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Re-Thinking Koramangala: An Initial Conceptualization for Walkability, Green Infrastructure and Selective Elevated Pedestrian Connections

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Abstract: In this paper, a framework for enhancing pedestrian connectivity and environmental quality in a specific built-up area in Koramangala, Bangalore has been outlined. The research methodology adopted in this study includes a qualitative analysis of the theory of urban design, a comparative analysis of urban examples and an initial evaluation of a site boundary map provided. A conceptual framework that is ground first and takes into account the lenses of human scale public life, ecological planning, imageability and pedestrian circulation consists of an accessible walkway, shaded landscape elements and evaluation of whether an elevated walkway will be better than a ground level solution. Six conceptual solutions and a methodology for implementing the same has been provided. No pedestrian surveys, pedestrian counts, road width survey or feasibility analysis has been done for this paper. Thus, the contribution in this paper is of a decision framework rather than of any improvements in the area due to these solutions. This framework needs to be validated through field work before its implementation.

Keywords: *Koramangala, Walkability, Green Infrastructure, Pedestrian Accessibility, Urban Design, Skywalk Feasibility.*

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I. INTRODUCTION

Mixed-used districts already developed need upgrades to the spaces in between buildings, besides buildings. For example, in Koramangala, the continuity of walkways, accessibility of cross streets, as well as shading and readability of connections are design issues. They are the research questions of the selected block and not deficiencies from this study. As Jan Gehl notes, it is essential to focus on the human-scale of public life [1]. In his opinion, Kevin Lynch says that “people structure their experience of cities on the basis of paths, edges, districts, nodes and landmarks.” [2]

The issue that this paper deals with is the transformation of an already existing urban block towards being more pedestrian-friendly without any demolition or reliance on private property. The unique feature of this paper lies in the development of the ground-up approach to the issue with the consideration of pedestrians' interests, consistency of plantings, and conditional criterion of grade separation.

➢ *Aim, Questions and Scope*

The Aim of this paper is to analyse Koramangala urban neighbourhood (Hosur road near nexus mall koramangala mall,80 feet road,4th B cross road,1st A cross road)spanning to 15 Acres(60,000sqm 100mX60m)

The objective is to study 3 case studies and 5 literature reviews to generate a contextually sensitive public domain structure that may later be analyzed in terms of pedestrian usability, environmental comfort, and connectivity. This research tries to answer four questions:

- How can the existing paths and crossings help in achieving safer and continuous walks?
- How can the use of Green and Blue open spaces create a better walkability?
- In what confirmed skywalks would a higher connection make for a more suitable solution than an accessible surface footpath for pedestrian movement?
- How might Urban neighbourhood solutions be connected in an integrated network?

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Fig 1 Red Colored Zone is the Selected Site in Koramangala

Geographical boundary refers to the red-colored area depicted in Fig.1. The assumption here is that the current buildings will not change. Prior to selecting an alignment, one needs to verify the right-of-way, easement, utilities below ground, drainage, trees, and land use. Green spots indicated near the site in the existing plan represent contextual elements but not necessarily public access.

➢ *Case Studies*

The objective is to study 3 case studies which is as follows:

The pedestrian walkway and the multi-level traffic system in La Défense, Paris, offer a model of the way pedestrians can have a defined line of movement through intersections that pose difficulty. What the lesson to be learned from La Défense, Paris should be to Koramangala is not merely to reproduce a gigantic platform for commercial enterprises but to learn how to design a network of pedestrian routes that are continuous and well-defined despite having to negotiate the most difficult type of intersections.



Fig 2 La Défense, Paris

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The rehabilitation of Cheonggyecheon in Seoul is an example which proves that there is a way for re-establishment of walking and landscapes in the already densely built environment.

At the same time, though the concepts of movement, ecology and public space which were the key elements of Cheonggyecheon design can be applied to other cases, they cannot be used directly in this case because the study block lacks its watercourse feature.

