

PARKING DEMAND MANAGEMENT STUDY FOR CENTRAL DELHI

**PARKING REFORMS FOR A LIVEABLE CITY
CSE, AUGUST 17, 2011**



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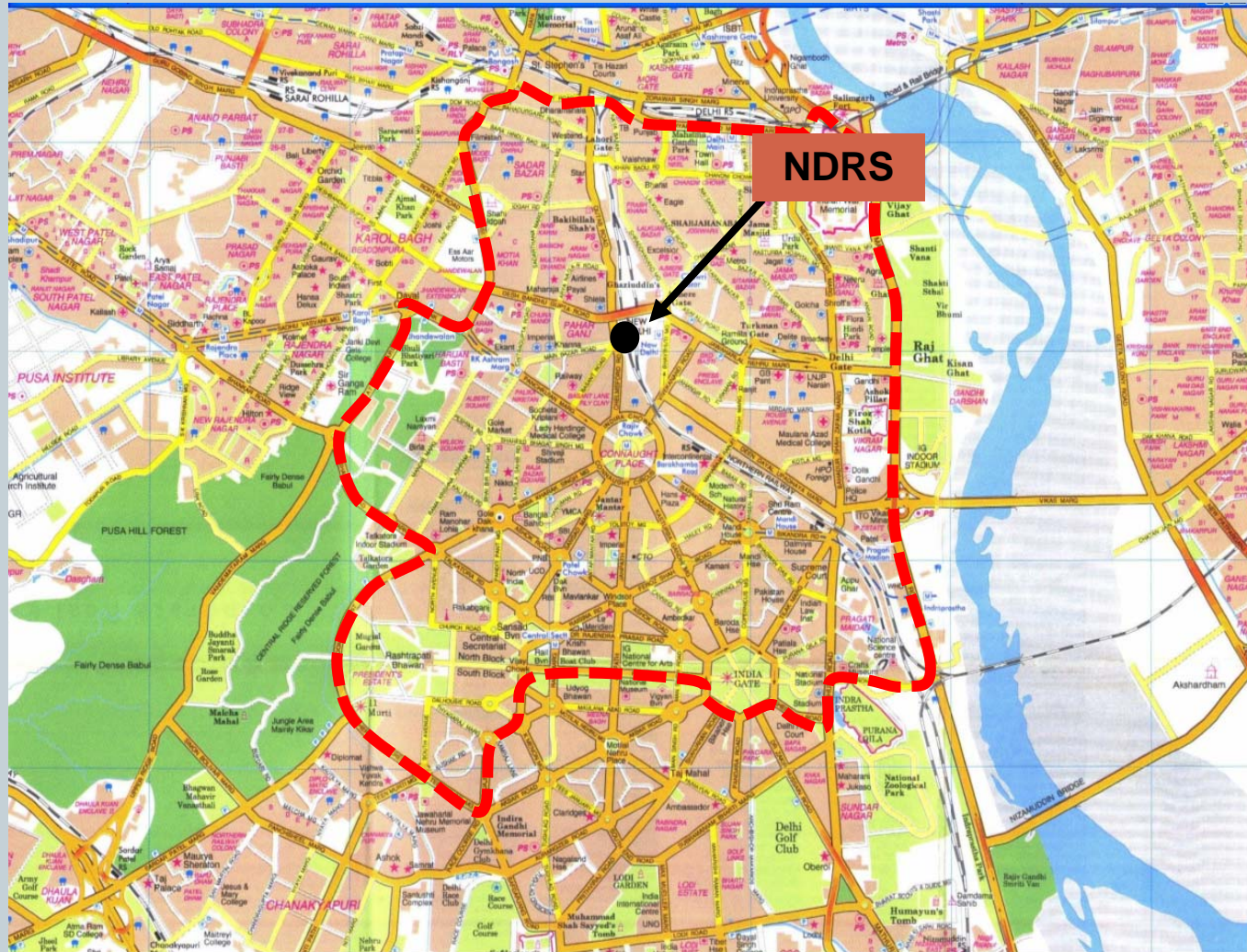
STUDY BACKGROUND

- ❑ Indian Railways plans to redevelop New Delhi Railway Station as a World Class Station
- ❑ Project to be financed by leveraging commercial space. Total station area to be developed 9.7 lakh sq mt including 4.6 lakh sqm commercial.
- ❑ Station being planned for 4 Lakh daily passengers
- ❑ NDRS is in close proximity of CBD of Delhi which is already congested.
- ❑ Northern Railway has taken up the Study for preparation of plans for traffic circulation, transport infrastructure, parking and pedestrian facilities for area around NDRS

STUDY BACKGROUND

- ❑ To assess the impact of NDRS redevelopment on parking in its influence area, parking demand management strategies were studied with emphasis on:
 - ***Specific Parking Norms For Central Areas*** by correlating with availability of public transport
 - ***Use Of Fiscal Instruments*** like pricing & congestion charges
 - ***Park & Ride Facilities*** with integration of private, IPT modes and mass transport systems

