LSE INTERNATIONAL
DEVELOPMENT REVIEW

Sowah, M. A. (2025). Transforming Osu Oxford Street into a Pedestrian-Friendly Mixed-Use Suburb. LSE International Development Review, 4(1), pp. 195 - 209. https://doi.org/10.82191/lseidr.111

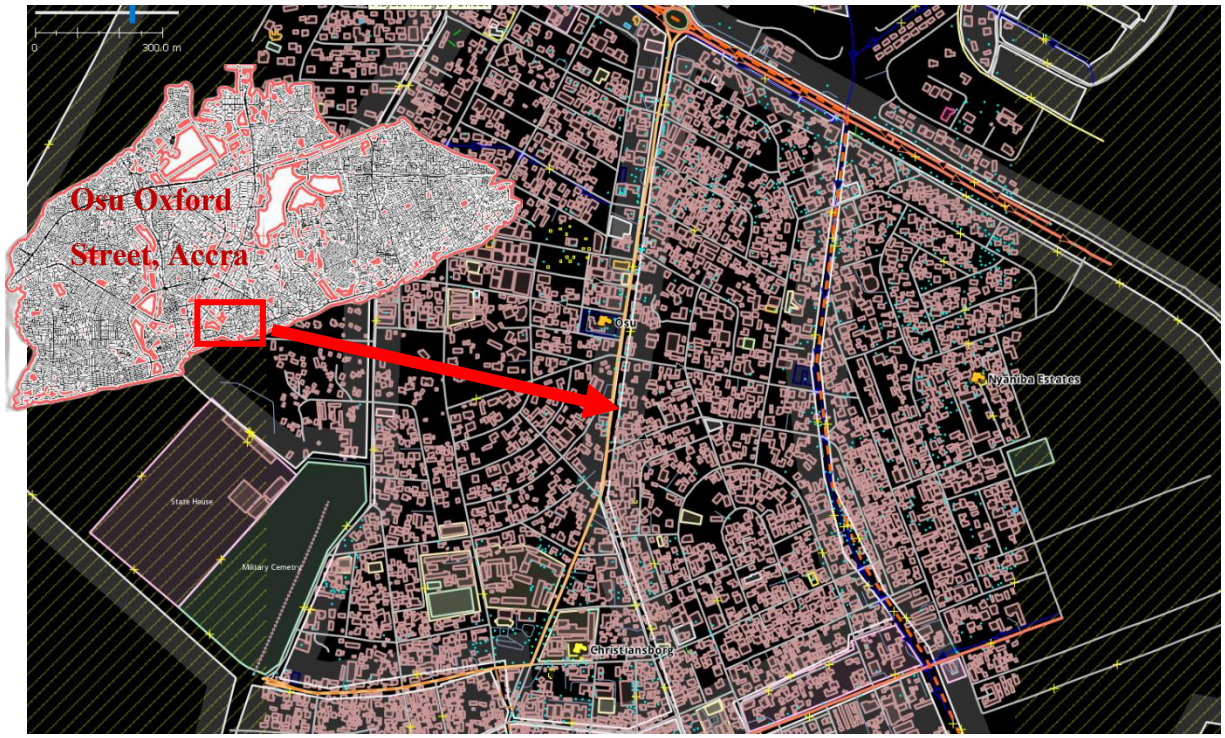


Figure 1: Context Map of Osu Oxford Street in Accra, Data Source: Open Street Map

Transforming Osu Oxford Street into a Pedestrian-Friendly Mixed-Use Suburb: An Urban Planning and Design Approach

By Mohammed Adjei Sowah

INTRODUCTION

Urban areas across the globe are increasingly challenged by issues of congestion, environmental degradation, and the diminishing quality of public spaces. In many rapidly growing cities, the traditional reliance on vehicular transport has led to urban environments that are not only unsustainable but also unfriendly to pedestrians and community interaction.

Osu Oxford Street, a suburb of the Korley Klottey Municipal Assembly (KoKMA) is known for its vibrant commercial activities and cultural significance, currently experiences significant traffic congestion, safety concerns, and a lack of cohesive public space that inhibit social and economic interactions. These issues not only affect the quality of life for residents and visitors but also hinder the street's potential to serve as a catalyst for sustainable urban development. The compact city concept, which emphasizes high-density, mixed-use development and prioritizes pedestrian accessibility over car dependency, offers a promising framework for reimagining this urban space. By fostering a more walkable and integrated urban environment, the compact city model can help to revitalize Osu Oxford Street, transforming it into a dynamic, multifunctional suburb that supports both economic growth and community well-being.

THE PROBLEM STATEMENT

The Korley Klottey Municipal Assembly (KoKMA) is the governing body responsible for the Osu area and the surrounding suburbs within the Accra Metropolitan Area. The Osu Oxford Street, a bustling commercial artery in Accra, currently experiences severe congestion that significantly hampers urban mobility and economic activity. The street's outdated infrastructure characterized by narrow roadways, insufficient pedestrian pathways, and a lack of integrated public transport system creates chronic traffic jams and bottlenecks. As a result, commuters endure long delays, leading to increased vehicle emissions and air pollution, which further undermine environmental sustainability.

This congestion is not only unsustainable from an environmental and urban planning perspective, but it also has serious economic repercussions. Businesses along the street suffer from reduced customer footfall and delayed deliveries, contributing to economic losses that ripple through the local economy. The absence of modern urban design elements such as well-designed pedestrian zones, dedicated cycling lanes, and efficient public transit system limits accessibility and discourages both local and foreign investment in the area.
Studies and reports, such as those from the Ghana Urban Transport Policy (GUTP, 2019) and analyses by urban planning scholars like Asamoah (2020), highlight that old street designs and infrastructure shortcomings lead to significant inefficiencies. They argue that transforming Osu Oxford Street into a pedestrian-friendly, mixed-use space is essential not only to enhance the quality of life for residents and visitors but also to unlock the full economic potential of this key urban corridor.

