Property Location

Insights on status quo and future trends of locations

"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 second 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.

Location as a basis of a commercial real estate portfolio

Managing a commercial real estate portfolio as a resource of steady income requires a thorough understanding of global, national, and local trends that characterize the dynamics of demand for various types of properties in particular locations. The type of urban space and the value of the urban community both play a key role in determining the ability of a commercial real estate asset to generate income in the medium and long term,.

Although many market tendencies often become global trends, they are largely a result of local contexts (geographically and/or economically etc.), which in turn depend on the steady spatial characteristics of the urban environment – accessibility, mobility patterns, consumer behavior, value of housing stock, and employment in a socio-cultural context.

According to Bond University, 44.6% of commercial real estate portfolio managers rated the risks of location and local context as high and 18.5% – very high. This means that various neighbourhood/local characteristics for different types of commercial real estate become key factors in the ability of an asset to generate financial flow of a certain size and level of sustainability.

Monitoring location performance to determine property value

Property value is highly influenced by its location. Location can be viewed as the qualities of the site and the surrounding neighborhood, and the position of the site in a broader context, i.e. the variety of accessible urban values: jobs, services, recreation spaces and other points of interest and functions.

Therefore in the location-oriented context the increase of property value is driven by the following factors: site and property improvement (urban design, construction materials, etc.), neighborhood growth, improvement of the site's immediate surroundings, e.g. the emergence of a new center — a large commercial district, a park, a concentration of high quality services, increased accessibility to the broader context, the existing and growing activity centres.

Due to growing accessibility of aggregated people-generated data, the named location-priented factors can be explored to monitor a place's performance and changes in the surrounding context. Also, this data becomes extremely important to support property investment decisions. Which particular factors can be measured?

- Characteristics of sites and neighborhoods:
    - population density and people's activity patterns;
    - function density and diversity, pedestrian and transport connectivity;
    - population, income, employment, housing, crime trends;
- Pricing and competition in real estate market (commercial/residential);
- Number and diversity of the surrounding centers of various types (transport hubs, retail areas, recreation spaces, office centers etc.) – seeing property as a part of local community's lifestyle, where the connections between locations and the "chains" of locations are even more important than each of the locations alone.

PropLocation

To address the above mentioned challenges and risks, Habidatum developed a tool for real estate investors that simplifies the search for new land parcels and properties, and calculates their growth potential to maximize profits [PropLocation]. Its basis is the Centrality Index, which records people's concentrations (of local residents, workers, visitors, irregular users) and the volume and diversity of functions (social and commercial services) in a given area. The Index is calculated for an area on a regular grid, identifying not only strong, but also developing and emerging centers.

By supplementing this Index with data from conventional sources for real estate analysts, such as data on real estate marketplaces, master plans and zoning regulations (describing future construction and development sites, transit network expansions), etc. we can not only successfully predict economic and functional parameters of the land parcel, but also forecast the value of real estate within the chosen area.

Public transportation – connecting present and future in Miami[1]

Let's take as an example how information on the changes in the public transportation system could be potentially used in this context.

