



# TRANSPORT & CIRCULATION INFRASTRUCTURE (T&CI)

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**MOST ESSENTIAL REQUIREMENT OF NCR & DELHI**

**INTEGRATIONS OF (i) Roads (ii) Metro (iii) Mono Rail (iv) BRTS in (i) NCR (ii) CNCR (iii) NCTD**

**1 STATUS OF POPULATION AND ITS GROWTH IN DIFFERENT PARTS OF DELHI**

**2 SETTLEMENT SYSTEM OF NCR; CNCR; NCTD**

**3 INTEGRATION OF ROAD SYSTEM OF NCR, CNCR & NCTD**

- 3.1 WESTERN EXPRESSWAY
- 3.2 EASTERN EXPRESSWAY
- 3.3 NEW BY PASSES TO DECONGEST NATIONAL HIGHWAYS NO.1 ,2 8 & 10
- 3.4 HIGH RELIEF ROAD AT KALANDI KUNJ
- 3.5 EIGHT LANES LINK ROAD CONNECTING RING ROAD AND OUTER RING ROAD ALONG WESTERN CANAL IN WEST DELHI.
- 3.6 URBAN RELIEF ROADS (MPD-2021AD)
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- 3.9 BRTS ; LONG TERM PLAN OF 26 CORRIDORS
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**4 PARKING PROBLEMS**

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**6 CHARACTER INFRASTRUCTURE**

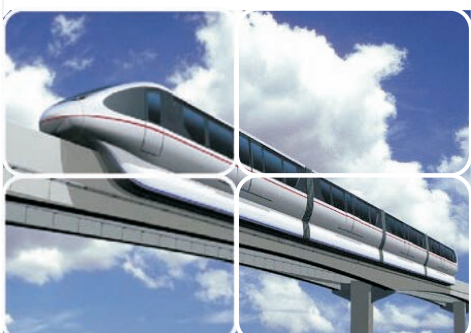
**7 PROVISION OF TRANSPORT AND CIRCULATION INFRASTRUCTURE AT NCR**

- 7.1 NCR ( PROPOSED TRANSPORT NETWORK - ROADS - 2021AD)
- 7.2 NCR (PROPOSED TRANSPORT NETWORK - RAILS - 2021AD)
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**नोएडा में तीन तरफ और दौड़ेगी मेट्रो**

- सिटी सेंटर से सेक्टर 62
- कालिंदी कुंज से बोटिनिकल गार्डन
- सिटी सेंटर से बोड़की



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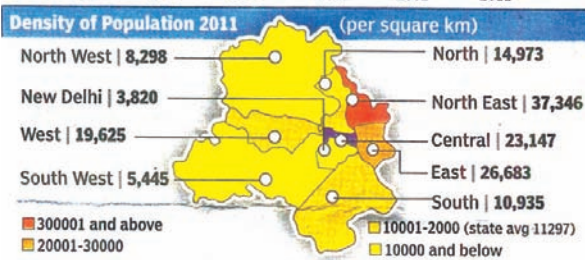
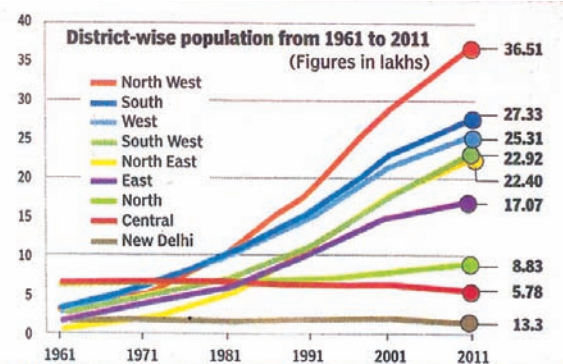
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# 1 STATUS OF POPULATION

Population of Delhi has increased from 13.8 M in 2001 to 16.8 M in 2011. Rate of increase in population has reduced from 47% to 21% in the last 10 years which is very good sign of progress. It has to be tried not only to keep this rate of growth but further reduce to 12% **which is possible if positive steps in this direction are taken.**

Delhi has 9 parts with density of population varying from (i) **38.20** persons per hect. for New Delhi, (ii) **54.45** persons per hect. South-West Delhi, (iii) **82.98** persons per hect. for North-West Delhi, (iv) 109.35 persons per hect. for South Delhi, (v) **149.73** persons per hect., for North Delhi, (vi) **196.25** persons per hect. for West Delhi, (vii) **231.47** persons per hect. for Central Delhi, (viii) **266.83** persons per hect. for East Delhi and (ix) **373.46** persons per hect. for North East Delhi. Location has been shown in the plan.

## GROWTH SLOWS DOWN



**Trans Yamuna Area (North-East + East) has an average density of 320 persons per hect. or 128 persons per acre which is very high or maximum in the country. Desirable density should not be more than 125 persons per hect. or 50 persons per acre.**

## 2 SETTLEMENT SYSTEM OF NCR; CNCR & NCTD

**2.1 NCTD – DELHI** (with a population of 16.8M in a total area of 1487 sq.km. with land use break up in 1999 ; Built up area = 47.31%; Natural features = 13.16%; Land required for services, MRTS and agriculture = 20.9% and actual land available for urbanization between 2000 – 2021 = 18.63% or 27,629 hect.

NCTD will have a total urbanized area = 47.31% + 18.63% = 65.94% hect. or 977.9 lakh sq.m. This needs total parking 1.9558 lakhs or 2.0 lakhs ECS (Equalent Car Space

**2.2 NCR** (in a total area of 33,578 sq.km. for a predicted pop. 64 M with a break up of 23.4 M – NCTD; 16 M – Haryana; 4.8 M – Rajasthan; 19.8 M – U.P.

**2.2.1 Settlements in Central Areas of NCR (9 in Nos.)**

- (i) Loni, (ii) Ghaziabad, (iii) Noida, (iv) Greater Noida, (v) Faridabad, (vi) Ballabhgarh, (vii) Gurgaon, (viii) Bahadurgarh, (ix) Sonapat.

**2.2.2 Other areas of NCR (13 in Nos.)**

- (i) Hapur, (ii) Garmukteshwar, (iii) Meerut, (iv) Baraut, (v) Panipat, (vi) Rohtak, (vii) Jhajjar, (viii) Rewari, (ix) Alwar, (x) Sohna, (xi) Palwal, (xii) Khurja and (xiii) Bulandshahr

**2.2.3 New Development other than given in NCR document**

Thirteen many cities along west and east Expressway - Road system (3.11& 3.12)

**2.2.4 A new Sports City along Yamuna Expressway** in a total area of 200. 0 sq km . consisting of (i) Retail and Recreational Zone, (ii) International Cricket Zone, (iii) The Kove (Residential area), (iv) International Motor racing track, (v) Hockey and Tennis academies, (vi) The Krowns (Residential area), (vii) Commercial and Business Zone, (viii) 18 Hole Golf Course, (ix) Kassia (Residential area), (x) 16.7 Km. long green boulevard, (xi) 80 hect Educational Hub with a University and Medical Centre.

