Workshop on Cycling Initiative for Bangalore
On Saturday, 31st of January 2009

Report

Hosted by

BMLTA Bangalore Metropolitan Land Transport Authority

Partners

KSRTC EMBARQ The WRI Center for Sustainable Transport Bangalore CITY CONNECT ride a cycle

Bangalore Cycling Initiative Workshop Report

Background

In keeping with Bangalore's progressive culture, the Bangalore Metropolitan Land Transport Authority (BMLTA) is exploring sustainable transport initiatives to create a less congested, pollution free and safe Bangalore. Currently, motorization is increasing at an alarming 10-20% each year, traffic studies cite poor conditions of roads and pavements (nearly 40% of the road network), low travel speeds (10-12 km/hour), high traffic accidents (800 fatalities per annum) among others. Further, high pollution levels have made Bangalore citizens more prone to asthma and other cardio-respiratory diseases.

In order to truly transform Bangalore into a vibrant and liveable city there is an urgent and real need to move away from short term measures like traditional supply enhancing projects like road-widening, flyovers or one way streets and instead a need to rework the paradigm of transportation in manner that is truly sustainable and inclusive. The first step towards achieving that is to encourage and plan for low-energy, less-space consuming and zero-pollution modes like cycling.

Subsequently, as part of this vision the BMLTA hosted a one-day workshop on the 31st of January 2009 to initiate awareness of, and facilitate cooperation between the transport planning authorities, civil society and corporate sector towards current and future cycling initiatives, projects and technical solutions and recommendations required to propel Bangalore into being the cycling capital of India.

The workshop was inaugurated by Mr Rajeev Chandrasekhar, Convenor, ABIDe; Mr Jyothi Ramalingam, Principal Secretary, Department of Urban Development, BBMP and Dr. A Ravindra, former Chief Secretary, Government of Karnataka.

Workshop Objectives

- Create awareness among citizens that cycling is an excellent, low-cost, sustainable alternative for Bangalore's transportation problems
- Explore the potential for developing cycling in the city
- Provide a common forum for all cycling stakeholders to interact
- Get an understanding on the status of cycling across the world and in India
- Identify the transportation needs and how cycling can be a solution for Bangalore
- Develop schedules and goals for cycling action items to get cycling off the ground as a transportation solution

- Establish the BMLTA as the lead organization responsible for developing cycling in Bangalore

Workshop Notes

The objectives and goals of the workshop were to present an overview of the current best practices in cycling inclusive planning across various international and Indian cities in order to formulate a base awareness of the planning and commitment required to create a cycle-friendly city among various stakeholders present. Technical expert presentations were made on the experiences and trends of cycle use and planning in the Asian cities of Taiwan, Singapore, China, Bangladesh and Sri Lanka. The international examples were supplemented by a more focused and thematic presentation on the Indian experience of generating awareness, planning, designing, and implementing cycling in Delhi, Pune and Nanded. These 3 cities were selected to illustrate the aforementioned components as well as to demonstrate the socio-economic and gender considerations required for an equitable use of road space by all groups. Presenters included; Gaurav Gupta, Commissioner, DULT and Member Convenor, BMLTA; Dr. Geetam Tiwari, Associate Professor, TRIPP-IIT, Delhi; Pradeep Sachdeva, Founder, Pradeep Sachdeva Design Associates, Delhi; Pradeep Banavara, Founder, Ride A Cycle and Mapunity, Bangalore; Sujit Patwardhan, Founder, Parisar and Pune Traffic and Transportation Forum, Pune; Dr. Vijay Kovvali, Transport Engineer, Bangalore and Rama NS, VP, Product Engineering Unit and Development Centre, Infosys, Bangalore.

The aforesaid case-studies were used to commence an informed discussion between all stakeholders present at the workshop as to what approach would work best for Bangalore. To facilitate discussion, technical presentations were made on the specific issues and tools needed to plan for cycling, at the road design and operation level in Bangalore. In addition, focused presentations were made by local stakeholder groups representing the civil society, corporate and government sector respectively, on initiatives undertaken by them to facilitate the incorporation of cycling as a successful mode of transport.

The presentations were followed by an interactive group discussion between the various stakeholders and the audience to create an action plan to identify feasible immediate and interim plans, such as demonstration projects complete with a implementation timeline and commitment from the stakeholders to their roles in the implementation of the pilot projects under this action plan. The action plan also identified long term needs such as, Bangalore Cycle Master Plan, Institutional Arrangements, and Capacity Building. See Appendix no. 3 for the workshop agenda, Appendix no. 4 for the workshop schedule and Appendix no. 5 for the participants list.

Bangalore Cycling Action Plan (B-CAP)

The outcome of the group discussion between the various stakeholders present at the workshop was the creation of an Action Plan for cycling in Bangalore that identified and prioritized short and long term projects. Below is the description of five short term projects that can be possibly implemented in six months timeline and long term projects that will take beyond six months. For the complete list of projects as a result of this workshop refer to Appendix no.1.

Short Term Projects

Listed below are the top short term projects identified at the workshop as well as sectors that should be involved in the implementation of -

1. Identified cycling lanes by the community and civil society organizations include:
    a. Hosur Road (From Brigade road until Electronic City)
    b. Intermediate Ring Road (From Hosur road to Old Madras road)
    c. Lake/Park boundary roads - Madiwala Lake, Sankey Lake, Ulsoor Lake, Agara Lake, Lalbagh, and Cubbon Park.
    d. Whitefield area cycle network.
    e. BTM to Basavanagudi network.
    f. Vijayanagar - Rajajinagar - Malleshwaram network on Chord Road and Dr. Rajkumar Road.

2. Automobile Free Sunday at Cubon Park to include identification of locations as well as get permission from all concerned government departments to be coordinated by BMLTA

3. Accessible Cycle Parking Spaces at all BMTC bus stops and other public locations to be coordinated by Ride A Cycle Foundation and BMLTA

4. Organize corporate events or incentives promoting cycling to be initiated by Bangalore City Connect Foundation

5. Prepare a cycle rental plan for Electronic City to be initiated by Bangalore City Connect Foundation. The corporate sector would provide any assistance that the user community demands for.

6. Cycle Donation Drive to be coordinated by Ride A Cycle Foundation and cycle manufacturers

7. Citizen Awareness on Cycling through various educational and training programs to be initiated by Freewheeling, Hasiru Suru and BMLTA.

