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# **A PENDING VISION URGING ACTION: KOLKATA-HOWRAH URBAN INTEGRATION**

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**Abstract:** In eastern India, a grand urban opportunity is stifled under inaction, holding a great potential. The metropolis of Kolkata is bulging fast into a megalopolis, spreading its tentacles around itself, creaking at its seams, reeling under stress of multifarious kind, all the while when a vast stretch of underutilized land waits to be annexed and intertwined towards an effective urban solution. If we look at the map, Kolkata is in fact the “island”, cut out from the “mainland” of India by the river Hooghly. The project intends to stitch the urban fabric of the twin cities of Howrah and Kolkata and bring forward a seamless integration scope which will be beneficial on an urban and regional scale. For this a sample study area has been considered in the riverfront of both the cities and an urban transformation project has been proposed.

**Keywords:** Land Use Pattern, Riverfront Development, Regeneration, Urban Interface.

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**1. Introduction:** The river Hooghly has so long been considered as a physical, social, cultural and psychological barrier, that the idea of connecting the two banks of the separating river to push through the urban urge of smooth development has apparently never occurred to the policymakers and planners. But the potential is so promising and the problem is so vast, there should not be any further delay to turn the development wheel of Kolkata towards the untapped potential of Howrah, thus envisioning and implementing a true urban integration and extension project of a unique nature and scale. Although they are twin cities but there is a striking difference in both.

Kolkata city, as it is not really able to and should not devour the eastern wetlands, and could not surpass the barrier of the river Hooghly, is trying to become amorously linear along its north-south spine, creating strategic problems. Thus Kolkata should look towards its twin city and spread and intertwine its growth and urban fabric including it.

The aim of the project is to stitch together the fabric of the twin cities for better and integrated urban growth through improved transportation, through better planning and by proposing new and integrated policies. To enliven the waterfront and promote economic activities and enhance public experience of the area and suggest scope of coordination between various different agencies for uplifting the riverfront socially economically and culturally. This will liberate the ever growing pressure on Kolkata and will help in the up gradation of Howrah.

In this small article only the core philosophy of the vision is put forward with the help of a land use study of a sample stretch and identifying the potentials and the problems of the selected area and thus coming out with better integration and amalgamation solutions for both the cities.

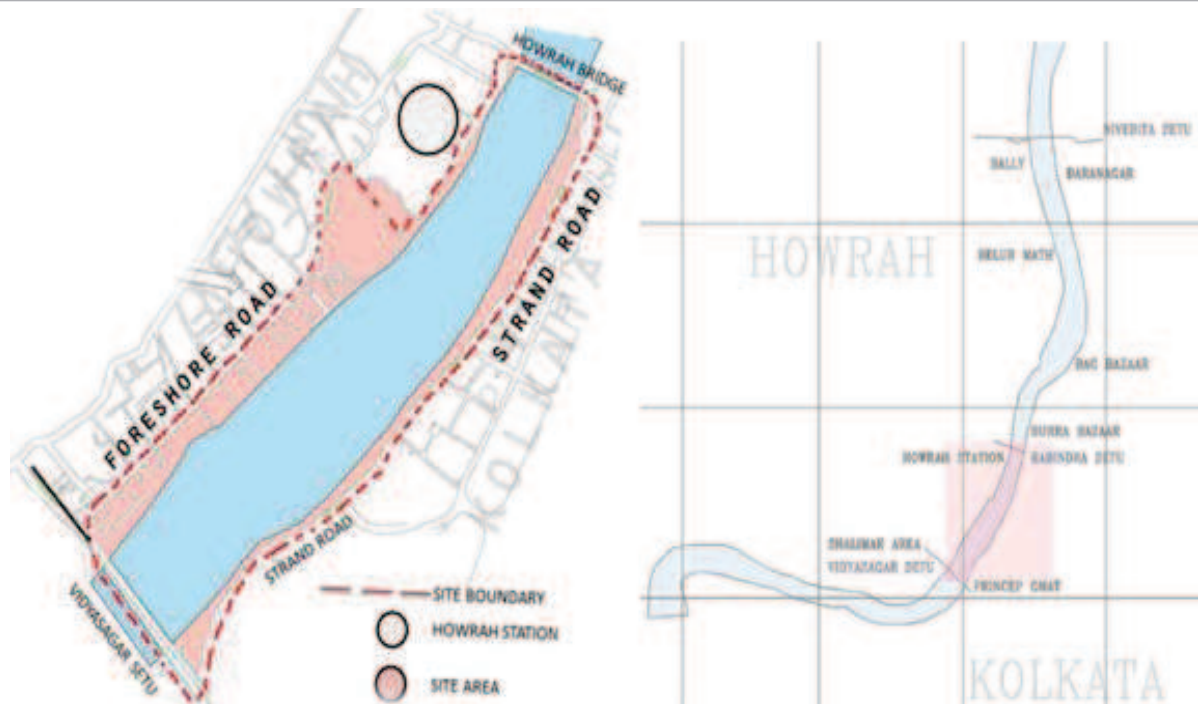
**2. The Study Area-The Riverfronts Between The Vidysagar Setu (New Howrah Bridge) And Rabindra Setu (Old Howrah Bridge):** The river Hooghly has so long been considered as a physical, social, cultural and psychological barrier, that the idea of connecting the two banks of the separating river to push through the urban urge of smooth development has apparently never occurred to the policymakers and planners. But the potential is so promising and the problem is so vast, there should not be any further delay to turn the development wheel of Kolkata towards the untapped potential of Howrah, thus envisioning and implementing a true urban integration and extension project of a unique nature and scale. Although they are twin cities but there is a striking difference in both.

