

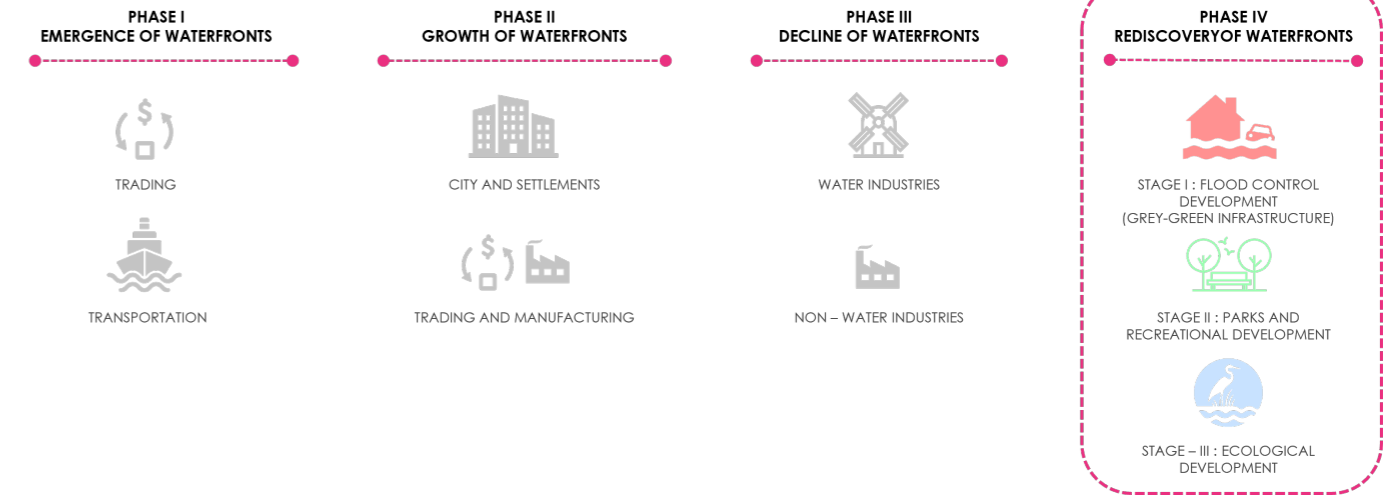
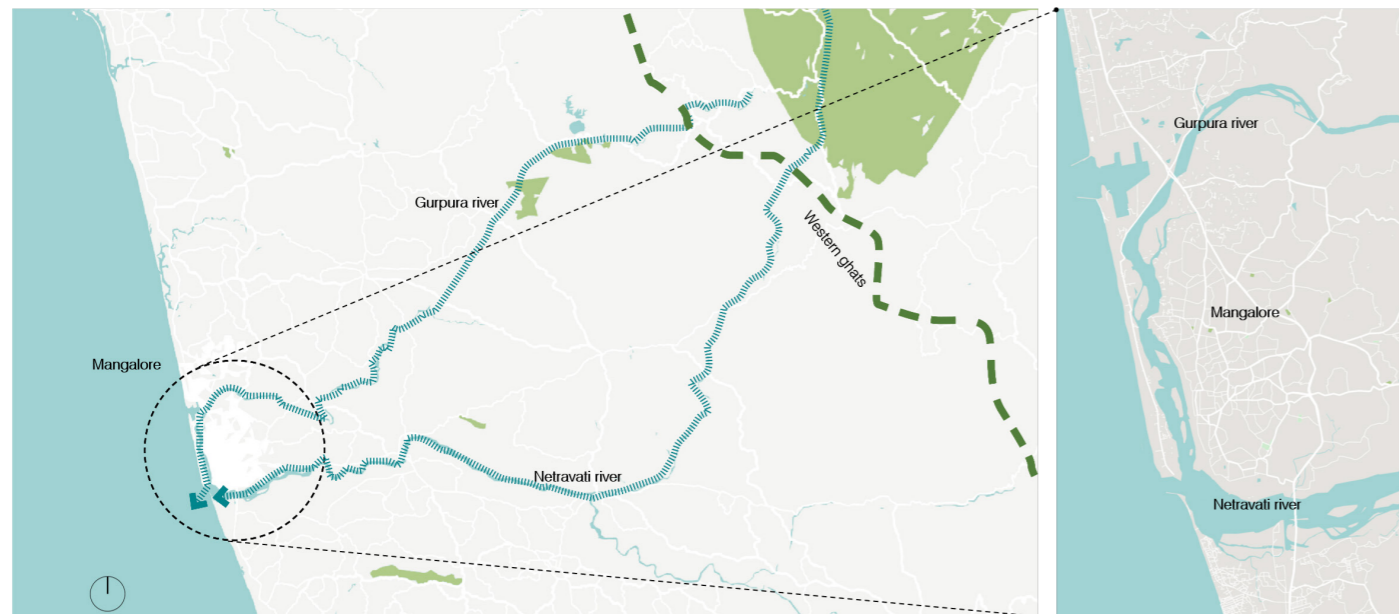
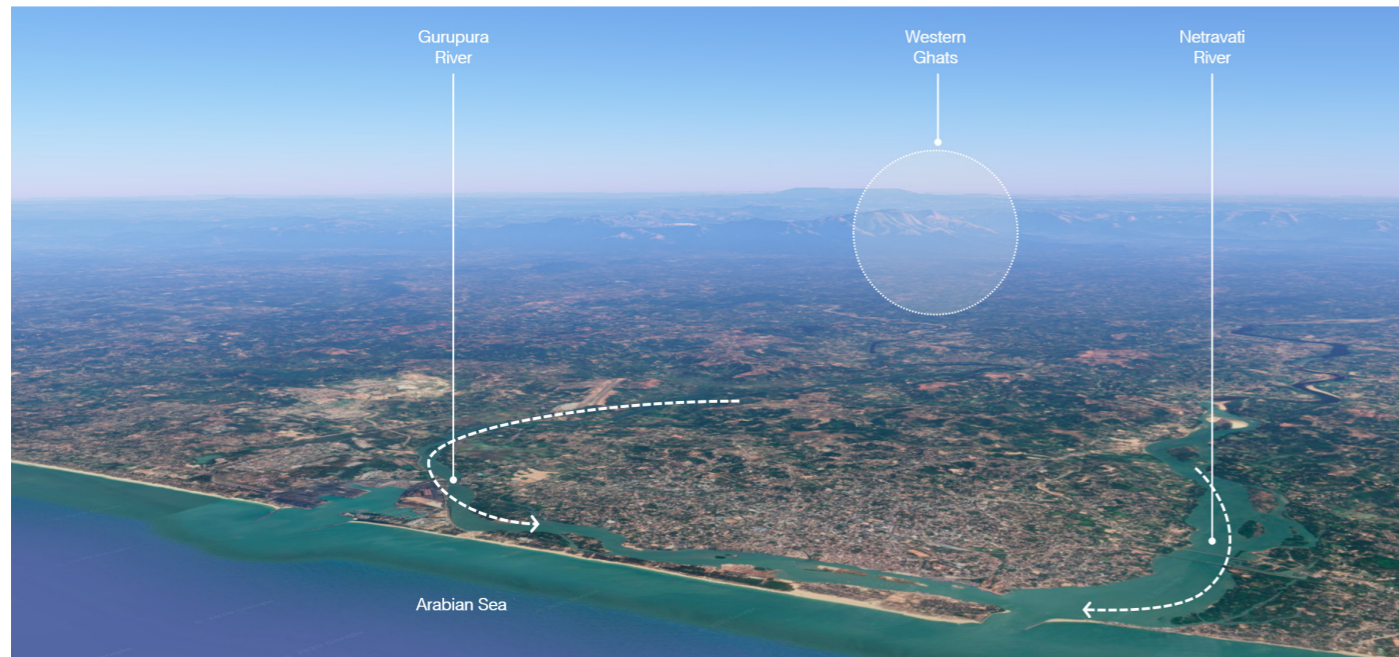
CHANGING NARRATIVES

Anup Naik & Soumya S Warriar

A land of constant surprises, the anatomical makeup of India can be viewed as a labyrinth of sorts, with each turn fascinating one with something new, vibrant, and unique. Layers and layers of flavours and nuances are weaved in to the rich, and ever-evolving fabric of our cities that are in a constant state of flux. The city under discussion here is Mangaluru (Karnataka) and its changing associations with water over the years.

