



Training Course Report

## Capacity Building for Urban Development (CBUD) under AMRUT

### *Capsule II*

14-16 September, 2016 | Gandhinagar, Gujarat

*Organized jointly by:*



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## **SUMMARY**

This document is a report on the second capsule of the Capacity Building for Urban Development (CBUD) program under AMRUT for the state of Gujarat. The capsule was organized by WRI India with support from the Ministry of Urban Development, and the Gujarat Urban Development Mission (GUDM). The capsule was conducted at Hotel Cambay Sapphire in Gandhinagar, Gujarat, from 14<sup>th</sup> to the 16<sup>th</sup> of September, 2016.

The capsule was designed in consultation with GUDM, considering the feedback provided by participants at the Orientation Capsule held in June, 2016. The capsule was aimed at helping participants intensively explore subjects related to urban mobility and planning – non-motorized transport, city bus systems, and transit oriented development – in the context of the cities of Gujarat. The training methodology consisted of a series of interactive sessions underpinned by expert led lectures, facilitated discussions, specially designed group activities, and guided exposure visits.

The capsule was led by a faculty of seven experts and two supporting members from WRI India, with extensive practical experience. They led a cohort of 28 participants representing 21 cities from the state through public offices like Municipal Corporations and Town and Country Planning Departments. Mr. J B Patel, Deputy CEO, GUDM, attended the capsule's last day as chief guest.

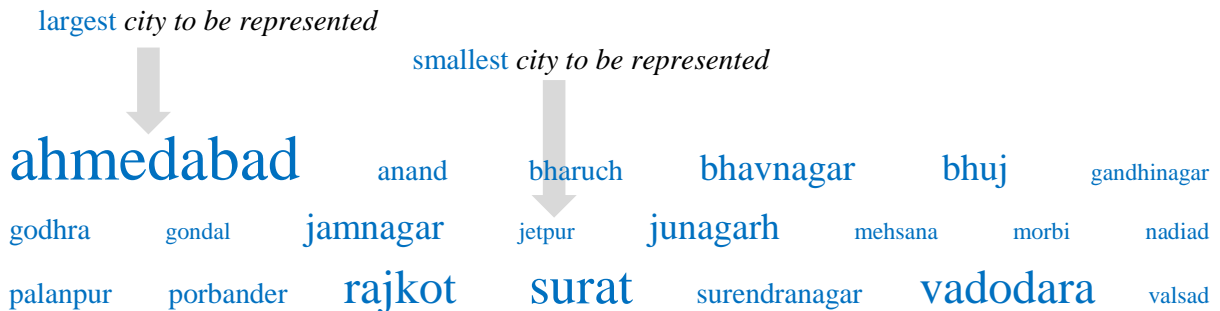
The capsule also consisted of mechanisms for assessing feedback through both quantitative and qualitative questionnaires. The feedback assessment highlighted a largely positive reception to the capsule, with especially favourable ratings for the course's content and its faculty.

From an organizational standpoint, WRI India was responsible for the design and articulation of the capsule, including its content, structure, faculty, and delivery. The GUDM provided extensive logistical support for the capsule, and recommended the participants for the training, sourcing them from relevant departments and offices from across the state.

## PARTICIPANTS' PROFILE

The capsule was attended by 28 participants, all of whom were recommended by the GUDM. Details of these participants can be found in the databases accompanying this report, while a generic overview follows:

- The participant cohort represented a total of 21 cities from across the state, the largest being Ahmedabad (population of 5,577,940 as per the 2011 census) and the smallest being Dwarka (population of 38,873 as per the 2011 census). 22 of the 24 cities were among the state's 30 most populous, while 23 had a population of at least 100,000. Representation from cities was fairly equal, with only Ahmedabad and Gandhinagar being fronted by 3 participants each, and the rest by fewer.



- The training was attended by a large number of officials from engineering departments of various ULBs, and also by a significant number of town and country planning officers. Most participants held positions graded B and C.

