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Cartographic Karma on Public Transportation

By Lisa Castle

Note to URISA & Chapter editors – this article was first published in The Summit – the Washington Chapter Newsletter, Issue 19 (Summer 2009) – see: http://www.waurisa.org/thesummit/TheSummit_Summer_2009.pdf Reprinted with permission.

Commute by bus long enough and you see things. The route I take runs from the Seattle suburbs where I live, to the KCGIS Center downtown, where I work as a GIS programmer. It's a

nice quiet route with nice quiet commuters — in the morning, we're mostly still half-asleep, and in the afternoon, we're mostly... well, brain-dead.

It's a commuter bus, but it's still public transportation. So when some random guy gets on at a downtown stop one afternoon, plops down in the seat behind one of the regulars and says loudly, "Hey, check this out!" most

of us know better than to look.

Okay, I know what you're thinking. This isn't *that* sort of horror story.

The guy pulled something out of his coat pocket, unfolded it, and said, "I got these maps. See?" That got my attention. I was sitting across the aisle a couple rows back and saw that it

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Welcome to the first edition of THE GIS PROFESSIONAL, formerly known as URISA NEWS.

The publication, an exclusive feature of your URISA membership, will continue to be published every other month. (At some point in the near future, we'll ask you if you wish to continue to receive a printed and mailed copy of the publication or if an electronic version will be satisfactory.)

With this issue, we are introducing two volunteer feature Editors of

THE GIS PROFESSIONAL.

Keri Shearer, GISP from Charlotte Mecklenburg Storm Water in North Carolina, will contribute articles focusing on hot topics, trends and case studies. Comfort Manyame, GISP, from Mid South Synergy Electric Cooperative in Texas, will focus on technology and applications. If you have an idea for an article that tends toward either of those areas, please contact them with your suggestion.

Remember that you can earn Contributions to the Profession points for your GISCI certification or renewal by contributing articles to THE GIS PROFESSIONAL!

This is YOUR publication and we want it to be valuable. Contribute content. Share your ideas, suggestions, compliments and criticisms.

Thanks for reading!
Wendy Nelson, wnelson@urisa.org

GISCorps – Seven years of volunteering

October 2010 will mark the seventh anniversary of the creation of GISCorps as a program of URISA. Since 2003, we have attracted over 1,700 volunteers from 75 countries around the world. Over 140 of those volunteers have been deployed on missions to 55 projects in 29 countries. These volunteers have contributed over 7300 hours to these projects, providing GIS expertise in disaster response, capacity building, spatial analysis, data collection, geo-coding, and remote sensing to name but a few.

During 2009, we deployed 19 volunteers to 12 missions. While five of those projects were implemented on-site, the remaining were remote projects where the volunteer worked from their home or work place, and in most cases during weekends and week nights. We completed three K-12 projects in the states of Tennessee, Washington, and Iowa, and two projects in New Orleans. The remaining 2009 missions assisted projects in Dominican Republic, Zambia,

Mozambique, Panama, North Korea, Nigeria, and Vietnam.

Currently, seven of our missions are in progress

including the two most recent projects in New Orleans and Nigeria. The New Orleans project is in partnership with University of New Orleans'

Department of Planning and Urban Studies (UNO-PLUS) and a New Orleans based non profit organization called Neighborhood Housing Services (NHS). They were interested in building a dynamic web site so that they could share their data and build surveying capacity in several neighborhoods. Rafael Ferraro, an ArcGIS Server Programmer from Virginia, was selected and put in touch with both agencies.

The second project came to us from the Geographical Resources for Development Centre (GRDC), a non profit organization in Nigeria. They requested a volunteer to assist them in establishing a metadata clearing house node. The recruitment resulted in deploying Alison Fischer. Alison is from British Columbia, Canada and

currently lives in Tokyo, Japan. She is now in direct contact with GRDC.

The latest request for a volunteer came to us in late

As this issue of THE GIS PROFESSIONAL was closing, the earthquake hit Haiti. Visit www.giscorps.org for updates on missions to support recovery.

December from a non profit organization in France called CartONG. They sought the assistance of a skilled remote sensing specialist to help in fine tuning a carbon sink model for a region in central highland of Vietnam. The recruitment resulted in deploying Jason San Souci from Colorado and he is now in direct contact with CartONG.

