

Planning Must 8

NEW DELHI

APRIL 2011



TRAFFIC & TRANSPORTATION MOST ESSENTIAL REQUIREMENT OF DELHI



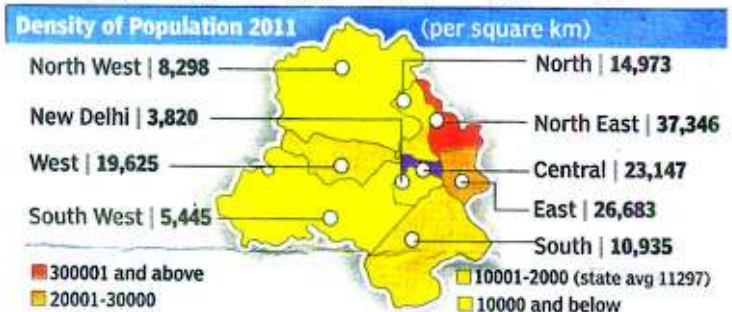
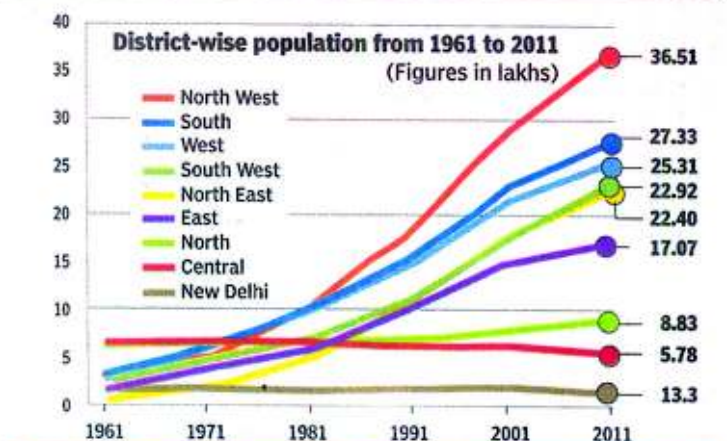
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1 STATUS OF POPULATION

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 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 & NCTD

2.1 NCTD – DELHI (with a population of 16.8M in a total area of 1487 sq.km. with 86.3 literacy rate)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 9779 lakh sq.m. This needs total parking 19558 lakhs ECS.

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

2.2.1 Central Areas of NCR (9 in Nos.)

(i) Loni, (ii) Ghaziabad, (iii) Noida, (iv) Greater Noida, (v) Faridabad, (vi) Ballabgarh, (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 Jevaur

Master Plan of 1st 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.

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.

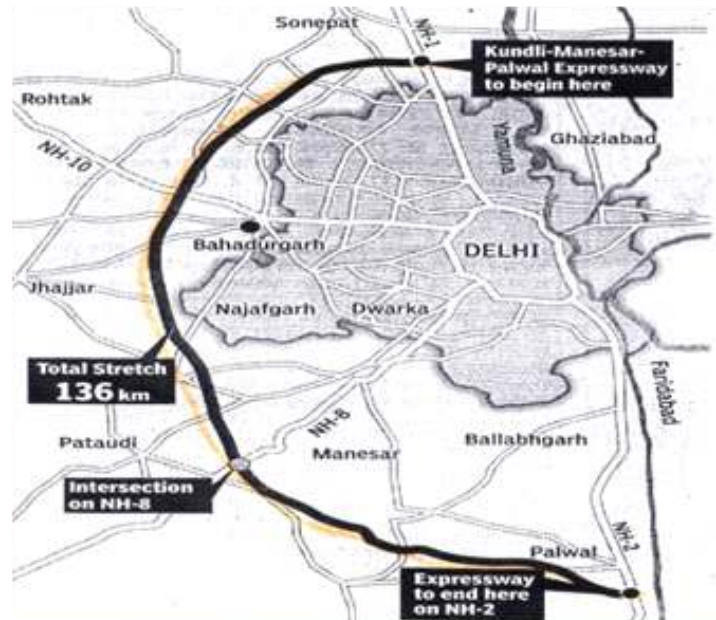
3 ROAD SYSTEM

3.1 Western & Eastern Expressway

3.1.1 Kundli-Manesar-Palwal Expressway

(At the Regional level)

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 .



