

PLANNING & TECHNOLOGY TODAY

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PARTICIPATORY PLANNING GAME BRINGS DIVERSITY AND TRANSPARENCY TO CITYWIDE VISIONING PROCESS

Allegra Williams, City of Lowell

When it came time to engage citizens in a recent Master Planning process, the City of Lowell, Massachusetts opted for an unorthodox approach: an interactive online game. In order to engage a diverse population, the city partnered with Emerson College researchers to debut a newly developed participatory planning tool for the first time in June 2011.

Community PlanIt is an online game platform that encourages players to engage in local planning processes and express their opinions in order to earn “coins”, which can then be spent on issues that matter to them most. During the Lowell launch, a total of 411 coins were spent on Arts & Culture, Education, Housing, Jobs, Open Space, Public Safety, and Transportation.

The software, which will be made open source over the next year, was developed by faculty and staff at Emerson’s Engagement Game Lab and funded by the Knight Foundation as a way to engage a broader spectrum of residents than those that traditionally participate in local decision-making processes. “Instead of the only option being showing up at a meeting, now people can log on to a website and meaningfully engage in local planning,” said Emerson Professor Eric Gordon.

Over the course of the 10-day launch period, 175 community members signed up to participate, including dozens of young people from six local youth organizations around the city. Youth from several of these organizations, including the United Teen Equality Center and Boys & Girls Club, worked in partnership with staff from Lowell’s Department of Planning and Development to help ensure that the content and questions for the game would be relevant and accessible to residents of many different ages and backgrounds. Questions included “What would be the best place for a food truck to park during lunchtime?” and “What would be the best place for a community garden?”

Participants engaged in meaningful dialogue with one another, and also suggested specific changes or improvements they would like to see across the city. Recommendations included the establishment of a vertical growing center in a vacant warehouse, and the creation of a city-funded artist residency program. In total, participants left over 1,000 comments in the system. The comments, along with data from a community survey and input

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Lowell Community Health Center
Teen Coalition Youth Space

LETTER FROM THE CHAIR



Harsh Prakash
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**Chair, APA Technology
Division**

It was wonderful interacting with the membership at the APA conference in Boston. On behalf of our Executive Committee, I want to welcome our new members. As the Chair, I am honored to represent you, and share your concerns with APA.

These are exciting times at our division as we embark on new initiatives. Over the past eight years, I have seen our division evolve gradually, first as its Secretary/Treasurer, and then as its Vice-Chair. Technology is one of the most rapidly growing sectors. GIS, for example, is exhibiting tremendous potential, as can be garnered from our featured articles. With participatory information being created and shared by the petabytes every day, technology professionals are needed even more to help analyze, map and visualize this constant stream of data, while informing policy decisions.

I am particularly interested in continuing to explore how our division can serve as a test-bed for and facilitate brainstorming of technology-related ideas. I am also interested in leveraging Web 2.0 and open source technologies via service models to better organize our division.

With that in mind, we have updated the format of this newsletter, and are reorganizing our newsletter website at <http://planningtechtoday.org/>, henceforth our Newsletter Blog. We are

also accepting nominations for the following new Section Chair positions (read the announcement section for more on this):

- * GIS Chair
- * Social Networking & New Technology Chair
- * L.A. Conference Chair
- * Membership Chair

Our goal is to increase membership and foster mentorship, but our ambitious agenda can not be achieved by our Leadership Committee alone. We need your active participation. So during the next year, our Leadership Committee will be reaching out to obtain your feedback on these initiatives. You can also contact me directly at harsh@gisblog.org.

Finally, I want to give special thanks to Jennifer Cowley for her chairpersonship that saw our division assume a leading role in the webcast series. I also want to thank Peter Conrad, Rob Smith and Steve Kokotas for their excellent service to our division as Section Chairs.

Again, I am grateful for this opportunity to continue offering my leadership and organization skills to our division. I believe that most work is collaborative, and look forward to working with you for our members' professional development.

CALL FOR NOMINATIONS (2011-2012)

The division is accepting nominations for the following new Section Chair positions. Please email your nominations to harsh@gisblog.org.

GIS Chair: Responsible for spreading awareness about the application of GIS and mashups.

Social Networking & New Technology Chair: Responsible for spreading awareness about the application of participatory and handheld technologies.

Los Angeles Conference Chair: Responsible for representation at the National Conference. The division will reimburse the registration costs for this chair (Student members only).

Membership Chair: Responsible for increasing membership and fostering mentorship.

All incoming Section Chairs will be required to contribute one article to the division newsletter per year.