STUDY AREA



MASS TRANSIT IN THE STUDY AREA

System / Corridor		Corridor length	Length in Study Area	Status
METRO Phase-I & II				
1	Jahangirpuri – K Gate – CP – C. Sec	11	6.3	Operational
2	Yamuna Bank – CP – Dwarka	32	5.6	Operational
3	Central Sectt. - Badarpur	20	1.6	Operational
4	Central Sectt. – AllMS – Gurgaon	25	0.7	Operational
5	New Delhi Railway Station – I.G.I Airport	19	3.75	Operational
METRO Phase-III				
6	C.Sec- Delhi Gate- Kashmere gate	7	7.2	by 2016
	TOTAL	114	25.15	
LRT				
1	Kondli – Delhi Gate-Rohini Sector 21	40	5.1	by 2016
	TOTAL	154	30.25	

AVAILABILITY OF RAIL BASED MASS TRANSIT SYSTEM

Mass Transit Network Length Availability/ Million population:

- ❑ Study Area : 27.2km
- ❑ Hong Kong: 32km
- ❑ Singapore : 31km

BUS TRANSPORT SYSTEM IN STUDY AREA

- HAS VERY GOOD BUS CONNECTIVITY**
- SERVED BY 197 BUS ROUTES WITH 1355 BUSES**
- IN ADDITION TO CONVENTIONAL BUS SYSTEM, 3 CORRIDORS OF BRT SYSTEM ARE ALSO PLANNED - OF WHICH 17 KM FALL IN STUDY AREA**

PUBLIC TRANSPORT ACCESSIBILITY LEVEL (PTAL'S)

- ❑ Most of the cities are controlling the parking supply by way of providing parking norms in relation to the public transport accessibility index of the area.
- ❑ PTALs are a detailed and accurate measure of the accessibility of a point to the public transport network, taking into account walk access time and service availability.
- ❑ The method measures the density of the public transport network at a particular point.
- ❑ PTAL calculation assign a Level of between 1a, representing very low public transport accessibility & 6b, giving very high public transport accessibility, to any given site

PTAL CALCULATION FOR STUDY AREA



- ❑ Study area divided into 9 internal & 7 external zones
- ❑ Path of all bus routes and metro/ LRT mapped using GIS platform
- ❑ All bus stops & terminals, metro / LRT stations also mapped
- ❑ Data on no of buses on each route and frequency of services on each route was collected & utilized to calculate PTAL

PUBLIC TRANSPORT ACCESSIBILITY LEVEL (PTAL'S)

Zone	Bus	Metro	Total	PTALs
No.	AI	AI	B + M	Range
1	36.57	6.26	42.84	6b
2	14.52	3.75	18.27	4
3	17.95	0	17.95	4
4	4.24	0	4.24	1b
5	7.90	5.56	13.46	3
6	15.04	1.96	17.00	4
7	29.31	4.50	33.81	6a
8	28.73	4.34	33.07	6a
9	33.49	3.15	36.64	6a

- ZONE 1 WHERE NDRS IS SITUATED HAS BEST LEVEL OF PUBLIC TRANSPORT ACCESSIBILITY**

PARKING NORMS AS PER MPD-2021

LAND USE	ECS/100 Sq Mt of Floor Area as per MPD 2021
Commercial	3
Residential	2
Government	1.8
Manufacturing	2.0
Public and Semi Public	2.0

- ❑ PARKING STUDIES BY NDMC FOR MULTILEVEL PARKING AT K.G MARG AND BABA KHARAK SINGH MARG HAVE SHOWN THAT ATTRACTION RATES ARE **2.13 ECS PER 100 SQ MT OF COMMERCIAL SPACE** IN K.G MARG AREA & **1.70 ECS PER 100 SQ MTS OF COMMERCIAL SPACE** IN BABA KHARAK SINGH MARG AREA.

PARKING NORMS IN INDIAN AND INTERNATIONAL CITIES

PARKING NORMS FOR COMMERCIAL AREA - A COMPARATIVE STATEMENT

CITY	PARKING REQUIREMENT PER 100 sq m OF GFA
DELHI	3
CHENNAI	1.7
NOIDA	1.1
GREATER MUMBAI	1
CIDCO	1.25
THANE	1
MIRA BHAYANDER	0.33
VASAI	0.25
WITH HIGHER PUBLIC TRANSPORT ACCESSIBILITY LEVEL (PTAL)	
LONDON	Av 0.25 (0 – 0.33)
FRANKFURT	0.33
ROTTERDAM	MINIMUM
ZURICH	0.28

PARKING REQUIREMENTS AT NDRS

LAND USE	NORMS (ECS/100 Sq Mt)	AREA TO BE DEVELOPED (Sq Mt)	PARKING REQUIRED(ECS)
Retail	3	185000	5550
Business & Commercial	3	206000	6180
Hotels	2	70000	1400
TOTAL COMMERCIAL		461,000	13130
Government offices	1.8	74000	1332
Residential	2	40000	800
Social Infrastructure	2	35000	700
Terminal		360000	5000
Total		970000	20962

- ❑ Supply of 21000 ECS will choke the Connaught Place and NDRS area

PROPOSAL FOR PARKING NORMS

- ❑ The implementation of measures to improve modal share in favour of public transport should go hand in hand with reduction in parking norms.
- ❑ Easy availability of ample parking space would be a major obstruction in achieving the desired modal split.
- ❑ Existing parking norms as per MPD-2021 are very high and are same for all areas of the city irrespective of public transport supply and encourage greater use of personalized vehicles in city.

THANK YOU

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