the architectural language of the site and its historical usage. For this reason, the furniture is mobile to provide users with the freedom to move and adapt it according to their needs and activities.

Urban Design Criteria. Upkeep and Maintenance

It's essential to emphasize that in the proposal, no new buildings are constructed. Instead, it maximizes the use of the existing space and applies color to connect adjacent areas and alleys. This approach respects the contextual conditions of the site, minimizes operational expenses by avoiding unnecessary and massive construction movements. The ongoing maintenance primarily involves taking care of the vegetation and, at certain intervals, maintaining the color scheme and furniture.

Urban Design Criteria. Aesthetics and Identity.

Taking into consideration the analysis and design criteria mentioned, the treatment of the floors using color is based on the idea of complementarily contrasting the architectural language to integrate the colors of traditional roofs into the ground. This urban landscape design is based on tactical urbanism that draws from the history and culture of the site. It's worth noting that the colors are based on the meaning of the cardinal points in the Chinese cosmology, respecting and integrating elements of their identity into the area without interfering with the built environment.

Urban Design Criteria. Street Design Challenge 2023.

While colors are applied as a means to activate the area, it also includes planters with vegetation and the use of shaded spaces to mitigate solar exposure, providing tree-lined areas for the community to engage in activities.

Urban Design Criteria. Community Engagement and Social Equity (CE&SE).

In conclusion, the criteria are based on the utilization and strengthening of the social fabric of the community in the area. Therefore, the design aims to integrate simple elements that are rooted in their historical and cultural context to respect the implicit heritage. This is why the colors are not imposed; they stem from the Chinese cosmology in terms of their significance, with reference to the cardinal points. Blue represents the east, red belongs to the south,

yellow corresponds to the center, and white represents the west. In place of black, which is associated with the north, magenta was chosen, as it is considered a significant color in the region due to the cherry tree. Additionally, there is an attempt to recall the color used on traditional tile roofs.

As for the furniture, it is porous in design, influenced by the overhangs, openings, and ironwork found in all the buildings. Furthermore, since the furniture is mobile, it allows users the freedom to move and make the space their own, personalizing it and imparting their identity onto it. In this way, it further contributes to building the social fabric of the community.

Urban Design Criteria. Long Term Adaptability and Resilience

In summary, and taking into account all the criteria discussed, the intervention proposal is flexible and can adapt to the spaces due to the openness and permeability applied in the connector axis. This allows for the connection and modification of the spatial configuration, so that community users can take ownership of the communal space. Given the historical context, particularly post-pandemic, this community was unjustifiably stigmatized, so revitalizing the area with local colors and materials, as well as native vegetation, encourages people to stimulate social, cultural, and recreational activity, thus promoting resilience not only to the phenomena resulting from climate change but also to those of the global context that impact their social dynamics.

Bibliographic References

Núñez-Cortes, Et, al. (2021) Determinantes sociales de la salud asociados a la severidad y mortalidad en pacientes con Covid-19. Fuente: <https://doi.org/10.24875/GMM.20000778>.

Pan, Lien-Tan. (2017). Vejez y envejecimiento en China. *Estudios de Asia y África*, 52(2), 459-470. <https://doi.org/10.24201/ea.v52i2.2322>.

Santander, M. (2009) Occidente y la caída de la dinastía Qing. Fuente: Occidente y la caída de la dinastía Qing: del Imperio a la República de China - Dialnet (unirioja.es).

Wakeman, Frederic (1975). *The Fall of Imperial China*. New York: Free Press London: Collier Macmillan. Fuente: Occidente y la caída de la dinastía Qing: del Imperio a la República de China - Dialnet (unirioja.es).