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Although we are talking about a mega merger here but as an initiation project the most highlighted, potential and contextual interface has been chosen for the regeneration. In this small article only the core philosophy of the vision is put forward with the help of a land use study of a sample stretch and identifying the potentials and the problems of the selected area and thus coming out with better integration and amalgamation solutions for both the cities which will help further growth and fusion on the twin cities.





**Fig 1:** The Figures Showing Regional Map and The Sample Study Area With The Location of The Twin Cities And The Details of The Chosen Sample Stretch.  
SOURCE: <http://maps-kolkata.com/howrah-kolkata-map> and author

**3. Problem Identification:** The area is currently in a very shabby situation although redevelopment initiatives are taken on the Kolkata riverfront with the millennium park being reconstructed and successfully functioning and Howrah has the railway station because of which there is a little planning done in the peripheral zones, although minimal. But still there are many issues to be addressed, which can not only face lift the area but also create new economic opportunities, cultural uplifts and social improvements. The Howrah side has a greater scope and need of development interventions. It consists of the run down industries and mills which can be replaced and new land uses can be introduced. Also the connectivity to both the bridges can be smoothed and enhanced and new bridges can be proposed. The ferry service should be highlighted regulated and used as a parallel transport option. The Howrah station will thus become a major transportation hub with the railway station, bus stand, ferry service and the proposed metro rail connectivity. Both ends have many Ghats and structures of historic relevance, many old British buildings and structures which can be restored, conserved and reused. There is a major truck terminal in Howrah and a circular rail on the Kolkata riverfront edge, along with many major bus stops on both ends which makes the study area a major transportation hub which if channelized properly can become a great relief for the passengers from both ends. The study thus aims at bringing parity to both edges. The chosen area needs major intervention and the river front needs to be cleared from encroachments, enhanced, conserved, preserved and highlighted on both edges for sustainable growth. From being the backyards of the cities it needs to become the forefront and the cultural and economic hub of the metropolitan area.

**3.1: Case Studies:** Before going into the details of the sample area let's begin with a few of the case studies in similar situation throughout the world.