The coastline of Karnataka stretches around 320km with the city of Mangaluru located in the Dakshin Kannada district, nestled between two important west flowing rivers – Netravati and Gurupura. Towards the east are the Western

(top) Contextual setting of Mangaluru
Source for base map: Google Earth
(bottom) Regional context of Mangaluru city



Evolution of waterfront cities
Source: World Resources Institute

Ghats from where these rivers originate, and towards the west lies the Arabian Sea, just beyond the Gurupura River.

The cultural legacy of Mangaluru can be experienced through its unique architecture styles, ornate celebrations, intriguing art & artforms, and elaborate coastal cuisines – many of which have a close association with water. The abundance and variety of natural resources, especially water, is a distinctive asset of the city. Be it the thodu networks that course through its undulating topography, the two rivers that form its natural extents, the expansive sea just beyond, or the beauty of the pouring monsoons – the city of Mangaluru nestled in the watersheds of Netravati and Gurupura is truly nature’s blessing.

NEED FOR CHANGE

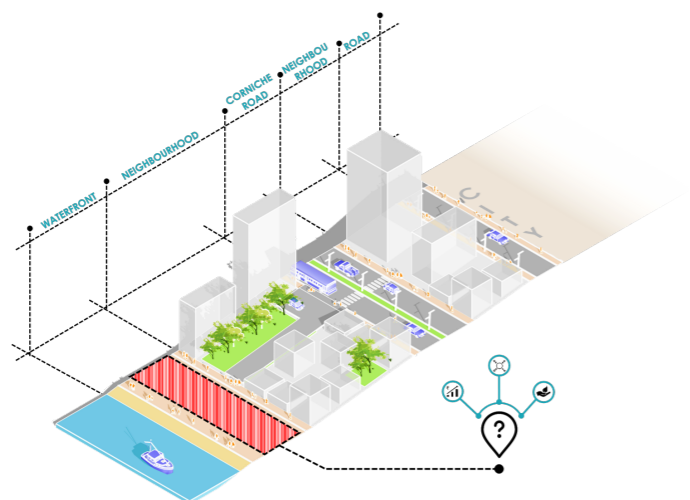
World over, waterfront cities go through four phases in their development cycle – Emergence, Growth, Decline, and Rediscovery. Even after being a city where water is of great historic and cultural significance, Mangaluru has had its back turned towards the water edge for a long time.

When the Government of India launched the ‘Smart Cities Mission’ in the year 2015 to promote sustainable and inclusive cities that provide the opportunity for rapid growth in infrastructure and governance, Mangaluru Smart City Limited took up its flagship project of developing the water edge of Mangaluru, with a proposed ring road (Mangala Corniche) along the riverfront of the city. The 1st Phase of this development will cover the stretch from Ullal bridge in the south to Kuloor bridge in the north.

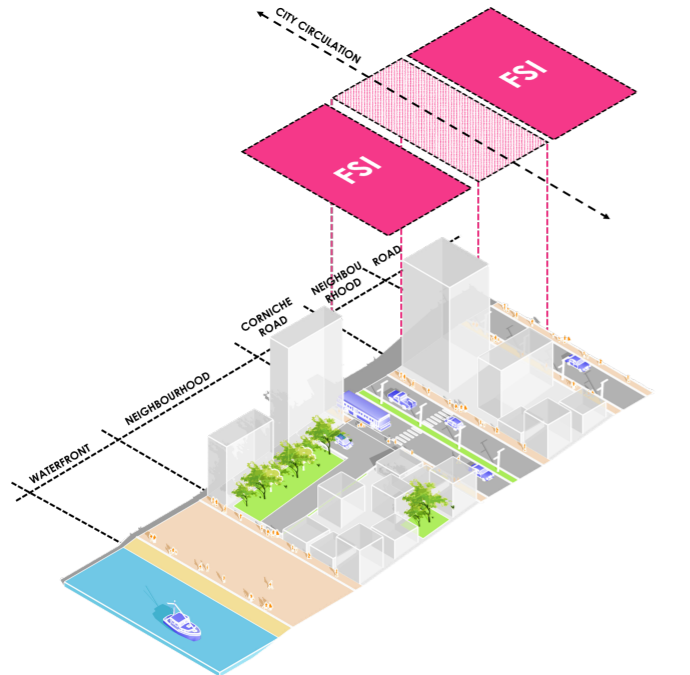
The intent of this project is to aid the city of Mangaluru to rediscover its once glorious water edge. The idea is to follow an ecological model sensitive to the water and edge conditions, thereby rendering a dynamic blue-green-grey network which would become the public corridor to the city. The three major vision drivers for the design are: Inclusivity, Ecological Sensibility, and Economic Viability.



Indicative plan of Phase 1 waterfront development
Source for base map: Google Earth