CREATING A GLOBAL CORRIDOR

3.1.2 Kundli-Dasna-Palwal Expressway (Eastern side) 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.



3.2 New bypasses in Delhi to decongest it involving 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
 - iii. UER-III will provide connectivity from Wazirabad to NH-1 and 10 and will be 20.8 km. long.
- Total 151.74 km.

DECONGESTING DELHI

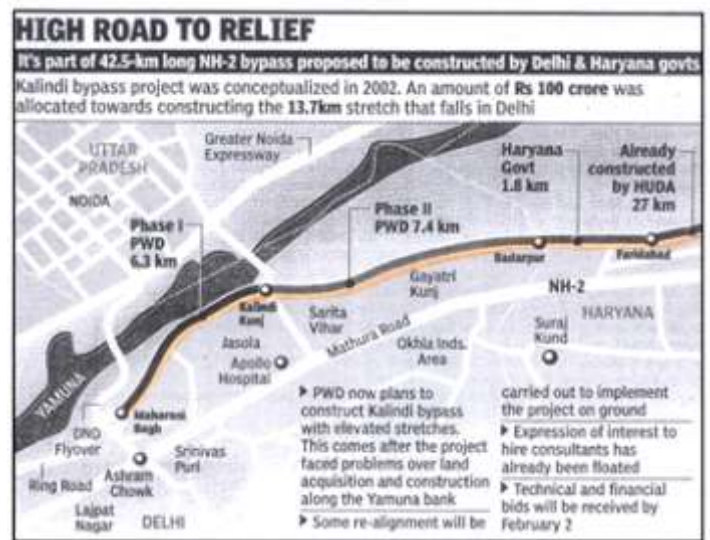


SO FAR, ALIGNMENT OF THESE 3 UER (I), (II) & (III) ARE IN CONTROVERSY. A RESEARCH HAS TO BE MADE WHETHER THESE SHOULD OR SHOULD NOT BE THERE.

3.3 High Road to Relief

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.)



3.4 Jewar – Description given in Para 2

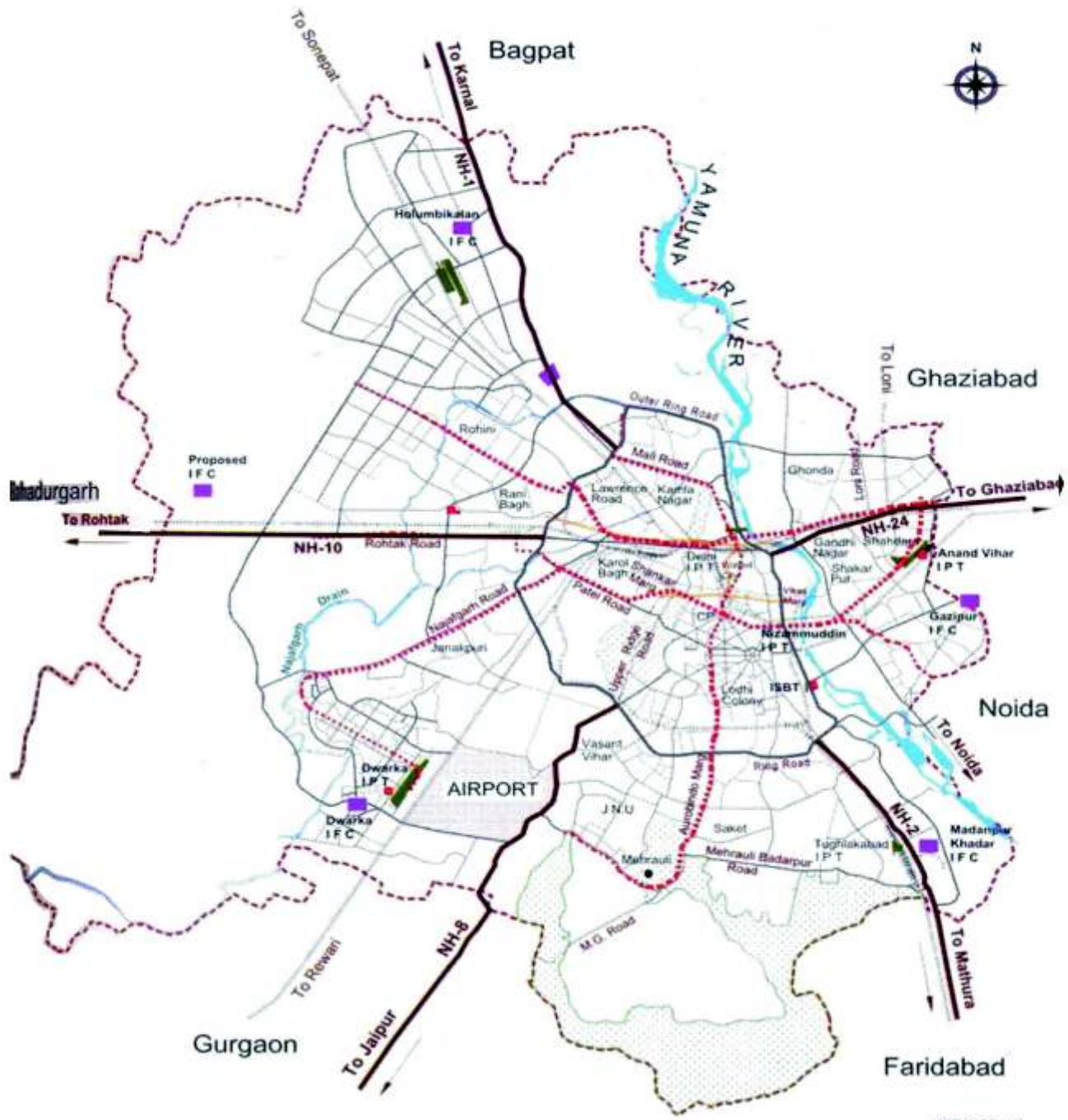
3.5 A new Sports City along Yamuna Expressway Sports (Description given in Para 2)