**Table 1:** Case Study Shows The Development Initiatives By Metropolitan Cities All Around The World and Riverfront Implementation Plans

Sl.no.	Metropolitan	Riverfront Policies and implementations
1.	SINGAPORE DOSSIER(URA)	<ul style="list-style-type: none"> <li>• 360 hectares of land reclaimed from the sea(1970)</li> <li>• Public investments in infrastructure and private investments – both local and international have been done.</li> <li>• 5 million sq.m of development GFA(gross floor area)</li> <li>• Most successful urban transformation project</li> <li>• Developed as the CBD of Singapore with a 24x7 mixed use zone</li> </ul>
2.	LONDON:A TRANSFORMED EDGE	<ul style="list-style-type: none"> <li>• Use Thames as backbone for development,</li> <li>• Surrounding inclusive urban reform,</li> <li>• adaptive reuse,</li> <li>• public private partnership and more imageble edge</li> <li>• Use the riverfront as the realm of the public</li> <li>• Encourage greater use of the River for freight and passenger traffic-The Blue Ribbon Network</li> <li>• Create balance between housing, employment and recreation uses</li> <li>• Policies in development plans for securing a high quality of design and planning, appropriate to its context</li> </ul>
3.	THE HUDSON RIVER PLANNING AND DEVELOPMENT COMISSION, NEW YORK	<ul style="list-style-type: none"> <li>• New public assessable spaces by acquiring 50 acres of land for waterfront parks.</li> <li>• More connected waterfront on foot, bicycle, and boat by developing waterfront greenways and esplanades.</li> <li>• Clean-up and redevelopment of waterfront brownfield sites, Revise zoning to encourage redevelopment and reuse of waterfront industrial sites by allowing greater flexibility</li> <li>• Design guidelines for best human powered boat launch types and features.</li> <li>• Repair and replacement of floating docks wherever necessary</li> <li>• Developed comprehensive policy for water use, navigation, and access. For waterborne public transportation- Identifying</li> <li>• Waterfront infrastructure projects and Test feasibility of ferry service</li> </ul>

4.	THE SABARMATI RIVERFRONT DEVELOPMENT PROJECT- AHMEDABAD,INDIA	<ul style="list-style-type: none"> <li>• Make the riverfront accessible to the public</li> <li>• Stop the flow of sewage, keep the river clean and pollution-free</li> <li>• Reduce the risk of erosion and flooding in flood prone neighborhoods</li> <li>• Create riverfront parks, promenades and Ghats to enjoy the water. Revitalize riverfront neighborhoods, rejuvenate Ahmedabad.</li> <li>• Generate resources to pay for all the foregoing.</li> <li>• Stitch together east and west Ahmedabad</li> <li>• Create a memorable identity for Ahmedabad.</li> </ul>
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SOURCE: Author

**3.2 Case Study Inferences:** These studies indicate that a river should not be seen as the barrier or obstacle in the urban growth of the cities but should be put forward as the urban growth centers and activity zones for the public.it should become an enormous aid to the cities identity and not become the backyards of the cities fabric. The study indicate that the water bodies should be treated as the access and linkage, should become the attractions and destinations points, should bring more flexibility in design and become the identity and image of the cities along with which it should promote water transportation and new land use policies.

Another interesting observation shows that the number of bridges that connect the few major cities throughout the world. It's remarkable to see 2000 bridges connect the island of Manhattan to other New York City borough and around 33 bridges across the tidal Thames from Teddington Lock to the open sea in London. Paris has 37 bridges spanning the Seine, which flows for 13 km through Paris and 1300 bridges in Hong Kong and 75 major bridges in Tokyo. In India Surat has maximum number of bridges i.e.98, 10 River bridge, 22 flyover,1 subway, 7 underpass, and 58 other. And more 15 bridges are under construction. In comparison to this Kolkata –Howrah has only 3 bridges and one more in still in proposal stage. So we can very well guess the problem and the potential. The whole flow from the mainland of India is chocked at the bordering boundary of the Hooghly River and bottlenecks are created at the mouth of the only three bridges which not only restricts smooth traffic and freight flow but also chokes the overflowing traffic burden from the Howrah station to the metropolitan city.