Vision for the waterfront

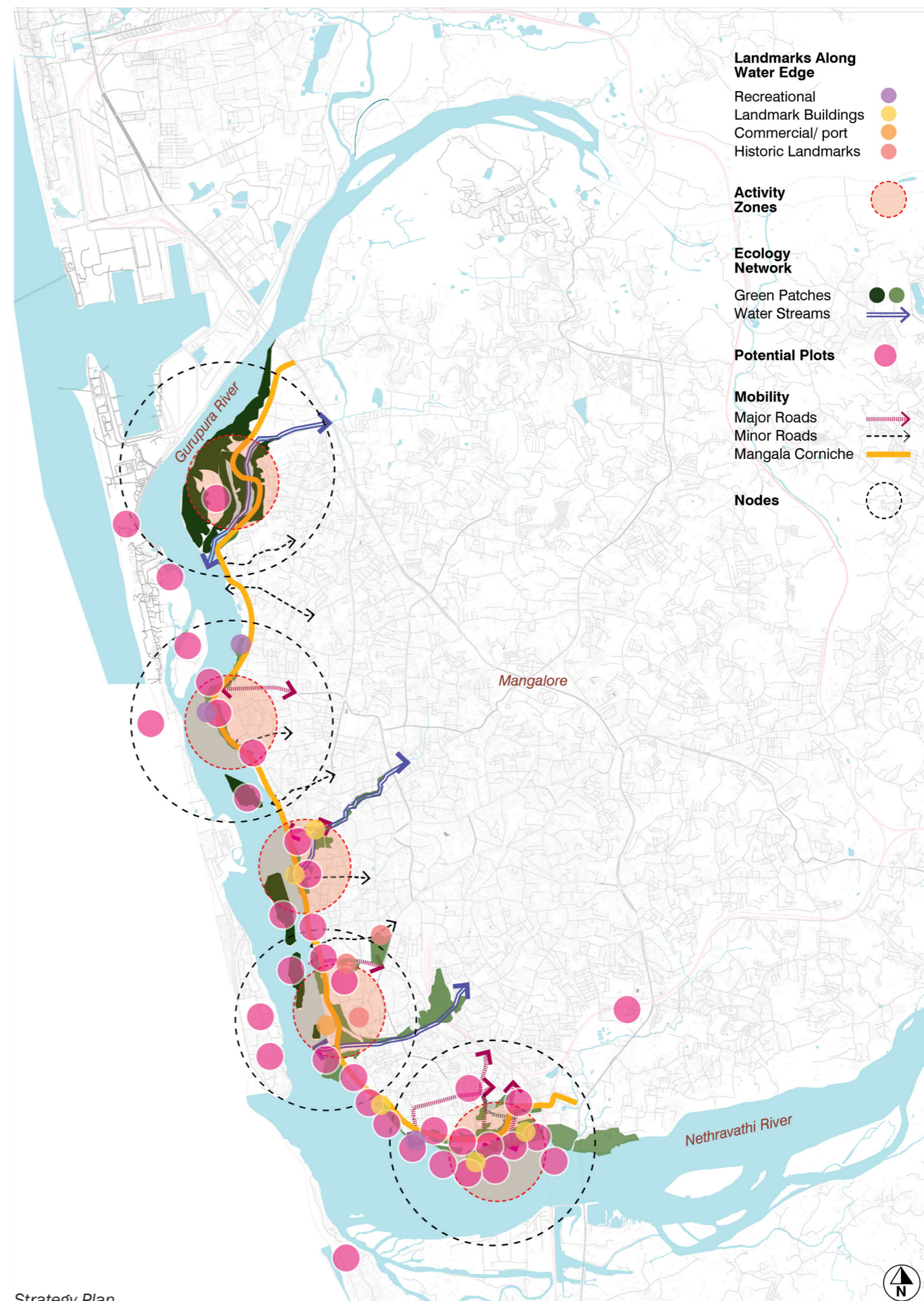


Proposed Mangala Corniche

The 18m wide Mangala Corniche Road that has been envisioned along existing the road networks, re-aligns to retain the green edges and pockets, proposing an ecologically resilient corridor to the city. The Corniche being an internal road allows for a pedestrian friendly water edge, and opens out potential plots with increased value on either side of the road for active developments. The city level Strategy Plan aims to integrate buildings of heritage value, enhance existing activity areas, preserve green edges that balance the ecosystem, and create activity nodes along the water edge.

As a part of this exercise, 36 subprojects were identified

that would initiate the activation of the 12km water edge. The identified sub projects from Netravati Bridge to Kuloor Bridge were categorised into Water Sports, Cruise & Other Water Related Activities, Leisure & Recreation, Economic Activities & Infrastructure. Based on the implementation model, land ownership, acquisition, proximity to waterfront, revenue generation, and stakeholder consultation, the sub projects were further categorised into Phase 1 and Phase 2. Of the 36 subprojects identified, 6 were taken up for the Phase 1 of design and construction, which are an exploration of the multiple ways in which the city would/could re-engage with its waters.



Strategy Plan



Location of subprojects
Source for base map: Google Earth

NO.	LOCATION	PROJECT
PHASE 1		
01	Netravati Bridge to Bolar Sea Face	Promenade Development
04	Various location along the waterfront	Water Metro
08	Sulthan Battery Area	Sea Link Development
15	Sulthan Battery Area	Area Development
31	Tannirbhavi	Area Development
33	Nayar Kudru	Open Air Theatre & Water Sports Park
PHASE 2		
02	Ice factory area	Open Air Theatre, Sports Complex
03	Bolar Sea Face site	Cultural Hub
05	Hoige Bazaar	Fisherman Community Rehousing
06	Jeppu Market	Multi Utility Building
07	Old Port Area	Sea link Development
09	Island - 1 (North)	Cultural Park (Yakshagana) & Light and Sound Show
10	Island - 2 (South)	Traditional Sports Island (Kambala)
11	Old Port (Commercial area)	Box Park
12	Bengre Island	Fishing Village- PMMSY & Solar Drying Farm
13	Bengre Island	Idling port
	Ullal	Fish Landing Area for Fishmeal
14	College Road	Light House Restoration

NO.	LOCATION	PROJECT
16	Sovereign Tile Works	Adaptive reuse _ Maritime Museum & Wetlands Aquamarine Park to work like an Ecology Interpretation Centre
17	Old Port area	Revolving Restaurant
18	Fisheries College	Sports Complex
19	NMPT	Oceanarium
20	Near Cascia Tile Factory	Street mall
21	CCD Land near Gujjarkere	<ul style="list-style-type: none"> Mixed Use development – Residential & Commercial Mangalore haat (like Delhi haat) CGH Earth experience hotel model Luxury plotted development Museum/ Art gallery
22	Commonwealth tile factory area	<ul style="list-style-type: none"> Adaptive reuse of existing Factory as a Clay tile museum Marquee Urban space for the city Maritime museum Cafeteria/Commercial hub
23	Mangalore club area	<ul style="list-style-type: none"> Private Jetty Yard Convention centre Clubhouse Expansion F&B facilities
24	South of Mphasis Campus	<ul style="list-style-type: none"> Office Campus Rentable event spaces Mini performance areas Public zone on the ground floor
25	Near Joyland Grounds	<ul style="list-style-type: none"> Auditorium / congregation space Improved sports facility
26	Albuquerque & Sons Tile Factory with green railway corridor	<ul style="list-style-type: none"> Commercial adaptive reuse Maritime museum (adaptive reuse) City green space to Public Park facing sea front (wetland park)
27	Car Street End	Car Street Park connection to Sujith's playground
28	Karkane Mohyudeen Nagar Playground	<ul style="list-style-type: none"> Development of community congregation space & playground Boardwalk around ship
29	Kudla Kudru Island	Development of Party Island
30	Boat dock (Raftaar Terminal)	Adaptive Reuse of Boat dock for Non motorised water sport
32	Kulloor Island	<ul style="list-style-type: none"> Biodiversity Natural Heritage with core conservation zones Riverside public space
34	Near Cascia Tile Factory	Incubation Centre/ Experiential Museum/ Event facility
35	Opposite Cascia Tile Factory	Incubation/ Start-up centre
36	Opposite Ice Factory	Auditorium for performance, & Exhibition space

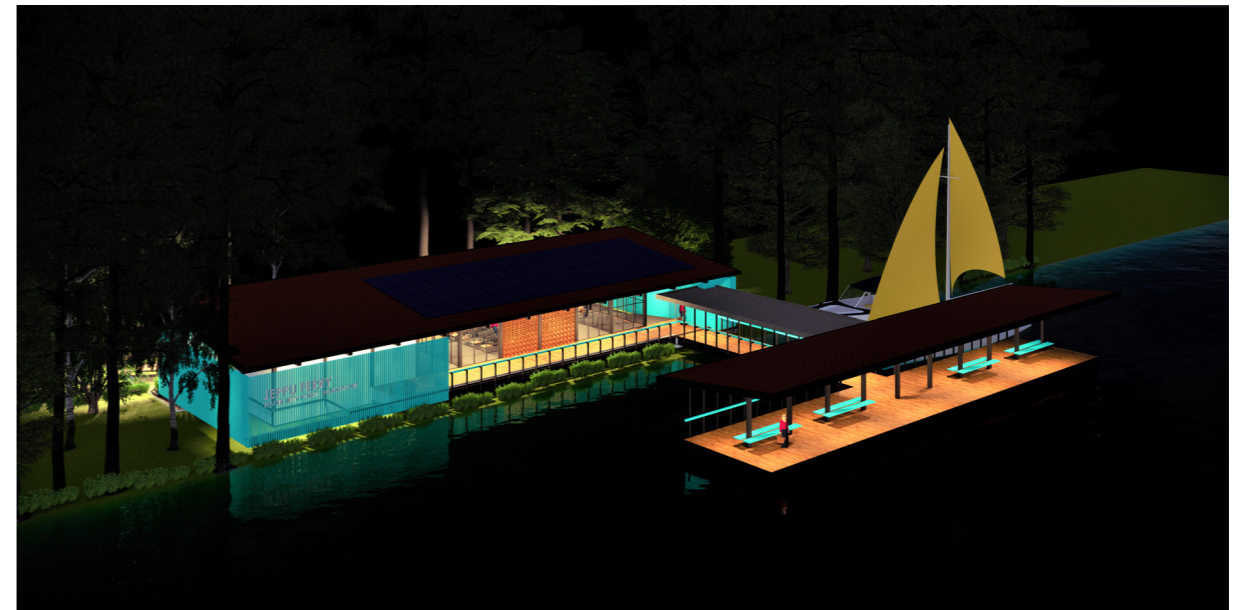
List of Sub projects identified

MOTION IN WATER – The Water Metro

Mangaluru has historically had movements along its waters, with the ferry system prevailing till date. The Water Metro Network proposed as part of the strategy plan envisions to become an affordable additional mode of transportation along the two rivers hugging Mangaluru city. Water metro points intend to connect all major existing and proposed landmarks along the promenade and towards the inner-city areas. The metro station locations were finalised based on the bathymetry data analysis, existing jetty points/water networks, existing city bus routes, proposed promenade development, public plazas/nodes, tourist networks, and ridership details.



