



ANNUAL REPORT

2024-2025

JANA URBAN SPACE FOUNDATION

Jana
Urban
Space



Annual Report 2024-25



Jana Urban Space Foundation

About Jana Urban Space

Jana Urban Space Foundation (JUSP) is transforming how Indian cities are planned, designed, and experienced. As the urban planning and design arm of the Jana Group, JUSP operates at the intersection of policy reform, spatial planning, and on-ground demonstration, ensuring that urban transformation is not just visionary, but executable and scalable.

Over two decades, JUSP has worked with governments at the union, state, and city levels – including NITI Aayog (formerly the Planning Commission), the Ministry of Housing and Urban Affairs (MoHUA), and the Governments of Andhra Pradesh, Assam, Karnataka, Madhya Pradesh, Meghalaya, Odisha, Rajasthan, Tamil Nadu, and Uttar Pradesh – to advance systemic reforms in urban planning and design. In doing so, JUSP transforms how Indian cities are experienced – aligning policy, infrastructure, ecology, and every day public life to deliver equity, resilience, and quality of life at scale.

Our core impact

1. JUSP has shaped some of India's most influential **policy reforms** in the space of urban planning and design, systemically improving how cities plan, regulate, and build.
 - a. **National Urban Spatial Planning and Design (NUSPD)** guidelines informing national urban planning frameworks. It was prepared as input to the revision of the Urban and Regional Development Plans Formulation and Implementation (URDPFI) as part of JnNURM - Phase 2.
 - b. **Project Platinum (Partnership for Land Title implementation in Urban Management)**, initiated in 2010 by the MoHUA (formerly, Ministry of Urban Development) to meet the pressing urban challenge of the absence of secure land titles in India
 - c. **Tender S.U.R.E (Specifications for Urban Road Execution)**, authored and published by Jana USP in 2011, which is India's first complete streets design and execution standard, now adopted across 35 cities in six Indian states.
 - d. **City-level policy instruments** such as the Bengaluru **Outdoor Advertising Byelaws**, which eliminated hoarding and visual pollution citywide in 2018 (Karnataka).
 - e. **Advance equitable, affordable, and energy-efficient self-housing** for peri-urban communities in Karnataka through a 2022 partnership with Habitat for Humanity India. The initiative focused on **capacity building for urban poor households and informal moneylenders** through simple Kannada resource guides and hands-on community workshops on construction finance, safe

building practices, and quality standards, enabling families to **self-build safely, affordably, and with long-term resilience**.

- f. **In Uttar Pradesh**, JUSP is taking Tender S.U.R.E to scale through a decentralized **Chief Minister Green Road Infrastructure Development Scheme (CM-GRIDS) model for Urban Local Governments (ULGs)**. JUSP oversees the state Project Management Unit (PMU) since 2024, which manages and operates the Urban Road Infrastructure Development Agency (URIDA). Implementation has begun with the redevelopment of 275+ km roads across 17 ULGs, establishing a scalable, decentralized model for statewide urban road reform.

2. **JUSP has shaped statutory planning instruments across India, including six vision plans and five master plans:**

- a. Jaipur (Rajasthan) Master Plan 2025 (notified in 2011)
- b. Spatial Development Plans for six towns in Madhya Pradesh (2013)
- c. GIS Databases for four towns in Odisha (2014)
- d. Sawai Madhopur (Rajasthan) Master Plan 2035 (notified in 2017)
- e. Bengaluru Smart City Proposal (approved by MoHUA in 2017)
- f. GIS-based Master Plans for three AMRUT cities in Tamil Nadu —Thanjavur, Kumbakonam, and Pudukottai (yet to be notified)

3. JUSP has redefined how Indian cities design and execute streets, junctions, and public infrastructure, **reimagining streets as public spaces, not just traffic corridors**.

1. Roads and street design

- a. 500+ km of Tender S.U.R.E. roads across 35 cities in six Indian states (Karnataka, Uttar Pradesh, Odisha, Telangana, Chennai, Assam), unlocking capital investment of INR 3,540 Crores
- b. 25+ Junction improvements
- c. Capacity building across 50+ cities in 10 states

These streets integrate walkability, safe cycling, organized over ground and underground utilities, universal accessibility, organized vending, and flood-resilient drainage.

2. Climate resilient blue–green infrastructure

- a. 426 acres of biodiversity park at Mahanadi riverfront, Cuttack (Odisha)
- b. Mudichur Lakefront development, Chennai (Tamil Nadu)
- c. Nallurahalli Nallah rejuvenation, Bengaluru (Karnataka)
- d. Urban forests, parks, and plazas across multiple cities

These projects restore natural hydrology, strengthen flood resilience, and revive ecosystems by embedding Nature-based Solutions into everyday urban infrastructure, integrating drainage, ecology, mobility, and public life as one system.