3.6 Ten Urban Relief Road (MPD-2021 AD) - All are costly proposal, but have to be taken care.

- 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.
- 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

- 3.7 ROB, RUB and Cloverleaf at various intersection at all the points, where not there.
- 3.8 Integrated Map of Transportation, Road, Rail and MRTS Network (MPD-2021 AD)

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)

3.9 BRT – Long Term Plan of March, 2008 of Delhi Govt. to have 26 corridors of BRT names given under:

- (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

3.10 **SO FAR, BRT IS NOT SUCCESSFUL AND IT CREATS HURDLES IN THE MOVEMENT OF PASSENGERS & VEHICLES. ALTERNATIVES CAN BE AS UNDER:**

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

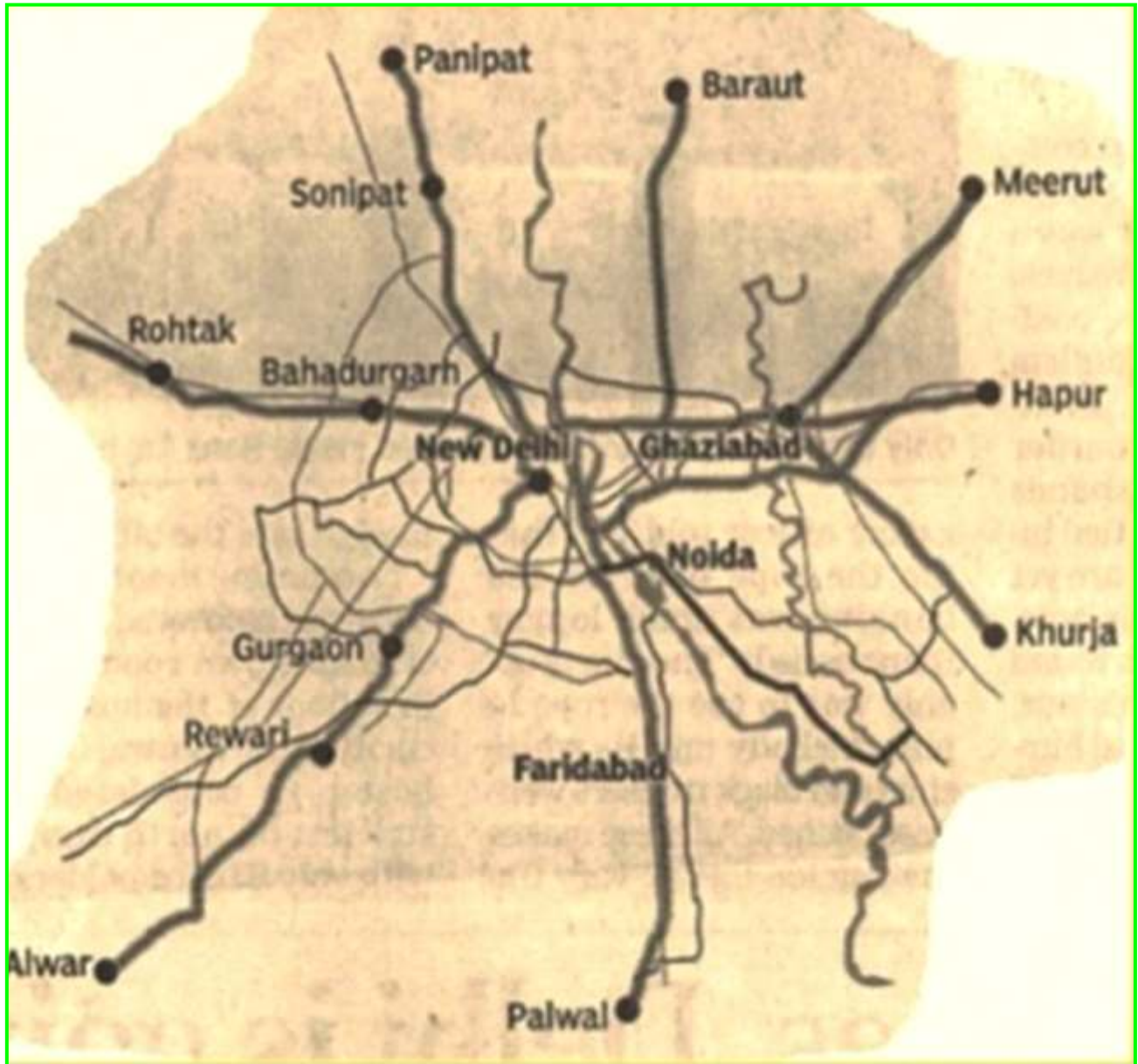
S.No.	Zone	Number of drains	Total length of drains (km.)
1	Central	41	47
2	South	127	102
3	Sadar Paharganj	10	4.5
4	Karol Bagh	47	23
5	City Zone	10	8.6
6	Civil Lines	77	339
7	Shahdara South	174	134
8	Shahdara North	197	135
9	Narela	84	83
10	Rohini	142	180
11	West	185	410
12	Najafgarh	202	228
	Total	1296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

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

4 RAILWAYS

At present, there are 43 railway stations in Delhi. Total passengers catered to these stations in 2001 were 12.8 lakh per day including about 9.06 lakhs commuters. Out of these 43 stations; four are main with passenger per day more than one lakh. These are (i) Delhi Main Junction were 2.7 lakhs; New Delhi Railway Station – 3.19 lakhs; Nizamuddin Railway Station – 1.28 lakhs and Sadar Bazar – one lakh.

EIGHT RAPID RAIL PROJECTS PLANNED



5 MASS RAPID TRANSIT SYSTEM (EXTRACT TAKEN FROM MPD-2021 AD.)

5.1 Delhi Metro Phase-I = 65.10 Km.

Corridor (Length in Km.)

Line – 1 Shahdara – Rithala - 22.0; Line -2 Central Secretariat - 11.0; Line –

3 Barakhamba Road – Connaught Place - Dwarka - 22.8; Barakhamba Road - 2.8

Indraprastha - 6.5 Total = 65.10 km.

