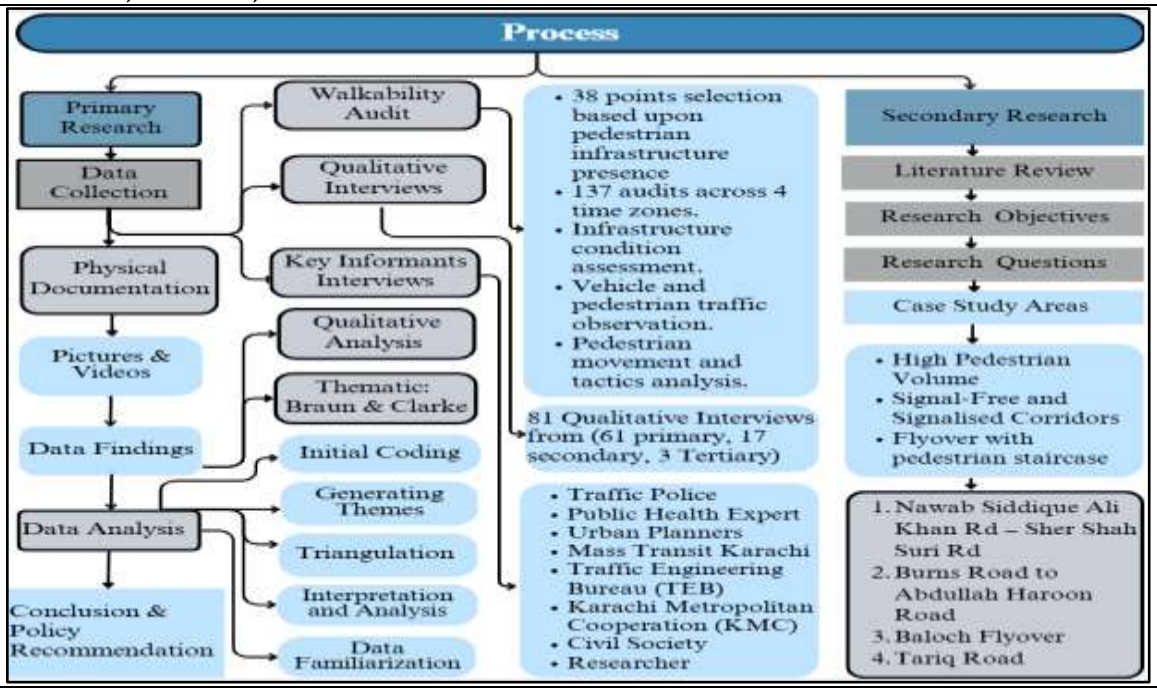
Final Year Design Project Showcase
Batch-2022
Year 2026

Department: Architecture and Planning
Programme: Development Studies

1	**Project Title** Urban Mobility and Pedestrian-Friendly Infrastructure: A Comparative Study of Signalized and Signal-Free Corridors in Karachi
2	**Project Idea** Globally, the Sustainable Development Goals (SDGs), Complete Streets, and Transit-Oriented Development (TOD) promote safe, inclusive, and sustainable urban mobility by prioritizing pedestrians. While these principles support SDG 11 (Sustainable Cities and Communities), SDG 3 (Good Health and Well-being), and SDG 13 (Climate Action) through active mobility and reduced transport emissions. As Pakistan's largest metropolitan city, Karachi continues to experience rapid urbanization and increasing traffic congestion. However, transport planning has largely focused on improving vehicular movement, often overlooking pedestrian infrastructure and walkability. This project compares signalized and signal-free corridors to evaluate their impacts on pedestrian safety, accessibility, and urban mobility. The study generates evidence-based recommendations to support pedestrian-friendly planning and inform future urban development initiatives, including the Karachi Master Plan and the Karachi Comprehensive Mobility and Accessibility Plan (KCAP), contributing to more inclusive, resilient, and sustainable cities.
3	
4	**Outcome**

