

Indian Railway Stations Development Corporation Ltd.  
(IRSDC)



Development of Bijwasan Railway Station,  
New Delhi



Project Information Memorandum  
February 2016



## Disclaimer

This Project Information Memorandum Document aims to provide, the prospective applicants, an overview and broad understanding of the proposed development of Bijwasan Station, New Delhi which is being taken up by IRSDC.

The Applicants are advised to acquaint themselves with information from other sources and also to go through the bidding documents in detail, themselves. Should there be any discrepancy between the terms presented here and the actual bid docs, the terms provided in the actual bidding documents shall be prevailed.

## 1. Background

Indian Railways has one of the single largest transportation and logistics networks of the world. It runs 19,000 trains including 12,000 passenger trains to carry over 23 million passengers per day connecting about 8,000 stations spread across the Indian sub-continent. Most of the Major stations of metro cities and important junctions need improvement in capacity and basic infrastructure to handle passenger growth. In absence of these parameters, there is poor service delivery resulting in discomfort and inconvenience to the passengers. Ministry of Railways, Govt. of India aims to create better passenger amenities, augment its infrastructure and service delivery through redevelopment/development of railway stations spread across India.

To address these problems, Indian Railways, in 2009-10, had decided to develop / redevelop certain identified railway stations of metro cities and important junctions as World-class stations as upgraded to the international standards and capacity with modern facilities and passenger amenities. This shall primarily be done through leveraging commercial development of land and airspace in and around the station through innovative financing on PPP mode.

## 2. Formation and Mandate of IRSDC

A Special Purpose Company (SPC) named as 'Indian Railway Stations Development Corporation Limited' (IRSDC) has been incorporated with registrar of companies on 12.04.2012 with permission to commence the business on 09.05.2012. This was created specifically for the purpose of development/redevelopment of stations. IRSDC is a Joint Venture of Ircon International Limited (IRCON) and Rail Land Development Authority (RLDA). IRSDC has been assigned with Eight Railway Stations namely Chandigarh, Habibganj (Bhopal), Shivaji Nagar (Pune), Bijwasan (New Delhi), Anand Vihar (New Delhi), Surat (Gurjat), SAS Nagar (Mohali) and Gandhi Nagar (Gujrat) for development/redevelopment stations. IRSDC has already RFQ for three stations namely Habibganj (Bhopal), Bijwasan (New Delhi) and Anand Vihar (New Delhi). It is expected that additional stations will be entrusted to IRSDC in the coming financial year 2016-17. Station Redevelopment is planned by leveraging commercial development of land & air space in and around the station.

IRSDC has been mandated to:

- Develop/ re-develop the existing/new railway station (s), which will consist of upgrading the level of passenger amenities by new constructions/renovations including re-development of the station buildings, platform surfaces, circulating area, etc., to better standards so as to serve the need of the passengers.

Undertake projects for development of real estate on Railway/ Government land and its commercial utilization as may be required in connection with development of railway stations on PPP basis.

- To undertake projects including planning, designing, development, construction, improvement, commissioning, operations and maintenance, and financing of projects and various services. The financing of various services includes marketing, collecting revenues, etc. related to railway stations and railway infrastructure and all associated matters.

### 3. Characteristics of a World-Class Station

A world-class station facility should unarguably have following parameters:

- I. Superior facilities to the station users including the passengers and employees etc.
- II. Seamless integration and operational ease of all modes of transport at station facility
- III. Least possible inconvenience to the facility user
- IV. Smooth access to the station facility through proper roads and para-transit services
- V. Provision of parking, pick and drop facilities and sufficient space for circulation
- VI. Co-existence of commercial space for provision of allied services for station users

The typical master planning exercise for a world-class station should include the above essential parameters on a bare minimum basis.

### 4. About the Project

Bijwasan is an existing station on Delhi-Rewari line of Indian Railways network, proposed to be redeveloped as a world-class station in the National Capital Region of Delhi near Dwarka. .