UPCOMING CONFERENCES

Land Trust Alliance Rally
October 13 – 16, 2011
Milwaukee, Wisconsin
www.landtrustalliance.org/learning/rally

Rail-Volution
October 18 – 21, 2011
Washington, DC
www.railvolution.com

GIS-Pro: Urban and Regional
Information System Association 2011 Conference
November 1 – 4, 2011
Indianapolis, Indiana
www.urisa.org/conferences/aboutgis-pro

National League of Cities 2011 Congress of Cities and Exposition
November 9 – 12, 2011
Phoenix, Arizona
www.nlc.org

NEW TOOL FOR INVOLVING STAKEHOLDERS IN REGIONAL SCENARIO PLANNING

Michelle L. Johnson and Spencer R. Meyer, University of Maine

Scenario planning and alternative futures projects are increasingly popular in the field of planning. Researchers with the University of Maine's Sustainability Solutions Initiative are developing an approach to multi-community scenario planning that uses stakeholders' local knowledge to co-develop regional land use models. In our process, citizens and representatives from the public, private, and non-profit sectors work to identify land use suitability and scenario information, which is aggregated using geographic information systems (GIS) and statistical software.

To incorporate expert opinions into land use suitability maps, we use Bayesian Belief Networks (BBNs). BBNs, developed through artificial intelligence research, have been used in medical research, but are now being applied to land use modeling (see Kocabas and Dragicevic 2006, McCloskey et al. 2011). These models formalize critical factors and associated relationships that influence the suitability of a particular site for a given land use (e.g., agriculture in rural Maine). BBNs are easily updated as new information becomes available and are flexible, making them ideal for modeling change over time. Ultimately, these models can be used to generate a relative ranking of suitability for development, conservation, or forestry and agriculture. The suitability maps can then be applied to examine stakeholder-developed scenarios of alternative futures.

We are currently modeling alternative futures for the Lower Penobscot River Watershed, a 2.5-million-acre watershed in central Maine. In 2005, the U.S. Forest Service's Forests on the Edge report identified this watershed as "at risk" from future development. In Maine, the desire to maintain a certain quality of place and the need to bolster economic vitality demand a better understanding of where land uses are competing and where they are complementary. To address these concerns, we developed this flexible planning tool with the idea of replicating this process across Maine and beyond.

We began by engaging stakeholders through a series of scoping sessions focused on four common land uses: forestry, conservation, agriculture and development. By engaging stakeholders, we were able to develop conceptual and statistical models for each land use. These

models predict the suitability of a given area of land (pixels based on the 30-meter 2006 National Land Cover Dataset) for each land use, using socioeconomic and biophysical variables. For example, the forestry model includes such factors as contiguous forest block size, soil quality, and distance to mills, while the development model considers proximity to schools, property taxes, proximity to jobs, etc. Once the models have been refined with stakeholder input and scientific support, maps are produced showing the probability of each area being suitable for each uses. Next, we identified areas of potential conflict (e.g., development for second homes in areas of high conservation value) and compatibility (e.g., areas suitable for both working forest and water protection).

During the next phase we considered alternative scenarios for future land uses. These scenarios, also co-developed with stakeholders, compare the range of land use configurations under multiple population, development, and climate change conditions. We used our modeling to convey the importance of regional planning to local, regional, and state partners. At this point in the project, we had generated significant interest from municipal, state, and federal agencies, NGOs, and citizens' groups. Throughout the project, we have relied on remote sensing and GIS data, largely obtained from the Maine Office of GIS (MEGIS) and managed and analyzed in ArcGIS. We are also using Netica as our BBN modeling software. While this package has a relatively steep learning curve, we have found it well-suited for land use modeling. Netica readily imports GIS data, and easily exports data back to ArcGIS. Python scripting, while not necessary, has helped automate some labor-intensive steps in our process. Internet chat rooms and more formal users' help websites offer plenty of assistance for all these tools. Finally, and most importantly for our process, we have developed and maintained strong relationships with our stakeholders.

We have relied heavily on our stakeholders to provide expert opinion to both develop and parameterize our land use models, making strong communication one of the most important research tools. By developing and refining this land use modeling process, we hope to offer planners, scientists, and others a framework for conducting their own regional analyses. Our

approach has greatly facilitated collaboration with other teams. We are currently expanding our approach to include modeling development and water quality assessment at the watershed scales. We invite any planners or researchers interested in conducting their own version of this stakeholder-driven land use modeling to contact us so we can share what we have learned.

We would like to acknowledge our project team, led by Robert J. Lillieholm and Christopher S. Cronan, and the University of Maine's EPSCoR Sustainability Solutions Initiative.

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RESOURCES

University of Maine Sustainability Solutions Initiative

www.umaine.edu/sustainabilitysolutions/

"Forests on the Edge" Report

www.fs.fed.us/openspace/fote/housing.html

Netica

<http://www.norsys.com/>



WORKS CITED

Kocabas, Verda, and Suzana Dragicevic. 2006. Coupling Bayesian Networks with GIS-Based Cellular Automata for Modeling Land Use Change. In *Geographic Information Science*: Springer Berlin / Heidelberg.

McCloskey, Jon, Robert Lillieholm, and Christopher Cronan. 2010. Using Bayesian belief networks to identify potential compatibilities and conflicts between development and landscape conservation. *Landscape and Urban Planning* 101 (2):190-203.