	The study identified significant differences between signalized and signal-free corridors in pedestrian safety, accessibility, walkability, and infrastructure quality. Key issues included unsafe pedestrian conflict zones, deteriorated footpaths, inadequate crossings, accessibility barriers, sidewalk encroachments, and fragmented institutional responsibilities. The project developed Karachi's comprehensive evidence bases on pedestrian mobility through GIS mapping, walkability audits, field research, comparative analysis, and a policy and legal review. It provides evidence-based recommendations for pedestrian-first planning, universal accessibility, and institutional coordination, supporting the Karachi Master Plan, KCAP, and future research on sustainable urban mobility.
5	**Evidence** • Addresses pedestrian mobility through the principles of Transport Justice, Walkability, and Inclusive Urban Planning, supporting SDG 11, SDG 3, and SDG 13. • Conducted a comprehensive review of 50+ national and international research studies, planning standards, policies, and legal frameworks to develop the conceptual framework. • Adopted a mixed-methods approach integrating: Qualitative research, Qualitative spatial mapping , Walkability audit data , Field observations , Photographic documentation, Semi-structured stakeholder interviews. • Performed a comparative assessment of signalized and signal-free corridors to evaluate pedestrian-friendly infrastructure, safety, accessibility, walkability, and urban mobility. • Examined the experiences of women, children, older adults, persons with disabilities (PWDs), motorists, transport experts, government officials, and community representatives. • Assessed physical and temporal barriers, including deteriorated and discontinuous footpaths, inadequate crossings, encroachments, poor lighting, high-speed traffic, weather conditions, and night-time accessibility. • Identified pedestrian conflict zones, infrastructure deficiencies, accessibility barriers, governance gaps, and the disconnect between planning standards and on-ground realities. • Produced a comparative evidence base, GIS spatial maps, a conceptual framework, and a policy and legal review to support evidence-based pedestrian planning. • Proposed recommendations based on Complete Streets, pedestrian-first urban design, universal accessibility, and integrated transport planning, providing a foundation for future research and supporting the Karachi Master Plan and Karachi Comprehensive Mobility and Accessibility Plan (KCAP).
6	**Competitive Advantage or Unique Selling Proposition** (
6 a	The project directly contributes to SDG 3 (Good Health and Well-being), SDG 11 (Sustainable Cities and Communities), and SDG 13 (Climate Action) by promoting safer, more accessible, and pedestrian-friendly urban mobility through the comparative assessment of signalized and signal-free corridors. It indirectly supports

	SDG 5 (Gender Equality) and SDG 10 (Reduced Inequalities) by addressing the mobility and accessibility needs of women, children, older adults, and persons with disabilities, while also contributing to SDG 9 (Industry, Innovation and Infrastructure) through evidence-based recommendations for inclusive, resilient transport infrastructure and sustainable urban planning. The study further generates baseline data, GIS-based spatial analysis, walkability assessments, and policy recommendations, providing an evidence base to support the Karachi Master Plan, Karachi Comprehensive Mobility and Accessibility Plan (KCAP), and future pedestrian-friendly, inclusive, and climate-resilient urban development.
6 b	**Any Environmental Aspect** The project promotes walking as a sustainable, low-carbon mode of transport by improving pedestrian infrastructure, accessibility, and walkability. It encourages a shift from short-distance private vehicle trips to active mobility, helping reduce greenhouse gas emissions, fuel consumption, traffic congestion, noise, and air pollution. By advocating pedestrian-first planning and integrating pedestrian infrastructure into future transport and land-use policies, the project supports the development of climate-resilient, environmentally sustainable, and livable cities, aligned with SDG 11 (Sustainable Cities and Communities) and SDG 13 (Climate Action).
6c	**Process Improvement which Leads to Superior Product or Cost Reduction, Efficiency Improvement of the Whole Process** Current transport planning largely prioritizes vehicular mobility, often overlooking pedestrian accessibility and inclusive urban design. This project proposes a pedestrian-first planning framework integrating walkability audits, GIS-based spatial analysis, stakeholder consultation, and universal accessibility standards into transport planning. It provides an evidence-based approach for evaluating pedestrian needs before implementing major road projects, while delivering a baseline evidence base, conceptual framework, policy and legal review, and practical recommendations to support the Karachi Master Plan, Karachi Comprehensive Mobility and Accessibility Plan (KCAP), and future sustainable urban mobility initiatives.
6 d	**Any Other Aspect** The project's competitive advantage is its development of one of comprehensive comparative evidence bases on pedestrian mobility in Karachi within mobility corriodrs . By integrating qualitative research, qualitative spatial mapping, walkability audits, stakeholder engagement, and policy analysis, it produced a conceptual framework, baseline dataset, and evidence-based recommendations to support future research, pedestrian-first planning, and the Karachi Master Plan and other sustainable urban mobility initiatives.
7	**Target Market** The outcomes of this research are relevant for: • Government Institutions (KMC,TEB, KDA,SMTA) • Urban planners and transport consultants