Figure 2: A regular street scenario at the Osu Oxford Street

THE FOCUS OF THE STUDY

The focus of this consultancy is to transform Osu into a pedestrian-friendly, mixed-use suburb through urban planning and design interventions. This initiative is critical to KoKMA's broader aim of modernizing its urban landscape and ensuring public spaces are accessible and safe for all. The importance of this project is evident as it seeks to address both immediate urban challenges (such as congestion and pedestrian safety) and long-term sustainable development goals of Korley Klottey Municipal Assembly. For KoKMA, tackling this issue means aligning Osu's urban planning with modern transportation and land-use policies, thus preparing the municipality for future growth.

This study aims to critically examine how urban planning and design strategies, grounded in the principles of the compact city concept, can be effectively applied to reconfigure Osu Oxford Street into a pedestrian-friendly mixed-use area with focus on

1. Reduction in Reliance on Cars: By designing the area to prioritize pedestrian movement and alternative transportation (e.g., cycling, public transport), the study seeks to reduce the over-reliance on private cars. This shift will alleviate traffic congestion and promote more sustainable mobility options.

2. Decrease in Pollution: With fewer cars on the road, there will be a corresponding decrease in air and noise pollution, contributing to a cleaner, healthier environment for residents and visitors.

3. Improved Pedestrian Safety: The study aims to redesign the streets to prioritize pedestrian movement, reduce pedestrian accidents, and create safer walking conditions. This will help protect vulnerable road users and encourage more people to walk.

In essence, this project not only envisions a safer, more attractive, and sustainable Osu Oxford Street but also aspires to serve as a model for similar urban interventions across Ghana and other developing urban centers facing comparable challenges.

RESEARCH METHOD

This study employs a mixed-methods approach that integrates both qualitative and quantitative research techniques to comprehensively examine the transformation of Osu Oxford Street into a pedestrian-friendly mixed-use suburb. By combining multiple data sources, this methodology aims to capture a holistic understanding of the current urban challenges and opportunities for sustainable redesign. The key methods used in this research include stakeholder consultations, an analysis of the urban street environment, and secondary data analysis. For instance, the author uses existing street network data from the City Department of Transport to demonstrate the level of street network density in comparison to the distribution of services and points of interest within the Oxford Street corridor.

Also, a Focus Group Discussion (FGD) approach was used to obtain insights from residents, local business owners, public transport operators, members of law enforcement agencies and selected staff of the local government administration responsible for the Osu area.

These considerations present an appreciation of space constraints to a potential growth perspective of the local economy along the Osu Oxford Street. This is well discussed under Section 6.0 (Urban Street Environment Analysis)

STAKEHOLDER CONSULTATIONS

The aim of stakeholder consultations was to gather in-depth insights into the lived experiences, perceptions, and expectations of those directly affected by the existing urban street conditions in Osu. This included community members, local business owners, transport operators, law enforcement agencies and the KoKMA. Semi-structured interviews were conducted with a purposive sample of stakeholders. These interviews were designed to elicit detailed personal accounts of daily challenges related to congestion, pedestrian safety, and economic impacts due to the current state of the urban street design.

No.	Category of Respondents	Number of Respondents
1	Community members	10
2	Local business owners	10
3	Transport Operators	10
4	Law Enforcement Agencies	2
5	Personnel from local administration	2

Table 1: Profile of Stakeholders Engaged

A focus group meeting was organized to facilitate a broader discussion among different stakeholder groups. This approach helped identify common themes, divergent views, and potential collaborative solutions from the participants.

Qualitative data from interviews and focus groups were analysed using coding of responses to identify recurring themes and patterns.

URBAN STREET ENVIRONMENT ANALYSIS

The exercise to conduct an observational analysis of the street environment for the study location sought to provide quantitative data on pedestrian movement, street network factors (links and nodes), and land use patterns on Osu Oxford Street. This helped assess the current functionality and limitations of the urban environment. Field surveys were carried out systematically along the Osu Oxford Street using the identified stakeholders. The observational studies part of the surveys used screen-line counting of pedestrians in determining the level and measure of foot traffic during peak and off-peak hours. Data on street layout, pedestrian pathways, and land use were collected through direct observation and GPS mapping. Photographic documentation complemented these surveys to capture the physical conditions of the street. Quantitative data gathered from field surveys were statistically analyzed to determine the volume and patterns of pedestrian movement. Spatial analysis techniques were applied to map existing land use and infrastructural elements, providing a baseline for comparison with the proposed design interventions.

SECONDARY DATA ANALYSIS

The secondary data analysis was done through the reviewing of existing documentation, reports, maps, and research studies related to the study objectives. This provided a broader context for urban planning initiatives within the jurisdiction of the Korley Klottey Municipal Assembly (KoKMA). Existing reports, strategic plans, and policy documents provided used in the review process were provided by KoKMA. Key indicators such as current traffic volumes, land use patterns, and previous urban planning proposals were extracted from these documents. The secondary data were compared with the primary data findings to identify gaps, or validate field observations, and understand historical trends in urban development for the study area. Additional data from the Transport Department of the Accra Metropolitan Assembly on network components was used in evaluating cluster of activities along the Osu Oxford Street. This integrated analysis approach helped to corroborate primary findings and provided a comprehensive picture of the existing street conditions and the potential for transformation under the compact city concept.

