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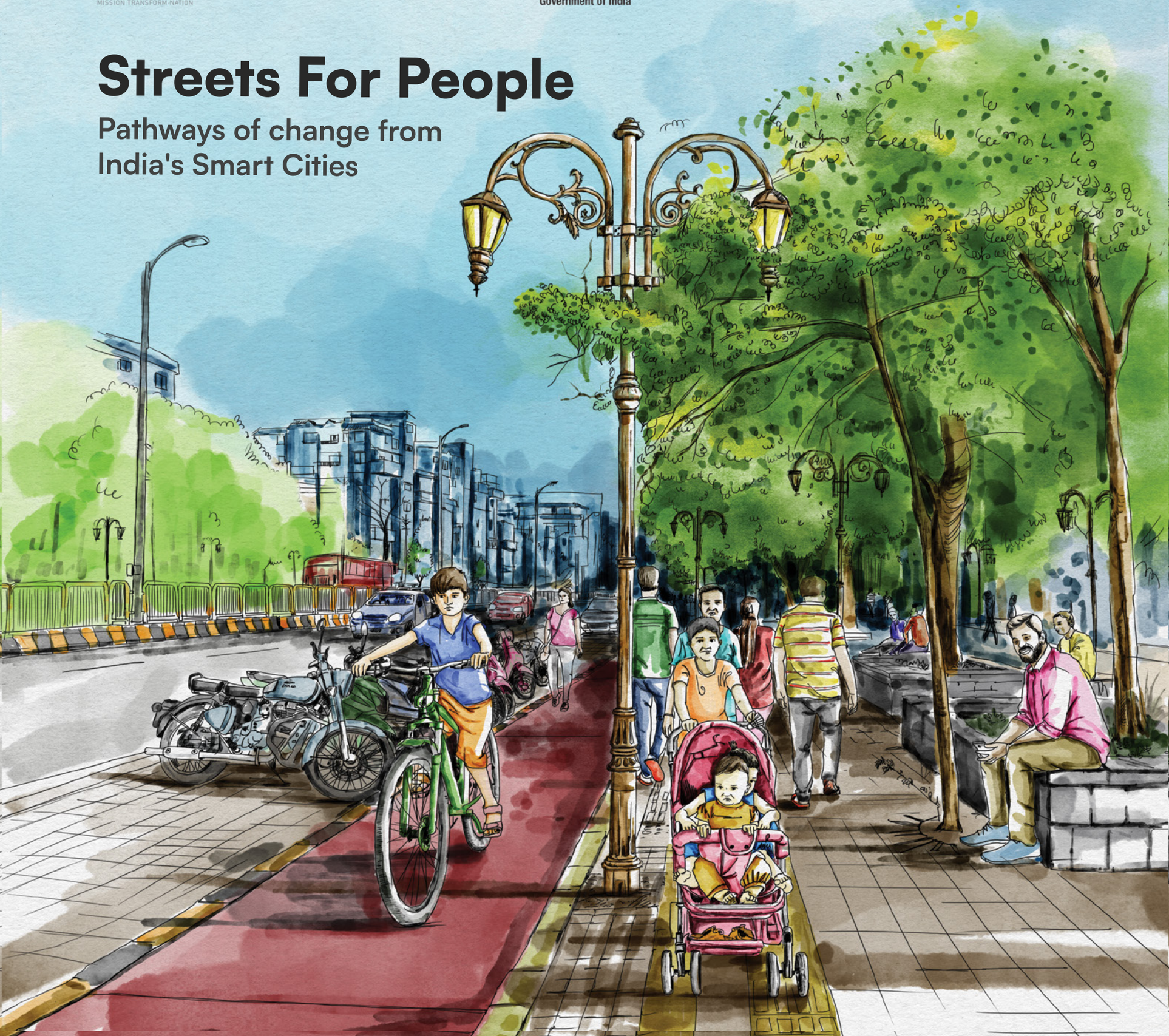
Streets For People

Pathways of change from India's Smart Cities



SMART CITIES MISSION, MINISTRY OF HOUSING AND URBAN AFFAIRS, GOVERNMENT OF INDIA

Streets For People:
Pathways of change from India's Smart Cities

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Streets For People

Pathways of change from India's Smart Cities

Messages from Experts

Niki Shah

Director of Urban Design, HCPDPM, Ahmedabad

The evolving need for city infrastructure upgrades highlights the pivotal role of street transformation in urban functionality. The Smart Cities Mission has showcased scalable street transformation projects, serving as valuable case studies for emerging cities. This compendium encapsulates successes and pitfalls, offering a crucial learning resource. Its comprehensive data empowers authorities to propel this agenda. Design experts can leverage this reference to refine approaches, fostering a shared learning culture and minimizing urban development errors. Such documents, portraying the tangible impact of missions, should be crafted across Smart Cities subjects.