	• Development organizations • NGOs working on sustainable mobility • Road safety organizations • International development agencies (UN-Habitat, World Bank, Asian Development Bank) • Academic institutions and researchers The project can inform future urban mobility policies, transport infrastructure investments, and pedestrian safety interventions across Karachi and other rapidly urbanizing cities in Pakistan.	
8	**Team Members** (Names along with email address)	Insia Fatima – iinsiaaa786@gmail.com Sani e Zehra - zehraraheel869@gmail.com Suhaiba Khalid Khan - suhaibakhalid18@gmail.com Sumbul Naveed- sumbulnaveed2004@gmail.com Umaima Nadeem - umaimanadeemm28@gmail.com
10	**Supervisor Name** (along with email address)	Saeed ud din Ahmed - architectsaeed@yahoo.com
11	**Video (If any)**	Please provide the link of the video https://drive.google.com/drive/folders/1jch7MirvAaRe9uN36q90D6G02AaA-BiE

Pictures (to be pasted below)

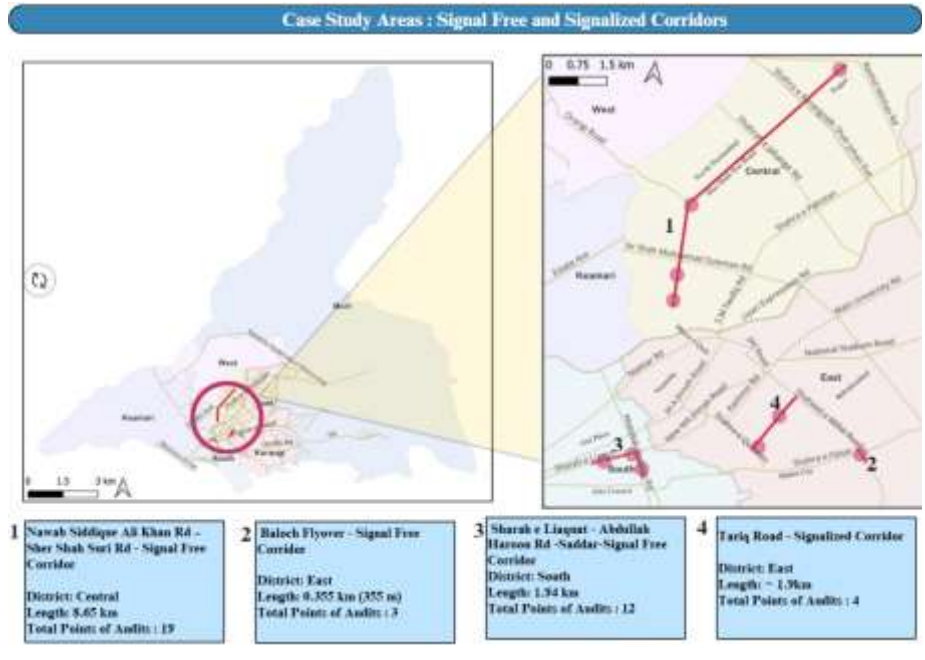


Figure 1Key Map of all casestudy corridors at macrolevel (Karachi)