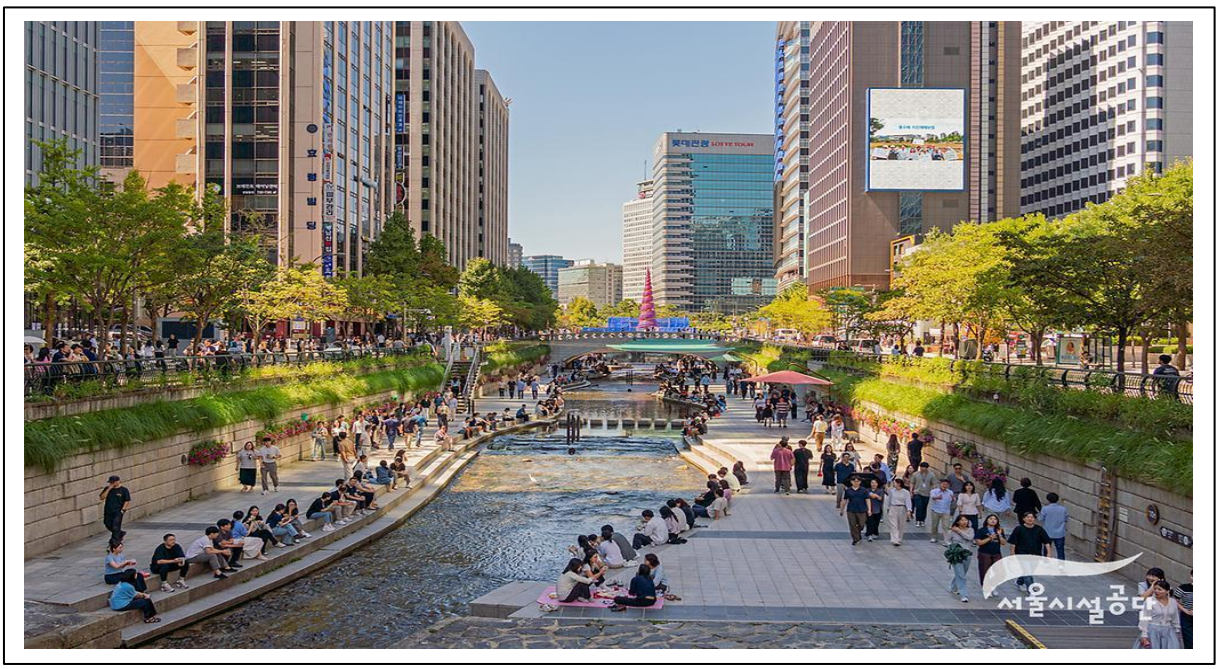


Fig 3 Cheonggyecheon, Seoul

Chandni Chowk urban landscape in Delhi is an instance of an intensive commercial area where there is the need for integrating pedestrian prioritization against servicing and access needs, as well as the use of the street. All three instances show three common features: creation of a continuous and recognizable path for pedestrians, viewing the landscape as part of infrastructure, and the adaptation of the circulation system to fit the specific street context. In the absence of performance data for the three sites being compared, it would be improper to claim anything about their performances.



Fig 4 Chandni Chowk ,Delhi

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II. LITERATURE REVIEW

The objective is to study 5 literature reviews which is as follows:

➢ *Human-Scale Walkability*

Gehl classifies outdoor activities into essential activities, discretionary activities and social activities and mentions that the quality of the public realm is related to opportunities for remaining and interacting [1], [3]. In case of Koramangala, this implies provision of interlinked routes, comfortable edges, seating and pedestrian-friendly junctions. But theory alone cannot decide about current activity levels and effects of the design itself.