3. Regeneration of complex urban public spaces

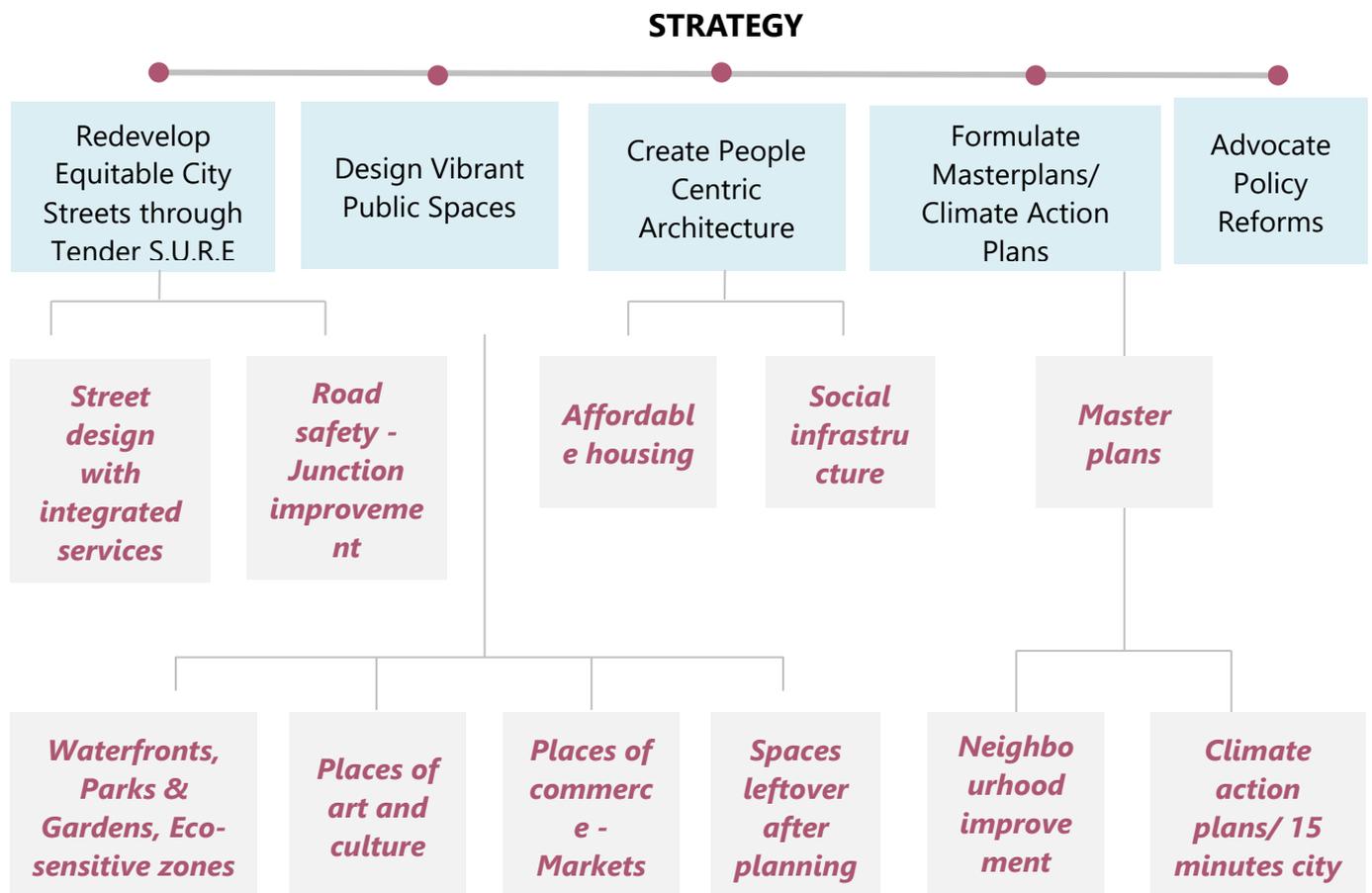
- a. Advanced housing, social, and community infrastructure by creating built environments that anchor health, dignity, education, safety, and belonging in low-income neighborhoods.
 1. 1,200+ Affordable housing units
 2. 753+ Parichaya (Community) centers in 101 ULGs of Odisha
 3. 12 Community centers for urban youth in Odisha and Telangana
 4. First barrier-free park of India (Chhatarpur, Madhya Pradesh)
 5. Sanitation and urban services infrastructure