**This entire township will be in between Yamuna Expressway & river Yamuna.**

**2.2.5 Development of Yamuna Expressway up to Jevar**

Master Plan of 1<sup>st</sup> part has been prepared of a total area of 584 sq.km. for the period 2011 – 2031 AD with a provision of 23 residential sectors and 15 industrial sectors along with all required necessary facilities with 25% as green.

It starts from NH-1, cutting across NH-10 then NH-8 and then NH-2. Total length of this corridor is **136 km.** There is a proposal to develop of 13 theme cities along with Kundli Expressway. This will control population of Delhi up to some extent.



**3.2 Eastern Expressway Kundli-Dasna-Palwal Expressway at the Regional Level**

This will start from Kundli (Haryana) at the junction of NH-1; Mavikala (On the road) from Delhi to Baghpat; Duhai on NH-58 (from Delhi to Meerut); Dasna (from Delhi to Hapur on NH-24); Beel Akbarpur (on NH-91) from Ghaziabad to Sikandrabad; Bridge on river Yamuna and Palwal on NH-2.

This Expressway will connect Sonapat in Haryana, Baghpat in UP, Ghaziabad and Gautam Budh Nagar in UP. It will cross river Hindon; Dasna on NH-24; Sikandrabad and Jewar. It needs construction of two bridges on river Yamuna and one on river Hindon. Cost of this is Rs.2700 Crore and in a total length of 135 Km. Progress of planning, development and construction is very very slow.

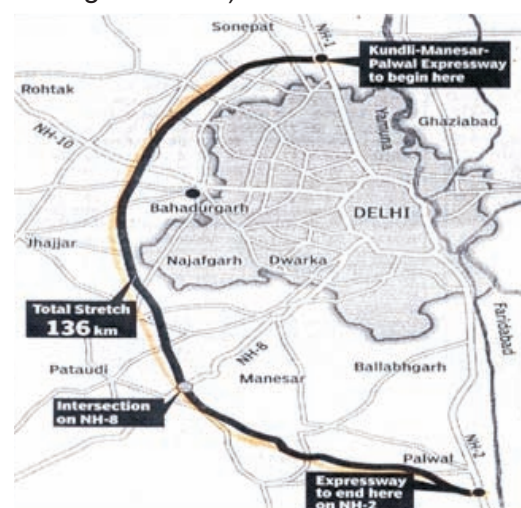
**3.3 New bypasses to decongest. National Highways No.1, 2, 8 & 10**

- (i) UER-I will connect Wazirabad bypass to NH-1, 10 and 8 and will be 57.24 km. long
- (ii) UER-II will connect Wazirabad bypass to NH-1, 10, 8 and 2 and will be 73.7 km long

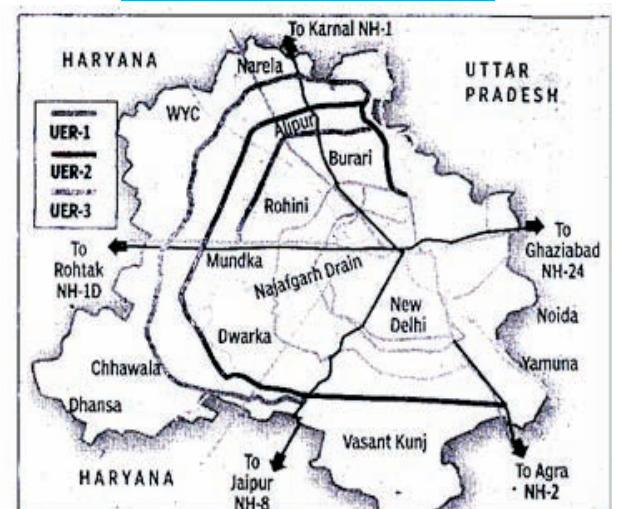
**THESE 60 SETTLEMENTS IN CATEGORY 2.2.1; 2.2.2; 2.2.3; 2.2.4 & 2.2.5 HAVE TO BE MADE ATTRACTIVE BY PROVISIONS OF (I) LARGE RECREATIONAL AREAS, (II) LARGE SOCIAL INSTITUTIONS (EDUCATIONAL, HEALTH AND CULTURAL), (III) ICT INDUSTRY, (IV) GOOD ROAD SYSTEM, (V) METRO IN EACH SETTLEMENT, (VI) ADEQUATE PARKING AREAS & (VII) 'RAILWAY FAST SERVICE' FROM DELHI TO ALL THE SETTLEMENTS HAVE TO BE THERE SO THAT POPULATION LIVE THERE AND DO NOT MIGRATE TO DELHI.**

## 3 INTEGRATION OF ROAD SYSTEM NCR ; CNCR AND NCTD

**3.1 Western Expressway Kundli—Manesar—Palwal Expressway (At the Regional level)**



## DECONGESTING DELHI



(iii) UER-III will provide connectivity from Wazirabad to NH-1 and 10 and will be 20.8 km. long.