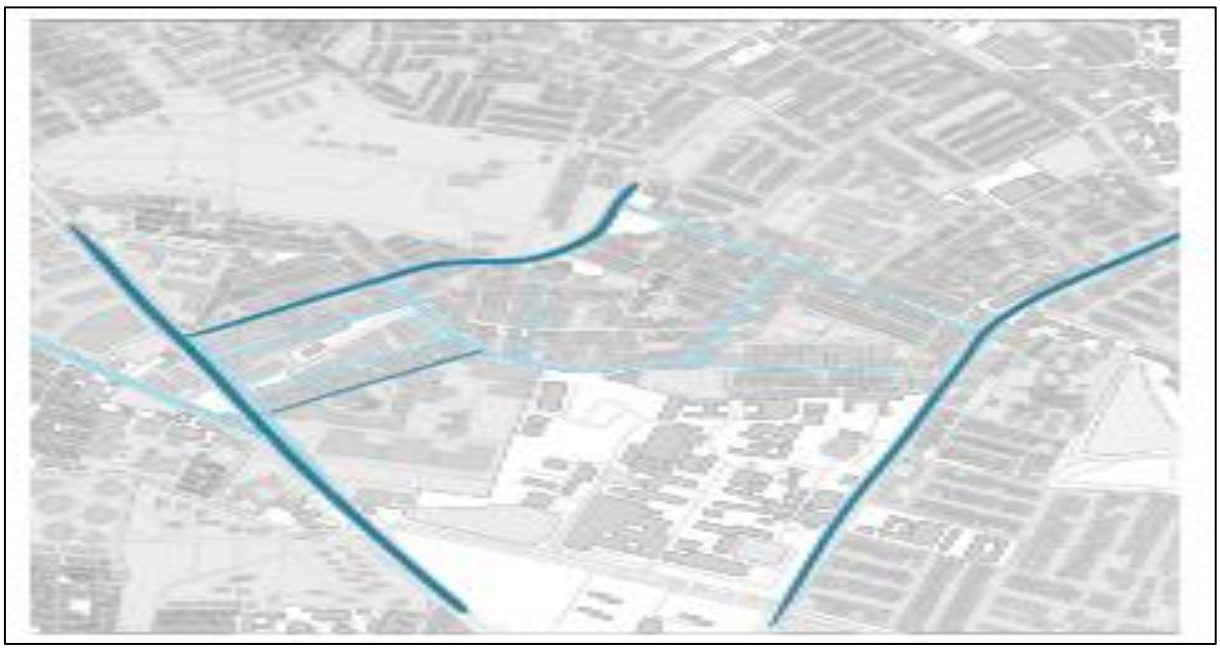


Fig 5 Road Networks of Koramangala

➢ *Ecological Planning and Green Infrastructure*

Planning should address environmental factors such as hydrology/topography/land capability [4]. Green infrastructure theory views the many functions of interconnected landscape elements, rather than just their visual appeal [5]. The suggested green spine should be evaluated using an assessment of the current tree canopy, drainage, root zone, and service corridor systems. Ecological functioning cannot be mistaken for visual coherence. Literature reviews reveal that urban green spaces can provide many possible health advantages; however, it depends on the context [6].



Fig 6 Shows Major Streets and Street Nodes Locations

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➢ *Pedestrian Circulation and Grade Separation*

- *Pedestrian Circulation/Grade Separation*

Gruen's approach was that of creating urban centers based on pedestrians, and he suggested the restructuring of the circulation of vehicles and pedestrians [7]. However, Gruen's approaches can be used to evaluate conflicting movements but do not prove structural, financial, or accessibility possibilities of building a skywalk in this specific case.

➢ *Legibility and Network Integration*

As per Lynch's concept of imageability [2], it would be better to assess existing routes/paths/edges/landmarks before planning for new ones. A systematic network would have existing streets as routes/entrances as junctions/planting as legibility aids. The interpretation should always be confirmed with actual users and not just through maps.



Fig 7 Shows Diversity of Koramangala

➢ *Synthesis*

However, the four perspectives differ from one another. In the case of Gehl, he focuses on the experiences of public life; McHarg concentrates on adapting the plan to its environmental setting; Lynch on comprehending legibility; while Gruen questions circulation separation. Combining these perspectives results in a decision-making process: improvement of accessible networks on the ground level should come first, planting should be done only if ecological/operational conditions permit, and elevation should be used after comparative analysis with the ground-level alternatives [8], [9].



Fig 8 Shows Population Density of Koramangala

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➢ *Comparative Precedents*

These cases provide examples of precedents that relate to design, as opposed to empirical examples of the same. It is not possible to transfer any precedent because of the differences in scale, funding, governance and physical context. The Paris La Défense district provides an example of pedestrian-friendly circulation and esplanade planning [10]. The Cheonggyecheon River Park in Seoul is an example of reintroducing landscape/pedestrian areas [11]. Chandni Chowk is one of those instances that emphasizes the significance of coordination between the pedestrian design and commerce in the Indian streetscape [12]. The official documents provide the details about the individual case, but there are no figures to make a comparison of their outcomes with that of Koramangala.