The Request-for-Qualification document for the selection of the implementation agency has been issued by IRSDC for development of Bijwasan Station on DBFOT basis in accordance with the provisions of the development agreement, and local applicable Laws for commercial development, redevelopment and station development. Feasibility study and Master planning exercise has been carried out for development of Bijwasan railway station along with associated facilities and commercial development. Various approvals obtained during the master planning exercise shall be shared by IRSDC with the shortlisted bidders at the second stage i.e., RFP stage.

This Project Information Memorandum (PIM) is being prepared for prospective applicants for their wider understanding of the project in order to establish their active participation of the project.

### 5. Need for development of Bijwasan Station as a World-Class Station

Delhi is connected with the important cities of India by a system of rail links run by Northern Railways and is served by five major terminal stations as shown in Figure-1.

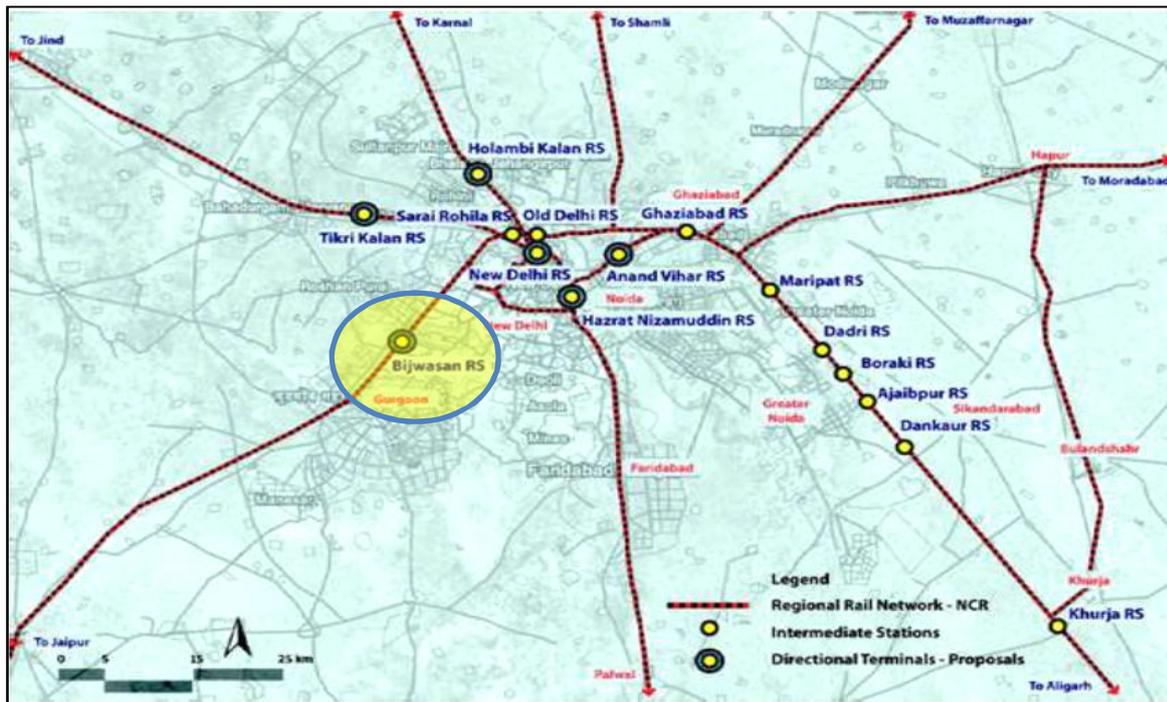


Figure 1: Location of Important Stations within Delhi NCR

These terminal stations are New Delhi Railway Station (NDLS), Old Delhi Railway Station (DLI), Hazrat Nizamuddin Railway Station (NZM), Delhi Sarai Rohilla (DEE) and Anand Vihar station. These station facilities, however, have already reached saturation for train handling and passenger management due to infrastructure constraints. With the passenger growth of 4.5% per annum forecasted in the near future for entire Delhi, there is a need to augment terminal capacity in the capital city.

After planned development and integration with existing modes of transport, Bijwasan Station shall serve as a much needed station and terminal facility to the catchment area consisting of Gurgaon, Dwarka, parts of West Haryana and also some parts of South Delhi. Bijwasan Railway Station will be catering to a vast population traveling towards West of India covering the states of Rajasthan, Gujarat, and Maharashtra etc.