Water metro locations
Source for base map: Google Earth
Existing ferry point



Proposed Water Metro station design – rear view



Proposed Water Metro station design – front view

CELEBRATING WATER – Waterfront

Promenade Development
The 2.1km waterfront Promenade is envisioned in a thread, bead, and pendant concept to re-engage the city to the water edge. The continuous network of walking paths and cycling tracks

comprise the ‘threads’, and the ‘beads’ become important functional nodes or landmarks. These landmarks are further connected back to the city through a series of road networks that will act as ‘pendants’ between the city and the Promenade.



(right top) Aerial view near the Netravathi Bridge
 (right bottom) View of the mangrove cover near Netravathi Bridge
 (left top) Proposed Biodiversity Park
 (left bottom) Netravathi water edge
 Source: Google Earth Pro

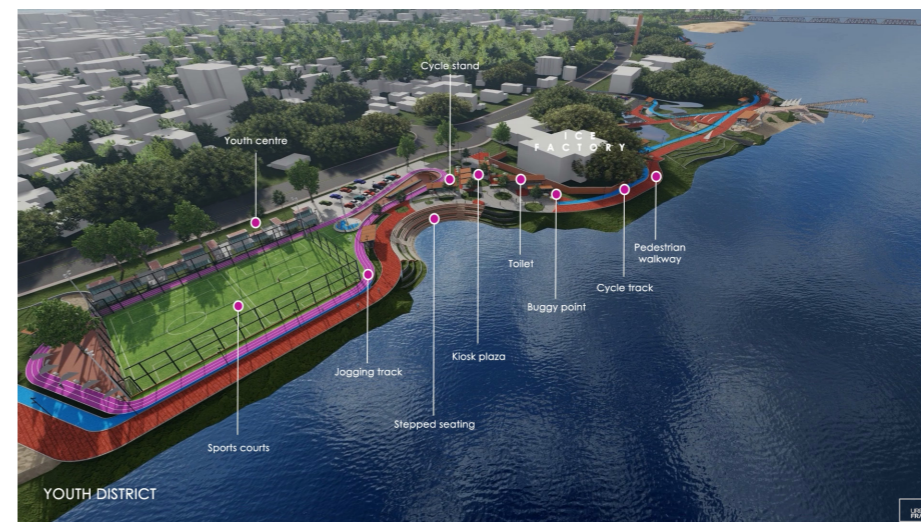
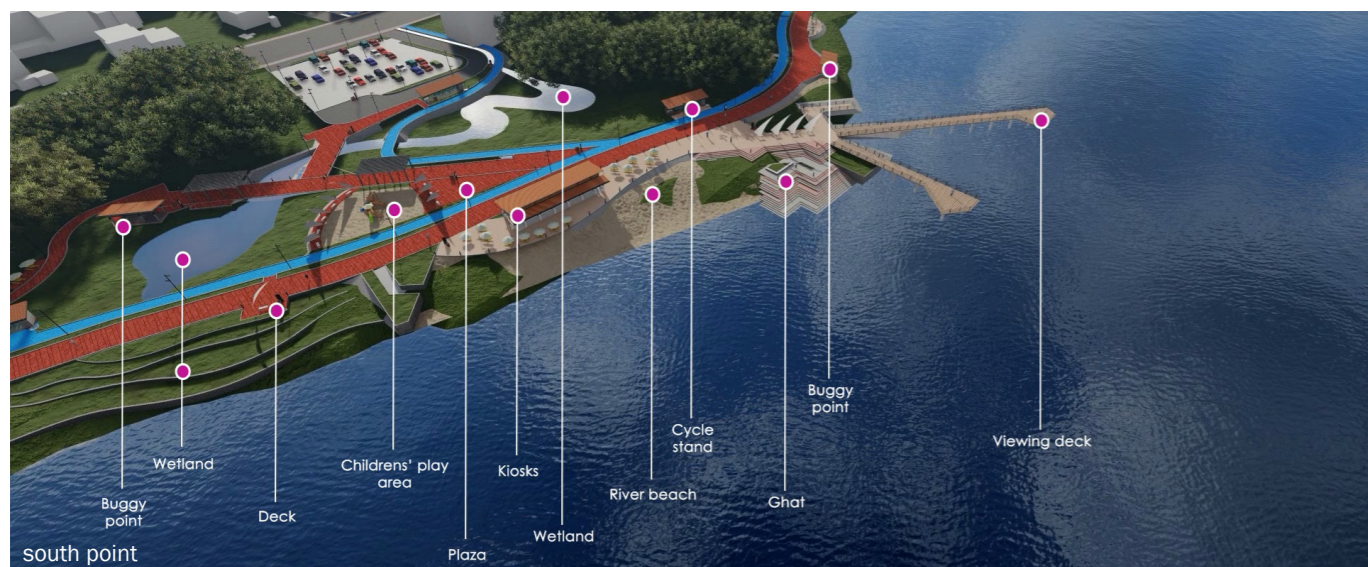




Promenade Master Plan
Source: Terra Firma Landscape Architecture

(clockwise)
View near Cascia Tile factory
Proposed South Point near Cascia Tile factory
View of the existing boat building yard

EXISTING LANDMARKS	PROPOSED NODES
A NETRAVATI RAILWAY BRIDGE	01 BIODIVERSITY PARK
B KANARA PLYWOOD FACTORY	02 BIRDWATCHING AREA
C COMMONWEALTH TILE FACTORY	03 JEPPU FERRY
D MANGALURU CLUB	04 TILE FACTORY AREA
E TVS FACTORY	05 SOUTH POINT
F JEPPU TILEWORKS RUINS	06 WETLANDS
G CASCIA TILE FACTORY	07 OAT PLAZA
H ICE FACTORY	08 BOAT BUILDING YARD
	09 ACTIVITY DECKS
	10 BOLAR SEA FACE



(clockwise)
Proposed Youth District
Proposed Biodiversity Park
Source: Terra Firma Landscape Architecture
Stepped seating in Youth District
Source: Terra Firma Landscape Architecture





Aerial view of Sulthan Battery area
Proposed Master Plan for Sulthan Battery area

WATER & HISTORY – Sulthan Battery Heritage Plaza

The proposed area development spanning 7.1 Acres in the Sulthan battery Area, is a 400m long recreational and cultural stretch along the Gurupura river edge. The journey begins with the historic bastion of

Sulthan Battery in the north and culminates with the Sea Link landing plaza in the south. The pedestrian journey captures a native species garden, a maidan, an experiential maritime walkway museum, and a Mangalore Haat.