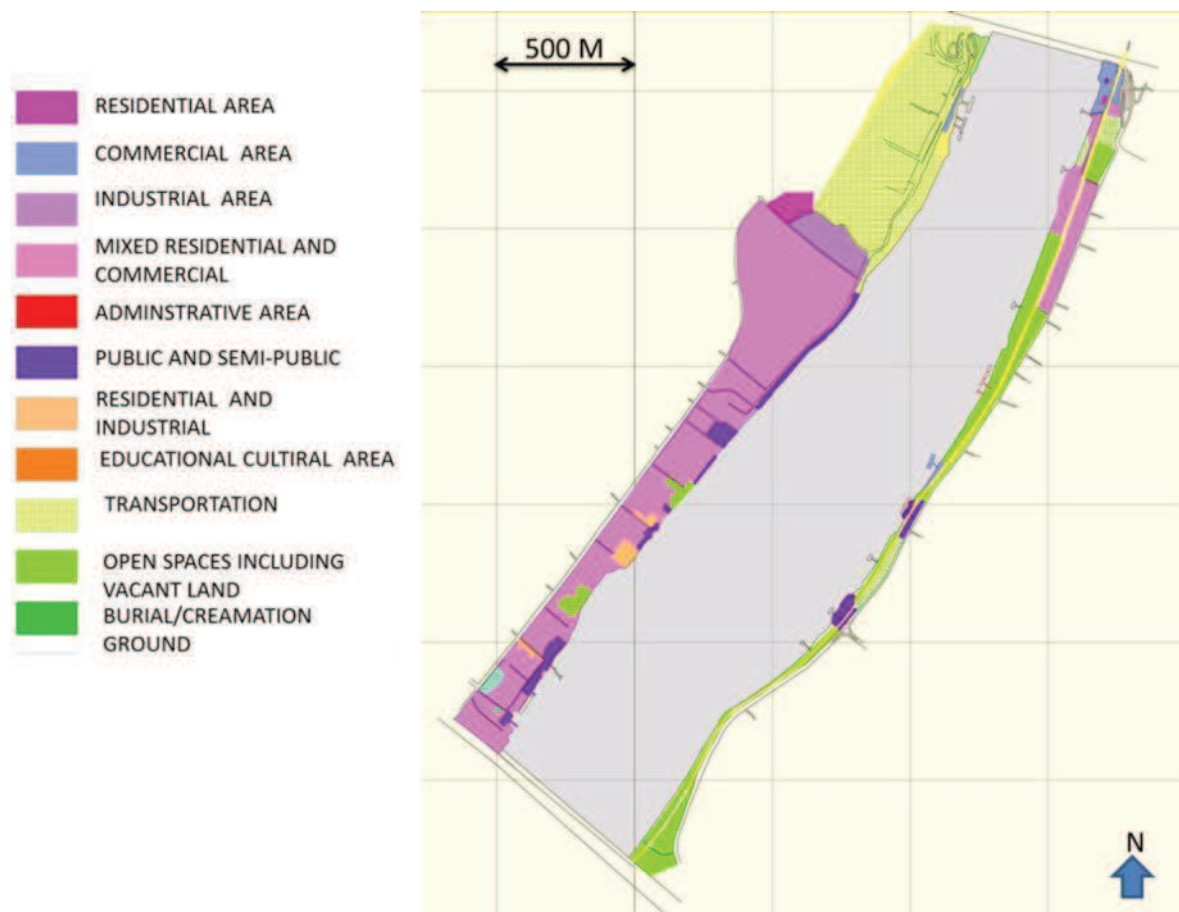
**3.3: Methodology:** The study methodology includes primarily the identification of problems, laying out the aims objectives, scopes and limitation along with demarcating the study area and a detailed literature and case studies. The next was to collect the location map, topography, landuse details, population and then to finalize the parameters, tools and techniques for the study which includes methods like digital mapping, space syntax method, landscape character assessment, axial map and visibility graph analysis, legibility analysis, tissue analysis etc. A detailed survey was done and secondary data was acquired which lead to the formation of the final proposals for the development.

