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REAL ESTATE ANALYSIS BEST PRACTICES

Examples of real estate analysis for a TOD project in World Bank client countries

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INTRODUCTION

Real estate development presents a real opportunity for transit agencies and operators to monetize real estate assets as a means to increase their revenue streams. It breaks away from the traditional notion of separating transit and land use and different city functions. TOD allows for an effective synergy where transit investments increase the value of land and, on the other hand, denser development in close proximity to transit improves transit ridership. The case studies presented here demonstrate such attempts by transit authorities and redevelopment agencies in seeking this synergy to create new avenues for urban financing. Three cases are presented here:

- Revenue Maximising Study for the Mumbai Suburban Rail - This study is an attempt by the railway authority to identify real-estate assets across the network as a means to increase non-farebox revenue and subsidize transport fares.
- TOD of Dwarka Bus Station - this feasibility study is an attempt by the Visakhapatnam Municipal Corporation to utilize the existing bus station for a mixed-use development as a means to create more space for administrative needs and create a sustainable revenue stream.
- REALIS - A real estate market information tool. This tool provides information for the private sector to learn about the market opportunities and participate in potential transit-oriented developments.

Disclaimer: *The Transit-Orientated Development Implementation Resources & Tools knowledge product is designed to provide a high-level framework for the implementation of TOD and offer direction to cities in addressing barriers at all stages. As the context in low and middle-income cities varies, the application of the knowledge product must be adapted to local needs and priorities, and customized on a case-by-case basis.*

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REVENUE MAXIMIZING STUDY IN PARTICULAR FOR NON-FARE BOX REVENUES WITH AFFORDABILITY STUDIES

AUTHOR:	PWC, India
CLIENT:	Mumbai Railway Vikas Corporation Ltd. (MRVC)
LOCATION:	Mumbai
YEAR OF STUDY:	2014

CONTEXT

The suburban railway system of the city is one of the most complex, densely loaded and intensively utilized systems in the world. It is the cheapest and fastest mode of transport in Mumbai. To sustain this service in the long-term, it is proposed that other sources of revenue, particularly in the non-fare box areas, are explored. The non-fare box revenues can be categorized in four broad categories- Advertisement, Station Rental, Indirect benefits and Real Estate Development. This section focuses on the concept plan of four stations to demonstrate enhancing of revenue potential through real estate development.

OBJECTIVE OF THE STUDY

- To identify ways to increase the revenue of the suburban train system, focusing on non-fare box revenue.
- To study and review the socio-economic profile of customers and examine the justification for financial cross-support from other economic agents, as well as the potential for fare adjustment in relation to affordability and service quality.
- To help strengthen knowledge in assessing non-fare box revenue through the study to MRVC and other agencies as appropriate (such as Mumbai Metropolitan Regional Development Authority, Ministry of Railways, Government of Maharashtra, Western & Central Railways).

APPROACH

In real estate, railway owned properties can be broadly classified into: Stations, operational assets (tracks), Operational plots (Workshops, car shed, store depot, parcel depot, open/ vacant plots, etc), residential colonies, offices. The approach developed for potential estimation of different asset classes can be explained as follows:

01 DEVELOP FILTER CRITERIA

Filter criteria were developed to arrive at a list of assets which are commercially more viable. The factors considered for developing the criteria are listed below:

- Regulations
- Market conditions
- Inferences drawn from literature review
- Overall City Development Plan

02 SELECT SITES BASED ON THE FILTER CRITERIA

1. Favorable market conditions.
2. In and around the identified development nodes.
3. Stations with high ridership and strategic importance and possibility of TOD.
4. Existing Usage/trends and interference between operations and commercial development.
5. Age of assets/condition of the buildings in case of residential quarters
6. Site characteristics (Shape, size and accessibility)

03 ASSESS MARKET CONDITIONS AND REGULATIONS

The factors considered are:

- Market factors
- Absorption level
- Rental rates
- DCR regulations
- Permissible FSIs
- RLDA guidelines

04 ESTIMATE SITE POTENTIAL

Impact of densification considered on revenue potential through real estate development.