Long Term Projects

A. Creation of a Non Motorized Transportation Cell (NMT Cell)

In order to build the capacities of cities committed to integrating non-motorized modes of transport into their urban transport planning vision, is to do so by first formulating a non-motorized cell. This cell should be formulated either within the municipal corporation or within the development authority of a concerned city with adequate representation of engineers, planners and some members of civil society organizations representing the NMT road users.

For the effective functioning of a NMT cell, it should have the following mandates;

- All road and development projects should be vetted by the cell to ensure that the NMT users are provided for adequately
- The cell should have dedicated staff that can build capacities and receive training to ensure their expertise availability
- The cell should also have a dedicated budget for its staff and office area so it is identified as a legitimate body with some authority

Two examples of NMT cell operating in India include one in Delhi where the cell is an interdepartmental body between MCD and PWD and another in Pune where it is part of the municipal corporation.

B. Creation of a Master Plan for Cycling in Bangalore

The Cycle Master Plan is a detailed document which should include the study of all existing cycling routes in the city with current peak and off peak demand. Generally these routes are from origin to destination, and in the context of Indian sub continent cover almost the entire road network of any city due to the nature of Cycle trips, which are primarily work trips for low income localities to the work place.

It should set the goals and desired level of service for a Cycle friendly infrastructure and include quantifiable criteria such as average cycling speeds, capacity (at a desired level of service or LOS), parking infrastructure (frequency and capacity along the route), integration options with public transport (parking infrastructure, fare concessions, feeder infrastructure, etc.).

Planning for Development Phase

Following this the transport links for existing and potential cyclists and other NMVs are analyzed and the most popular routes in the network determined, to arrive at a phased development plan of a city-vied infrastructure or the entire network. The phased plan may be based on the following criterion or prioritized to include routes with the highest peak hour or daily demands of NMV traffic may be prioritized over others to ensure wider impact or routes highest observed risk of accidents may be prioritized over others to ensure immediate reduction in fatalities.

These may be further refined in the network using traffic and network modeling software such as emme2 and Vizzim following which a final phase wise listing of routes to be developed is prepared.

Data Collection and Inventory

The quality of roads and cycle infrastructure under the current phase of development is assessed against the programme of requirements or the goals set in the Master Plan. Once all the expected and critical issues for development have been inventoried they are tackled at the infrastructure design stage. This or the following stage may also include a preliminary cost estimate on the basis of which a development budget may be sanctioned by the concerned authority.

Infrastructure Design

The next step is to address all critical issues related to the development of selected route as per the goals, quality of service and other criterion laid in the BMP. This may involve apart from the construction of dedicated cycle/NMV tracks and/or lanes many other activities, such as:

- Introduction of new speed zones or redevelopment or modification of intersections to ensure bicyclist safety with or without active and passive enforcement devices such as cameras and traffic calming measures.
- Construction of dedicated NMV tracks, with designed segregations, access, signage, marking, etc.
- Development, augmentation or repair of existing and/or new services such as storm drains, lighting etc.
- . Development of cycle parking and storage facilities at identified critical locations and as per the guidelines laid in the BMP.

Following this, detailed development plans, and other construction drawings are prepared for implementation.

Implementation

This phase includes detailed cost estimates, based on the detailed implementation drawings. Following the approval of the same the public notification or an expression of interest is placed and interested contractors/developers invited to bid for the development project.

Evaluation

The cycle master plan should be regularly assessed to ensure it is up to date. The plan should preferably be updated every five to eight year. Each developed route should also independently be evaluated to assess the performance, and to gather feedback from users. The guidelines and methodology of evaluation should preferably be laid in the cycle master plan.

Recommendations

The workshop put forth a number of recommendations for both, short and long term projects to be taken up by respective agencies. IC-E and EMBARQ can support the respective private and public agencies through a structured collaboration for the projects listed below. The three primary recommendations of the Bangalore Cycling Initiative Workshop are as follows:

1. Demonstration of pilot cycle lanes as identified by civil society organizations above by the BMLTA and other concerned agencies.

    - BMLTA and other all concerned sectors facilitate the planning and implementation of pilot cycle lanes.

    - EMBARQ and I-CE can conduct a technical review of the pilot cycle lanes.

2. Formulation of a Bangalore Cycle Master Plan that is in keeping with the city overall vision and existent traffic plans.

    - EMBARQ and I-CE can support BMLTA to facilitate the creation of a Detailed Project Report (DPR) for the cycle master plan to attain J*n*NURM funding.

    - EMBARQ and I-CE can develop a Terms of Reference (TOR) for the creation of the DPR.

- In the planning and implementation phase, EMBARQ and I-CE can conduct value assurance reviews to insure quality and timely implementation of the cycle master plan.

3. Creation of a core consultative group of the non-motorized cell that includes candidates from government, private and civil society sectors. The NMT cell should meet regularly and facilitate channels of communication and feedback between all users of cycle tracks, the community and the government.

    - The proceedings of the workshop recommended that the following agencies to seed the NMT Cell: BMLTA, ABIDe, BCCI, BBMP. The final decision is to be made by the government agencies to select one agency to seed the NMT cell.

    - The institutional framework should have full representation of the stakeholders from public and private agencies. Importantly, it must include leadership from elected officials and coordination among agencies and well as planning, designing, constructing, maintaining, enforcing and using of non-motorized modes of transportation.

      Examples of public and private agencies are as follows:

Public Agencies	Private Agencies
Bangalore Metropolitan Land Transport Authority	Civil City Organizations
Bangalore Development Authority	Cycling Groups
BBMP	Companies
Karnataka State Road Transport Corporation	Business Parks
Traffic Police	Service Providers
Bangalore Metropolitan Transport Corporation	Educational Institutes
Transport Department	Cycle Dealers
PWD	Cycle Manufacturers

    - Capacity building initiatives must take place for government officials in particular, and other members of the NMT cell. EMBARQ and I-CE can facilitate international technical tours to study cycling plans, design and implementation in cities across the world. EMBARQ organized a technical visit to London, Paris and Copenhagen for the Mexico City delegates in 2008. See agenda in Appendix no. 6. Similar study tour can be organized for

the Karnataka delegation. Experiencing successfully implemented NMT plans, first hand, will provide deep insights into the formation and execution of the cycle master plan.