●●●    two thirds were from engineering departments  
●●●●    one fourth were from town and country planning departments

- Most participants were male, below the age of 30, and held academic qualifications in engineering.

●●    half were below the age of 30 with 75% of them below the age of 30  
●●●●●●●●    only three female participants out of twenty eight  
●●●●●●●●●●    70% were engineers, most of them civil engineers

## **TRAINING AGENDA**

The orientation capsule was spread over three full days, each divided into a number of sessions, each 30 to 60 minutes in length. Sessions were subject specific, and were led by faculty in an interactive, discussion based manner. Many sessions were followed by group exercises focusing on advancing planning skills of the participants. The capsule’s content had three broad foci – non-motorized transport; public transport planning; and transit oriented development. Capsules were designed to be locally contextualized and focused on helping participants understand policy levers as well as ground implementation concepts with relative ease.

The formal agenda of the capsule was as follows.

### ***Training Day 1 – 14<sup>th</sup> September, 2016***

09:45 AM – 10:00 AM	Participant Registration
10:00 AM – 11:00 AM	Inaugural Session and Introduction to Participants <i>Jointly by State and WRI India</i>
11:00 AM – 11:15 AM	Tea Break
11:15 AM – 12:15 PM	Non-Motorized Transport (NMT) in Indian Cities Introduction to Streets for All <i>Amit Bhatt, Strategy Head – Urban Transport, WRI India</i>
12:15 PM – 01:00 PM	Guidelines for NMT Systems <i>Vijay Anadkat, Fellow, WRI India</i>
01:00 PM – 02:00 PM	Lunch
02:00 PM – 02:30 PM	Urban Transport: AMRUT Mission Requirements and Sanctioned NMT Projects of Gujarat <i>Viral Patel, Consultant, WRI India</i>
02:30 AM – 03:30 PM	Designing Public Bike Sharing (PBS) Systems <i>Amit Bhatt, Strategy Head – Urban Transport, WRI India</i>
03:30 PM – 04:00 PM	Presentation on Gandhinagar NMT Project <i>Vedant Patel, Gandhinagar Urban Development Authority</i>

***Training Day 2 – 15<sup>th</sup> September, 2016***

10:00 AM – 10:30 AM	Review of Day 1 <i>Prayash Giria, Senior Project Associate – Capacity Building, WRI India</i>
10:30 AM – 11:30 AM	Status of Public Transport in Indian Cities <i>Umang Jain, Managing Associate – Urban Transport, WRI India</i>
11:30 AM – 11:45 AM	Tea Break
11:45 AM – 12:30 PM	City Bus Service: Contract Options for Operations <i>Vijay Anadkat, Fellow, WRI India</i>
12:30 PM – 01:15 PM	Optimizing City Bus Services through Fare Structuring <i>Umang Jain, Managing Associate – Urban Transport, WRI India</i>
01:15 PM – 02:15 PM	Lunch
02:15 PM – 03:15 PM	Optimizing City Bus Services through Route Rationalization <i>Umang Jain, Managing Associate – Urban Transport, WRI India</i>
03:15 PM – 03:30 PM	Site Visit Debriefing <i>Sabarmati Roy, Research Consultant, WRI India</i>
03:30 PM onwards	Site Visit to Janmarg, Ahmedabad’s BRT System <i>All participants facilitated by WRI India Team</i>

