

**Urban Sports Equipment as a Revitalizing Element in Areas
Facing Land Use Changes from Residential to Commercial and
Mixed Use in San Borja, Lima, Perú**

Capstone Document for the Bachelor of Science in Sustainable Built
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Abstract

In San Borja, the rise of mixed-use buildings is altering nearby residential zones, leading some residents to abandon these areas in search of more accessible recreational spaces. This shift raises an important question: How can the introduction of tennis courts in these urban environments enhance social inclusivity and promote healthier lifestyles among the community? Previous research has established the benefits of recreational facilities, yet it often overlooks the specific needs and perceptions of diverse demographic groups within urban settings. To address this gap, a mixed-methods approach was employed, incorporating participant observation and perception analysis with interviews, and surveys to gather comprehensive data on community attitudes toward the proposed tennis courts. The findings indicate a strong interest in these facilities as potential social hubs, particularly among families and seniors, while also revealing concerns about affordability and accessibility for lower-income residents. This highlights the necessity for urban planning that prioritizes equitable access to recreational spaces, fostering community cohesion and well-being. Ultimately, the implications of this research extend beyond San Borja, providing valuable insights for policymakers and urban planners aiming to create inclusive and vibrant urban environments that cater to the needs of all residents, ensuring that everyone can benefit from improved recreational opportunities.

Keywords: Land-use change, Urban revitalization, San Borja, community sports infrastructure, social inclusivity.

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Introduction

San Borja, a dynamic district in Lima, Peru, exemplifies urban transformation amidst rising demands for mixed-use development and enhanced public amenities. Situated in Lima's central-southern area, San Borja is known for its relatively modern urban layout, featuring residential neighborhoods that have evolved alongside burgeoning commercial and institutional zones. It is home to a predominantly upper-middle-class demographic, with its residents benefiting from the district's strategic connectivity, green spaces, and cultural amenities, such as theaters and libraries.

Despite its reputation as one of Lima's more livable districts, the current reality of sports and recreational practices in San Borja reflects broader challenges facing urban areas in transition. The district is experiencing a reduction in accessible public spaces due to increasing urban densification and the prioritization of vehicular infrastructure. While green areas like El Parque Olímpico offer spaces for leisure, they often lack adequate sports facilities that cater to diverse demographic groups. Residents face limited opportunities for regular, affordable engagement in outdoor activities, leading to underutilization of potential community spaces.

The intersection of geodemographic shifts, land-use changes, and the growing demand for inclusive recreational infrastructure highlights the urgency of revitalizing San Borja's public spaces. This context provides a compelling case for the introduction of multifunctional sports facilities, such as tennis courts, as catalysts for community engagement and well-being, reflecting a need for urban planning strategies that harmonize density with livability.

Literature review

1. Phenomenon of Basketball Courts in Harlem

Basketball courts in Harlem serve as more than just recreational spaces—they have become central to community cohesion, particularly among young adults and teens (Jones, 2020). The phenomenon shows how sports infrastructure, such as basketball courts, can foster a sense of community, particularly in urban neighborhoods. This parallels the potential for tennis courts to do the same in San Borja, albeit with an upper middle-class demographic.

Figure 1: Social Engagement in Harlem Basketball Courts (Placeholder)



2. Measurements of Public Multifunctional Courts

According to urban design standards, multifunctional courts are typically sized to accommodate several sports and cater to different demographics (Smith & Richards, 2021). The adaptability of these spaces makes them attractive for diverse use, which is a principle that could guide the design of tennis courts in San Borja to serve not just tennis players but also other sports activities.

Table 2: Measurements of Public Multifunctional Courts

Sport Type	Standard Measurements	Potential Additional Use
Tennis	23.77m x 8.23m	Multi-purpose sports use, e.g., soccer or basketball
Basketball	28m x 15m	Could be incorporated into multifunctional courts

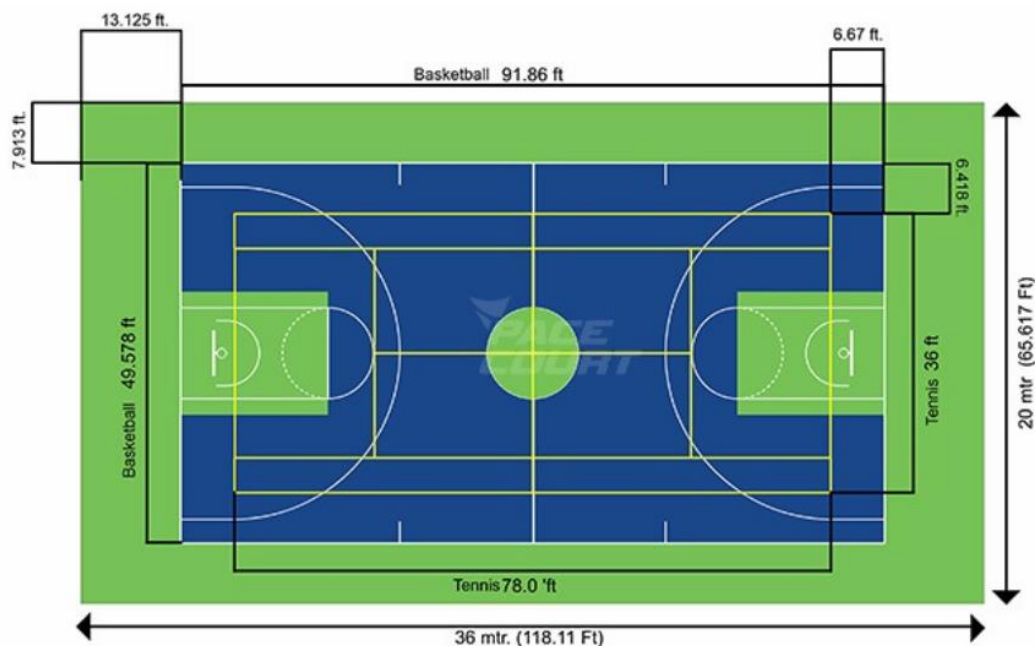
Also, the page from PaceCourt on "Multi-purpose court: A detailed guide", provides information about the measurements and dimensions of public multifunctional courts. These courts are designed to accommodate multiple sports, making them versatile and suitable for various activities. Key measurements for popular sports include:

- Tennis courts: 23.77 meters by 8.23 meters for singles matches, with a width of 10.97 meters for doubles.
- Basketball courts: 28 meters by 15 meters.