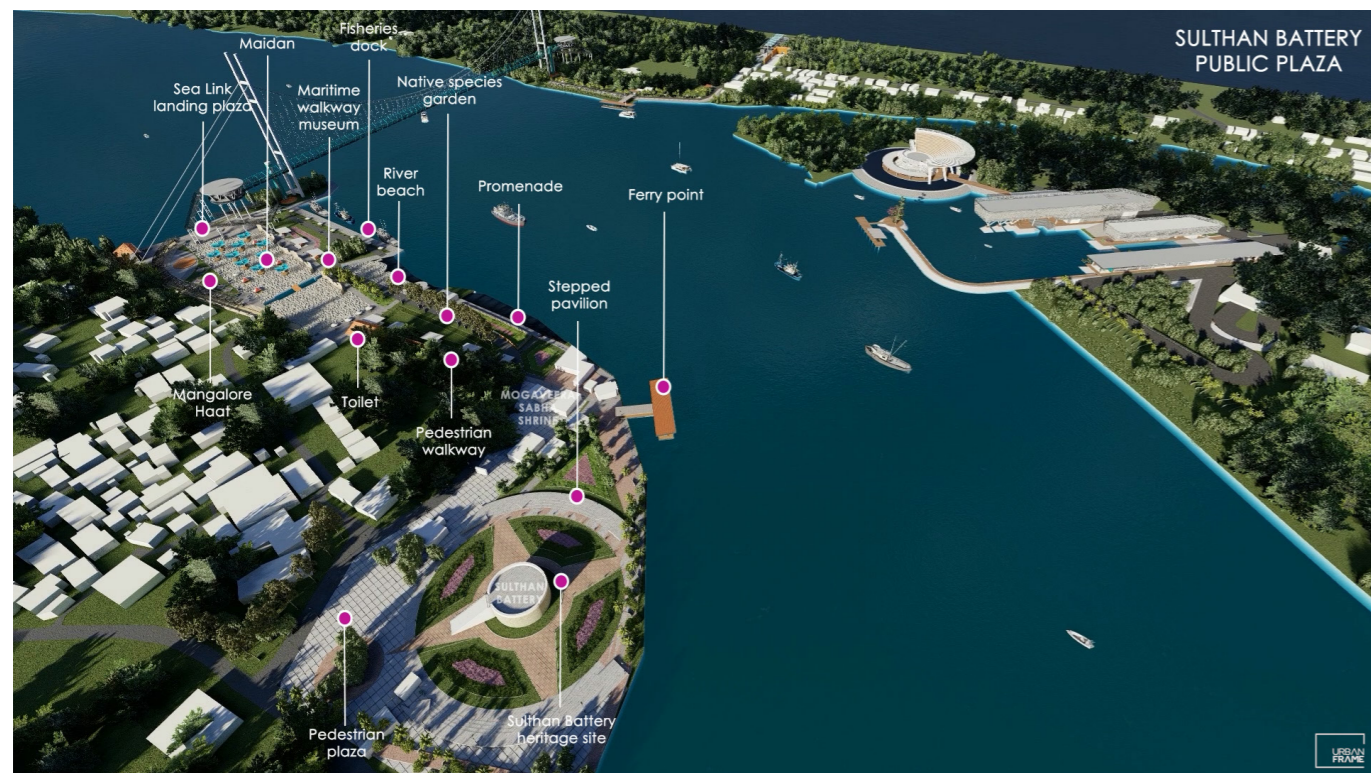
(clockwise)
Walking path & cycle track
Source: Terra Firma Landscape Architecture
Bolar Sea Face
Source: Terra Firma Landscape Architecture

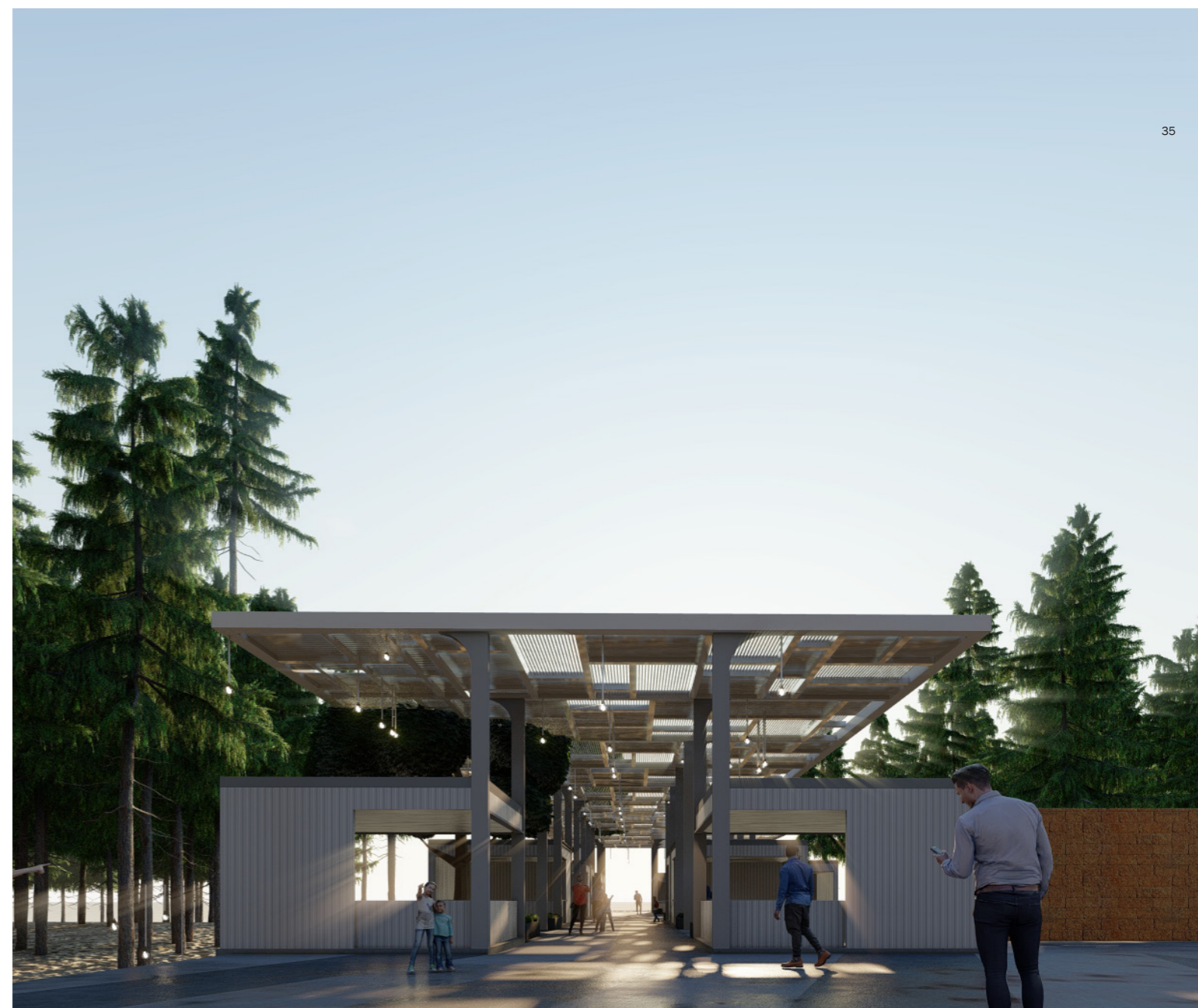
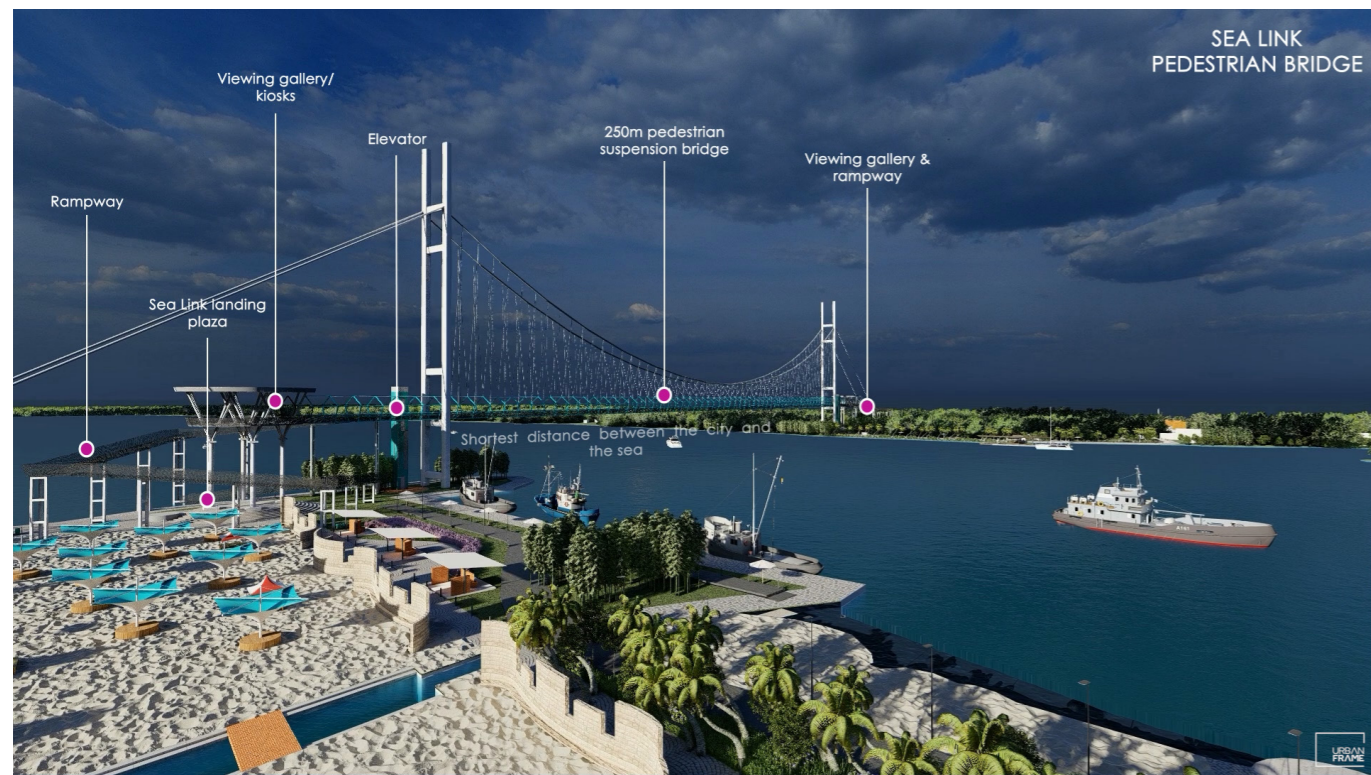
- 1 Sulthan Battery Heritage Site
- 2 Stepped Pavilion
- 3 Pedestrian Plaza
- 4 Jetty Point
- 5 Promenade
- 6 Pedestrian Walkway
- 7 Maritime Walkway Museum
- 8 Wooden Bridge
- 9 Maidan
- 10 Mangalore Haat
- 11 Toilet Block
- 12 Sea Link Landing Plaza
- 13 View Point
- 14 Native Species Garden
- 15 River Beach
- 16 Sculpture Plaza