Table 1 Learning from Case Studies

Precedent	Transferable principle	Key limitation
La Défense	Continuous, legible pedestrian movement	District-scale deck and governance differ
Cheonggyecheon	Integrate walking and landscape	Watercourse and capital scale not comparable
Chandni Chowk	Balance pedestrian priority with servicing	Different intensity and street typology

This is not an issue of replicating the classic format but rather the coordination of walk/landscape/service in relation to the local conditions. It remains to be seen how successful a site-specific response will prove.

III. SITE ANALYSIS

- Site Context : Koramangala is an Urban mixed use district that includes residential, commercial and institutional uses.The aim of this paper as stated above is to analyse Koramangala urban neighbourhood (Hosur road near nexus mall koramangala mall,80 feet road,4th B cross road,1st A cross road)spanning to 15 Acres(60,000sqm 100mX60m)
- Data Collection : Surveys of site were done using photographs(fig 10,12,13) were taken, site observations were noted, satellite images were taken and base maps were generated using autocad.

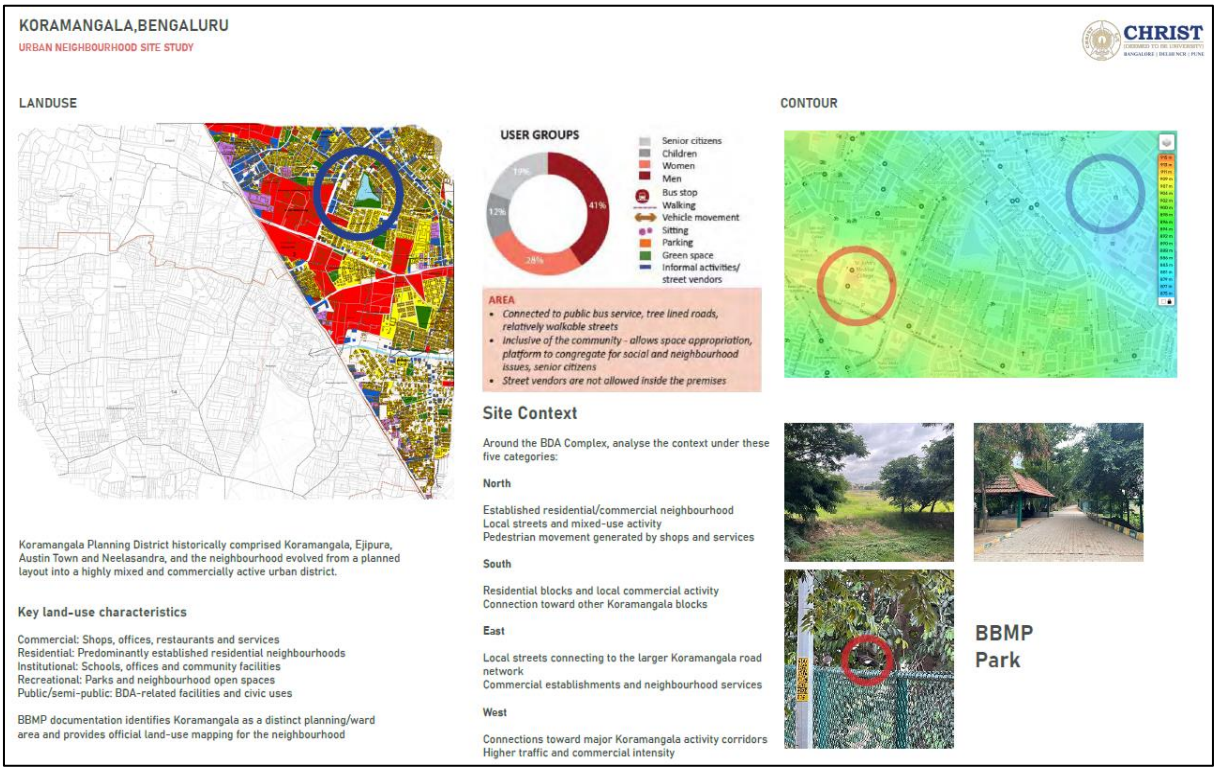


Fig 9 Site-Context and Analysis Board from the Supplied Manuscript
(Illustrative; Map Data, Image Credits and Authorship to be Verified Before Publication).

