

Investigating Transformation of Commercial Centres in Sub-Urban Towns: Defining Important Aspects of Research Work

Sandipan Sinha¹, Dr. Sanghamitra Sarkar², Dr. Abhiroop Das³, Dr. Sanjib Nag³

¹Ph.D Scholar, ²Assistant Professor, ⁴Professor & Former Head, Dept. of Architecture, Jadavpur University, India

³Associate Professor, Dept. of Architecture, SNU, Kolkata, India

Abstract— Transformation, in urban studies, refers to the systematic alteration of an entity's inherent functioning. From a physical standpoint, spatial transformation is particularly significant and impactful. In the context of Commercial Centres, such transformation plays a crucial role, as these spaces serve as hubs for business activities as well as social interactions. In Sub-Urban Towns, Commercial Centres hold even greater importance, functioning not only as economic focal points but also as key public places. Beyond commerce, these Centres accommodate various functions, including services, public culture, and administrative activities. However, rapid urban expansion has led these places to unplanned and haphazard spatial transformations. The Transformations of Commercial Centres in Sub-Urban Towns demands urgent investigation, given the increasing influence of national and international franchises, e-commerce, shopping malls, and multiplexes. This paper aims to explore the critical dimensions of these transformations, identifying key parameters and sub-parameters essential for further studies regarding the research work.

Keywords— Transformation, Commercial Centres, Sub-Urban Towns, Sense of Place, Vitality, Permeability.

I. INTRODUCTION

Transformation means the change in form or appearance of a place over a time period. This change in form takes place in a piecemeal process of numerous small changes of urban fabric. This process of continuous changes, over a time period, appears as Transformation. [1] This phenomenon is multi-dimensional and among them, spatial, social, cultural, economic, and environmental dimensions are very crucial ones which trigger this process holistically.

The process of rapid urbanization can lead to Transformation, and can results in the inherent change in functioning with the overall use and form of a place. [2] Urban places also lead to Transformation through the government driven projects and market speculation driven developments. Irrespective of the underlying factor/s Transformation becomes a persistent public concern as it creates a challenge to maintain the resilience of urban systems and therefore, is now important focus of research in urban studies. [3]

A better understanding of the role of underlying factors, which lead to Transformation of a place is always necessary to cope with the constant changes. [4] Sometimes urban intervention becomes indispensable, to guide this Transformation towards futuristic development goals. The transformation of Singapore Cityscape (Fig 1) and the Transformation of Pondy Bazar at Chennai (Fig 2) can be mentioned in this context. As a solution to the existing problems, the process of Transformation can be directed towards desirable direction by developing generic guidelines applicable for public places like Commercial Centres. [5] The focus of this research is on the Transformation of Commercial Centres.



Figure 1: Singapore Cityscape, Transformation in 18 years
 Source: Google Image, 2024

Figure 2: Pondy Bazar at T Nagar, Chennai, before and after Transformation Source: Author, 2021

Commercial Centres have always been the important public place since the ancient civilization. Ancient Roman Forum (Fig 3) and New Market area at Kolkata (Fig 4) are the example of Commercial Centres, of their respective era. The function of these Centres is to serve as hubs of different economic activities like retail for business and trade for service industries. These Centres often serve as important nodes by connecting a network of buying and selling- points of exchanging commodities and services, thus shaping the spatial and social structure of an urban area. [6]

Commercial Centres can be characterized by, diverse commercial activities and transactions, high value of land with predominant commercial zoning and mixed use developments, centralized location with greater connectivity links. Besides providing essential goods and driving the economic growth these centres promote community bonds. [7] Attractive plazas, public places for community interactions often demarcate as some of the important landmarks in these Centres, which may vary in terms of scale from a neighbourhood commercial strip to regional or global financial district, thereby serving as indicator of the overall urban growth.

