GIS/Mapping

Case Study: GreenInfo

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for the OSI Information Program

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OSI – GIS/Mapping Project
Case Study: GreenInfo
Person Contacted: Larry Orman

ISSUE: *Can small non-profit organizations manage GIS projects on their own?*
SOLUTION: *A ten-year-old GIS and mapping consultancy organization reflects upon the usage of computer-based mapping by a wide range of organizations.*

(Adapted from an interview with Larry Orman, GreenInfo's Executive Director.)

Larry Orman, Executive Director of GreenInfo (http://www.greeninfo.org), knows GIS. Having established the organization in 1995 as a way to bring GIS into the vernacular of various organizations, he has worked with groups ranging in focus from environmental and land management work to public transit. Over the years, Orman has witnessed the explosion of GIS, particularly in his purview of largely California-based organizations, and as such has developed strong opinions on the efficacy of GIS and on its relevance to nonprofits.

TRENDS

Many organizations that have approached GreenInfo (the organization no longer focuses exclusively on environmental mapping, but feels it would be confusing at this point in its history to change its name) for consultancy services simply want a map with a census variable identified, or a special land site shown. A few are more analytic and hope to address and assess a particular question at great depth, the majority lie in the middle, as groups who need data analysis and maps that display the information in compelling visual terms. There is "no real model of what people are doing [with maps]," says Orman. Different sectors are engaged in vastly different levels of map making and map analysis. "The key is to segregate by capacity. Local health clinics might be interested in customer analysis, but have no ability to do anything with that analysis," says Orman.

Orman believes interactive mapping is particularly challenging for smaller nonprofits, as there is a lot of focus now on whether maps are going to be served on the Internet. "You can't define these [web mapping] projects by what the technology can do, rather it's whether the users get any significant interaction with them…" The *organization's* contact with the technology, therefore, is a more meaningful issue than whether or not they can afford or create the maps in the first place. "There's a real tendency to look at the tool side, and less so on the user experience. [GIS tools like] Map Server takes

significant skill to put up, but don't always create value to the ultimate users. Groups looking to use the web for mapping have to have a critical eye on whether that's the right choice for their resources."

For many groups, the availability of GIS is already pretty well known, or at least to a point. "As a starting place, groups come in and say 'this is what we think we want,' but what they typically don't know is how to frame their issue to be subject to geographic analysis. They typically have a point of view they want to reinforce." GreenInfo consequently engages in a good deal of communications and marketing consulting: "Who needs to see this? What sort of impact do we need to make upon them? Having to bring it all down to one or a couple of maps forces you to think about what your message is," says Orman. If an organization is unable or unwilling to put one-third to one-half of a project budget toward this communications analysis, notes Orman, they likely do not have the funds or dedication to devote to the project as a whole. "It can be a huge mistake to put this technology into a project if you're not clear about how to present your results well at the end. Many groups look at GIS capacity as computers, software and data, but with GIS the most expensive thing is a person – not just their salary, but to have a person dedicated for a long period of time. This investment in GIS is a life cycle – at some point, someone else has to come in and take over when an employee leaves, and it takes a lot of sophistication to maintain the system to ensure transferability."

"GIS is not for everybody… We at GreenInfo don't encourage too many groups to have internal GIS capacity because the track record [for this] has been poor throughout the years. Some have the people to run a good system. But usually after two years, especially for smaller groups, the funding is gone and they've developed their GIS in a very idiosyncratic way. We sit back and wait… and eventually they tend to rely on us or other consulting groups."

GIS VS GOOGLEMAPS VS MICROSOFT VIRTUAL EARTH

GreenInfo has been encouraging some of their client groups – who largely remain in the GreenInfo network years after their initial project is begun – to look at GoogleEarth, which they see as expanding what groups can do on their own. Yet on the whole this sort of free software doesn't address the need of the action-oriented organizations, which is to create both web-based and interactive maps *and* physical tangible maps as well. "If you look at many nonprofits' websites you may find static maps of their advocacy issues, but you often won't find any good ones. While it's 'cool' to have interactive stuff right now, a lot of these sites produce very poor printed maps. For most people having a really good paper map is by far the most effective use of a geographic image." According to Orman, Microsoft and Google are increasing the arena of people who think geography is

something worth heeding, but in terms of GIS functionality, the free products face serious limitations.

To some extent, says Orman, the advent of popular free mapping software is part of a longer term "developmental cycle." Although it will take years for the technology to be both accessible and of a consistently high quality, Orman sees the current situation as a good thing. "It's not bad that people are making terrible decisions about data or are making terrible maps on various interactive web sites. They're learning about geography... In that sense, it's good for people to have [any] tools. But to apply true GIS analysis to issues and communication, you still need to work directly with someone who can customize GIS for your own purposes."

Successful Examples

Orman cites a number of university-based groups who are conducting intelligent projects with GIS. Many academics have work connected to governmental and public-interest groups, and Orman sees a good deal of two-way exchange between the public and academic worlds. One such group is Neighborhood Knowledge California, based at University of California, Los Angeles, which has created an interactive website that maps a number of demographic data sets for the purpose of neighborhood research. The project states its goal as "promoting greater equity in housing and banking policy by providing a set of web-based tools for documenting and analyzing trends," and through its very colorful, clear site, offers the ability to search by variable (ethnicity, education level, income, etc) or by zip code. As an endeavor of the UCLA School of Public Affairs, the project not only forces demographic, educational and health issues into the policy arena, but as an interactive tool, it also encourages participation at every level.

