

Quality and Productivity Commission
27th Annual Productivity and Quality Awards Program
"Saluting County Excellence"

2013 APPLICATION

Title of Project (Limited to 50 characters, including spaces, using Arial 12 point font):

NAME OF PROJECT: GIS-NET3: ANALYTICAL MAPPING TOOLS FOR LAND MANAGEMENT

DATE OF IMPLEMENTATION/ADOPTION: AUGUST 2011
 (Must have been implemented at least one year - on or before June 30, 2012)

PROJECT STATUS: Ongoing One-time only

HAS YOUR DEPARTMENT PREVIOUSLY SUBMITTED THIS PROJECT? Yes No

EXECUTIVE SUMMARY: Describe the project in 15 lines or less using Arial 12 point font. Summarize the problem, solution, and benefits of the project in a clear and direct manner

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GIS-NET3 is an interactive web-based mapping application that provides easy and effective access to land use information. It leverages existing County resources to increase productivity, provide better service, adapt to rapidly changing technology, share expertise with other departments, avoid cost, and focus on building new capability instead of supporting unstable, outmoded hardware and software. GIS-NET3 offers more analytical tools and more data to planners, other County professionals, realtors, appraisers, developers, consultants, and the general public. GIS-NET3 is faster, more reliable and easier to use compared to the older GIS-NET applications. GIS-NET3 was developed with current technology, required only \$350 in software and no new hardware or staff. Because it was developed in-house with existing expertise and resources, troubleshooting and functional enhancements can be performed quickly and cost-effectively.

| (1) ESTIMATED/ACTUAL ANNUAL COST AVOIDANCE | (2) ESTIMATED/ACTUAL ANNUAL COST SAVINGS | (3) ESTIMATED/ACTUAL ANNUAL REVENUE | (1) + (2) + (3) TOTAL ESTIMATED/ACTUAL BENEFIT | SERVICE ENHANCEMENT PROJECT |
|--|--|---|---|-----------------------------------|
| \$ 229,910 | \$ 950 | \$ 0 | \$ 230,860 | Yes |

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| SUBMITTING DEPARTMENT NAME AND COMPLETE ADDRESS Department of Regional Planning 320 W. Temple Street, 13 th Floor Los Angeles, CA 90012 | TELEPHONE NUMBER 213-974-6411 |
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| PROGRAM MANAGER'S NAME Nick Franchino  | TELEPHONE NUMBER 213-893-0881 EMAIL NFranchino@planning.lacounty.gov |
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| PRODUCTIVITY MANAGER'S NAME AND SIGNATURE (PLEASE CALL (213) 893-0322 IF YOU DO NOT KNOW YOUR PRODUCTIVITY MANAGER'S NAME) Hsiao-Ching Chen  | DATE 6/27/13 | TELEPHONE NUMBER 213-974-6559 EMAIL hchen@planning.lacounty.gov |
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| DEPARTMENT HEAD'S NAME AND SIGNATURE Richard J. Bruckner  | DATE 6/27/13 | TELEPHONE NUMBER 213-974-6401 |
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CHALLENGE

The Department of Regional Planning (DRP) manages a vast array of land use related information and its operations always push the limits of the Geographic Information System (GIS) technology. The GIS Section of DRP has supported DRP planners with productivity-enhancing interactive GIS mapping tools, collectively called “GIS-NET,” since 2002.

The second generation of GIS-NET (GIS-NET2) went online in 2005 with more than 150 data layers. Four separate applications were developed for GIS-NET2 because opening all data layers would slow down the system. Each application includes a set of data layers to meet the needs of a specific DRP work flow. Since no single application contained all data layers, users were required to switch among different applications to perform their analyses. In addition, any trouble-shooting or enhancements to the system had to be done by outside consultants.

GIS-NET2 reached its breaking point in 2010. By then, the original technology was more than 10 years old and was no longer supported by the software vendors. The old technology could not implement new features, could not add new land use data, and could not be maintained by GIS staff. In addition, the two servers supporting GIS-NET2 also reached the end of their useful life and became unstable, resulting in more system downtime and more troubleshooting.