Figure 3: Network Planning Factors, Oxford Street

SCOPE AND LIMITATION

This study focuses exclusively on Osu Oxford Street in Accra as a case study to explore the potential for transforming the area into a pedestrian-friendly mixed-use suburb through an urban planning and design approach. The study draws on a mixed-methods approach that includes stakeholder consultations, urban analysis, and secondary data analysis. Its primary goal is to assess current urban challenges and propose practical design interventions under the compact city concept, rather than to conduct a rigorous scientific investigation. The study is intended to serve as a foundation for policy discussions, urban design improvements, and further research on sustainable urban transformations in similar contexts.

The study was not designed as a fully scientific research project. As such, the methods used, particularly the qualitative components, do not aim for statistical representativeness or strict scientific rigor. The insights derived are primarily exploratory and intended to inform design and policy rather than to provide definitive empirical evidence, in addition, the study was confined solely to Osu Oxford Street, which means that its findings and recommendations may not be directly applicable to other urban areas in Accra or elsewhere in Ghana. The unique characteristics of Osu Oxford Street may limit the generalizability of the conclusions. Furthermore, the reliance on stakeholder consultations, field observation, and available secondary data means that the study is subject to potential biases.

ANALYSIS

Spreadsheet analysis was used to generate simple regressions and charts to graphically analyse data from Geographic Information Systems. The use of SMNx in the analysis was guided through the data collection process by relevant technical staff of Accra's local administrations. Common themes were identified from transcribed qualitative interviews to assess the current state of Osu Oxford Street to explore the potential for its transformation under the compact city concept. A list of street environment inventory factors was made to guide potential interventions in the future.

LITERATURE REVIEW

Urban areas worldwide are undergoing significant transformation as cities strive to become more sustainable, efficient, and liveable. Amid rapid urbanisation and increasing vehicular congestion, there is a growing emphasis on creating environments that prioritise pedestrian mobility, mixed-use functionality, and social inclusivity. The theoretical and empirical foundations underpinning the transformation of urban streetscapes, with a specific focus on the compact city concept and mixed-use development are examined. The review further contextualises these ideas within the unique challenges and opportunities presented by Osu Oxford Street in Accra, Ghana within a wider global framework.

The Association of North American Cities and Transit Agencies (NACTO) in published the Global Street Design Guide (2016) under the Global Designing Cities Initiative. Important design considerations that have challenged the efficiency of cities have been well discussed with recommendations that bring significantly positive changes to the streetscape of participating cities. Accra being a member of networked cities under this initiative has received ample good practice recommendations. Figure 4 below shows a general inventory for emphasising the most important design considerations for local communities in high density and urbanised population centres.

The analytical schematic above shows the number of people that can be contained under 'operational envelope' conditions of various transport modes and space uses within a street dimension of 3m by 25m. Again, considering that the Osu Oxford Street area is a highly walkable environment with services within minutes of walking distances from each other, this reinforces the proposal that pedestrianising the Oxford Street will optimise its function as a vibrant shopping and leisure street of Accra.

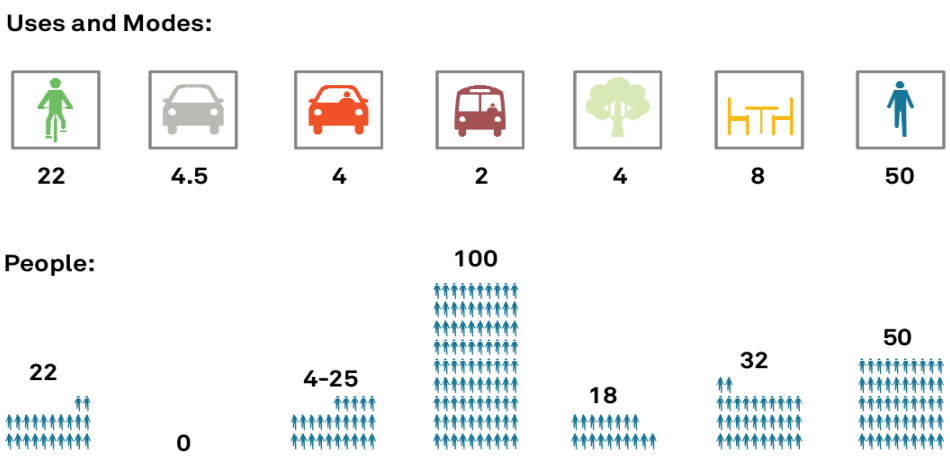


Figure 3: The Argument for Pedestrianisation Culled from the Global Street Design Guide, 2016

URBAN TRANSFORMATION AND THE COMPACT CITY CONCEPT

The compact city model has emerged as a central paradigm in urban planning, advocating for high-density, mixed-use developments that reduce urban sprawl and promote sustainable mobility. Newman and Kenworthy (1999) argue that compact urban forms can significantly reduce reliance on private vehicles by enhancing the proximity of residential, commercial, and recreational spaces. This model supports environmental sustainability by decreasing per capita energy consumption and lowering greenhouse gas emissions. Furthermore, compact urban development has been linked to improved public health outcomes through increased walkability and reduced air pollution (Ewing & Cervero, 2010).

In the context of rapidly growing cities in developing countries, the compact city approach offers both challenges and opportunities. While many developed economies have successfully implemented compact city principles (Gehl, 2010), the application in cities like Accra requires careful adaptation to local socio-economic realities, existing infrastructure, and cultural contexts. The literature suggests that while compactness can drive sustainable urban growth, its success hinges on effective urban governance and inclusive planning processes (UN-Habitat, 2016).

