

Cultural Heritage and Urban Transformation: The Role of Festivals in Enhancing Public Spaces and driving Development

Case of Durga Puja in Kolkata

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Abstract

This study examines the role of cultural festivals, specifically Kolkata's Durga Puja, in enhancing urban spaces and promoting tourism and economic growth. Recognized by UNESCO in 2021, Durga Puja represents an intangible cultural heritage celebrated since the 18th century, transforming the city through temporary structures called 'pandals' that reinvent public spaces. Using GIS mapping and network analysis, this research analyzes over 70 pandals, exploring the scale of activity, facility distribution, and the influence of urban patterns on accessibility. The findings highlight a hierarchy in facility provision, where basic amenities like fire safety and water are standard across all pandals, but advanced facilities, such as food stalls and toilets, are concentrated in larger pandals connected to key transit nodes. Cluster analysis reveals that high-density, well-connected areas support greater facility access, while on-street pandals vary in scale and resources. The study identifies gaps in permanent facilities, that are supplemented by temporary provisions. By proposing pandal clusters as units for facility planning, this research underscores the potential of cultural festivals to activate public spaces, fostering a model for urban regeneration and development.

Keywords

Cultural Festivals, Temporary Transformation, Facilities, Network Analysis

1. Introduction

UNESCO refers to intangible cultural heritage also known as 'living heritage' as "the practices, representations, expressions, knowledge and skills handed down from generation to generation" (UNESCO, 2003). This intangible cultural heritage passed down through generations, is continuously revitalized by communities and groups as they adapt to their environment, interact with nature and reflect on their history. It provides a sense of identity and continuity, encouraging respect for cultural diversity and the expression of human creativity (UNESCO 2003). Cultural events, particularly festivals, are also part of the

intangible cultural heritage, which plays an important role in enhancing the city's image (Huang et al., 2010) and as a result, cities and regions worldwide apply festival branding, due to the growing importance of cultural industries within the contemporary economy (Ashworth & Kavaratzis, 2009). They have notable spill-over effects, by employing people in the cultural professions and raising awareness and consumption of arts locally, and through increased earnings in the hospitality sector, etc. (CER, 2013) apart from creating opportunities for tourism promotion, commercial outcomes and increased inward investment in host regions, facilitating urban regeneration (Getz, 2007). However, they also create a temporary surge in demand for public services and infrastructure, requiring careful management and supervision by the authorities. These implications can depend on the scale of the festivals. The festivals which are mega scale demand new appropriate approaches.

1.1. Cultural Festivals and its implications on urban public spaces

Worldwide, researchers have characterized mega-scale cultural events and festivals not only as instruments for promoting tourism, driving economic growth, shaping city image, and fostering social cohesion (Blesic et al., 2014; Casero et al., 2018) but also catalysts for urban regeneration and revitalization (Liu, 2014). The temporary increase in infrastructure demand often shifts resource allocation priorities, potentially disrupting the city's normal operations and causing short-term but significant challenges and negative impacts on the urban environment (Kammeier, 2002).

1.2 Festivals and Urban Transformation

Cultural events and festivals are marked by the temporary transformation of urban spaces (Chatterjee & Khanna, 2023; Quinn & Wilks, 2017). (Falassi, 1987) highlights a multitude of defining features inherent to festivals, beginning with a valorization ritual, where ordinary spaces are officially claimed and transformed into festival spaces. Using Durga Puja as a case study—a mega cultural festival in Kolkata, India, celebrated at the community level since the 18th century that evolved into a global socio-cultural public art festival and inscribed on the UNESCO Representative List of the Intangible Cultural Heritage of Humanity in 2021, this study explores the relationship between cultural events and festivals, tourism, and urban public spaces.

Firstly, this study aims to understand the seasonal transformation of the city and evaluate existing permanent and additional temporary facilities. Additionally, it seeks to identify gaps in the provision and optimal distribution of these facilities, as well as assess visitor accessibility to them at a perceivable scale.

The paper introduces the scholarly literature related to Mega-scale events and temporary infrastructure along with the identification of associated challenges and critical variables. Literature based on GIS Network analysis in the context of spatial distribution and coverage of tourism facilities has also been presented. This is followed by the methodology including the description of the case study, data collection methods, and GIS Network analysis approach that leads to the results and findings of the study. Lastly, the paper concludes with a practical discussion regarding the relevance of the study in policy development for tourism and events.

2. Background Research

The literature has been broadly reviewed under two major heads: the first aspect includes a description of the challenges related to the cultural events and festivals and their infrastructure aspect including temporary infrastructure. The second part focuses on the existing studies that employ GIS Network analysis for spatial distribution and coverage of tourism facilities.

Figure 1 explains that a mega-scale or pulsar event is characterized by distinctive supply and demand dynamics. As highlighted by Kammier, both permanent and temporary supply strategies are implemented to accommodate the peak demand generated during such events. Hence, these events require special operational arrangements and management, leading to modifications in urban planning processes and the city's lifecycle.