The primary survey and the secondary survey lead to the development and up gradation of the existing land use plan for the study area.

**Table 2:** The Existing Land Use Map of the Study Area

Sl.no	Type of land use	Percentage (%)
1.	Industrial	44
2.	Transportation	30
3.	Parks and open spaces	10
4.	Public and semi public	7
5.	Commercial	5.7
6.	Residential	3.3

SOURCE: Author



**Fig 2:** The Figures Showing the Existing Land Use Pattern of the Project Area

SOURCE: Author

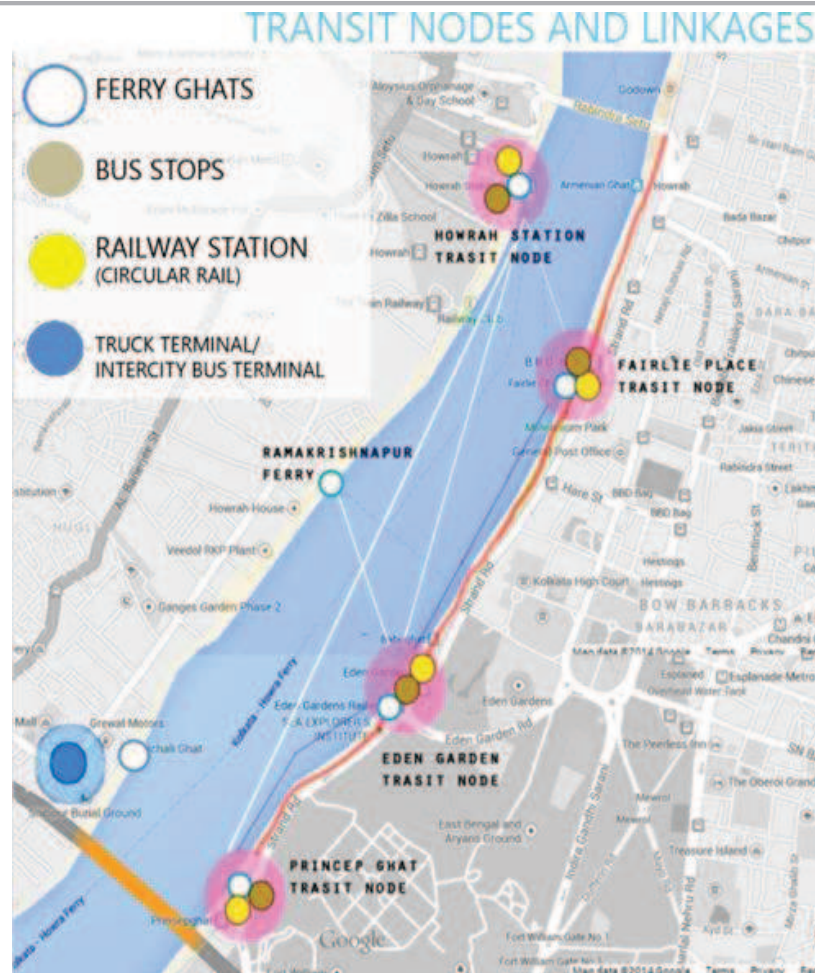
**4. Analysis:** The study indicates that the land use is majorly and most unevenly distributed among abundant rundown industrial mills and the transportation sector which comprises mostly of the Howrah station and ferry ghat areas. The open spaces and the mixed use spaces are very scarce and the commercial and residential areas are the least, most of which is concentrated in Kolkata river front. Also the study reveals that the access to the riverfront is very limited both visually and practically. The riverfront is barely visible and access is only limited mostly to the developed park areas in Kolkata, the rest of the places remain shabby, encroached and a hub for all anti-social activities.

The details of these studies confirms the major drawbacks of both the edges which includes no visual access from the road, security issues after dark, direct wastewater dumping into river, ill maintenance of public parks and places, Ghats and historically relevant buildings in very deteriorated conditions almost in ruins, slums and illegal encroachments along circular railway tracks and buildings, major chunk of underutilized industrial areas, direct garbage dump yards all over the banks and near the flower market (Asia's biggest flower market), uneven and insufficient roads which create bottle necks near the bridges, very poor conditions of the ferry Ghats and illegal truck parking all along the road.