PEDESTRIAN-FRIENDLY URBAN DESIGN

Central to the compact city model is the concept of creating pedestrian-friendly environments. Seminal works by Jacobs (1961) and Gehl (2010) emphasize that streets and public spaces designed for pedestrians contribute significantly to vibrant, liveable communities. Walkability not only enhances the quality of urban life but also supports local economic activities by increasing foot traffic to businesses and fostering social interactions. Studies have shown that urban streetscapes reconfigured to prioritize pedestrians—through wider sidewalks, traffic calming measures, and integrated public spaces—can reduce congestion and promote community cohesion (Litman, 2013).

Comparing the illustration in Figure 5 and the image of the Osu Oxford Street in Figure 6, it can clearly be seen that whereas Figure 5 has systemic street components, the arrangements of street furniture in Figure 6 is far from being planned and provided as fit for purpose.

In transforming Osu Oxford Street, the goal is to shift from a vehicular-dominated corridor to a dynamic, people-centred environment. The existing literature on pedestrian-friendly design provides a strong rationale for such an intervention, highlighting benefits that range from improved safety and accessibility to enhanced economic performance and social inclusion (Banerjee, 2001). In this context. This study report identifies

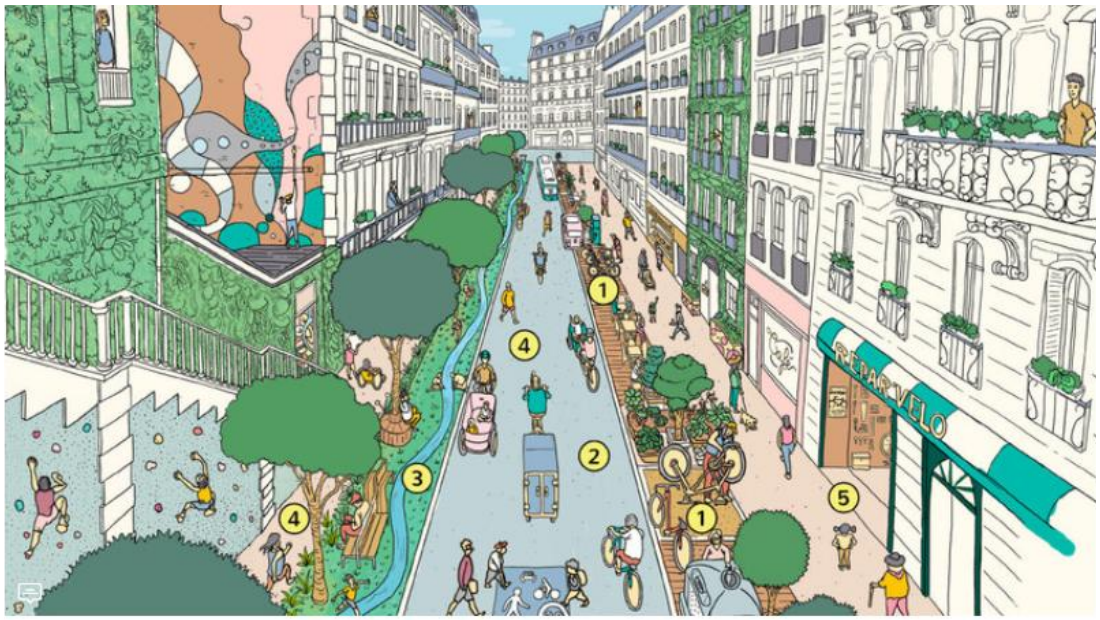


Figure 5: Typical Street Profile of Osu Oxford Street

MIXED-USE DEVELOPMENT

Mixed-use development is another key element in reimagining urban streetscapes. By integrating residential, commercial, and recreational land uses, mixed-use planning fosters more resilient urban economies and vibrant communities. Research indicates that mixed-use environments reduce travel distances, lower energy consumption, and create opportunities for spontaneous social interactions (Grant, 2002). Moreover, the economic vibrancy associated with mixed-use districts can lead to increased property values and more robust local economies (Dovey, 2010).

In the case of Osu Oxford Street, the incorporation of mixed-use development is viewed as a strategic lever for economic revitalization. The literature consistently points to the potential for mixed-use neighbourhoods to stimulate local businesses, support entrepreneurship, and enhance the overall urban experience (Cervero, 2003).

CASE STUDIES AND GLOBAL PERSPECTIVES

International case studies provide valuable insights into the benefits and challenges of transforming urban corridors. For instance, the pedestrianization of historic streets in European cities such as Copenhagen and Barcelona have led to notable improvements in urban liveability, economic activity, and environmental sustainability (Gehl, 2010; Florida, 2002). These examples underscore the potential for similar interventions in emerging urban centres like Accra. However, the transferability of these models requires contextual adaptation, particularly in regions with distinct cultural, social, and infrastructural conditions (UN-Habitat, 2016).

SYNTHESIS AND RESEARCH GAPS

While the existing literature robustly supports the concepts of compact urbanism, pedestrian-friendly design, and mixed-use development, there remains a gap in research focused on their application in the context of Ghanaian urban environments. Most studies have concentrated on developed urban centres, leaving a need for localized investigations that consider the specific challenges of Ghana's rapidly urbanizing areas. This study aims to address this gap by applying established urban planning theories to the transformation of Osu Oxford Street, thereby generating insights that can inform policy and design interventions in similar contexts.

DISCUSSION

Cohort 1: Community Members, Transport Operators and Local Business Owners

A focus group discussion was held with selected community members, business owners, street vendors, pedestrians and transport operators on Osu Oxford Street to deliberate on the transformation of the area into a pedestrian-friendly mixed-use suburb.