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- Land Use & Built Form: Analysis of existing buildings tells us about the land use,street edges, open spaces.



Fig 10 Mixed Use Development Recently Developed

- Circulation: Study of road systems,foot traffic,junctions,accessibility was done to make better understand the areas mobiity.(Hosur road near nexus mall koramangala mall,80 feet road,4th B cross road,1st A cross road)spanning to 15 Acres(60,000sqm 100mX60m)

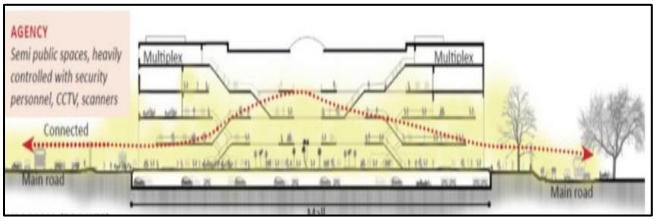


Fig 11 Section of Forum Mall [13]

- Walkability: Study of footpaths,crossings,safety,foot traffic was done to comfort,social interaction according to Jan Gehl's concepts [1].

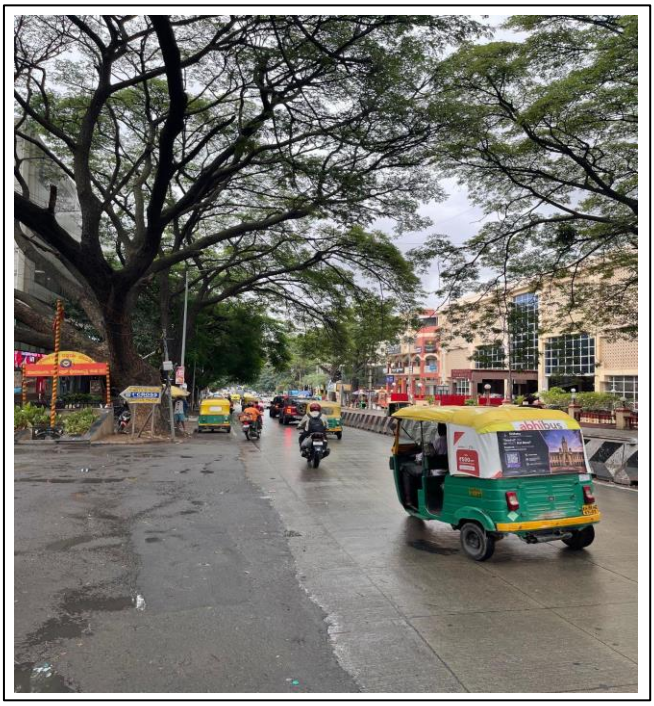


Fig 12 80 Feet Road

- Green Cover Study: Study of vegetation,open spaces,green corridors using the approach of Ian McHarg for ecological planning [2].
- Kevin Lynch Study: Identification of paths,edges,districts,nodes,landmarks [3].
- Activity Nodes: Identification of junctions, gathering places,pedestrian activity spaces.



Fig 13 4th B Cross Road Visuals at Night

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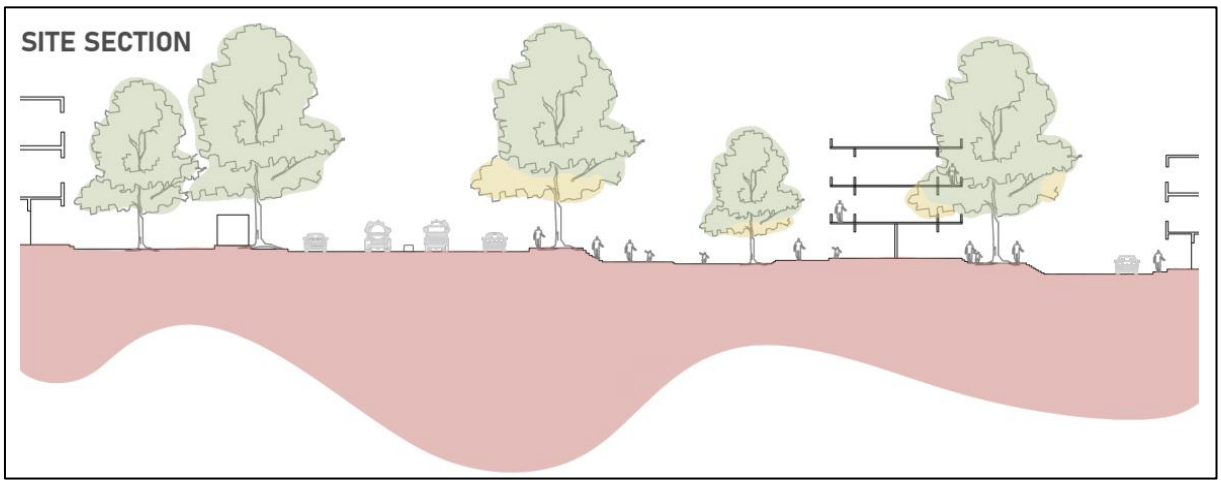