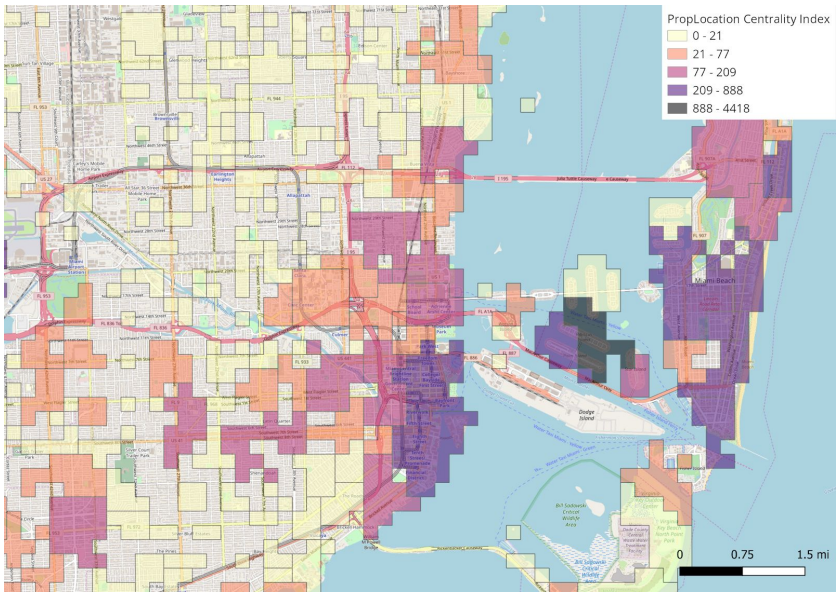

Fig. 1. Centralities in central Miami.

Analysing the centrality clusters in Miami[2] we can see the high values in the central part of the city while the remote areas are characterised by low diversity, frequently mostly mono-functional (residential/commercial).

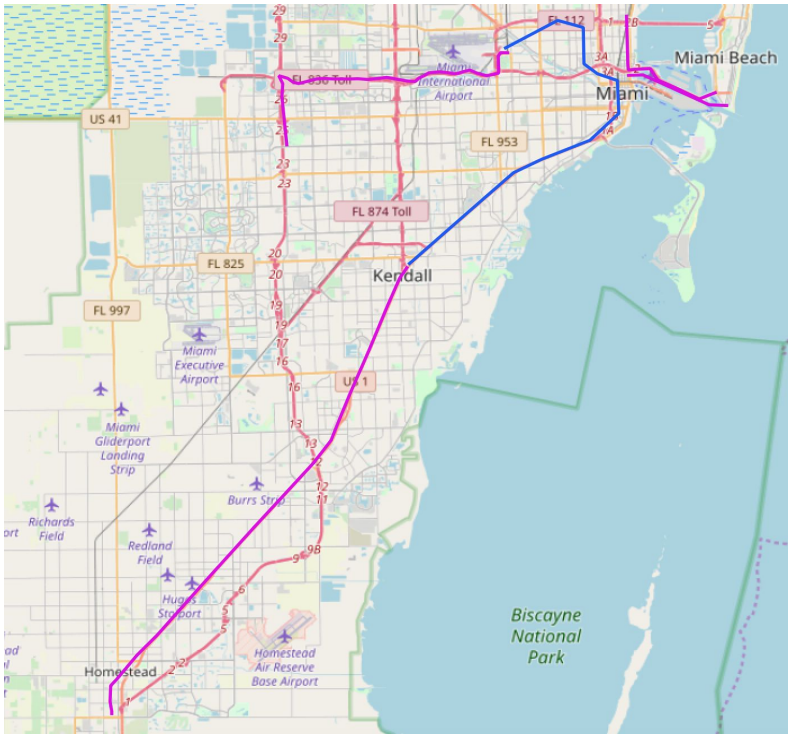

Fig. 2. Miami train network (in blue) and the transit network expansion (in pink).

[1] The research was conducted as a part of Habidatum's Internship / Smirnyagin Workshop 2019 by Maksimova Julie.
[2] See previous article for the concept details.

Having data on the current transit network and its future expansion (or modifications), we can calculate how the overall centralities' structure will change, and how that will influence area's accessibility – with faster and easier accessibility areas become more atrractive.

Transit data is open and accessible on TransitFeeds.com. It contains information on every public transportation line with details on the location of the stops, and the time and frequency of the service. The data is widely available for US cities and reliable as it was created originally for Google Maps. What can be extracted:

- Precise path of every line (the data contains coordinates of each stop);
- Speed of the service – the distance travelled from the first stop to subsequent stops, and time travelled, as there is precise arrival and departure time for each stop.

Analysing the described case, locations lying in the line of a transport system development should be the first that are subject to change, which is significant because transit hubs attract commerce and new businesses, creating jobs and workplaces, shaping the local environment and local communities. With the use of data we can define and describe these changes, predicting developing paths for the areas influenced by the oncoming shift caused by changes to the transport system.

The development of new transit, commercial or residential sites – all is reflected in real estate growth rates which can be predicted using property location and real estate data. Our research on the concept continues, more stories on the data and relevant proplocation cases will follow.