Figure 2Key Legend for Mapping

Figure 3 Key Map: Baloch Flyover - Signal Free Corridor

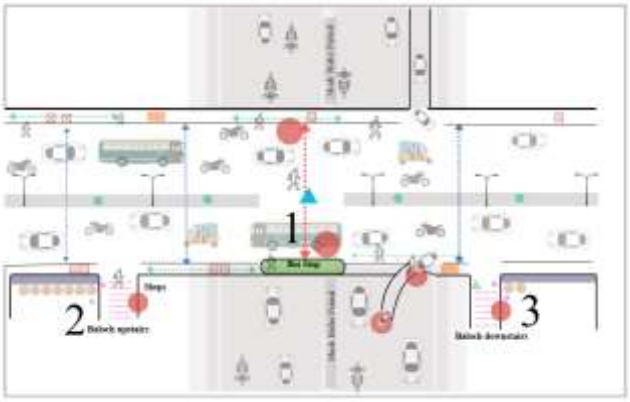


Figure 4 Detailed Map of Baloch Flyover Audit Points

Figure 6 Key Map : Tariq Road - Signalised Corridor

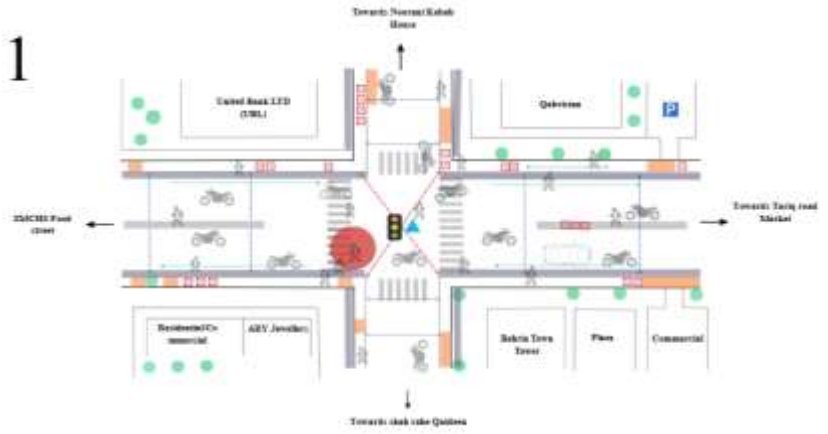


Figure 7 Detailed Map of Tariq Road Corridor Audit Points

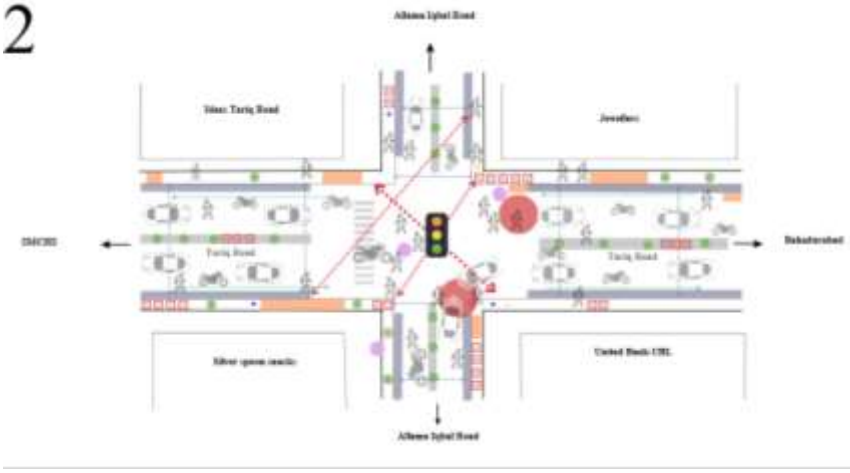


Figure 8 Detailed Map of Tariq Road Corridor Audit Points

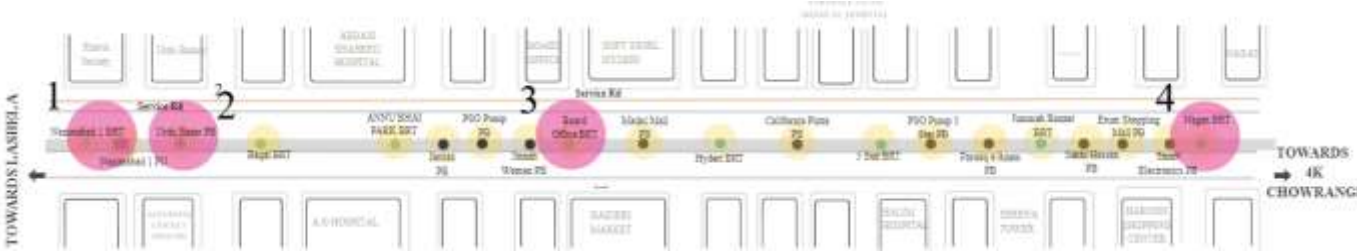


Figure 10 Key Map: Nawab Siddique Ali Khan Rd – Sher Shah Suri Rd - Signal Free Corridor