Ar. Prasanna Desai

Practising Architect & Urban Designer, Professor & Director PVP College of Architecture, Pune

Streets, often overlooked as mere conduits for vehicles, conceal untapped potential as bustling public domains in Indian cities. Neglecting pedestrians, cyclists, hawkers, and social interactions has relegated these vital spaces. Development endeavors must prioritize pedestrian safety, enhancing life quality, and tackling local traffic issues. Over the past decades, inclusive street designs, orchestrated by Architects, Urban Designers, and Planners as 'Doctors of the City,' hinge not on colossal investments but on understanding user behavior and fostering civic engagement. These initiatives birth success stories, transforming streets into vibrant community spaces, enriching citizens' lives without expanding the street footprint, thereby nurturing walkable, socially inclusive cities. This compendium narrates the success stories of street projects that has created pathways of change in cities of India.

Vikas Thakar

MD, Pavetech Consultants India

Cultivating vibrant urban streets and spaces demands a fusion of innovation, sustainability, and community-centric design. As one of the pioneering engineers involved in execution of Street works in India under the Smart Cities Mission, I've dedicated myself to shaping streets that breathe life into cities, fostering connectivity, safety, and offer durable street infrastructure to the general public. This compendium stands as a testament to our collective commitment to redefining India's streetscapes, paving the way for dynamic, people-centric and sustainable urban street environment.

Ankit Bhargava

Co-founder, Sensing Local

Despite the diversity among our cities, the issues we face today share remarkable similarities. This underscores the immense value of the Streetscape compendium. It equips government bodies, civic organisations, design offices, planners, and citizens with the means to envision change. By allowing us to compare our ideas with similar initiatives elsewhere, understand the challenges and their resolutions, it will foster collaboration and help us collectively build upon each other's efforts.

Sujata & Akash Hingorani

Principals, Oasis Designs Inc

Streets are the most frequented public realm in our cities, streets define imageability and can influence perceptions, street-designs can showcase climate-action and serve the message to a wider audience. Creating shaded and ambient microclimates and low-impact stormwater management facilities should become not an exception but a rule for our city streets. This compendium captures the initial steps taken by cities across India towards holistic street transformations. All cities should strive towards scaling up the work through climate-sensitive designs.

Nithya Ramesh

Director - Urban Design, Jana Urban Space Foundation

The urban road is perhaps the one piece of infrastructure that affects all of us visibly and viscerally regardless of age, gender or economic background. Yet it remains a pain point in the movement of people, goods and utilities and poses several dangers during monsoons. For the last decade and a half many of us have championed for a more equitable design and division of the road, for robust and sustainable construction, for storm water management and pedestrian safety. This compendium brings much of it together, and instead of just listing out the challenges, gives all practitioners real life examples of how to solve the problems and scale up across different cities. Looking forward to seeing more and more remarkable streets across our country.

Anuj Malhotra

General Manager - Planning and Urban Development Srinagar Smart City Limited

In Indian cities, streets reign as the most utilized yet neglected public areas, reduced to mere conduits for vehicles. Pedestrians, cyclists, and hawkers lack their space and social interactions are almost negligible. The developmental projects in cities should revolve around pedestrian safety, elevating life quality, and reducing air pollution. This compendium showcases unique narratives of rejuvenated streets which now are vibrant community spaces that enrich people's lives and promote walkability. It's a great demonstration of how cities can champion social inclusivity and safety for its people.

Dr Sanskriti Menon

Senior Programme Director Centre for Environment Education

The featured street design projects give hope that India can make the right choice for sustainable mobility, enabling walking, cycling, and access to public transport where possible. They showcase the transformation possible in Indian cities with political will, government agencies, design professionals and the public coming together. The best design street design processes are not only the physical design that results. These are opportunities to listen to each other, share, reflect on what we really value, and foster the change towards safer, nurturing, more humane cities.

Contents

B

Neighbourhood Streets

Neighbourhood streets are mostly collector or local streets within or connecting neighbourhoods. With predominantly residential land use along them, these streets see short trips for a variety of activities school trips, grocery shopping. and other recreational activities. These streets typically accommodate all kinds of transport modes, and all the users share the street space. These need to be designed to ensure the right balance of street space for all modes. There are 14 case studies on Neighbourhood Streets, out of which 5 are detailed case studies and 9 are overview ones.

