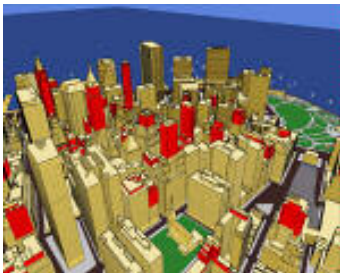
The Environmental Simulation Center

The Environmental Simulation Center (ESC) is a New York based, not-for-profit, planning and urban design firm. More at www.simcenter.org

CommunityViz™, a 3D-GIS decision support software suite that was conceived of by the ESC, is in commercial release.

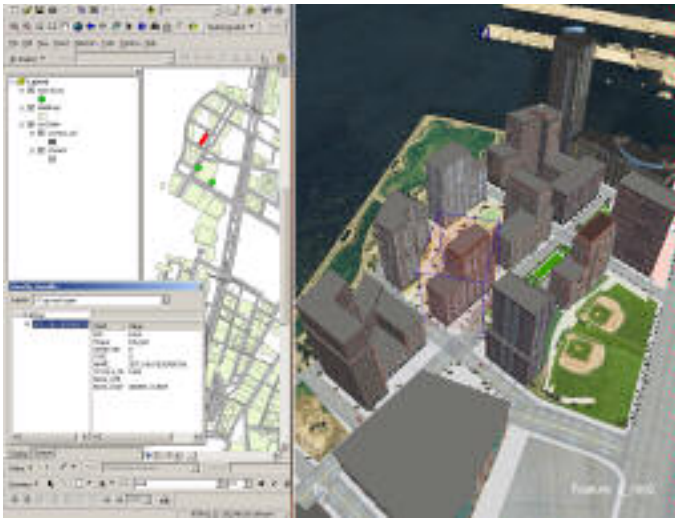


Interactive GIS for all Audiences

By George M. Janes, AICP

Have you ever used your GIS at a public meeting and an audience member makes it clear they have no idea what they're looking at? You're halfway through your presentation and someone asks, "So, tell me again, where's Main Street?" showing that your presentation thus far has been completely lost on the person.

There are some people who just don't understand 2D, top down images of maps. As planners, our job is not to force them to understand maps. Our job is to find a way to communicate information to everyone, even those who don't understand maps.



We've found that people who do not understand 2D, top down maps, often do understand 3D imagery of the same place. Over the past few years 3D imagery has become more familiar and many of us have software on our desktops that can create a compelling 3D scene. But the problem with 3D is that much of the rich information in our GIS is lost.

So what's a planner to do? Have both 2D and 3D of course!

Linking the 2D with the 3D: What is Urban Simulation?

Urban Simulation is the connection between your GIS and 3D software. Urban Simulation allows us to think, design, analyze, and experience places in both 2D and 3D, and often leads to a more comprehensive approach to planning that can be communicated to everyone, even those who can't read maps. In Urban Simulation the 3D experience is real-time, which means that participants can interact or go anywhere in the simulated environment as if they were actually there.

But the key to the Urban Simulation experience is the 3D link to 2D GIS. With that link planners can have both the maps on which they rely and the 3D scenes that are necessary to fully communicate the plans they show. The following image shows a split screen of an Urban Simulation environment of the Battery Park City area of Manhattan. The left side shows a GIS map document while the right side shows a 3D scene of the same area. Users can select elements on either side and have that selection reflected in both sides.

Either side can be minimized to allow full screen viewing.

"Real-time" Visualizations versus Animations/ Renderings

We favor using real-time 3D scenes over pre-rendered computer animations. All computer generated 3D images must be drawn, or rendered, before they can be viewed. These can be done either in real-time or they can be done in pre-rendered animations. Planners should resist the urge to rely on pre-rendered animation and go with real-time 3D.

Animation is usually much "slicker"

than real-time visualization. Because animation is pre-rendered it allows for much more complex scenes, and the animator can choose what the viewer sees. As a result, animations can be very seductive, and very misleading. For example, if a viewer wants to change the perspective or simply look up, pre-rendered animations don't provide the capability. Animation also severs the link to the information in your GIS.

Real-time refers to a live rendering that is close to simulating a viewer's real life experience. If a viewer wants to look-up or change their perspective they are free to move about in the scene. Real-time must sacrifice some detail in the 3D scene to render the scenes in real-time. For instance, instead of modeling every mullion on a building façade, that detail is best shown by pasting a photograph of the façade onto the model.

Summary

As planners we must:

1) Use the best information available to make our decisions.
2) Communicate that information to the largest number of stakeholders.
3) Communicate in a fully open and honest representation of a plan or design.

Urban Simulation with real-time GIS does all these things and if you don't have it already, you should be looking into it.

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ENVIRONMENTAL SIMULATION CENTER

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Explaining a Success Story

Using an Interactive GIS Solution

By Tony Azua

OpenWeb Info Mapper

How can you explain a success using GIS to the average person that neither knows about nor cares to know what GIS really is? From my perspective, I would say, take a look at the OpenWeb Info Mapper application on the worldwide web and see for yourself. No real understanding of GIS is required here. http://gisgate.co.clark.nv.us/openweb/

OpenWeb Info Mapper is an Internet application created and maintained by the GIS Management Office, Clark County, Nevada. The general purpose is to provide information about properties located anywhere within Clark County. The intuitive design and ease of use makes it very easy to get information about a property.

If you know the eleven digit parcel number of the property in question, just type it into the "Specific Parcel #" text box, click on the "Draw Selection" button and a parcel based map will be drawn with the selected parcel outlined. Then the user can simply click on the selected property on the map and a new window will open with a great deal of information about this particular property. There is a range of information here such as, owner name, site address, jurisdiction, a list of elected officials, zoning classifications, and other miscellaneous information. There are also links provided to various other resources to get more detailed parcel information including ownership history, flood zone information, tax bill details, parcel maps (PDF), soil maps (PDF), as well as development services document images (PDF) such as building permits, certificate of occupancy, land use permits etc.

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