ACROSS THE WATER – Sea Link pedestrian bridge

The proposed Pedestrian Sea Link at the Sulthan Battery Area spanning over 260m, intends to connect the Mangaluru mainland to the spitland, across Gurupura River, thereby making it the shortest walkable connection to the Tannirbhavi Beach and the Arabian sea from the city. The sea link bridge will be instrumental in binding the proposed Sulthan Battery area revitalisation to that in Tannirbhavi, and consequently anchor the future projects in the region. The viewing decks and pavilion at the access points and landings, create spaces for visitors to pause, engage, and reflect over the picturesque

(right side clockwise)
Sulthan Battery Public Plaza
Aerial view of Sulthan Battery development
(left side clockwise)
Drone view of North Mangaluru
Proposed projects in North Mangaluru





34

35

(left top) Sea Link Pedestrian Bridge
(left bottom) View from the bridge

(right top) Shacks at Tannirbhavi beach front
(right bottom) View from the entrance plaza

visual of the river in front of them.

FRAMING THE WATER – Eat Street at Tannirbhavi

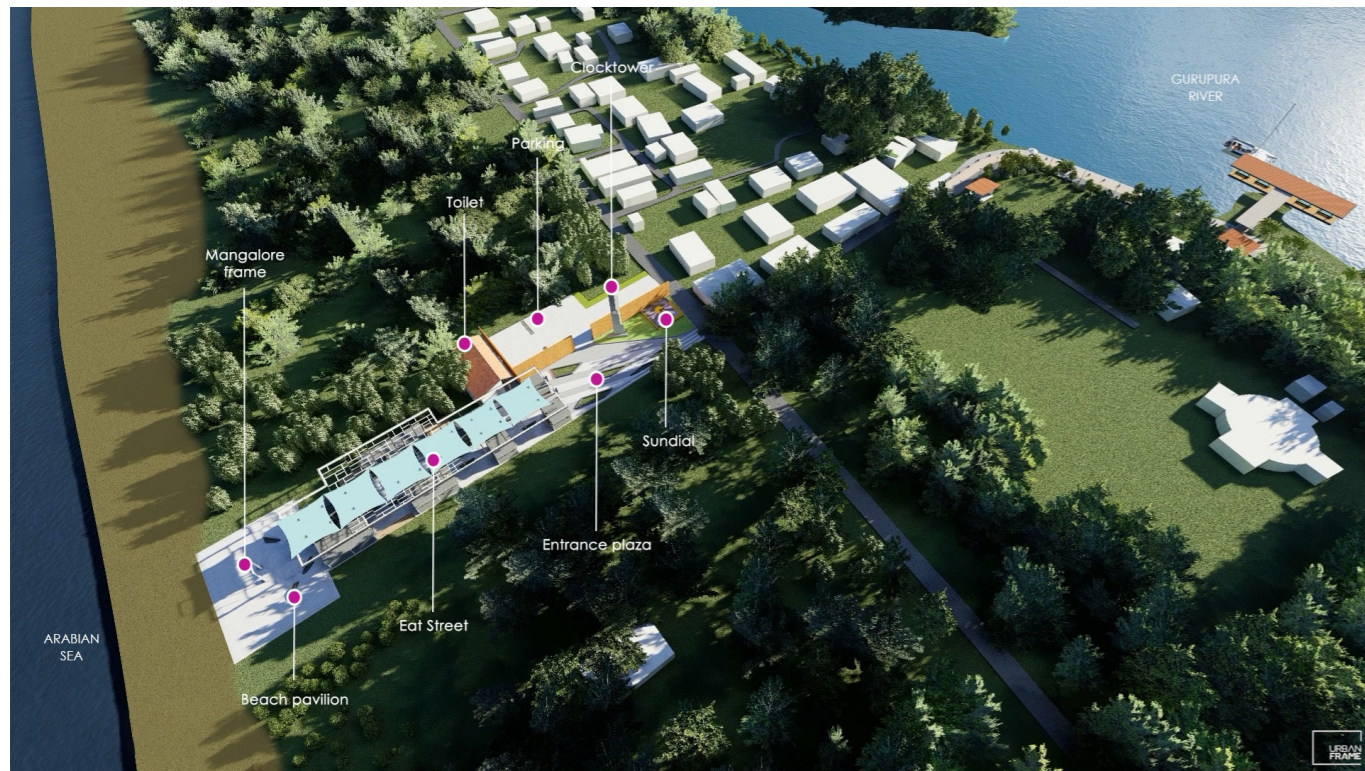
The proposed development at Tannirbhavi, planned in about 5300 sq.m of area, is an attempt to create an experiential arrival to the beachfront through a series of interesting markers and pause points. The proposed Eat Street, conceptualised in the lines of Smart City Streets for People design program, would strengthen, reorganise, and popularise the commercial activities in the area.