## 6. Project Site Location analysis:

The brief information about the location and surrounding features of proposed site for development of Bijwasan Railway Station is presented in Figure-2 below:



Figure 2: Bird's Eye view of Project site

From the figure above the following facts may be concluded:

- The Project Site is located in South-West of Delhi, within Planning Zone (Division) 'K-II' of the National Capital Territory, as per the Delhi Development Authority. It lies in close of proximity to Sector-21 Metro Station (served by Airport express and Blue Line metro lines) on the West and a proposed ISBT coming up in Dwarka. It is also in the close proximity to India Gandhi International Airport at the East.
- The existing Bijwasan station lies on the North and Shahbad Mohammadpur station lies on the South of the project site respectively. The project site is located on the Delhi-Rewari railway section of the east bound Northern Railways.
- The Urban Extension Road (UER) -II with 100m ROW is running through the proposed site and provides a primary connection from Dwarka to NH-8 and also Indian Gandhi International Airport on the East of project site.
- The project site is flanked by residential area/built-up areas of Dwarka and Palam on its north, west and north-west. Villages such as Bagdola and Bhartal are also surrounding the station area.
- The Government of Delhi is planning to develop an Inter State Bus Terminal (ISBT) adjoining the railway land on the west. Second diplomatic enclave, is also being planned to come up in sector 26-29. An International Convention and Exhibition

Center has been planned by DDA in sector 24. An Integrated freight complex is also proposed as part of Master Plan 2021 of Delhi.

- The distances of various key landmarks from the proposed project site location is tabulated below:

Table 1: Distances of Key Landmarks from Project Site

Landmark	Distance (kms)
IGI Airport T1	15.0
IGI Airport T3	13.0
New Delhi Railway station	26.0
India gate	25.0
CBD	27.0
Ambience mall, Gurgaon	9.0
Ambience mall, Vasant Kunj	15.0
Dwarka sec 21 metro station	2.8
Sarai Rohilla railway station	31.0

Overall, it may be concluded that the site is very well-connected by road, Delhi metro, proposed ISBT and Indian Railways network and also has a robust potential for mixed use real estate development due to availability of land in a prime location.

The land proposed for development through the bidding process presently called by IRSDC is encumbrance free, in full possession of Indian Railways and ready for development.

## 7. Potential for a Multi-modal Transit Hub

The location of the project site offers a good opportunity for development of an integrated multi-modal transit hub, which can provide comprehensive modal interchange services in the region. This railway station can also be proposed to be developed as a transport hub with a state-of-art railway terminus further supplemented by an Interstate Bus Terminus (ISBT) and a Mass Rapid Transit System (MRTS) station alongside commercial activity to optimally capture the strategic location where various transport modes congregate. This location can be exploited as a powerful node to attract capital functions and activities and can influence a

very high level of physical, social and economic development in the surrounding region including efficient inter-urban transportation systems.

## 8. Impact of TOD Guidelines:

Ministry of Urban Development (Delhi Division) has made certain modifications in the Master Plan for Delhi - 2021 with effect from the date of publication of the Notification in the Gazette of India, i.e. 14th July, 2015. In the said Notification, Clause 3.3.2 - Policy for Development Scheme concept of Transit-Oriented Development is included. The policy guidelines for TOD indicate that an FAR of 2.5 to 4 may be permitted. However the detailed regulations and implementation mechanism regarding the TOD policy are yet to be finalized by DDA. The policy guidelines also mention that the increased FAR for identified TOD areas shall be permitted by DDA on a case to case basis, based on the proposals and site conditions.

Since implementation mechanism of this TOD Policy is not yet firmed up and is still to be published, it is pertinent to understand the possible issues and site specific impediments. Any increase in FAR/ FSI approved by the authorities, shall be dealt with as per the provisions under Development Agreement, which would be part of RFP document.