Figure 9 Detailed Map of Nazimabad Corridor Audit Points

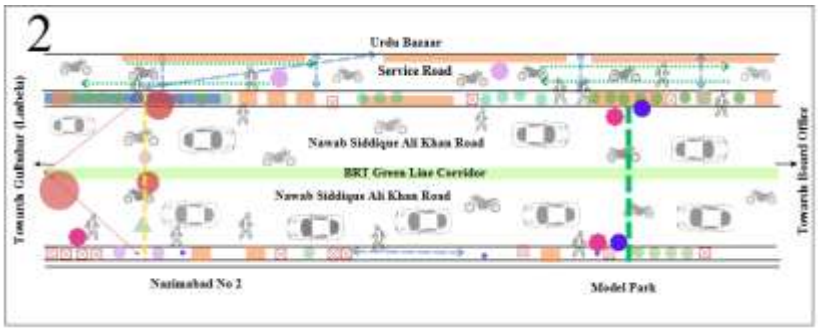


Figure 11 Detailed Map of Nazimabad Corridor Audit Points

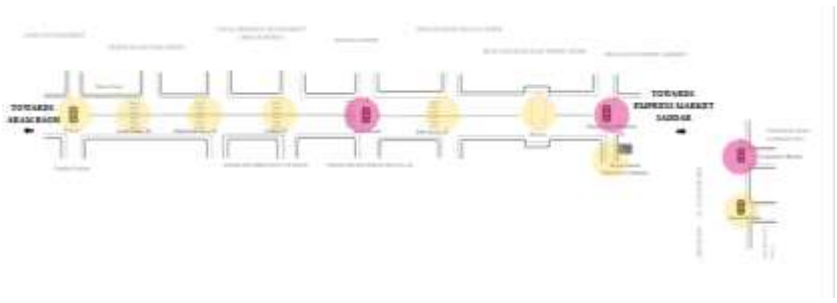


Figure 12 Key Map Sharah e Liaquat - Abdullah Haroon Rd -Saddar-Signal Free Corridor

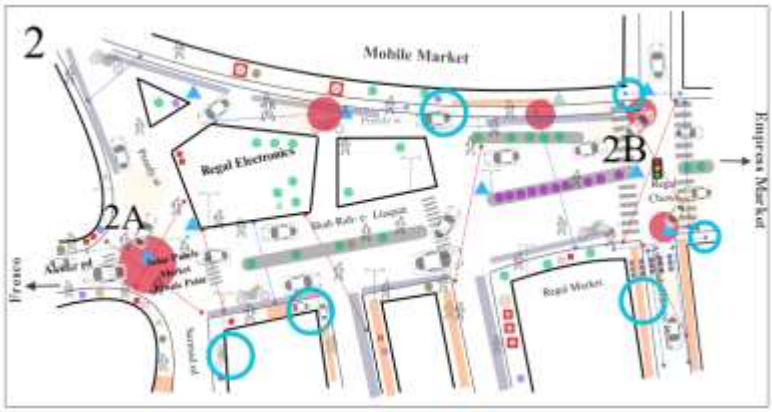


Figure 13 Detailed Map of Key Points

Figure 14 Open drainage increases safety hazards near pedestrian bridge

Figure 16 PWD facing difficulty to cross the road

Figure 15 Herd Behaviour - Women crossing a busy road with children

Figure 18 Characteristics of Pedestrian Space

Figure 17 Dug Addicts in Pedestrian Space

Figure 20 Drivers are not stopping at the zebra crossing

Figure 19 Footpath occupied for informal social use (feeding), creating shared and constrained space for pedestrians.