Our Reach – A snapshot

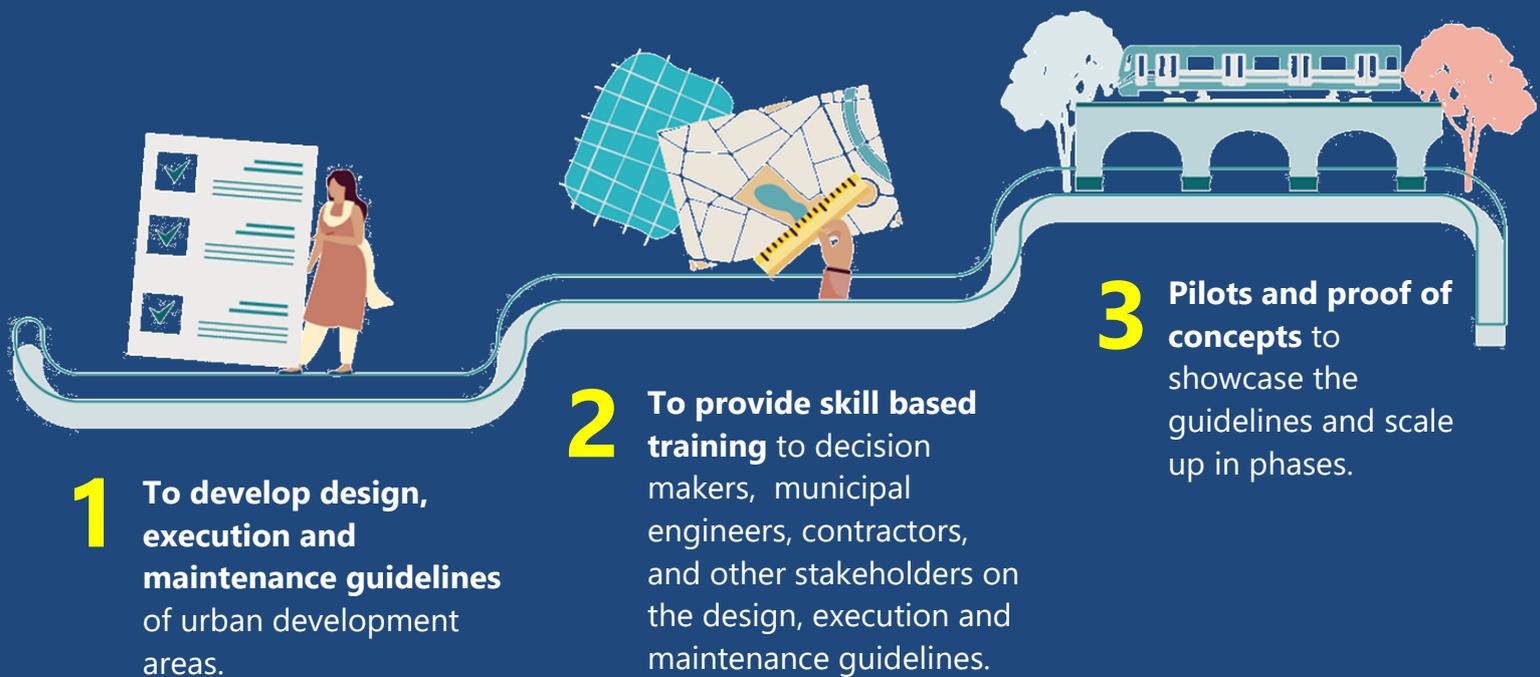
- 10 States | 50 Cities
- 500+ km Tender S.U.R.E. streets (250+ km ongoing)
- 25+ major junction upgrades
- 12 community centers
- 15-minute university town in Manipal
- 7 parks and plazas
- 3 waterfronts/ blue-green infrastructure projects
- Urban policy pilots on 15-minute neighborhoods, low-carbon neighborhoods, and women and infrastructure linkages

Our strategy

Jana Urban Space Foundation transforms quality of life in Indian cities through a five-fold strategy outlined below –



Our approach



1. Doh Shafer Ek Rupayan

As part of its broader push for urban governance reform, the Government of Assam is moving towards institutionalizing City Action Plans as a key tool for city-level planning and accountability. These bottom-up, participatory plans are designed to identify and address local urban challenges through structured community engagement and city-wide consolidation. A leading example of this approach is seen in the state's flagship initiative, *Doh Shafer Ek Rupayan* (Ten Cities, One Vision), spearheaded by the Department of Housing and Urban Affairs (DoHUA).

Launched in ten cities outside Assam's capital region, *Doh Shafer Ek Rupayan* represents an innovative, convergence-based model for urban transformation. It emphasizes a place-based, citizen-driven approach to improving the quality of urban life, offering a replicable framework for future urban policy and planning. At its core, the initiative integrates City Action Plans as operational tools, anchoring local development in participatory diagnostics and targeted interventions.

Doh Shafer Ek Rupayan is structured around seven core components—solid waste management, safe drinking water, public infrastructure, blue-green infrastructure, traffic management, street lighting, and urban planning—which address key service delivery and infrastructure gaps. These are supported by three enabling levers: manpower rationalization, digital and online service delivery, and financial strengthening of Urban Local Governments.

Jana supports DoHUA on program design and project management for the initiative. Jana Urban Space specifically continues to support the Government of Assam on the following strands of work –

1. Climate-Focused Governance & Partnerships

- Integrating climate considerations into program design.
- Building platforms for citizen participation in climate action and introducing climate tagging in budgets.
- Onboarding partners and academic institutions for technical expertise, with no financial commitment from the Government.

