



JAIPUR METRO



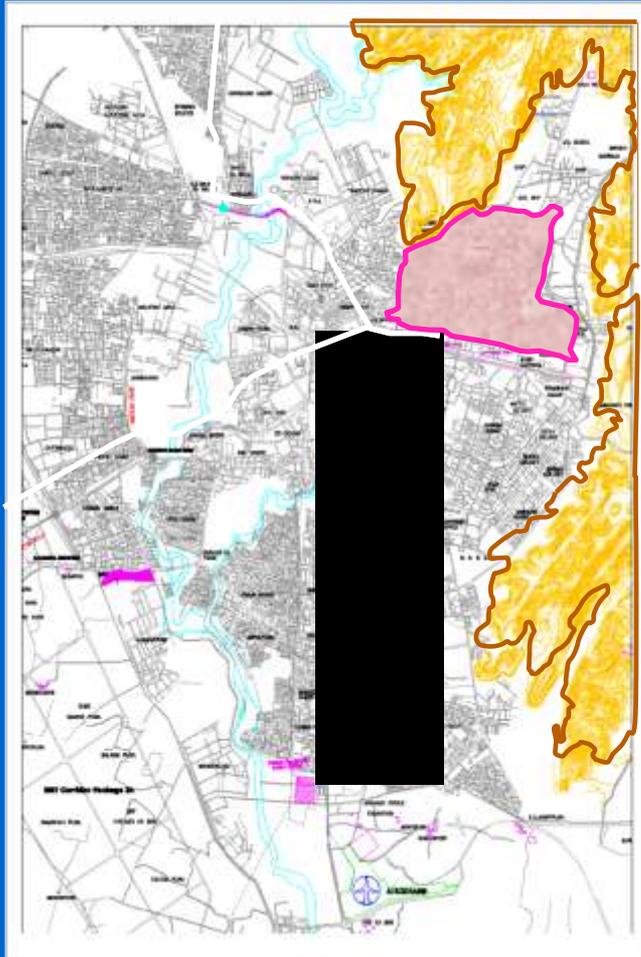
JAIPUR introduction.....