In today's context, the Transformation of Commercial Centres can make these places attractive to a greater catchment area. Urban infrastructure development accelerates this process towards more expansion. [8] Therefore, maintaining functionality and sustainability of Commercial Centres, especially in Sub-Urban Towns, are to be ensured in the developing countries like India, for their further growth. [9]



*Figure 3: Ancient Roman Forum
Source: Google Image, 2024*



Figure 4: New Market area of Kolkata. Source: Author, 2023

Sub-Urban Towns are Medium Towns with a population range of 50 thousands-5 lakhs. (URDPFI Guidelines, 2015) According to Census of India there are two types of Towns, Statutory Town (ST) and Census Town (ST). The present study deals with Statutory Towns, which are governed by municipality, Municipal Corporation, notified town area committee or cantonment board. These Towns often serve as transitional zone between rural and urban areas, having a mix of urban and rural features. Sub-Urban is better understood as a process, instead of a fixed geographical place. [10] In Indian context, rapid population growth, industrialization, commercialization and establishment of infrastructure projects contributes to Sub-Urban growth. [11]

Sub-Urban Towns are characterized by far proximity to the major city and hybrid land use pattern. Basic service infrastructures of Sub-Urban Towns are often found in a state of inadequate condition with respect to the core urban agglomeration. With the trend of migration of population from rural to urban areas Sub-Urban Towns are defining feature of Indian urbanization today. [12] These Towns are generally found to be governed by municipality, which generally lacks in terms of resources and expertise to run the complex urban system. The process of urbanization as well as some more factors like economic development triggers the Transformation of Commercial Centres. But Sub-Urban Towns, through these Transformation process, are not supposed to lose its suburban identity. [13] As example Kabiguru Rabindra Path at Kanchrapara (Fig 5) and Barabazar Market at Purulia Sadar (Fig 6) can be acknowledged as Commercial Centres in Sub-Urban Towns in West Bengal.

The objective of this paper is to find the important aspects of research on the Transformation of Commercial Centres, operational especially in Sub-Urban Towns, which are far from metropolitan agglomeration. Adding to that, an attempt has been made to find out the relevant parameters and sub-parameters affected by this same process of Transformation.



Figure 5: Kabiguru Rabindra Path at Kanchrapara. Source: Google Image, 2024



Figure 6: Barabazar Market at Purulia Sadar. Source: Google Image, 2024

II. DISCUSSION

2.1 Transformation of Commercial Centres

Transformation, driven by urbanization and economic forces, may always affect the Commercial Centre of any settlement. As an inevitable consequence spatial formation, in terms of appearance gets affected followed by the subsequent developments. With the emergence of new, innovative retail formats driven by the diversified need of consumers with respect to their socio-cultural and lifestyle differences the process of transformation get accelerated.



[14] Some of the salient features of this said Transformation are discussed below on the basis of literature study.

Economic developments increase the buying power of common public and eventually increase the demand. These factors leads to the emergence of new business units like shopping malls or big departmental stores. As per World Economic Situation and Prospect Report by UN [15] economic growth in India will be around 6-6.6% in 2025 and 2026. This will happen due to foreign investment and development of new supply chain, beside the Government investment in large scale public infrastructure, physical and digital connectivity and social infrastructure including sanitation and water supply systems. [16]

Another factor affecting Transformation is urbanization. These processes stimulate the migration from rural to urban areas. This in turn increases consumption followed by increased demand and consequently lead to the Transformation of Commercial Centres. [17] As a result land value increases and people with more buying capacity remain closer to the Commercial Centres and the population of weaker economic condition are compelled to go further from the centre where land value become affordable for them. This phenomenon is called “Voluntary Transformation” which gets triggered in order to benefit or profit maximization [18] and hence urbanization plays a pivotal role in the process of Transformation of Commercial Centre.

Infrastructure development also influences Transformation. In 2015 China’s economic stimulus package supported development of domestic urban infrastructure leading to Transformation of urban geographies across the country. [19] In case of Commercial Centres, which are functionally connected to transit system, this type of Transformation is very evident. With the development of infrastructure and transport the agricultural products market in Sub-Urban Towns grows significantly. [20]

Transformation always has implication on built form of the Commercial Centres. [21] It eventually and definitely affects some of very important factors of a Commercial Centre, such as, the identity of the place for shopping locations, socio cultural activity, economic sustenance which as a whole evokes a Sense of Place. [22] In case of Sub-Urban Towns this sense of place becomes very vital in terms of activities and built form.

At the same time, Transformation of Commercial Centres may alter the spatial configuration with respect to vitality, which has been found to have taken place freely, further indicating people’s democratic space in businesses.