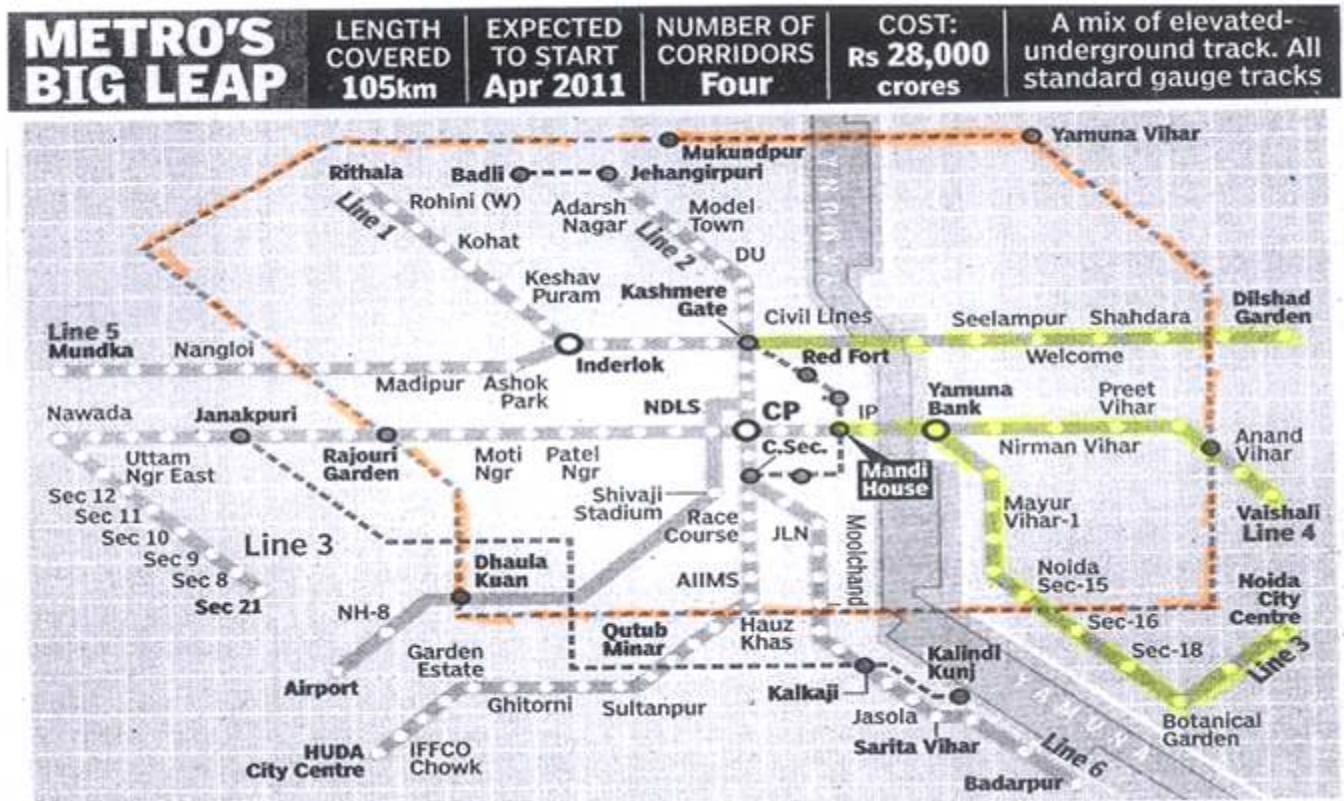
5.2 Delhi Metro Phase-II = 122.12 Km.

Corridor (Length in Km.)

Vishwavidyalaya-Jahangir Puri - 6.36; Central Secretariat-Qutab Minar - 11.76; Shahdara-Dilshad Garden - 3.09; Indraparastha-New Ashok Nagar - 8.07; Yamuna Bank-Anand Vihar ISBT- 6.17; Kirti Nagar-Mundka - 18.46; Dwarka Sec.9-21 - 2.50; Qutab Minar-Arjan Garh - 8.70; Central Secretariat-Badarpur - 20.16; Airport Express Line -18.80; Dwarka Sec.9-Airport - 4.00; Arjan Garh-Sushantlok (Gurgaon) -7.05; Delhi Border Sec.32 - 7.00 Total = 122.12

5.3 DELHI METRO PHASE-III

Yamuna Vihar – Mukandpur Corridor to be Longest at 55.9 km



Corridor 1: 56 Km. Yamuna Vihar – Mukundpur (Longest line once completed)

Major stations : Mukundpur-Rajouri Garden (Interchange station) – Dhaula Kuan-Anand Vihar (Interchange station) – Yamuna Vihar

Corridor 2: 33 Km (Kalindi Kunj-Janakpuri (W))

Major stations : Janakpuri (West)-Munirka-Kalkaji (Interchange station) – Kalindi Kunj). The line expected to extend to Noida (Botanical Garden) thereafter.