***Training Day 3 – 24<sup>th</sup> August, 2016***

10:00 AM – 10:30 AM	Review of Day 2 <i>Prayash Giria, Senior Project Associate – Capacity Building, WRI India</i>
10:30 AM – 11:30 AM	Understanding Transit Oriented Development (TOD) and its Principles <i>Prerna Mehta, Manager – Sustainable Cities, WRI India</i>
11:30 AM – 11:45 AM	Tea Break
11:45 AM – 01:15 PM	Understanding Transit Oriented Development (TOD) and its Principles <i>Prerna Mehta, Manager – Sustainable Cities, WRI India</i>
01:15 PM – 02:15 PM	Lunch
02:15 PM – 03:15 PM	Understanding Safe Access to Public Transport <i>Himadri Das, Manager – Urban Development &amp; Accessibility, WRI India</i>
03:15 PM – 04:15 PM	A Board Game on Safe Access to Public Transit <i>Himadri Das, Manager – Urban Development &amp; Accessibility, WRI India</i> <i>Rajeev Malagi, Senior Project Associate, WRI India</i>
04:15 PM – 04:30 PM	Tea Break
03:15 PM – 04:15 PM	A Board Game on Safe Access to Public Transit (Continued) <i>Himadri Das, Manager – Urban Development &amp; Accessibility, WRI India</i> <i>Rajeev Malagi, Senior Project Associate, WRI India</i>
04:15 PM – 04:30 PM	Closing Session <i>All participants facilitated by WRI India Team</i>

## COURSE SUMMARY

### *Summary of Day 1 – 14<sup>th</sup> September, 2016*



Figure 1 – Participants learning about non-motorized transport in Indian cities in day one’s sessions.

The second capsule began with an introduction to the training programme and its various subjects, and included simple games that helped participants know each other better. The focus of the first day was on Non-Motorized Transportation in Indian cities, with emphasis on public bike sharing. The day’s sessions included:

- A session introducing participants to non-motorized transport concepts and its applicability to Indian cities, led by Mr. Amit Bhatt. The session stressed the need for increased focus on non-motorized modes of transit in Indian cities, arguing that as many as a third of all urban Indians walk or cycle to work while cities continue to spend as little as 1% of their budgets towards improving pedestrian or cycling infrastructure. The session helped participants understand the ill-effects of an urban transport system that relies on private vehicle ownership, and urged them to reframe their perspective on roads and streets to one that includes pedestrians and cyclists. Several simple urban planning paradigms such as streetscaping and neighbourhood design were briefly discussed, and the concept of streets-for-all was introduced as a behavior change agent.
- A session offering basic guidelines relating to non-motorized transport, led by Mr. Vijay Anadkat. The session offered safety, coherence, directness, attractiveness, and comfort as the five key guiding principles to be kept in mind while designing for non-motorized transit in cities. The session offered simplified processes, comparative analyses, and standardized designs that ULB officials can adopt to conceive and implement such infrastructure.
- A brief session discussing non-motorized transport projects sanctioned under AMRUT in Gujarat, led by Mr. Viral Patel. The session helped participants understand what their peers in other cities were working towards, and gave them a rough idea of the budgets allocated towards such projects. The session also worked towards enforcing non-motorized transport as a planning concept that is rapidly gaining currency even in the Indian context.



- A session on public bike sharing, led by Mr. Bhatt. The session helped participants understand the various merits of bike sharing systems, and its positive impacts on the lifestyles, health, and environment of the city and its users. The session discussed the problems that affect existing bike sharing systems in India, and contrasted them with global examples that were far more successful, suggesting the comprehensive physical planning and innovative funding mechanisms were an excellent tool with which to popularize such systems.



Figure 2 – Site Visit to Gandhinagar’s GBike System, including a guided walk along a cycling track. The visit helped participants understand the infrastructural and design elements of a public bike sharing system.

The day also included a site visit to the GBike, Gandhinagar’s bike sharing system. The visit was preceded by a brief presentation by GBike officials that helped participants understand the policy levers and funding instruments with which the system was implemented, and was followed by the actual visit. The visit itself allowed participants to inspect bike stations, staffing and bike hiring systems, and street design paradigms that compliment such systems.