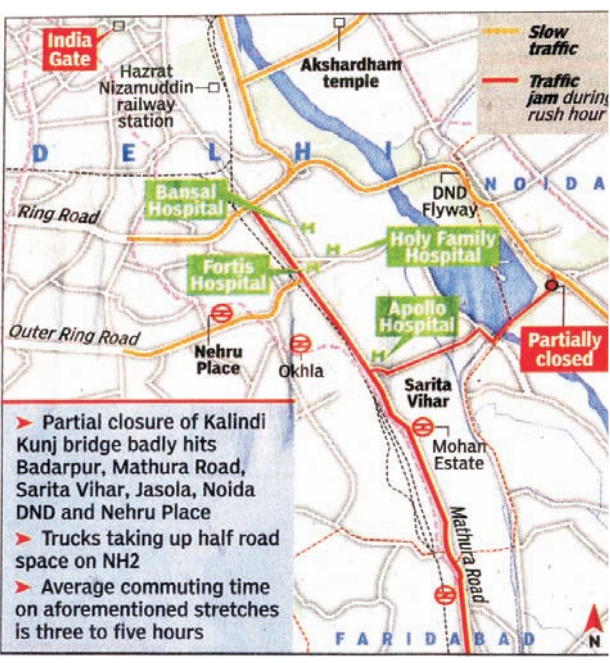
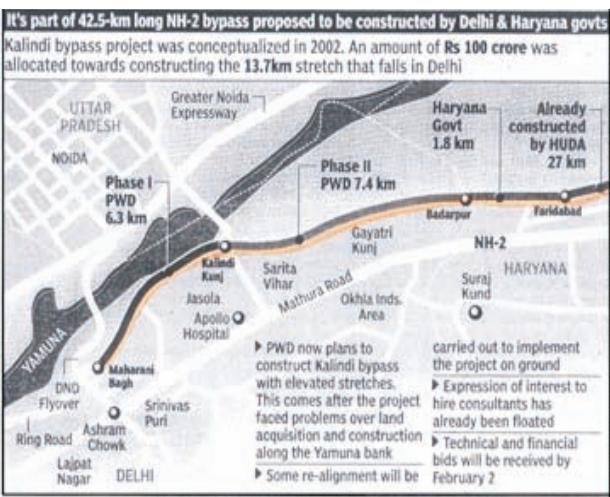
**Total** 151.74 km.

**SO FAR, ALIGNMENT OF THESE 3 UER (I), (II) & (III) ARE IN CONTROVERSY. A RESEARCH HAS TO BE MADE WHETHER THESE SHOULD OR SHOULD NOT BE THERE.**

**3.4 High Relief Road**

It's part of 42.5 km. (6.3+7.4+27.0) long NH-2 bypass proposed to be constructed by Delhi & Haryana Govt.

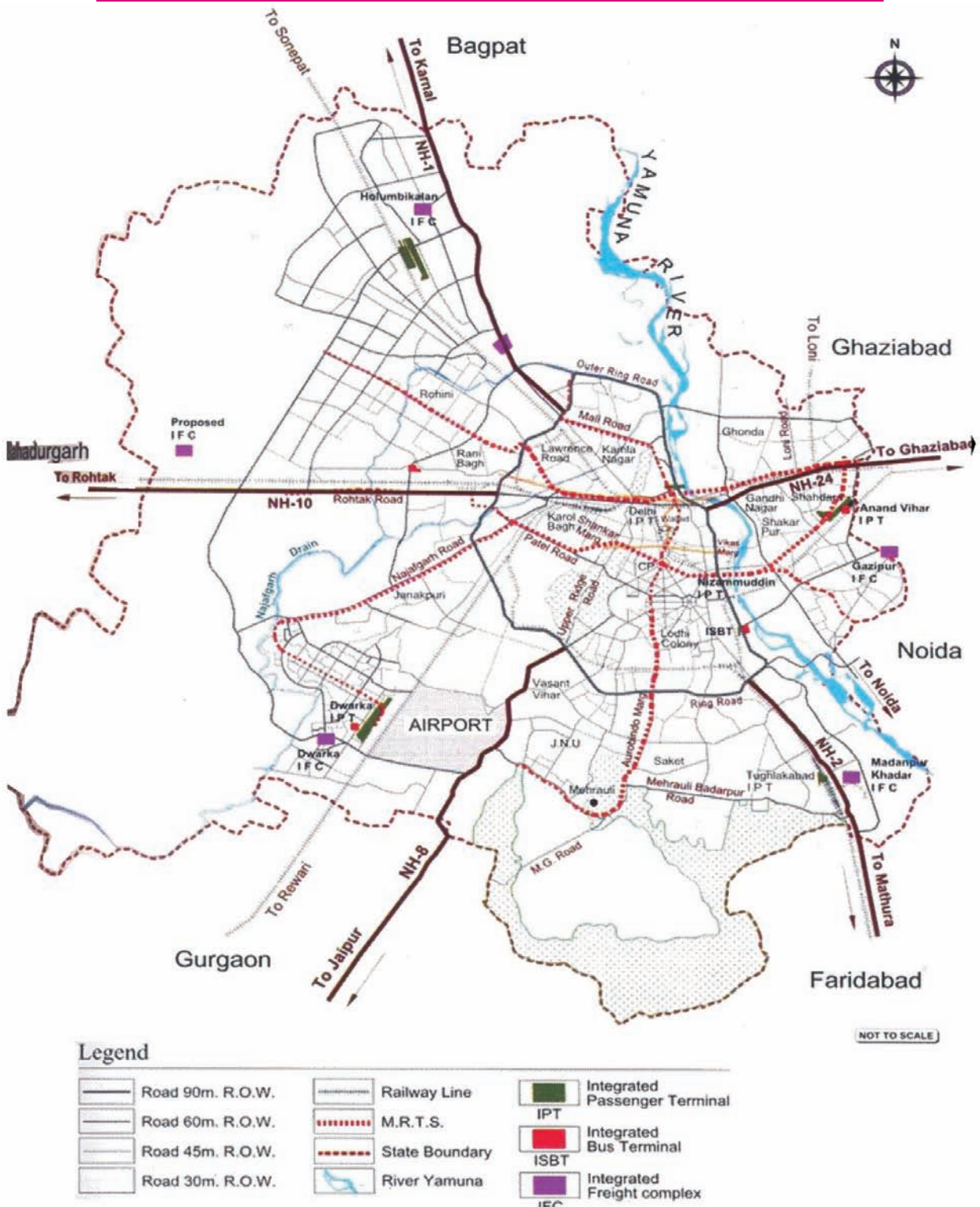
- (i) From Maharani Bagh to Kalinidi Kunj (6.3 km.)
- (ii) From Kalindi Kunj to Badarpur (7.4 km.)
- (iii) From Badarpur to Faridabad (27 km.)



**3.5 Urban Relief Roads (MPD-2021 AD)**

- (i) **Shankar Road** – alternative elevated road may be explored.
- (ii) Vikas Marg
- (iii) Extension of NH-24 to join Mathura Road (near Humayun's Tomb)
  - (i) Prem Bari Pul (Pitampura) to Outer Ring Road along disused Western Yamuna Canal.
  - (ii) Road between Nehru Place and Hotel Park Royal to be extended up to Lotus Temple and towards East of Kailash, if feasible.
  - (iii) Karol Bagh (new Rohtak Road) – alternative alignment by extending Arya Samaj Road through Anand Parbat to connect existing roads leading to Patel Road and Shivaji Marg on ROB or RUB.