The Eat Street comprises of establishments for food and

beverages, kiosks for seashell artifacts, a clock tower plaza, parking lots, pavilions, seating spaces and other public amenities. The visual and pedestrian experience through the street culminates at the Mangaluru Frame which is designed to capture the sunset, horizon, and endless blues of the city. The Mangaluru Frame opens out to a podium that drops down to the Tannirbhavi sand coast, thus completing the journey to the beachfront. WATER & PLAY – Water Sports Park and Open Air Theatre Nayar Kudru, a small islet between Mangaluru and its spitland, owing to its topography, sparse development,



- 1 Promenade Pavilion/
Sea Link landing site
- 2 Shaded Walkway
- 3 Ferry Point
- 4 Clock Tower
- 5 Parking Lot
- 6 Toilet Block
- 7 Eat Street
- 8 Mangalore Frame
- 9 Pavilion
- 10 Beach-front

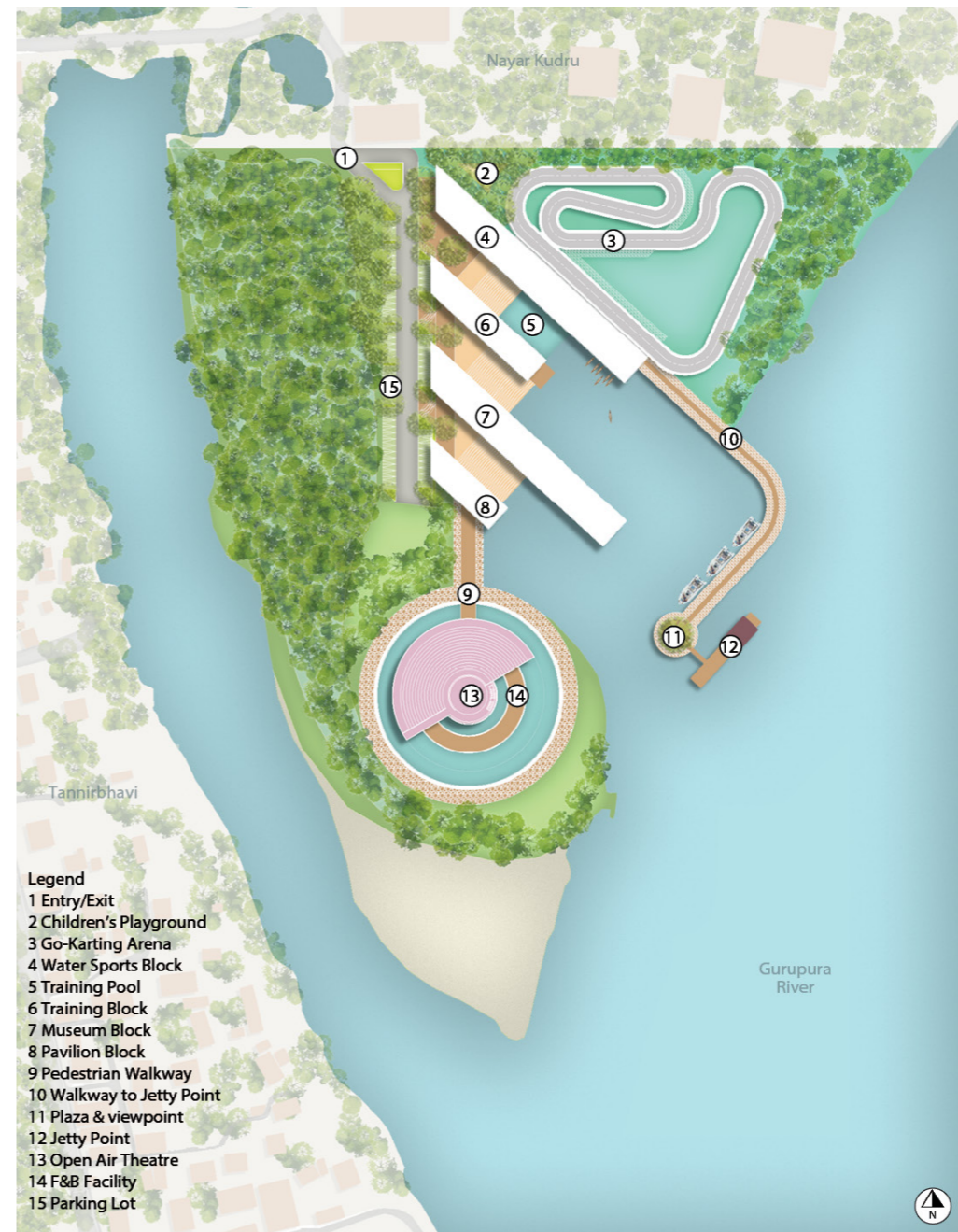


and natural setting, had immense potential to become an anchor for an active water related sports activity zone. The proposal comprises of a go-karting arena, water sports park, and an open-air theatre which together form the recreational and entertainment destination for the city.

The Water Sports Park is a mix of learning and playing, arranged within

the Water Sports Block, Training Block, Museum Block, Pavilion Block, Jetty Block, and the Go-Karting Arena. The Open-Air Theatre at the southern tip of Nayar Kudru becomes a destination for celebration by being a city level congregation space. The OAT also provides a panoramic view of the Sea Link across the Gurupura, against the backdrop of the city skyline.