[23] Besides that, the vehicular and pedestrian movement in and around these Commercial Centres are one of the important aspects in the process of Transformation, thereby adding vitality of the Commercial Centres. [24]

It has been also found that, the provision of safety and security in Commercial Centres are often neglected in Indian context. [25] The permeability of building frontage enhances natural surveillance and thereby create a sense of safety especially for female pedestrians. [26] Among the urban space qualities, permeability, which is affected by safety and accessibility, has been observed to increase the attraction potential of Commercial Centres. [27] It is necessary to have more permeable frontage in order to accommodate more retail and services in Commercial Centres. [28] Commercial Centre in Sub-Urban Towns stand apart from their city counterpart with some unique features.

2.2 Commercial Centres In Sub-Urban Towns

Commercial Centres in Sub-Urban Towns holds the same characteristics of activities but the scale may differ with respect to city or metropolis. The optional activities instead of social and necessary activity like, food outlets, and cultural activities attracts more people to these Centres. [29]

In India Commercial Centres in Sub-Urban Towns are changing faster than the city counter part of it, being a “transitional space” from rural to urban area. [30] With penetration of big conglomerates and retail chains into the Sub-Urban Towns, Transformation is getting accelerated. This potential of outlet market attracts more investment towards big commercial units by various national and transnational companies. [31]

As per the MoHFW annual report 2019-20, between 2011-2036 urban growths will be responsible for 73% of the rise in total urban population in India. The said growth is mostly indicated towards the Sub-Urban Towns than the cities. According to Census of India, 2011, small towns are the engines of potential growth which, can bring a lot of change in the Commercial Centres in Sub-Urban Towns.

In Sub-Urban Towns, the typology of Commercial Centres are different from cities. It is commonly in form of a commercial street with simplified aggregation of modular cells as commercial units in a parallel assembly. [32] The layout of these Centres may have a linear, ramified or aggregated pattern (Fig 7). It has been observed that in the gated Commercial Centres, the consumers prefer to feel the semi-public spaces inside the facility, to roam around for shopping. [33] This kind of preferences result in emergence of small scale shopping mall type buildings.

It has been observed that in Sub-Urban Towns, the preference for buying is not the brand but the product available in cheap rate. As a result these building types are not always being a successful proposition for the investors. [34]

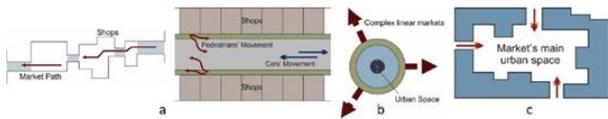


Figure 1 Market Layout Patterns: (a) linear pattern, (b) ramified pattern, (c) aggregated pattern. Source- MOMRA, Riyadh, Saudi Arabia, 2006[35]

Commercial Centres in Sub Urban Towns has evolved from a location for purchasing to a place for social interaction, which evokes a Sense of Place. [36] During morning, the perishable market area of Commercial Centre remains very active in terms of footfall. The on-street tea stalls become the place for meeting and interaction. But in the evening time the rest of the commodity market gets crowded but the same tea stalls and food outlets start getting crowd. This kind of spatio-temporal aspects are very common in periodic markets in Sub-Urban Towns also. [37]

Movement in and around the Commercial Centre in Sub-Urban Town are very diverse. Most important of them are pedestrian movement, two wheelers, including bicycle, motor-cycle, feeder vehicles like rickshaw, auto-rickshaw, four wheelers including cars and loading unloading vehicles and sometimes buses. Pedestrian flow and movement are the indices to increase attractiveness and vitality of the Commercial Centre. [38] The marketplace at Sub-Urban Town Kanchrapara (Fig 8, 9) in Nadia district of West Bengal, depicts the movement of all kind of vehicles through the major commercial area of the town. The concentration of Commercial activities including informal retails take away the comfort and freedom of movement from the both pedestrians as well as vehicles. [39] The Wednesday market at Raiganj (refer fig. 10), a municipal town of Uttar Dinajpur District of West Bengal, shows how the on street vendors can narrow down the major means of access of a town. This movement and the spatial configuration quality like sidewalks and landscaping affects vitality of the Commercial Centres in Sub-Urban Towns. [40]



Figure 2: Kanchrapara Commercial Centre, Road blocked by vendors and parking. Source Author 2024



Figure 3: Kanchrapara Commercial Centre, Road with different mode of transport on same track. Source Author 2024

Commercial Centres in Sub-Urban Towns are often the only choice for food outlets. The picture of a weekday evening in Golbazar at Kharagpur Town in West Midnapur district (Fig.11), transformed a regular lane into attractive food street. Shops and eating establishments are accessible through lanes and courtyards. This adds to the permeability of the Commercial Centre in Sub-Urban Town. [41] More permeable fabric has more option for accessibility. Permeability is a visual quality and behaviour characterized by sight and movement. [42] Therefore, permeability is another important factor of Commercial Centres in Sub-Urban Towns, which get affected by Transformation process.