Sponsors and Partners

The workshop was sponsored by BMLTA in partnership with EMBARQ – the World Resources Institute Centre for Sustainable Transport, USA, Interface for Cycling Expertise (I-CE), the Netherlands and local partners Bangalore City Connect Foundation, and Ride a Cycle Foundation from Bangalore. See Appendix no. 7 for details on the sponsors and partners.

List of Appendix

Appendix 1: Projects listed under B-CAP

Bangalore Cycling Initiative Workshop

ACTION PLAN

WHAT	WHO	WHEN
1. Generating interest among all citizens of Bangalore		
a. Automobile Free Sunday Cubbon Park Identify the feasible locations in Cubbon Park for the above Send request to all concerned government and civic departments requesting permission and other logistical considerations to facilitate the above. E.g. Policy Department	BMLTA	6 months
b. Government Social Marketing and Promotion of Cycling Support of cycling and public sustainable transportation initiatives. Speak to local actors and other public figures to appear in short films advocating cycling and other modes of non-motorized transport.	BMLTA	6 months
c. Cycle Initiation Programme and Cycle Repair and Road Safety Training Manual Target Group 1: school and college children with emphasis on training and road safety Target Group 2: women with emphasis on safety issues like eve-teasing and repairs of cycle	Freewheeling Hasiru Suru	6 months
d. Accessible Cycle Parking Spaces at all BMTC bus stops and other public locations Identify bus stops and other high-use public spaces for cycle parking space.	Ride A Cycle Foundation BMLTA	6 months
2. Help Promote Cycling by Corporate and Citizen Groups		
A. Promote equitable use of roads by all groups: Create channels of communication and feedback from groups not represented at the workshop or through any other formal channel. Groups include, 'captive users' such as low income groups; milkmen, newspaper delivery men etc	Hasiu Usiru	6 months
B. Organize corporate events or incentives promoting cycling Example 1: Cycling races – CEO/Watchmen relay rally and non peak hour commute. Example 2: Reduce working hours for cyclists to facilitate commute; or create cash incentives like the WIPRO model.	Bangalore City Connect Foundation	6 months
C. Prepare a plan for a Cycle rental plan for Electronic City Speak with Infosys re: public use of 1000 Infosys cycles in Electronic City	Bangalore City Connect Foundation	6 months

D. Cycle Donation Drive Get Cycle manufactures to donate Cycles (3) a month and rent it to the public.	Ride A Cycle Foundation	6 months
E. Study Other Cycling Inclusive Models on Campus / Parks etc: Example 1: Model used by Madras Engineering Regiment of the Indian Army and record the cause of Army units having the maximum cyclists.	Murali H R Ride a Cycle Foundation	6 months
F. Cycle Promotion among Government Officials Example: Encourage Cycle use among decision makers, traffic police, other government officials in order to sensitize them to the plight of cyclists and pedestrians on public roads as well as to give them practical and first-hand insight to better facilitate problem solving and policy action.	BMLTA	6 months
G. Identify possible lanes for cycling 1. Hosur Road (From Brigade road until Electronic City) 2. Intermediate Ring Road (From Hosur road to Old Madras road) 3. Lake/Park boundary roads - Madiwala Lake, Sankey Lake, Ulsoor Lake, Agara Lake, Lalbagh, and Cubbon Park. 4. Whitefiled area cycle network. 5. BTM to Basavanagudi network. 6. Vijayanagar - Rajajinagar - Malleshwaram network on Chord Road and Dr. Rajkumar Road.	Ride a Cycle Foundation HasiruUsiru BMLTA	6 months
3. Creation of a Master Plan by BMLTA		
A. Creation of a Cycling Master Plan that is in keeping with a larger sustainable transport vision 1. Ensure a real synthesis and cohesion with other future and current public transport projects 2. Ensure that decisions are transparent and systematic in all major projects that shall affect the citizen. 3. Make sure that it invites feedback from all citizens and not just netizens, by deciding ways to reach the masses	BMLTA	+ 6 months
B. Consultation and Feedback Mechanism on public road and transport related projects Include cyclists (incl. captive users) and pedestrian view points in all design decisions like flyover, high pass etc.	BBMP	+ 6 months

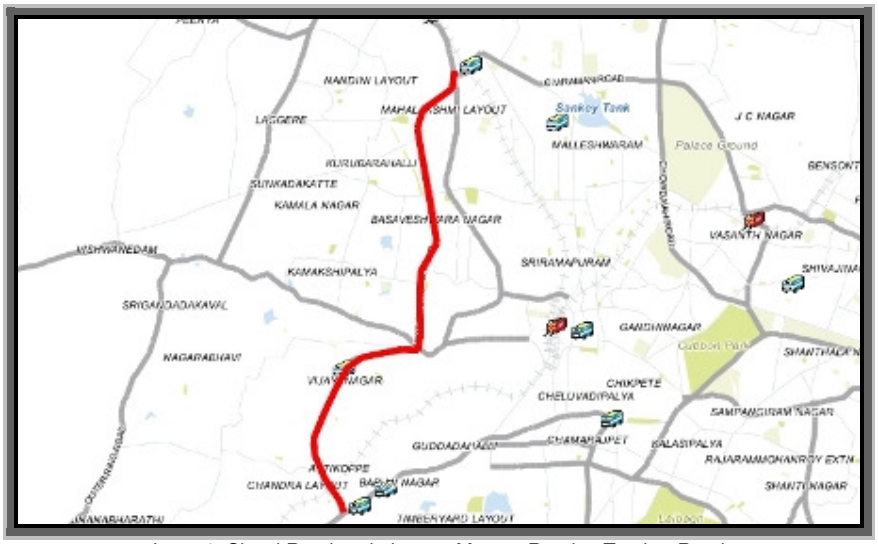
C. Capacity Building with Government 1: Facilitate international study tours for government officials 2. Technical expert review workshops with government officials	EMBARQ I-CE BMLTA	+ 6 months
D. Create Terms of Reference (TOR) for the Bangalore Cycle Master Plan	EMBARQ I-CE BMLTA	6 months
E. Preparing DPR for Funding of Projects to attain JnNURM funding	BMLTA	6 months
4. Formation of Core Consultative Group		
A. Formation of a Non-Motorized Cell The cell will have dedicated government staff and include relevant departments like Traffic Police The cell will include members of the cycling community The cell will meet regularly that is once a month The cell will open channels of consultation and feedback between the community and government	BMLTA	6 months