SOLUTION

GIS-NET3 was envisioned as an overhaul of GIS-NET2. The primary goals of GIS-NET3 are: 1) providing a single full-featured, flexible and easy-to-use GIS web mapping application to access land use data; 2) enhancing customer service by improving stability of the system and providing integrated access to GIS, property and historical information; 3) creating a platform for custom interfaces between GIS and DRP business data that DRP can build and support in-house; 4) using current hardware and software technology; and 5) having at least five years of usable life.

After surveying current technology and evaluating web mapping sites, DRP opted to build GIS-NET3 on three pillars: 1) ArcGIS Server, which is Esri's geographic data storage and delivery system; 2) Latitude Geographic's Geocortex Essentials, a product that extends ArcGIS Server capabilities; and 3) Adobe Systems' Flex, a tool to create and deploy rich Internet applications. The County has been a long-term customer of Esri and Latitude Geographics. Flex has a deeply committed user community; most computers already have Flex installed and programmers use it for ongoing development of GIS mapping applications.

A working group of stakeholders from different DRP work units was formed to determine specifications and priorities as well as to promote GIS-NET3 among future users. The group also focused on making GIS-NET3 user-friendly.

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GIS-NET3 provides more data and better features meeting the needs of many different users. GIS-NET3 users can access other County systems, including Pictometry Online, the County's aerial imagery viewer, Public Works' Building Permits Viewer, the Assessor's Property Assessment Information System (PAIS), and Google Street View. Now DRP planners and other County professionals have access to the data they need in one intuitive application. GIS-NET3 also requires fewer clicks to accomplish tasks.

When it was completed, GIS-NET3 needed a promotion strategy to engage potential users. To encourage the use of GIS-NET3, DRP hosted trivia contests that required the use of GIS-NET3 to answer questions. Participants were motivated by small prizes and eager to prove and polish their skills. The GIS-NET3 workgroup members served as ambassadors and trainers to promote GIS-NET3 in their work units. DRP also created online introductory training videos in addition to conducting small-group training sessions. GIS-NET3 has context sensitive "Help" and full online documentation to empower the users' independence. Periodic surveys were conducted during and post-implementation to ensure that users' concerns were addressed. A built-in email link in GIS-NET3 provides an easy means for users to send questions and suggestions, which are responded to timely by the DRP GIS staff. Ongoing internal blog posts keep users informed of new features. DRP's promotion of GIS-NET3 exceeded expectations and resulted in a smooth transition.

BENEFITS

GIS-NET3 has been very reliable since its inception. Planners now spend less time but collect better information, which translates to better planning decisions and customer service. GIS-NET3 also helped other County Departments in performing their duties:

- Public Works' Street Naming Unit uses GIS-NET3 to assign new street names and addresses to new subdivided properties.
- Public Health's Solid Waste Management Program/Enforcement Agency uses GIS-NET3 daily to locate and identify illegal dump sites, waterways, wells, and owners of these parcels that present environmental and public health problems. GIS-NET3 is particularly helpful in the Antelope Valley due to its remote areas and where illegal dumping frequently occurs. Public Health officers do not need to bring Assessor's map book pages and tape measures to figure out who owns what in the middle of the desert. The County can now take effective enforcement actions against illegal dumping of hundreds of tons of tires, toxic oil, and construction waste.
- Appraisers at the Assessor's Office use GIS-NET3 in appraisals. Real properties are appraised based on the usable areas that can be enjoyed by the homeowners. The appraisers frequently utilize the topography overlay in GIS-NET3 to identify the unusable hillside area on a property and make property value adjustments, which are significant for some of the highest value hillside properties in the County, such as Malibu Hills, Brentwood, and Beverly Hills.