Figure 4: Wednesday market at Raiganj. Source Author 2024



Figure 5: Golbazar at Kharagpur. Source Author 2024

2.3 Transformation of Commercial Centres in Sub-Urban Towns

Transformation of Commercial Centres in Sub Urban Towns in terms of spontaneous emergence of shopping malls, was first noted by Margaret Crawford during 1992, in reference to the increasing pressure that Commercial Centres in Sub-Urban Towns create on inner cities. [43] People in Sub-Urban Towns who used to prefer city market get slowly depend upon the local Commercial Centres, as the later is able to attract customers than it used to previously. Some of the salient features of this Transformation of Commercial Centres in Sub-Urban Towns are discussed below on the basis of literature study.

Commercial Centres in Sub-Urban Towns have a set of perceptual qualities which help to identify these places. These qualities altogether create the Sense of Place which, need to persist through the process of Transformation. In the context of Sub-Urban Towns, activity and built form directly correlates to the inhabitant's experience of Sense of Place. [44] [45] In case of West Bengal, this Transformation needs further study due to lack of sufficient academic discourse with respect to Commercial Centres in Sub-Urban Towns.

In these towns local tea stalls, on street unorganized hawkers, social interaction among the sellers and buyers juxtapose as different social agents to create a unique identity of these places. [46]

Movement, in terms of increased pedestrian flow contribute to the vitality of a place added to the simplicity and clarity of the traffic space relationship. [47] Spatial Configuration which evokes the attractiveness also increases the vitality of these Commercial Centres in Sub-Urban Towns. Curbed sidewalk, well maintained drainage system, and distribution of urban amenities like park or open seat-out spaces and resources like proximity to financial utilities like bank, ATM terminal are supposed to be sustained or improved to take these transformation towards positive growth. [48] Movement through good quality space need connectivity which indicates towards the permeability of the place. Commercial Centres should have surrounded by small, accessible urban fabric. The fabric's permeability is increased by the numerous stores and restaurants that ensure safety and security by providing through-site connections. [49]

Commercial Centres in Sub-Urban Towns are more prone to Transformation, especially in the state like West Bengal, which experienced constructive improvement in those towns. [50] The major characteristic of trade and commerce in Sub-Urban Towns is retail, and the spatial manifestations of organized retail are Commercial Centres. [51] In today's context, the study of said Transformation in the developed state like West Bengal, becomes crucial because, the overall urban growth of these towns of West Bengal, are poorly taken into consideration, which leads the Transformation towards chaotic development. [52] [53]

On the basis of literature survey a comparative analysis of studies related to Transformation of Commercial Centres, mostly contextual to Sub-Urban Towns. The key insights revolve around contextual drivers, type of interventions, parameters affected and the outcomes. Among the studied literature, in 77.7% cases Transformation has occurred without control and intervention, has led to negative direction, in terms of decreased footfall or environmental degradation. According to the findings some positive Transformation factors are, planned intervention with infrastructure focus [54][55], integrated governance and participatory planning [56][57], attention to economic, social and environmental balance. There are some negative Transformation factors, such as, Lack of intervention/market driven growth [58][59], disregard for socio-cultural identity or built form context [60][61] and malls overpowering traditional markets, and thus reducing local vibrancy.

As a solution to this problem a set of strategy recommendation in terms of development guidelines, can control and direct the further Transformation towards positive futuristic goals. The following, graphical presentation (Fig.12) depicts the most frequent parameters and sub-parameters, prevalent in the literature study, and applicable in the context of Sub-Urban Towns, to continue further field evaluation of the said Transformation of Commercial Centres.

