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Geographical info. systems tools give life to real estate

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We all know that "a picture is worth a thousand words." The same is true of GIS mapping results. So what is it? To paraphrase an Appraisal Institute publication, "geographical information systems enable the user to capture, store, analyze, and visualize real property information data points of interest in a map or geospatial context." The spatial component of data makes it possible for the trained analyst or even casual observer to appreciate important relationships between different types of data that are otherwise less visible in our often mundane appraisal and consulting charts and exhibits. It facilitates analyses of often voluminous data and helps us arrive at conclusions that support better real estate decisions. It can help us work smarter and faster at a more meaningful level. These mapping tools aggregate, illuminate, enhance, emphasize and then convey useful information that most of us humans seem to prefer over words and numbers.

GIS technology emerged in the 1970's. Back in the 1980's, I attended a multi-day, big city GIS course taught by ESRI and was excited about the prospects for more informative and persuasive presentation of appraisal and consulting data and analysis. But, my optimism was somewhat deflated when I noted that little public, geo-coded data was available for analysis and mapping. Assessors and planners were in the vanguard of GIS use, but it took many years for mapping to become commonplace.

Where are we now? The dramatic advances in information and spatial technology currently, for the most part anyway, enhance our work and play. We are overrun by the real or perceived need for immediately available data and information. Technology and commercial mapping software have evolved from our old hard copy road map to dashboard GPS that rivals texting for driver distraction. We have progressed from simple desktop software location and comparable transaction maps to on line Google Earth, Yahoo Maps, Trulia and layered, geographically related data of all types from government entities and many commercial vendors we now take for granted. GIS weaves this all together and integrates the results for interactive use by those with the patience and resources (time and money). GIS is widely used today in many other fields such as government, health, environmental management, demography, and the military.

The results of present day, in depth, real estate related, geocoded data can be displayed geographically in very viewer friendly maps and exhibits. They can be far more content rich and memorable than the often long narratives that characterize our appraisal reports. These days, it is all about identifying and layering "stacks" of raw, geographically related data into information leading to useful conclusions. And, some have moved forward to linking data sets relationally for interactive valuation modelling (IVM).

How can real estate professionals now use GIS? For some abbreviated examples, appraisers and assessors can make value decisions using information about comparable property location, size,

neighborhood, sale price, access to transportation, demographics, and other economic features. Brokers can visualize geographically suitable properties based on buyer investment criteria, occupancy rates, listings, and time on market. Investors and lenders can evaluate property performance and underwriting effectiveness related to competitive location criteria, positive or adverse neighborhood influences, under or over performing locations, and demographics. Portfolio managers can evaluate diversification risk by property type, occupancy, employment, industry and other geographical impacts. Developers can perform site selection based on mapping of geographical features that are physically, functionally and demographically driven and which illuminate competitive area growth trends and opportunities. Retailers and market researchers can perform trade area analyses by mapping purchasing power to evaluate supply, demand and retail sales per s/f.

What does the future hold for GIS users? The pundits believe we will have more geographically related data that is highly integrated into IVMs evolving from current AVMs. Statistical analysis will also be integrated to provide results that drive more reliable interpretations and conclusions. Hopefully, none of this "progress" will remove real time, human judgment from the decision making process. This begs the questions: 1) Are some appraisal niches headed for extinction?, and 2) When? If this sounds remote, we are already hearing about the advent of driverless cars carrying commuters.

Rising standards of practice and fiduciary responsibilities are already requiring more use of GIS and IVMs in some appraisals to support strategic and tactical investment management systems. GIS is still less used by appraisers and many other real estate professionals due to the heavier requirements for hardware and software, data accumulation, geocoding, modelling and integration into reports. But, its use is increasing by some larger appraiser companies, consultants, brokers, assessors, developers, owners, service providers, and portfolio analysts. We are still only operating at a modest level relative to potential uses driven by faster and broader data accumulation, analysis, integration, presentation and "predictive analytics."

IVMs are data intensive. Public and for sale databases are now somewhat widespread. But, lack of high quality reliability can still mean some "garbage in, garbage out" regardless of model sophistication and skill of the user. The real estate market is showing increases in the size and capitalization of property owners and managers; their use of securitization; multi-property portfolios; the speed with which decisions must be made; and the amount of information and analyses needed to support decisions. As the experts have noted, these trends all favor use of GIS because of its inherent resource intensiveness. It has some simple, but more complex applications and is probably most suited to larger appraisal firms with the resources and support to use it economically.

GIS education is available from various sources. One of the foremost is ESRI, which conducts courses nationwide in use of GIS application. Appraisal Institute and collaborator texts also provide excellent overviews into the tools and applications. In this improving economic environment with more appraisals, stricter quality control, but flexible Scope of Work requirements, the best education and competent peer review are mandatory. The Appraisal Institute's mission is to provide premier real estate education, publications, peer review, maintenance of exceptional standards and ethics, and advocacy for the profession.

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