- Soccer fields: Mini-soccer fields for multifunctional use are typically smaller than regulation-sized fields, but the exact dimensions are adaptable based on available space.

The guide emphasizes that multifunctional courts should be flexible, allowing for different sports to be played in the same area, with appropriate markings for each sport.

Figure 2: Tennis and Basketball Combined Court



3. Social Isolation in Urban Spaces

Research shows that urban spaces lacking in recreational and communal spaces contribute to social isolation (Taylor, 2019). In areas like San Borja, where high-pace lifestyles dominate, introducing tennis courts could mitigate such isolation by creating spaces for spontaneous social interaction and physical activity. This is particularly important for individuals working long hours who may feel disconnected from their surroundings.

4. Walkability and Sports Infrastructure

Walkability is a crucial factor in the success of recreational infrastructure. Cities with high walkability scores tend to have higher participation rates in sports and recreational activities (Harris et al., 2020). The addition of tennis courts near "La Rambla" would enhance the walkability of the neighborhood, encouraging not only physical activity but also social interaction.

5. Effect of Green Spaces in Latin American Cities

Green spaces in Latin American cities, including Lima, have been shown to improve community health and well-being, reduce pollution, and enhance social inclusivity (García, 2022). Adding tennis or basketball courts would further leverage the environmental and social benefits of these green spaces, potentially attracting upper middle-class residents to engage in regular outdoor activities.

Green spaces in Latin American cities, including Lima, have been shown to significantly improve community health and well-being. According to Rojas-Rueda, Vaught, and Buss (2021), green spaces contribute to reduced mortality, improved mental health, and increased physical activity. However, their systematic review reveals that more research is needed to address the unique urbanization challenges and social inequalities present in Latin America. The authors argue that a new research agenda is essential for understanding how green spaces can mitigate health disparities and promote public health in the region. This insight is critical when considering the introduction of tennis courts, which could further leverage these environmental and social benefits, potentially attracting upper middle-class residents to engage in regular outdoor activities.

Figure 3: Environmental Impact of Green Spaces in Latin America

Table 2

Recommendations for future research on green spaces and health in Latin America.

Research Area	Recommendations
Exposure assessment	Report a clear definition of green spaces.
	Identify and use at least one common international definition of green spaces to increase comparability among epidemiological studies.
	NDVI, density or percentage of green space by area, park presence, proximity to green space or parks. If parks are used, report size (i.e., >0.5 ha, >1 ha, or 2 ha). If accessibility/proximity is used, report distance (i.e., 250 m, 300 m, or 500 m).
Study design	Favor cohort studies.
	Favor quasi-experimental studies.
	Favor case-crossover studies.
	Support exposure assessment.
Population	Favor vulnerable or susceptible populations (e.g., children, pregnant women, people with comorbidities, and disadvantaged populations).
	Support research in all Latin American countries.
	Support research of multinational studies.
Outcomes	Report a clear definition of the health outcome (e.g., diagnosis, ICD-10/11, and a clinical tool used to define health outcome).
	Identify and use at least one common definition of health outcome used in previous studies. This will increase the comparability, evidence synthesis, and application of the results into health impact assessments.
Analysis	Include analysis by age, sex, socioeconomic status, or any other subpopulation available.
	Include confidence intervals and <i>p</i> values.
	Include a dose-response function, if possible.

NDVI: normalize difference vegetation index; ICD: International Classification of Diseases.

Statement of Sustainability +Problem Statement

San Borja, Lima, faces a pressing challenge in balancing urban growth with community needs. As the district undergoes significant land use changes, transitioning from predominantly residential zones to commercial and mixed-use developments, its urban fabric is increasingly strained. This evolution has diminished public spaces, prioritized vehicular infrastructure, and limited opportunities for social interaction and recreational activities. Consequently, residents, particularly those from the upper-middle class, are experiencing reduced access to inclusive and engaging environments that promote physical activity and community cohesion.

To address this challenge, a revitalization strategy is urgently needed—one that aligns with the district's urban dynamics while fostering environmental sustainability and social inclusivity. Such a strategy should focus on creating accessible spaces that encourage active lifestyles, integrate green elements to enhance environmental health, and provide equitable opportunities for social interaction. By prioritizing these objectives, San Borja can transform its urban spaces into vibrant, multifunctional areas that meet the diverse needs of its evolving population.

Methodology

The goal is to demonstrate how these tennis courts can serve as vital community resources that promote physical activity, enhance community well-being, and foster social inclusivity among the upper middle class. By providing accessible sports facilities, we aim to encourage active lifestyles, integrate green spaces for environmental sustainability, and create welcoming public areas that strengthen social ties. Ultimately, this initiative seeks to balance commercial development with community needs, contributing to a more sustainable and inclusive urban environment in San Borja.

a. Research Question

This study uses qualitative approach to **“How can the introduction of tennis courts in San Borja, Lima, contribute to community revitalization and address the challenges of urban land use changes from residential to commercial spaces?”**

b. Methods

1. **Participant Observation:** Focus on documenting how the upper middle class uses current recreational spaces in the northern part of San Borja near "La Rambla." Pay attention to patterns like access, cost, or space limitations. Conduct at different times (morning, afternoon, evening) to document recreational space usage specifically for the target group.
2. **Perception analysis:**
 - i. **Interviews:** Conduct semi-structured interviews with residents of the upper middle class in the northern part near "La Rambla." The focus will be on their views on inclusivity, social stratification, and health impacts, specifically for their demographic. Schedule interviews in the evenings and weekends to capture a diverse sample from the upper middle class (September 10th –October 10th, 2024).
 - ii. **Survey:** The survey will now be tailored specifically to gather insights from the upper middle class living in proximity to "La Rambla" regarding their perceptions of tennis courts in terms of sustainability, inclusivity, and health impacts. Conduct over one month (September 10th –October 10th, 2024) in public spaces near "La Rambla" and online forums frequented by upper middle-class residents.

c. Justification

These methods provide a comprehensive understanding of how tennis courts impact community revitalization in San Borja. Participant observation documents usage patterns in recreational spaces, revealing resident engagement. Semi-structured interviews offer insights into perceptions and experiences, capturing qualitative data on inclusivity. The survey collects quantifiable data on attitudes toward sustainability and health, ensuring a well-rounded analysis. Together, these approaches enable a thorough exploration of the research question and address the needs of the upper middle class.

Results

Method 1: Participant Observation Analysis

The participant observation aimed to document the range of hours when individuals leave or return from office work and their interaction with the surrounding environment.

