

Implementation of Public Bike Sharing System in New Delhi Municipal Council Area

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What is a Public Bike Sharing System?

- Bike sharing is a Public Transport System where BIKES can be used across a network of closely spaced stations
- With a SMART CARD or other form of identification, a USER can check out a BIKE from a station and return it at a different station

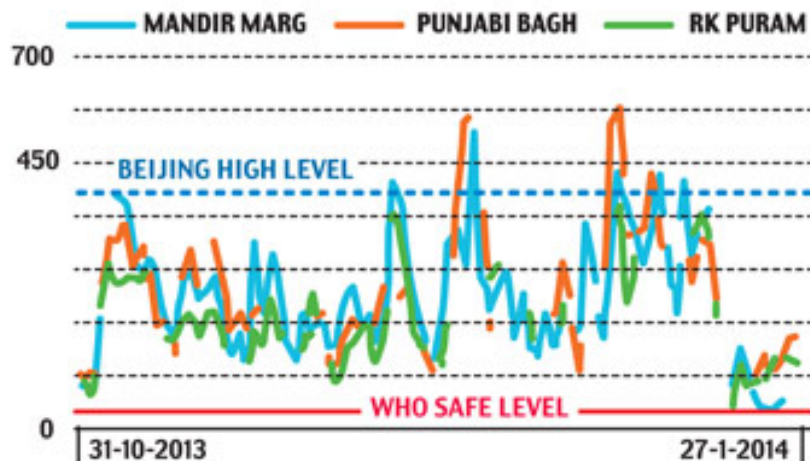


Why in Delhi?

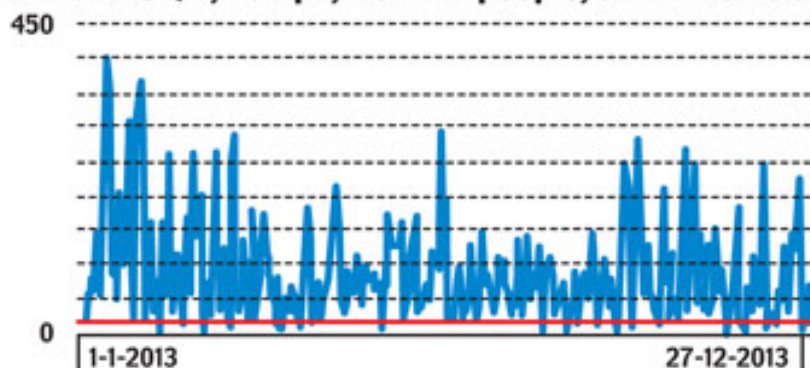
CROSSING THE TOXIC LIMIT

Source: CSE quoting Delhi Pollution Control Board and Beijing Environmental Protection Bureau

DELHI (1,484 sqm, 16.8 mn people, 7.7 mn vehicles)



BEIJING (16,410 sqm, 120.2 mn people, 5.2 mn vehicles)



CAPITAL'S MOST-AFFECTED AREAS

- | | |
|---------------------------|---|
| A PUNJABI BAGH | J VASANT KUNJ |
| B R..K PURAM | K AREAS AROUND M.G. ROAD |
| C IGI AIRPORT | L OKHLA INDUSTRIAL ESTATE (OKHLA PHASE -3) |
| D MANDIR MARG | M MEHRAULI |
| E ANAND VIHAR | N BADARPUR ROAD |
| F ENTIRE RING ROAD | |
| G NOIDA* | |
| H VIKASPURI | |
| I MAHIPALPUR | |
- *AREAS AROUND THE TOLL ROAD FROM NOIDA TO GURGAON TOLL ROAD