AREA CARTOGRAMS FOR URBAN PLANNING RESEARCH:

VISUALIZING DATA IN A HIGH-DENSITY CITY

Paavo Monkkonen, The University of Hong Kong

Planners and planning scholars frequently portray data about different neighborhoods of cities using a choropleth, a map that displays sections in different colors representing a range of values. However, when the population density is high in some neighborhoods, simple choropleths can be deceptive. Areas that are geographically large seem important as they occupy a large portion of the visual field, but they might not actually contain a large number of people or houses. In this common situation a mapmaker has few options to minimize misinterpretation.

The challenge is prominent in Hong Kong, a city where high-rise buildings cover about a fifth of the land area, with the remainder undeveloped. This yields an average population density in the urbanized areas of over 30,000 people per square kilometer! Thus, roughly half of the city's population

lives in the urban areas of Hong Kong Island and Kowloon, which are circled on the map the map located in Figure A, a choropleth that displays changes in housing prices in different neighborhoods in Hong Kong from 1992 to 1997. Although the main urban area of the city is important in terms of the number of houses, it is hard to see in a map that shows the entire territory. In contrast, the large areas to the north of the city dominate the map though much of them contain relatively few houses or people.

A similar challenge presented itself at a larger scale during the 2008 presidential election in the United States, when maps appeared to show a dominance of states appearing to show a dominance of states voting for the Republican candidate, when in fact a the Democratic candidate had won. Mark Newman, a professor at the University of Michigan made a series

of maps demonstrating the problem and a solution, a distorted map called an area cartogram. In an area cartogram, sub-units are resized according to their values on a different variable, often population. The cartographic technique was made famous by historian Arno Peter's world map, in which countries boundaries were redrawn based on population; however it is quite uncommon in urban research. Yet it should be, given the vast difference in densities found in different parts of cities.

Area cartograms are now also quite straightforward to implement using add-ons to conventional GIS programs. Figure B represents the same data as that to Figure A, housing price changes in different neighborhoods of Hong Kong; however, the size of neighborhoods reflects the number of housing units rather than the actual

geographic size. A circle is drawn around the same neighborhoods in both maps, demonstrating the importance of central urban neighborhoods. The visualization of the data on housing price change is now much more visually accurate. The new map makes it clear that many populous parts of the central urban area did not see large increases in price, whereas those geographically large areas in the north that did experience a price increase had fewer housing units than in the urban area.

One problem with the area cartogram, however, is that it can distort the original map to such an extent that locations become unrecognizable and spatial relationships between neighborhoods inaccurate. Nevertheless, for the purpose of discussing phenomena that affect people, they are a more honest representation of data, and should be used more frequently by urban planners and planning academics. Some discussion of cartograms can be found in the book *How to Lie with Maps* (Monmonier, 1996), and those seeking an in depth treatment of the topic should consult the publication *Area Cartograms: Their Use and Creation* (Dorling, 1996).

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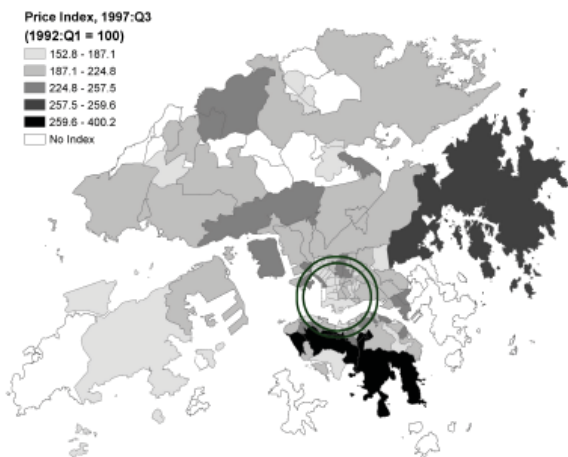


Figure A: Repeat sales neighborhood price indexes for Hong Kong, 1992-1997

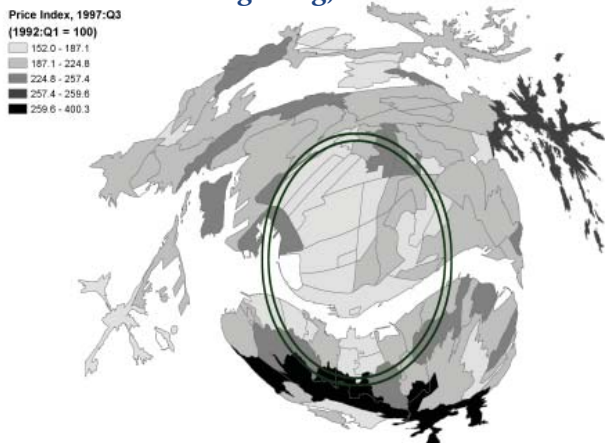


Figure B: Repeat sales neighborhood price indexes, 1992-1997 (area cartogram: housing units)

RESOURCES

ArcGIS Desktop Cartogram Script
<http://arcscrippts.esri.com/details.asp?dbid=15638>

REFERENCES

Monmonier, Mark. 1996. *How to Lie with Maps*. University of Chicago Press: Chicago, IL.

