AS-A03

THRESHOLDS FOR TOD REAL ESTATE DEMAND

This Knowledge Product is intended to be used as an interactive Excel spreadsheet. These tools are available online on the GPSC's TOD website and the World Bank's TOD COP website. The reader should first review the summary presented below before using the spreadsheet tool.

Type: Spreadsheet + User Guide

INTRODUCTION

Real estate developments are broadly classified into residential, retail, commercial (offices) and hospitality. In the case of TOD, however, mixed-use developments are highly recommended as they promote 24/7 use of transit-accessible locations and also promote walkability. The success of revenue earnings in such a mixed-use project is dependent on several factors, out of which appropriate sizing and program development are key factors.

Typically, in low-density markets, residential development is assumed to be the market driver dictating demand for all other components of real estate. However, in many TOD projects, the micro-market is governed by commercial and retail developments. Therefore, the proportion of uses within a mixed-use development is dependent on the optimization of different development components in terms of cross-financing requirements.

The demand for real estate is demonstrated through two principal indicators, namely, **price** and **occupancy**. The price is a direct variable of demand and supply scenarios in the real estate micro-market. The occupancy ratio provides the vacancy (supply– demand) status of the market and therefore rationalizes any scenario of overpricing by a seller.

The property yield is an indicator that helps measure future income or the earning potential of a real estate investment. Based on the earning potential of each component, the development components may be ranked as shown below.

To determine the real estate demand of a property, it should be measured across the price and occupancy spectrum as shown in the chart on the next page. Within each possibility, the potential land use mix must be evaluated to best balance the revenue risk with the revenue potential as illustrated below.

For example, in highly priced locations with high revenue risk, development components with moderate property yields are preferred so that the potential return can moderately balance capital investment. In highly priced locations with low risk, on the other hand, high yield investments are preferred so that maximum profitability can be gained. Similarly, in lower-priced locations, low to moderate yield investments are preferred depending on the risk involved.