Need density redistribution and infilling



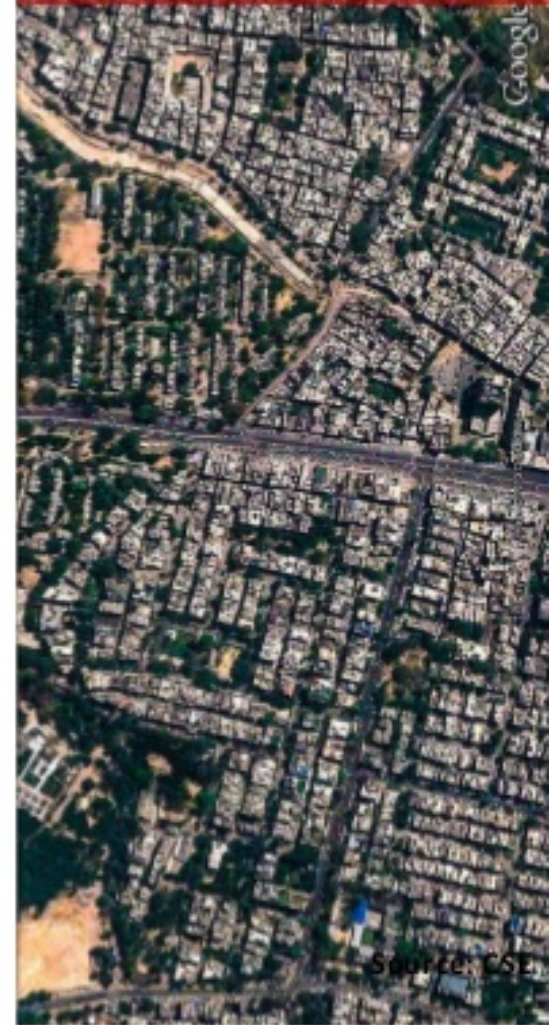
- **Chawri Bazar**



- **Race Course**



- **Green Park**



Bike Sharing Goals

- Improve the reach of the Public Transport System by solving Last-Mile Problem
- Reduce congestion and improve air quality by attracting private bike users
- Reduce over-crowding on public transport systems
- Increase the mode share of biking
- Promote the use of active transport, helping to improve public health

Bikes/ e-Bikes

Stations/ Locations with Parking + Docking Terminals

Operations; Re-distribution & maintenance

User Interface

Bike Sharing Components





Connecting



Electronic Lock
Solar Powered
Bluetooth Operated
'Docks' to Rack

Connecting and Sharing Bikes

Outreach

- Marketing of the bike sharing system will begin well before the system is up and operational
- Public needs to be made aware that Bike sharing is a trendy, healthy and environment-friendly, more efficient alternative to their crowded buses, unco-operative auto-rickshaw drivers or long walks



Typical Situation along a major arterial road passing through Govindpuri with cars parked on both sides of the road reducing vehicular traffic lanes. All footpaths have disappeared forcing pedestrians to mix with the traffic.