Fig 14 Section of BDA Complex

IV. PROPOSED DESIGN FRAMEWORK

➢ *Six Interdependent Strategies*

- Pedestrian spine at ground level must link up all the access points through uninterrupted paths.
- The traffic calmed roads must have crossings and access points that provide a way out during any emergencies.
- Green vistas must have tree planting, landscaping, and sight lines without reducing the width of the path for accessibility.
- Pocket plazas may be created if and only if the space is available.
- The sustainable street strategy may involve paving,rain gardens,wayfinding after validating the drains/utilities.and Adding EV charging points at or near to existing parking facilities and mobility hubs will help create a sustainable transportation system by reducing carbon emissions, optimizing use of urban land/infrastructure, and increasing access for all users, without having to change the physical structure of the city.
- Elevated pedestrian connectivity should be considered if there are barriers that provide the connectivity at the ground level.

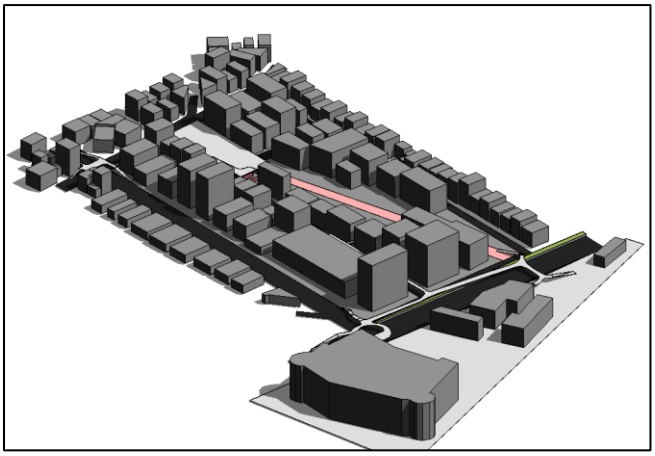


Fig 15 3D Massing Model of the Site

➢ *Skywalk Decision Gate*

The skywalk idea comes with a condition. It has to be proved through feasibility studies that there is a crossing issue and that the elevations provide value. The conceptual paper does not give the location, span, or cost of the skywalk.

V. IMPLEMENTATION AND EVALUATION

- Phase 1 involves documentation/reversibility via pilot study/improvements (with labeling, temporary seating, way finding, and trial planting where possible).
- Phase 2 involves verifying improvements to the footpaths, junctions, drainage, landscaping, coordination of utilities, as well as assigning maintenance work.
- Phase 3 involves the elevated walkway following engineering/accessibility assessment. Involvement of stakeholders (including government agencies, businesses, residents, property owners, and disabled people) is advised.

Monitoring should be done based on pre-established measures/observations under similar circumstances. Some of the measures may include accessible connectivity of pathways,crossing time, pedestrian flows, reported conflicts, shading,maintenance and usage of seats among others. These are proposed measures,not results.

➢ *Preliminary Costing Method*

Future quantity survey shall include the pavement/landscaping area in square meter, kerb,drain in linear meters, and tree,lamp post,signage,bench on an individual basis. Cost estimation will also take into account the schedule of rates or quotation of each of these items at that time.Which is approximately 10-15 crore based on site area Other issues will include site preparation, utilities, professional services, approvals, contingency and maintenance.