Dorling, Daniel. 1996. *Area Cartograms: Their Use and Creation*. Concepts and Techniques in Modern Geography, Quantitative Methods Study Group, Institute of British Geographers: London, UK.

A NEW ERA OF MAP MASHUPS SOLVES

PLANNING PROBLEMS

**Erin Coleman, Dao Doan, Sarah Peters and Madeline Wander,
UCLA Luskin School of Public Affairs**

In the spring of 2011, UCLA's Department of Urban Planning offered a unique course on web-based GIS applications tailored to the needs of planning students. Professor Yoh Kawano, who initiated and taught the course, designed the program to bring out the "coder" in the non-coding planner; ultimately Kawano trained students to create interactive and widely accessible mapping websites for planning problems.

With the Google Maps Application Programming Interface (API) as a foundation, students created websites with the same high quality and intuitive functionality that internet users now take for granted. Web APIs allow developers to incorporate data from multiple sources into single websites. Google Maps "mashups" are a common example, combining maps with georeferenced data from outside sources. Using a mix of JavaScript, CSS, and HTML to control the look and functionality of their sites, student teams produced online tools that help planners, advocates and ordinary citizens navigate their cities and solve urban problems through spatial analysis.

The course taught students to incorporate active data feeds from several websites that have made their APIs publicly available. Using Yelp's API, for example, students programmed their sites to query restaurants, hospitals, grocery stores, and entertainment options. Many student teams also used the API from Metro, the transit provider for Los Angeles County, to display transit facilities and real-time bus information on their sites.

While APIs offer revolutionary possibilities for online mapping, most have some limitations and it remains difficult to guarantee accurate results. While APIs from for-profit entities often come with data caps and branding requirements, even nonprofit APIs presented challenges. The Metro API, which was released just weeks before the course began, stopped working one weekend when a combination of student users and independent developers overwhelmed Metro's servers.

To overcome these limitations, students incorporated desktop GIS within their web-

based maps. Students added shapefiles from ESRI's ArcGIS suited to their sites, creating more reliable platforms and adding deeper levels of analysis. Once students had uploaded their shapefiles on the university's ArcGIS server, they programmed calls to those shapefiles into the code and created intuitive user interfaces to allow users to access and display the data. One student-created website, which investigated potential high-speed rail station areas, allowed users to view current and projected demographics for Census tracts near each proposed station simply by clicking on the map.

Mapping Site Amenities: A Tool for Affordable Housing Developers in Los Angeles
Analyzing Site Feasibility for the California Tax Credit Allocation Committee (TCAC) Application



Still in beta, the CloudWhirled team built a site feasibility tool for the for the California Tax Credit Allocation Committee (TCAC) Application

The course was structured as a studio with students working in teams, simulating real-world work environments. Some teams devised sites that map transportation infrastructure and needs; others created sites that help tourists explore new locations; a few teams designed sites to help restaurant lovers find good places to eat. Our team, called CloudWhirled, created an innovative mapping tool designed to serve specific needs of affordable housing developers in Los Angeles.

The premise of the project is based on a specific source of federal funding for affordable housing development called the Low-Income Housing Tax Credit program. Federal tax credits are an essential component in funding affordable housing construction. In turn, to qualify for this funding key criteria include the development's proximity to various amenities: schools, transit, grocery stores, etc. On the competitive

California Tax Credit Allocation Committee (TCAC) application, each site amenity is scored differently based on distance parameters from the location. With this in mind, our team, created an online tool to automatically generate the scores for each amenity type based upon a user-generated site location in the City of Los Angeles.

The website works like this: an affordable housing developer first enters an address, generating a map and a list of estimated amenity scores for the location. Users can then click on each amenity type to explore other locations of amenities and to verify the website's calculations. The online tool is built with Google Maps API, JavaScript, HTML, CSS and ArcGIS Server layers; it draws data from several sources, including LexisNexis Academic, transit providers and City websites. The resulting site is unique in its simplicity and intuitive to use. By saving developers and real estate brokers considerable amounts of time in the early stage of project development, this online tool has the potential to revolutionize the TCAC application process.

While the site, in its current state, is narrow in scope, it has great potential to assist affordable housing developers by streamlining site feasibility and assisting with funding applications on a larger scale. Our team is currently working with the UCLA Lewis Center to incorporate the website into the existing CALOTS web application. The creation of this online tool would not have been possible without Kawano's timely and well-designed course, which reflects UCLA's understanding that web-based GIS may very well become the norm for all GIS users.

The authors can be reached through corresponding author Madeline Wander at madeline.wander@gmail.com.