We also held our annual election at the annual URISA conference and added two new members to our Core Committee (CC). The CC is responsible for: recruiting volunteers, building partnerships with like-minded organizations, raising awareness about GISCorps, and searching for additional funding sources, among others. We believe that additional funding will enable us to expand the program further, enhance



Joe Forrest, a GISCorps volunteer from North Carolina, is teaching GIS to PRAD/FBR team in Thailand

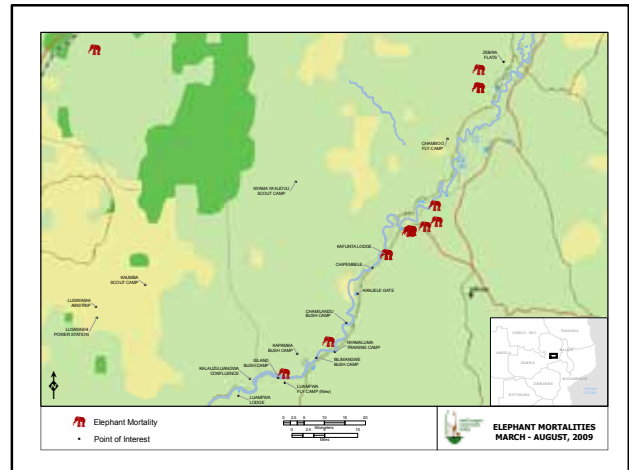
our website, and also allow us to support projects/agencies that are unable to pay for volunteer's travel expenses.

The GISCorps CC is working on enhancing the web site by adding a new interface for large deployments. The new interface will automate various processes and streamline the work flow, which is critical when recruiting for emergency response related missions.

Finally, we would like to thank you for your

continued support of GISCorps. Please contact us at info@giscorps.org if you are aware of any organizations in need of GIS volunteer assistance (and unable to pay for those services).

For a complete list of our projects and stories about our volunteers, visit our website at: www.giscorps.org. More details regarding our recent projects can be found in our February Newsletter, which is posted on our web site.



A map created by Lisa Matthies, a GISCorps volunteer from state of New York, for South Luangwa Conservation Society (SLCS) in Zambia.

GIS: A Cornerstone of Enterprise IT Strategy

Keri Schaber Shearer, GISP, Charlotte, North Carolina

The intent of this article is to give an overview of the City of Charlotte's strategy (with selections taken directly from the text of the Strategic Operating Plan for the Office of the Chief Information Officer) and touch on other examples where GIS is identified as a foundational component of an enterprise architecture strategy.

A Quick Glimpse at Charlotte

The City of Charlotte is located on the US east coast, nestled on the southern border of North Carolina. A vast array of services are provided for the Charlotte

Metropolitan region of over 2 million people, and even in this economic downturn, we are still seeing a great deal of growth. Just like any city, our citizens, property owners, employers, workers, and visitors deserve and expect the highest quality of citizen services that can be provided. The City has many disparate systems which help us provide these services and a majority of data is location-based, therefore, Geographic Information System (GIS) technologies play a huge role in service provision. Charlotte has a team of GIS professionals (the GIS Enterprise Team) from every business

unit in the city to represent the interests of their strategic operating plans and to plan for enterprise solutions. This is an award winning team that has set precedent within the citizen service realm and technology collaboration efforts. The GIS Enterprise Team's official sponsor is the Senior Business Team (SBT) for Charlotte's enterprise, which is headed by the Office of the Chief Information Officer.

What is the Office of the Chief Information Officer and what is the purpose?

Established in 2008, the

vision of the Office of the Chief Information Officer (OCIO) is to elevate "the city of Charlotte to an internationally recognized leadership role among municipalities in the use of technology to achieve comprehensive Citizen Service." Its mission is "to improve citizen service outcomes by facilitating technology investments that enable collaboration, seamlessness, accessibility and responsiveness across the city's distributed business structure." The role of the OCIO is to both support and advance the city's business priority, which is

continued on page 8

was not just a map, it was an *old* map.

"I'm looking to see if I can get something for these," the guy said. He foisted the map onto the regular in front of him and pulled out another one, unfolded it and waved it in the general vicinity of another regular.

"Uh," said the second regular, his brain slowly resurrecting itself. "Have you tried Metsker's?"

"What's that?"