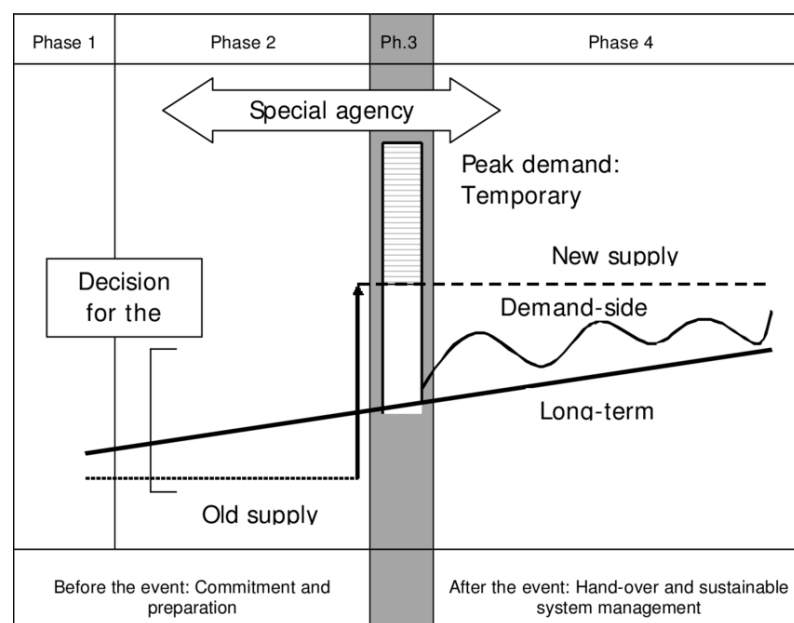


Figure 1: Supply side and Demand side aspects of Infrastructure during Pulsar events, Kammeier, 2002

In the year 2002, 38th ISOCARP Congress focused on the theme "The Pulsar Effect: Urban Planning and the Pulsar Effect: Coping with Peaks, Troughs, and Repeats in the Demand Cycle." It addressed the challenges of providing urban services, facilities, and infrastructure during pulsar events, which represent some of the most significant issues confronting modern urban planners and managers (Colman, 2002).

Table 1 summarizes several studies about various cultural events from different countries and their challenges related to urban infrastructure.

Author	Country	Urban infrastructure issues
Mansfed, 2003	Israel	Distribution/ concentration of accommodation and tourist facilities, Adequacy of accommodation facilities, State of safety and security
Kruger & Saayman, 2012	South Africa	Parking arrangement adequacy, Adequate seats in the grounds, Access to entry gates, Clean and hygienic toilet facilities, Adequate safety measures, Provision of proper information
Lee, Lee, & Park, 2014	South Korea	Availability of food and beverage, Availability of clean toilets, Availability of adequate accommodation, Safety, Access to parking space, Availability of easy-to-understand information, Affordability, Quality of events and exhibits, Acceptance by locals
Novitasari, 2017	Indonesia	Alternative land transport services within the destination, Accommodation service (Hotel), Cleanliness of toilets, Availability of large parking area, Restaurant service, Availability of experienced Tour guide, Presence of souvenir shops
Sorrentino, Fu, Romano, Quintano, & Risitano, 2020	Italy	Hospitality of local people, Adequacy of restaurants, Adequacy of hotels, Quality of tourism attractions and activities in the event location
Njoroge & M., 2021	Kenya	Destination attractiveness, Adequate public space and circulation area, Maintenance of venues, Easy to secure accommodation, Hospitality and

friendliness, Reasonable pricing of services, Variety of shopping centres,
readily available food outlets

Table 1: Summary of studies about various countries' cultural events and their infrastructural challenges

2.1. Temporary infrastructure

Cities of the Global South encounter significant challenges associated with informality and insurgency, where a large portion of the urban population navigates daily life through alternative practices and occupations related to urban spaces(Miraftab, 2012). Limited planning capacities and resource limitations further add to these challenges(Andres et al., 2021). As described in various studies, there is a need for approaches that transcend traditional 'planning' to address the complexity and diversity of such urban environments. This includes recognizing the role of temporary and informal dynamics as viable alternatives, particularly in contexts struggling to establish, implement, and enforce formal planning processes, as seen in the case of mega-scale festivals and cultural events.

Other forms of Mega events such as the Olympics typically drive large amounts of investments in permanent infrastructure, such as stadiums, housing, and other urban renewal projects. However, these investments often spark debates as they offer minimal benefits compared to the extensive public expenditure as they lead to underutilization and high cost of maintenance of legacy infrastructure(Stewart & Rayner, 2016). Temporary form of facilities, on the other hand, offer a cost-effective alternative, eliminating post-event maintenance costs associated with underused or excessively large structures(Müller, 2015). Urban public spaces undergo a temporary transformation during large-scale festivals and often reflect a degree of informality, enhancing the dynamic, vibrant, and spontaneous character of cultural mega-events. As noted by studies, in cities across the Global South, informality has historically been integral to religious festivals and recurring cultural events(Chatterjee & Khanna, 2023). The temporary infrastructure is typically developed through informal collaborations among varied stakeholders, such as community groups, organizations, urban local bodies, and other agencies, contributing to the enhancement of event-related facilities.

2.2. GIS Network analysis for spatial distribution and coverage of tourism facilities

In urban settings, network analysis is commonly employed to assess the current spatial distribution of services, examining aspects such as their functional reach and accessibility, and identifying underserved areas (Mohammadi et al., 2017). Researchers have also applied this method to explore social inequalities within cities, aiming for an equitable distribution of urban services (Harvey, 2010; Mitchell, 2003). It has also been used in suitability assessments, service-area evaluations, and location-allocation analyses to support land-use planning and management, essential for fostering sustainable urban development (Nguyen et al., 2015; Scholten & Stillwell, 2013). Hence it can be said that researchers have utilized GIS-based accessibility analysis, including network analysis tools, to evaluate and enhance the distribution and coverage of public services.