Appendix 2: Mapping of Cycle Lanes

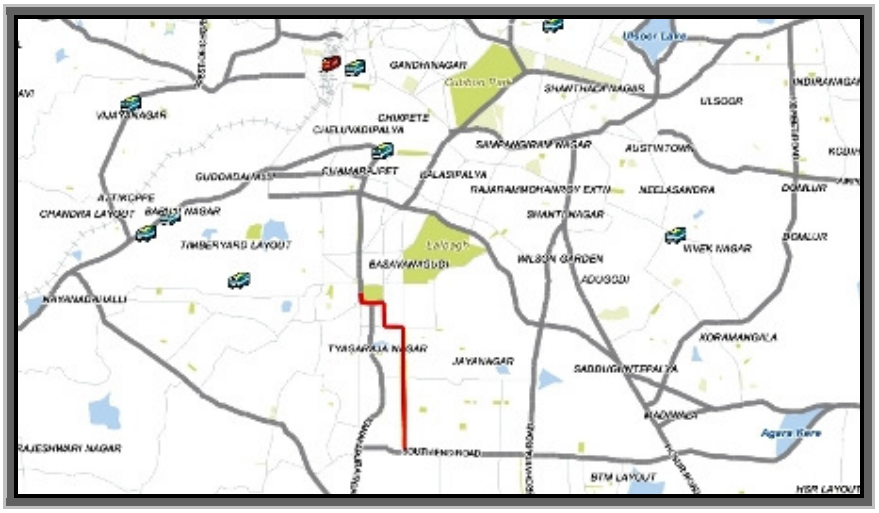
Lane 1: Hosur Road cycle lane to Silkboard Junction to Electronic City

Lane 2: Intermediate Ring Road to Hosur Road to Old Madras Road Cycle Lane

Lane 3: Madiwala Lake cycle path



Lane 4: Chord Road cycle lane to Mysore Road to Tumkar Road



Lane 5: Jayanagar to Basavanagudi cycle lane along RV road

Lane 6: Rajajinagar to Dr Rajkumar Road cycle Lane

Appendix 3: Workshop Agenda

Why, What and How
Bangalore Cycling Initiative Workshop

WHY

Bangalore is a city with progressive transport policies and has institutions like the BMLTA which are focused on integrating land use and transport to make for a more liveable city. Yet, Bangalore is plagued by problems of congestion and pollution. In a city of 5.7 million, there are 298 vehicles registered per thousand people, with motorization increasing at 10-20% per annum. However, the private vehicles account for only 38% of the trips in the city - 40% of daily trips by public transport and walking and cycling account for 17% of trips. Traffic studies cite poor condition of pavements (30% of Bangalore's road network is in that shape), low travel speeds (down to 10-12 km/h), high intersection delays, and poor or non-existent parking facilities. Traffic accidents are high at about 50 per 10,000 registered vehicles in Bangalore and Chennai, respectively, with about 800 fatalities per year. High pollution levels have made Bangalore citizens prone to respiratory diseases like asthama. These problems cannot be resolved by traditional supply enhancing short-term measures like road widening, one-way streets and flyovers.

There is a need to rethink the entire paradigm of transportation in a manner which is sustainable and inclusive. The first step for that is to encourage and plan for low-energy, less-space consuming and zero-pollution modes like cycling. Bangalore wants to not only be a cycle friendly city, but, be a model for other cities in India to emulate.

WHAT

The objectives and goals of the workshop are to:

1. Understand the current International and Indian discourses on cycling friendly cities in order to formulate a base awareness of the issues involved, among the various stakeholders
2. To reach an informed consensus together with all stakeholders as to what approach would work best for the city of Bangalore
3. To formulate a base structure for capacity building of the city of Bangalore and outline a plan for inputs needed to make the city self-sufficient to implement plans on cycle inclusive transport systems.
4. To put together an action plan that will identify both short term and long term plans such as, demonstration projects with implementation timeline and get commitment from the stakeholders to their roles in its implementation. The action plan will also identify long term needs such as, Bangalore Cycle Master Plan, Institutional Arrangements, and Capacity Building.

HOW

Workshop Design:
The first session of the workshop will provide data that will help in the workshop sessions.

1. The video of "cycling friendly cities" outlines the steps taken by various cities in Europe and Latin America to make their cities cycle inclusive.
2. Dr. Geetam Tiwari will present the conclusions of a study which discusses the position of cycling in Asia. This presentation highlights best practices from Asian cities and the trends of cycle use and planning. A thematic focus will highlight the planning, design, health, gender and poverty aspects of cycle inclusive planning in India.
3. Case study presentations on 3 levels of cities in India will be made to highlight methods and practices of cycle inclusive planning in Indian cities, Pradeep Sachdeva will present the case of Nanded, Sujit Patwardhan, the case of Pune and Dr. Tiwari will present the case of Delhi.
4. Focus on the initiatives and context in Bangalore city to set the stage for Bangalore specific needs and approaches

5. A technical session by Dr. Anvita Arora and Dr. Vijay Kovvali will illustrate the specific issues and tools needed to plan for cycling at the road design and operation level.

The second session will focus on Action planning and commitment by the city of Bangalore:

1. The first step will be to identify issues and starting points for different stakeholders. This will be in the form of focused group discussions and presentations by the different groups.
2. The second step will be to design a Cycling Action Plan (CAP) for Bangalore city with identification of methods, timelines and people/organizations involved.
3. A Pilot exercise will be identified from that Cycling Action Plan and the roles and commitments of different players will be delineated
4. A final discussion at the end of the day will focus on achieving commitments towards the CAP in general and the Pilot in specific with timelines.