4 ESTIMATION OF REVENUE POTENTIAL BY REAL ESTATE DEVELOPMENT

The study includes an estimation of potential revenue that can be generated through real estate development of plots owned by the railways. It estimates the revenue that 25 stations, under prevailing conditions, would theoretically generate in the 5th year from the start of construction on an annuity basis. However, the study notes that the revenue potentials could be generated only if all the identified 25 stations were brought to the market simultaneously, which is not practically implementable.

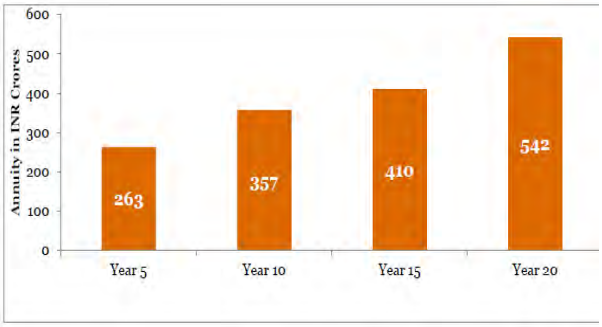

Figure 1: Annuity* at prevailing FSI

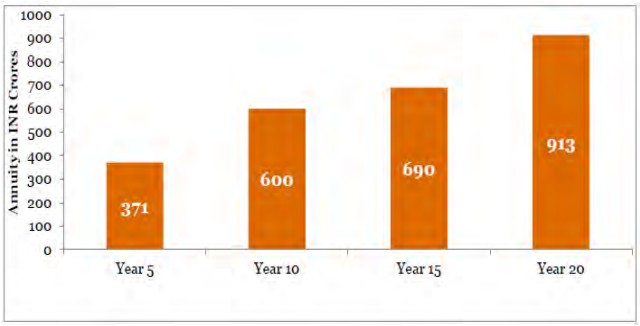

Figure 2: Annuity at enhancing FSI

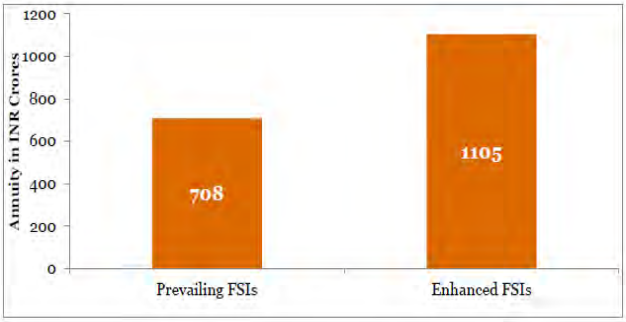

Figure 3: Upfront Revenue;

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The study identifies barriers to monetization of real estate assets, including DCR regulations, existing site conditions and institutional arrangements. In order to maximize value capture through real estate development, the study suggests enhancements to site conditions to ease the implementation process and timely phased release based on market conditions. The study recommends engaging with the municipal authorities for favorable regulations and enhancing institutional arrangements to make them more conducive for property development.

*Annuity- The payment received at regular interval after making a lumpsum investment.

TRANSIT-ORIENTED REDEVELOPMENT OF THE DWARAKA BUS STATION— FEASIBILITY STUDY FINAL REPORT

AUTHOR:	AECOM, India
CLIENT:	Greater Vishakapatnam Municipal Corporation (GVMC)
LOCATION:	Visakhapatnam
YEAR OF STUDY:	2017

OBJECTIVE

The purpose of this project is to study the feasibility of redeveloping Visakhapatnam's Dwaraka Bus Station (RTC Complex), and the adjacent administrative offices of GVMC into an improved bus station, new GVMC administrative offices, and new mixed-use transit-oriented development.

PROCESS FOR ASSESSING THE FEASIBILITY OF THE PROJECT

01 ASSESSMENT OF EXISTING CONDITION

The existing conditions are assessed with regard to:

- Existing situation and land use regulation
- Future Transit Access
- Climatic Analysis

02 DEVELOPMENT OF TECHNICAL OPTIONS

- Different variables were created adhering to TOD principles
- Review of micro-market rates for residential (sale), commercial-office (both sale and rental), commercial-retail (both sale and rental), hospitality and recreation, around the RTC Complex to understand the expected return of the project.