- Jaipur , a bustling metropolis of 3.1 million people



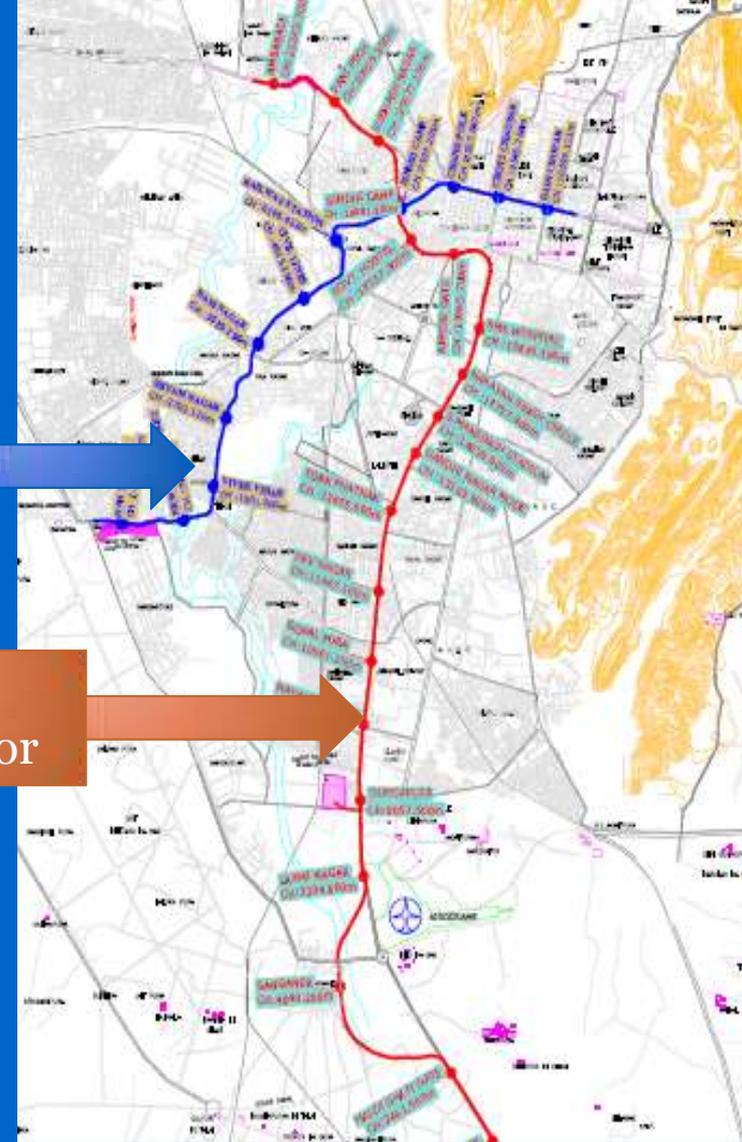
Jaipur Metro route



Jaipur is restricted on two sides by mountain ranges and has grown along three arterial roads

E-W Corridor

N-S Corridor



Routes of the Jaipur Metro planned along the major arterial roads



Key Features of East West Corridor (Phase - I)

- Total Length 12.067 kms
- Elevated from Mansarovar to Chandpole - 9.278 kms
- Underground from Chandpole to Badi Chaupar – 2.789 kms
- 8 elevated and 3 underground stations
 - Mansarovar
 - New Aatish Market
 - Vivek Vihar
 - Shyam Nagar
 - Ram Nagar
 - Civil Lines
 - Metro Railway Station
 - Sindhi Camp Station
 - Chand Pole
 - Choti Chaupar
 - Badi Chaupar



Key Features Of North South Corridor (Phase - II)

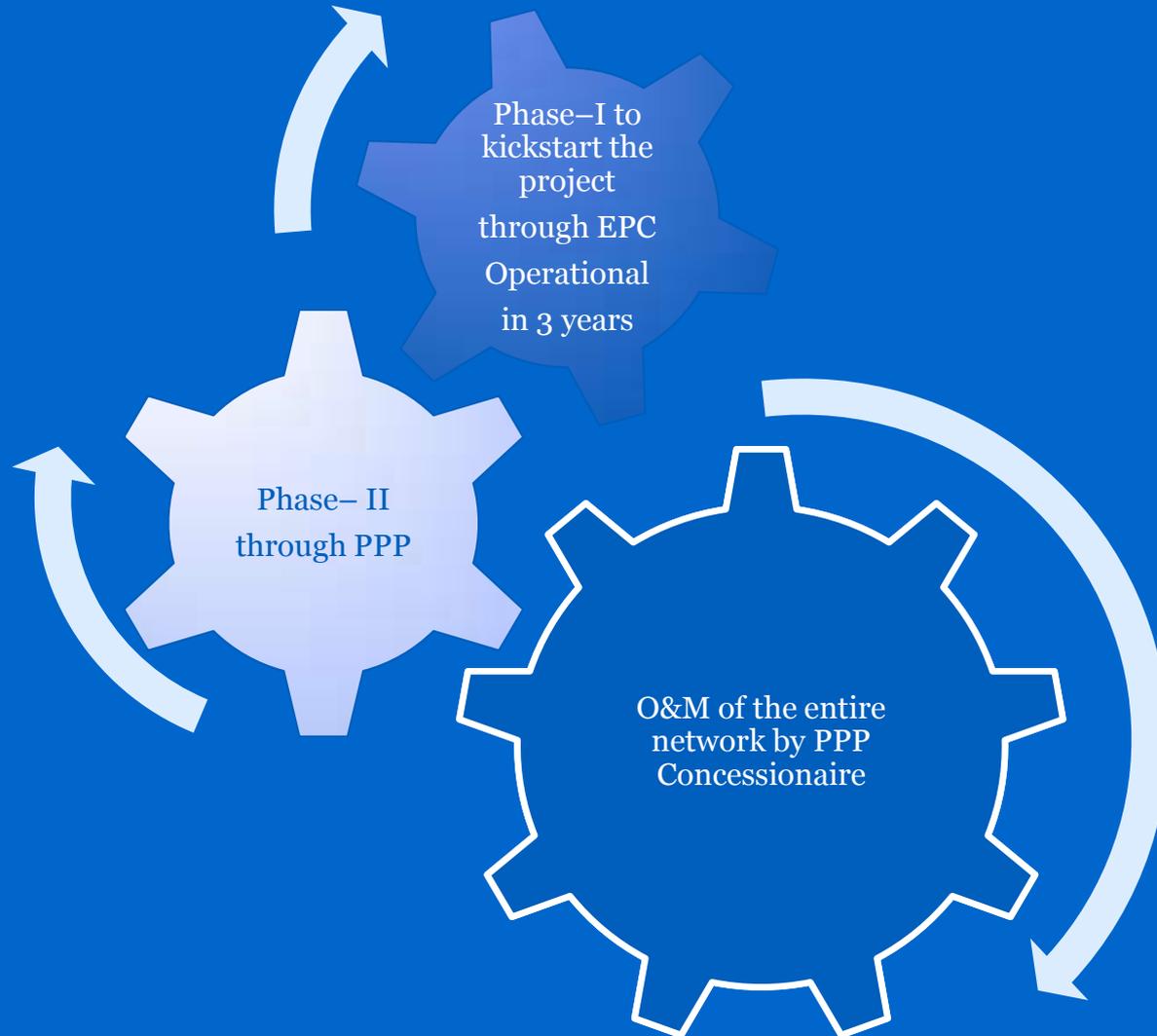
- Total length - 23.099 kms
- Elevated Section from Ambabari to Pani Petch, and Ajmeri Gate to Sitapura – length 18.004 kms
- Underground from Pani Petch to Ajmeri Gate – length 5.095 kms
- 15 elevated and 5 underground stations

