RESIDUAL VALUATION OF LAND PARCEL AT AIROLI

Shekhar Nagargoje, Jaikishan Dhondiyal, Tanisha Shetty

RICS School of Built Environment, Amity University, Mumbai

Background

In the absence of comparable sales, the development approach to valuation (also known as residual valuation) is considered an acceptable method to determine the value of land. The method involves considering the value after the completion of the development, then by deducting the cost of such a development, the remaining amount (residual amount) is the amount that a developer would be prepared to pay for such a property in order to obtain the development potential (Boshoff, 2011). Currently, Airoli real estate market is saturated and recently there has not been any transaction related to land parcels, so to derive at a land value application of residual valuation approach is appropriate as it take into consideration current real estate market trends, which directly rely on the proposed mix of development conceptualized by developer.

Introduction

Property owners or buyers often require an indication of the amount for which the property could be sold or purchased. Reliable methods of valuation such as the comparable sales method or income capitalized method are majorly used to determine the value of a property (Boshoff, 2011). Residual method of valuation is adopted when the other methods cannot be applied. To understand the methodology of residual valuation, a land parcel located at sector 20 of Airoli is the subject property to be transacted for a residential development. Airoli is the northernmost node of Navi Mumbai and is an established locality in the Mumbai Metropolitan Region. The determination of the land value depending upon the development potential can be derived from the development approach to valuation method. It would involve conducting market analysis to input accurate values related to cost of construction, current market trend, etc. The subject
location falls under Navi Mumbai Municipal Corporation (NMMC) and hence the development would follow NMMC development control regulations.

**Research question**

1. Is residual valuation approach an appropriate valuation approach to derive at a land value in a saturated market?

**Objective**

The objective of the study is to apply the residual valuation method to derive the market price for the subject land parcel and validate with the current market value.

**Research methodology**

1. Conducting market analysis to collect and analyze data for the proposed development.
2. Assess the value of the assumed development on completion.
   
   Value of the completed development is the market value of the proposed development assessed on the special assumption that the development is complete as at the date of valuation in the market conditions prevailing at that date. This value is referred to as Gross Development Value (GDV). (RICS, Valuation Information Paper No. 12: Valuation of development land, 2008)
3. Assess all the cost of completing the assumed development scheme
   
   Costs could be broken down into pre-construction, construction and post construction.
4. Estimate residual land value.
   
   The costs are added together and deducted from GDV to arrive at a Gross Residual Value (GRV).
Analysis

Location Analysis

The population of Navi Mumbai according to the 2011 census is 11,20,547 and household size is 4.10. The projected population for the year 2021 is 17,03,298. The Graph 1 below shows the population growth over the past 50 years and the projected population for the next 30 years (Mumbai Metropolitan Regional Development Authority, 2016). The graph below shows the decadal percentage increase in population in the Navi Mumbai region. The projected population growth percentage shows a decreasing trend due to these areas reaching almost their saturation levels.

Figure 1: Location of Airoli. (Source: Google earth and Google Images)

Graph 1: Population growth of Navi Mumbai
Airoli is divided into 28 sectors shown in the map below. The Navi Mumbai node, referred to as the “Gateway of Navi Mumbai” has shown rapid development due to its location and developed infrastructure. Its proximity to central business district of Powai and BKC further makes it a strategic location. Airoli has developed to become an IT hub with the presence of major IT Parks of Mindspace, Reliable Tech Park and MIDC. The Existing IT parks employ over 70,000 people (Mindspace, 2019).

Figure 2: Sector distribution and Land use plan of Airoli (Source: Google Earth, Wikimapia)

Thane-Belapur road and Mulund-Airoli road facilitates rapid connectivity to the rest of the city. Local trains connect Airoli to Panvel and Thane. Distance to CSIA (Mumbai) – 25 Km and NMIA (Navi Mumbai) – 24Km (proposed).
Aroli has an established social infrastructure. Well known international schools like Vibgyor, New Horizon Public are present in Aroli. Educational Institutes like Dutta Meghe College of Engineering and colleges offering management and science courses have their presence in Aroli. The maps below indicate the available amenities of educational institutes, hospitals and malls at Aroli.
Site analysis

The subject land parcel location at Airoli is in Sector 20. The area of the land is 9600 Sq.ft. It is accessible from the 30 m wide Knowledge park road and an internal road that is 11m wide.

Figure 4: Location and accessibility of the subject site. (Source: Google Earth)

Sector 20 C of Airoli is predominantly MIG residential neighborhood with a few small retail stores. The subjected land parcel has the exposure and the frontage of the Airoli Knowledge Park road and faces the expansive mangroves and the creek.
Findings

By conducting a primary research by visiting the subject land parcel in person and studying surrounding vicinity of the subject land parcel, it was found that the real estate development was more of MIG level (Middle Income Group) residential. As the real estate market in Airoli is saturated there is high demand in the residential sector and also due to corporate establishment of commercial and IT Business Park in sector 20B of Airoli, such as Mindspace and Capgemini, which are located at a distance of 1.5 km via Mulgasan road from the subject site. By studying the Nodal development plan of Airoli, it was found that the subject property is Residential. (CIDCO, Nodal plan of Airoli). The maximum permissible F.S.I applicable to subject land parcel is 1.00 (CIDCO, GENERAL DEVELOPMENT CONTROL REGULATION, 1975).