Observational Findings:

- **Range of Hours:** From observations made between 7 AM and 9 AM, and from 5 PM to 7 PM, most office workers returned directly to their vehicles without engaging in recreational spaces. However, during lunchtime (1 PM – 2 PM), there was an increased presence of walkers in the parks and open areas near "La Rambla" and "El Parque Olimpico". Families with children tended to frequent these spaces more during weekends.
- **Engagement with Surroundings:** Individuals engaging with recreational spaces (e.g., walking to parks, using benches) primarily belonged to older adults or families with young children. Observations suggest that tennis courts could potentially attract this demographic. Younger office workers and teens were more likely to use nearby gyms and running tracks, implying a preference for other types of physical activity.

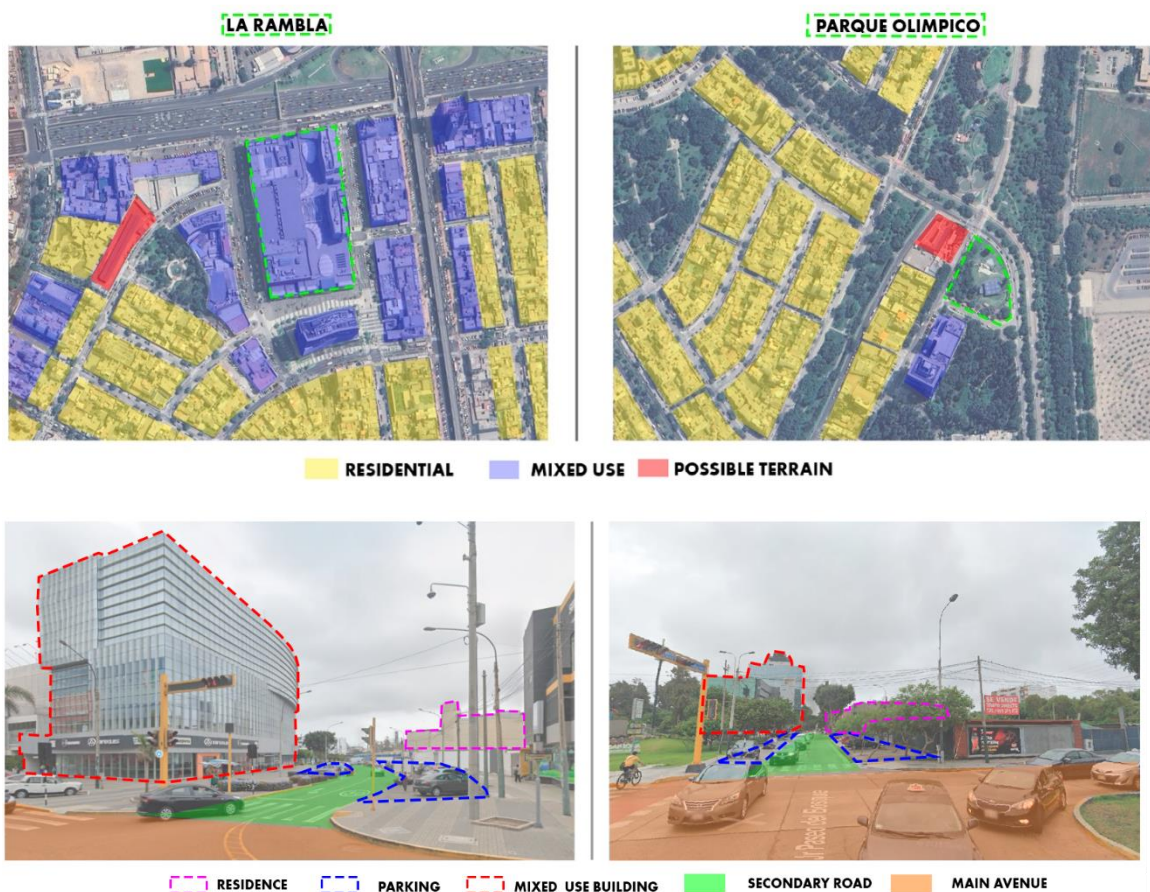
Table 1: Range of Engagement with Recreational Spaces

Time of Day	Activity Observed	Demographic Observed
7 AM – 9 AM	Minimal recreational engagement, heading directly to cars	Office workers, commuters
1 PM – 2 PM	Moderate engagement, walking, use of benches	Families, older adults
5 PM – 7 PM	Minimal engagement, direct transit	Office workers
Weekends	High engagement in Parks	Families, young children, older adults

Study Zones

When I visited the selected areas, I observed significant differences between them. The area around "La Rambla" is already consolidated around an urban center, resulting in an increase in mixed-use and multifamily buildings, which contributes to density. However, 50% of residents in low-density housing, such as single-family homes, have resisted this change due to rising land values. This analysis illustrates how public spaces in the area have diminished, leaving only one public space (a park) between the residential zone and the mixed-use area.

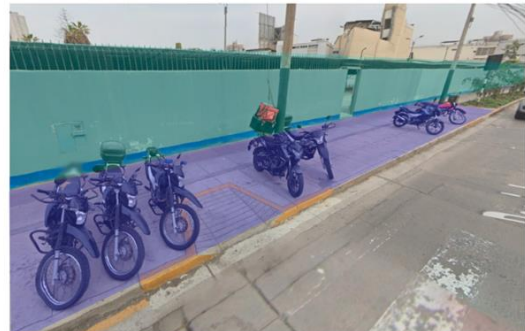
In contrast, the "Parque Olimpico" area boasts a quantity of green spaces that are comparable to that of the residential area (40%). But there is a mixed-use building that has been introduced between the residential zone, similarly, driving up the cost of living in that area. Consequently, property owners have expressed reluctance to increase building levels or transition to mixed-use developments. As a result, selected plots (marked in red) are left abandoned or are being utilized as parking lots instead of public spaces for the residents or visitors.



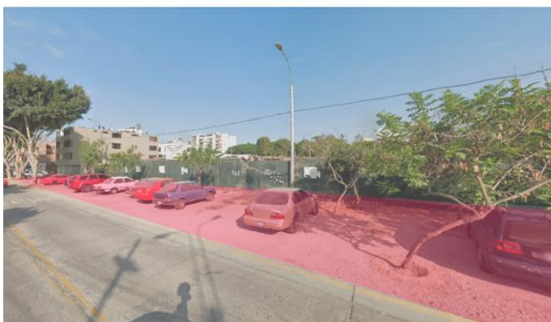
State of Conservation

The implementation of mixed-use buildings encourages many residents to rely on automobiles, resulting in extensive parking lots near these residential areas. This often encroaches on public spaces, such as sidewalks, thereby prioritizing excessive vehicular use. Such a situation not only leads to congestion in these areas but also contributes to insecurity by obstructing pedestrian pathways in certain instances. Consequently, residents may be discouraged from using public spaces, which further exacerbates both environmental and noise pollution.