RESOURCES

UCLA - Luskin School of Public Affairs
<http://publicaffairs.ucla.edu/>

NEW TOOL EMPOWERS CITIZENS, CAPTURES IDEAS FOR BETTER CITIES

Jeffrey Goodman, MindMixer.com

Too often, community involvement in the planning process can fall into a cycle of distrust and disengagement. Public meetings bring out only a certain segment of the population, and with an unclear agenda, planners have no way to prioritize the scattershot comments of the public. For citizens, meetings are often difficult to attend, intimidating, and offer little hope that an idea will be recorded or acted upon by government. While the public forum remains an important tool for participation, the wired world we all live in allows planners to engage the public in more productive ways.

No one knows a community better than its own residents, yet too often this knowledge remains unavailable to planners. As countless projects have demonstrated, a failure to thoroughly engage the public in the planning process can lead to disastrous results. In 2010, three planners from Nebraska began to develop a new interface for the participation process, one that provided both a framework for public comments and a forum that nurtures discussion, idea generation, and collaboration between civic leaders and a broader public. The resulting start-up — MindMixer.com — is changing the way local governments tap into the enthusiasm and knowledge of citizens.

Fully launched in April 2011, MindMixer.com is a citizen-generated idea forum where residents can propose, comment on, and interact with local planning issues. First, in order to organize and facilitate a productive discussion, broad categories are defined on the site; topics such as urban design, community health, or parks and open space. These topics are then opened to the public, who can create their own proposals with links to relevant information, videos, and plans. Ideas are open for feedback, for amending by its author, and for gathering support. At the end of the process, the top ideas can be reviewed by the local agency and integrated into policy and design with the confidence that comes from meaningful participation.

Compared to traditional town halls, MindMixer.com offers several advantages that enable participation from a broader cross-section of the community. Rather than limited meeting times, citizens can interact with planning issues whenever is most convenient, and from

anywhere with Internet access. This universal availability also enhances the transparency of the entire participation process. At public meetings, comments linger briefly before disappearing forever. Without a clear record of what the public thought in the past, we are unable to see how participation became meaningful through implementation. With MindMixer, all ideas and

proposed two hundred ideas for the rebuilding city. Not every city responds so fervently, but with MindMixer, residents have the ability to participate in new discussions, and to shape new ideas.

Access to a broader public fosters a culture of collaboration, often producing unexpected, pragmatic, and innovative ideas. In Omaha, users proposed an integrated transit website for the entire city, combining information for both vehicular and alternative transportation in one portal. In Fargo, citizen-led discussions generated finely detailed plans for international markets and public squares as economic and social assets. Cities with MindMixers are beginning to implement these ideas with great success.

While not a replacement for other participation methods, MindMixer can be an important addition to the process; more than just an online presence, MindMixer helps the community prioritize the best ideas from untapped segments of the population. Participation alone is not the goal, but participation that leads to a better and more meaningful outcome for both citizen and local government. Enhanced results in the field of planning will begin with a better process; MindMixer offers a powerful tool in this evolving arena of civic engagement.

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The Engage Omaha website (www.engageomaha.com) illustrates the functionality of MindMixer

comments are preserved for future use, providing a lasting resource for future planning initiatives. Through access and archives, the public can follow their input through the system, directly connecting participation and results.

So far, MindMixer has debuted in over ten cities, each with a specific goal; whether it is local planning to long-term visions to new transit, sustainability, and disaster recovery issues, MindMixer is adaptable to the needs of a given location and that location's planning context. The City of Omaha's site - EngageOmaha.com - used MindMixer as the online component of its outreach program. Now in its second round of topics, Engage Omaha has produced over three hundred ideas and hundreds more comments directly from local residents. In Alabama, MindMixer partnered with Forward Tuscaloosa to help that community rebuild from devastating tornados; in two weeks, citizens

RESOURCES

MindMixer
www.mindmixer.com



Engage Omaha
www.engageomaha.com



GIS CRITICAL FOR PLANNING FOR URBAN

GROWTH IN PANAMA

Thomas Sigler, Gustavus Adolphus College

In Panama and throughout Latin America, the use of Geographic Information Systems (GIS) has become nearly ubiquitous. The uses of GIS within the planning practice in Panama range from zoning to forestry to watershed management. Despite the country's small size, over a dozen national agencies currently utilize geo-spatial data in some capacity. To planners in the capital of Panama City, GIS has become an indispensable tool for dealing with pressing issues related to rapid urban growth. In the wake of an unprecedented construction boom since the handover of the Panama Canal in 1999, Panama City has grappled with a host of urban planning issues, including congestion, overburdened infrastructure, and an rapid suburbanization. Though city planners have scrambled to come up with solutions to the most urgent issues, a lot of work remains to be done.

Of the many problems facing Panama City's planners, the city's sluggish traffic seems to be at the forefront of local consciousness. Numerous megaprojects have been completed in the past few years to mitigate the problem, including a new coastal highway and an expressway to Panama's second-largest city of Colon, home to the hemisphere's busiest free trade zone. Another major step toward alleviating the city's chronic traffic is Panama's incipient Metro System. The project consists of a 14 km-long subway, approximately half of which will be below ground, as well as a modern fleet of buses whose standardized routes are replacing the retired American school buses that currently ply the city's streets along irregular routes. Ground was broken on the project in January of this year and is projected to be finished by 2014.