There is a lifecycle cost estimate for elevated structures which consists of foundation, deck, elevators, ramps, inspection, and replacement.

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VI. DISCUSSION AND LIMITATIONS

The suggested framework favors streets/networks/avoids early elevations due to possible problems with land acquisitions and accessibility. Its uniqueness is that it conditionally incorporates principles of pedestrians, ecology, and imageability in the context of the existing built environment. It is a design synthesis but not an empirically validated causal relationship.

Limitations are related to no field measurements/no ownership information/no utility information/no interviews with stakeholders/no quantitative environmental modeling/no engineering design. The three case studies are different and lack any transferability until a more comprehensive comparative context analysis.

VII. CONCLUSION

Ground-first strategy forms a reasonable starting point for enhancing the public space within the chosen Koramangala neighborhood. Walking/landscape integration/small gathering spaces are suggested to act as supplementary design elements/the elevated walkway will be considered depending on proven necessity/feasibility. Next steps will involve field verification and stakeholder involvement and testing various options of costing on quantity basis. The present research may be regarded only as an open framework for undertaking such improvements. For future we shall be working on design concepts,masterplan, landscape (hard and soft) plan, working drawings for street furniture ,pavilion, skywalk, green vistas,exhibition spaces and EV parking station(2-wheeler and 4-wheeler) and street plazas etc. this study is part of my M.Arch 1st Sem Urban Neighbourhood design studio.[14][15][16][17][18][19][20] [21][22][23][24][25].

REFERENCES

[1]. Gehl, J. (2013). Cities for people. Island press.https://books.google.co.in/books?id=lBNJoNILqQcC&lpg=PR3&ots=hHv6nXY4fq&dq=%5B1%5D%20J.%20Gehl%2C%20Cities%20for%20People.%20Washington%2C%20DC%2C%20USA%3A%20Island%20Press%2C%202010.&lr&pg=PA34#v=onepage&q&f=false

[2]. Lynch, K. (1995). City sense and city design: writings and projects of Kevin Lynch.https://philpapers.org/rec/LYNCSA-2

[3]. Gehl, J. (2012). Life between buildings: using public space. Princeton University Press.https://books.google.co.in/books?id=WsrNEQAAQBAJ&lpg=PT8&ots=oZ3qdlqTtK&dq=J.%20Gehl%2C%20Life%20Between%20Buildings%3A%20Using%20Public%20Space.%20Washington%2C%20DC%2C%20USA%3A%20Island%20Press%2C%202011.&lr&pg=PT8#v=onepage&q&f=false

[4]. McHarg, I. L. (1969). Design with nature (pp. 7-17). New York: American Museum of Natural History.https://www.charactertowns.org/wp-content/uploads/2023/08/BR-Design-With-Nature.pdf

[5]. Hagemann, F. A., Sang, Å. O., & Randrup, T. B. (2024). Young people's participation in urban landscape planning and transformation: a scoping review of interactive approaches. Socio-Ecological Practice Research, 6(4), 433-454..https://link.springer.com/article/10.1007/s42532-024-00200-1

[6]. World Health Organization. (2016). Action plan for the prevention and control of noncommunicable diseases in the WHO European Region (No. WHO/EURO: 2016-2582-42338-58618). World Health Organization. Regional Office for Europe.https://iris.who.int/items/f315f197-91e8-4e34-ab86-5223a154d40b

[7]. Gruen, V. (1964). The heart of our cities: the urban crisis: diagnosis and cure. (No Title).https://cir.nii.ac.jp/crid/1971430859862777734

[8]. Global Designing Cities Initiative. (2016). Global street design guide. Island Press.https://books.google.co.in/books?hl=en&lr=&id=hqkXDQAAQBAJ&oi=fnd&pg=PP1&dq=/global-street-design-guide/&ots=xYXVCKoko6&sig=B7hjTunNIkZ08dptun0yQ8uaEGw&redir_esc=y#v=onepage&q=%2Fglobal-street-design-guide%2F&f=false

[9]. Thakur, S. (2026). Accessibility: India's Next Real Estate Mission. The Journal of Inclusion and Disability, 2(1), 27-37.https://www.ovid.com/jnls/jiad/fulltext/10.4103/jiad.jiad_15_26~accessibility-indias-next-real-estate-mission?context=latestarticles