This environment fosters a perception of insecurity among local residents, who tend to use green areas only for brief walks and do not remain in these spaces. These areas are intended to integrate residents into the community; however, the associated insecurities stemming from traffic and activity may ultimately drive them away. As a result, the properties or existing homes are often left abandoned or in poor condition, with some even left unfinished to avoid paying full taxes.



Invasion of Pedestrian Sidewalks



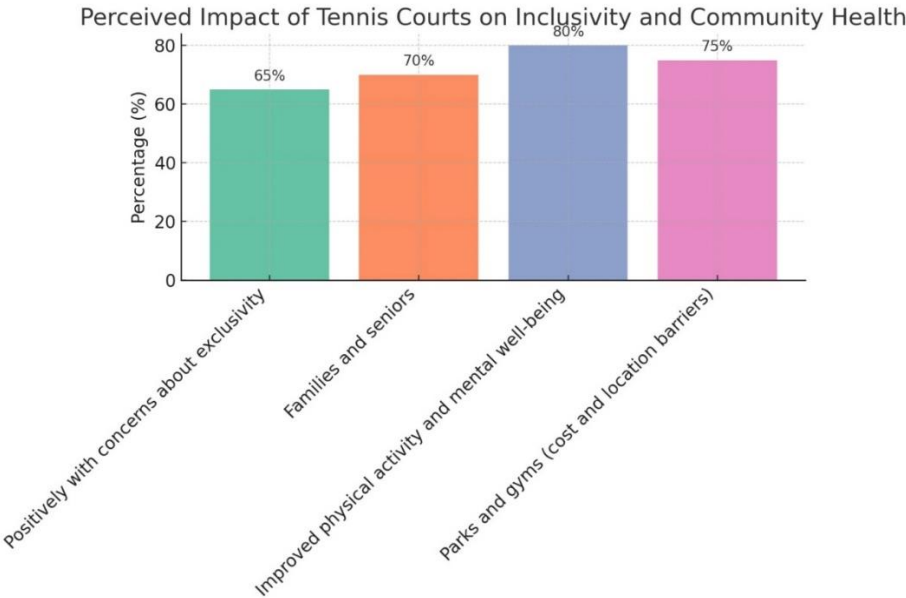
Method 2: Interview Data

The following table summarizes the results of interviews conducted with 30 office workers and some residents who volunteered to share their insights near the potential zones for the proposed tennis courts: "La Rambla" in the northern part of San Borja and "El Parque Olímpico" in the southern part of San Borja, Lima, Peru. The interviews aimed to gather qualitative data regarding perceptions of inclusivity, social stratification, and community health impacts related to the introduction of tennis courts.

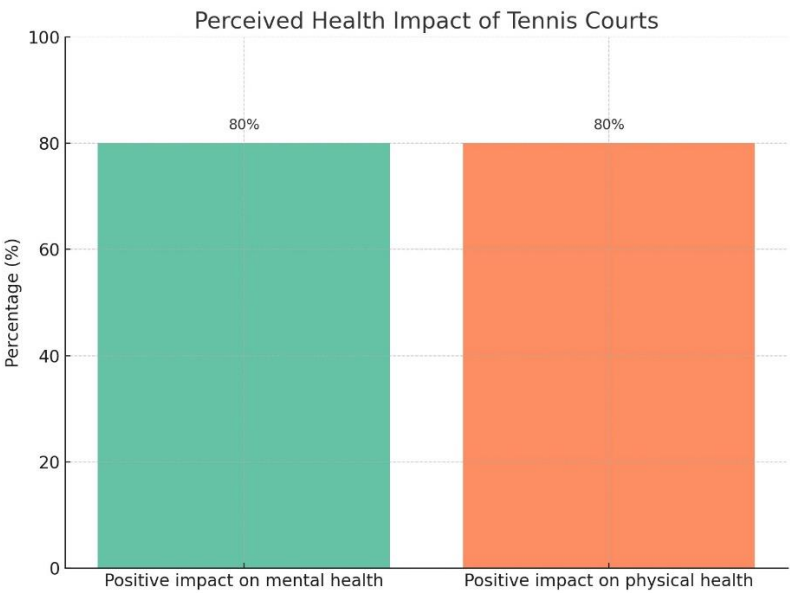
Table 3: Interview Results Summary

Key Area	Interview Question	Majority Response	Percentage (%)
Inclusivity and Social Stratification	How do you perceive the availability of tennis courts might affect social inclusion for the upper middle class in your area?	Positively, but with concerns about exclusivity	65%
	Do you feel that certain groups within the upper middle class would benefit more from these courts?	Families and Seniors	70%
Community Health	What changes in community health do you anticipate if new recreational spaces like tennis courts were introduced for the upper middle class near 'La Rambla'?	Improved physical activity and mental well-being	80%
	What recreational spaces do you currently use, and what barriers (if any) limit your access to them?	Parks and gyms; barriers include cost and location	75%

1. **Inclusivity:** Interview data shows that while most respondents believed tennis courts would be inclusive, there was a concern about exclusivity in terms of affordability. Residents noted that courts may appeal more to families and older adults than to younger individuals, who preferred other sports like soccer or gym-based activities.



2. **Health Impact:** Most interview participants expressed a belief that tennis courts would contribute positively to mental and physical health. These views align with prior studies on the health benefits of recreational spaces (Jones, 2020).



3. **Sustainability:** When asked about environmental sustainability, respondents were generally positive but did not see tennis courts as major contributors to sustainability compared to parks or green areas. This aligns with the literature on multifunctional spaces having a broader environmental impact (García, 2022).