1	Aundh Street, Pune
2	Conservancy Lanes, Shivamogga
3	Lanes of Old Kashi, Varanasi
4	Race Course Road, Coimbatore
5	Street 106, New Town Kolkata
6	Child Friendly Street, Dehradun
7	Hiran Magari, Udaipur
8	Housing Board Colony Streets, Karimnagar
9	Marine Drive Walkway, Kochi
10	Mauli Medical Road, Aurangabad
11	Manveeyam Veedhi, Thiruvanthapuram
12	Pashan Sus, Pune
13	Pedestrian Walkway, Namchi, Sikkim
14	Saptagiri School Road, Davangere, Karnataka

Neighborhood Streets

Name of Street	City	Catagory	Landuse	RoW (m)	Length (km)	Total Cost	Duration (years)	Funding Sources	Project Initiated by	Public Participation	Temporary Testing	O&M Responsibility
1 Aundh Streets	Pune	Sub-Arterial		24	15	₹ 21 Cr.	4.6		ULB	✓	✓	
2 Conservancy Lanes	Shivamogga	Local		4	14.4	₹ 17.28 Cr.	2.4		SPV	✓	✗	
3 Lanes of Old Kashi	Varanasi	Local		1	42	₹ 84.96 Cr.	2.9		SPV	✓	✗	
4 Race Course Road	Coimbatore	Sub-Arterial		30	2.5	₹ 16 Cr.	4.0		SPV	✓	✓	
5 Street 106	New Town Kolkata	Sub-Arterial		46	0.2	₹ 5.2 Cr.	0.8		SPV	✓	✓	
6 Child Friendly Street	Dehradun	Local		5.5	10	₹ 3.05 Cr.	4.5	International	ULB	✓	✓	
7 Hiran Magari	Udaipur	Arterial		40	2.7	₹ 48.17 Cr.	3.11		SPV	✓	✓	
8 Housing Board Colony Streets	Karimnagar	Local		9-15	11	₹ 71.5 Cr.	3.0		SPV	✓	✓	None
9 Marine Drive Walkway	Kochi	Local		18.8	2.45	₹ 1.07 Cr.	1.0		SPV	✓	✗	None
10 Mauli Medical Road	Aurangabad	Sub-Arterial		40	0.4	₹ 0.5 Cr.	1.6		ULB	✓	✗	
11 Manveeyam Veedhi	Thiruvanthapuram	Arterial		15	0.25	₹ 1.25 Cr.	0.4		ULB	✓	✓	
12 Pashan Sus	Pune	Sub-Arterial		36	1.2	₹ 6 Cr.	2.9		ULB	✓	✓	
13 Pedestrian Walkway	Namchi	Local		4.5	6	₹ 8 Cr.	1.3		SPV	✓	✗	
14 Saptagiri School Road	Davangere	Sub-Arterial		30	0.66	₹ 0.87 Cr.	1.3		SPV	✓	✓	None

Residential Commercial Institution Public Open Spaces Industrial

National-SCM State ULB ✓ Yes ✗ No Government Private

4 Race Course Road

Coimbatore, Tamil Nadu

Scan here

Category
Sub-Arterial Street

RoW
30m

Length
2.5 km

Duration
May 2020- May 2023
(4 years)

Total Cost
₹16 Cr.

Nodal Authority
Coimbatore Smart City Limited (CSCL)

Implementing Partners
Coimbatore City Municipal Corporation, M/s. SGS India Private Limited, Residents Awareness Association of Coimbatore (RAAC), Race course & Neighborhood Association (RANA), M/s. P & C Projects Limited, M/s Oasis Design Inc., Delhi (Design consultant)

Awards & Recognition
ISAC Award 2022- Winning project under Built Environment Category

Profile of the City

"Manchester of South India" or the "Textile City", Coimbatore- a vibrant and bustling city located in the Indian state of Tamil Nadu. It is the second largest city in Tamil Nadu after Chennai in terms of population and features among top 20 largest urban agglomerations in India as per the census 2011. With a total population of 10,50,721, the city was selected in the Round 2 of the India Smart City Challenge. Under the aegis of the Smart Cities Mission, the city has completed projects worth ₹825 Cr. These projects focus on themes like water body restoration, model roads, waste management, and energy conservation.

Context of the Project

Racecourse Road is an oval loop in a residential neighbourhood, frequently visited by citizens due to its connectivity to key landmarks, institutions and markets. It is one of the streets in the City's NMT corridor that is part of the Seven Lakes Project. Identified in the Smart City proposal, the redevelopment of Race Course Road has significantly benefited local residents and enhanced the city's infrastructure and sustainability. This project rejuvenated the core city area, establishing an inclusive leisure and recreational streetscape while integrating a storm-water management system to mitigate flood risk.

