

The Use of GIS Technology for Real Estate Assessors

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The best real estate assessment report should be based upon comparison with property transactions carried out in the vicinity of an investigated property.

The more transactions the assessor can obtain in his analysis, the more likely the figures of the assessor report would propagate an accurate data model.

In order to obtain best data model, the characteristics of the neighboring transactions should have as many similarities to the investigated property.

The similarities that affect most the data model are:

1. The zoning of the land.
2. The zoning of neighboring parcels.
3. Land records and titles.
4. Environmental disturbances.
5. The land use of the property.
6. Age of the building.
7. Permit conditions.
8. Building constraints (Aviation, High voltage wires, Rivers overflow lines etc.)
9. Infrastructure development status.
10. Accessibility by various transportation means.
11. Status of infrastructure within the building (elevators, conduits for telecommunication and electricity, pipes conditions etc.)
12. Architecture considerations.
13. Expropriation percentage for public use

I might have omitted few more considerations, but it would only amplify the final conclusions of this article.

In the recent decade most of the assessors use computerized systems and applications to make their analysis of the datasets they use for their reports.

The fast access to various internet informative sites has made the assessors' job even simpler, due to easy access to major relevant data sets.

Nevertheless most of the assessor's report is based on alphanumeric partial analysis of the information due to lack of means to make the right aggregation of data.

The only geographic geocoding of land records relate to either address or land registry records like blocks and lots.

Once the land parcels have gone through land re-parceling (land division) the registry record of the various properties is changed, and if the assessor attempts to find a proper dataset for his job in such an area he loses part of the information that relate to the old parcels.

The same applies to queries relating to addresses; the assessor uses a buffer model which ignores neighboring transactions because they don't carry the same address field. In some cases the address is changing along one road which make the case even more difficult.

The use of GIS datasets via the internet allows usually only print screen option, and it is used to enhance the reports but it does not allow modification of the data model.

GIS technology has reached a degree that now-a-days any system that has location information, uses a spatial data base and an adequate GIS platform (which price is very cheap for any middle size office) with an application or browser to do most of the chores of the assessor.

Description of an optimal assessor GIS system

The GIS optimal system should be composed of 2 major components:

- a. A smart browser that would have at least two capacities:
 - a.1 The browser that would at least allow the user to perform spatial queries through the registry blocks and lots theme , the town plans with the land use parcels theme, and the nodes theme of the transactions where the assessors info is stored.
 - a.2 It is recommended that a layer with information relating to address, no. of floors, no. of tenants, no. of businesses will participate in the dataset, as well as an updated orthophotography.
 - a.3 The Browser should have an interface to old databases that are available in the assessor office records.
The interface should allow import of the data records to the GIS data sets using the field related to address or the one referring to blocks and lots, and will create an additional topology to the transactions theme.
In addition the browser should have a tool to handle independently entry of new transactions information.
- b. A geo-database .
 - b.1 The database should be a central data base handled professionally by a GIS oriented data warehouse.
The data warehouse should maintain the dynamic changes of the data base deriving from new town plans, and new subdivisions of the land, new buildings and constructions, earthworks etc.
 - b.2 The data bank should be interfaced to the registry files.
 - b.3 The data bank should be interfaced to the governmental betterment tax and property tax database files (individual to each country's regulations)
 - b.4 The data warehouse should keep all the historical divisions to allow the computation of percentage of land expropriation for public use , as well as to give the user a tool to inquire old transactions ,contracts (contract schemes), old court decisions or rulings.
 - b.5 The data warehouse should store all the transactions information collected from the assessors and allow the assessors who are subscribed to the system to share the information and to encourage them to increase the transactions they provide to the central database to give them a credit to acquire other sorts of data base.
 - b.6 The Geo database should integrate all planning restrictions both environmental or statutory restrictions such as aviation, high voltage, transportation etc.

BIOGRAPHICAL NOTES

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