Corridor 3: 9.7 Km. C Sec.-Kashmere Gate

Major stations: CTST-Mandi House (Interchange station) – ITO – Delhi Gate – Kashmere Gate (Interchange station) – Basically extension of line 6 (C Sec. –Badarpur)

Corridor 4: 5.4 Km. Jahangirpuri-Badli

Major stations: Jahangirpuri-Badli Extension of line 2 (Jahangirpuri-HUDA city centre)

5.4 Metro Phase-IV – Details have yet to be worked out.

6 CONFLICTING/DISTURBING LAND USE / ACTIVITIES ALONG ROADS

- 6.1** Declaration of most of the roads & streets as commercial should be avoided and can be controlled if Metro City Centre, Connaught Place & Extension, District Centres, Sub Central Business Districts, Community Centres, Local Shopping Centres, Convenience Shopping Centres, Commercial Centres in Urban extensions, Hotels, Service markets, Informal Commercial areas are properly developed with parking and used as shown in the plans not only in NCTD but in all the settlements of NCR as details given earlier.
- 6.2** All the polluting, noxious and nuisance industries are shifted from Delhi to different parts of other settlements of other NCR or otherwise.
- 6.3** Parking is the biggest problems along all the street / roads of Delhi. Total required parking space is 19558 lakhs ECS; out of this hardly 20% will be available; therefore, make parking
- (i) Below all the parks,
 - (ii) Below playgrounds,
 - (iii) Available parking spaces,
 - (iv) Above the Nallah.
- 6.4** Planning, Development, Construction, Management and Maintenance should be in public private sector with proper coordination, integration, evaluation and monitoring.

7 PARKING THE BIGGEST CONSTRAINT

7.1 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

7.2 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

On this basis 19558 lakhs ECS is required. This should be taken by Public and Private Sector.

8 STREET FURNITURE

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

9 CHARACTER INFRASTRUCTUR

CHARACTER INFRASTRUCTURE

TO CONTROL

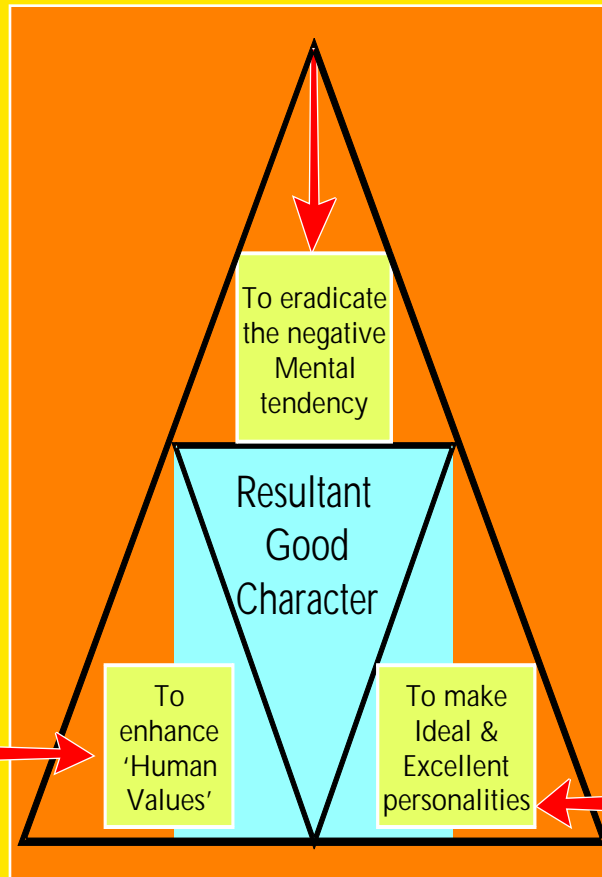
Anger • Greed • Lust • Jealousy • Fear • Deceit • Malice
Hatred • Hypocrisy • Violence • Selfishness • Ego
Partiality • Arrogance • Obstinacy etc.

TO CREATE

- Love
- Truth
- Compassion
- Tolerance
- Purity
- Selfless Service
- Self Sacrifice
- Self Control
- Serenity
- Fortitude
- Forgiveness
- Contentment
- Curiosity
- Asceticism
- Generosity etc.