Observation

The development proposed for calculating the land value is mix of residential and retail development. By studying the Development Control regulation norms (CIDCO, GENERAL DEVELOPMENT CONTROL REGULATION, 1975) the proposed development is of 8400 Sqft of residential and 1200 Sqft of retail. By calculating the GDV (Gross development value)
and all the cost related to development of the subject land parcel, the land value observed is Rs 5,700.

<table>
<thead>
<tr>
<th>Cost of Construction - Residential (Rs/Sqft)</th>
<th>1,500</th>
</tr>
</thead>
<tbody>
<tr>
<td>Source: - Renox.in</td>
<td></td>
</tr>
<tr>
<td>Cost of Construction – Retail (Rs/Sqft)</td>
<td>1,800</td>
</tr>
<tr>
<td>Source: - Renox.in</td>
<td></td>
</tr>
<tr>
<td>Average Configuration Size- Super Built up area of 1 BHK (Sqft)</td>
<td>650</td>
</tr>
<tr>
<td>Source: - 99acres</td>
<td></td>
</tr>
<tr>
<td>Average Configuration Size- Super Built up area of 2 BHK (Sqft)</td>
<td>800</td>
</tr>
<tr>
<td>Source: - 99acres</td>
<td></td>
</tr>
<tr>
<td>Average residential value (Rs/Sqft)</td>
<td>11,500</td>
</tr>
<tr>
<td>Source: - Primary survey, 99acres,magicbricks</td>
<td></td>
</tr>
<tr>
<td>Average retail value (Rs/Sqft)</td>
<td>15,000</td>
</tr>
<tr>
<td>Source: - Primary survey, 99acres,magicbricks</td>
<td></td>
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</tbody>
</table>

Calculations

<table>
<thead>
<tr>
<th>Site Area (Sq.ft.)</th>
<th>9600</th>
</tr>
</thead>
<tbody>
<tr>
<td>F.S.I</td>
<td>1</td>
</tr>
<tr>
<td>Total Built up Area(Sq.ft.)</td>
<td>9600</td>
</tr>
</tbody>
</table>

**DEVELOPMENT PLAN**

<table>
<thead>
<tr>
<th>Residential Units</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1 BHK</td>
<td>8</td>
</tr>
<tr>
<td>2 BHK</td>
<td>4</td>
</tr>
<tr>
<td><strong>Total Units</strong></td>
<td><strong>12</strong></td>
</tr>
</tbody>
</table>
**Hurdle Rate:** A hurdle rate is the minimum rate of return on a project or investment required by a manager or investor. (Investopedia, 2019)

<table>
<thead>
<tr>
<th>Residential Unit Size</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1 BHK (Total Built up area) - Sqft</td>
<td>650</td>
</tr>
<tr>
<td>2 BHK (Total Built up area) - Sqft</td>
<td>800</td>
</tr>
<tr>
<td>Rs/Sqft</td>
<td>11500</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Value/unit</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1 BHK (Rs)</td>
<td>7,475,000</td>
</tr>
<tr>
<td>2 BHK (Rs)</td>
<td>9,200,000</td>
</tr>
<tr>
<td>Total Residential Sale Value (Rs)</td>
<td>96,600,000</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Retail</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>No of Unit</td>
<td>3</td>
</tr>
<tr>
<td>Sq.ft/ Unit</td>
<td>240</td>
</tr>
<tr>
<td>Rs/Sqft</td>
<td>15000</td>
</tr>
<tr>
<td>Value/ unit (Rs)</td>
<td>3,600,000</td>
</tr>
<tr>
<td>Total Retail sale value (Rs)</td>
<td>10,800,000</td>
</tr>
</tbody>
</table>

| Parking                | 12       |
| Hurdle Rate            | 10%      |
| Project Value (Rs)     | 107,400,000 |
| Maximum Supported investment (Rs) | 97,636,400 |

**COSTS**

<table>
<thead>
<tr>
<th>Building Construction</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Residential (Rs/sq.ft.)</td>
<td>1500</td>
</tr>
<tr>
<td>Commercial (Rs/sq.ft.)</td>
<td>1800</td>
</tr>
<tr>
<td>Sub total (Rs)</td>
<td>9,096,000</td>
</tr>
</tbody>
</table>

| (Total Construction Cost) (Rs) | 9,096,000 |
Conclusion

It can be concluded from this study that residual valuation or developer residual valuation method is suitable for the Real Estate Developers or the individual who are bidding for a land parcel respective of their design mix. Residual valuation method is suitable for establishing a land value where there has not been many recent transactions.
References