In the context of tourism, (Zheng & Zhao, 2023) have analyzed the accessibility of public service facilities in the context of multiple groups of tourist destinations based on the distribution and accessibility of facilities, particularly catering and shopping facilities by carrying out an evaluation of the facility configuration from the microlevel perspective. Additionally, authors have also used network analysis in an attempt to model shortest path and closest tourist facilities such as hospital, shopping centre, market areas and universities (Nicoară & Haidu, 2014; Prameshwori et al., 2021) done on the basis of estimate travelling time and

distance in terms of time through a network. However, the studies in the tourism context using GIS network analysis to evaluate urban infrastructure and facilities are limited.

By drawing on the literature, variables of tourism facilities were identified and compiled in the next section. Using these variables, the surveys were conducted in the case study area. This study contributes by offering spatial renditions by mapping the distribution and accessibility to cultural-tourism-driven facilities during a mega cultural event using GIS network analysis, taking the case study of Durga Puja in Kolkata.

3. Methodology

This study employs the case study approach, taking the case of Durga Puja in Kolkata, India. The festival drives the seasonal transformation of the city with the creation of 'Durga Puja Pandals,' temporary structures housing the idol of Goddess Durga with extravagant themes.

Kolkata is the capital city of West Bengal, India with a large population size of 4.5 million and an area of 206 square kilometers. Durga Puja in Kolkata has been the first festival in Asia to be inscribed on UNESCO's Representative List of the Intangible Cultural Heritage (ICH) of Humanity. During the 5 day festival of Durga Puja, Kolkata experiences a substantial increase in visitors, leading to increased occupancy across airways, trains, buses, and metro services. Also, special trains and additional coaches are introduced to accommodate this surge, while traffic from nearby towns rises significantly, resulting in peak passenger volumes on metro rail. In 2019, approximately 14.87 lakh passengers were estimated to have traveled to Kolkata during the festival (*Mapping the Creative Economy around the Durga Puja*, 2019).

The festival transforms Kolkata into a city-wide public art gallery, with thousands of pandals located in various parts of the city. These Pandals are temporary structures, built using bamboo frameworks and adorned with colorful fabric drapes, house the idol of Goddess Durga. Featuring extravagant themes and intricate artwork, the pandals involve the traditional knowledge as well as the contemporary style of thousands of artists, from idol-makers to lighting designers. As the focal points of the festival, these pandals draw crowds who interact with and marvel at the art and craftsmanship surrounding them. Hence, they have been taken as the activity nodes for the study.

The Kolkata Municipal Corporation area has been selected for the study. The facility variables taken for the data collection include fire safety, medical aid, security personnel, CCTV, Wheelchairs, drinking water facilities, food and dining facilities, and toilet facilities.

3.1 Questionnaire and Collection of Data

The data was collected through a primary Survey during the Durga Puja 2023 from 12th October 2023 to 21st October 2023, on visitor facilities of Durga Puja pandals in the KMC area to assess the temporary and permanent infrastructure present during the festival. Data collection was carried out through visual observations and interviews with pandal committee members using structured questionnaires. A strategically assigned survey team of four conducted primary surveys across selected pandal clusters. Information was gathered from over 62 pandals of different scales, distributed across 12 clusters within the Kolkata Municipal Corporation (KMC) area. An inventory of pandals was created to track their locations, scale, and the availability of facilities. Facilities were grouped by classification, and organizing into different hierarchy for clearer analysis and visualization. These facilities were then mapped based on their type and location, providing insights into their spatial distribution and reach.