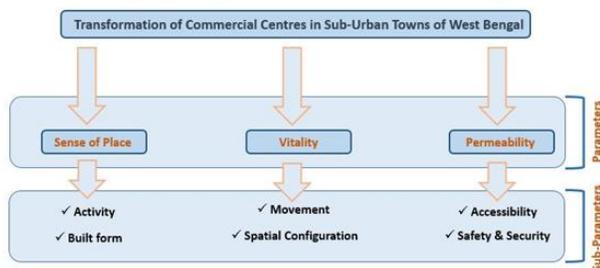


Figure 6: Selected Parameters and Sub-Parameters for the study of Transformation of Commercial Centres in Sub-Urban Towns. Source Author 2024

III. CONCLUSION

In this perspective, on the basis of the introduction and discussion, it is evident that the Transformation have significant impact on the Commercial Centres in Sub-Urban Towns, which can be studied in the context of West Bengal.

Through this paper it can be established that the issues of segregation of activities distributed along the built form, resolution of conflicts on movement in and around the spatial configuration and the issues of accessibility and safety and security are the most generic issues related to the study of the said Transformation of Commercial Centres.

The literature study on the Transformation of Commercial Centres has obtained some important aspects of the said Transformation process contextual to Sub-Urban Towns. The factors which drive these Transformation process towards either positive or negative direction, has been established. The parameters affected by the Transformation process has been identified with some sub-parameters, which are going to be the evaluation parameters of studying Transformation of Commercial Centres in Sub-Urban Towns in further phase of the research.

However in order to understand the impact of said Transformation with more clarity, the parameters and sub-parameters for further research should emphasize on Sense of Place, Vitality and Permeability.

On the basis of these Parameters and Sub-Parameters, further related on site studies on some Sub-Urban Towns of West Bengal will be carried out in a sequential manner to yield data, which in future, on the basis of subsequent analysis, may lead to the formulation of relevant strategies, recommendations and guidelines in order to highlight the similar Transformation towards desirable direction.

REFERENCES

- [1] Mishra, S. &. (2013). Urban transformation and role of architecture towards social sustainability. *Int J Eng Res Dev* 5, 16–20.
- [2] Yang, R. Z. (2020). Urban-rural spatial transformation process and influences from the perspective of land use: A case study of the Pearl River Delta Region. *Habitat International*, 104.
- [3] Schalbetter, L. e. (2023). From board games to immersive urban imaginaries: Visualization fidelity's impact on stimulating discussions on urban transformation. *Computers Environment and Urban Systems*.
- [4] Wei, Y. H. (2012). Restructuring for growth in urban China: Transitional institutions, urban development, and spatial transformation. *Habitat international*, 36(3), 396-405.
- [5] Webb, R. e. (2023). Enabling urban systems transformations: co-developing national and local strategies. *Urban Transformations*.
- [6] Lefebvre, H. (1991). *The Production of Space*. Oxford: Oxford Blackwell.
- [7] Biswas, A. &. (2024). What makes neighbourhood-level commercial centres attractive for neighbourhood residents? *Regional Studies, Regional Science*, 11(1), 291-310.
- [8] Ferdous, F. &. (2007). Morphological transformation and evolution of Panthapath as a commercial belt of Dhaka City. *Protibesh*, 11(2), 55-66.
- [9] Ibrahim, A. (2014). Evolutionary Trend, Spatial Distribution of, and Issues Associated with Markets in Kano Metropolis. *Research on Humanities and Social Sciences*.
- [10] Brook, R. S. (2003). *Changing Frontiers: The Peri-urban Interface Hubli-Dharwad, India*. Bangalore: Books for Change.
- [11] Rajendran, L. P. (2024). The 'peri-urban turn': A systems thinking approach for a paradigm shift in reconceptualising urban-rural futures in the global South. *Habitat International*, 146.
- [12] Gagoi, K. (2022). SUBURBAN DEVELOPMENT IN INDIA: AN EMERGING AREA OF CONCERN. *International Journal of Multidisciplinary Educational Research*.
- [13] Vaughan, L. e. (2015). Suburbs and the Life of the High Street. In L. Vaughan, *Suburban Urbanities* (pp. 11-31). London: UCL Press.
- [14] Tripathi, V. R. (2020). Is the lifestyle centre the new retail transformation in India? An exploratory study. *International Journal of Business and Emerging Markets*, 12(2), 133-151.
- [15] UN. (2018). *World Urbanization Prospect*. UN DESA.
- [16] Khare, A. &. (2010). The evolution of retailing in India's small towns. *International Journal of Business and Emerging Markets*, 2(1), 58-76.
- [17] Lin, Y. D. (2011). From village to metropolis: a case of morphological transformation in Guangzhou, China. *Urban Morphology*, 15(1), 5-20.