### **Summary of Day 2 – 15<sup>th</sup> September, 2016**

The second day focused on public transport in Indian cities, more specifically city bus operations, with emphasis on achieving and maintaining operational efficiency. The day's sessions included:

- A session discussing the state of public transport in Indian cities, led by Mr. Umang Jain. The session discussed the trend of rapid motorization in Indian cities, and offered city buses as cheap and flexible public transport options. The session argued that a holistic approach to bus system planning, covering both technical and marketing related aspects, would help boost efficiency of city buses and overturn their existing image of poor quality transport options. The session also discussed learning and knowledge sharing tools among city bus operators, such as WRI India's Bus Karo manual.
- A session discussing various contracting mechanisms that can support city bus operations, led by Mr. Anadkat. The session discussed various contract models such as the net cost and the gross cost models, and helped participants understand both through comparative analyses and on-ground examples. The session also contextualized the two contracting models, listing the various cities in India that have opted for each and why so.



Figure 3 – Sessions and Exercises on Day Two. Participants learnt more about city bus services, including its operational standards and contracting models, and engaged in a group exercise that required them to calculate bus fleet requirements using simple formulae

- A session discussing the optimization of city bus services through fare structuring, led by Mr. Jain. Participants were taught about various fare structuring models such as zonal, distance based, and telescopic fares, and analytically compared them against each other. Participants were then taught fare estimation techniques, and were engaged in a discussion about subsidies given that many such systems needed some form of subsidization for continued operations. Participants were also taught basic subsidy calculation techniques.
- A session discussing the optimization of city bus services through route rationalization, also led by Mr. Jain. The session taught participants how to interpret survey data to design cost- and fleet-effective bus routings. Finer nuances of route planning were also discussed, including limited-stop and express routes, and interchange-reliant networks, the latter being contextualized against the example of Bangalore’s BigBus system. Participants were also engaged in a discussion on fleet requirements of various types of urban bus networks, and were administered a small exercise on calculation of bus fleet sizes using simple formulae.

Participants were also taken for a second site visit on this day to Ahmedabad, where they were given a guided tour of the city’s Janmarg BRT System. Participants first visited the system’s control centre, where they had a chance to look at the IT infrastructure that supports the BRT system and ask the technical personnel questions on the systems operational standards and protocol. Participants were then taken on a trip on the BRT system, getting a chance to see the system and its stations in operation. The trip was conducted during rush hour, allowing participants to gauge the ridership of the system, and its role in decongesting city roads.



Figure 4 – Site Visit to Ahmedabad’s Janmarg System. Participants visited the control centre of the system, were shown the design elements of BRT stations, and rode on a system bus at rush hour.

### **Summary of Day 3 – 16<sup>th</sup> September, 2016**

The third day of the training focused on the subject of transit oriented development. The day's sessions included:

- A session on transit oriented development, led by Ms. Prerna Mehta. The session introduced the concept of transit oriented development to the participants, taking them through its basic definitions and characteristics. Localized examples such as Naya Raipur, Mumbai, Bangalore and Delhi as well as international examples such as Curitiba and Copenhagen were used to illustrate the same. Participants were asked to offer their own understandings of the subject, and were engaged in an exercise wherein any one principle of transit oriented development was to be identified and employed in a city of their choice. The principles discussed included complete streets, compact development, integrated transport, public spaces, preservation of environmental and cultural landscapes, travel demand management, and activation of street edges with transit supportive uses. The session also emphasized the longer-term applications of transit oriented development, and its flexible applicability to a variety of contexts. Applicability of transit oriented development in Indian cities, particularly those currently listed under Tiers II and III, was also discussed, emphasizing the currently manageable scale of urban expansion as a compliment to timely inclusion of such planning practices.
  