**TRANSPORTATION : ROAD, RAIL & MRTS NETWORK**



**Legend**

|                    |                  |                                     |
|--------------------|------------------|-------------------------------------|
| — Road 90m. R.O.W. | — Railway Line   | ■ Integrated Passenger Terminal IPT |
| — Road 60m. R.O.W. | — M.R.T.S.       | ■ Integrated Bus Terminal ISBT      |
| — Road 45m. R.O.W. | — State Boundary | ■ Integrated Freight complex IFC    |
| — Road 30m. R.O.W. | — River Yamuna   |                                     |

Source : Delhi Master Plan (Page no. 147)

- (iv) Along drains passing through Lajpat Nagar, Defence Colony, Sarai Kale Khan, Lodhi Road etc.
- (v) Sarita Vihar (Junction of Mathura Road and Road No.13-A) to Okhla Industrial Areas (road between Ph I and Ph. II to be connected by ROB or RUB). Its plans hve been prepared and given in para 3.3.
- (vi) Elevated road corridor between Connaught Place and East Delhi (Marginal Bundh Road)
- (vii) Missing link and Outer Ring Road from NH-8 to Najafgarh Road

**3.6 ROB, RUB and Cloverleaf at various intersection at all the points, where not there.**

**3.7 Integrated Map of Transportation, Road, Rail and MRTS Network (MPD-2021 AD)**

**3.8 BRT – Long Term Plan of 26 corridors of BRT.**

- (1) Nandnagari – Wazirabad; (2) Punjabi Bagh – Ranhola; (3) Ranhola – Shyam Park; (4) Mathura Road – Kalindi Kunj; (5) Andheraia Mor – Dera Mandi; (6) Andheria

- Mor – Fatehpur Beri; (7) GTB Nagar – Bakhtawarpur; (8) Bakhtawarpur – Narela; (9) Sanoth – Khera Khurd; (10) Najafgarh – Ibrahimpur; (11) Kanjhawala – Bawana; (12) Mundka – Puth Khurd; (13) Najafgarh – Rajokri; (14) Najafgarh – Khaira; (15) Najafgarh – Gopal Nagar; (16) Palam Rly. Station – NH-8; (17) Netaji Subhas Institute of Technology, Dwarka – Dabri Mor; (18) Sankaracharya Chowk – Palam Airport; (19) Chhawal – Dabri Mor; (20) Budh Vihar – Kanjhawala (21) Kondli – Gokulpuri; (22) Moolchand – Jahangirpuri; (23) Shastri Park – Karawalnagar; (24) Jamia Millia – Tilak Nagar; (25) Rajinder Nagar – Pragati Maidan and (26) Nizamuddin – Nand Nagri

**3.9 BRT AT PLUS & MINUS LEVELS**

1. BRT AT MINUS 5.5M LEVEL
2. BRT BELOW AND ABOVE THE NALLAHS. NUMBER OF DRAINS / NALLAHS HAVE BEEN GIVEN UNDER.

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| S.No. | Zone            | Number of drains | Total length of drains (km.) |
|-------|-----------------|------------------|------------------------------|
| 1     | Central         | 41               | 47                           |
| 2     | South           | 127              | 102                          |
| 3     | Sadar Paharganj | 10               | 4.5                          |
| 4     | Karol Bagh      | 47               | 23                           |
| 5     | City Zone       | 10               | 8.6                          |
| 6     | Civil Lines     | 77               | 339                          |
| 7     | Shahdara South  | 174              | 134                          |
| 8     | Shahdara North  | 197              | 135                          |
| 9     | Narela          | 84               | 83                           |
| 10    | Rohini          | 142              | 180                          |
| 11    | West            | 185              | 410                          |
| 12    | Najafgarh       | 202              | 228                          |
|       | <b>Total</b>    | <b>1296</b>      | <b>1694.1</b>                |

Source : (JNURM) City Development Plan Delhi – October, 2006  
(Department of Urban Development Government of Delhi)

#### 4 PARKING PROBLEMS

4.1 Provision of parking norms have been given in the MPD -2021 AD and are as under:

- (i) Residential – 2.0 ECS
- (ii) Commercial – 3.0ECS
- (iii) Manufacturing – 2.0 ECS
- (iv) Government – 1.8 ECS and
- (v) Public and Semi Public facilities – 2.0 ECS

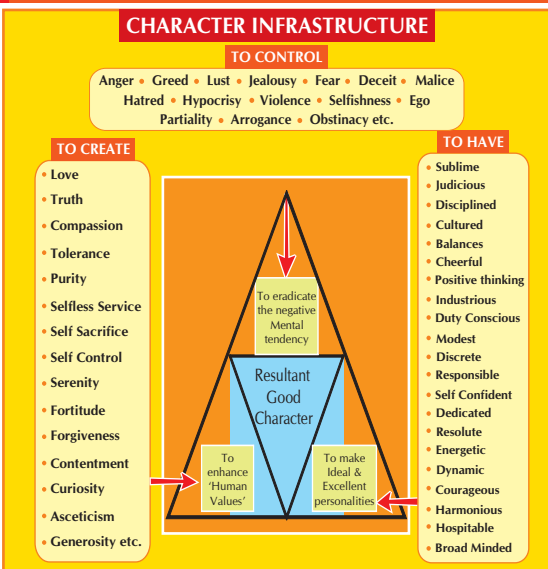
4.2 Space Standards for Car Parking

| TYPE OF PARKING                 | AREA IN SQM. PER ECS |
|---------------------------------|----------------------|
| OPEN                            | 23                   |
| GROUND FLOOR COVERED            | 28                   |
| BASEMENT                        | 32                   |
| MULTI LEVEL WITH RAMPS          | 30                   |
| AUTOMATED MULTILEVEL WITH LIFTS | 16                   |

#### 5 STREET FURNITURE

- (i) Proper signage's at all the intersections
- (ii) Tree Plantation along roads,
- (iii) Dustbins, dhalaos & garbage depot,
- (iv) Street lighting on different roads and special illumination at different intersections,
- (v) Speed breakers, properly painted and with sign boards.