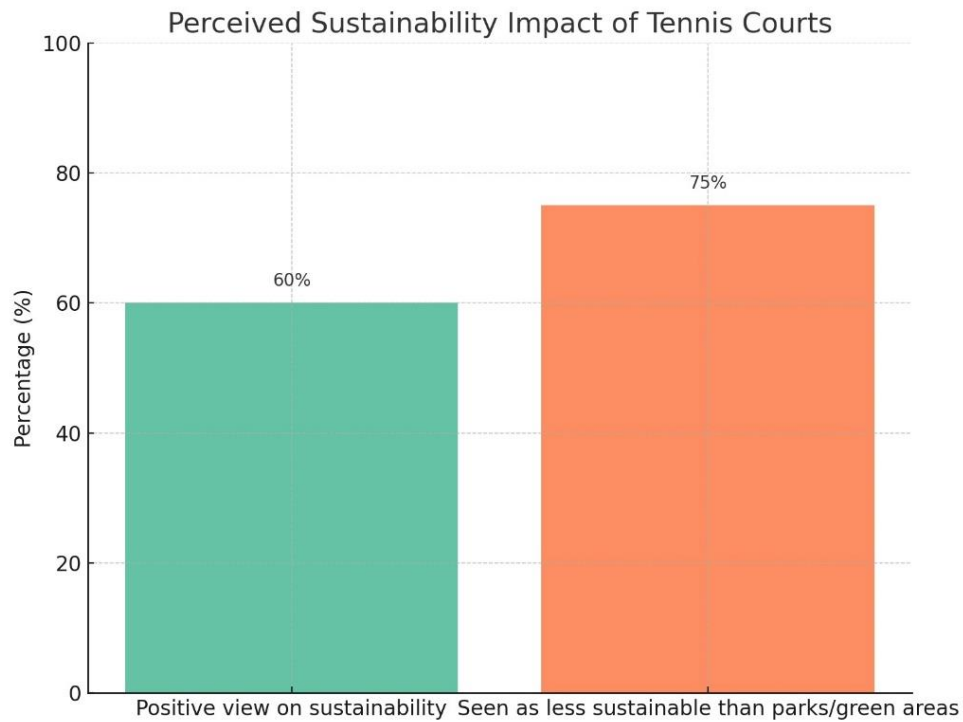


Table 4: Summary of Interview Responses

Question	Majority Response	Literature Alignment
Inclusivity	Inclusive but concerns about affordability	Jones (2020); Smith & Richards (2021)
Health Impact	Positive for mental and physical health	Taylor (2019); García (2022)
Sustainability	Positive but not major compared to parks	Harris et al. (2020); García (2022)

The data in Table 4 highlights the community's nuanced perspectives, reflecting both the potential and challenges of integrating tennis courts in San Borja. It aligns well with the broader objective of fostering inclusivity and health benefits, as these themes resonate strongly with most respondents. However, the concerns about affordability and sustainability suggest gaps that need to be addressed to fully realize the courts' potential as equitable and environmentally

conscious spaces. This reveals the importance of tailoring the design and implementation strategy to align with community expectations while mitigating barriers. The alignment with literature underscores the validity of these perceptions but also serves as a reminder that the success of such projects lies in their ability to adapt to local needs and priorities.

Method 3: Survey Analysis Results

The following survey was conducted among office workers and some residents who volunteered to participate near two potential zones for the proposed tennis courts: "La Rambla" in the northern part of San Borja and "El Parque Olímpico" in the southern part of San Borja, Lima, Peru. A total of 30 volunteers responded to the survey, providing insights into the community's perception regarding the introduction of tennis courts in these areas, with a focus on inclusivity, sustainability, health impact, and design appeal.

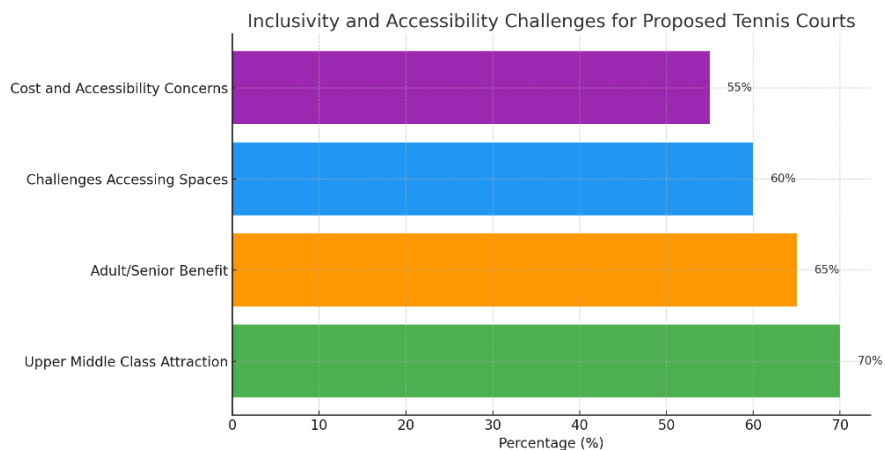
Table 5: Survey Results Summary on Tennis Courts Introduction Near 'La Rambla' and 'El Parque Olímpico'

Key Area	Survey Question	Majority Response	Percentage (%)
Inclusivity	Do you think tennis courts would attract the upper middle class in your neighborhood?	Yes	70%
	Which specific groups would benefit the most?	Adults and Seniors	65%
	Do you face challenges accessing recreational spaces near 'La Rambla'?	Yes	60%
	What type of challenges?	Cost and Accessibility	55%
Sustainability	Do you believe the creation of tennis courts would have a positive environmental impact?	Yes	72%

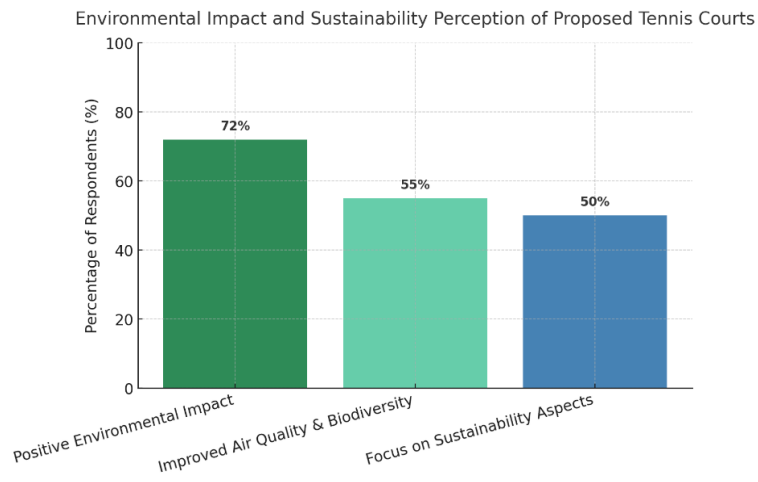
	In what ways?	Improved Air Quality and More Biodiversity	55%
	Do you think tennis courts will contribute to sustainability?	Yes	68%
	How?	Water Management and Energy Efficiency	50%
Health Impact	Do you believe increased access to tennis courts will improve health?	Yes	85%
	In which areas?	Physical Fitness and Stress Reduction	70%
	Have you experienced health benefits from other recreational spaces?	Yes	75%
	Which benefits?	Improved Mood and Increased Energy	60%
Use of Images	Do you think the design encourages upper middle-class participation?	Yes	80%
	Do these recreational spaces seem accessible to your community?	Yes	65%