The discussion aimed to understand local perspectives, identify key challenges in the current urban environment, and explore feasible urban planning and design solutions. Even though it was generally agreed by consensus among discussants that pedestrianisation should lead the transformation prospects for Osu's Oxford Street, a second-best proposal was to design properly scheduled public transport services and discourage private car use within the street's precincts. Figure 7 shows analysis of centrality using a 5Km radius of road network links referencing the intersection of the Mission Street and the Oxford Street in Osu. The results for this centrality analysis shows that the largest node component or giant node for the Betweeness Centrality is the Akuafo Intersection on the Giffard Road. Lighter colours of network nodes showing on the map provides adequate orientation that public transport services along these network lines and nodes can still facilitate people movement towards the Oxford Street.

Land Use Density Outlook of Oxford Street, Osu

Proximity is normally considered the most crucial land use indicator for ensuring efficiency in accessing services in any given area.

It has been observed that the Oxford Street is highly favourable in this regard. Map 3 above shows clusters of services near each other. The red edged frames on Map 3 show different cluster of activities and services all within walking distances from the Oxford Street. It can be deduced then that it will be more beneficial to dedicate existing space within the Oxford Street vicinity to green infrastructure instead of surface and open area parking for cars. Within the conceptual framework of potential transformational activities for the Oxford Street and its environs, greening has been seen to be the most lacking street environment component in the area.

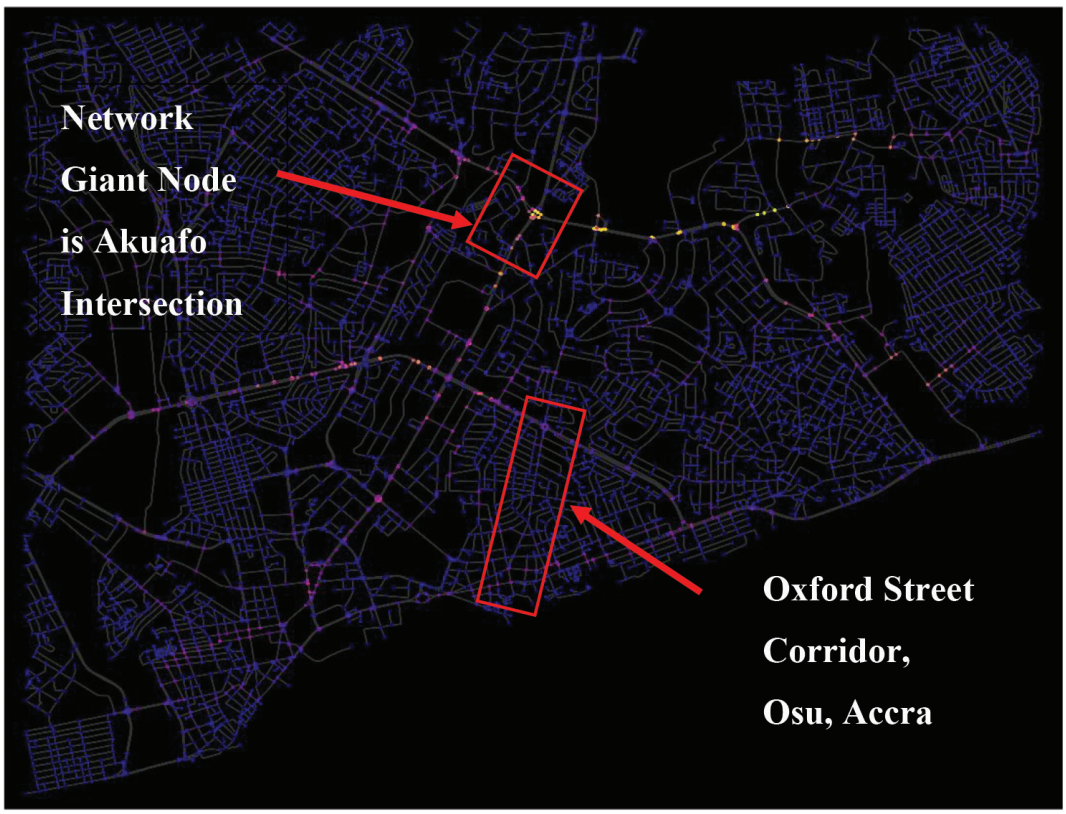


Figure 6: Centrality and Accessibility Analysis Using OSMNx

Figure 7: Cluster Analysis of Land Use Activities, Osu Neighbourhood

Current Challenges of Osu Oxford Street

The discussants highlighted several issues affecting the usability and sustainability of Osu Oxford Street:

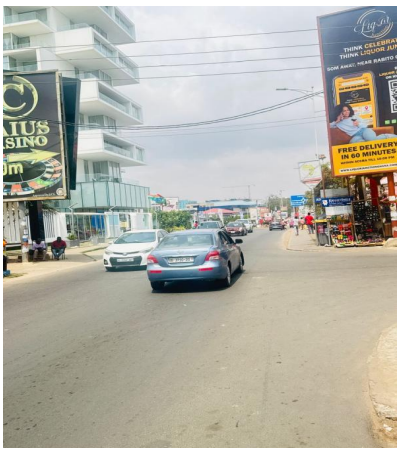
No.	Issues	Concerns
1	**Pedestrian Safety and Accessibility**	1. Participants expressed concerns about the lack of proper pedestrian infrastructure, including narrow and obstructed sidewalks. 2. The street is heavily congested, with vehicular traffic dominating pedestrian space, leading to frequent accidents and conflicts between road users. 3. Poorly maintained pedestrian crossings and the absence of dedicated walkways discourage walking.
2	**Pedestrian Safety and Accessibility**	1. Participants expressed concerns about the lack of proper pedestrian infrastructure, including narrow and obstructed sidewalks. 2. The street is heavily congested, with vehicular traffic dominating pedestrian space, leading to frequent accidents and conflicts between road users. 3. Poorly maintained pedestrian crossings and the absence of dedicated walkways discourage walking.
3	**Traffic Congestion and Pollution**	1. Discussants pointed out that the area suffers from severe traffic congestion due to a high volume of private cars, taxis, and commercial buses. 2. Air and noise pollution from vehicles negatively impact the environment and health of pedestrians and residents. 3. The inefficient public transport system contributes to the overreliance on private cars, exacerbating congestion.
4	**Economic and Commercial Activities**	1. While Osu Oxford Street is a major commercial hub, participants noted that the unregulated street vending culture contributes to pedestrian obstructions. 2. Some business owners believed that a more organized and pedestrian-friendly space could enhance the shopping experience and attract more customers. 3. Street vendors feared that pedestrianization could negatively impact their businesses if alternative spaces were not allocated for their operations
5	**Infrastructure and Public Amenities**	1. The absence of public seating areas, green spaces, and proper lighting makes the street less inviting for pedestrian use, especially at night. 2. A lack of waste management infrastructure leads to littering and sanitation issues, which tarnish the aesthetic appeal of the street.