2. Policies, guidelines, toolkits and capacity building

Jana supports DoHUA on policy analysis and recommendations, developing best-in-class guidelines and share ready-to-use toolkits for urban planning and design components of the program. Specific tasks under this include:

- Design, implementation, and maintenance guidelines for building the below public spaces (can be adapted to context)
 - Urban Roads (Tender S.U.R.E.) and drains
 - Markets and market area development
 - Waterways
 - Parks and Playgrounds
 - Inclusive infrastructure
- SoPs for project identification, contractor/ consultant selection, citizen participation and stakeholder engagement
- Green/ Alternate schedule of Rates
- Job Aids
- Capacity building of contractors and engineers

3. Identification of lighthouse projects

Jana will undertake feasibility studies leading to identification of critical high priority public infrastructure projects to be developed and implemented as lighthouse projects across the 10 cities.

The following typologies of projects will be included –

- Urban roads redevelopment and drains
- Market and Market area redevelopment
- Water body rejuvenation
- Parks and playgrounds
- Inclusive infrastructure
- Other projects as may be identified.

ACTIVITIES

1. Preparation of a city dossier for 10 cities –

Orientation and Engagement –

- Conducted virtual orientation with all DCs/ADCs led by MD (AUIDFCL).
- Organized kick-off meetings at the DC level in each city to explain the program and solicit support.
- Held debrief meetings at the end to share findings and outline next steps.

City Overview

- Collected information on city features across economy, environment, equity, and engagement.
- Identified major challenges and future opportunities.
- Met key stakeholders: EOs/ex-EOs, Chairpersons, senior government officials, prominent citizens, and civil society groups

Component wise data collection

- Engaged with ULB-level officials across all program components.
- Conducted site visits to water treatment plants, landfills/dumpsites, material recovery facilities, and major city landmarks (markets, parks, roads, water bodies).

Lighthouse project identification

- Identified five potential lighthouse projects addressing gaps in public infrastructure and capturing needs/challenges.
- Interacted with relevant officials and stakeholders for project scoping.

2. Preparation of a project identification matrix for the cities –

We developed the Project Identification Matrix for all 10 cities using the MEPI-AAQ framework, which stands for Move, Eat, Play, Include combined with the dimensions of Availability, Accessibility, and Quality (including safety). This structured approach allowed the ULGs to systematically identify and evaluate urban infrastructure needs across multiple sectors:

Categorization by functions and typology of urban infrastructure

- **Move:** Mobility-related infrastructure such as streets, intersections, non-motorized transport (NMT) facilities, public transport nodes, and parking.
- **Eat:** Market and vending infrastructure at neighbourhood and city levels.
- **Play:** Public spaces including parks, waterfronts, cultural spaces, and SLOAPs (Spaces Left Over After Planning).
- **Include:** Community and social infrastructure like community centres, anganwadis, health facilities, and public institutions.

Assessment Dimensions

Each infrastructure type was evaluated across:

- **Availability:** Whether the infrastructure exists and its distribution.
- **Accessibility:** Ease of access for all users, including universal design principles.
- **Quality:** Safety, amenities, and overall user experience.
- **Planning:** Presence of relevant plans that integrate spatial planning with infrastructure development as per above categories (e.g., mobility plans, local area plans, blue-green masterplans).

Rationale for Prioritization

Projects were prioritized based on:

- **Quick wins** (ease of implementation),
- **Visibility** (impact and prominence),
- **Scalability** (potential to replicate city-wide),
- **Financial feasibility** (budget considerations).

2. Green Schedule of Rates – CM GRIDS

The Green Schedule of Rates (SoR) is a comprehensive rate document for works and materials used in construction and related projects. The Green SoR deviates from the standard Delhi Schedule of Rates and other state SoRs to capture material and construction processes that are environmentally sustainable in nature.

The Green SoR, thereby, addresses three key challenges in advancing sustainable construction practices in the market -

1. **Lack of market penetration of sustainable materials** - Most sustainable materials and construction techniques are limited to research experiments. The Green SoR enables incorporation of such materials in projects on ground.
2. **Lack of incorporation of sustainable methods in design** - The design and construction processes relies extensively on the SoR document for estimation which refers to the MoRTH Data Book for material specifications. The Green SoR will be an adjunct to the SoR document in assessing green materials throughout their life-cycle & measuring their sustainability.
3. **Lack of knowledge among engineers and contractors on sustainable materials** - Green SoR will also help bridge the gap between manufacturers of sustainable materials and contractors who can directly pick new materials without the extra effort of doing their own market research and validation.

Development of the Green SoR was carried out under the Chief Minister Green Road Infrastructure Development Scheme (CM-GRIDS). This scheme is a flagship initiative of the Urban Development Department, Government of Uttar Pradesh, aimed at transforming urban roads into integrated, safe, inclusive, and sustainable complete streets. The scheme focuses on coordinated development of carriageways, footpaths, utility ducts, green infrastructure, street lighting, and pedestrian facilities to improve

urban mobility, support economic activity, and enhance ease of living across cities in the state.