- Sitapura
- Pratap Nagar
- Haldi Ghati Gate
- Sanganer
- Laxmi Nagar
- Durgapura
- Mahaveer Nagar
- Gopalpura
- Dev Nagar
- Tonk Phatak

- Gandhi Nagar Mod
- SMS Stadium
- Narain Singh Circle
- SMS Hospital
- Ajmeri Gate
- Government Hostel
- Sindhi Camp Station
- Subash Nagar
- Pani Petch
- Ambabari



Unique Hybrid Project Structure



JAIPUR METRO RAIL PROJECT

PHASE – I (East West Corridor)

Phase I A

EAST WEST (A) CORRIDOR

Mansarovar to Chandpole

9.718 kms

ENTIRE SCOPE
EPC THROUGH DMRC

Operation & Maintenance for
initial 5 years
Own manpower

Phase I B

EAST WEST (B) CORRIDOR

Chandpole to Badi Chaupar

2.349 kms

ENTIRE SCOPE
EPC

PHASE II

NORTH SOUTH CORRIDOR

Ambabari to
Sitapura

23.099 kms

ENTIRE SCOPE
PPP

**Operation & Maintenance for approx.30 years
through PPP mode**

Key Financial Parameters

S.No.	Particulars	Details
1.	Cost East West Corridor (Phase-I) North South Corridor (Phase – II)	9732 crore 3149Cr. 6583 Cr.
2.	Projected FIRR Phase – I Phase – II	8.24% 7.37%
3.	Price Level	April 2011
4.	Economic IRR	18.6%
5.	Commercial Operation Date	Phase I A : 1-7-2013 Phase – IB : 31-3-2017 Phase – II : 31-3-2017

Key Technical Parameters

Particulars	Details
Total Route Length	Total - 35.166 kms Elevated – 27.282 kms Underground – 7.884 kms
Gauge	Standard
Rolling Stock	Coach Width – 2.9 m Axle Load – 16 tons 4 coach unit Capacity – 1034 passengers
Traction	25 KV - OHE
Signalling	ATO
Stations	Capacity for 6 coach units
Land (Stns. & Depots)	
North South Corridor	37 Ha.
East West Corridor	19 Ha.
Land for property development	50 Ha.