Table 2: Summary of concerns raised

The above observations can be discussed within the following framework for further development of potential intervention areas to transform the status quo. The urban street environment is a complex and dynamic space that includes several key components that can further evolve into a conceptual framework in line with provisions of the Spatial Development Framework of the land use authority in Ghana:

1. **Roadways and Sidewalks:** These are the primary pathways for vehicles and pedestrians. Roadways accommodate cars, buses, and bicycles, while sidewalks are designated for pedestrian use.
2. **Street Furniture:** This includes benches, trash bins, streetlights, and bus shelters. These elements enhance the functionality and comfort of the street for its users.
3. **Green Spaces:** Trees, plants, and landscaped areas contribute to the aesthetic appeal and environmental health of urban streets. They provide shade, reduce heat, and improve air quality.
4. **Signage and Markings:** Traffic signs, signals, and road markings guide and regulate the movement of vehicles and pedestrians, ensuring safety and order.
5. **Buildings and Facades:** The structures lining the streets, including residential, commercial, and public buildings, define the character and use of the street environment.
6. **Public Transportation Infrastructure:** Bus stops, tram lines, and subway entrances are crucial for facilitating public transit and reducing reliance on private vehicles.
7. **Utilities and Services:** This includes street lighting, drainage systems, and utilities like water, gas, and electricity that support the functioning of the urban environment.
8. **Public Art and Cultural Elements:** Murals, sculptures, and other forms of public art and cultural value and identity to the street environment.
9. **Bicycle Lanes and Parking:** Dedicated lanes and parking spaces for bicycles promote sustainable transportation and ensure the safety of cyclists.
10. **Accessibility Features:** Ramps, tactile paving, and audible signals make the street environment accessible to people with disabilities.

Unfriendly pedestrians walk paths



No pedestrian crossings and traffic signals

Traffic congestion

Unfriendly pedestrians walk paths

Figure 8: Different Street Scape, Osu Oxford Street

Proposed Solutions from discussions

1. Improved Pedestrian Infrastructure
    a. Participants suggested widening sidewalks, installing pedestrian-only zones, and enforcing regulations to keep sidewalks clear.
    b. Raised pedestrian crossings and better signage could enhance safety and accessibility.

2. Traffic Management Strategies
    a. The introduction of designated public transport lanes and incentives for carpooling could help reduce vehicular congestion.
    b. Some discussants proposed implementing car-free days or pedestrian-only hours to encourage a walking culture.

3. Mixed-Use Development and Public Spaces
    a. Some discussants proposed mixed-use development with retail, residential, and recreational spaces that could enhance the liveability of the area.
    b. Green spaces, public seating, and designated street vending zones would improve the street's functionality while supporting economic activities.

4. Policy and Community Engagement
    a. Effective urban policies must be in place to regulate street use, vending, and public transport.
    b. Continued community engagement and stakeholder collaboration will be necessary to ensure inclusive and sustainable development.

Cohort 2: Law Enforcement Agencies

The perspectives of the Motor Transport and Traffic Directorate (MTTD) of the Ghana Police Service was sought. This discussion aimed to evaluate the current condition of Osu Oxford Street and understand the law enforcement authorities' recommendations

The Motor Transport and Traffic Directorate (MTTD) of the Ghana Police Service highlighted several critical challenges affecting Osu Oxford Street. Heavy vehicular traffic remains a significant concern, causing frequent delays, increased air pollution, and heightened safety risks for pedestrians. Street vendors and businesses often encroach on pedestrian walkways, obstructing movement and creating unsafe conditions. Poor traffic management, including irregular parking and weak enforcement of traffic laws, exacerbates congestion and contributes to a high rate of road accidents. The lack of green spaces and public seating further diminishes the pedestrian experience, as there are limited areas for rest and recreation. Additionally, inadequate street lighting presents serious security risks, particularly at night, increasing the likelihood of criminal activities and accidents. Addressing these issues will require a concerted effort from law enforcement agencies, urban planners, and municipal authorities.

Cohort 3. Korley Klottey Municipal Assembly (KoKMA)

Officers of the KoKMA Development Planning Unit acknowledged problems of the Osu Oxford Street as emphasized by the stakeholders engaged. In the discussion, several initiatives were highlighted as plans to improve the urban environment and enhance the functionality of Osu Oxford Street. Plans are underway to prioritize pedestrianization by redesigning key areas, expanding sidewalks, and introducing street furniture to create a more walkable environment. To tackle traffic congestion, smart traffic management systems are to be introduced to incorporate traffic signal synchronization and digital traffic enforcement measures.