[10]. Wróbel, P. (2025). The social dimension of architecture: the example of the Cathedral of Notre Dame and the Grande Arche de la Fraternity in Paris. State and Society , 25 (1), 161-177.https://www.ceeol.com/search/article-detail?id=1347717

[11]. Lee, J. Y., & Anderson, C. D. (2013). The restored Cheonggyecheon and the quality of life in Seoul. Journal of Urban Technology, 20(4), 3-22.https://www.tandfonline.com/doi/abs/10.1080/10630732.2013.855511

[12]. Goel, S., Ashtt, R., Wankar, M., & Gupta, P. (2026). Rethinking Tourism Development: Sustainable Architectural Interventions in Shahjahanabad and Beyond. In Architectural Vision of Overtourism (pp. 183-201). Singapore: Springer Nature Singapore.https://link.springer.com/chapter/10.1007/978-981-96-5794-0_11

[13]. Karadagi, Prakruthi. (2021). Reconciling the Public, the Private and the People - An Inquiry into the 'publicness' of retail urban spaces in Bengaluru. 10.47472/CBbK4eZ4.https://www.researchgate.net/publication/357760917_Reconciling_the_Public_the_Private_and_the_People_-_An_Inquiry_into_the_'publicness'_of_retail_urban_spaces_in_Bengaluru

[14]. Gupta, J. (2026). Beyond the Power Law: A Reproducible Residual-Decomposition Framework for Urban Scaling and ESG Indicators in Indian Cities.

ISSN No:-2456-2165 https://doi.org/10.38124/ijisrt/26oct1588

Journal of Intelligent Decision Making and Information Science, 3(11s), 682-703.
[15]. Gupta, J., & Kumar, R. (2025). A Review of Geospatial Urban Growth Modelling with Applications. Sustainability and Urban Quality of Life: Research, Policy and Practice, 299.
[16]. Bhunia, A., Chatterjee, U., Gupta, J., & Gupta, K. (2025). Urbanisation and Quality of Life. Sustainability and Urban Quality of Life: Research, Policy and Practice, 1.
[17]. Gupta, J. (2025). GIS study of rejuvenated textile industries in Coimbatore, Tamil Nadu, India. International Journal of Advanced Engineering Application, 2(4), 27-44.
[18]. Khan, M., & Gupta, J. (2025). Mapping Sustainability: Evaluating Channapatna's Green Spaces, Water Bodies, And Mobility Networks. International Journal of Scientific Research & Engineering Trends, 11(6).
[19]. Chikkalkar, A. A. P., & Gupta, A. J. (2025). Geo-spatial analysis on Socioeconomic mapping between Demographic data and Economic growth: A case study of Mumbai. International Journal of Advanced Multidisciplinary Application, 2(4), 8-19.
[20]. Gupta, J., & Kumar, R. (2022). Evaluating the sustainable indicators of cities of India: ESG framework review.
[21]. Gupta, J., & Kumar, R. (2001). Urban Growth Modelling Based on CA-Markov Approach on Bengaluru India. Assessment, 91(21), 21.
[22]. Kunnath, A. R. E., & Gupta, J. (2024, July). A Review of biophilic design at Kuttikattoor school for the children. In E3S Web of Conferences (Vol. 546, p. 01002). EDP Sciences.
[23]. Sao, A., & Gupta, J. (2023, April). Sustainability indicators and ten smart cities review. In 2023 IEEE International Conference on Contemporary Computing and Communications (InC4) (Vol. 1, pp. 1-6). IEEE.
[24]. Gupta, J. (2022, November). Statistical assessment of spatial autocorrelation on air quality in Bengaluru, India. In International Conference on Intelligent Vision and Computing (pp. 254-265). Cham: Springer Nature Switzerland.
[25]. Raegan Alex. A, & Jyothi Gupta. (2025). Implementing Blue-Green Infrastructure In GIS For Climate Impact: A Case Study Of Chennai, Tamil Nadu, India. In International Journal of Scientific Research & Engineering Trends (Vol. 11, Issue 6). Zenodo. https://doi.org/10.5281/zenodo.17878089