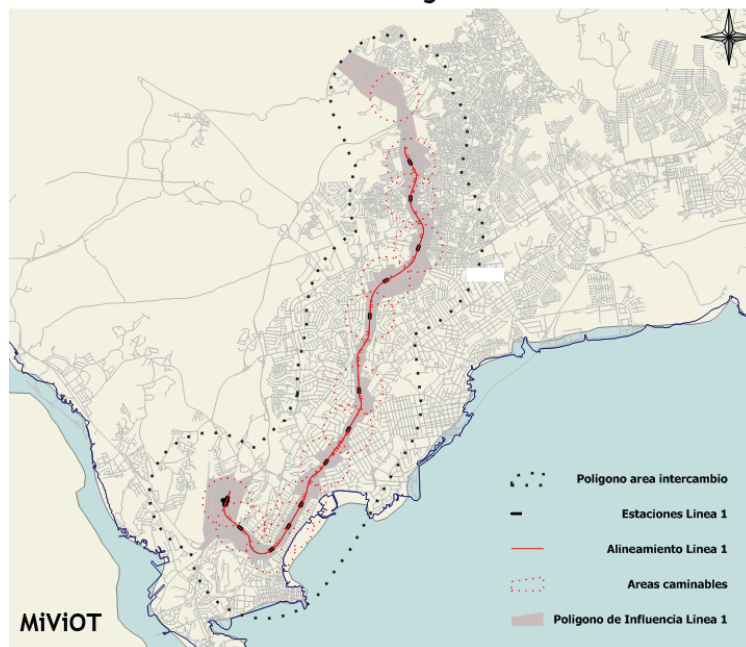
According to Álvaro Uribe, Professor of Architecture at the University of Panama,

one of the biggest challenges in designing a functional metro system has been the provision of user-friendly spaces adjacent to the subway's 13 stations. To address



Panama City continues to experience significant growth and construction

Línea 1 en contexto del Polígono de Intercambio



This map details the Panama Metro, expected to open in 2014

this, the Secretariat of the Metro, in collaboration with the Ministry of Housing and other government agencies, has begun a comprehensive rezoning of all urban areas that will be impacted by Metro-related traffic. Outside of each station, a walkable radius of 600 meters will be designated as a pedestrian zone, in addition to a one-block buffer along the entirety of the line itself.

An indirect impact buffer of 1500 meters will also be designated for rezoning in order to provide better access to feeder bus lines delivering riders from nearby neighborhoods. Together, these tracts are referred to as the "influence polygon", the explicit purpose of which is to promote higher residential densities and more mixed-use development. Although the one-block polygon is the only one to have been legally implemented thus far, the system's planners hope to incorporate all three into the city's norms. Rodrigo Guardia, the Director of Land Research at the Ministry of Housing, has been involved with the implementation of the influence polygon. "I would call it an opportunity to maximize the benefits of the subway," Guardia noted, adding that "the subway doesn't reduce the need for transport, but it is more energy efficient and cost effective, and it takes riders off the surface streets".

According to Uribe, who currently works as a planner for the Metro, one of the main obstacles to coordinated urban planning in Panama is the compartmentalization of data and resources within different agencies. Luckily, Uribe notes, "through GIS we have been able to link different institutions to have a common view...that's really special for us because we don't have any [linkages]". Working alongside collaborators from elsewhere in Latin America, Uribe and others have been pushing for the integration of data and geo-spatial platforms through seminars and workshops. In the past year, GIS and planning-related events have been sponsored by the Lincoln Institute for Land Policy, the Association of American Geographers, and the Panamanian Secretariat for Science and Technology (Senacyt).

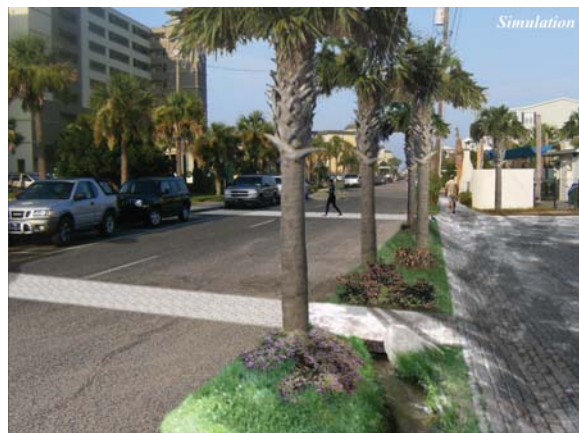
For more information on the use of GIS on Panama's Metro System, contact Rodrigo Guardia at rodguardia@yahoo.com. The author can be reached at tjs316@psu.edu.