FUNDING PATTERN OF PHASE - I

Source of fund	Rs. in crore	Percentage
Government of India as Equity	472.50	15%
Additional Subordinate debt by GoR (50% of the central taxes & duties)	157.50	8.43%
Loans from JICA/Market Borrowing/ Debt from State Government	1781.00	56.57%



FUNDING PATTERN OF Phase - II ON PPP MODEL

PARTICULAR	AMOUNT	% of contribution
GOI VGF	Rs 1317.00	20%
GOR VGF	Rs 626.00 Cr	9.5%
GOR - ACQUISITION COST FOR NON GOVERNMENT LAND AS VGF	Rs 681.00 Cr	10.5%
TOTAL VGF	Rs 2624.00Cr	40 %
PROPERTY DEVELOPMENT (UP FRONT FEE)	Rs 200.00 Cr	3 %
CONCESSIONAIRE EQUITY	Rs 1253.00 Cr	19%
CONCESSIONAIRE DEBT	Rs 2506.00 Cr	38%
TOTAL COST :-	Rs 6583.00 Cr	100%
RATE ON RETURN OF EQUITY	14.00%	



Dedicated Metro Fund

- Surcharge on stamp duty on sale / Transfer of lands
 - 10% of the stamp duty across Jaipur Region
 - Approx. Rs. 9 crore accrued till 31st March, 2012
- Additional taxes/cess/duties/levies by the State Government
 - Green Cess - approx. 5 crore accrued till 31st March
 - Surcharge Tax on vehicles - approx. 14 crore accrued till 31st March
- Premium FAR along the two corridors.
 - Charged for granting upto 2.25 FAR (rather than 1.33 FAR)
 - Approx. Rs. 9 crore accrued till 31st March, 2012
- Revenue from sale/lease of land along and beyond the corridor.
 - 22 hectare land acquired, sale/rental options being evaluated
- Revenues from advertisements, parking and other related sources.



Progress Phase - I

50% Civil Work of Phase - IA completed



Phase IA - Progress of Viaducts

Package	Package Details	Completion Period (Months)	Date of Start of Work	Schedule Date of Completion of Work	% Physical progress	Present Status of work
JP/E-W/C1	Part design & construction of 6.472 km. Viaduct (Mansarover to Chandpole)	24	03-11-2010	02-11-2012	50%	<ul style="list-style-type: none"> • Pile 987/1102 • Pile Caps 118/204 • Piers 108/224 • Piercap 100/206 • Segments 1249/2357 • Span Launched 68/207
JP/E-W/C 2	Construction of Elevated Road & Metro viaduct consisting single Box, with/without cantilever arm, by segmental construction.	24	03-11-2010	02-11-2012	62%	<ul style="list-style-type: none"> • Pile 861/861 • Pile Caps 111/143 • Piers 103/145 (Road) 43/44 (Metro) • Piercap 89/142 (Road) 41/44 (Metro) • Segments 1337/2083 • Span Launched 89/181



Phase IA - Progress of Underground

Package	Package Details	Completion Period (Months)	Date of Start of Work	Schedule Date of Completion of Work	% Physical progress	Present Status of work
JP/E-W/C 3	Design and construction of approach tunnel and Chandpole station by Cut & Cover method for Underground works on East – West Corridor of Stage-1 of Jaipur Metro	24	19-11-2010	18-11-2012	65%	Diaphragm wall Completed Top slab 6672/7850 sqmt Base slab 6100/7850 sqmt Platform Slab - 2000/5000 sqmt Passage Slab - 2500/2500 sqmt Block Work for operation rooms started. work in progress for Approach and Exit tunnel.