#### 6 CHARACTER INFRASTRUCTURE



#### 7 PROVISION OF TRANSPORT AND CIRCULATION INFRASTRUCTURE AT NCR & CNCR

NATIONAL CAPITAL REGION  
PROPOSED TRANSPORT NETWORK (ROADS) 2021



NOTE: The Alignment of Expressways are indicated. Source: JNURM

NATIONAL CAPITAL REGION PLANNING BOARD  
MAP 6.3

#### NATIONAL CAPITAL REGION

PROPOSED TRANSPORT NETWORK (RAIL) 2021



#### CENTRAL NATIONAL CAPITAL REGION



#### 9 SOME IMPORTANT UPDATE FROM NEWSPAPER'S

##### PWD PROPOSES 8-LANE LINK ROAD IN WEST DELHI



##### MORE RAPID RAIL LINKS UP, HARYANA

##### ADVANTAGE ON TRACK

| Lines (in km)         | Vehicles displaced by 2021 | Fuel saving (mn ltr/yr) | Pollution reduction (tonnes/year) |
|-----------------------|----------------------------|-------------------------|-----------------------------------|
| Delhi-Alwar (180)     | 26,000                     | 142                     | 750                               |
| Delhi-Panipat (111.2) | 15,748                     | 40                      | 214                               |
| Delhi-Meerut (90.2)   | 22,515                     | 29                      | 374                               |

**Total cost of projects (Sept 2011 price) ₹72,000cr**

**New stretches Delhi-Shahdara-Baraut & Delhi-Rohtak-Hisar**

##### DELHI'S FIRST MONORAIL PROJECT PUT ON TRACK



#### 8 8 RAPID RAIL PROJECT

1. Narela-Sonepat and Panipat
2. Nangloi-Bahadurgarh and Rohtak
3. Bijwasan-Gurgaon and Rewari.
4. Sahibabad-Ghaziabad and Meerut.
5. Ghaziabad-Hapur and Khurja.
6. Tilak bridge-Noida and Dadri.
7. Tughlakabad-Ballabgarh and Palwat.
8. Shahdara-Shamli



#### नोएडा में तीन तरफ और दौड़ेगी मेट्रो

##### मेट्रो विस्तार एक नजर में

कालिंदी कुंज से बांटेनिकल गार्डन : किलोमीटर के इस विस्तार को काफी पहले मंजूरी मिल चुकी है। नौ जुलाई को हुई बोर्ड बैठक में पांच सौ करोड़ रुपये डीएमआरसी को देने को मंजूरी दी गई। यह लाइन नोएडा को बांटेनिकल गार्डन मेट्रो स्टेशन से दक्षिणी दिल्ली होते हुए जहांगीपुरी तक जोड़ेगी।



सिटी सेंटर से बोड़ाकी : इसको डीपीआर तैयार है। इस पर लगभग 14 मेट्रो स्टेशन प्रस्तावित है। यह लाइन सिटी सेंटर 51, 50, 49, सेक्टर 77 में प्रस्तावित स्पोर्ट्स सिटी होते हुए, एनईपीजेड फेज दो, सेक्टर 82 होकर सेक्टर 142 में एक्सप्रेस-वे से जुड़ेगी और यहां से परीचोक होती हुआ बोड़ाकी स्टेशन तक जाएगी।

सेक्टर-71 से नोएडा एक्सटेंशन तक : सेक्टर-71 से मेट्रो के संचालन को नोएडा एक्सटेंशन तक ले जाने के लिए नौ जुलाई को हुई बोर्ड बैठक में मंजूरी मिली। नोएडा क्षेत्र में आने वाला खर्च नोएडा प्राधिकरण वहन करेगा। वहीं ग्रेटर नोएडा क्षेत्र में मेट्रो के निर्माण में आने वाले खर्च को ग्रेटर नोएडा प्राधिकरण वहन करेगा। इसकी डीपीआर बनाने को बोर्ड मंजूरी दे चुका है।

सिटी सेंटर से सेक्टर-62 : सात किलोमीटर के इस विस्तार को बोर्ड पहले ही मंजूर कर चुका है। सिटी सेंटर से यह लाइन सेक्टर 34, 52, 71, 61, 60, 59, 64, 62, व 63 को जोड़ते हुए एनएच 24 पर स्थित मॉडल टउन चौकी पर खत्म होगी। इसके लिए संशोधित डीपीआर इस माह के अंत तक मिलेगी। उम्मीद है कि एक माह में इसका निर्माण कार्य शुरू हो जाएगा।

सेक्टर 71 से बोड़ाकी : 28 किलोमीटर लंबी यह लाइन नोएडा एक्सटेंशन होते हुए इकोटेक 12 व 13 होकर सेक्टर 10, 12, 23 होते हुए बोड़ाकी में मिलेगी। सेक्टर 94 से बोड़ाकी : साढ़े दस किलोमीटर लंबी यह लाइन सेक्टर 94 व 124 के पीछे से होते हुए सेक्टर 142 में सिटी सेंटर से बोड़ाकी वाली लाइन से जुड़ेगी।

#### DMRC MAY STEER MONORAIL

##### BACK ON RAIL



The Mumbai monorail is in the trial phase

Initially, Delhi Metro objected to monorail, claiming it couldn't be an alternative to Metro

Metro now says monorail as feeder service is feasible

10.8km-long alignment, based on a RITES study, is from Shastri Park to Trilokpuri

12 stations on the corridor are Shastri Park, Kailash Nagar, Gaudhi Nagar, Taj Enclave, Gaudhi Nagar, Guru Angad Nagar, Scope Tower, Ganesh Nagar, Mother Dairy, Patparganj, Kotla and Trilokpuri

DMRC is undertaking a monorail project in Kozhikode as well as a high-speed rail corridor in Kerala

Project was earlier to be handled by DSIIDC but now may be built by Delhi Metro

Delhi Metro is looking at monorail technology by different companies like Bombardier

# Development of

The River

# Yamuna



## WATER SUPPLY SCENARIO IN 2011

| S.No.        | Source of Raw Water                                                            | Name of The Plant                                 | Installed Capacity in 2011 |
|--------------|--------------------------------------------------------------------------------|---------------------------------------------------|----------------------------|
| 1            | River Yamuna                                                                   | Chandrawal I & II                                 | 90MGD                      |
| 2            | River Yamuna                                                                   | Wazirabad I, II & III                             | 120MGD                     |
| 3            | Bhakra Storage                                                                 | Haiderpur I                                       | 100MGD                     |
| 4            | Yamuna                                                                         | Haiderpur II                                      | 40MGD                      |
| 5            | Bhakra Storage                                                                 | Nangloi                                           | 40MGD                      |
| 6            | Upper Ganga Canal                                                              | Bhagrithi                                         | 100MGD                     |
| 7            | Sub-Surface Wataer                                                             | Ranneywell/ Tubewell                              | 125MGD                     |
| 8            | Upper Ganga Canal                                                              | Sonia Vihar                                       | 140MGD                     |
| 9            | Saving from seepage losses with the construction of new parallel lined channel | Dwarka                                            | 40MGD                      |
| 10           | -do-                                                                           | Bawana                                            | 20MGD                      |
| 11           | -do-                                                                           | Okhla                                             | 20MGD                      |
| 12           |                                                                                | Recycling of wastewater at water treatment plants | 45MGD                      |
| <b>Total</b> |                                                                                |                                                   | <b>940MGD</b>              |