Appendix 4: Workshop Schedule

Time	Activities	Presenters
9:00- 9:30	***Registration***	
9:30- 10:00	***Inaugural Session*** Welcome Note Speech of Chief Guest Brief Comments Introduction to the Agenda	 Mr. Gaurav Gupta Mr Rajeev Chandrasekhar Mr Jyothi Ramalingam Dr. A Ravindra Seema Parakh
10:00- 10:20	***Where do we want to be?*** International cycling friendly city video	Dr. Anvita Arora
10:20– 10:35	Coffee break	
10:35- 11:00	***Where are we?*** Position of cycling in Asia and India	 Dr. Geetam Tiwari
11:00- 12:00	***New issues in cycling – Indian Experience*** **Metro City:** Delhi **2nd Tier City:** Pune **Opportunities in Third Tier City**: Nanded	 Dr. Geetam Tiwari Sujit Patwardhan Pradeep Sachdeva
12:00– 13:15	***Initiatives on cycling in Bangalore.*** Cycling projects in Bangalore Bangalore Cycling Initiative Cycling in Infosys campus	 BMLTA Pradeep Banavara Ms Rama NS
13:15- 14:00	Lunch Break	
14:00- 14:30	***What needs to be done in Bangalore?***	Dr. Vijay Kovvali
14:30- 16:30	***EVOLVING AN ACTION PLAN*** **1.** Generating interest among citizens of Bangalore **2.** To help promote cycling-by corporate and citizen groups **3.** Creation of cycling master plan by BMLTA **4.** Taking up certain pilot projects **5.** Identification of location of pilot projects **6.** Timeframe for execution of pilot projects **7.** Preparing DPR for funding of projects under JNNURM **8.** Formation of Core Consultative group ***(Open House discussion)***	Facilitator
16:30- 17:00	***Conclusion and remarks***	Facilitator

Appendix 5: List of Participants

Officers present in the meeting of the Bangalore Cycling Initiative Workshop held on 31st January 2009 at 9.00 am in KSRTC, Conference Hall, K.H.Road, Shantinagar, Bangalore.

1. Shri.Rajeev Chandrasekhar, M.P., President FICCI, Bangalore.
2. P.N.Raman, Office of the Directorate of Town Planning
3. Vinay.K.S, Hasiru Usiru
4. Vijay Narnapatti, Architecture plus Design
5. Pradeep. S., Mobility Associate, Bangalore City Connect Foundation
6. Divya.R. Environment Support Group, Bangalore
7. Sridhar Raman, Mapunitym, IITP, Bangalore
8. R.K.Mishra, Team India Leader, ABIDE, Bangalore
9. Pradeed Sachdeva, Pradeep Sachadeva Design Associates
10. Vivek.V, CSTEP
11. K. Arun
12. Sujit Patvardhan, Trustee PARISAR
13. K.Wadia, Bangalore City Connect Foundation Foundation
14. Mayank Rungta, TANDBERG
15. Niyati Tandon, IMACS
16. Anvita Arora, I-CE/ I Trans Delhi
17. Vijaya Kovali, TMS
18. Shamala, Hasiru Usiru,Center for Education and Documentation Domlur, Bangalore
19. Shashidara, HC., BCCF, Bangalore
20. Sunil Terdalkar, BCCF, Bangalore
21. Balasubramniam, BCCF, Bangalore
22. Arun .S.Padaki, Hasiru Usiru
23. Roshini Nuggehalli, IT for Change, Research Associate
24. Chetana.V.Halakatti,Senior Physical Design Engineer, Bangalore AFTEK,
25. Raghunandan Hedge, Sapient, Bangalore
26. K. Narasimha Murthy
27. Mallikarjun Jarali, IBM India
28. Arshad Ali, INFOSYS
29. Santosh Kumar, BCCF, Bangalore
30. J.Chandrasekharan, Retired, Sr. Manager (Design), ARDC, HAL, Bangalore
31. Gunjan Juyal, Software Engineer, Taxila Lab Info System Pvt. Ltd.
32. A.R.Joshi, IDES Consulting and Pvt. Ltd.
33. N.S. Megharikh, Commissioner, Youth Service and Sports Department, Bangalore
34. Seema Parakh, Institutional Relations, Director, EMBARQ
35. Devika Mistry, Institutional Relations, EMBARQ
36. Lavanya .K, Project Manager, Bangalore Infosys
37. K. Jothiramalingam, Principal Secretary, Urban Development Department.
38. A.C. Gopalswamy, BBMP, Bangalore
39. H.S. Sudhira, IISC
40. Dr.C. Ramachandraiah, CESS, Hyderabad
41. H.P.Nagaraj, KSRTC (ME)
42. Deepak Majipatil, Ride a Cycle Foundation
43. Dennis.D.Maliekal, Senior Program Manager, ADITI
44. Francis Lobo, NDS, Senior Engineer
45. A. Padmanaba, Mechanical Engineer, KSRTC
46. D.C. Basavarajaih, Mechanical Section, KSRTC
47. R. Nandakumar, Mechanical Section, KSRTC
48. Pramod Kumar.P., Ride a Cycle Foundation
49. B. Rikesh, Greenpeace, Bangalore
50. K.Rama Murthy, KSRTC, Bangalore
51. Bhasakar Rao, Commissioner, Transport Department, Government of Karnataka
52. Anush Shety, Z-Research, Bangalore
53. Prashant Iyengar, Advocate, Altalv Forum
54. Deepa Mohan, Citizen Matters / Metblys

55. Siddarath Narmain, ALF, Bangalore
56. Vivek Sharma, Green Peace, Bangalore
57. Guru Prasad, Infosys, Bangalore
58. Shree Kumar, Software Engineer, HP
59. Eric Xu, Innovest, Bangalore
60. Jaffar Shariff, City Connect, Bangalore
61. Aruna.C.Newton, INFOSYS, Bangalore
62. Rama.N.S., INFOSYS, Bangalore
63. Omer Kaiser, Xtrails Expeditions Pvt.Ltd., Bangalore
64. Badrinath, Wipro, Bangalore
65. Parmeswaran.V., Technopak, Bangalore
66. Aditya.S.N., INFOSYS, Bangalore
67. Sameer Shisodra, Zira Software Co-founder,
68. Anand Ahmal, Yahoo! India, Bangalore

Appendix 6: Study Tour for Core Consultative Group

The itinerary below is for the NMT study tour that EMBARQ organized for the Mexican delegation. A similar technical study tour, including Netherlands, can be organized for the concerned government officials and the extended NMT cell members.