Vision of the Project

The vision of the project was to demonstrate a complete street that has a universally accessible walking plaza with continuous pathways, ramps, bollards & other elements to ensure a barrier-free design.

The walkway was restricted by toe walls on both sides, creating a segregation between the landscape and walking space

Landscape and walking space are integrated as one space that improves the user experience

Cross Section of Race Course Road

Note: This illustrative section is not to scale.

Design Highlights

01 The existing street had a dedicated walkway and sufficient trees for shade. Therefore, the focus of this project was to enhance the activities and improve the user experience by providing necessary amenities to sit, play, rest and walk.

02 The seating spaces are designed as long benches to allow large groups of people to be seated together.

03 Kiosks, play and gym equipment are integrated in the streetscape to create an interactive environment and promote usage of the street for longer durations.

04 The design limits hardscape area to the minimum required for usability. Materials are chosen such that they enable groundwater recharge, for example, the tree gratings are made of porous concrete.

05 A unique stormwater management system is created within the landscape zone that further connects to the city's drainage system.

Earlier, this area was prone to flooding, due to which a unique stormwater management system is created within the landscape zone that further connects to the city's drainage system.

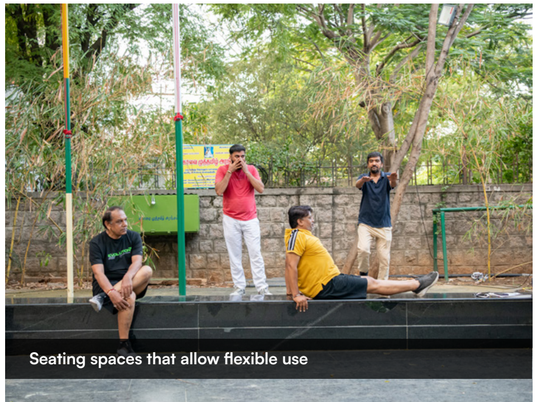
This design mitigates flood with a stormwater management system.

Stormwater swale within the landscape zone

Railing detail to limit jaywalking while maintaining visual connectivity

Walking space integrated with the landscape zones

Public toilets provided



Seating spaces that allow flexible use

Daily morning walks on newly designed pathways

Project Journey


Project implementation at site

01
Laying the Foundation

In 2017, responding to the proposals for model roads and eco-mobility corridors under the Smart Cities Mission, the Coimbatore City Municipal Corporation (CCMC) adopted the "Coimbatore Street Design and Management Policy". This laid the foundation for NMT-related projects in Coimbatore city. Happy Streets, an initiative started with the Race Course Road project, thrives to be a weekly event in the City.

✓ Completed ✕ Not yet started ● Ongoing

- ✓ Healthy Streets Policy
- ✓ Healthy Streets Cell
- ✕ Parking Policy
- ✕ Street Design Guidelines

02
Building the team's muscle

- ✓ Site visits
- ✕ Capacity-building workshops

03
Doing things together


Design review with the stakeholders

Stakeholder engagement
Weekly site meetings were organised with the local residents' associations - RANA & RAAC. District-level meetings were conducted at regular intervals with the collector, elected representatives, officials of district administration, and Non-Governmental Organizations.

- ✓ **Public Engagement**

Awareness programmes
Citizen engagement was done through public display boards, media engagement & ward level Focus Group Discussions. Happy streets events were organised on a regular basis to garner support.

- ✓ **Tactical Trial**

Design process
Meetings at the site were also conducted with the local resident associations and valuable inputs were also incorporated in the designs and implemented. The design of the walkways included sturdy materials, paper blocks and a little bit of granite.

Review schedule
Monthly reviews were organised with the Joint Secretary, MoHUA and fortnightly reviews were organised with the Additional Chief Secretary, Municipal Administration and other departments to coordinate the work. Further, a weekly review was organised with the City Commissioner and Managing Director of Coimbatore Smart City.

04
Monitoring, learning & improving

Managing Encroachment
The design elements like bollards, paving pattern to demarcate walking space have been instrumental in managing encroachment.
CCTV cameras are installed & Traffic Police is deployed for regular surveillance.

Activating the lakefront
Resident associations have been against any commercial activity on the Race Course Road. Currently the City is in the process of identifying other activities along the lakefront and identifying CSR initiatives with the help of RANA for revenue generation.