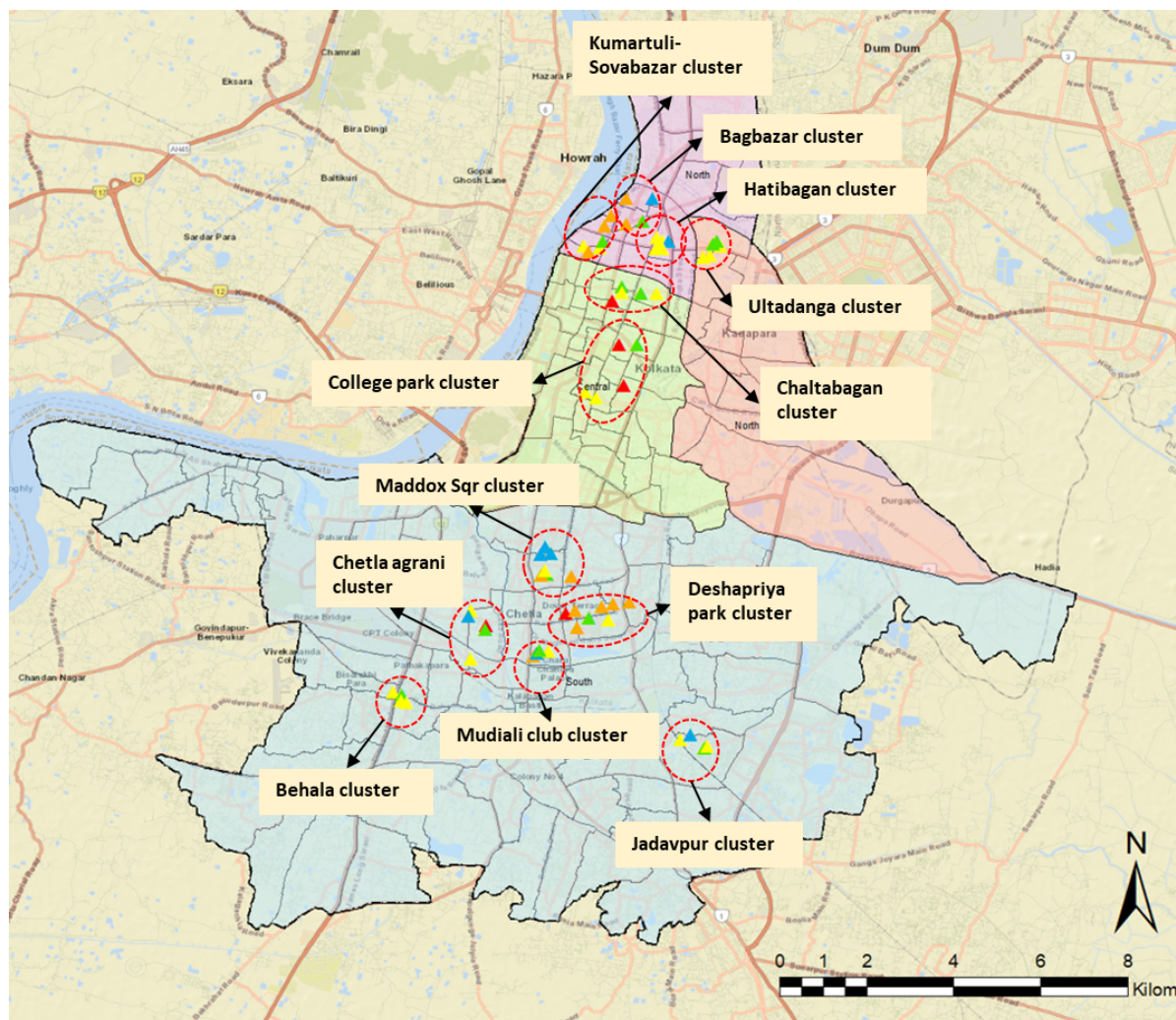


Figure 1: Surveyed Pandal Clusters in Kolkata Municipal Corporation Area

Taking the budget of the Pandals as the criteria, 62 surveyed pandals have been categorized into five scales varying from small to super mega. Surveyed across the four zones of the KMC i.e. north, central, south and north-east, the data from these surveyed pandals of different scales has been compiled in table 2.

Zone/ Scale of Pandal	Small	Medium	Large	Mega	Super Mega	Total
North	2	2	6	5		15
Central	3	4	5	2	3	17
South	3	5	9	6	2	25
North East		2	3			5
Total	8	13	23	13	5	62

Table 2: Pandals surveyed during Durga Puja 2023 scale wise and zone wise

The distribution of facilities that included permanent as well as temporary facilities is governed by the scale of the pandals within a pandal cluster. Since the pandals are not visited in an isolated manner but in the form of clusters that are located near to each other, it is imperative to look at the facility distribution and their access at a perceivable scale. Taking a representative cluster of pandals as an evaluation unit from each zone, the distribution and access to basic and advanced facilities are examined using GIS mapping and network analysis.

3.2 GIS Network Analysis

GIS Network Analysis involves using ArcGIS 10.8.2's Network Analyst tool to evaluate network datasets, covering aspects like service coverage, shortest routes, drive-time zones, and optimal facility locations (ESRI, 2021). Analyses require connecting a network layer to a geodatabase or shared network dataset, either through local datasets (e.g., from OSM) or online sources via ArcGIS Online. Key network features such as connectivity, adjacency, and incidence support this process, which involves digitizing routes, adding details like route lengths, traffic directions, and one-way or two-way data. Although network dataset preparation is time-intensive, ArcGIS offers ready-to-use online datasets to streamline the process. In this study, the ArcGIS Open Street Network Dataset was utilized for service area analysis. First, the analysis type was selected, and the network dataset was prepared and integrated into GIS software. The network analysis layer (e.g., service area) was then created, and relevant network analysis features were applied.

Analysis parameters such as drive time, walking time, or distance were set following literature standards. Finally, service area analysis was performed on each facility to identify the gaps in accessibility. The routing solvers within the ArcGIS Network Analyst extension namely the Route, Closest Facility, and OD Cost Matrix solvers—are based on the well-known Dijkstra's algorithm for finding shortest paths. Each of these three solvers implements two types of path-finding algorithms.

Degree to which visitor facilities can be used by the tourists within a range of ideal walkable distance is evaluated on the basis of two aspects:

- a. Facility availability – sparsely distributed or concentrated or not present.
- b. Facility accessibility – number of facilities that can be reached within a certain range from the starting point.

The following assumptions have been taken for the GIS mapping and network analysis in Pandals clusters:

- Starting point of the visitors is a transport node- Metro station or railway station or a major bus terminal
- Pandals are covered on foot and visitors cover all the pandals in a cluster.
- Visitors can access the nearest facility present in pandals along this route.
- Visitors follow the shortest route to visit the pandals
- Pedestrian walkable distance is taken as 1.2 km for transport nodes (metro station and railway station) and 400m for catchment area of facilities (Li et al., 2019; Pitot et al., 2006).

4. Findings and Results

Across all pandal scales, the majority of facilities provided are temporary, with the distribution of both permanent and temporary facilities varying according to the scale of the pandals. The majority of facilities found in pandals of all scales are temporary while permanent facilities that are least prevalent are primarily found in larger-scale pandals. The facilities observed in the pandals broadly have been categorized into 'Safety and Security' and 'Cultural Tourism Driven' according to their functionality. Figure 3 illustrates the detailed classification of the facilities. Mandatory facilities for safety and security such as fire extinguishers and first aid are present in almost all the pandals. Discretionary facilities for safety and security are further classified into basic such as CCTVs and Wheelchair which are present in 80-90% of pandals and moderate such as medical booths and fire safety booths are present in 50-80% of the pandals. Similar distribution pattern are observed in basic and moderate cultural tourism facilities that are also temporarily arranged during the event. On the other hand, permanent facilities most of which are present in Mega and Super Mega scale pandals are of higher order and are present in less than 30% of pandals mostly located in parks or squares.