Itinerary London / Copenhagen / Paris
Monday – July 28
Mon, Jul 28 Mexico City 9:25am Atlanta, GA 13:45 Atlanta, 18:40 London, 8:15am
Tuesday – July 29 *arrival in London 8:15am*
9:00– Check in at Hotel: **Thistle Hotel, Bloomsbury Park** 126 Southampton Row 9:30– Breakfast at Hotel 10:30 – 12:30 **Transport for London** Peter McBride, Bikeways Director "Oyster" Collection System Long-term planning 13:00–14:00 **Lunch** / **Presentation Session** of the project **"Promoting the Development of Sustainable Transport in Mexico City"** 15:30 – 18:30 **Design for London,** Land and Public Space Use Steve Tomlinson – walking and cycling initiatives in London Paul Harper – Manager 100 Public Space Programme Deborah Mathieson – Housing policy and design 19:00– **Open Dinner** Oxford University's Center for the Environment – CTS international
Wednesday – July 30 7:30– Breakfast at Hotel 8:00–11:15 **Bike tour of London** 11:30 12:30 **Princes Foundation for the Built Environment** Experience in urban planning and quality 12:30–13:30 **Open Lunch** 15:30 – 15:30 **University College London** CASA: Center for Advanced Spatial Analysis: http://www.casa.ucl.ac.uk/ Application of simulation tools in transport and urban development 16:30-18:30 **London Bridge Business Improvement District** Private initiative experience in urban development http://www.londonbridgebid.co.uk/ 19:00-20:00 **Visit to Canary Wharf, Docklands** Visits to **Transit Oriented Sustainable Development** (TOSD) in London 20:00-21:00 **Final Session** / **Dinner at Canary Wharf Carluccio´s Café, Reuters Plaza**

Thursday – July 31

*Departure **Thursday July 31, 2008** Flight: **(SK500)** Departing: **06:40H London**, Great Britain (Heathrow LHR) Arrival at: **09:30H Copenhagen**, Denmark (Copenhagen CPH) **Direct** Duration 01H 50m Airline: SAS*
Please arrive at the Airport one hour before departure.

12:00–Check in at Hotel **The Square**
Rådhuspladsen 14 DK-1550 Copenhagen V

20:00 – Dinner at the Port of Copenhagen

Friday – August 1

9:00– Tour of Copenhagen's cycling infrastructure 10:30 and Visit new developments in Copenhagen

11:00-12:30 Director of Planning and Architecture Copenhagen Ulrik Winge

12:30-13:00 "Public Space Public Life City" Director of Copenhagen Jon Pape

13:00 – Trip to Odense

14:30 17:00 Introduction to Odense as a bike-friendly city

15:00 – 18:00 Bike tour in Odense with Birthe Papsø
18:30 Dinner in Odense
21:00 Return to Copenhagen

Saturday – August 2

8:30–Breakfast at Hotel

10:00. **Introduction to Copenhagen** Gehl Architects Helle

12:30-14:30 **Presentation of Eje Central Project** Opportunities and Challenges in Eje Central Discussion Session

14:30 **Ex Chief Engineer of the city of Copenhagen**, Jens Rørbech – Gehl advisor in New York, expert in traffic and cycling

15:00 **Lunch at Sant Hanz**

16:00– **Bike tour of Copenhagen:** Vesterbro Christianshavn Amager Center

18:00 Trip to Malmö, Sweden
New Housing Developments (TOD)

19:00 Dinner at Salt & Brygga

Sunday – August 3

11:00□12:00 **Presentation of Collaboration with CTS** Gehl Architects

13:00□14:30 **Department of Transport Director** Niels Tørslev

16:00□18:00 **FREE**

Monday – August 4
Transfer to Airport

Departure: 07:10H Copenhagen*, Denmark (Copenhagen CPH)* ***Arrival at: 09:30H Paris, France*** *(Charles de Gaulle CDG) Airline: SAS* □□8:00– Breakfast at Hotel: **Mercure Paris Tour Eiffel** 20 Rue Jean Rey, Paris 75005

12:30 **Bike Tour, visit of public Cycle company** Tour of cycling infrastructure, tram and adjacent urban development, JCDecaux

14:00 **Lunch**

16:00□**Tour of Maintenance Ship (Jardin des Plantes)**

17:00 **Bike Tour, St. German**

Tuesday – August 5

8:00– Breakfast at Hotel 9:00□13:00 **Strategic Session on non-motorized planning** Presentation, questions and answers.

13:00 **Lunch**

14:00□18:00 **Session on public Cycles**

16:00□18:00 **Final Session** What experiences can be reproduced in Mexico. What strategies can be applied in Eje Central and what implementation tools would be required

Appendix 7: Sponsors and Partners

Sponsor

The Bangalore Metropolitan Land Transport Authority (BMLTA) is Unified Urban Metropolitan Transport Authority created by Government of Karnataka in March 2007 on the recommendation of the National Urban Transport Policy (2006). It is the first organization set up in response to the recommendations of NUTP. The BMLTA co-ordinates all land transport matters in the BMR. It prepares a detailed Master Plan for Transport Infrastructure based on the comprehensive Traffic and Transport Study for Bangalore. It oversees implementation of all transportation projects, and appraises and recommends transportation and infrastructure projects for bilateral / bilateral Central assistance. They function as empowered Committee for all Urban Transportation Projects. They are empowered to take any other decision for the integrated urban transport and land use planning and Implementation of the projects.

Gaurav Gupta, IAS

Gaurav Gupta, M Tech from IIT Delhi and joined the IAS in 1990. At present he is working as Managing Director, Karnataka State Road Transport Corporation (KSRTC). He also holds additional charge as Commissioner, Directorate of Urban Land Transport (DULT) & Member Convener, BMLTA. Mr Gupta has initiated comprehensive Traffic & Transportation Plan (CTTP) for 6 city corporation limits of DULT and other studies to resolve problems related to Traffic and Transportation in the city of Bangalore.

He has also served as Special Commissioner BMP during 2005-07 in which he co-coordinated several departments within BMP and also headed JNNURM cell from which major investments for Bangalore city were initiated. He was also instrumental in chalking out effective governance and administration systems for new areas added to BMP as a part of Greater Bangalore (BBMP).