03 ESTIMATION OF PROJECT COST

The anticipated rough order of magnitude construction costs for the redevelopment of the RTC Complex and GVMC site were listed down. The unit costs for construction in India were informed by verified sources.

04 PRELIMINARY FINANCIAL AND ECONOMIC ANALYSIS

The preliminary cash flow analysis is based on average revenue assumptions based on land use, a 3 year construction period, and a debt repayment period of 12 years.

05 BUSINESS MODEL AND PROJECT FINANCING

The project is financed through private capital through a Private-Public-Partnership model.

06 INSTITUTIONAL ARRANGEMENT FOR PROJECT IMPLEMENTATION

07 ANTICIPATED SOCIAL IMPACT

08 ANTICIPATED ENVIRONMENTAL IMPACT

PROJECT COST ESTIMATION AND ECONOMIC ANALYSIS

3 ESTIMATION OF PROJECT COST

The study included a detailed assessment of market condition across various asset classes -residential, office, retail, hospitality and recreational.

ASSET CLASS - RESIDENTIAL

Traditionally, Visakhapatnam's residential activity was concentrated around the CBD areas of the city, comprised of micro-markets such as Siripuram, Beach Road, Lawson's Bay, Waltair Uplands, etc. However, due to an increasing population, escalating land values in established residential hubs, growth of IT/ITeS segment in the Madhurawada, Pendurthi and Gajuwaka regions, the real estate development activity in the residential segment is witnessing a gradual transition from central areas to suburban areas, and subsequently to the peripheral areas of the city. Most of the residential developments are 20 – 50 dwelling units (DU) in size; however, the city has seen several large-scale developments (in excess of 100 DUs) in recent years.

The increase in larger proposed developments is likely to gain momentum in the coming years, due to an influx of larger/ national developers to the region. About 60% of the total residential supply has been introduced in the past 2 years— Madhurwada and Yendada micro-markets have been major contributors.

Micro-Market Overview

The average price for residential apartments in the micro-market around RTC complex ranges from Rs 3,000 – Rs 5,800 per sqft ($USD44- $USD84), as illustrated in the table below:

S. No.	Locality	Average Sale Price (Rs per sqft)
1	CBM Compound Road	5,600
2	Seethammapetha Road, Dwaraka Nagar	5,000
3	Ramatakies Road	5,100
4	Ram Nagar	3,000
5	Jaganadhapuram	3,500
6	Lalitha Nagar	5,800

Source: www.makaan.com & www.magicbricks.com

ASSET CLASS - COMMERCIAL (OFFICE)

Most of the organized activity in the commercial segment in the city is concentrated in the IT/ITeS segment. The city is home to prominent IT/ITeS companies such as Wipro, Tech Mahindra, etc. Two of the more prominent commercial markets in the city are Asilmetta – Waltair Uplands and the IT hub of Madhurawada – Rushikonda. Non-IT building supply mainly driven by BFSI, Telecom, and Technology Segment in Visakhapatnam. Increase in IT/ITeS activity is expected to have a spillover effect on non-IT activity as well. Limited land availability has led to high capital values for land in the region.

Micro-Market Overview

The Micro-market around RTC complex is one of the prominent markets of the city in terms of Grade-A developments for Office spaces. Asilmetta houses about 52% of the city's Grade-A developments while the rest is spread through NAD Road, Waltair Uplands and Ramnagar. Limited land availability in this region has led to higher capital values of land which in turn has resulted in higher sale and rental prices. The current supply of Grade-A Office spaces is very low in the micro-market around the RTC omplex. (Source: Discussion with CBRE Representative) The available inventories of Grade-A Office spaces in the micro-market around the RTC complex have average sale price ranging from Rs 6,500 – Rs 8,200 per sqft as illustrated in the table:

S. No.	Locality	Average Sale Price (Rs per sqft)
1	Dwaraka Nagar	8,200
2	Asilmeta	6,500
3	Daba Garden Road	7,600
4	Siripuram	7,000

Source: www.magicbricks.com

The average rental pricing for the available inventories of Grade-A office spaces in the micro-market around RTC complex ranges between Rs 50-55 per sqft per month as illustrated in the table below:

S. No.	Locality	Average Rental Price (Rs per sqft per month)
1	Dwaraka Nagar	55
2	Asilmeta	50
3	CBM Compound Road	55
4	Siripuram	50

ASSET CLASS - COMMERCIAL (RETAIL)

Retail developments in Visakhapatnam are typically part of larger mixed-use developments. Organized retail activity has seen a marginal increase in the last few years, however, the same is still in its nascent stages in this market. Two retail malls (Visakhapatnam Central and Chitralaya Mall) have recently been added to the Daba Gardens-Jagdamba junction micro-market.