Monitoring and review of the project

Innovative Solution:
Integrating Stormwater Management System

There are two systems integrated in the streetscape - one is a Swale to collect the surface runoff from footpaths and other is a water recharge put in the carriageway area that collects all the surface runoff from the carriageway. All the water first gets into the Swale and then into the city system.

The swale is intentionally designed in a meandering path, expanding its surface area, slowing down the speed of water to soak a larger quantity.

Challenges

- **Interdepartmental coordination for utility shifting:** During the project implementation the interdepartmental coordination for the aligning of the utilities was one of the key challenges, which was resolved through regular monthly review meetings with all the implementing agencies and stakeholders.
- **Traffic management:** During the construction stage of the project, traffic management was also a critical issue. To ensure the smooth implementation of the project, traffic rerouting and efficient traffic management was required. With the support of the traffic police, the city resolved the issue and ensured traffic movement without any hindrance in the construction.
- **Parking Encroachment:** After construction, some of the non-parking areas were encroached for car parking. The Coimbatore City Municipal Corporation and Coimbatore Smart City Limited prepared an area-level parking management plan to resolve this issue.

Outcomes

- **Increased pedestrian and vehicular counts:** After Implementation the road observed a Pedestrian Count of 7464 / day (weekend) and Vehicular Count - 2857 / day (weekend).
- **Vibrant public space for all:** After the development of the project, people from all groups come for their morning & evening walks. Visitors from different age group visit this place for daily activities like walking, jogging, cycling, yoga and sports.
- **Enhanced healthy lifestyles:** Dedicated cycle track and pathways, have encouraged people to adopt cycling and walking as the part of the daily activities of their life.
- **Solving decades of problems:** The unique stormwater management system - bioswales incorporated in the streetscape has helped mitigate floods.

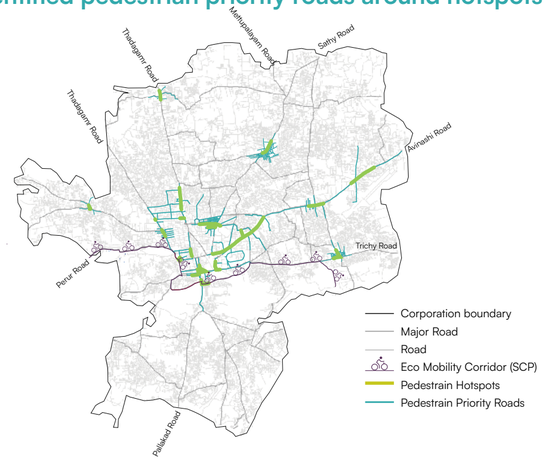
Impact Stories

We organized a cycling event starting from Race Course Road, passing through the neighbourhood lake promenades, and ending near RS Puram. The scenic beauty along the Race Course Road while cycling really enriched our cycling experience. Many of us cycle along the dedicated cycling lane and take our daily morning walks on the segregated pedestrian ways of the newly designed race Course Road.

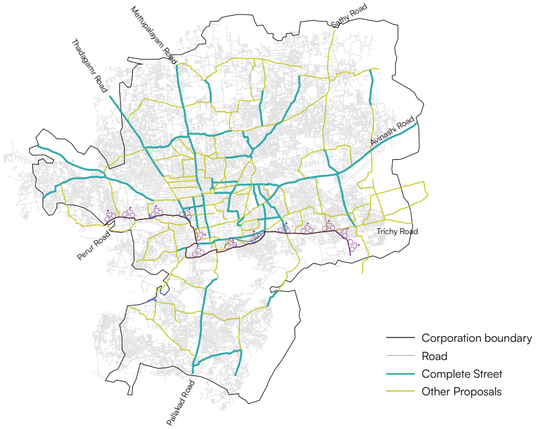
- P Robert Anthony Raj, Member of western Valley Cycling, Coimbatore Smart City

Way Forward

Identified pedestrian priority roads around hotspots



Proposed NMT Street Network in 2032



Scaling-up the transformation

The prime purpose of the NMT Network Plan is to set forth a comprehensive set of measures which would put the city on the path to a sustainable, low-carbon mobility system by the year 2035.

The NMT Network Plan identifies the safest possible routes connecting the public transport hubs, shopping centres, religious centres, recreation spots, institutions and other local amenities.

It should be noted that the proposed NMT network and pedestrian hotspots are being developed to complement and connect the proposed ecomobility corridor in the "8 Lakes Rejuvenation and Restoration Plan" under the Smart Cities Project

Mr. Bhaskar,
General Manager,
Coimbatore Smart City Limited


Race Course Road

सत्यमेव जयते

Ministry of Housing and Urban Affairs

Government of India