- [18] Akin, D. &. (2005). Usability of large urban facilities in spatial transformation-case study of regional shopping centers in Istanbul. 45th Congress of the European Regional Science Association- ERSA 2005. Amsterdam: Vrije Universiteit.
- [19] Apostolopoulou, E. (2021). Tracing the links between infrastructure-led development, urban transformation, and inequality in China's belt and road initiative. *Antipode*, 53(3), 831-858.
- [20] Narain, V. A. (2013). Periurbanization in India: a review of the literature and evidence, Report for the project-Rural to Urban Transitions and the Peri-urban Interface. Secunderabad: SaciWATERS. India First published in.
- [21] Mitch. (2024, May 27). Commercial Transformation. Retrieved from Vendavo.com: <https://www.vendavo.com/glossary/commercial-transformation/>
- [22] Shamsuddin, S. &. (2008). Making places: The role of attachment in creating the sense of place for traditional streets in Malaysia. *Habitat international*, 32(3), 399-409.
- [23] Haryanto, R. e. (2020). The Transformation From Residential To Commercial Space Towards Dynamic Space Formation In Central Jakarta. *Journal of The Malayasian Institute of Planners*, vol 8, issue 4.
- [24] Zhou, W. e. (2024). A Statistical Study of the Pedestrian Distribution in a Commercial Wholesale Centre Based on the Traffic Spatial Structure. *Buildings by MDPI*.
- [25] Thomas, P. &. (2019). Lack of Safety and Security Provisions is affecting the optimum utilisation of Retail Business Space in the Shopping Malls: A Study with reference to Rajasthan. *International Journal of Research and Analytical Reviews* , Vol 6, issue 2.
- [26] Dameria, C. &. (2021). Enhancing female pedestrians' safety perceptions through the permeability of building frontages (case study: blok M area). *IOP Conference Series: Earth and Environmental Science* (Vol. 673, No. 1) (p. p. 012040). IOP Publishing.
- [27] Yavuz, A. &. (2016). Evaluation of Spatial Permeability Concepts: A Case Study of the Trabzon Forum Shopping Centre. *Environmental Sustainability and Landscape Management*, 239.
- [28] Alonso de Andrade, P. B. (2018). Development of a measure of permeability between private and public space. *Urban Science*, 2(3), 87.
- [29] Gehl, J. &. (2013). *How to study public life* (Vol. 2). Washington, DC: Island press.
- [30] Rajendran, L. P. (2024). The 'peri-urban turn': A systems thinking approach for a paradigm shift in reconceptualising urban-rural futures in the global South. *Habitat International*, 146.
- [31] Săgeată, R. A. (2010). Changes in the Urban Functional Zones Triggered by the Development of Commercial Services. in vol. Selected Topics in Economy & Management Transformation, I, 5 th WSEAS International Conference on Economy and Management Transformation (EMT'10). Timișoara: WSEAS Press.
- [32] Zhou, W. e. (2024). A Statistical Study of the Pedestrian Distribution in a Commercial Wholesale Centre Based on the Traffic Spatial Structure. *Buildings by MDPI*.
- [33] Nissen, S. (2008). Urban Transformation From Public and Private Space to Spaces of Hybrid Character. *Czech Sociological Review*, 1129-1149.
- [34] Khare, A. &. (2010). The evolution of retailing in India's small towns. *International Journal of Business and Emerging Markets*, 2(1), 58-76.
- [35] Ministry of Municipal and Rural Affairs, Riyadh, Saudi Arabia, 2006
- [36] Schram, T. (2014). *Urban Suburban: Redefining the Suburban Shopping Centre and the Search for a Sense of Place*. Ontario: Carleton University.
- [37] Singh, S. B. (1995). Temporal Analysis of Periodic Markets in a part of India. In S. B. Singh, *Emerging Frontiers of Urban Settlement Geography* (p. 107). New Delhi: MD Publication Private Limited.
- [38] Montgomery, J. (1998). Making a city: Urbanity, vitality and urban design. *Journal of urban design*, 3(1), 93-116.
- [39] Shabani, F. M. (2023). Examining the Role of Vitality Components of Commercial Centers in Different Ages (Case Example: Commercial Centers of Tehran). *International Journal of Applied Arts Studies (IJAPAS)*, 8(2), 7-28.
- [40] Teotia, M. K. (2007). Strengthening and sustaining vitality of urban areas: The case of North-West India. *Sociological bulletin*, 56(1), 65-87.
- [41] Mand, H. N. (2012). *Jane Jacob and Designing Diversity: Investigating Gastronomic Quarters and Food Courts of Shopping Malls and Vitality of Public spaces*. SHORT PAPERS-PROJECTS, 337.
- [42] Silavi, T. H. (2017). The legibility and permeability of cities: Examining the role of spatial data and metrics. *ISPRS International Journal of Geo-Information*, 101.
- [43] Crawford, M. (1992). The World in a Shopping Mall. In M. Sorkin, *Variations on a Theme Park* (pp. 3-30). New York: Hill & Wang.
- [44] Hewitt, R. J. (2020). Mapping adolescents' sense of place and perceptions of change in urban-rural transition area. *Environmental Management*, 334-354.
- [45] Rahadiyanti, M. K. (2020). The sense of place: Sade shopping corridor. *The European Proceedings of Multidisciplinary Science EpMS* (pp. 740-749). Selangor, Malaysia: Future Academy.
- [46] Neethi, P. K. (2019). Everyday place making through social capital among street vendors at Manek Chowk, Gujarat, India. *Space and Culture*.
- [47] Zhou, W. e. (2024). A Statistical Study of the Pedestrian Distribution in a Commercial Wholesale Centre Based on the Traffic Spatial Structure. *Buildings by MDPI*.
- [48] Legeby N, P. M. (2015). *Street Interaction and Social Inclusion*. In V. L., *Suburban Urbanities: Suburbs and the Life of the High Street* (pp. 239-262). London: UCL Press.
- [49] Mand, H. N. (2012). *Jane Jacob and Designing Diversity: Investigating Gastronomic Quarters and Food Courts of Shopping Malls and Vitality of Public spaces*. SHORT PAPERS-PROJECTS, 337.
- [50] Mondal, D. &. (2021). Exploring peri-urban dynamism in India: Evidence from Kolkata Metropolis. *Journal of Urban Management*, 10(4), 382-392.
- [51] Guimarães, P. (2018). The evolution of old shopping centres in the town centre of Braga, Portugal. *Journal of Urban and Regional Analysis*, 127-141.
- [52] Bhatta, B. (2009). Analysis of urban growth pattern using Remote Sensing and GIS: A case study of Kolkata, India. . *International Journal of Remote Sensing*, 4733-4746.
- [53] Nandi, S. &. (2023). Transformation of rural settlement in Salanpur community development block, West Bengal, India. *GeoJournal*, 88(1), 291-318.
- [54] Abdelmonem, M. G. (2018). The urban transformation of traditional city centres: Holy Karbala as a case study. *ArchNet-IJAR: International Journal of Architectural Research*, 12(3), 53-67.