Jana supports the Government of Uttar Pradesh as the Project Management Unit (PMU) for this program. Specifically, Jana supports the Government in the end-to-end implementation of CM-GRIDS (Urban) by providing technical assistance to Urban Local Bodies, reviewing feasibility reports and DPRs, facilitating approvals through the online portal, supporting tendering processes, and monitoring construction through quality checks, geo-tagged reporting, and inter-departmental coordination. The PMU also plays a key role in capacity building, documentation, and post-implementation impact assessment to ensure projects achieve their intended financial, social, environmental, and economic outcomes.

The scheme is implemented under the guidance of the Urban Road Infrastructure Development Agency (URIDA), the nodal agency responsible for standards, approvals, funding management, and overall coordination of CM-GRIDS (Urban) across the state.

The Green SoR document is an addendum to existing city and state SoRs, providing 25 green materials and construction techniques for road construction, that will be applicable to all roads designed and implemented under this scheme. The selection of 100+ materials was done through a scoring system based on a comprehensive life-cycle analysis (LCA), assessing their sustainability footprint at each stage.

Projected impact from CM GRIDS Green SoR



ACTIVITIES

1. **Preparation of a master repository of green materials and construction techniques based on an LCA framework**

The team conducted a secondary analysis of green materials and construction technologies available in the Indian market, mapping sustainability specifications across each phase in the lifecycle of a material (extraction – manufacturing – transportation – construction – use – disposal/ recycling), and construction technology (transportation – construction – use – disposal). A Green Score was developed for each item, which provides a selection criterion for the Green SoR.

2. **Rate Analysis and Specifications for selected items**

The final list of materials for the Green SoR was derived basis the selection criteria in the master list, availability of vendors within a 400km radius of selected cities under the CM GRIDS scheme, and materials that have been tested and vetted by a national testing laboratory such as CRRI. Rate analysis and detailed specifications, including material, labor and machinery costs to arrive at unit costing for each item was then carried out.

3. **Publication and notification of the Green SoR**

We are currently advancing the notification of CM-GRIDS Green SoR through a phased approach. The process began with a soft notification, circulating the guidelines internally as recommended best practices to build familiarity among engineers and contractors. Next, we are preparing for official gazette notification, which will include a public consultation period to gather stakeholder feedback before making the guidelines legally binding. A structured 3–4 month timeline has been set for approvals, interdepartmental NoCs, and cabinet clearance. Following this, we plan to expand the notification’s jurisdiction to cover all road construction agencies, including PWD and development authorities, ensuring uniform compliance and integrated approval mechanisms across the state.

3.15 minute neighborhoods

The Building 15-Minute Neighborhoods project - at the intersection of Sustainable Mobility, Public Spaces, and Climate Action - is an initiative by Jana Urban Space Foundation and Mercedes Benz Research and Development India (MBRDI) with a vision to enable a model for people centric, low-carbon cities with sustainable neighborhoods at their core. The mission seeks to break away from piecemeal development, emphasizing a framework for neighborhoods that integrates sustainable mobility, public transit networks, and a network of open/ recreational spaces.

The project's targeted geography is Bengaluru and four distinct neighborhoods – Chickpete, Whitefield, Indiranagar, and Malleswaram – were selected as case studies, each presenting its distinct characteristics with respect to primary land use patterns, population, built density, mobility patterns, availability of green spaces, distribution of public transit network, occupation, diverse social economic backgrounds, and availability of land for development. The potential for these neighborhoods to transform into 15-minute neighborhoods was identified through targeted interventions under the [Move-Play-Sustain-Include framework](#).

ACTIVITIES

1. **Launch of “Building 15-Minute Neighbourhoods” Design Guidelines and Implementation Toolkit**

The guidelines were developed through extensive research assessing existing services such as mobility infrastructure, public transport, and green spaces, with a strong focus on walkability, safety, and accessibility. This work culminated in the **Move -Play -Sustain -Include** framework, which promotes integrated mobility and transport systems, safe and active public spaces, sustainable local markets, and inclusive social infrastructure to create accessible and vibrant neighbourhoods.

The guidelines draw on case studies and surveys conducted across four Bengaluru neighbourhoods - Whitefield, Malleswaram, Indiranagar, and Chickpete - to substantiate the proposed strategies.

2. **Pilot Implementation in Nallurahalli, Bengaluru**

In the next phase, a pilot model was developed in **Nallurahalli**, a rapidly urbanising neighbourhood that presents an opportunity to guide growth before high-density development sets in. Centrally located in Whitefield with strong regional connectivity, the area is well positioned to test neighbourhood-level interventions. Originally a historic village, Nallurahalli has evolved into a growing urban neighbourhood and lies close to key transit hubs such as the Whitefield TTMC and Nallurahalli Metro Station. Despite this, poor first- and last-mile connectivity has resulted in heavy reliance on private transport, compounded by significant through-traffic from Whitefield Main Road, ITPL Main Road, and HAL Old Airport Road.

3. **“Implementation of “Quick-win” project - Footpath Upgrades in Collaboration with The Ugly Indian**

In partnership with [The Ugly Indian](#), a volunteer-based organisation, 3.5 km of footpaths in Nallurahalli were repaired, retrofitted, and maintained. These interventions connected key transit nodes including the Nallurahalli Metro Station and bus terminal to the neighbourhood’s central residential areas. The work included cleaning footpaths, addressing uneven surfaces, repairing or replacing damaged pavers and concrete slabs, and implementing targeted civil interventions to ensure safe and continuous pedestrian movement. In

total, **5,500 sqm of walkable area** was created, significantly expanding safe and usable pedestrian space.