4.1 Category of facilities

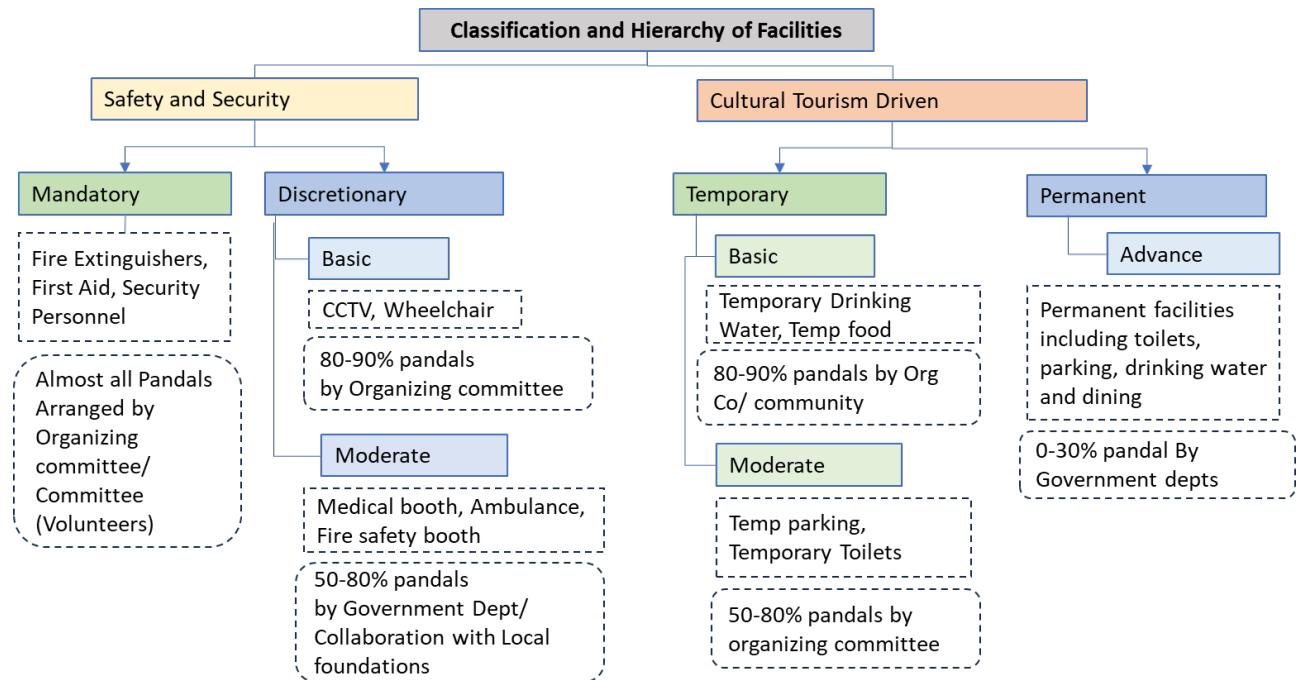


Figure 3: Categorization of Visitor facilities

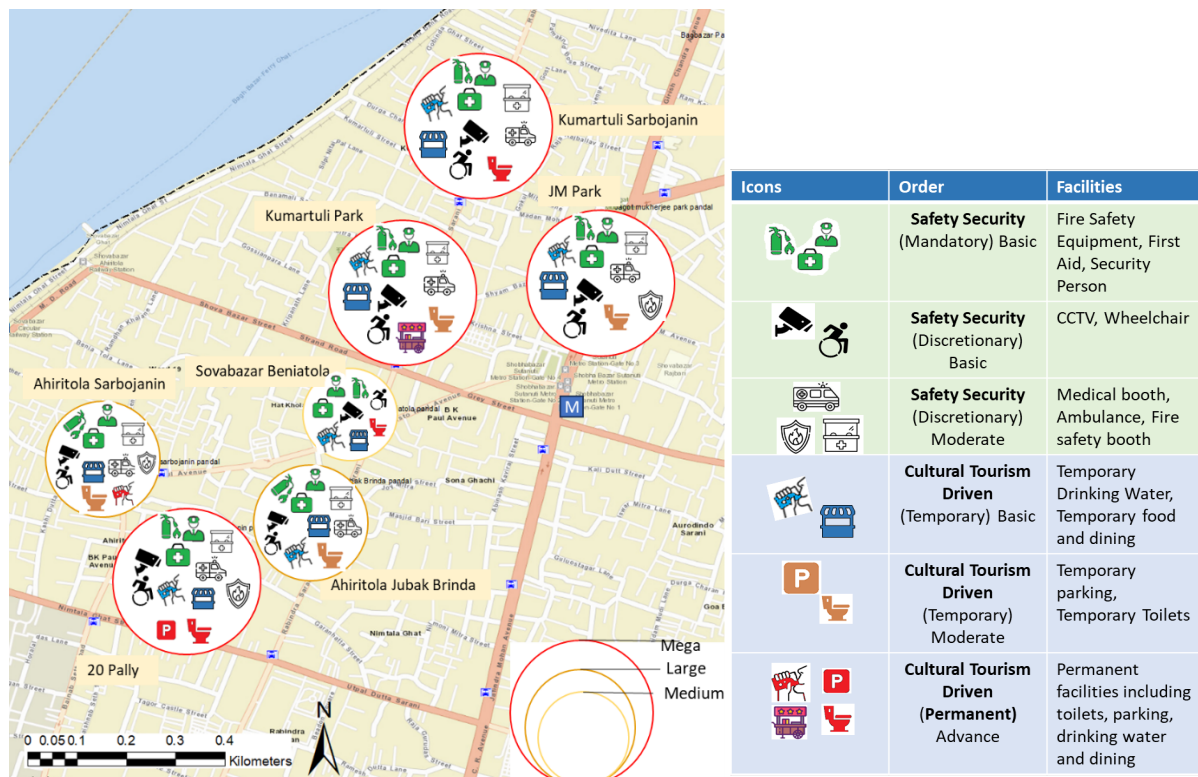


Figure 4: Kumartuli Park Cluster for Service Area Analysis

4.2 Network analysis results

Kumartuli park pandal clustered has been taken as the first cluster for cluster-level analysis which has been included in this report. The pandal cluster is present in the north zone and comprises of seven pandals ranging from medium to mega-scale, namely Kumartuli Park, Kumartuli Sarbojanin, Jogot Mukherjee park and 20 Pally pandal are of mega-scale, Ahiritola Sarbojanin and Ahiritola Jubak Brinda of large scale, and Beniatola Sarbojanin of medium scale. This cluster is in the proximity of Sovabazar metro station. Overall, the cluster is well accessible by public transport via metro and bus routes and comprises temporary facilities and very few permanent facilities. These facilities have been mapped on the pandal cluster (Figure 4).