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LINKAGE TO THE COUNTY STRATEGIC PLAN (DETAIL IS REQUIRED FOR COUNTY DEPARTMENTS):

- **Goal 1: Operational Effectiveness:** GIS-NET3 was developed entirely in-house by experienced DRP GIS staff so troubleshooting or customization can be done quickly and cost-effectively. DRP also shares its knowledge of GIS-NET3 with other County departments and government agencies which are interested in implementing similar features in their applications. GIS-NET3 now is a central depository of information and provides nearly 200 layers of data. More data can be added as requested. DRP will soon implement electronic document management by scanning old maps and paper documents and displaying them in GIS-NET3 at their proper geographic locations.
- **Goal 2: Fiscal Sustainability:** No additional hardware was acquired and no additional staff hired to develop GIS-NET3. It runs on existing DRP servers at no additional cost. Software cost to build GIS-NET3 was only \$350 to obtain a single copy of Flash Builder 4, a tool for creating Flex applications. The software that powers GIS-NET3 is either already contracted for by the County or free because it is open source. The ongoing costs for ArcGIS Server and Geocortex Essentials are covered by existing membership in the County's Enterprise GIS agreement. DRP also retired two unstable servers hosting GIS-NET2 and eliminated their annual maintenance costs of approximately \$35,000. GIS-NET3 has the ability to evolve with technology for at least another 5 years. It is a tremendous cost-saving solution in the ever-changing world of technology where the County spends a lot to upgrade constantly. DRP is already laying the groundwork to take advantage of upcoming vendor technology advancements.
- **Goal 3: Integrated Services Delivery:** Not all data layers in GIS-NET3 are appropriate public information and most home computers do not have the capacity to open all the data layers at the same time. Thus, DRP released GIS-NET3 Public, a modified version of GIS-NET3 with a subset of data. It is the one-stop source for the general public to access basic real property information from different County departments. From GIS-NET3, one can access Assessor's property information and Public Work's building permit records. GIS-NET3 Public empowers realtors, appraisers, developers, consultants, and other professionals in the private industry to do their own research without having to wait for call backs from the County. GIS-NET3 Public became the most-visited page on the DRP website.

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COST AVOIDANCE, COST SAVINGS, AND REVENUE GENERATED (ESTIMATED BENEFIT):

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|--|---|---|--|--|
| (1) ACTUAL/ESTIMATED ANNUAL COST AVOIDANCE \$ 229,910 | (2) ACTUAL/ESTIMATED ANNUAL COST SAVINGS \$950 | (3) ACTUAL/ESTIMATED ANNUAL REVENUE \$ 0 | (1) + (2) + (3) TOTAL ANNUAL ACTUAL/ESTIMATED BENEFIT \$ 230,860 | SERVICE ENHANCEMENT PROJECT <input checked="" type="checkbox"/> |
|--|---|---|--|--|

ANNUAL= 12 MONTHS ONLY

COST AVOIDANCE: Costs that are eliminated or not incurred as a result of program outcomes.

- Reduction in staff time spent locating geographic information for response to direct public inquiries and for case processing
- Reduction in on-site visits
- Reduction in staff time spent identifying zoning violators
- Reduction in staff time reporting on project status
- Reduction in staff time to respond to Public Records Act requests
- Reduction in staff time to research and evaluate data from other departments, agencies or municipalities
- Reduction in staff time to maintain old servers and software

| Item | (A) Hours Per Month | (B) Months Per Year | (C) Total Annual Hours (A x B) | (D) Estimate Hourly Rate | (E) Amount per Staff Person (C x D) | (F) No. of Staff | Total (E x F) |
|---|------------------------|------------------------|-----------------------------------|-----------------------------|--|---------------------|---------------|
| Staff time saved using GIS-NET3 | 1.5 | 12 | 18 | \$90 | \$1,620 | 120 | \$194,400 |
| Staff time not spent in maintaining old servers | 8 | 12 | 96 | \$90 | \$8,640 | 4 | \$34,560 |
| Subtotal | | | | | | | \$229,910 |

COST SAVINGS: A reduction or lessening of expenditures as a result of program outcomes.

Hardware and software savings from discontinued maintenance expenditures to third party vendors: \$950