This chart can be used in setting the initial sketch program for a proposed development. Based on the initial sketch, a detailed financial due diligence is highly recommended before proceeding further on project structuring and financing.
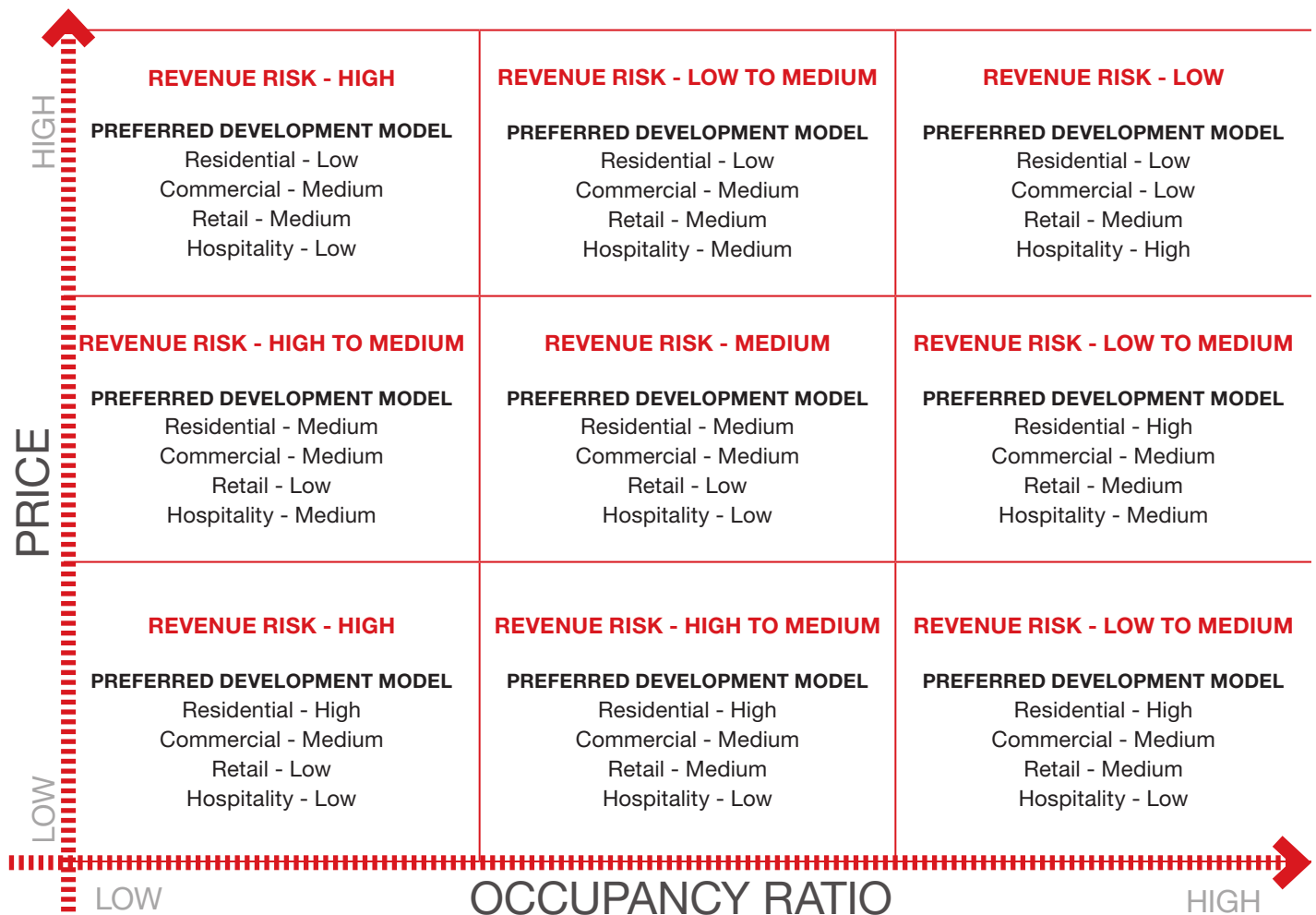
Disclaimer: *The Transit-Orientated Development Implementation Resources & Tools knowledge product is designed to provide a high-level framework for the implementation of TOD and offer direction to cities in addressing barriers at all stages. As the context in low and middle-income cities varies, the 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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S.No	Development Component	Measurement Indices	Property Yield* (Annual Rental Income / Capital Value)	Ranking based on revenue potential
1	Hospitality	Revenue per Available Room, Average Room Rate	Highest	1
2	Retail	Capital and Rental Values	Moderate to High	2
3	Commercial (Office)	Capital and Rental Values	Moderate to High	3
4	Residential	Capital and Rental Values	Lowest	4

* the Property Yield descriptions shown here are for comparison between different development components. Yield rates are usually governed by factors such as location and micro-market conditions. in 2018, the commercial yield rates ranged from 9% in Sao Paulo to 5% in Beijing (JLL Global Research 2018), whereas residential yield rates ranged from was 4% in Sao Paulo and 1.5% in Beijing (www.numbeo.com).

ASSUMPTIONS

	LOW OCCUPANCY RATIO	MEDIUM	HIGH

HIGH

REVENUE RISK - HIGH

PREFERRED DEVELOPMENT MODEL
Residential - Low
Commercial - Medium
Retail - Medium
Hospitality - Low

REVENUE RISK - LOW TO MEDIUM

PREFERRED DEVELOPMENT MODEL
Residential - Low
Commercial - Medium
Retail - Medium
Hospitality - Medium

REVENUE RISK - LOW

PREFERRED DEVELOPMENT MODEL
Residential - Low
Commercial - Low
Retail - Medium
Hospitality - High

REVENUE RISK - HIGH TO MEDIUM

PREFERRED DEVELOPMENT MODEL
Residential - Medium
Commercial - Medium
Retail - Low
Hospitality - Medium