International Journal of Recent Development in Engineering and Technology
Website: www.ijrdet.com (ISSN 2347-6435(Online) Volume 15, Issue 02, February 2026)

- [55] Lin, G. C. (2007). Reproducing spaces of Chinese urbanisation: New city-based and land-centred urban transformation. *Urban studies*, 44(9), 1827-1855.
- [56] Bekkouche, A. &. (2022). Structural and functional transformations of an intermediate city and the emergence of commercial strips, the case of Tiaret in Algeria. *Cybergeo: European Journal of Geography*.
- [57] Rogerson, R. J. (2021). The future of the city centre: Urbanisation, transformation and resilience—a tale of two Newcastle cities. *Urban studies*, 58(10), 1967-1982.
- [58] Quagraine, V. K.-S. (2016). Shopping malls as catalyst for sub-urban development in Ghana. *Journal of Science and Technology (Ghana)*, 36(3), 83-99.
- [59] Rahman, M. M. (2010). Factors of economic transformation in sub-urban areas of Rajshahi City. Bangladesh. *Journal of Life and Earth Science*, 5, 47-55.
- [60] Dennis, C. M. (2002). Central place practice: shopping centre attractiveness measures, hinterland boundaries and the UK retail hierarchy. *Journal of Retailing and Consumer Services*, 9(4), 185-199.
- [61] Sarkar, S. e. (2020). *Transformation of Commercial Centres and Urban Development Process in Global South*. Springer, Cham.