He has also served as Managing Director of Mangalore Electrical Supply Company (MESCOM) and Commissioner, Employment & Training. During his tenure as Commissioner of Dharwad and Udupi Districts, he was responsible for overall development in the districts. Earlier, as CEO of Zilla Panchayats of Raichur and Shimoga, he coordinated the functioning of a number of Government Departments like Education, Health, Rural water supply and evolved management information system to effectively supervise the functioning in Zilla Panchayats.

Partners

EMBARQ — The World Resources Institute Center for Sustainable Transport — is a not-for-profit program of the World Resources Institute. EMBARQ works with cities in the developing world to catalyze and help implement sustainable solutions to the problems of urban mobility to improve quality of life and protect the environment. By working with EMBARQ, cities can reduce the cost, risk, time, and complexity of diagnosing transport problems and designing and implementing sustainable solutions. EMBARQ has also proven that sustainable transport in developing countries can translate into economic opportunities for the forward-thinking business.

EMBARQ India, with its project office in Mumbai, currently providing technical support for implementation of Bus Rapid Transit Systems to Indore, under a partnership with Indore City Transport Service Limited, and Pune, under a partnership with Urban Mass Transport Company (a GOI and ILFS company). EMBARQ is also promoting non-motorized transport activities in Bangalore in partnership with Bangalore Metropolitan Land Transport Authority, City Connect Foundation and Interface for Cycling Expertise. In addition, EMBARQ collaborates with Ministry of Urban Development in their efforts for capacity building for sustainable urban transport in India. EMBARQ is working in the creation of an independent Center for Sustainable Transport in India, and is scaling up its activities to become the leading organization in the connection between transport, environment and development for Indian cities.

Interface for Cycling Expertise (**I-CE)** is an international non-profit, non-governmental organization, a foundation created in 1996. Based in the Netherlands, I-CE has been founded to answer the ever-growing international demand for cycle policy expertise.

I-CE operates as an interface between the demand for cycling expertise from cities all over the world and the Dutch cycling culture: highly professionalized cycle planners and designers and cycle practice and experience at all levels of society. I-CE has specialized in cycling mobility in developing countries.

I-CE aims at the promotion of cycle inclusive sustainable integrated urban and transport planning, through transfer and development of cycling expertise.

I-CE is an expertise centre for training, technical assistance and research. In developing countries the foundation implements specific pluri-annual programs and projects with subsidies and other contributions.

Bangalore City Connect Foundation is a registered non-profit organization representing various stakeholders of Bangalore, with an aim to engage with Governmental agencies and provide them with required knowledge base and support for the improvement of urban infrastructure and governance. Bangalore City Connect Foundation brings value at three levels by working with various Governmental agencies responsible for urban infrastructure; strategically - many of the strategic choices faced by government are complex in nature. Bangalore City Connect Foundation can enable the right decisions by providing complete technical resources and capacities necessary for making the right choices. Secondly, by providing project inputs as many urban infrastructure projects involve not just 1 or 2 agencies but a multiple of government agencies working with their own priorities. Bangalore City Connect Foundation can enable detailing of a project in the most appropriate manner through taking a holistic view of project planning and enabling better co-ordination amongst various government agencies. Lastly, by implementation Inputs, Bangalore City Connect Foundation can bring together multiple skills to ensure time-bound implementation of critical projects.

RideACycle Foundation (RAC-F) is a not-for-profit advocacy organization registered in 2008 that is promoting sustainable transport, responsible travel, and environmentally and socially responsible cycling opportunities. Its objectives are to create awareness in society about the virtues of using cycles; make cycles a popular mode of transportation that would help in addressing global warming and pollution. This also includes, organizing cycle rides to promote cycling tourism, without any commercial objectives. Make people understand the need of an uncontaminated environment, which would indeed help in maintaining quality of health, by making people realize the intrinsic worth of cycling. And lastly, encourage cycle-activists, cycle manufacturers, cycling communities, and government organizations to promote cycling. RideACycle Foundation also distributes free cycles and notebooks for the poor and deserving student.

Facilitator

Seema joined EMBARQ in August 2006 to initiate EMBARQ's India program. As the India Institutional Relations Director, she manages EMBARQ's India activities and is currently scoping EMBARQ's as well as WRI's long term presence in India. Seema holds a Masters degree in Environmental Science and Policy from the Clark University and a Bachelors degree in Geography from the Loreto College, in Kolkata, India. Her research, prior to joining EMBARQ, explored visions for future integrated public transit systems for Bangalore, India, through a multi-stakeholder analysis.

She has also worked in the slums of Howrah, with Howrah Pilot Project, managing micro-finance and adult literacy program for women. At HPP, she also initiated a preliminary school for children in poverty. Her interests are institutions and policy systems, poverty reduction, non-motorized transport and sustainable urban design.

Presenters

Anvita Arora

Anvita Arora is an urban transport planner with a PhD from the Indian Institute of Technology (IIT), Delhi. She has a Bachelors degree in Architecture and a Masters degree in Transport Planning. She is, currently, the CEO of Innovative Transport Solutions (iTrans) Pvt. Ltd., an incubatee company of Indian Institute of Technology, Delhi and the resident representative of Interface for Cycling expertise (I-CE), Netherlands for their Cycle Partnership Program in India. She has been working on the social dimensions of urban transport for over 10 years, specifically on poverty and gender issues. She works to incorporate the needs of marginal road users like the pedestrians, bicyclists, rickshaw pullers, hawkers and the disabled in the mainstream of urban transport design and is a certified trainer on non-motorized transport. She is currently working with several cities in India on these issues.

Dr. Geetam Tiwari

Geetam Tiwari, is Associate Professor, Civil Engineering Department, and Transportation Research and Injury Prevention Programme (TRIPP), in the Indian Institute of Technology Delhi, India. She is also Alderbrastka Guest Professor for sustainable urban transport at the Chalmers University of Technology, Sweden 2007-2009. She received her Ph.D. at the University of Illinois, Chicago, and has professional experience in the areas of Transport Planning, Traffic Engineering and safety. She has been teaching at the Indian Institute of Technology, Delhi since 1990. and has published over 60 research papers on transportation planning and safety and edited four books. She received the Stockholm Partnerships Award for local impact, innovative thinking and a potential for replication or transferability for TRIPP. She received Center for Excllence grant from Volvo Research and Education Foundation, Sweden in 2002 for Sustainable transport in Less Motorised Countries. Dr. Tiwari is an invitee in the Urban Age conference series by London School of Economics 2005-2008 and Principal Voices program on urbanization sponsored by CNN-Time and Shell company in 2006.