TO HAVE

- Sublime
- Judicious
- Disciplined
- Cultured
- Balances
- Cheerful
- Positive thinking
- Industrious
- Duty Conscious
- Modest
- Discrete
- Responsible
- Self Confident
- Dedicated
- Resolute
- Energetic
- Dynamic
- Courageous
- Harmonious
- Hospitable
- Broad Minded



10 PHYSICAL INFRASTRUCTURE INDUCTS

The subject of Physical Infrastructure (Water, Sewerage, Drainage, Power & Tele-communication) inducts is being discussed since 1982 in Delhi Administration and DDA. So far, solution is not there.

- (i) In a duct below Central Verge with clear height of 1.6M, water, power, drainage and tele-communication lines can be there.
- (ii) Sewerage has to be separately and not in the above duct.

11 COORDINATION, INTEGRATION, EVALUATION AND MONITORING INCLUDING WITH POLICE

11.1 Public Sector (i. MOUD, ii. Delhi Govt., iii. DDA, iv. MCD, v. NDMC, vi. Cantonment Board, vii. Railways and viii. other Govt. Deptt.)

11.2 Corporate Sector, Semi Govt. bodies and NGO.

11.3 Private Sector – individuals

The entire physical, financial and time planning have to be coordinated, integrated, evaluated and monitored.

12 PLANNING (PHYSICAL, FINANCIAL & TIME)

12.1 Physical Planning

- (i) Residential, commercial, institutional, public and semi public buildings.
- (ii) Circulation via roads, railways, urban rail (Metro) and airways.
- (iii) Physical infrastructure ; water, sewerage, drainage, power and Tele-communication services.
- (iv) Social infrastructure; education, health, security, safety, justice, recreation and shelter.
- (vi) Economic infrastructure, i.e. employment centres and work places in commercial and industrial estates.
- (vii) Landscape plans
- (viii) Estimates of planning, development and construction,
- (ix) Project Management; Pert Chart, Critical Path Method (CPM), Linear Programming, Dynamic Programming.
- (x) Creation of non-govt. organizations and Cooperative House Building Societies.

12.2 Financial Planning

Though it is difficult, to quantify financial dimensions of all urban planning components of the project yet to the extent possible, these are listed below along with the source of funds.

- (i) Trunk physical infrastructure – Central Govt. & NCTD
- (ii) Master Plan roads (a) National Highways – Central Sector Funds, (b) Roads with r/w of 30 mt. and above – Plan funds of Govt. of NCTD.
- (iii) Urban rail (Metro) – Special funds from Railways, Govt. of NCTD and private funds.
- (iv) Development of sites for social infrastructure at Master Plan level
- (v) Development of large recreational areas – by special funds.
- (vi) Peripheral physical infrastructure i.e. water, sewerage, drainage and power – by DDA with the help of funds of beneficiaries and cross subsidies.

- (vii) Development of sites for social infrastructure at zonal plan level with the help of funds of beneficiaries and cross subsidy.
- (viii) Development of sites for neighbourhood parks, playgrounds and open spaces.
- (ix) Construction of buildings for social infrastructure i.e. of schools, health centres, community halls, library, dispensary – Plan funds of Govt. of NCTD and Private funds.
- (x) Internal physical infrastructure i.e. water, sewerage, drainage, power by the concerned department agencies.

12.3 Time Planning

- (i) Detailed comprehensive planning – weekly plans
- (ii) Short Term Planning
- (iii) Medium Term Planning
- (iv) Long Term Planning

13 CONCLUSIONS

- 1 Prepare plans (Physical, Financial & Time) of Delhi for a population of 23M to be achieved 2021 AD.
- 2 Along with planning of Delhi prepare outlines plans of all settlements in central areas of NCR and NCR with the help of NCR Planning Board.
- 3 Main Traffic & Transportation proposals
 - (a) Kundli-Manesar-Palwal Expressway
 - (b) New bypasses in Delhi to decongest Delhi
 - (c) High Road Relief from Maharani Bagh to Kalindi Kunj
 - (d) 11 Urban Relief Roads
 - (e) ROB, RUB and Cloverleaf at required inter change points
 - (f) BRT at minus level, above nallahs and below nallahs
- 4 Railways
- 5 Eight Rapid Rail Projects
- 6 Metro Phase-III and Phase-IV
- 7 To deal with conflicting and disturbing land uses / activities along roads
- 8 To provide parking wherever possible
- 9 Street furniture and signage's
- 10 Continuous provision of Character Infrastructure
- 11 Physical Infrastructure Inducts
- 12 Coordination, integration, evaluation and monitoring including with Police

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