We filled him in about Metsker's, the iconic Seattle map store, located -- after some discussion -- in iconic Pike Place Market. In the meantime, he'd pulled out a third map. "Can I see that?" I asked.

He handed it across the aisle, explaining that he'd found a box of these old maps in his grandfather's attic, that he was looking to get someone to give him something for them, maybe five dollars each, that he was heading over to visit his son in the suburbs. "I don't know about that place — what did you call it?" he

said. "I'm just looking for someone to give me maybe a little cash."

I examined the map as he talked. 1800's vintage, Rand McNally & Co. *The Washington Territory*. "Full Postal Directions, Railroads in the Territory, Counties, Lakes, Rivers, Etc., Etc.," the cover proclaimed. He found this in an *attic*? And he's got *more*? Why didn't he bring them all?

"You should try the Seattle Historical Society," someone said, as I carefully folded the map and handed it back. I gestured to see the next one, and he handed it to me.

"Nah, I don't know about that," the guy said dubiously. "I just wanna — you know, get five bucks for each. No big deal." He pulled out his wallet and opened it. "See? This is my son. I'm visiting him in the suburbs." I glanced. Cute kid.

A couple of the regulars discussed the Historical Society; a couple others had lost interest and rebuilt their personal Fortresses of



Rand McNally 'Washington Territory' Map

Solitude. I examined the map in my hands. This one was fragile, 1910 *Political Map of Seattle*. It looked almost like a blueprint, its folds reinforced with white tape, which had cracked and split.

Then the light hit it just right and I saw the perforated mark. "Seattle Public Library."

"Hey," I said. "This one came from the Seattle Library." Hadn't he gotten on at the stop in front of the library?

"Oh, uh, yeah. I tried to sell these back to them, but they didn't want them. Something about not having cash or buying over the counter or buying back their own stuff. They said these maps were, um, released."

Yeah, I thought. *That's* the ticket.

I handed back the blue map, took the third, and as I did so, glanced across the aisle at the first regular. He rolled his eyes. *This guy is a nutjob.*

This map was large, paper on fabric. "Map of the Oregon Districts and the Adjacent Country. James

Wyld, Geographer to the Queen, Charing Cross East, London." 1843. Delicate red and green and blue shading outlined the various regions. It too, had a Seattle Public Library mark and penciled call number.

By now the rest of the regulars had lost interest. They had been unable to convince him of the merits of Metsker's or the Historical Society. "I'm just looking for someone to give me a little cash for these."

Right. You said that. Okay, I'll bite. "These are pretty cool," I said. "I might be interested."

"I'll give you all three for ten bucks," he said.

"Done." I handed him a ten, he handed me the maps.

"Great!" He grinned, stood. We pulled up at the last stop before the interstate. The door sucked open, and the guy got off.

"I thought he was visiting his son," said the driver.

"I think you just got scammed," said one of the regulars.

I called the library when I got home, and after explaining my story once or twice, talked to Steve in Historical Collections. He was very interested — of course — and said that without seeing the maps, couldn't tell if they'd been "released," as the guy had claimed. We were both dubious. We talked about security versus accessibility, and how SPL tended toward the latter, despite the fact that items were more likely to walk off.

I gave him the guy's



1910 Political Map of Seattle

description in case he tried it again, and promised to bring the maps in as soon as I could — probably later that week or the next.

The next day — a Friday — I took them in to work and had a bit of show and tell with some of my coworkers. We managed not to pet them *too* hard.

I didn't take the maps back that week, or the next. Life sort of got in the way, and it was over a month before I could get to the library.

On an overcast May afternoon, I rode the elevator to the ninth floor of the Seattle Library. I waited my turn at the Historical Research desk, then stepped up. "Hi, I talked to Steve awhile back. I think I have something of yours." I hitched a breath to finish my explanation, but the gal cut



James Wyld's 1843 'Oregon District' Map

me off.

"The maps!" she said. I nodded. "We are *really* glad to see you! Come on back!"

Jodee explained that because of what had happened, they had gathered all the maps and other small items in the collection and placed them under lock and key. They

were still available to see, but now they'd be much safer from ne'er-do-wells.

I handed the maps back to their rightful owners, and we wondered. With all those buses passing by — literally nose-to-tail in rush hour along 4th Ave. — what were the chances that the guy would randomly choose a bus with a map person on it?