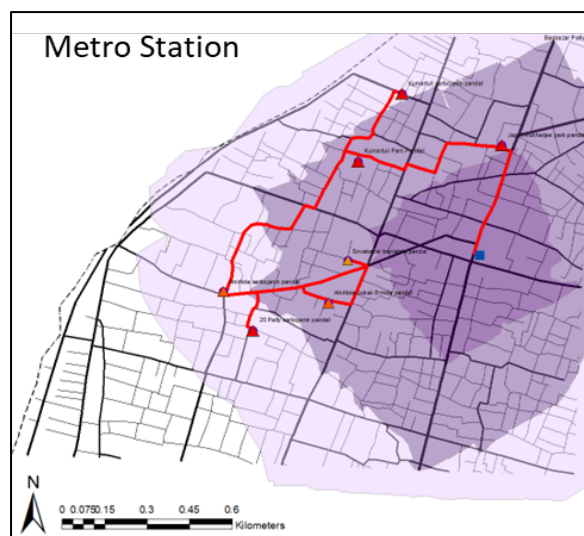


Figure 5: Shortest route starting from Transport node covering all the pandals (activity nodes)

Taking metro station as a starting point (for instance), first an optimal route has been calculated covering all the clusters in a pandal which is approximately 4 km long (Figure 5). The objective here to evaluate the distribution of facilities and their coverage along the optimal route covering the pandals of a cluster.

Accessibility of the activity nodes i.e. pandals from the transport node (Metro station) has been assessed based on the calculated service area of the metro station taking the walkable distance of upto 1.2 km (Li et al., 2019). It has been found that all the pandals fall within the serviceable area of the metro station.

been done for different categories of facilities.

Secondly, the service area of the mapped facilities have been assessed taking the walkable distance of 400m for each facility (Pitot et al., 2006). This has