REVENUE RISK - MEDIUM

PREFERRED DEVELOPMENT MODEL
Residential - Medium
Commercial - Medium
Retail - Low
Hospitality - Low

REVENUE RISK - LOW TO MEDIUM

PREFERRED DEVELOPMENT MODEL
Residential - High
Commercial - Medium
Retail - Medium
Hospitality - Medium

REVENUE RISK - HIGH

PREFERRED DEVELOPMENT MODEL
Residential - High
Commercial - Medium
Retail - Low
Hospitality - Low

REVENUE RISK - HIGH TO MEDIUM

PREFERRED DEVELOPMENT MODEL
Residential - High
Commercial - Medium
Retail - Medium
Hospitality - Low

REVENUE RISK - LOW TO MEDIUM

PREFERRED DEVELOPMENT MODEL
Residential - High
Commercial - Medium
Retail - Medium
Hospitality - Low

PRICE — HIGH / LOW

OCCUPANCY RATIO — LOW / HIGH

PROPORTION OF THE COMPONENTS IN OVERALL LAND USE MIX

Low	10 - 15 %
Medium	25 - 30%
High	40 - 50% or more

A graphical representation of a typical spectrum on real estate conditions varying from highest to lowest prices and highest to lowest occupancy ratios.

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PURPOSE

This tool has been designed to provide assistance in analyzing the potential for real estate development and structuring of different mixed-use development components for optimized revenue generation. The tool identifies the TOD projects under four basic categories viz.

a. Site-based,

b. Station-based,

c. Corridor-based and

d. City-based.

Also, it classifies the region/location of the project planned for development to arrive at suggestive strategies for structuring real estate components. In addition, it also provides a detailed analysis for individual component i.e **Residential, Retail, Commercial** and **Hospitality** based on the market scenario and grade of existing supply. This tool aims to assess the Market Value of the TOD project planned for development

DATA SOURCES

→ Population Density - population per sq. km
  o City Region
  o Micro-market Area

→ Infrastructure Cost Ratio - pure ratio (total investment planned for the transit infrastructure per square meter divided by the land cost per square meter)

→ Realty Price Ratio - pure ratio (average price of the property per square meter divided by the land cost per square meter)
  o Residential
  o Retail
  o Commercial
  o Hospitality

→ Premium Supply Ratio - pure ratio (total supply in square meters of grade A property in the micro-market divided by total supply in square meters of grade B property in the micro-market)
  o Residential
  o Retail
  o Commercial
  o Hospitality

→ Occupancy Ratio - pure ratio (total rate of occupied units by total units)
  o Residential
  o Retail
  o Commercial
  o Hospitality

HOW TO USE THE REAL ESTATE DEMAND TOOL

First, the user should read the User Guide Tab before using the spreadsheet. The application of the Real Estate Demand tool consists of these basic tabs:

THE TOOL INCLUDES:

- USER GUIDE
- DASHBOARD
- ASSESSMENT
- RESIDENTIAL
- RETAIL
- COMMERCIAL
- HOSPITALITY
- REFERENCE MATRIX
- REFERENCE CASE CITIES

01 SELECTING SCALE AND CONTEXT

- **TOD PROJECT SCALE:** Select the scale of the TOD project to highlight hte appropriate cells on the Dashboard.

- **PLACE VALUE**: Select the development context of the TOD project.

- **NODE VALUE**: Select the context of transit nodes.

Based on the above selection, the reference to development strategy and structuring of real estate components is provided in "Dashboard" sheet. The portion highlighted in yellow is the suggested initial strategy to proceed for further analysis.

02 DATA INPUTS IN ASSESSMENT

Select the value in the orange box, after reading the instructions carefully.

ORANGE ▼
Input Selection Box

03 VIEW THE DETAILED STRATEGY RECOMMENDATIONS

Within each land use, see the specific strategy recommendations on structuring development of real estate components in the project.

Mexico City, Mexico