CANVIS: VISUALIZATION SOFTWARE FOR COASTAL COMMUNITIES

Chris Haynes, National Oceanic and Atmospheric Administration

Planners of all kinds face a common dilemma: how can we communicate the true importance and impact of change when armed with charts, graphs, and statistics? How can the speaker make his data coalesce into a visual image that will show his audience—not simply tell them—about potential changes? For planners, simulated visual images are usually much more effective than charts and graphs; visualizations are more likely to spur action. A visualization that shows proposed houses, hotels, and docks crowded into a coastal spot treasured for its peacefulness, for instance, brings home a message much more strongly than any statistic can.

Until recently, effective visualizations have been hard to come by for most planning departments. Many lacked the specialized skills, resources, or time to create visualization resources without the use of software that was complicated and expensive. In response to the National Oceanic and Atmospheric Administration (NOAA) Coastal Services Center worked with the U.S. Department of Agriculture (USDA) to provide CanVis for coastal communities. This entry-level program allows planners to easily create photo-realistic simulations with minimal computer skills. Local digital images provide the background, and the “change” is created



CanVis allows planners to easily create photo simulations detailing potential improvement scenarios

by using the elements in a library with more than 2,000 objects.

The object libraries contain vegetation, people, wildlife, docks, buildings, and park elements, all of which can be quickly added to the local base image. Users can also match the object to the base image by adjusting color, contrast, and shadow, thereby creating a more realistic image. A skilled user can remove existing elements from photographs, add topographic features, modify textures, and more. Planning departments have recently used CanVis to visualize sea level rise, living shorelines, offshore wind turbines, cumulative impacts of docks, land development options, and streetscape improvements.

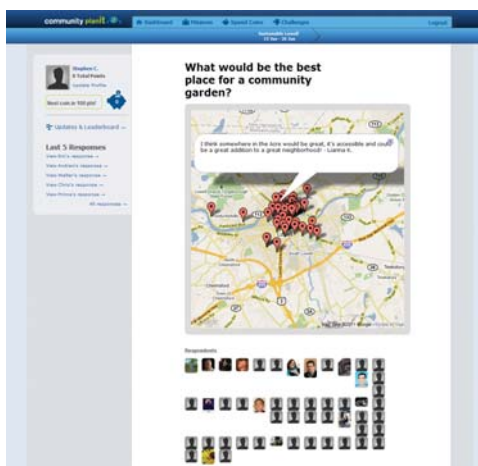
The NOAA Coastal Services Center provides a free monthly training which includes an introduction to CanVis concepts and functionality, hands-on exercises, and a discussion of potential tool applications. Three hours of certification maintenance credits for this course have been approved by the American Institute of Certified Planners (AICP) and the American Planning Association (APA).

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PARTICIPATORY PLANNING GAME (CONTINUED FROM PAGE 1)

comments, along with data from a community survey and input from more traditional public meetings, will be considered as the city further develops its long-range vision for the future. Lowell's Planning and Development Director, Adam Baacke sees the benefit of using tools like Community PlanIt to gauge the community's priorities and enhance public participation. "A citywide Master Plan only has value if the vision behind it is truly shared by both the community and the city. Community PlanIt has helped create a platform for residents to discuss and share their vision in open and transparent ways."

The author can be reached at awilliams@lowellma.gov.



Community PlanIT offers stakeholders the ability to identify locations they deem most important to improving their community

RESOURCES

CanVis is available on NOAA's Digital Coast website. To download the software, sign up for the virtual workshop, or get additional information, please visit: www.csc.noaa.gov/canvis.

To learn more about APA's partnership with NOAA's Digital Coast, visit: www.planning.org/nationalcenters/hazards/outreach/ or contact Melissa.Ladd@noaa.gov



CHESTERFIELD COUNTY, VIRGINIA EXPANDS

PUBLIC ACCESS TO GEOGRAPHIC DATA

Ted Maxwell, Chesterfield County

Chesterfield County has chosen a strategy of open communication and technology investment to mitigate the effects of the challenging economy. This strategy has ensured the investment in technology returns value and has fostered a partnership with the citizens. Technology projects have been guided by an investment model in Chesterfield County since 2007. Recently the model was changed to place a priority on economic factors of return on investment, citizen services and productivity. All information technology projects are guided by this investment model. It is governed by a steering committee of senior county leaders. This approach removes subjectivity from the approval process, and aligns the investment in technology with the county strategic goals. In addition, Technology initiatives are managed by credentialed and certified professional project managers. All technology investments are managed as part of a portfolio.

One strategic example is that the GIS function within Chesterfield County has been folded into Information Systems Technology (IST) with a goal of making geographic data more open and readily available to our citizens. This has resulted in the recent implementation of

Citizen GIS. This project provides the citizens access to the Chesterfield County geospatial information systems (GIS) via a World Wide Web interface. Throughout the development process, a steering committee consisting of private citizens, department heads collaborated on this key strategic initiative. The target user whose needs are to be addressed with this phase of the project is the citizen who may have needs for general GIS data such as parks and economic development. The project included development of the interface, selection of commonly used layers of GIS information (school districts, street centerlines, magisterial districts, property lines, etc), and creation of the infrastructure to host the service.