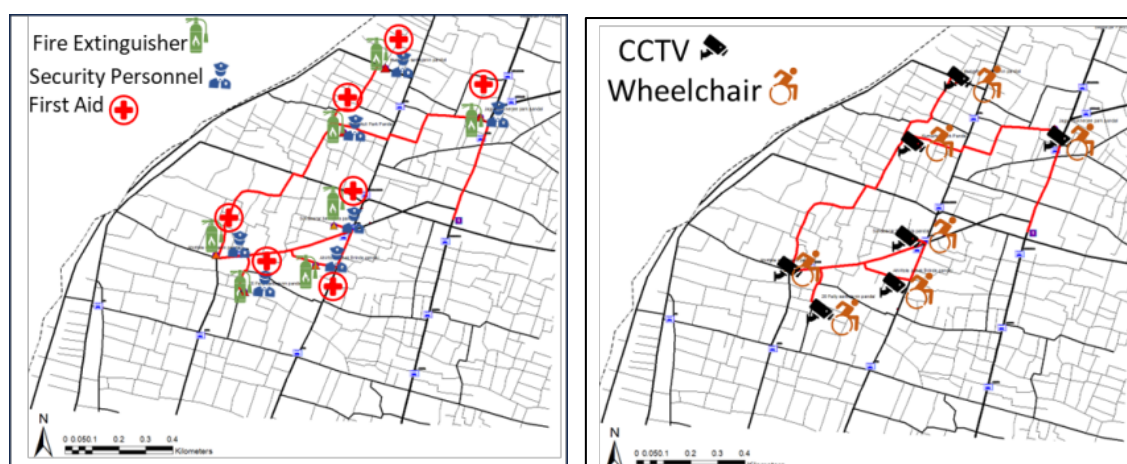


Figure 6: Distribution of Mandatory and Basic facilities



Figure 7: Distribution and service area of Moderate facilities

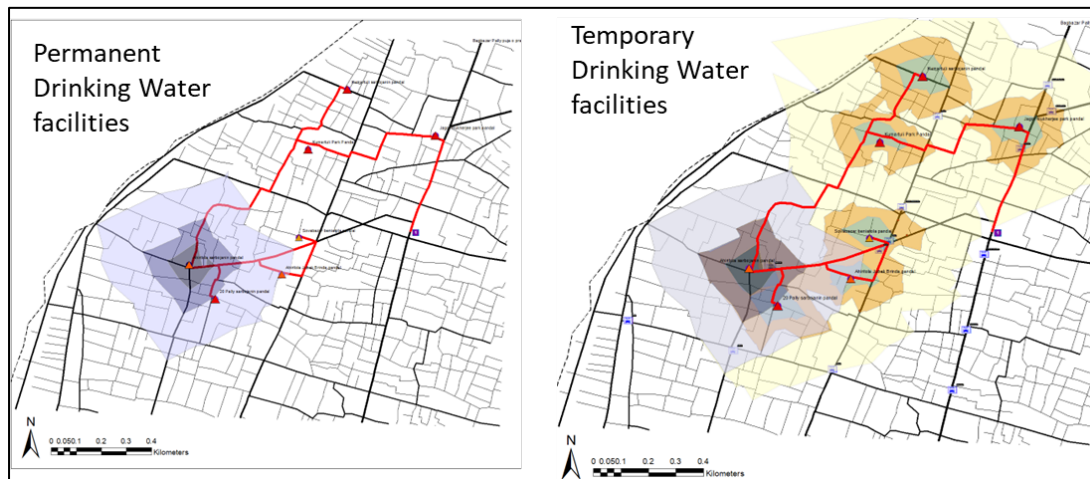


Figure 8: Distribution of Temporary and Permanent drinking water facilities

Mandatory as well as basic safety and security-related facilities are present in all the pandals (Figure 6). Moderate level safety and security facilities such as Ambulance and medical assistance booth although missing in one medium scale pandal are within the walkable distance along the route. Fire safety booth is present in only 3 out of 7 pandals and 50% of the route is not within it's walkable distance.



Figure 9: Distribution of Temporary and Permanent food and dining facilities



Figure 10: Distribution of Temporary and Permanent toilet facilities

The network area analysis presents some gaps in the provision and access to the present facilities in a cluster of pandals. Basic cultural tourism driven facilities such as temporary drinking water stalls and food stalls are present in all the pandals. Moderate level Safety and security facilities including ambulance and medical assistance booths are distributed uniformly and are accessible within walkable range. Fire safety booths distribution has gaps in accessibility within walkable distance specifically in almost all clusters evaluated. All safety and security facilities are temporary given the seasonal requirement of mitigation of risk during large gatherings.

On the other hand, permanent drinking water and food and dining is limited and only two pandals are within their walkable distance. Permanent toilet facilities are present in few mega scale pandals and the gaps in the walkable service area of the permanent facility are bridged by the distribution of and temporary toilet facilities. Permanent facilities being limited, provision and distribution of temporary facilities have the main role in ensuring that all visitors have access to facilities while moving along the route. Some of the gaps in the permanent facilities are fulfilled by the provision of temporary facilities by the Pandals committee. Among the permanent facilities, permanent toilets are more prevalent than drinking water and dining in all the clusters considered. This is due to the preference of users.

5. Discussions and Conclusions

The study gives an insight into the phenomenon of cultural festivals invigorating the ‘invisible city’ through the transformation of public spaces that are not only used as stages but enhanced as environments to be reactivated, rediscovered, and experienced differently. It also suggests considering clusters of closely located pandals as units for facility planning and highlights the existing gaps in facility provision and distribution based on activity scale and development patterns. Further, the study offers a framework for understanding the spatial distribution and accessibility of facilities, specifically in the context of pandals as temporary structures. By mapping transport nodes and assessing the spatial attributes, we evaluated the influence of public transportation, major streets, and urban parks on the accessibility and scale of these facilities.

Mega/Super Mega Pandals function at the Structural Network level, attracting huge number of visitors and requiring connectivity with major transport nodes and their organization demands coordination with citywide infrastructure, and coordination with multiple stakeholders, including city authorities and

emergency services. Continuous maintenance is essential, particularly during peak visiting hours, to ensure visitor safety and manage large crowds effectively.

On the other hand, Small, Medium, and Large-Scale Pandals operate mainly within the Local Network, these pandals are designed to serve neighborhood or district-level populations. They rely on smaller transport nodes or are accessible by foot, reducing the need for extensive logistical coordination with the broader city infrastructure. They are often managed by local community volunteers. Maintenance efforts are focused on ensuring cleanliness and safety within a smaller space, with limited coordination needed with external agencies.

This study underscores the importance of integrating both **Structural** and **Local Networks** to optimize the accessibility and distribution of urban facilities, especially temporary structures like pandals. By identifying the pattern of transformation during the festival and discerning gaps in integrating cultural festivals with facility planning, the study foresees development guidelines to utilize cultural festivals for overall urban development. By understanding the operational distinctions between pandal scales and network layers, planners can more effectively allocate resources and manage crowd dynamics. The integration of real-time data and GIS tools into this two-layered framework could further enhance adaptability, allowing for dynamic adjustments in urban spaces.