The Policy Analysis for California Education, or PACE, program at University of California, Berkeley has also undertaken a mapping project, "Mapping the Availability of Center-Based Care in Latino Communities." Orman cites this particular project as a significant movement in university research, which traditionally has been "quite sophisticated at method and research, but weak in presentation." PACE has employed GIS as one element in their research, which typically feeds into policy debates. Rather than relying upon the maps as an end result of their research, PACE has essentially chosen to use the maps to bolster their work and to encourage interest in their research topics.

The Transportation and Land Use Coalition, a GreenInfo client, sought to track the relative accessibility of public services (hospitals, schools, parks) throughout a number of counties in North-Central California via public transportation. In accordance with Orman's descriptions of elements common in successful mapping projects, TALC's Roadblocks to Health had

already identified its research goals and did expected the mapping not to reveal, but rather illustrate, its findings. Users wishing to learn more about the organization's research can visit the website and download the entire report, or view and print static maps focusing on supermarkets or community clinics in Contra Costa, Alameda or Santa Clara counties.

Despite the finite nature of this particular report, Orman sees the TALC project as a strong example of GreenInfo engagement, and sees an additional strength of the GIS group in its ability to develop a long-term mapping strategy: "Take a group like us to do the heavy lifting- then an organization needs only to periodically refresh data and internal training." Orman sees this as an "appropriate level of engagement" for an NGO, with the ability to manage content but rely on programmers like GreenInfo for more complex tasks.

Web-based mapping, says Orman, is a good first step: "It can be useful for a first draft or to demonstrate to a public what an organization does at a basic level. Beyond that, at this point, it's probably going to be too expensive to keep up, relative to its value to users." But over time this cost-benefit relationship will likely improve. "Clearly, we are entering an age in which geography is part of the conversation much more than it was fifteen years ago. It's unclear where this leads, but it's a very encouraging prospect that geographic place is now so central on the web."