Micro-Market Overview

Dwaraka Nagar and Waltair Uplands micro-market which includes regions such as Asilmetta, Ramnagar, Telugu Talli Flyover Road, VIP Road, etc are predominately characterized by organized retail/big box retail. The stretch near RTC complex (between Asilmetta Junction and Telugu Talli Flyover) is regarded as a prominent commercial and retail hubs, owing to its strategic location at the center of the city. This high street retail hub is characterized by the presence of a mix of local, national and international brands. CMR Central, the biggest retail mall in Visakhapatnam lies within the micro-market. The current supply of retail spaces is almost negligible in the micro-market around the RTC complex. The average rental pricing for the available inventories of retail spaces in the micro-market around RTC complex ranges between Rs 60-65 per sqft per month as illustrated in the table below:

S. No.	Locality	Average Rental Price (Rs per sqft per month)
1	Dwaraka Nagar	65
2	Akkayapalem	60
3	Siripuram	65

Source: www.quickert.com & www.magicbricks.com

4 PRELIMINARY FINANCIAL AND ECONOMIC ANALYSIS

The preliminary cash flow analysis is determined with average revenue assumptions, based on land-use, a 3 year construction period, and a debt repayment period of 12 years.

		Y1					Y6	Y7	Y8	Y9	Y10	Y11	Y12	Y13	Y7
Project IRR	5%														
Project cash flows		(3,033)	(3,450)	(7,256)	407	596	689	719	566	799	840	880	884	705	861
Add : Debt		1,820	2,070	4,353	-	-	-	-	-	-	-	-	-	-	-
Less : Debt Repayment		-	-	-	687	687	687	687	687	687	687	687	687	687	687
Less : Interest on debt		127	390	849	1,106	1,010	914	817	721	625	529	433	337	240	144
Cashflow to Equity (Post Tax)		(1,340)	(1,780)	(3,752)	(1,386)	(1,101)	(911)	(786)	(842)	(513)	(376)	(240)	(139)	(223)	30
Equity NPV	(7,512) Rs Million														
Equity IRR	3%														

Accuracy of costs estimates is +/- 50%

REALIS—A REAL ESTATE INFORMATION SYSTEM FOR TRANSPARENT MARKET DATA

SOURCE:	Urban Redevelopment Authority
LOCATION:	Singapore
YEAR OF STUDY:	2006

CONTEXT

To keep track of the rapidly changing real estate market in the country of Singapore, the Urban Development Authority released a database of real estate information to private developers and other interested stakeholders and citizens. The tool, REALIS, provides data on price, availability, market conditions, and stock of residential, commercial and industrial properties in Singapore.

OBJECTIVE OF THE STUDY

- To encourage private investors to participate in the real estate market, with an improved awareness of market conditions and trends.
- To study and review the trends in the real estate market to predict future trends and inform sustainable development.
- To ensure the real estate market is transparent and inclusive, with a simplified tool for receiving up-to-date information on market conditions.

APPROACH

REALIS is a subscription-based web tool for private developers and citizens to engage with live and daily updated real estate market data.

01 DEVELOP AN OPEN SOURCE REAL ESTATE INFORMATION SYSTEM

Create an easily accessible tool that provides citizens and private developers with an intuitive way to track real estate market conditions. The tool should be:

- Open Source, Intuitive and Transparent
- Easy to Access via the Internet
- Regularly Updated

02 ALLOW CITIZENS AND PRIVATE DEVELOPERS TO SUBSCRIBE AND RECEIVE UPDATES ON MARKET TRENDS

03 REGULARLY UPDATE AND SHARE CHANGES IN MARKET CONDITIONS WITH PRIVATE DEVELOPERS AND INVESTORS TO ENCOURAGE THEIR PARTICIPATION IN THE MARKET