## 9. Traffic surveys and Passenger Demand Assessment:

The existing major station in Delhi NCR New Delhi Railway Station, Hazrat Nizamuddin and Old Delhi Railway Stations are operating beyond their capacity. There is tremendous need for green-field station like Bijwasan station in the outer NCR fringe to distribute and serve the existing passenger and train traffic and serve the future growth. Presently, 89 trains pass through Bijwasan Station on daily basis of which 21 trains halts at this station.

For ascertaining future traffic which shall be served by the Bijwasan World-class station, a comprehensive traffic survey and demand forecast exercise was taken up, which included traffic volume count, existing road network inventory survey, travel time and speed-delay studies etc.

Based on the data collected and discussion with key stakeholders, detailed demand estimation was done taking care of future traffic demand from proposed Bijwasan station, sector-21 Dwarka Metro line, proposed ISBT and property development at new station. Apart from this, the Volume-capacity ratio analysis for surrounding road network and parking demand analysis at proposed Bijwasan station have also been carried out. Key findings of this exercise are tabulated below:

Table 2: Facility-wise Traffic Demand Estimation

Facility to be planned	Associated Traffic Demand Estimation
Proposed Bijwasan Station	<ul style="list-style-type: none"> <li>• 14 pairs of trains planned for origination/termination after commencement of operations</li> <li>• Station Capacity planned for total 44 trains of 26 coaches each for maintenance of trains including shunting, washing operations and yard facility.</li> <li>• Assuming 90% occupancy, these trains shall translate 2000 passengers per train or total 88,000 passengers per day.</li> <li>• The station capacity has been estimated to around 1,38,000 passengers in the year 2053.</li> </ul>
Road traffic from property development at Bijwasan Station	<ul style="list-style-type: none"> <li>• As per the consultant's report, the property development at Bijwasan shall further add up to about 1000 PCUs per day.</li> </ul>
Sector-21 Metro station extended to IFFCO Chowk in Gurgaon	<ul style="list-style-type: none"> <li>• The extension of DMRC line from sector-21 to IFFCO Chowk Gurgaon is at proposal stage. Once commissioned, the extension will result in daily boarding trips of about 69,103 in year 2021 with a PHPDT of 8,066 trips.</li> </ul>
Proposed ISBT	<ul style="list-style-type: none"> <li>• The total demand from ISBT in year 2030 is 1,90,500 passengers. With an anticipated growth of 10%, the traffic demand for year 2053 is forecasted to be 2,08,820 passengers.</li> </ul>
Proposed International Convention Centre	DDA has proposed an international convention center with a seating capacity of 12000 people, which is proposed to generate 4800PCUs on any given day of the event.
Traffic from Proposed development in K-II zone in Dwarka.	As per the proposed area of 1,688 hectares to be developed in Dwarka in K-II zone, as per MPD-2021 by DDA, about 15,000 PCUs shall be generated in this area by year 2053.

It is evident from the table above, that the proposed world class station facility at Bijwasan shall attract major traffic due to development of multiple facilities like ISBT, convention center, commercial development and extension of metro line to Gurgaon. There is tremendous potential of real estate development in Dwarka and northern part of rural Gurgaon adjacent to Dwarka, which can be suitably realized by the private players.

The world-class Bijwasan station shall provide opportunity for transit interchange and facilitate the passengers and daily commuters an opportunity and convenience to plan their local and regional journey in a better way.

## DEMAND ESTIMATION OF RAIL PASSENGERS AND CAPACITY OF THE TRACKS

Currently 21 trains halt at Bijwasan old Station every day. The growth rate of passenger to 1995 to 2005 was 3.2 % per annum (Corporate Vision 2025 - Indian Railways). The optimistic projection as per the Corporate Vision up to the year 2025 is 4.7 %. Technical consultants carried out a study and suggest a growth rate of 4% between 2013 to 2030, and further a growth rate of 2%.

