Property Location: Exploring Miami

Residential property prices and centrality index

“Location, location, location” is the number one rule in real estate, and often the most underestimated. Big data from connected devices and location-based apps provides insights on status quo and future trends of locations. [PropLocation]

Habidatum transforms this data into synthetic metrics in order to inform location-specific decisions in real estate and urban planning.

This is the third article in a set of publications describing our approach to location and its growing importance to property values estimation and revenue forecasting in real estate.

We continue the exploration of Miami metropolitan area, now focused on the Centrality Index distribution and the property prices landscape. Centrality Index is calculated using Habidatum algorithm fed with open and proprietary data on business locations and geo-tagged human activity. Property prices are mapped using the open data published by Miami Dade County.

Miami metropolitan area: interconnection of real estate prices and urban tissue

The concept of city centres – urban centralities – is grounded on the new nature of places, that leads to a fundamentally different way to classify and rank different areas based on the analysis of the following components: lifestyles and communities, functional mix and diversity, images and sentiments, etc.

For such an analysis Habidatum developed a Centrality Index that records people’s concentrations (of local residents, workers, visitors, irregular users) and the volume and diversity of functions (social and commercial services). The Index is calculated for each area on a regular grid, identifying not only strong, but also developing and emerging centers.

To get a deeper insight on the diverse city neighbourhoods and how they differ among themselves, the Centrality Index values may be compared to other data sources describing the location – in this case, property prices.

Miami exploration identifies some cases that characterise several typical locations in the city focusing on the ratio between real estate property prices and the Centrality Index. Importantly, those cases are not just obvious center-periphery extremes (city center with
high centrality and expensive properties and/or remote suburbs with minimum centrality and lower price), but more intriguing.

Pic. 1a. Secondary urban center (Doral community): High residential prices.

Pic. 1b. Secondary urban center (Doral community): High Centrality Index.
For example, Centrality Index makes it possible to clearly delimit the local centers in the nearby suburbs – as **Doral community** (pic. 1a – 1b): these are usually local index peaks (the highest in the area but still lower than the locations in the dense urban environment) surrounded by areas with minimum index values. Such areas of diversity (both stronger + weaker centers) have a great positive effect on the price of real estate. However, such an effect does not extend broadly, especially in urban sprawl areas, where these are just the highest-centrality clusters that get a “price premium”.

Pic. 2a. Edge city (Leisure city): Low residential prices.

Pic. 2b. Edge city (Leisure city): High centrality index.
Clusters of higher centrality, such as Leisure city (pic. 2a – 2b), which is a typical “edge” city in the south-east of Miami metropolitan area, affect the surroundings in a different way.

Such local centers of remote suburbs concentrate numerous shops, services and have a lot of visitors, but do not cause a significant increase in property prices. A large portion of the rich customers are attracted by central and coastal locations with a more vivid urban environment, while the local centers in the “edge” cities are only targeted at serving the everyday needs of local consumers and do not mark a fundamental improvement in the quality of the urban environment.
The example of the coastal part of the city south of the Downtown demonstrates the key price setting pattern in a linear city (pic. 3a – 3b). The oceanfront location gives a huge boost in real estate prices, which deforms the regular prices landscape. As the distance from the oceanfront increases, the prices go back to correlating with the centralities landscape. So, in the interstate clusters of high centrality in the Kendall, South Miami and Coral Gables, the price is expectedly higher than in the same-distance-from-ocean areas with a lower centrality index.
Appendix 1

Residential prices in Miami

Legend:
- < 100
- 100 - 150
- 150 - 250
- 250 - 350
- 350 - 450
- 450 - 700
- > 700

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Centrality index in Miami