Pradeep Banavara

Pradeep Banavara is one of the Founders of the Ride A Cycle foundation as well as Mapunity: Social Technology at Work. The Ride A Cycle Foundation is a not for profit advocacy organization promoting sustainable transport, responsible travel and environmentally and socially responsible cycling opportunities. As part as their endeavor, they organized a 7 day, 919 km Cycle ride in the Tour of the Nilgiris in December 2008. Mapunity on the other hand develops technology to tackle social problems and development challenges in India. For example, Mapunity has led the development of Urban Transport Information Systems for a number of cities including Bangalore. These systems use several types of inputs from various organizations like teledensity data from Airtel; video company/images from police cameras etc to create real-time knowledge of traffic conditions in cities. These are then made widely available through Airtel's mobile telecom network to city residents and also accessible online.

Pradeep has also worked with the Karnataka state remote sensing application centre, (Dept. of IT&BT, GOK center) for 4 years. He also worked with the Karnataka Chief Ministers office under the Janaspandana programme. He was the coordinator of the VTU EDUSAT programme at Visweswaraya Technical University for 2 years. Pradeep has always been a sportsman – he was part of Karnataka state junior hockey team and represented Karnataka at national school games.

Pradeep Sachdeva

Pradeep Sachdeva is a renowned architect in Delhi working on urban design and urban redevelopment projects in India and abroad. His firm Pradeep Sachdeva Design Associates started in the early 1990s as a small design studio, working mainly on domestic projects. Today, the practice has 25 architects and designers involved in a wide range of projects, from the design of a chair to the redevelopment of a street.

His more notable projects in the public realm are Dilli Haat and Jaipur Haat; the Garden of Five Senses, Delhi; and the redevelopment of the Jama Masjid in Delhi.

Sujith Pathwardhan

Sujit Patwardhan graduated from the London College of Printing and Graphic Arts, U.K. in 1966. He is visiting lecturer in Printing at the Pune University School of Journalism and Mass Communication at the Ranade Institute Pune for more than 15 years. He is an active environmentalist and is the founder member of Parisar, an independent NGO working in the field of environmental awareness, education and action. As a result of his work in this area, he has been appointed as Member, Maharashtra Environment Protection Council of which the Governor of Maharashtra is the Chairman; Member, Mahabaleshwar Panchgani Regional Planning Board; Member Urban Heritage Committee, Pune Municipal Corporation; and Member Monitoring Committee for Mahabaleshwar and Panchgani appointed by the Mumbai High Court. He is also founder member of PTTF (Pune Traffic & Transportation Forum) a coalition of NGOs working in the field of Traffic in Pune.

Dr. Vijay Kovvali

Dr. Kovvali has more than 15 years of experience in the field of Transportation Engineering. His extensive experience in the field includes; Professional Engineer – Traffic for the State of California, USA; Principal developer of an Arterial Signal Optimization Software (PASSER V) that is used in United States for progression and delay optimization; as well as Project Manager and Technical Lead on multiple Transportation Engineering Projects. He also has extensive knowledge and experience with Traffic Signal Systems Design, expertise with NMV and BRT microsimulation and evaluation and ITS system implementation. Dr Kovvali has worked on developing behavioral algorithms for road users as part of the Next Generation SIMulation (NGSIM) program.

Dr. Kovvali has a Ph.D. in Civil Engineering with Specialization in Transportation Engineering from Texas A&M University, College Station, USA.

Appendix 8: Press Release for the Bangalore Cycling Initiative Workshop

Press Release

Workshop on Cycling Inclusive Planning for Bangalore
On the Saturday, 31st of January 2009 between 9:00 am – 4:30 pm
Conference Hall, Central Office, Karnataka State Road Transport Corporation

"A mere 5% shift in mode share to cycles would reduce CO2 emissions in Bangalore by 9.9%" ~ CAI-Asia forecasts.

Keeping in tradition with Bangalore's progressive culture, the Bangalore Metropolitan Land Transport Authority is exploring sustainable transport initiatives that will create a vibrant, liveable Bangalore that we can proudly pass down to our future generations. Due to the excellent year-round weather and high percentage of short trip-lengths in Bangalore, cycling lends itself as an attractive and healthy alternative to reduce congestion and improve air quality on our city streets.

The Cycling Initiative Planning Workshop will present an overview of international best practices of cycle inclusive planning and the changing nature of cycling in key cities in India to aid in the understanding and required development needed in Bangalore. The workshop will focus significantly on building on current as well as future initiatives, projects, technical solutions and momentum required to propel Bangalore into the cycling capital of India.

Mr Gaurav Gupta, Commissioner, DULT & Member Convenor, BMLTA welcomed the dignitaries and the participants and presented a brief overview of the day's workshop and also the functions of the BMLTA.

Sri Rajeev Chandrasekhar, MP and Convenor, ABIDe and President, FICCI, inaugurated the workshop along with Dr. A Ravindra IAS (Retd), Former Chief Secretary, Government of Karnataka, and Sri Jyothi Ramalingam, IAS, Principal Secretary, Department of Urban Development. Ms. Seema Parakh, EMBARQ-WRI Center for Sustainable Transport presented the Agenda for the day's workshop.

The workshop is hosted by the Bangalore Metropolitan Land Transport Authority (BMLTA), in partnership with EMBARQ – the World Resources Institute Centre for Sustainable Transport, USA, Interface for Cycling Expertise (I-CE), the Netherlands and local partners City Connect, and Ride a Cycle Foundation from Bangalore. Directorate of Urban Land Transport (DULT) which provides a secretarial support to BMLTA would be hiring the services of technical experts to get the master plan prepared for cycling in Bangalore city.

EMBARQ's activities are supported by its global strategic partners the Shell Foundation and the Caterpillar foundation. EMBARQ activities in India are also supported under the SUMA program of CAI-Asia.

National and international experts and cycling enthusiasts and civil society organizations were present and deliberated the options and way ahead for Bangalore City.


BMLTA
Bangalore Metropolitan
Land Transport Authority


EMBARQ
The WRI Center for Sustainable Transport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ride cycle