Source MPD 2021 AD annexure a page no. 266



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POLICY/CITY PLANNER

## OBJECTIVES

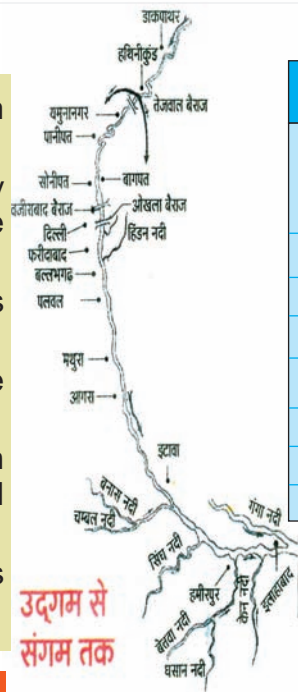
1. Increase quantity of water at-least ten times.
2. To clean water to improve its quality by stopping entry of polluted sewage in the River.
3. To remove sub-standard developments and ban in the future.
4. To develop Indrapratha Pauri to revive the history of Indrapratha Estate.
5. To provide attractive River fronts with recreational facilities, namely lakes and Biodiversity Parks etc.
6. To provide additional traffic corridors along with both the banks of the River.

## PHYSICAL DIMENSIONS OF THE RIVER

1. Length in NCTD 50 kmt. with half in north & the balance in the south of Wazirabad Barrage.
2. Width varies from 1.5 kmt. to 3 kmt.
3. Total area 97sq. kmt.
4. Area under water 16.45 sq. kmt.
5. Dry land including existing structures 80.55 sq. km.
6. Width of Barrages & bridges.
  - (i) Wazirabad barrage - 455 mts.;
  - (ii) ISBT road bridge - 552 mts.;
  - (iii) Old rail cum road bridge - 800 mts.;
  - (iv) Indraprastha barrage- 552 mts.;
  - (v) Nizamuddin railway bridge- 578 mts.;
  - (vi) Nizamuddin road bridge - 549 mts.;
  - (vii) Okhla Weir - 791 mts.;
  - (viii) Okhla barrage - 554 mts.

## PROPOSAL

1. A barrage is proposed to be constructed about **8 km North of Wazirabad Barrage** to control River Yamuna Water
2. **Existing LMB & RMB** be used as Eastern & Western boundary of the new water body/Lake/Green areas
3. Entire area between left & right boundary of the lake will be **full of water with depth between 4 to 5 M** by dragging.
4. In the Northern boundary **Expressway** will be there.
5. Toward Eastern & Western side **new highways** are proposed as a boundary of the scheme.
6. This area would have much **more water**, which can partly be used for surface water and ground water.
7. **Ground water will be used** for by the people of NCTD as well as U.P.
8. It is assumed that U.P. **will handover this part of the land free of cost** or on nominal price @ Rs. 1 per sq. yard
9. Left out portion will be used for (i) Recreational areas; (ii) Biodiversity parks; and (iii) some large **green buildings**



## यमुना का जलग्रहण क्षेत्र

| राज्य                   | जलग्रहण क्षेत्र (वर्ग किमी.) | भागीदारी (% में) |
|-------------------------|------------------------------|------------------|
| उत्तरप्रदेश (उत्तराखंड) | 74208                        | 21.5             |
| हिमाचल प्रदेश           | 5799                         | 1.6              |
| हरियाणा                 | 21265                        | 6.5              |
| राजस्थान                | 102883                       | 29.8             |
| मध्यप्रदेश              | 14028                        | 40.6             |
| दिल्ली                  | 1485                         | 0.4              |

स्रोत : सीपीसीबी, 2006

1982 में दिल्ली को एशियाई खेलों की मेजबानी मिली तो इसके पूर्वी छोर पर त्रिलोकपुरी, खिचड़ीपुर और कल्याणपुरी अस्तित्व में आए। पश्चिमी किनारे पर इंद्रप्रस्थ इंडोर स्टेडियम बना। 1990 तक पूर्वी दिल्ली का लक्ष्मी नगर, पटपडगंज, मयूर विहार और नोएडा इसके किनारे पर बसे।

सत्तर के दशक तक यमुना की लहरें जबर्दस्त हिलोरें मारती थीं। 1978 में बाढ़ ने वजीराबाद को चपेट में ले लिया।

कभी यह लाल किले के पास से गुजरती थी लेकिन बाद में नदी ने रास्ता बदल लिया। जब अंग्रेज आए तो उन्होंने इसकी सहायक -साहिबी नदी' से छेड़छाड़ की। आज इसे जनफगढ़ नाला के नाम से जाना जाता है।

## TO INCREASE THE QUANTITY OF WATER ATLEAST 10 TIMES



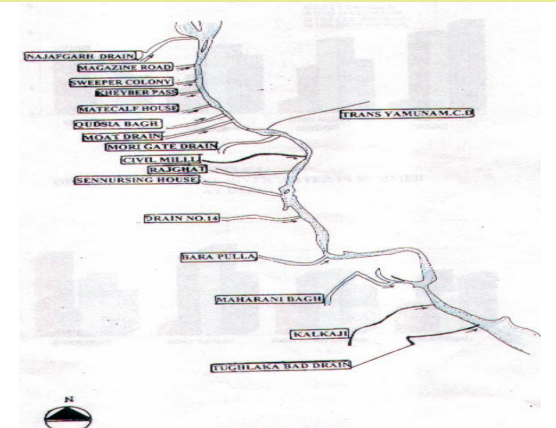
← North

## TO CLEAN WATER TO IMPROVE ITS QUALITY

### PRESENT POSITION

#### MAJOR DRAIN FALLING IN RIVER YAMUNA

1. Practically no drain towards left marginal bund
2. Towards western marginal bund From Wazirabad barrage to Tughalakabad there are 16 drains namely: (i) Najafgarh drain; (ii) Magazine road; (iii) Sweeper colony; (iv) Kheyber pass; (v) Matecalf house; (vi) Qudsia bagh; (vii) Moat drain; (viii) Mori gate drain; (ix) Civil Mill; (x) Rajghat; (xi) Sen Nursing Home; (xii) Drain no. 14; (xiii) Bara Pulla; (xiv) Maharani Bagh; (xv) Kalkaji; (xvi) Tughalakabad drain.



