

What is GIS and how can it be used in real estate?

By: Mark Walter, CCIM

DEFINITIONS:

"In the strictest sense, GIS is a computer system capable of assembling, storing, manipulating, and displaying geographically referenced information, i.e. data identified according to their locations. Practitioners also regard the total GIS as including operating personnel and the data that go into the system." [USGS](#)

"A geographic information system (GIS) is a computer-based tool for mapping and analyzing things that exist and events that happen on earth. GIS technology integrates common database operations such as query and statistical analysis with the unique visualization and geographic analysis benefits offered by maps." [ESRI](#)

"GIS is an integrated system of computer hardware, software, and trained personnel linking topographic, demographic, utility, facility, image and other resource data that is geographically referenced." [NASA](#)

Hidden in most data is a geographical component: an address, postal code, census block, city, county, or latitude/longitude coordinate. With GIS, you can explore the spatial element of your data to display soil types, track crime patterns, analyze animal migration patterns, find the best location for an expanding business, model the path of atmospheric pollution, and make decisions for many types of complicated problems.

GIS has already affected most of us in some way without us even realizing it. If you've ever using an Internet mapping program to find directions, congratulations, you've personally used GIS. The new supermarket chain on the corner was probably located using GIS to determine the most effective place to meet customer demand.

USES IN COMMERCIAL REAL ESTATE

Like real estate, GIS is all about "location, location, location." GIS allows you to integrate a wide variety of data into one common format—a map. Presenting your customers with a visual representation of all the information affecting the desirability and value of a property can give a far more accurate picture of a property's suitability to their needs.

GIS technology gives you the tools to evaluate and analyze key factors when siting restaurants, stores, warehouses, and corporate offices such as

- Proximity to suitable customers
- Location of potential competitors
- Crime rates
- Transportation infrastructure
- Regional labor pool characteristics
- Environmental risk factors (i.e., floodplains, toxic sites, and others)

Real Estate Investment Trusts (REITs) can gain a competitive edge over traditional investments by using GIS to quantifying the investment potential of portfolios. GIS technology makes it possible to show properties in the context of potential customers/tenants, nearness to competitors, inventories of like property, labor pools, and risk factors.

USES IN RESIDENTIAL REAL ESTATE

A single map lets your customer compare multiple properties and their respective proximity to desired amenities such as schools, parks, and shopping centers. It can also gracefully introduce the subject of disclosure by displaying FEMA floodplain data and know toxic sites in an area.

Editor's Note: Mark Walter, CCIM, has been active in real estate in Southern Utah for the past twenty-nine years. He is the principle broker/owner of NAI Utah Commercial Real Estate. Visit him at www.markwalter.com