### Future Traffics (average day)

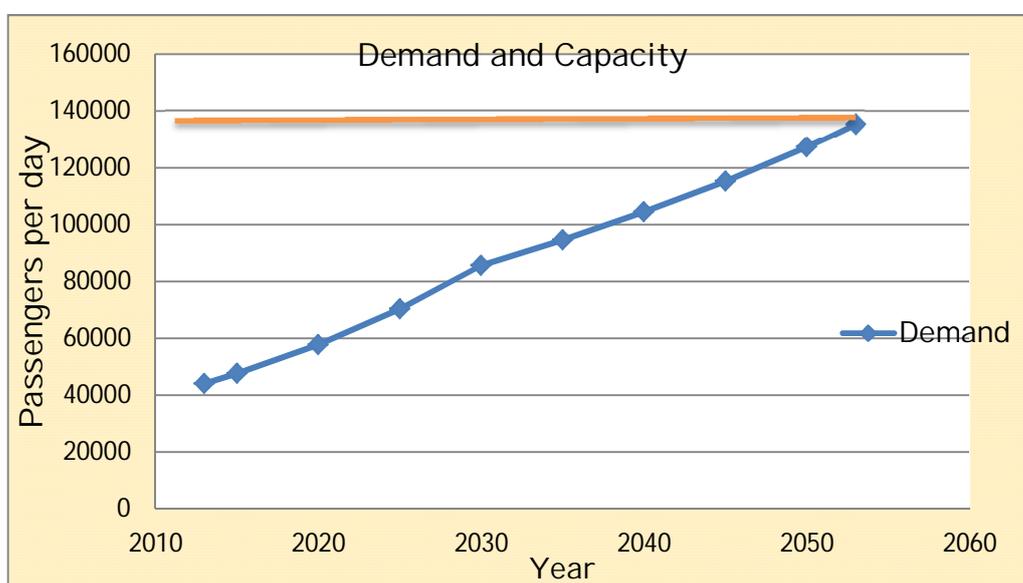
Growth Rate (2013-2030)	4%	1. Real Growth Rate (1995-2005)=3.2%
Growth Rate (2030-2053)	2%	2. Optimistic projections of Corporate Vision 2025 Indian Railways =4%
Passengers/each direction *day	Year	Demand
22000	2013	44000
23795	2015	47590
28950	2020	57901
35223	2025	70445
42854	2030	85708
47314	2035	94628
52239	2040	104477
57676	2045	115351
63679	2050	127357
67576	2053	135152

On the commissioning of the proposed Bijwasan railway station, the Northern Railway plans to operate 14 pairs of trains to be originated/ terminated at Bijwasan Station (Both Directions). Northern Railway have advised that in addition to above 14 trains, there is room available in the washing lines for maintenance of approximately 5 trains in the first phase and 12 more trains after execution of work of the second phase. After discussions regarding station capacity at Bijwasan, with IRSDC and Northern Railway officers, the projected passenger demand has been reworked by the Traffic experts, the indications are summarised below:

- ▶ Trains which are planned for termination/origination at Bijwasan by N.R after opening of new station : 14 pairs
- ▶ Capacity of maintenance of trains considering berthing programme on platforms, washing lines, RPC-4 lines, and shunting operations required within the station assuming the yard facilities as shown in NR yard plan as frozen and final including above 14 pairs will be 44 trains-22 originating and 22 terminating. These trains will all be 26 coach train trains. Assuming 90% occupancy at termination/origination station,

this will translate to 2000 passengers per train, or a total of 88000 passengers per day.

- ▶ The line capacity assuming that signalling would be upgraded to ABS, in the coming years is 70 trains per day with maintenance block of 2 hours taking the same %age of passenger utilisation as per NR Line capacity chart having projection for 2016-17 to continue, the total number of passenger trains would be 47. Of this 22 slots will be taken by originating services, and the residual 25 paths would be taken by through trains, including EMUs which carry more commuter traffic. Assuming about 1000 passengers per EMU train, this will total to 25,000. However with intensive urbanization and expected dense loads of EMU traffic this figure is expected to double during the coming years.



As such the station capacity will be at least 1, 38,000, by 2053, a figure higher than the demand provisions. However, station design shall take into account seasonal peak use to ensure that all station components conform to a Level of Service (LOS) D during the period.

## 10. Real Estate Assessment in the Region:

Through market analysis and research, it has emerged that Dwarka sectors-27 and sector-29 are locally being developed and still considered a part of the village, however they are regularized at present. The demand and availability of space is mainly for Dwarka sectors-1 to Sector-21. Additionally, Dwarka Sector-26 is presently under development stage and it will take 2-3 years for demand to pick up in this area.