#### 10. QUANTITY OF WATER AT PRESENT & AFTER THE PROPOSAL

##### 10.1. Present Position

At present the quantity of water is in 1645 hect. with a depth between 1.5M to 2.0M. On this basis volume of water would be 1645 hect. x 1.75 M = 2.88 X 10<sup>5</sup> Cubic Meter in the entire River Yamuna in the portion of NCTD.

10.2. Out of this 60 % i.e 1.73 lakh cubic metre is in the north of existing Wazirabad barrage and the balance in the south. **This water quantum in the north is proposed to be increased to 22.55 lakhs cubic meter.**

10.3. Area in the North of Wazirabad barrage is drastically changed by increasing the surface area of water and depth to an average of 4.5 M. Water quantum would be = 5012 hect.( surface area of the new lake ) X4.5 M = 22.55 lakhs cubic meter.

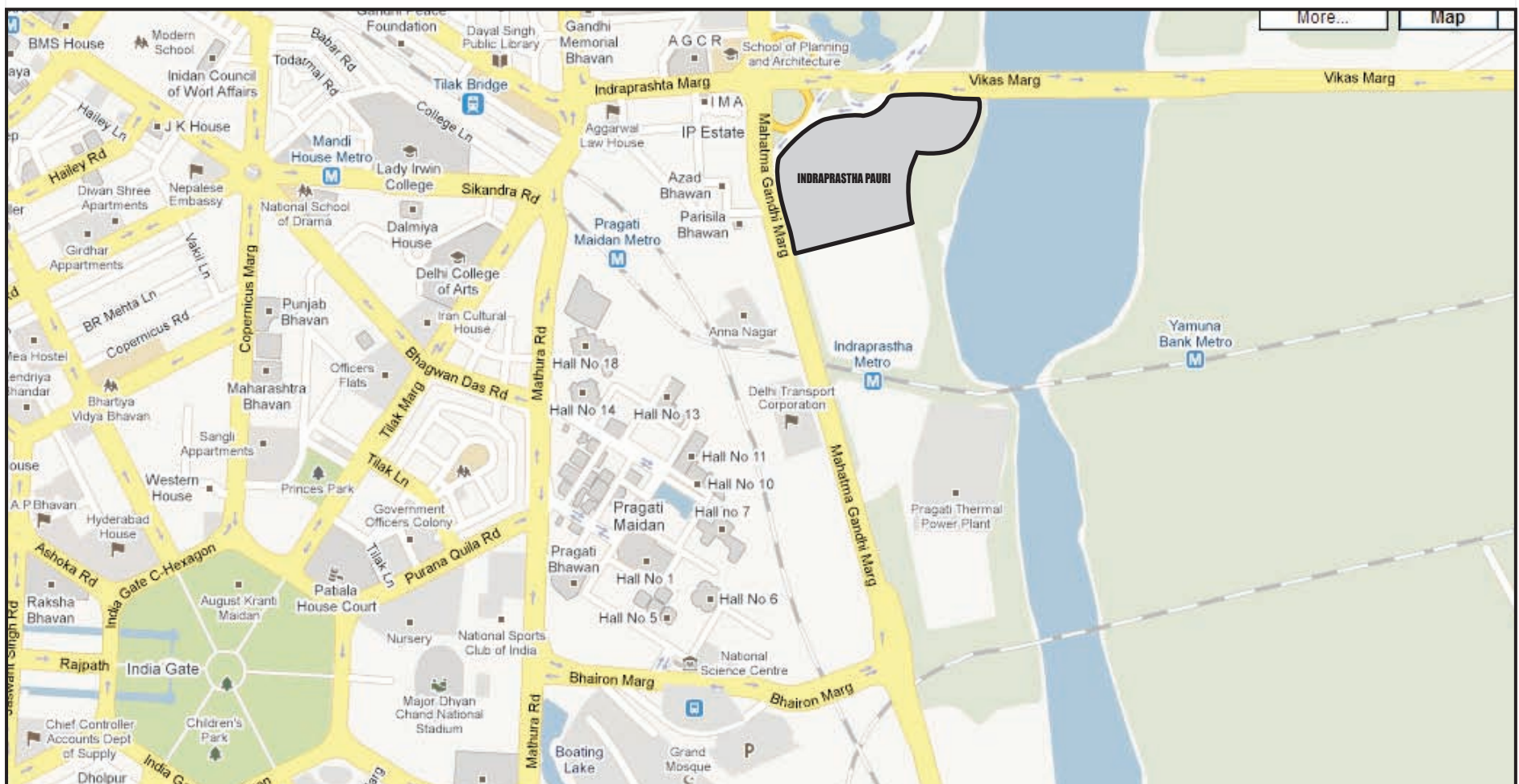
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R.G. GUPTA  
POLICY/CITY PLANNER

# PROPOSAL : To clean the water

- Construct a conveyance sewer of 32 km in length from Wazirabad barrage to somewhere in the South of Okhla Barrage
- This conveyance sewer will be of RCC with a base of 2.5 M and height 3 M on either side of the base. This will be open to sky and structurally will take the load of entire sewage
- Sewage drains will fall into it and the entire affluent will go to 300 MGD sewage treatment plant to be constructed in the South of Okhla. From this new structure filth /sewage will flow into newly constructed sewage treatment plant treat it and then treated water into river Yamuna.
- After treatment of the sewage, the cleaned water will flow into the river Yamuna and filth may be used for manure etc.

## DEVELOPMENT OF INDRAPRASTHA PAURI



### LOCATION

This is in the South of ITO Bridge; In the West of River Water; In the North of old C. Power station and In the East of Mahatma Gandhi Marg(Ring Road)

**AREA** 100 hect.

### INDRAPRASTHA PAURI

- Two types; both paid one of Rs. 5 per head and second of Rs. 50 per head. The amount would be used only for the maintenance of the complex
- One water treatment plant
- Levels of these ghats would be such that the entire area remains dry
- One statue of Lord Shiva and one museum of River Yamuna
- Public conveyances 20 in nos. separate of males and females and equal no. of changing rooms
- Many platforms for yoga etc.

### Public zone (Eastern Bank)

Comprises the ghats including Kudesia ghat. Here, amenities for ghats to be improved along with laying foundation of flower garden and parking spot.



### Recreational (Eastern Bank)

Will have the riverfront walk bisecting through the area. dotted by kiosks, greenways, playground, nursery and wetland like lakes.