4. **Impact**

Following the interventions, pedestrian travel time between the metro station and the bus stop was reduced by **4 minutes**, from 27 minutes to 23 minutes.

5. **Policy Engagement for Scaling and Citywide Adoption**

To scale the pilot project and reimagine 15-minute neighbourhoods across Bengaluru, a parallel track of policy engagement was initiated. This focused on advocating with relevant departments and agencies for the adoption and institutionalisation of the 15-Minute Neighbourhood concept, building pathways for citywide replication beyond the pilot area. Stakeholder consultations were conducted with officials from BMTC, BBMP (including the Traffic Engineering Cell), Bengaluru Traffic Police, Mahadevapura Task Force, and citizen collectives.

4. Nallurahalli nallah and lake rejuvenation using nature-based solutions

The Nallurahalli Lake inlets and outlet rejuvenation project was undertaken as a pilot intervention within a 15-minute neighborhood, demonstrating the 4P framework—Protect, Preserve, Promote, and Participate for nallah rejuvenation through nature-based solutions.

Specifically, the project aimed to:

- Improve water quality and reduce pollution loads entering Nallurahalli Lake by intercepting solid waste and treating inflows at source
- Ecologically strengthen lake inlets and outlets through non-concretized, flood-resilient, and native landscape interventions
- Enhance public access and everyday usability of the lake edges as part of local neighborhood infrastructure
- Co-create solutions with local communities and institutions, building awareness, ownership, and long-term stewardship
- Develop a technically robust concept that can be implemented with government approvals and replicated across similar urban nallahs in Bengaluru.

ACTIVITIES

1. Preliminary Reconnaissance and Baseline Mapping

- Mapping of existing landmarks, mobility infrastructure, land use and land cover
- Activity mapping along the nallah corridor
- Identification and mapping of solid waste dumping spots
- Documentation of existing physical, environmental, and institutional issues

2. Statutory Permissions and Government Coordination

- Liaison with BBMP and Khasra Khatauni Department for survey permissions
- Joint discussions with storm water department and lakes department in BBMP, BWSSB to explore mechanisms to integrate nature base solution at inlets and outlets of the lake.

3. Surveys and Technical Data Collection

- Watershed and catchment analysis
- Mapping of potential intervention locations
- Typology assessment of waste entering each inlet
- Water quality and water quantity analysis
- Topographical survey of identified intervention pockets

4. Vision and Data Collection Report

- Compilation and synthesis of data collected during reconnaissance and surveys
- Analysis of findings and assessment of environmental and social impacts
- Preparation of a project vision

5. Project Concept Development

- Development of a contextual cleaning strategy for each inlet based on:

- a. Community inputs
 - b. Land availability
 - c. Hydraulic and technical assessments
- o Co-creation of a nallah cleaning and rejuvenation strategy under the 4P Framework, addressing:
 - a. Cleaning of the waterbody
 - b. Protection measures
 - c. Edge engineering and public interface
- 6. **Concept Design for Intervention Pockets**
 - o Preparation of detailed concepts for each intervention pocket aligned with the 4P framework
 - o Development of intervention typologies and design responses
 - o Phased implementation strategy for interventions
- 7. **Proposal Submission and Costing**
 - o Submission of the concept proposal to MBRDI
 - o Preparation of cost estimates for different treatment and intervention solutions
- 8. **Stakeholder Consultation and Design Finalization**
 - o Consultations with community groups to present and refine design proposals
 - o Meetings with BBMP officials for review and finalization of designs
 - o Incorporation of stakeholder feedback into final concepts
- 9. **Statutory Approvals and Clearances**
 - o Initiation and facilitation of necessary approvals and No Objection Certificates (NOCs) required for construction.

5. Sustainable waterways in Bengaluru

The project focuses on working towards Sustainable Waterways in Bengaluru through the rejuvenation of nallahs, guided by a 4P framework – protect, preserve, promote and participate.

- Protect – clean the water through filtration and nature-based solutions
- Preserve – strengthen the edges through edge engineering and revive riparian ecology
- Promote – create public spaces and green mobility corridors along and adjacent to the nallah

Participate – improve user experience and people’s relationship with the water body, while establishing community and institutional mechanisms for shared ownership, stewardship, and long-term care

ACTIVITIES

1. Overview report submitted on approach and methodology of the program
Provide an overview of Bengaluru’s current water challenges, emphasizing population growth, water demand-supply gap, and the impact of extreme urbanization and weather events.
2. Highlight the need for a comprehensive rejuvenation plan for nallahs in the city with case examples and national and international best practices.