Cycle Sharing Facility near Barakhamba Metro Station



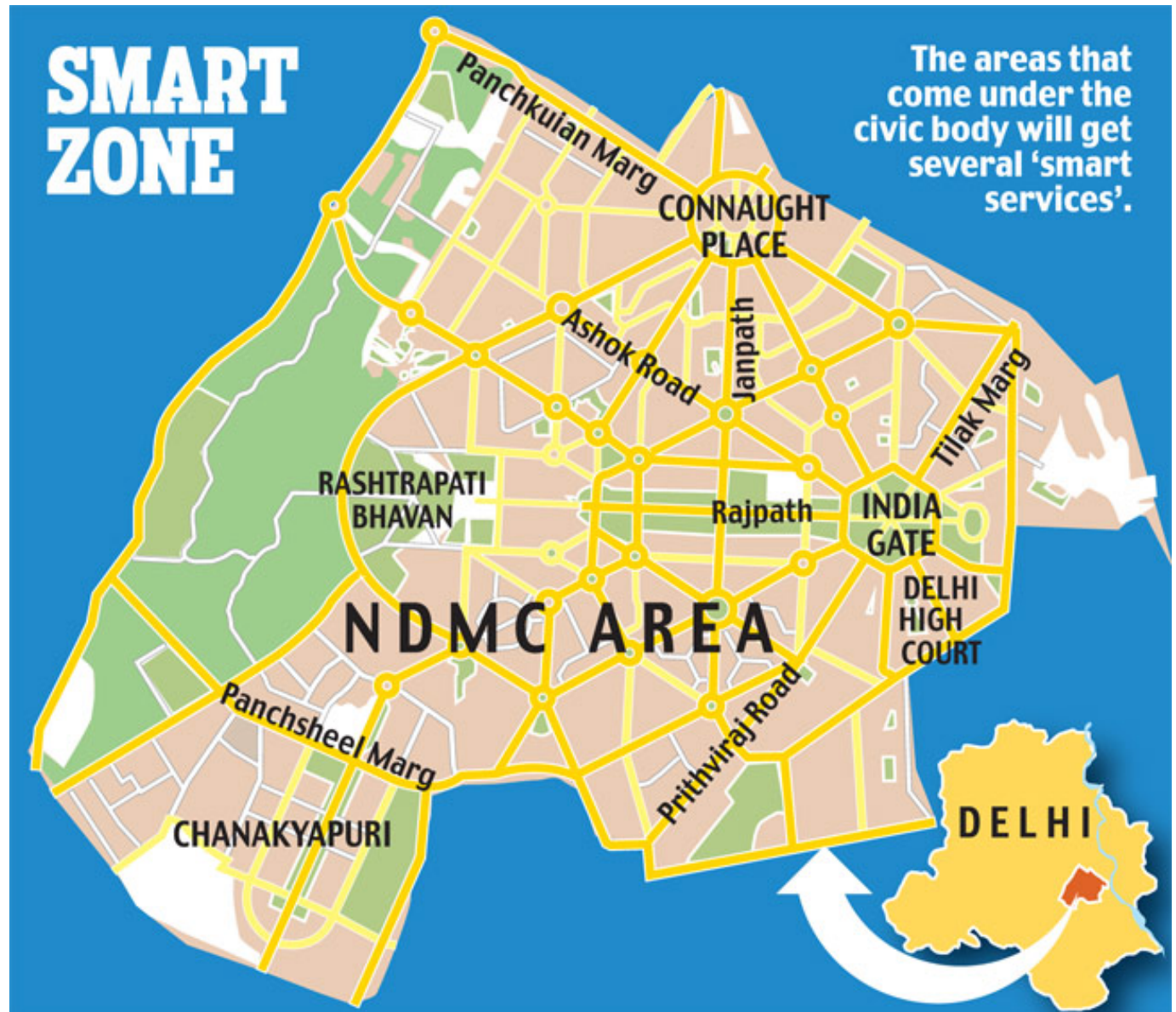
Institutional Structure

- Government + Private Operator
- This will be structured as PPP
- NDMC will carry out the Planning and oversight activities
- Private sector will handle Operations
- Combining Bike-sharing with Metro and City Bus Management etc will help to facilitate physical and payment integration among the systems

Project Planning and Phasing

- Phase I
 1. Station Identification
 2. Summary of System Parameters: Coverage area, no. of stations, no. of bikes
 3. Preliminary Financial Analysis: Capital Costs, Operating Costs, Revenue Streams
 4. Pricing Structure
 5. Implementation Timeline

Way Forward For NDMC



Project Structure

- Design, Built, Operate & Transfer Public Bike Sharing System as PPP project
- Period of Concession-9.5 years
- Concessionaire need to provide integrated and innovative solutions for the Public Bike Sharing System, including all the hardware, software and system solutions along with operation of the system.
- Number of bikes:-Minimum 500
- Number of Stations:-Minimum 50

Source of Funds

- Viability Gap Funding (VGF): Concessionaire is:
entitled to receive Viability Gap Funding (VGF)
per bike per year upto 500 bikes from NDMC

OR

- Concessionaire will pay licence fee to NDMC
per bike per year for all bikes, from the
Commercial Operations Date
- The payments will be made on quarterly basis

Source of Revenue

- Fare box revenue: Revenue earned from sale of memberships and rental income earned from renting of Bikes to the users;
- Advertisement Revenue/ Sponsorship Contract Revenue: The concessionaire will be given the rights to sell advertisement space on the station/docking/bike system. This include advertisement space on Bikes and station infrastructure like digital panels and docks at the station and redistribution vehicle. Alternatively, the concessionaire may sell sponsorship contract of the system to a single entity for exclusive branding.
- Cycling Event: The Concessionaire will be given the rights to conduct weekly / fortnightly/ monthly/ annual cycling event in NDMC. The profits made from such events will only be used to run the PBS system;
- CSR Funding: The Concessionaire is given the rights to tap into CSR funding of private organizations to fund the operations of the system.