4. References

- Andres, L., Bakare, H., Bryson, J. R., Khaemba, W., Melgaço, L., & Mwaniki, G. R. (2021). Planning, temporary urbanism and citizen-led alternative-substitute place-making in the Global South. *Regional Studies*, 55(1), 29-39. <https://doi.org/10.1080/00343404.2019.1665645>
- Ashworth, G., & Kavaratzis, M. (2009). Beyond the logo: Brand management for cities. *Journal of Brand management*, 16, 520-531.
- Blesic, I., Pivac, T., Dordevic, J., & Stamenkovic, I. (2014). Cultural events as part of cultural tourism development. Case study: Sombor and Apatin (Serbia). *Acta geographica Slovenica*.
- Casero, G. G., Jara, C., Beltran, F., & Nogueras, J. (2018). Cultural Events: Case Study of a Theatre Festival as an Element of Tourist Attraction. *Mediterranean Journal of Social Sciences*, 177-185.
- CER. (2013). Conference on Europe's growth strategy and the World Economy. Oxfordshire.
- Chatterjee, D., & Khanna, K. (2023). Planning Temporariness: Unpacking Time–Space Planning and Its Socially Just Applications in and Around Kolkata. *Urbanisation*, 8(2), 117-142. <https://doi.org/10.1177/24557471231196586>
- Colman, J. (2002). Urban Planning and the pulsar effect: Coping with peaks, troughs and repeats in the demand cycle. In ISOCARP (Ed.). Athens, Greece: ISOCARP.
- Falassi, A. (1987). Festival: Definition and morphology. *Time out of Time: Essays on the Festival*, 1.
- Getz, D. (2007). Event studies: Theory, research and policy for planned events. *Elsevier*.
- Harvey, D. (2010). *Social justice and the city* (Vol. 1). University of Georgia press.
- Huang, Z., Li, M., & Cai, L. (2010). A model of community-based festival image. *International Journal of Hospitality Management - INT J HOSP MANAG*, 29, 254-260. <https://doi.org/10.1016/j.ijhm.2009.10.010>
- Kammeier, H. D. (2002). Coping with 'pulsar effects': Towards a conceptual framework. Urban planning and the 'pulsar effect': Coping with peaks, troughs and repeats in the demand cycle- 38th ISOCARP Congress, Athens.
- Li, S., Yang, H., Zhang, G., Ling, Z., Xiong, Y., & Li, Y. (2019, 14-17 July 2019). What is the best catchment area of a metro station? A study based on station level ridership modeling. 2019 5th International Conference on Transportation Information and Safety (ICTIS),
- Liu, Y.-D. (2014). Cultural Events and Cultural Tourism Development: Lessons from the European Capitals of Culture. *European Planning Studies*.
- Mapping the Creative Economy around the Durga Puja*. (2019).

- Miraftab, F. (2012). Small-Town Transnationalism: Socio-Spatial Dynamics of Immigration to the Heartland. In K. W. Stefan Kratke, and Stephan Lanz (Ed.), *The Transnationalism and Urbanism* (pp. 220-231). The Transnationalism and Urbanism.
- Mitchell, D. (2003). *The right to the city: Social justice and the fight for public space*. Guilford press.
- Mohammadi, A., Tavakoli Naghmeh, M., Abbasi, S., & Talkhab, A. (2017). Spatial analysis of urban services using network analyzer in the GIS environment (case study: Babolsar City). *Journal of Urban Social Geography*, 4(1), 111-130.
- Müller, M. (2015). The Mega-Event Syndrome: Why So Much Goes Wrong in Mega-Event Planning and What to Do About It. *Journal of the American Planning Association*, 81(1), 6-17. <https://doi.org/10.1080/01944363.2015.1038292>
- Nguyen, T. T., Verdoodt, A., Van Y, T., Delbecque, N., Tran, T. C., & Van Ranst, E. (2015). Design of a GIS and multi-criteria based land evaluation procedure for sustainable land-use planning at the regional level. *Agriculture, Ecosystems & Environment*, 200, 1-11.
- Nicoară, P.-S., & Haidu, I. (2014). A GIS based network analysis for the identification of shortest route access to emergency medical facilities. *Geographia Technica*, 9(2), 60-67.
- Pitot, M., Yigitcanlar, T., Sipe, N., & Evans, R. (2006). Land use and public transport accessibility index (LUPTAI) tool: the development and pilot application of LUPTAI for the Gold Coast. In C. Grainger (Ed.), *Proceedings of the 29th Australian Transport Research Forum* (pp. 1-18). Planning and Transport Research Centre (PATREC). <https://eprints.qut.edu.au/214591/>
- Prameshwori, T., Wangshimenla, J., Surjit, L., & Ramananda, L. (2021). GIS-Based Route Network Analysis for Tourist Places: A Case Study of Greater Imphal. *International Journal of Scientific Research in Science, Engineering and Technology (IJSRSET)*, 8(2), 233-238.
- Quinn, B., & Wilks, L. (2017). Festival heterotopias: Spatial and temporal transformations in two small-scale settlements. *Journal of Rural Studies*, 53, 35-44. <https://doi.org/https://doi.org/10.1016/j.jrurstud.2017.05.006>
- Scholten, H. J., & Stillwell, J. (2013). *Geographical information systems for urban and regional planning* (Vol. 17). Springer Science & Business Media.
- Stewart, A., & Rayner, S. (2016). Planning mega-event legacies: uncomfortable knowledge for host cities. *Planning Perspectives*, 31(2), 157-179. <https://doi.org/10.1080/02665433.2015.1043933>
- UNESCO. (2003). Convention for the Safeguarding of the Intangible Cultural Heritage. Text of the Convention for the Safeguarding of the Intangible Cultural Heritage, Paris.
- Zheng, X., & Zhao, D. (2023). Evaluating the accessibility of public service facilities to tourists and residents in island destinations: Evidence from the Changhai County [Original Research]. *Frontiers in Public Health*, 10. <https://doi.org/10.3389/fpubh.2022.1090341>