We chatted for awhile longer, then I exited the

library just as my last bus home pulled up to its stop. I sprinted and jumped on just before the doors closed, and as I sat down, I checked around for nutjobs with illicit maps.

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Announcing GIS-Pro 2010: URISA's 48th Annual Conference for GIS Professionals

Since 1963, URISA members and friends have convened annually to learn about, share and discuss all things geospatial. And now the name of URISA's annual conference has been updated to better reflect that focus. URISA is pleased to announce GIS-Pro 2010: URISA's 48th Annual Conference for GIS Professionals. The first conference under the new banner will take place September 28-October 1, 2010 in Orlando, Florida.



We've also made the conference more accessible! URISA members can register for the conference at the BEST VALUE rate of \$350! Nowhere else will you find a world-renown GIS conference that is so affordable. Be sure to make plans to attend now. Registration materials will be available soon.

For further details, visit www.urisa.org or www.gis-pro.org

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Book Review

The GIS Management Handbook

by Peter L. Croswell. Kessy Dewitt Publications: Frankfort, Kentucky. 2009.

Reviewed by: Patrick Kennelly, Visiting Associate Professor, Department of Geography, John A. Dutton e-Education Institute, The Pennsylvania State University, and Associate Professor, Department of Earth and Environmental Science, C.W. Post Campus of Long Island University.

Peter Croswell, PMP, GISP, ASPRS-MS, clearly states his purpose for writing this book in a box appearing on its back cover. "I have written this book to serve as a guide and resource for GIS managers and staff. My intention is to provide GIS professionals and researchers with a tool to make them more effective, to support organizational improvements, and to deliver increased benefits to GIS user communities."

The book is organized into an introduction, ten chapters and thirteen appendices. In the introduction, Croswell outlines the ten chapters and their unifying theme of covering the technical, humanistic, societal, financial, and organizational aspects of GIS planning, development, and operational management. Chapter titles include:

- GIS Management Overview and Context
- GIS Program Development
- GIS Program Organizational

- Structure, Governance, and Coordination
- Human Resources
- Funding, Financial Management, and Multiorganizational Agreements
- GIS Program Legal Issues
- Management of GIS Program Technical Elements
- GIS Office Operations, Service, Delivery and User Support
- GIS Projects and Project Management
- Guide to Additional Resources for GIS Managers

Apparent from this list is that this book will not detail other aspects of a geographic information system, such as system configurations or GIS data. Croswell explicitly states this on the first page of Chapter 1, indicating that instead the book will focus on "organizational structures and people" and "standards and policies." (p. 1) As such, this book is comprised of and a valuable addition to discussions of components of GIS which are underrepresented in the existing body of literature.

Chapters vary in scope from very broad to quite narrow. An example of a broadly ranging chapter would be "GIS Program Organizational

Structure, Governance and Coordination," which summarizes a lot of high level organizational information. In contrast, "GIS Office Operations, Service Delivery, and User Support" focuses more on the goings-on in an office. Details here are as specific as the well laid-out floor plan for a GIS office presented as an example in Figure 8.1 (p. 180). Chapter 10 is unique in its lack of a narrative. Instead, it provides lists of resources, including books, periodicals, professional organizations, internet resources, and a glossary of GIS management terms.

The range of topics covered in this book will ensure that any professional working in the field of GIS will benefit from its information, even if (s)he is not in a leadership role. Additionally, managers in the industry, whether team leaders, project managers, managers, or geographic information officers, will find useful guidance and resources here. The reader should be aware, however, that the broad scope of this book also results in limitations regarding how detailed Croswell can address topics related to any particular management role. For example, although concepts useful to project managers are discussed throughout the book, only



one chapter (GIS Projects and Project Management) has this specific focus.

Croswell illustrates his ideas in a clear and well organized manner using three different techniques. The first is figures, which often display the flow of concepts, ideas, or work, but also include summary diagrams of key concepts. The second is tables, which include large amounts of synthesized information. Some tables additionally function as matrices. These matrices list key elements in title rows and columns, and then indicate with dots or codes which grid cells of the matrix are most relevant for certain variables. For example, Table 3.3 (p. 66) provides a list of GIS program organizational components, compared to program types. Codes entered in each grid cell indicate whether each relationship usually, sometimes, or rarely/never occurs.