Additionally, a mixed-use development strategy is being pursued by the KoKMA to integrate residential, commercial, and recreational spaces to ensure a vibrant and sustainable urban atmosphere. The Metropolitan Assembly has also prioritized the enhancement of public transport infrastructure, including the development of dedicated bus lanes and drop-off zones to alleviate illegal parking and improve transit efficiency. Furthermore, a focus on green and sustainable urban design will see an increase in tree planting, the introduction of green spaces, and the implementation of climate-resilient infrastructure to enhance environmental sustainability.

Identified Challenges
Findings and Recommendations

Challenges	Description	Mitigation Strategy
Traffic Congestion and Public Transport Integration	1. High Dependence on Private Vehicles: Many commuters and businesses rely on cars, making it difficult to reduce vehicular dominance. 2. Inefficient Public Transport System: The current public transport infrastructure may not adequately support a pedestrian-focused urban design. 3. Resistance from Transport Operators: Commercial drivers (trotro and taxi operators) may resist changes that restrict vehicle movement.	Engage businesses, vendors, and transport operators early in the planning process.
Resistance from Businesses and Street Vendors	1. Fear of Reduced Customer Access: Businesses may fear losing customers if vehicular access is restricted. 2. Unregulated Street Vending: Many vendors rely on foot traffic, and displacement without proper relocation planning may lead to economic losses. 3. Enforcement Challenges: Difficulty in regulating informal commercial activities may lead to conflict between authorities and vendors.	Phase the project in stages to minimize disruption
Infrastructure and Funding Constraints	1. High Cost of Redevelopment: Significant investments will be needed for new sidewalks, green spaces, and smart traffic systems. 2. Limited Government Budget: Funding may be insufficient, requiring public-private partnerships or external funding. 3. Aging Infrastructure: The existing road and drainage systems may need extensive upgrading before new developments can proceed.	Secure funding through public-private partnerships.
Public Attitudes and Behavioural Change	1. Cultural Preference for Car Usage: Many residents prefer driving over walking or using public transport. 2. Public Scepticism of Government Projects: Past urban planning projects with poor implementation records may lead to public distrust. 3. Adaptation to New Mobility Patterns: People may take time to adjust to pedestrianized zones and new traffic systems.	Promote public awareness and behaviour change campaigns.
Long-Term Sustainability and Maintenance	1. Need for Continuous Investment: Infrastructure and urban furniture require ongoing maintenance and funding. 2. Sustainability of Mixed-Use Development: Without proper zoning regulations, the intended mixed-use model could be compromised by unplanned developments. 3. Monitoring and Evaluation Challenges: Tracking the long-term success of the transformation may require robust data collection and assessment frameworks.	Develop sustainable monitoring and maintenance plan

Table 3: Identified Challenges

FINDINGS

The study on transforming Osu Oxford Street into a pedestrian-friendly mixed-use suburb revealed several key findings:

- **Traffic Congestion and Mobility Challenges**: The street experiences severe congestion due to high vehicular density, inadequate public transport infrastructure, and poor traffic management practices. The dominance of private cars and informal public transport systems contributes to chronic delays and inefficiencies.

- **Pedestrian Safety and Accessibility:** The study found that pedestrian movement is severely restricted by encroachments on sidewalks, lack of designated pedestrian crossings, and inadequate street lighting. Many pedestrians face risks from reckless driving and insufficient pedestrian-friendly infrastructure.

- **Economic and Commercial Activities:** Osu Oxford Street is a major commercial hub; however, unregulated street vending and the informal economy contribute to pedestrian obstructions. While businesses benefit from high foot traffic, the congestion negatively impacts customer experience and accessibility.

- **Environmental and Public Health Concerns:** High levels of air and noise pollution were observed due to excessive vehicular movement and inefficient traffic flow. The lack of green spaces and street trees exacerbates environmental degradation and reduces the overall liveability of the area.

- **Law Enforcement and Traffic Management Issues:** The Ghana Police Service and the Motor Transport and Traffic Directorate (MTTD) identified weak enforcement of traffic regulations, irregular parking, and inadequate infrastructure as major obstacles to improving the street's functionality

- **Lack of Integrated Urban Planning:** The absence of a cohesive urban planning framework has led to fragmented development, making it difficult to implement sustainable transport and land-use strategies effectively.

RECOMMENDATIONS

The following recommendations are proposed based on the predefined conceptual development framework which will be used as an inventory guide for future developments along the Oxford Street in Osu. These are as follows:

- **Implementation of a Pedestrianization Plan:** The municipal assembly should initiate the redesign of Osu Oxford Street by widening sidewalks, installing pedestrian-only zones, and ensure strict enforcement of pedestrian rights-of-way.

- **Smart Traffic Management and Public Transport Integration:** The adoption of synchronized traffic signals, designated bus lanes, and improved public transport facilities can help reduce congestion and enhance urban mobility.

- **Regulation of Street Vending and Commercial Activities:** KoKMA must establish designated vending zones and enforcing spatial regulations will improve pedestrian flow while maintaining economic vibrancy.