- A session on Safe Access to Mass Transit led by Mr. Himadri Das and supported by Mr. Rajeev Malagi. The session began with an introduction to the concept of safe access, and its necessity in the context of Indian cities, given the high number of accidents around transit nodes, its impact on ridership, and poor implementation of existing policies and bye-laws. The session discussed various safe access solutions with the participants, and emphasized the need for safe access strategies that encouraged universal patronage. The session was followed by the screening of a short film on Ranip, an important road junction and upcoming multimodal transit hub in Ahmedabad, produced by the WRI India team. The film served to contextualize the setting of a subsequent board game that all participants were made to play. The board game required participants to take up several roles such as a teenage cyclist, an elderly person, a car owner, a shop owner, a government official, etc, and discuss and mutually agree on one of several accessibility related solutions. The discussion was intended to allow participants to appreciate multiple perspectives on road use and accessibility. Thereafter, participants were asked to discuss the safe access solutions by modifying and hypothetically implementing them in the Ranip area and defending their decisions to do so.

Additionally, Mr. J B Patel, Deputy CEO of Gujarat Urban Development Mission visited the programme on this day and encouraged the participants to make full use of the training and exposure opportunities made available to them. He highlighted the fact that the training also held potential for peer-to-peer knowledge sharing, and felt happy that participants were engaging not just with the faculty, but with each other.

*Training Course Report  
Capacity Building for Urban Development under AMRUT – Second Capsule  
14-16 September, 2016, Gandhinagar, Gujarat*

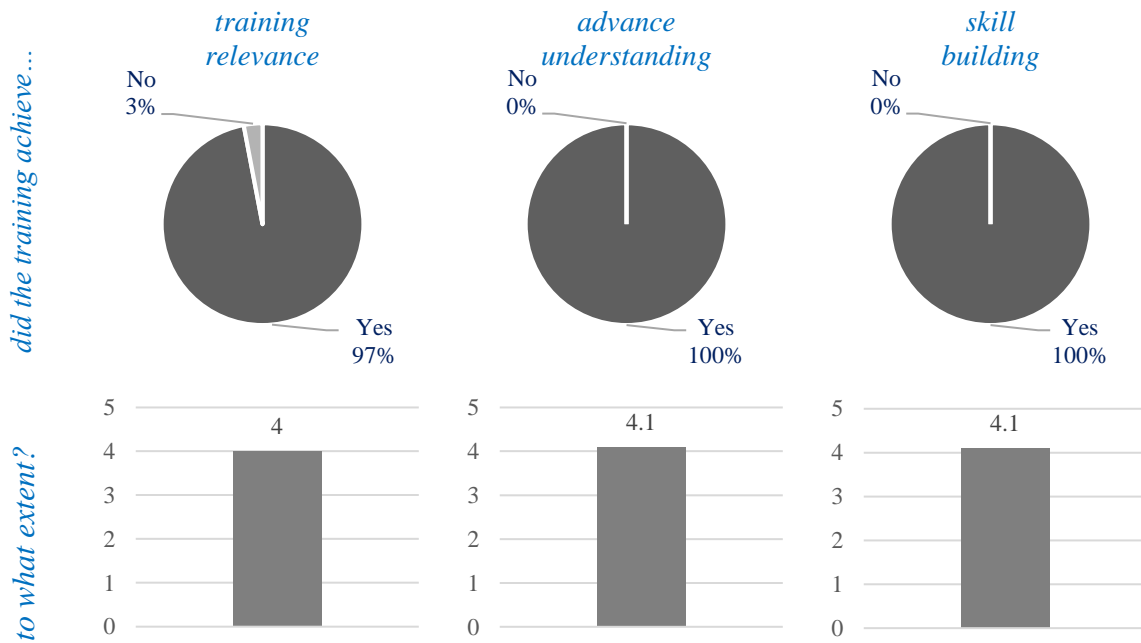


Figure 5 – Sessions and Exercises on Day Three. Participants learnt about transit oriented development and safe access to mass transit stations on this day, and engaged in multiple group exercises, including a role-playing board game on safe access contextualized on Ahmedabad’s Ranip junction.