The land ownership pattern defines that most of the land of the site is under the port ownership, 75% of the land belongs to the KoPT(Kolkata port trust) and the rest 25% of the land belongs to the railways. The Howrah station sheds, go downs on one side and the circular railways on the other. The term of the land is that if the land is not being exploited by the port authority for any activities then the respective municipalities can have the land parcel back for its own utilization if so needed.



(a) land ownership pattern



(b) all existing transit nodes and linkages

Fig 3:

SOURCE: Author

**5. Proposals:** The common proposals for the riverfront up gradation and for smooth amalgamation of both the cities are to clean the river and connect the two cities for better integrated growth via better road and river channels. Create city level recreational and green spaces. Develop the project area as a major tourist attraction encasing the historic relevance and the current cultural background. Facilitate social integration and economic development through mixed use spaces. Heritage conservation and recognition through adaptive reuse wherever possible. Rehabilitation area to be identified and encroachments to be cleared. To develop it as growth corridors and development through ppp models. public participation while making development plans.to promote it as an transportation hub by upgrading the transport services including railway, buses, ferry, circular rail, metro, trucks and taxi services of the area in such a manner that it becomes one of the major conveyance convergence system of the eastern India. Also the potential of the river to be used as an active transport corridor remains under-utilized. Improvisation of the ferry/ jetty services between the east and west bank is essential.

- **Riverfront Access improvisation** through wider roads for smooth access to both bridges and thus removal of the bottle necks. Clear encroachments and illegal squatter's developments along the road and riverfront and along the circular rail lines as it will open the whole river view in front of the station and it will also result in road widening. Provide visual access from the abiding roads (strand road and upper fore shore road) whenever possible. More number of direct access (roads/lanes) to the riverfront from the main roads.



- **Up-gradation of ghats** by conservation of all the Ghats and the pavilions and to provide proper access. Prohibit washing activities and garbage dumping and to provide proper safety measures, railings etc. Define areas for religious activities. (Only in selected ghats).
- **Sewerage** to handle by restricting the flow of untreated water into the river at all points. Nallah water needs to be treated before discharged into the river.
- **Heritage buildings** and pavilions are there along the site, all of them need to be highlighted, given recognition and conserved. Adaptive re use should be done for the buildings and new use for it should be implemented like art galleries, heritage hotels, port museums, food malls, music/performing art academy etc.
- **Image of the city, Area improvement** through creating plaza areas, contextual buildings and avenues also Crime prevention through design should be thought of to avoid creation of isolated areas hidden from public views, which might become entrapment sites. By providing street lightnings at intervals of 20-25 m and adequate floodlights at important junctions. Properly located entrances, exits, landscaping to subtly direct pedestrian traffic. Spaces should be designed to promote year round and day long usage. Clear sight-lines should be maintained and all forms of landscaping should be done below or above the eye level.
- **Parking and infrastructure requirements** should include opportunities for shared parking should be encouraged .several small parking lots spread throughout the site should be preferred over large parking lots. The basic infrastructure requirements for the site have been identified as • water• electricity • linkages to adjacent or nearby trails & linear parks • signages. • fencing (as needed). • landscaping (trees and other plant materials). • Vehicular barriers (as needed) • paved pathway (3-5m in width) • trash receptacles: ireceptacle at every 100m. • Restroom with drinking water facilities (every 500m) • shade structure on concrete pad (choice of vendor and style), 6x4sqm. The entire river-walk may also be designed in a semi-covered manner keeping in mind the warm-humid climate of the cities. and
- **Connectivity**, most importantly introduction of a series of new bridges, flyover and tunnels at strategic points, seamless connectivity of roads and a new outlook and revised land use pattern shall open up an unprecedented urbanization restructure. Shifting of urban centers of gravity, redistribution of downtown pressure, etc. seamless flyover-road connectivity to make the kolkata-howrah land chunk a really united one.
- **Improvisation of ferry/ jetty services:** The potential of the river to be used as an active transport corridor remains underutilized. Improvisation of the Ferry/ Jetty services between the east and west bank is essential and improvising the ticketing services and safety at the jetties need to be upgraded which will open up a beautiful and fruitful connection to both the cities.