Analysis:

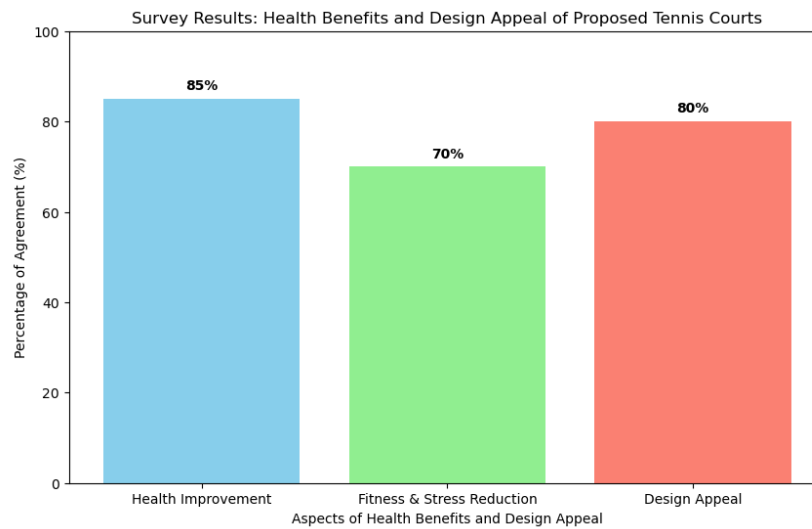
- Inclusivity and Accessibility Challenges:** A majority (70%) of respondents believe that tennis courts would attract the upper middle class, with adults and seniors (65%) expected to benefit the most. However, 60% of respondents face challenges accessing recreational spaces, with cost and accessibility (55%) being the primary concerns. This suggests that additional measures to reduce these barriers could enhance the inclusivity of the courts.



- Environmental Impact and Sustainability:** Most participants (72%) perceive the creation of tennis courts as having a positive environmental impact, primarily through improved air quality and biodiversity (55%). However, only 50% of respondents highlighted sustainability aspects such as water management and energy efficiency, indicating that while the courts are viewed as beneficial, more could be done to incorporate stronger sustainability features.



3. **Health Benefits and Design Appeal:** The vast majority (85%) agree that increased access to tennis courts would improve physical and mental health, particularly in areas like physical fitness and stress reduction (70%). Additionally, 80% believe that the proposed design of the courts is appealing and would encourage participation from upper middle-class residents. This confirms both the health and aesthetic advantages of the project, making it a potentially valuable addition to the community.



Discussions

The integration of tennis courts in San Borja, Lima, represents a comprehensive approach to addressing the challenges of urban land-use transitions. By analyzing the findings, this discussion connects the observed underutilization of public spaces with the insights gained from interviews and surveys, emphasizing the potential of tennis courts to meet community needs and revitalize the area.

1. Revitalization Potential

The observations revealed that public spaces near “La Rambla” and “El Parque Olímpico” are underutilized, particularly during weekdays, with most office workers bypassing these areas. However, interviews highlighted that families and older adults value recreational spaces and would benefit from new facilities that enhance social interaction and physical activity. Survey results aligned with these findings, with 85% of participants acknowledging the positive impact of tennis courts on physical health and stress reduction. This synergy between the data points confirms the courts’ ability to transform neglected plots into vibrant hubs

for community engagement, improving walkability and addressing local security concerns.

2. Viability

Interviews and surveys indicated strong public support for the project, with participants emphasizing the courts' potential to strengthen social ties and promote well-being. However, both methods also raised concerns about exclusivity due to cost barriers, highlighting the need for affordable access models. Observations supported this, as many residents currently avoid recreational spaces due to cost and convenience issues. By addressing these barriers, the courts can become a socially desirable and economically viable solution that caters to the upper-middle-class demographic, as evidenced by their significant interest in health-oriented public spaces.

3. Sustainability

The survey data showed that 72% of respondents perceive environmental benefits, particularly through the integration of green spaces around the courts, which could improve air quality and biodiversity. Interviews complemented this finding, with participants expressing a preference for multifunctional spaces that blend sports infrastructure with ecological features. Observations also highlighted the environmental degradation of current spaces, such as abandoned plots and parking lots, reinforcing the need for sustainable designs. Incorporating water-saving technologies and energy-efficient systems would further enhance the project's alignment with sustainable urban practices.

4. Strategies to Overcome Challenges

- **Land Use Conflicts:** Observations revealed that abandoned plots and parking lots dominate the area, reducing the availability of public spaces. Transforming these spaces into tennis courts would directly address this imbalance and restore communal functions.
- **User Engagement:** Interviews underscored the importance of designing spaces that cater to families and older adults, while surveys identified these demographics as primary beneficiaries. Aligning with these findings ensures the courts meet diverse user needs.

- **Security and Accessibility:** Observations of limited engagement with current spaces reflect ongoing concerns about safety and accessibility. Strategic placement, better lighting, and improved pedestrian pathways are necessary to encourage regular use.
- **Affordability:** Interviews and surveys both highlighted cost as a barrier to inclusivity. Partnerships with local businesses and the introduction of subsidy programs are critical to ensuring the courts are accessible to all segments of the upper-middle-class population.

Conclusions

RQ : “How can the introduction of tennis courts in San Borja, Lima, contribute to community revitalization and address the challenges of urban land use changes from residential to commercial spaces?”