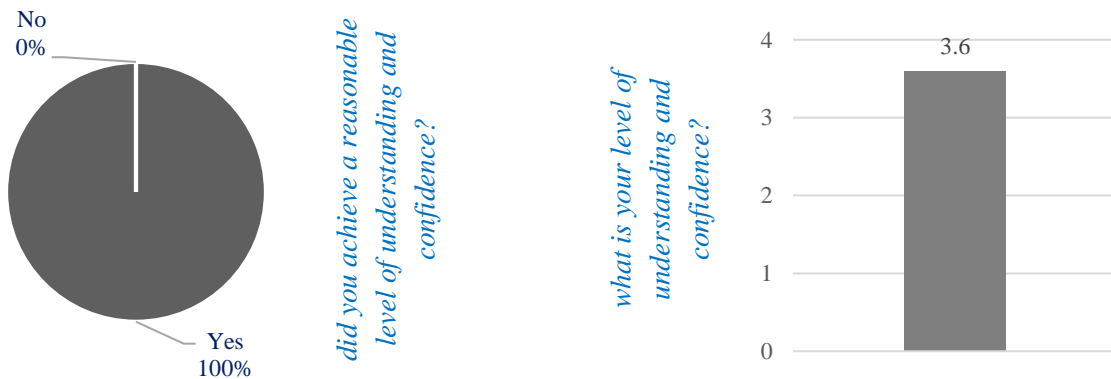
## COURSE EVALUATION

Participant’s feedback was recorded in ministry mandated formats, and an analytical overview of the same indicates that the capsule was received very positively by participants, with some critical feedback directed only towards the length of the training program which some found to be too long. The feedback can be summarized as:

- Almost all candidates approved of the training capsule and found it satisfactory.



- All candidates found themselves to have a reasonable understanding of the capsule’s subjects, and felt confident enough to apply their learnings from the capsule in real-world contexts.

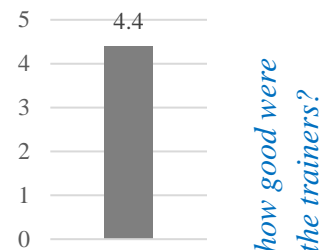
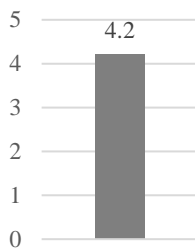
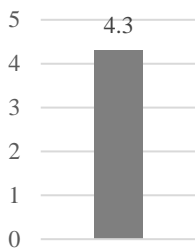


- A significant proportion of participants felt that the training had introduced them to new ideas and practices, and/or had helped them build skills and knowledge.

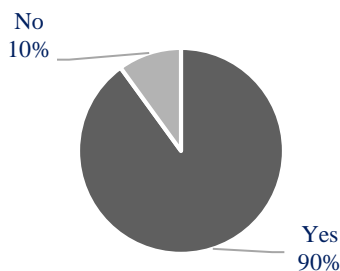
●●●●● two fifths *increased knowledge*  
●●● one third *built new skills*  
●●●●● one fifth *discovered new ideas and practices*

- All sessions and trainers were favourably received, and were found to be supported by adequate resources. While they were reviewed individually, the cumulative feedback for all sessions was:

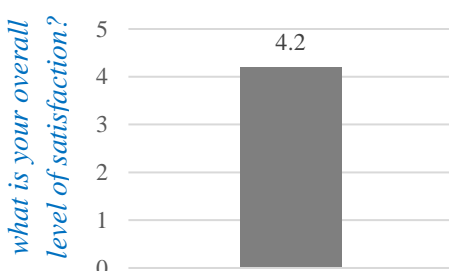
●●●●●●●●●●●●●● 96% *found the session to meet or exceed expectations*  
●●●●●●●●●●●●●● 96% *found the resources and methodology satisfactory*  
●●●●●●●●●●●●●● 100% *found the trainers to have met or exceeded expectations*



- Training logistics were well received, with some criticism directed towards the choice of the host city and the lack of formal participation certificates.