Phase IA - Progress of Depot

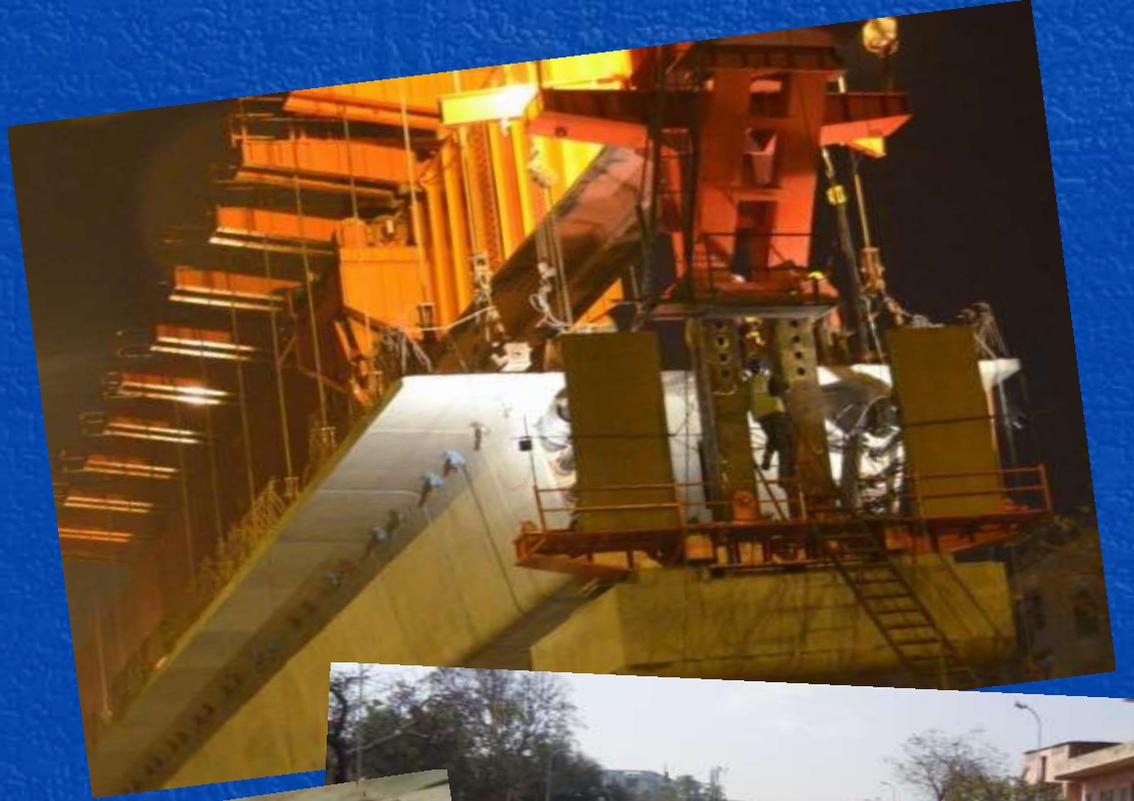
Package	Package Details	Completion Period (Months)	Date of Start of Work	Schedule Date of Completion of Work	% Physical progress	Present Status of work
JP/E-W/C 4	Civil works for construction of depot cum Workshop at Mansarovar on East – West Corridor for Stage-1 of Jaipur Metro	18	19-11-2010	18-05-2012	35%	Boundary wall casting/erection in progress. Foundation work of of Workshop/Inspection building, Sub Station building, ETU workshop, DCOS stores and Pit Wheel Lathe building complete. Foundation work for Training institute and OCC building in progress. Excavation work for two level basement below stabling shed completed. Water proofing of basement in progress. 7880/10277 sqmt raft foundation completed. 4500/10277 sqmt 1st basement slab completed.



Phase 1A - Progress of Stations

Package	Package Details	Completion Period (Months)	Date of Start of Work	Schedule Date of Completion of Work	% Physical progress	Present Status of work
JP/E-W/C 5	Construction of Mansarovar, New Aatish Market, Vivek Vihar & Shyam Nagar Stations	21	27-12-2010	26-09-2012	45	<ul style="list-style-type: none"> • Pile 148/148 (Completed) • Pile Caps 32/32 (Completed) • Piers 38/44 • Pier arm 33/44 • Pier arm 8/44 (Track Level)
JP/E-W/C 6	Construction of RamNagar & Civil Lines Stations	21	31-12-2010	30-09-2012	35	<ul style="list-style-type: none"> • Pile 86/86 (Completed) • Pile Caps 16/16 (Completed) • Piers 20/20 (Completed) • Pier arm 16/20 (Civil Lines Completed)
JP/E-W/C 7	Construction of Railway Station & Sindhi Camp Stations	21	31-12-2010	30-09-2012	45	<ul style="list-style-type: none"> • Pier Arm at concourse level :Sindhi Camp – 10/10, • Metro Railway Station – 9/11 • Pier arm (Track Level) at Metro Railway Station in progress.