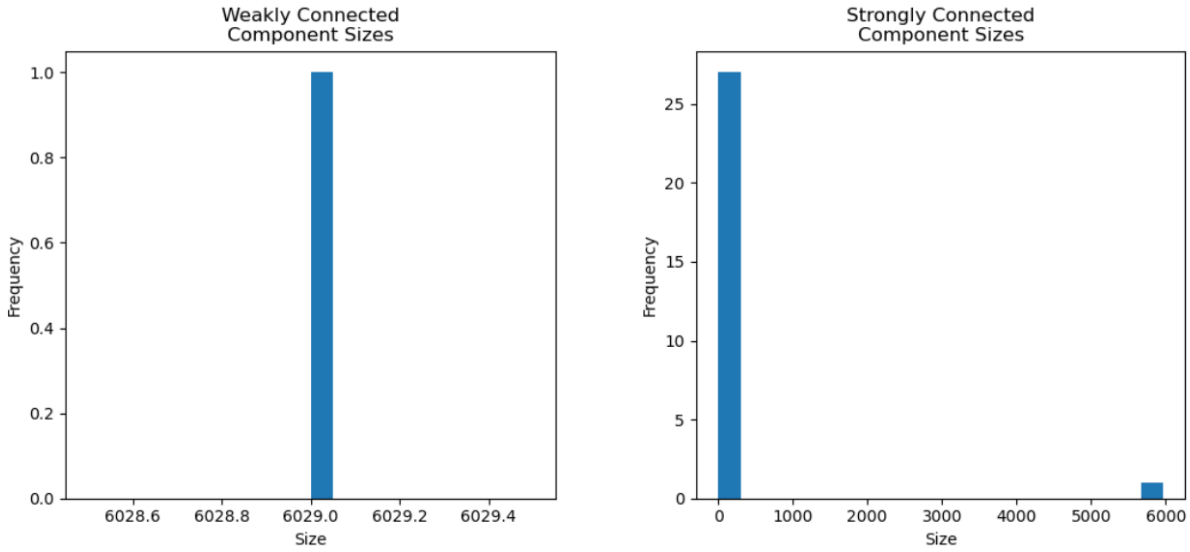
- **Development of a Comprehensive Urban Master Plan:** The Korley Klottey Municipal Assembly should develop a long-term urban planning framework that integrates land use, transport systems, and environmental sustainability to guide future development.

- **Community Engagement and Stakeholder Collaboration:** Continuous dialogue with residents, businesses, and transport operators will ensure inclusive urban development that aligns with local needs and aspirations.

APPENDIX A:
Analysed Network Components, Oxford Street, Area Osu

```
Number of weakly connected components: 1
Sizes of weakly connected components: [6029]

Number of strongly connected components: 28
Sizes of strongly connected components: [1, 1, 1, 2, 1, 1, 1, 1, 1, 1, 1, 5964, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 34, 1, 4, 2, 1]

Original graph stats:
Nodes: 6029, Edges: 14579

Largest component stats:
Nodes: 6029, Edges: 14579
Percentage of original nodes: 100.00%

Number of isolated nodes in original graph: 0

New graph D_connected validation:
Is directed?: True
Is weakly connected?: True
```

APPENDIX B:
Strongly and Weakly Connected Components, Oxford Street, Area Osu



APPENDIX C:
Spreadsheet Database of Network Components, Oxford Street, Area Osu

```
Pivot table result:
node2      30729912      30729918      30729919      30729928      30729959      \
node1
30729912          NaN           NaN           NaN           NaN           NaN
30729918          NaN           NaN      0.009366           NaN           NaN
30729919          NaN      0.011089           NaN           NaN           NaN
30729928          NaN           NaN           NaN           NaN           NaN
30729959          NaN           NaN           NaN           NaN           NaN

node2      30729961      30729968      30729971      30729972      30729974      \
node1
30729912          NaN           NaN           NaN           NaN           NaN
30729918          NaN           NaN           NaN           NaN           NaN
30729919          NaN           NaN           NaN           NaN           NaN
30729928          NaN      0.000838           NaN           NaN           NaN
30729959          NaN           NaN           NaN           NaN           NaN

node2      ...   12519669735   12519669737   12519669740   12538523819   \
node1      ...
30729912   ...           NaN           NaN           NaN           NaN
30729918   ...           NaN           NaN           NaN           NaN
30729919   ...           NaN           NaN           NaN           NaN
30729928   ...           NaN           NaN           NaN           NaN
30729959   ...           NaN           NaN           NaN           NaN
```

REFERENCES

- Ghana Urban Transport Policy (GUTP). (2019). Accra Urban Mobility and Congestion Report. Accra, Ghana.
- Asamoah, P. (2020). Urban Transport and Economic Efficiency in Accra: A Case Study of Osu Oxford Street. Journal of Urban Planning and Development, 12(3), 45-62.
- Accra Metropolitan Assembly. (2018). Traffic Congestion and Urban Infrastructure Assessment Report. Accra, Ghana.
- Banerjee, T. (2001). The Sustainable City. Spon Press.
- Cervero, R. (2003). Urban Development and Transportation: A Comparative Analysis of Mixed-Use and Car-Dependent Patterns. Journal of Urban Planning.
- Dovey, K. (2010). Becoming Places: Urbanism / Architecture / Identity / Power. Routledge.
- Ewing, R., & Cervero, R. (2010). Travel and the Built Environment: A Meta-Analysis. Journal of the American Planning Association, 76(3), 265-294.
- Florida, R. (2002). The Rise of the Creative Class. Basic Books.
- Gehl, J. (2010). Cities for People. Island Press.
- Grant, J. (2002). Mixed Use in Theory and Practice: Canadian Experience with Implementing a Planning Principle. Journal of the American Planning Association, 68(1), 71-84.
- Jacobs, J. (1961). The Death and Life of Great American Cities. Random House.
- Litman, T. (2013). Economic Value of Walkability. Victoria Transport Policy Institute.
- Newman, P., & Kenworthy, J. (1999). Sustainability and Cities: Overcoming Automobile Dependence. Island Press.
- UN-Habitat. (2016). World Cities Report 2016: Urbanization and Development – Emerging Futures. United Nations Human Settlements Programme.
- Boeing, G. (2017). OSMnx: New Methods for Acquiring, Constructing, Analyzing, and Visualizing Complex Street Networks. *Computers, Environment and Urban Systems*, 65, 126-139. https://doi.org/10.1016/j.compenvurbsys.2017.05.004