Fig 4: New and Upgraded Land Use Plan.

Source: Author

The land use has been changed according to the best suited need and possibilities in the site. The railway sheds(**Howrah**) has been removed to make way for commercial activities like Hotels (rest houses), Eating areas, General business centers, General markets, Retail shopping zones (shops/kiosks/vending etc), Convention centers etc. This area being in so close proximity to the station needs a few such activity spaces, which will be self-sustainable and beneficial to the cities, enhancing the urban growth of the Abiding areas.

The recreational zone just in front of the railway station will not only beautify the area and remove the current unpleasant situation, it will also add to the facility of the travellers and the tourists visiting the City. These spaces can act as beautiful buffer zones from the chaotic rush of the terminal and also can be used as waiting areas for the travellers if needed. Thus the first impression of the cities will be much more appealing and the place will get a sudden face-lift.

The few running industries have been kept as it is but land will have to be acquired or a PPP (public private participation) scheme has to be made, to continue the esplanade area along the immediate riverfront, in continuation with the whole stretch.

In Kolkata, the rundown and dilapidated mills and go downs should be conserved and put to use by adaptive reuse. Various activities could be incorporated in these structures. A food and retail walk can be created along the river and around the structure.

The public semi -public areas can have offices, social cultural activities, service areas etc.

A few parking pockets have been kept at certain places for catering to the visitors coming for the riverfront activities and also for the industrial workers using their own vehicles which are mostly cycles.

The maximum space has been allotted for the open green recreational spaces.

The transportation being a major use pattern and functional activity of the site comes next in the percentage distribution

The commercial activities will enhance the sustainable growth and generate economic viability; it will bring on new development initiatives around the site and help in overall development.

Public semi-public areas are kept to the essential needs, also office services etc. will be needed in and around the site.

The minimum percentage remains of that of the industrial, and only those which are still in running and working conditions. They directly create pollution to the river as well as create a very stiff and rigid atmosphere around such a potential vibrant space. Thus most of the run down industries have been removed to make way for new developments.

The policy level proposals include land use control and restrictions for limited uses of the Ghats and prohibiting washing and dumping direct waste. Industrial waste should be restricted and tax should be levied. Heritage conservation act to be put forward to preserve the relevant heritage sites. Illegal encroachment should be checked and height restrictions should be made for both built and temporary structures which should relate to the human scale. Transportation regulations and safety policies should be formulated for the ferry services and Ghats.

Phase wise implementation can be done for the whole proposed area and the major initiative should be handled on a private public partnership pattern with the main implementing bodies being the KMDA(Kolkata Municipal Development Authority), KMC (Kolkata Municipal Corporation), KoPT(Kolkata Port Trust), HMC(Howrah Municipal Corporation), GAP(Ganga Action Plan,) HRBC(Hoogly River Bridge comission), INTAC, PWD and West Bengal State Government

**6. Conclusion:** Kolkata should not expand east wise to eat up its vital water bodies. It should merge with the mainland that is Howrah. It is bound to succeed if taken up with right earnest, considering the integration of transport and land use. In fact it is so long overdue. It is right time policymakers and planners take up this exercise with the proper scale of vision and action. The sample stretch is a very potential growth area and if developed with the right intent can actually help create a great initiative to further amalgamate the two cities and bring in greater urban flexibility and opportunities and also bring forward the best of the riverfront and become urban growth center and a multifunctional transportation hub. The project and idea will help accelerate the growth potentials of Howrah and quickly help release a lot of metropolitan load from Kolkata. Thus the riverfront will become dynamic and noteworthy development inventiveness and become the forefronts of the cities.

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