24x7 work



Financial Progress of Civil Work

Particulars	09-10	10-11	11-12	12-13 (till date)	Total
Fund transferred to DMRC for the contractual liability (deposit work) against the Stage –I project:	0.00	90.00	259.73	150.00	349.73
Fund transferred to DMRC of management expenditure.	0.00	8.54	17.036	2.50	25.57
Payment made to NW Railways for crossing of Railway Track.	-	-	43.15	-	43.15
Compensation expenditure against land acquisition	-	-	69.478	-	69.48
					487.93



Phase - I A - Other Systems

- Work for OHE commenced
- Work Order for Rolling Stock placed and production underway
- Work Order for S&T placed
- Work Order for AFC placed
- Tendering Process for other components such as PA Systems, CCTVs, Tetra etc. is at advanced stage.



Rapid Implementation

- Jaipur Metro – one of the fastest metro projects ever implemented worldwide
 - **First Phase to commence operations by June 2013,**
 - **Processes for rapid implementation**
 - Smooth land acquisition
 - Entire RoW for Phase IA acquired
 - 22 hectares acquired for Property Development
 - Effective Settlement Committees
 - Quick redressal of legal issues
 - Support of urban local bodies
 - Cost optimisation and minimum cost escalation
 - Kickstart the project with a unique project structure and attracting partners for the second phase
 - Parallel processing of civil works, rolling stock and S&T works



Progress Phase - II

- PPP Consultants engaged through IIPDF Scheme of GoI
 - General & Technical Consultant – Mott MacDonald
 - Financial Consultant – Deloitte Touche Tohmatsu
 - Legal Consultant – Luthra & Luthra Law Offices
- RFQ issued for PPP Concessionaire
- Four Applicants qualified (out of five applications):
 - Reliance Infrastructure Limited
 - Gammon Infrastructure – Iridium Concessions
 - Soma – ICF
 - Essar Projects – Samsung CNT



- RFP is under preparation with following annexures:
 - Draft Manual of Standards & Specifications (MSS) prepared
 - Financial Model being prepared by Deloitte Touche Tohmatsu
 - Technical Schedules, other than MSS are being prepared with assistance from Mott MacDonald
 - Draft Concession Agreement (DCA) is being prepared



Government of India support

- Metro Railways (Operation & Maintenance) Act, 2002 and Metro Railways (Construction of Works) Act, 1978 extended to Jaipur.
- Support under IIPDF Scheme for Project Development
- Initial In-principle approval given to project by GoI
- Amended project structure being considered for approval.



Land Management

- Streamlined Land Acquisition
 - Most of the alignment on the medians of major roads: minimal land acquisition
 - No major hurdles
 - Robust R & R Mechanism

Other parcels for parking and circulation are being regularly identified and transferred.



Bottlenecks

- Processes involved in seeking GoI support
- Funds from Government of India for Phase - I
- Safety Trials for Phase – I A
- Availability of Skilled Manpower for O&M of Phase - IA
- Financial Issues
 - Market Borrowings & Debt Servicing
 - Consolidation of the Dedicated Metro Fund
 - Self Sustainability
- Engaging PPP Concessionaire for Phase - II
- Integration of EPC Phase with PPP Phase
- Urban Integration Issues
 - Multimodal Integration
 - Transit Oriented Development
 - Heritage related issues
- Public Sensitisation
 - Increased Ridership
- Timely Implementation and avoiding cost over-runs



THANK YOU.....