6. Net Zero Affordable Housing

The program explores the need for an integrated framework for decarbonization in the building and construction sector. Specifically, this addresses the following -

- Understanding the regulatory/ policy mechanisms for overall emissions reduction in the sector.
- Framing an integrated implementation pathway through - (a) mapping roles and responsibilities of relevant actors, (b) mapping feedback channels for implementation, (c) developing policy support instruments such as notified design guidelines, amendments to regulations such as Building Byelaws and Schedule of Rates.

The project looks at environmental sustainability and energy-efficiency in the building and construction sector through three primary aspects -

1. Embodied emissions – pathways for reducing embodied emissions through
 - a. adoption of **sustainable materials and construction**
 - b. **Retrofitting of existing buildings**
2. Operational emissions –
 - a. pathways for adoption of **renewable energy assets** to reduce conventional energy usage
3. Demand side management – pathways for enabling **energy-efficiency through spatial design.**

ACTIVITIES

1. **Developed the AAQ Framework for analysis**

Created the Availability-Affordability-Quality framework to assess solutions for net-zero transition in the built environment.

2. **Key Findings Analysis**

- Identified affordability gaps in existing solutions.
- Highlighted misalignment of isolated solutions with broader goals.
- Found missing communication channels between key actors.
- Noted regulatory barriers across states and cities.
- Emphasized need for neighbourhood-scale strategies beyond individual buildings.

3. **Designed Instruments of Change**

- Shift to **performance-based impact metrics** from intent-based green rating systems.
- Unlock decarbonization through **regulatory mechanisms**.
 - Recommended mandates through **Building Byelaws**.
 - Suggested incentives via **Development Control Regulations (DCRs)**.
- **Procurement reforms** for sustainable construction materials.
 - Build a **consolidated database** of sustainable materials and techniques.
 - Develop **Green Schedule of Rates (SoR)** and **Analysis of Rates (AoR)** for housing.
- **Mandatory Net Zero standards**, design guidelines, implementation, and maintenance manuals.

4. **Neighbourhood-Level Strategy**

Promoted **Low Carbon Neighbourhoods** to complement building-level strategies.

5. **Research and Engagement**

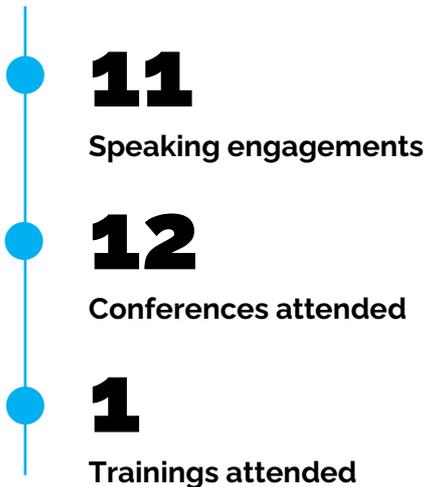
- Conducted **15+ expert consultations** across energy-efficient design, solar energy, sustainable materials, and clean tech.
- Compiled **10+ global and local case studies** on sustainable, affordable solutions.

- Completed surveys with **12 developers** across 4 states and **30+ consumer surveys** in Lucknow.

6. **Ecosystem Outreach**

- Presented work at **2 international conferences** and a national planning conference.
- Participated in expert roundtables hosted by WRI and CSTEP.
- Joined **India Cooling Coalition** as one of 24 core member organizations.

Speaking engagements



1. Nithya Ramesh, Director of Planning and Design, attended the **Eisenhower fellowships** for 6 weeks in the US to study urban local governance and citizen engagement in shaping neighborhoods.
2. Shashank Achanthodi, Senior Manager – Planning and Design, attended **IRF World Congress in October 2024 held at Istanbul on “Connecting to Empower Mobility: Roads as Enablers of a Sustainable Future for All”**
3. In FY 2024, team participated in conferences and speaking engagements across **diverse themes, including mobility, urban water, energy transition, affordable housing, urban planning, green buildings and certification. These opportunities were open to all**, allowing team members at all levels to represent Jana and gain exposure.
4. A paper titled '**Redefining Livability through 15-Minute Neighborhoods in Bengaluru**' has been submitted, and another paper on 'Capturing linkages between infrastructure and female workforce participation' is currently in progress.
5. **Selected for poster presentation** in “Inaugural summit of the India Forum for Nature-based Solutions” and “Building Climate-Resilient WASH Systems in India: Adapting to Climate Change”

Nature based solution- Tackling water scarcity at source

Problem: Water scarcity and pollution

India is at a critical point of urbanization, with 75% of its projected infrastructure for 2050 yet to be built amidst extreme climate change. This rapid urbanization significantly impacts cities' blue-green infrastructure. Even in the current scenario, **72%** of the sewage generated in urban centres remain untreated, and is discharged into our freshwater system through nallahs and drains. By 2050, **550 million people** in Indian cities are projected to face extreme water stress, making India the most water-stressed region globally.

To solve these problems we need to target the source through a **decentralised, nature based approach**. **Upstream nallahs** carry pollutants to water bodies, treating them at the source is crucial for reducing water stress.