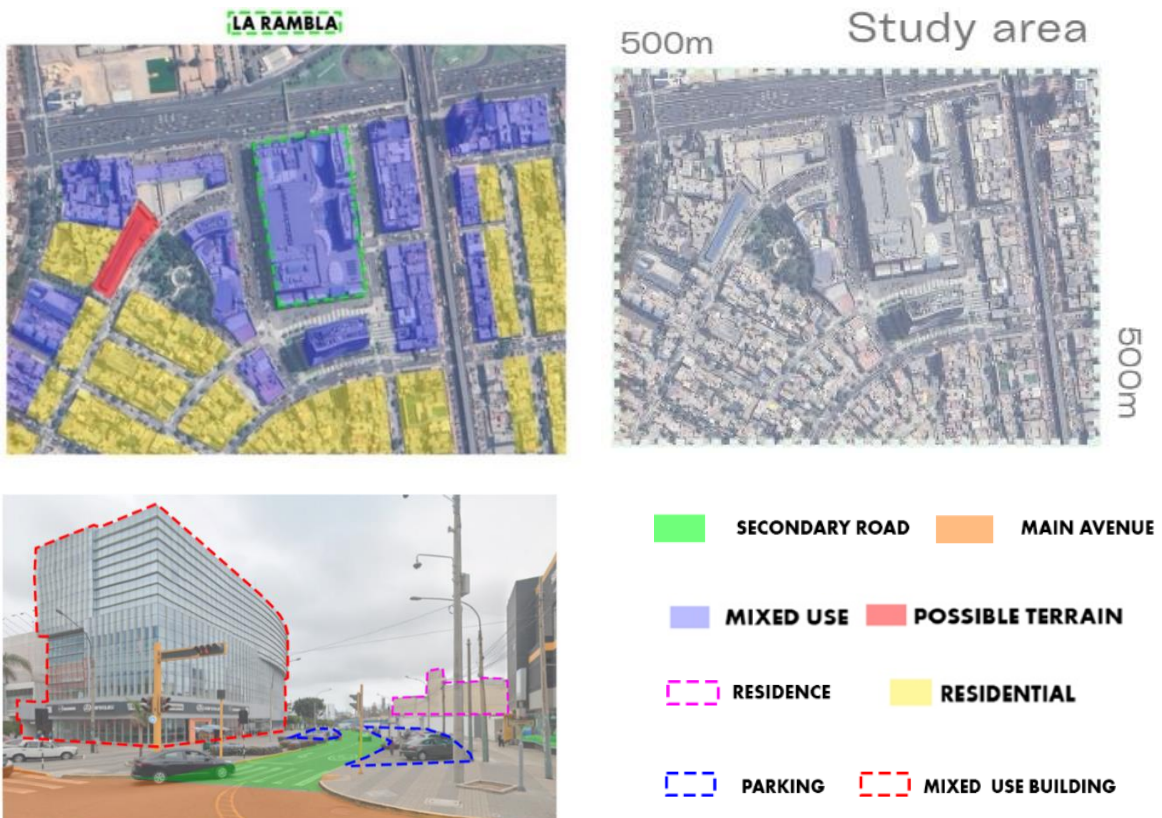
The inclusion of tennis courts in San Borja will contribute to community revitalization by addressing the challenges posed by urban land-use transitions from residential to commercial spaces. These courts will transform neglected areas into vibrant, health-focused community hubs, fostering physical activity and social interaction. By enhancing walkability, integrating ecological features, and ensuring inclusivity through affordable access, the project provides a clear and actionable solution to the identified issues. This initiative not only balances commercial growth with public needs but also establishes a sustainable model for urban regeneration that reflects the community’s priorities and long-term well-being.

Recommendations - Urban Design - Proposal for Multifunctional Court

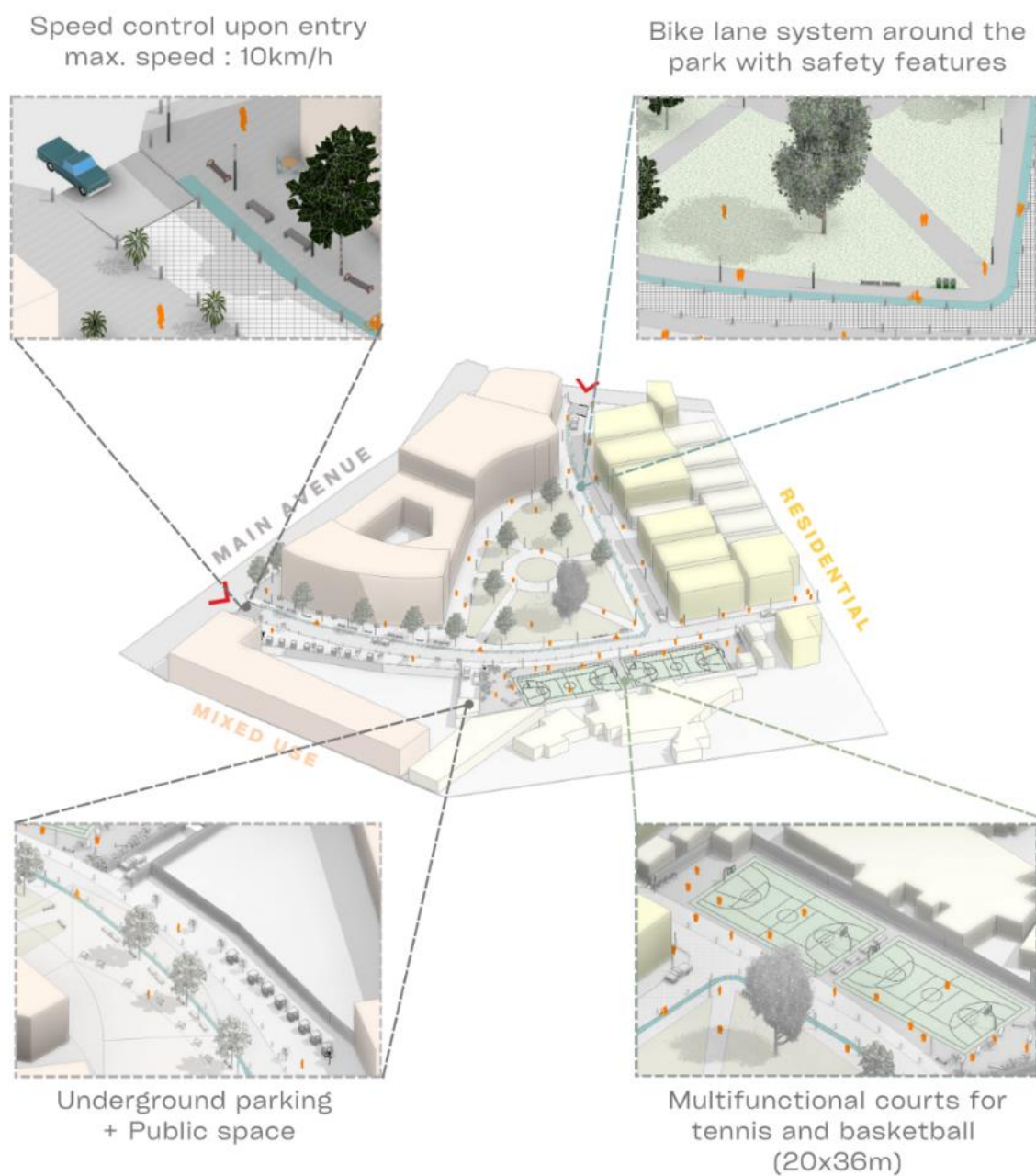
The recommendations in this proposal are directly inspired by key findings from the research, which included case studies and community analyses. For example, the integration of tennis and basketball courts was informed by studies showcasing how recreational facilities, such as the phenomenon of basketball courts in Harlem, create vibrant community hubs that foster social interaction and inclusivity while enhancing neighborhood value. The bike lane system takes cues