### Biodiversity Park (Western Bank)

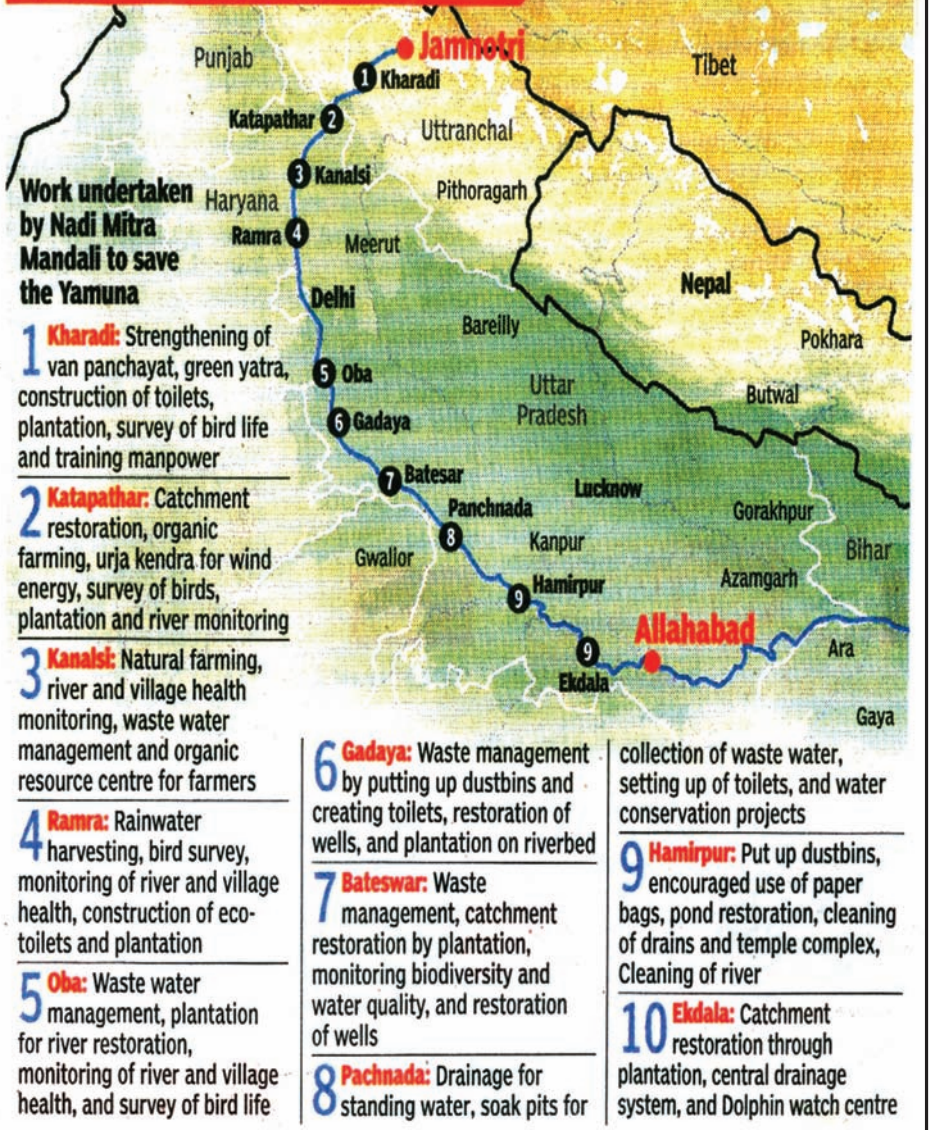
Falls in the protective core zone of the concept plans, where substantial pockets of undisturbed land would be developed as a biodiversity park.



## Fact about Yamuna

- There are 17 drains entering Yamuna in Delhi and almost 3,500 million liter of waste water enters Yamuna everyday without any treatment.
- Delhi generates about 3,267 million litres per day (mld) of sewage while the city's installed waste water treatment capacity is only 2,330 mld. More than 937 mld of waste is not treated.

## MAKE IT CLEAN



## PROPOSED LANDUSE BREAK-UP OF ENTIRE COMPLEX

| Use                    | Area in Hect. |             |            |            | Total        | % age        |
|------------------------|---------------|-------------|------------|------------|--------------|--------------|
|                        | A             | B           | C          | D          |              |              |
| Recreational           | 1274          | 4506        | 506        | 100        | 6296         |              |
| Residential            | 140           | -           |            | 100        | 240          |              |
| Commercial             | 127           | -           |            | 31         | 158          |              |
| Utilities & services   | 125           | -           |            | 50         | 175          |              |
| Institutional          | 155           | -           |            | 150        | 305          |              |
| High-tech working area | -             | -           |            | 100        | 100          |              |
| <b>Total</b>           | <b>1731</b>   | <b>4506</b> | <b>506</b> | <b>531</b> | <b>7274</b>  | <b>100.0</b> |
| <b>%age</b>            | <b>23.8</b>   | <b>61.9</b> | <b>6.9</b> | <b>7.4</b> | <b>100.0</b> |              |

Source : Annexure -1 MPD-2021 AD

## TOTAL COST OF DEVELOPMENT OF THE PROJECT : (In Rs. Lakh)

|        |                                                                         |                                      |
|--------|-------------------------------------------------------------------------|--------------------------------------|
| (i)    | Cost of acquisition / transfer of land                                  | 29,100                               |
| (ii)   | Cost of trunk circulation system                                        | 15,375                               |
| (iii)  | Cost of general filling in the ground                                   | 22,670                               |
| (iv)   | Cost of development of land                                             | 52,010                               |
|        | <b>Total =</b>                                                          | <b>119,095</b>                       |
| (v)    | Water pondage & Lakes                                                   | 15,000                               |
| (vi)   | Renovation of Ghats                                                     | 6,500                                |
|        | (a) North of Wazirabad                                                  | 1000                                 |
|        | (b) Nigam Bodh Ghat                                                     | 500                                  |
|        | (c) Redevelopment of existing structures & ghats                        | 5000                                 |
| (vii)  | Conveyance System                                                       | 25,000                               |
| (viii) | Pumping & Treatment Works in south of Nizamuddin bridge                 | 45,000                               |
| (ix)   | Pumping & Treatment Works at the mouth of supplementary Najafgarh drain | 35,000                               |
| (x)    | Water treatment plant/plants                                            |                                      |
| (xi)   | Rehabilitation of jhuggies/settlement                                   | 10,000                               |
|        | <b>Grand Total</b>                                                      | <b>280,595 lakhs or Rs. 2806 cr.</b> |

Source : Annexure -1 MPD-2021 AD