● were the logistics and arrangements of the training satisfactory?



- Among other feedback, participants requested greater use of case studies and interactive exercises across all sessions. Some participants also felt that the workshop was very long and should be reduced to two days to fit better with existing work commitments.

## **WAY FORWARD**

Feedback offered by participants to the second capsule was found to be very appreciative and constructive. Key takeaways and observations from the training programme include:

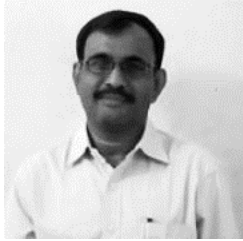
- Transit oriented development was found to be an engaging subject, but also one which some found difficult to comprehend in the space of a time-bound workshop.
- The prioritization of non-motorized transit modes over motorized ones needed to be articulated multiple times during the workshop. Many participants took time to understand why grade-separation of the two transport modes was not desirable, given its high infrastructural costs and lack of universal accessibility.
- Session-specific feedback has also been especially useful, particularly that related to greater use of case studies and interactive exercises. These points will be kept in mind while detailing forthcoming training modules.
- Many participants felt that the training should be held in a busier city with recreational options that could be used outside training timings.
- Many participants felt that the training length should be reduced to two days to better fit with their existing work schedules and commitments. They also felt that shorter trainings would result in greater levels of engagement. The same was visible in the attendance levels through the training, which fluctuated through various sessions as many participants were required to attend external meetings.
- Many participants felt that the feedback and self-assessment forms were lengthy and repetitive, and some felt that language needed to be rephrased for ease of understanding.

While the structure and content of the forthcoming training capsules are still under consideration, care shall be taken to ensure that the same reflect the feedback gathered in this and the previous capsule. WRI India will also work with the UADD to ensure that participant attendance is satisfactory in the forthcoming training modules.



## **APPENDICES**

### **Appendix A - Trainers' Profiles**



#### ***Vijay Anadkat***

Mr. Vijay Anadkat possesses over two decades of experience in the urban sector. He currently serves as Senior Manager at WRI India, where he supports various urban transport projects and provides overall guidance and technical advice, and has worked on projects such as the Surat BRTS. He has previously worked with Rajkot Municipal Corporation, where he was City Engineer and Head – JNNURM, and was in charge of the city development, mobility, and poverty alleviation plans, as well as the upgrading of its utilitarian infrastructure. He has been deputed to agencies such as UNDP, and has also taught undergraduate and postgraduate courses at CEPT University, Ahmedabad. He holds academic qualifications in engineering, planning, law, and journalism.



#### ***Amit Bhatt***

Mr. Bhatt possesses nearly two decades of experience in urban transport, and currently serves as Strategy Head – Urban Transport at WRI India, where he provides vision and leadership across multiple initiatives and manages relationships with key partners and stakeholders. He has led a number of projects such as BRT and City Bus planning in Jaipur, Indore, Bangalore and Surat, a range of capacity building initiatives, and has also served on several inter-governmental and inter-institutional panels and projects such as those led by the Ministry of Urban Development, UNDP, World Bank, and British High Commission. He has previously worked with Urban Mass Transit Company, IL&FS Infrastructure, CRAPHTS, and Span Consultants. He also serves as a visiting faculty at School of Planning and Architecture, New Delhi, where he teaches in the departments of Transport and Urban Planning. He holds degrees in Architecture and Transport Planning from School of Planning and Architecture, New Delhi, a masters degree in Economics from CSJM University, Kanpur, and a diploma in Transport Economics and Management from IRT, Delhi.