Planning and Installation

- A dense network of stations across the coverage area, at potential points such as Metro Stations, Bus Stand, markets, office complexes, institutions, tourist destinations, parks and residential areas as per the indicative list.
- Comfortable, commuter-style bicycles with specially designed parts and sizes that discourage theft and resale.
- A fully automated locking system that allows users to check bicycles easily in or out of bike- share stations.
- A wireless tracking system, such as radio-frequency identification devices (RFIDs), that locates where a bicycle is picked up and returned and identifies the user.
- Real-time monitoring of station occupancy rates through wireless communications, such as general packet radio service (GPRS)
- Real-time user information through various platforms, including the web, mobile phones and/or on site terminals.

Responsibilities of NDMC

- Finalisation of Station locations and sizes.
- Review of Concessionaire plans for station.
- Provision of Land for Stations as per availability of space.
- Provision of space required for the Central Control system as per availability of space.
- Facilitating the concessionaire to obtain the clearance and approval from all the required authorities for installation and operation of the system.
- Approval of System branding and naming/ advertisements on the system.
- Review of Concessionaire plans operation and maintenance including plan for redistribution of Bikes.
- Review of quarterly operations report and Farebox revenue.
- Provision of rights to the Concessionaire to conduct cycling events in NDMC.

Responsibilities of Concessionaire

- Procurement of Hardware: Bikes + Stations (Terminals + Docks/ locking posts + Device for card verification), etc.
- Establishment of Central Control System: Software and Equipment to manage & monitor the system operations, etc.
- Planning of Stations: Location of stations and Station siting Plan Installation of stations.
- Procurement of Dedicated Vehicles for redistribution and Daily redistribution of Bikes
- Regular Maintenance of Stations and Bikes.
- Establishing and Operating Depots & Workshop for repair of Bikes and other system parts and storage of spare parts and backup Bikes.
- Registration of Users at notified registration centres.
- Collecting farebox revenue.

Responsibilities of Concessionaire

- Selling advertisement space on the system/ sponsorship rights to the system.
- Co-organising cycling event(s) in NDMC area along with NDMC to promote cycling.
- Provision of Website and SmartPhone App for the system
- Marketing & User Information- Before Launch and during operations
- Planning and hiring adequate staff with the right capabilities.
- Data Reporting- Real time transfer of data + Monthly Reports (Performance Indicators) + Quarterly Reports (System Planning)
- Legal – Insurance of Bikes, Stations and Public Liability Insurance Policy (all risk of vandalism on concessionaire)

Fare Structure

	Subscription Type			Fee (Rs.)	
One Year Pass			Rs.1999/-		
Three Month Pass			Rs.599/-		
One Month Pass			Rs.399/-		
One week Pass			Rs.199/-		

☐ The system will run in two hifts for a period of at least 16 hours every day preferably from 6:00am to 10:00 pm.

☐ If the concessionaire decides to expand the number of operating hours beyond 16 hours, then it is mandatory that the time period 6:00 am to 10:00 pm falls within the operating hours of the system.

Fare Structure

	Time			Member- User Fees (Rs.)			Non Member- User Fees (Rs.)	
0- 30 mins		Free		Rs.10				
30 mins- 1 hours		Rs.10		Rs.15				
1 hour- 2 hours		Rs.15		Rs.20				
2 hours- 3 hours		Rs.25		Rs.50				
3 hours- 4 hours		Rs.40		Rs.75				
4 hours- 6 hours		Rs.50		Rs.90				
6 hours- 8 hours		Rs.90		Rs.200				
> 8 hours		Rs.200		Rs.300				

Registration on Aadhar Card basis for Indian Citizens and on Passport basis for foreign nationals. is a necessary precondition to gain access to the PBS system.

Illustration of Dock



Illustration of Advertisement Panel



Example of Exclusive Branding Source



Illustration of advertisement space on bike



Illustration of RFID & Interactive Panel



Public Bike Sharing Station



Battery-operated Re-distribution Vehicle





Thanks