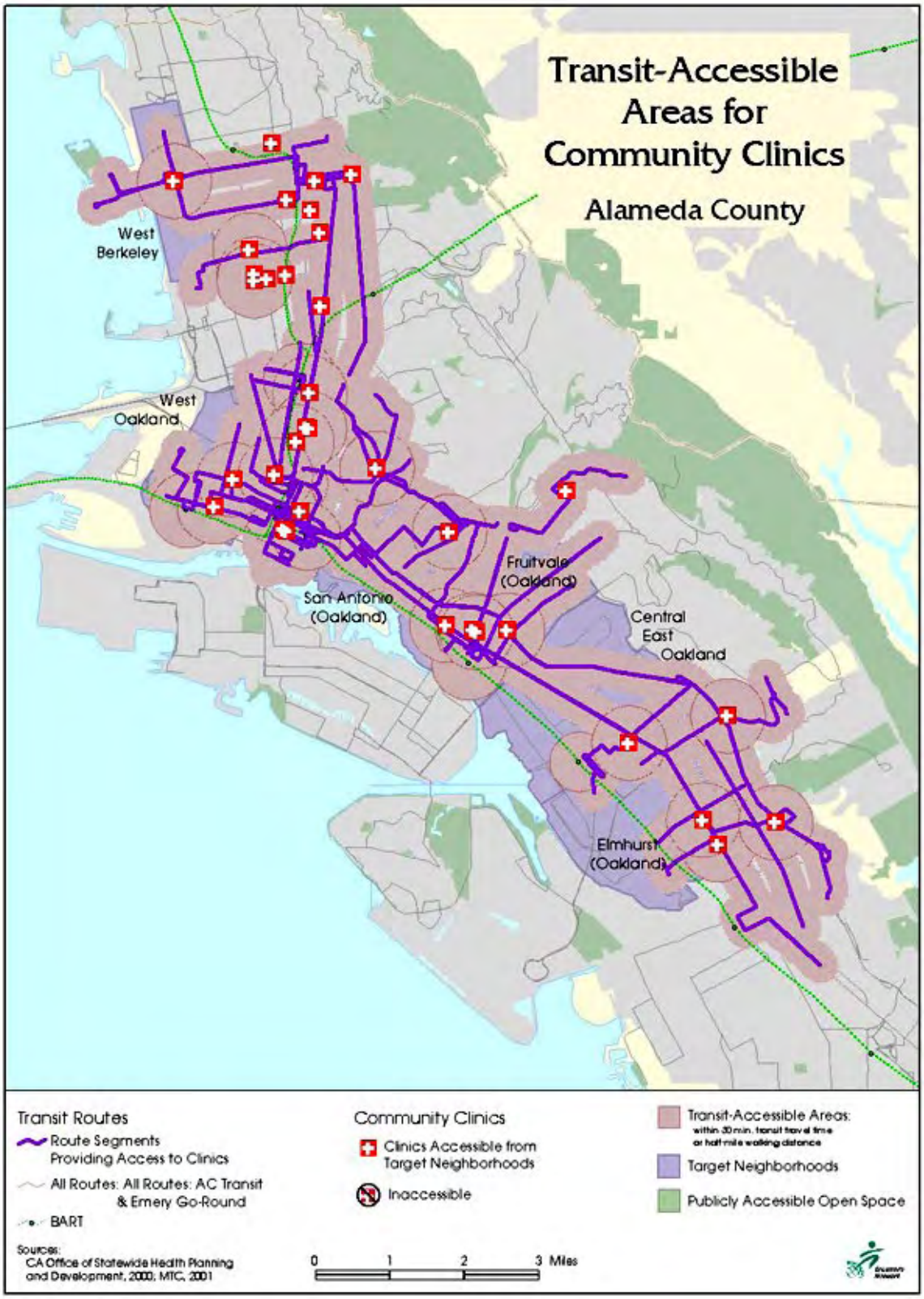

Figure 1: Transit-Accessible Areas for Hospitals in Alameda County from TALC's *Roadblocks to Health* study

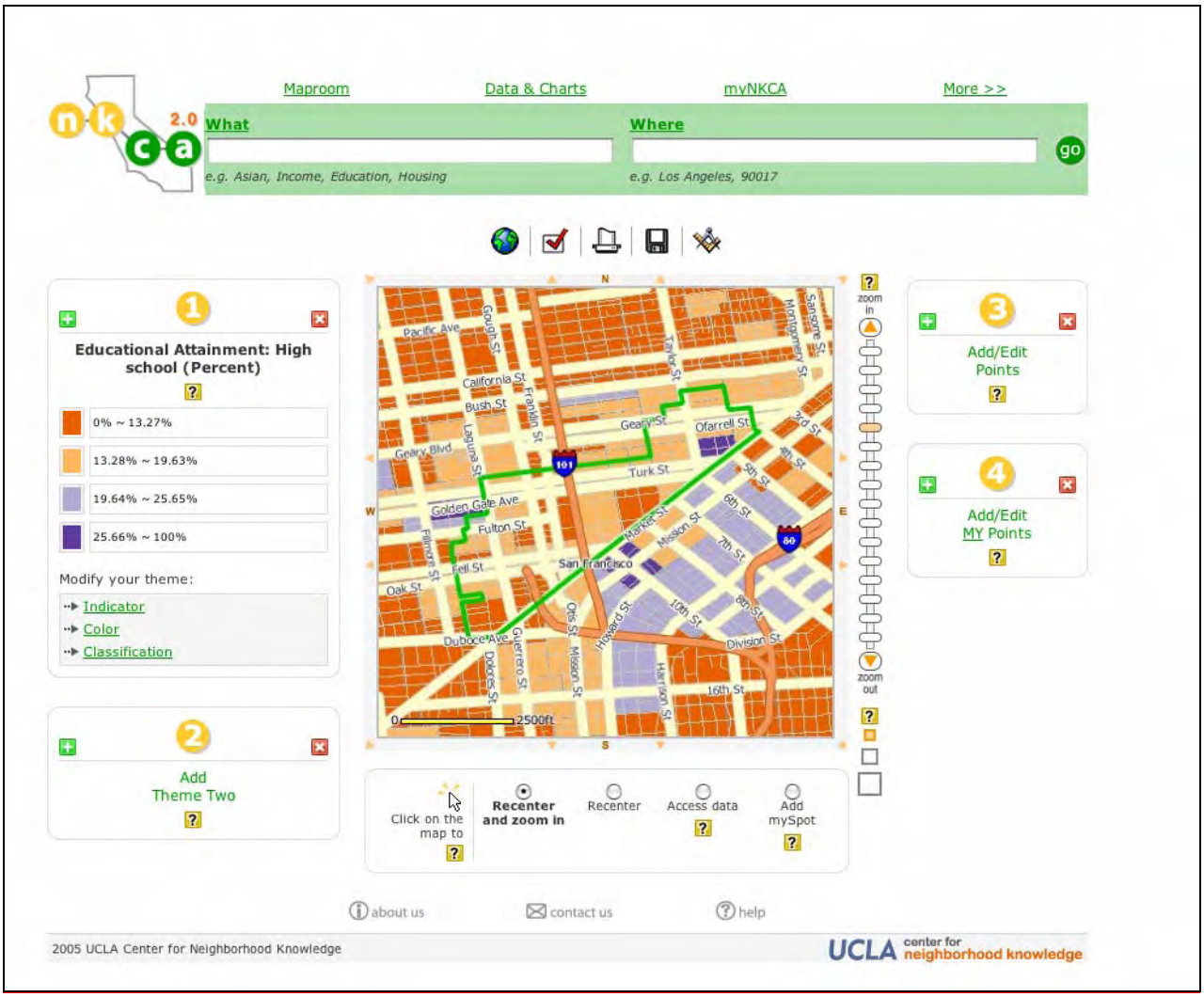

Figure 2: UCLA Center for Neighborhood Knowledge: San Francisco Zip Code Map with Educational Attainment variable