Bijwasan, which is a neighbouring locality and on the opposite side of the railway line has only residential and mix land use, which is largely part of rural Gurgaon. Smaller developers are building mixed use dwellings and small shops towards rural Gurgaon.

Bijwasan is also known for high end farmlands and neighbouring village lands such as Rajokri, which have been converted into residential farm lands. The farmhouses cater to the elite class of Delhi NCR as well as a niche banqueting segment. The Farmhouses are sized at an average of 1 acre per plot and the current market rate for upper end farmhouses ranges between INR 15,000 – 20,000 per sq. ft B.U.A.

## 11. Indicative Product-Mix Analysis:

The product-mix analysis has been carried out to for ascertaining the financial feasibility of the proposed developed. This is based on the demand analysis and expected land uses for which a particular facility has a feasibility potential. A typical product mix can include but not limited to the development components like offices, hotels and hospitality outlets, retail kiosks on stations and small to medium commercial retail shops on the front end of development facing Dwarka sector 26, to cater to travellers at the station and as well.

One typical option of product mix at the Bijwasan Station has been examined. This product mix has been determined based on the existing land use i.e. transport land. As per the norms of Delhi Master Plan for transport land, 30% FAR of the total land can be utilised for buildings for passenger facilities (commercial, retail, hotels), out of which a maximum of 15% FAR can be utilised for passenger accommodation (hotels).

The summary of product mix is presented in Table below:

Table 3: Indicative Product-mix option

Category	Option	
	Percentage of Total BUA	BUA (SQFT) Approx
Office	37.5%	16,01,875
Retail	12.5%	5,33,959
Hospitality	50.0%	21,35,834
<b>Total</b>	<b>100%</b>	<b>42,71,669</b>

With respect to the above, some of the important points to be noted:

- FAR around mass rapid transit systems has been increased to 400 from 250, a 60% increase by the urban development ministry.

- The above implies a higher potential to develop commercial and residential units around the Bijwasan railway station and Dwarka sector 21 metro station, which will result in a higher property value and demand around the railway node. However, the above is yet to be notified for the site specific area
- The enabling provision of property development for Metro Stations would have broad development controls of 25% ground coverage and 100 FAR, including area under Metro Station with no height restrictions and subject to approval of the statutory bodies such as ASI, Airport Authority, DUAC etc.

## 12. Master planning and Development Strategy

The aim of the master plan is to provide a new urban space wherein several land uses can be developed and integrated. The major focus is on building a world class station icon building having maximum passengers' convenience, safety and security, flexible interiors, fast and efficient passenger flow system.

The basic principles of the master plan prepared by technical consultants are:

- Efficient dual connectivity with UER-II and other roads.
- Optimal ring road based street system
- Transport central square (urban core)
- Green pedestrian path and green areas
- Interconnection and integration between various components of station buildings
- Building components requiring lesser height are planned at the location where height is restricted due to Airport runway restrictions.

The master planning of the projects has been done in two phases. IRSDC is proposing to develop Phase 1 for which the PIM has been prepared. In the phase-1, the assumption of FAR-1 has been considered as per the DDA master plan with distribution of developable land as presented in the following table as per the product mix as supported in the case of rail terminal/Integrated passenger terminal:

The proposed master plan is presented in the Figure-3 below:

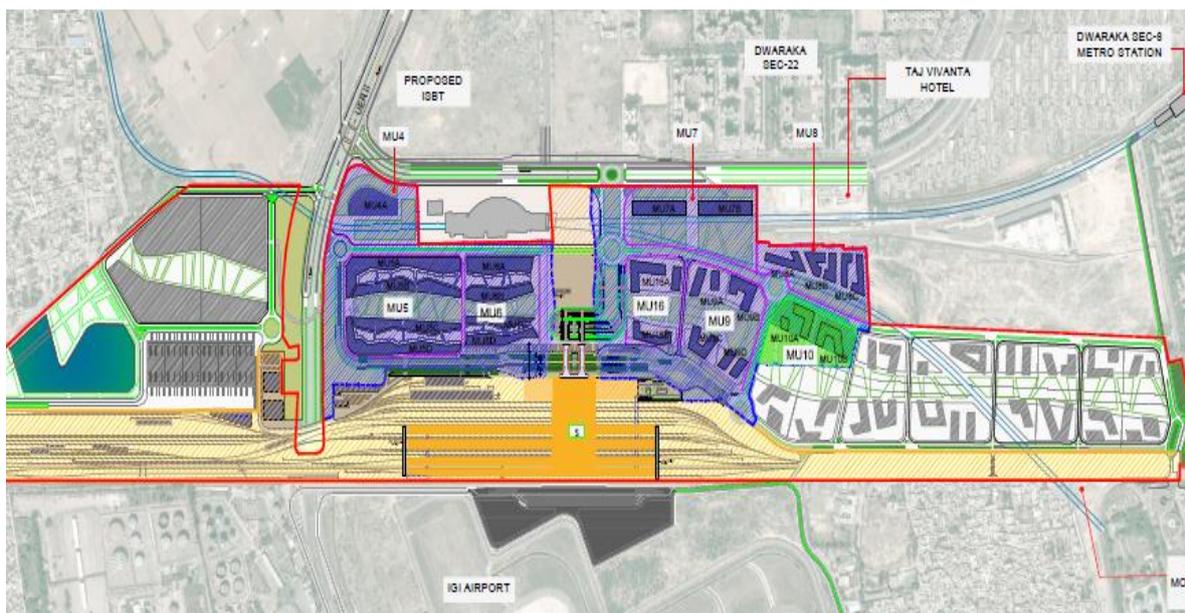


Figure 3: Phase-1 Master plan (Shaded in Blue)

Indicative Area statement for commercial development as real estate part for phase 1 is given in the table below:

S.No	Plot No	Plot Area (Sq M)	Building No.	No. of Buildings	No of Floors (Height restrictions)	BUA (Sq M) approx
1	MU 4	27261	MU 4A	1	G+6	27815
2	MU 5	59138	MU 5A	2	G+3	27338
			MU 5B		G+3	16371
			MU 5C		G+3	15427
			MU 5D		G+3	21601
3	MU 6	33743	MU 6A	2	G+6	33590
			MU 6B		G+6	26955
			MU 6C		G+6	15586
			MU 6D		G+6	20731
4	MU 7	44077	MU 7A	2	G+6	28644
			MU 7B		G+6	28624
5	MU 8	28622	MU 8A	3	G+6	13024
			MU 8B		G+6	18246
			MU 8C		G+6	17946
6	MU 9	37650	MU 9A	4	G+6	13339
			MU 9B		G+6	17080
			MU 9C		G+6	15542
			MU 9D		G+6	12295
7	MU 16	25728	MU 16A	2	G+4	17555
			MU 16B		G+4	9142
Total Built Up Area						396848

### 13. Benefits from the Project

The benefits from the project are listed below:

1. This will be an exclusive transit interchange facility in the South-West region of NCT of Delhi, which shall bring about huge savings in time and cost of the facility users and therefore, will be a major place of attraction in terms of footfalls.
2. The project shall provide a World-class station infrastructure with various facilities for the convenience of its users.
3. The commercial development alongside the station development will lead to provision of other facilities like hotel, retail, office spaces, commercial complex and markets etc.
4. This project shall have huge economic benefits in terms of increased employment, reduced environmental pollution and overall improvement in the living standard of the in the catchment area of the project.

### 14. Envisaged Project Development Structure

The developer shall develop the entire project including the station redevelopment and commercial development on preferably DBFOT format. The developer shall be responsible for station facility operations during development/redevelopment and for a fixed period post construction. After this the station operations shall revert to Indian Railways. The commercial area is envisaged to be operated by the developer for a concession period of 45 years (including construction period).

### 15. Way Forward:

IRSDC has invited e-RFQ for the development of Bijwasan Railway station. Applicants are requested to go through the RFQ document and submit their RFQ applications to demonstrate the required eligibility to get shortlisted for the second stage, i.e. the RFP or the bid stage. The PIM shall facilitate them to appreciate this project better.