***Umang Jain***

Mr. Umang Jain has several years of experience in the sphere of urban transport. He currently serves as Managing Associate – Urban Transport at WRI India, wherein he contributes towards the optimisation of bus systems, paratransit systems, and their integration, across multiple cities. Key projects he has been part of include Jaipur’s public bus improvement and the FedEx supported vehicles and fuel programme. He has previously served as a consultant to several transport planning practices, having contributed to projects such as bus services in Bathinda and preparing of RPF and concession agreements for mass transit operators across the country. He holds masters degrees in Economics, and in Planning (specialization in Transport) from School of Planning and Architecture, Delhi.



***Prerna Vijaykumar Mehta***

Ms. Prerna Mehta has more than a decade of experience in the fields of architecture and urban planning. She currently serves as Manager – Sustainable Cities at WRI India, wherein she offers technical advice and helps form and sustain strategic partnerships with governmental and non-governmental organisations with interests in urban development and sustainable transport. She has previously worked with a private, public, and civil society organisations, having contributed to a number of master plans, area and integrated development plans, project development and feasibility studies in the cities of northern India. She holds a Bachelors degree in Architecture from Nagpur University, and a Master’s degree in Planning (specializing in Housing) from School of Planning and Architecture, New Delhi.



***Himadri Das***

Mr. Himadri Das has more than a decade of experience in the fields of architecture, urban planning, and urban design. He currently serves as Manager – Urban Development and Accessibility at WRI India, wherein he offers technical, managerial, and coordinational inputs across multiple teams, helping develop pioneering studies such as the Safe Access Manual. He has previously worked with planning institutions across India and Africa. He has also taught at multiple educational institutions across the country. He possesses an undergraduate degree in Architecture and a postgraduate Degree in Urban Design from New Delhi, in addition to an advanced Masters degree in Human Settlements from Katholieke University of Leuven, Belgium.



***Viral Patel***

Mr. Viral Patel has many years of experience in civil engineering and urban planning, and serves as a consultant to WRI India. He has previously worked with many planning-focused agencies, including the Gujarat Urban Development Mission where he has served as an engineer for three years. He possesses an undergraduate degree in civil engineering from Nirma University, Ahmedabad, and a postgraduate diploma in urban planning and development from IGNOU.



***Rajeev Malagi***

Mr. Rajeev Malagi possesses experience in architecture and planning, and currently serves as Senior Project Associate – Urban Development and Accessibility at WRI India, wherein he contributes towards Transit Oriented Development projects, focusing on safe accessibility to and around transit nodes. Key projects he has been part of include the Hubli-Dharwad TOD project. He has previously worked at a architectural practices in Bengaluru and Ahmedabad, being part of projects such as documentation of urban heritage in Bengaluru. He holds a masters degree in urban planning from CEPT University, and a bachelors degree in architecture from BMS College of Engineering, Bengaluru.



***Prayash Giria***

Mr. Prayash Giria has several years of experience in urban development practice. He currently serves as Senior Project Associate – Capacity Building at WRI India, wherein he supports the design and delivery of outward capacity building initiatives, like the Capacity Building for Urban Development programme. He has previously worked with a number of architectural, planning and policy-oriented practices, having been part of projects such as the India Youth Fund - a funding and capacity building window for India's urban youth, Delhi's nomination to UNESCO for World Heritage Site status, and Ahmedabad's riverfront development programme. He holds a masters degree in Urban Development Planning from University College London, and a bachelors degree in Architecture from School of Planning and Architecture, New Delhi.



***Sabarmati Roy***

Ms. Sabarmati Roy is a Research Consultant with WRI India and supports the organization's capacity building initiatives, including the Capacity Building for Urban Development programme. She holds academic qualifications English Literature and Book Publishing from the University of Calcutta and Shantiniketan University, and has previously worked with media and publication houses such as Ratna Sagar Publications Pvt. Ltd. and The Times of India.

**Appendix B – List of Accompanying Documents**

As mandated, this report is accompanied with the following excel files:

1. Database of participants
2. Database of participants' feedback from orientation capsule
3. Database of participants' training needs assessment survey
4. Training Calendar