from successful mobility projects in cities like Bogotá, where cycling infrastructure has proven to promote sustainable transportation and improve quality of life. Speed control measures were inspired by traffic-calming strategies implemented in residential areas of Miraflores, which prioritize pedestrian safety and reduce noise pollution. Lastly, the concept of underground parking paired with expanded public spaces reflects best practices seen in projects like Barcelona's Superblocks, where underground solutions maximize surface-level public spaces, enhance community interaction, and contribute to environmental sustainability. These examples serve as a foundation for the tailored design strategies proposed here.

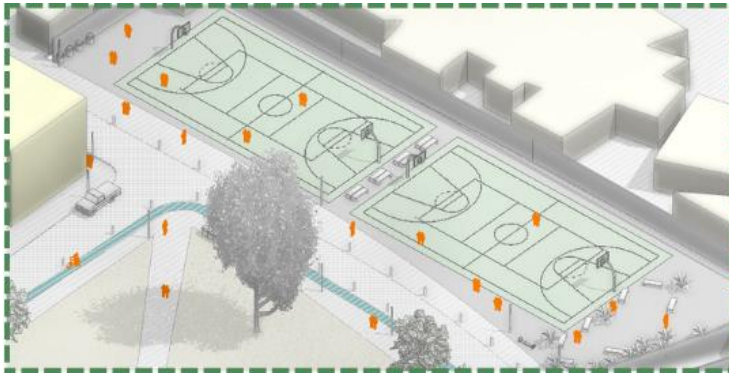
The study area for the following recommendations is located in the San Borja district. A radius of 500 meters was analyzed from the La Rambla shopping center, leading to the proposal of the Regoyos Park area. This location is strategically situated between the mixed-use zone of office and commercial buildings towards Jr. Ucello and the residential streets of Bernini and Regoyos. The selected terrain is currently used as a parking lot for the Wong supermarket chain.



The proposed urban intervention integrates a range of interconnected strategies to enhance the quality of life, environmental sustainability, and economic value of the area. Key components include recreational facilities like tennis and basketball courts, a bike lane system around the park, and safety enhancements such as speed control measures. These are complemented by the inclusion of underground parking, which frees up surface areas for expansive public spaces enriched with greenery. Together, these elements aim to foster social interaction, promote sustainable mobility, increase property values, and create a safer, more inclusive, and environmentally friendly urban environment.



Tennis and Basketball Courts (20x36m)



The addition of tennis and basketball courts (20x36m) serves as a multifunctional recreational facility, promoting physical activity and social engagement

among residents. These courts are strategically designed to increase property values by providing desirable amenities that enhance the urban living experience. Beyond their economic impact, the courts act as inclusive spaces where people from diverse age groups and backgrounds can interact, fostering community ties and reducing social isolation. Replacing underutilized parking lots with these courts also contributes to environmental improvement by creating more green spaces, which enhance urban aesthetics, improve air quality, and provide shaded areas to mitigate heat.

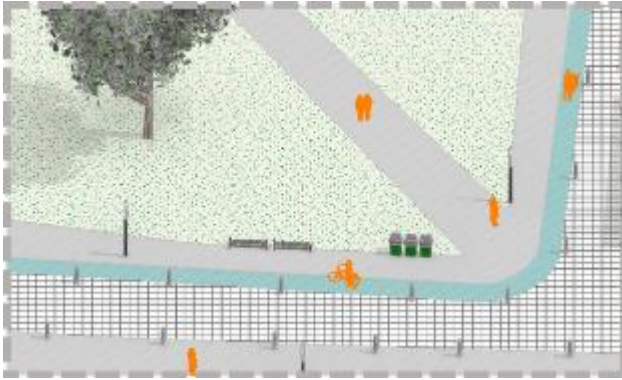
Speed Control Upon Entry (Max. Speed: 10km/h)



Implementing a maximum speed limit of 10 km/h at entry points is a critical safety measure that enhances the pedestrian experience. By slowing down vehicles, the design reduces the likelihood of accidents, creating a more

pedestrian-friendly atmosphere. This approach also extends the lifespan of streets by minimizing wear and tear caused by high-speed traffic, leading to lower maintenance costs over time. Moreover, reduced vehicle speeds decrease noise and environmental pollution, contributing to a quieter and cleaner urban environment. These changes align with broader goals of prioritizing human-centered design in urban planning, emphasizing safety and comfort for all users.

Bike Lane System Around the Park with Safety Features



A dedicated bike lane system around the park prioritizes active transportation and sustainable mobility. Equipped with safety features such as proper signage, lighting, and protective barriers, it ensures a secure environment for

cyclists of all skill levels. This infrastructure not only encourages residents to adopt healthier, eco-friendly commuting habits but also provides an enjoyable recreational activity that improves quality of life. The integration of bike lanes increases the appeal of the area, leading to higher land values, while offering an affordable, accessible means of transportation. Additionally, the bike lane system connects the park to surrounding neighborhoods, fostering greater connectivity and accessibility within the urban fabric.

Underground Parking + Public Space



The underground parking facility, coupled with expanded public spaces, optimizes land use while addressing urban challenges. By relocating the parking lots underground, the design frees up surface areas to create vibrant public spaces that encourage

social interaction and community events. These public spaces, enriched with greenery, support local businesses by attracting foot traffic and increasing dwell time in the area. Additionally, the integration of wider, more inclusive spaces enhances accessibility for people with mobility challenges, ensuring equitable use. The greenery incorporated into these spaces helps reduce the urban heat island effect, lowering ambient temperatures and improving overall environmental conditions. This holistic approach combines functionality, aesthetics, and sustainability to elevate the quality of urban living.

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