Solution: Tackling upstream pollution through cleaning and rejuvenation of nallahs



The capacity of a nallah to address challenges



Framework: AP framework using nature based solutions:



Impact indicators: Environmental, Economical and social

- Environmental**
 - Increase in green/ open spaces with permeable surfaces/ bio-retention systems
 - Reduction in stormwater evacuation time
 - Million Litres (ML) of rainwater harvested
 - Increase in ground water table
- Economical**
 - Increase in rentable vending spaces
 - Increase in neighbourhood level recreational/ socio-cultural spaces
- Social**
 - Increase in barrier-free infrastructure
 - Development of green mobility corridors/ NMT loops
 - Increase in neighbourhood level play areas

Scan for more info!

Inaugural summit of the India Forum for Nature-based Solutions

In August 2024, Jana USP submitted a poster to the Nature-Based Solutions (NBS) Awards and Exhibition, and it was selected as one of the 16 posters exhibited.

The poster highlights the concept of cleaning and revitalizing **nallahs** by addressing pollution at the source, enhancing groundwater recharge, and creating accessible public spaces. By integrating decentralized wastewater treatment, and edge engineering, the approach proposes transforming nallahs into green corridors, reconnecting fragmented nallah network, improving water management and quality of life.

Enhancing Urban Stormwater Management with Tender S.U.R.E. system

Traditional stormwater drainage systems in India primarily consisting of box reinforced concrete (RC) drains, are either poorly designed and maintained.

- It causes poor drain health leading to damages. **Bengaluru spent 7500 cr. between 2019-2022** for patchwork maintenance, caused by water logging during monsoons.
- Traditional drainage systems typically run along property edges, leading to significant issues such as contamination from overflowing sewage lines and inefficient water flow.

The Tender S.U.R.E. framework, introduces a pipe-and-manhole system that significantly enhances stormwater management. The main:

- Scientific Design** - considering 1,100-year floods, with a ponding level of 5-10 cm.
- Improved Accessibility** - by allowing passing vehicles to traverse floodplains.
- Enhanced Walkability** - by shifting drains under footpaths, ensuring proper levels and maintaining seamless pedestrian access.
- Robust Construction** - The use of pre-cast pipes and chambers allow for a modular construction approach, reducing construction time by up to 70%.

200 KM+ of Tender S.U.R.E. storm water drains completed in 6+ STATES

CONVENTIONAL BOX DRAIN SYSTEM

- House connection for sewer supply cut through storm water drain
- House connection for sewage cut through storm water drain, can lead to leakage and cross contamination
- Storm water flow among box drains

Tender S.U.R.E. Stormwater System

- Channelized drain leads to chambers via catch pits
- All house connections are pipe to manhole
- Percolation to ground
- Sewage pipes near property edges, with proper horizontal and vertical segregation from other utilities to reduce contamination from leak
- 200mm O.C. to prevent backflow due to logging

LOCATION OF DRAIN

- In-curve drains located at the edge of the road level as opposed to property edge - this enables rapid evacuation of water from the road lane by removing the need for catch-pits and long connecting pipes.

EASE OF CONSTRUCTION

- Pipe and manhole systems enable a hybrid modular construction system using pre-cast pipes to site and cast-in-situ chambers. The cast-in-situ chambers can also be used reducing construction time by 70%.
- Manhole chamber design in a pipe and manhole system is easier.

CLEANING, MAINTENANCE

- In the pipe and manhole systems, only the manhole chambers have to be cleaned and desludged at regular intervals.
- The circular drain pipe also significantly reduces siltage and sedimentation, owing to its geometry.
- Silt traps are provided in every chamber to reduce siltage.
- Orange PVC caps have been designed to block solid waste inflow into drains and easy maintenance.

SPEEDY EVACUATION

- Stormwater pipes are designed considering 1,100 year floods, with a ponding level of 5-10 cm.
- Operational drains have shown that Tender S.U.R.E. drains in Bengaluru have significantly reduced stormwater evacuation as compared to conventional box drains.
- Circular drain pipes are laid according to longitudinal slopes - this is designed to carry maximum discharge and achieve a self-cleaning velocity.
- Catch pits provided at 20-30m interval.

INCREASED GROUNDWATER PERCOLATION

- Manholes provided with percolation pits at the bottom lined with filter, to increase groundwater percolation.
- Last chamber built for 2x capacity where required.

REDUCED CONTAMINATION FROM SEWAGE

- Sewage pipes are placed near the property entrance, with horizontal and vertical segregation from stormwater drains and water supply pipes.
- A 200 mm Dry Lean Concrete (DLC) layer is placed below the pipe to reduce seepage and maintain slope.

The case of Tender S.U.R.E. roads in Bengaluru.

Historical roads in Bengaluru redeveloped as a Tender SURE road and this road has been dug up since 2017.

Building Climate-Resilient WASH Systems in India: Adapting to Climate Change

In November 2024, Jana USP submitted a poster on Tender SURE storm water management system, and it was selected as one of the 15 posters exhibited.

The poster highlights the stormwater management system design used in Tender SURE roads, comparing the innovative pipe-and-manhole system with the traditional box drain system.

Thank you.