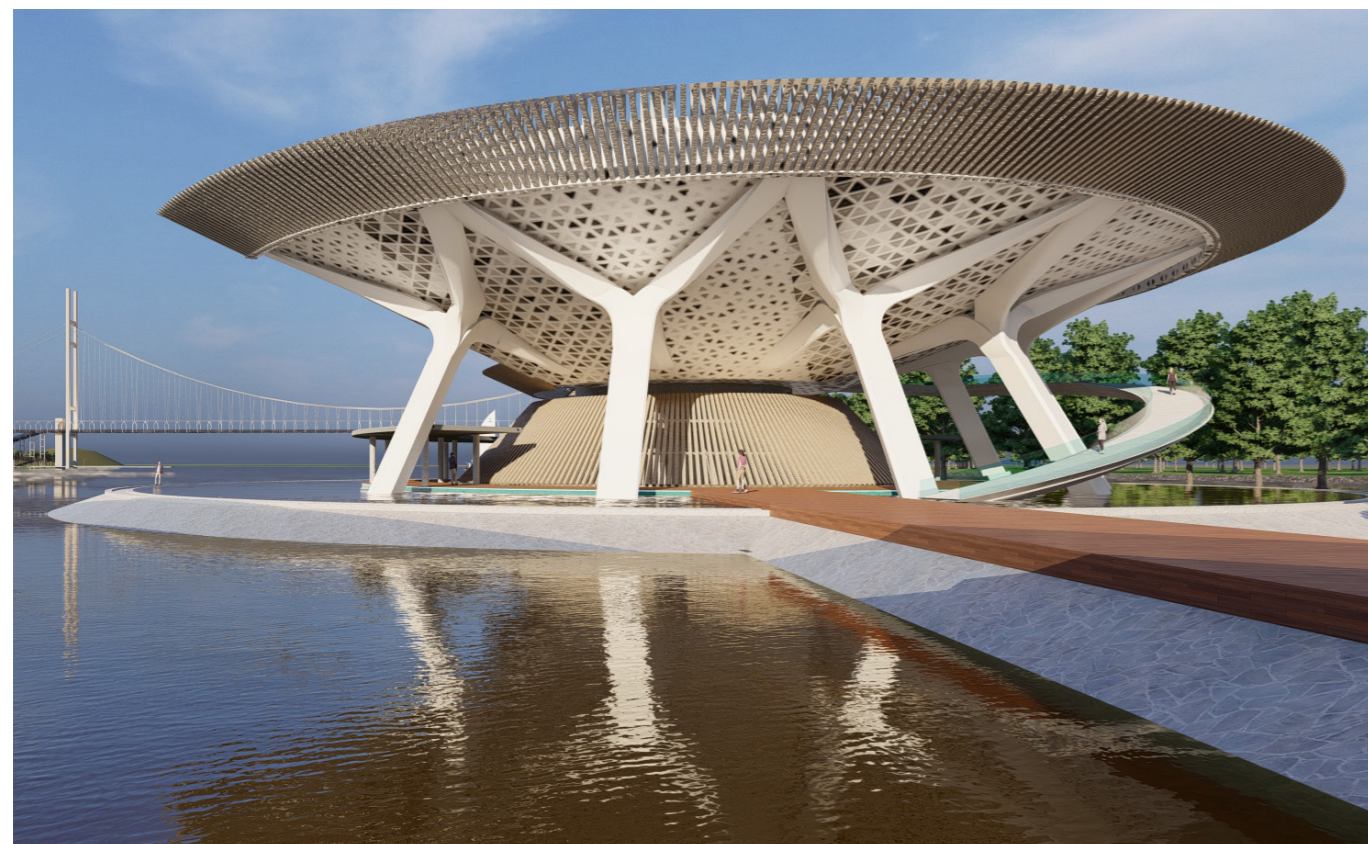
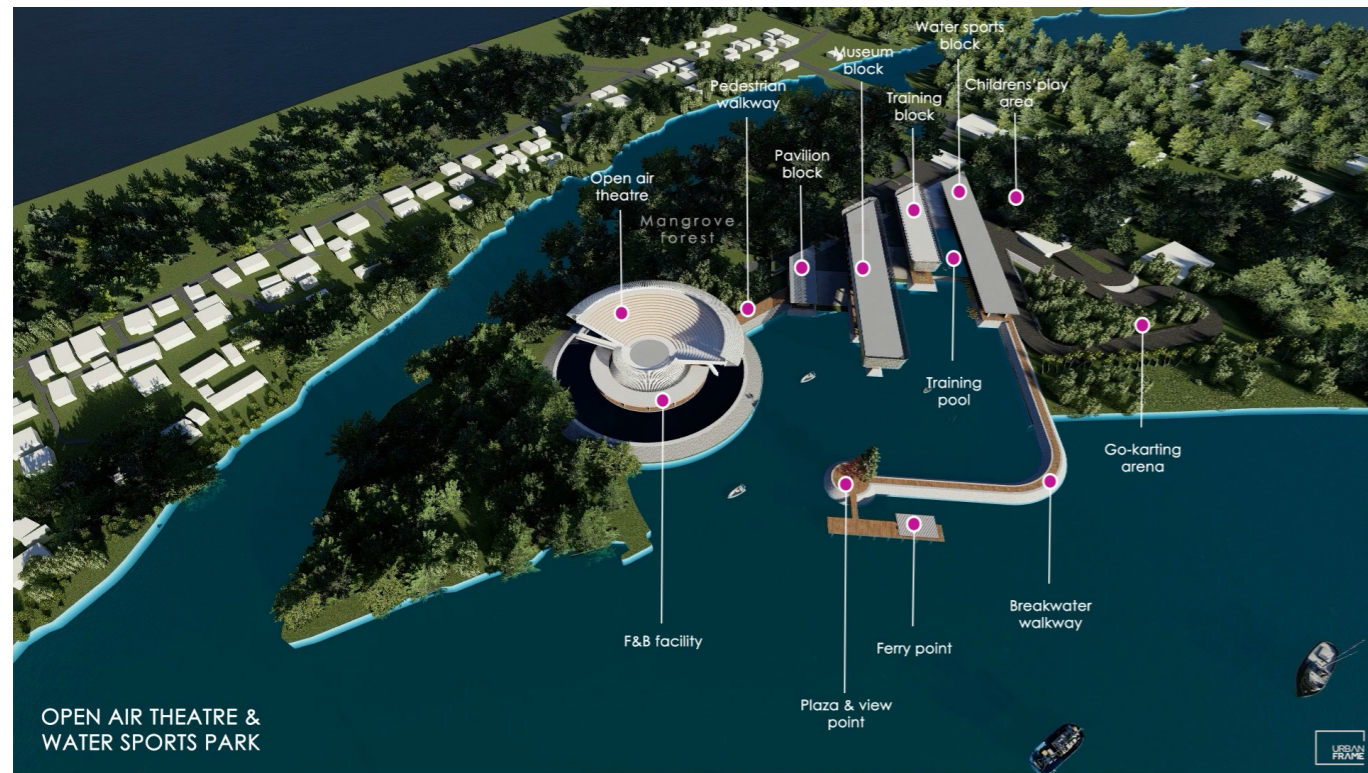
*Master Plan of Tannirbhavi area
Aerial view of the Tannirbhavi development*



Legend

- 1 Entry/Exit
- 2 Children's Playground
- 3 Go-Karting Arena
- 4 Water Sports Block
- 5 Training Pool
- 6 Training Block
- 7 Museum Block
- 8 Pavilion Block
- 9 Pedestrian Walkway
- 10 Walkway to Jetty Point
- 11 Plaza & viewpoint
- 12 Jetty Point
- 13 Open Air Theatre
- 14 F&B Facility
- 15 Parking Lot

*Aerial view of Nayar Kudru
Master Plan of the Open-Air
Theatre & Water Sports Park*



Embracing change

India, being a large cultural paradox is a collection of multiple cities and sub-cities that are in a constant state of movement. Over the years, the city of Mangaluru has adapted itself to the varying phases of engagement with water. The attachment, detachment, and re-attachment is an illustration of how cities are continually in transition.

One may observe patterns that may emerge, sustain, intersect, die, and for all you know, re-emerge. The dynamicity that cities today exhibit, all the more emphasises our role as designers to keenly observe these patterns, and offer effective design sensibilities that ensure inclusive, holistic, and viable cities that are capable of sustaining these changes.

*(top) Aerial view of the proposed development in Nayar Kudru.
(bottom) The Open-Air Theatre against the Gurupura River
(left) View of the Training Block*



Design Team: UrbanFrame Pvt Ltd, Terra Firma Landscape Architecture, Shilanyas Design Consultants, Vagish Naganur
Client: Mangaluru Smart City Limited
Graphics: UrbanFrame Pvt Ltd

Dr. Anup Naik is the Founder Director of UrbanFrame Pvt Ltd (A Space Matrix Group Company). He holds a PhD in Sustainable Architecture from VTU, Karnataka, with BMSCA as his research center. He earned his Master's in Urban Design from SPA, New Delhi, and Bachelor's in Architecture from BMS College of Architecture, Bangalore. With 28 years of experience across countries including Morocco, Singapore, Malaysia, Thailand, Kenya, and Vietnam, Dr. Naik is also a Professor at RV College of Architecture and serves on advisory boards of multiple institutions. He has played key roles in the Smart City Mission - as Independent Director (Bengaluru), Built Environment Expert (Shivamogga), and Waterfront Consultant (Mangaluru). Passionate about user-centric and sustainable design, he has led UrbanFrame's multidisciplinary work across master planning, urban design, hospitality, healthcare, transportation, conservation, and more. His award-winning projects span master plans to high-rises, earning national and global recognition in sustainable architecture and urbanism.

Soumya S Warrior is an Urban Designer, Architect, and Architectural Journalist, currently Team Lead at UrbanFrame Pvt Ltd. She holds a Master's in Urban Design from SPA New Delhi and a Bachelor's in Architecture from College of Engineering Trivandrum. She is passionate about the dynamics of cities and people, contributing to both government and private sector projects. At UrbanFrame, she has led master planning for 17+ km, 60+ acres of public space, 273+ acres of institutional campuses, and large-scale residential, hospitality, commercial, and mixed-use developments. Her designs emphasize sustainability - preserving 740 acres of virgin soil and designing 9 million sft for green compliance, with 12 projects targeting Net Zero. Her vision is to create inclusive, responsive, and rooted public spaces.