The project faced challenges in that it was the first for Chesterfield County in many ways. It was the first collaboration of the newly integrated GIS team with the Architecture team, the first application to utilize ArcGIS Server, Microsoft Silverlight 3, IIS 7, and the first application to utilize two new enterprise scope web services. The application is state-of-the-art in terms of geospatial information delivery, and was developed completely in-house.

The application was developed in the Microsoft C# application development language using Visual Studio 2008. Project developers used the ESRI Silverlight Showcase application as a base and then customized it by adding six new user controls. Two new application scope web services were also created. The application consumes six different ESRI ArcGIS Server map services for viewing and querying.

The author can be reached at MaxwellT@chesterfield.gov.

RESOURCES

Citizen GIS
<http://citizengis.chesterfield.gov/>



The Technology Division is charting the use of new technologies for the American Planning Association.

Planners everywhere need to understand the use and planning implications of new systems: computer simulation, GIS, telecommunications, and computer-based information resources.

Planning & Technology Today is the Division's newsletter, bringing you current information that is useful for making decisions on how to use the new technologies.

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CALL FOR SUBMISSIONS: PLANNING AND TECHNOLOGY TODAY

A reminder that the updated format of the Technology Division newsletter will include one or two feature length articles in each issue. We will also be including one page "spotlights" on various technologies and tools of interest. Our regular one page spotlights will cover Public Participation, GIS, Online Tools, Visualization, and Scenario Planning.

We are always accepting submissions for our feature length articles on a rolling basis. For these articles, we are looking for case studies that demonstrate how planners

and/or communities have used technology in planning. What are the innovative tools and techniques applied; what worked well and what did not?

In particular we are soliciting articles and sidebars that focus on: Case studies directly from communities; Lessons learned (both positive and negative) regarding the use technology in public participation.

Please submit your abstract ideas to: Rob Goodspeed, via email at rob.goodspeed@gmail.com.

VIEWPOINT:

SEEKING A CITY OF TRUTH

Alexa Mills, MIT Community Innovators Lab

Five years ago, as a master's student in city planning at MIT, I took the course "Gateway to Planning," MIT's version of City Planning 101. The only reading I remember today is an essay called "Listening: The Social Policy of Every Day Life" by John Forester, included within Chapter 7 of Planning in the Face of Power. Forester outlines a fundamental difference between listening and hearing:

Listening, we understand the meaning of what is said in the context of the speaker's life. When we only hear, we later find ourselves needing to say, "Well, that may be what they meant, but what they said was..." And we know this is usually a feeble excuse, hardly justifying our failure to understand.

Over the past 18 months I have tried to build a multi-contributor urban planning blog that facilitates listening. CoLab Radio is a blog website where people who are committed to improving cities and communities can express their ideas and share their projects. And so, almost by accident, I created a space where people can speak about their communities and the communities in which they work, but I cannot guarantee that anyone but me, the editor, will listen.

Like listening, speaking is no small task. There are a hundred ways to speak: yelling, crying, voting, and then something else – a kind of speaking that involves searching one's soul for a truth that takes a measure of courage to verbalize.

I prefer that latter form of speaking. This winter, CoLab Radio blogger Christina Ruhfel wrote an essay (<http://colabradio.mit.edu/melt-your-snow-anger-sit-down-with-the-enemy/>) about the aftermath of Boston's fifth major snowstorm in five weeks.

A neighbor from two houses down the street had come over demanding to know who had shoveled a small amount of snow into the street. My husband had done it to clear space for our car and our neighbor's car, there had been nowhere else to put it. Plus, the middle of street would be plowed again soon. An ugly exchange ensued and the next thing we knew our neighbor began shoveling snow onto the roof of our neighbor's car. More ugliness followed.

She went on to admit that her family's shoveling strategy was flawed, but well-intentioned. She described the kind of stranger-to-stranger politeness she grew up with in Michigan, and how that contrasts with what she sees as neighbor-to-neighbor rudeness in Boston. In sum, she exposed herself. The result was a dialogue about regional cultural differences and morals.

My favorite example of speaking is an interview between Studs Terkel and C.P. Ellis, former Exalted Cyclops of the Durham, North Carolina Chapter of the Ku Klux Klan from American Dreams: Lost and Found. With unadorned honesty, Ellis describes how and why he became

a Klan member, how he changed, and what it all means to him.

Sometimes I think that the world could listen its problems away if it really wanted to.

The relationship between urban planning and technology is robust. The number of planning publications and twitter accounts feels unquantifiable. Cell phones and other technologies enable tremendous projects collecting and aggregating data on human behavior in cities that could impact our ability to plan better transit, better systems, better everything (they say).

Therein lies the trouble with urban planning and the Internet: information may flow, but neither listening nor speaking is guaranteed. As Forester feared, we might only hear the words and the data. We might not speak with the intention of telling a truth.

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RESOURCES

CoLab Radio
<http://colabradio.mit.edu/>



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