The third method by

which Croswell illustrates ideas discussed in the body of the book is by use of “exhibits.” These function in a manner similar to text boxes or sidebars, and discuss, classify, or provide examples in support of ideas presented in the book. Topics range from classifying disparate information such as “Exhibit 1.1: Geographically Related Program Areas in Government and Utility Organizations” (pp. 12-13), to providing specific examples of topics such as “Exhibit 3.1: Illustrating Organizational Culture Impact on a GIS Program” (p. 74).

The thirteen appendices are full of practical and useful information and resources concerning the following:

- GIS Technology Status and Trends
- Types of Organizations that Use GIS Technology
- Descriptions of Successful GIS Programs in Different Organizational Environments
- Examples of Business Processes Improved by GIS
- Suggested Format for GIS Standards and Policy Manual
- Summaries of Key Information Technology Framework Initiatives

- Annotated Outline for a GIS Requirements Document
- Cost-Benefit Evaluation Examples
- Sample Position Description
- Code of Ethics
- Descriptions of Sources and Approaches for Training and Professional Development
- GIS Funding Vignettes
- Examples of User Satisfaction Surveys

Although these resources will obviously not provide a custom fit in all situations, they should prove to be useful starting points for numerous practical considerations which often arise.

The unique and important contribution of this book is the detail specific to GIS which Croswell brings to management. Numerous books address management in general or information technology management in particular, but this book is the only to offer such a detailed level of GIS context to the subject. Examples from numerous GIS organizations are integrated into a detailed management framework. A case in point is Appendix C, which discusses exemplary GIS programs in a number of different types of organizational

environments.

One interesting and recurring perspective provided by the author is the timeframe for which numerous trends have arisen in the GIS industry. For example, Croswell cites that it has really been over the last 15 years that most public-sector organizations and many private companies have moved away using more general IT job position descriptions and towards ones specific for GIS professionals (p. 98). Documenting such trends should give younger GIS professionals an interesting perspective regarding what a recent and maturing industry GIS is, especially when put into the context of their current experience by Croswell, someone who has experienced and documented the last 30 years of this change.

Although outside the author’s objectives, what is not present in this book are hands-on exercises, topics for further discussion, or other activities which would allow the GIS professional to test or refine his/her understanding of the concepts presented here. As such, this book would need to be combined with

other resources if one were considering using it in a more structured learning environment, such as the classroom.

I believe that Croswell

I am sure a GIS professional would refer to this book often, and would be able to understand where an aspect of interest fits into the overall framework of management.

has fulfilled his objective in creating a book to serve as a guide and resource to GIS managers and staff. I am sure a GIS professional would refer to this book often, and would be able to understand where an aspect of interest fits into the overall framework of management. More importantly, (s)he could understand how the unique context of GIS projects are likely to result in special consideration beyond typical needs of information technology management by referring to the author’s extensive collection of examples, templates, and other resources.

To purchase your copy of The GIS Management Handbook, visit urisa.org/gisbookorder

comprehensive citizen service. The team must lead, guide and direct initiatives for project funding alternatives, IT standards, the City's IT architecture plan, enhanced information security and IT processes. The Chief Information Officer leads this talented group and sits as head of the City's Technology Governance Policy (and SBT as stated previously) to coordinate technology initiatives and investments across departments. The OCIO's Strategic Operating Plan follows a three year cycle in which foundation systems were identified and/or established, putting processes in place to formalize the architectural cornerstones, competency centers and standards. The plan is to embed best practices, enable cultural change and drive benefit realization (City of Charlotte OCIO Strategic Operating Plan FY 2010).

What are the cornerstones?

The City of Charlotte's CIO announced a four cornerstone approach to better citizen services. One of the major goals of the city enterprise is to leverage existing technologies across systems, obviously to realize savings within the business process. The four cornerstone focal points are: Enterprise Resource Planning (ERP), Work Order and Asset Management (WAM), Citizen Relationship Management (CRM), and Geographic Information Systems (GIS), connected via Service Oriented Architecture (SOA). Figure 1 is a symbolization of this approach.



Figure 1. *The Technology Foundation figure shows the "Architecture Cornerstones coupled with a Service oriented Architecture integration approach and employee capabilities are investment area focal points that will drive benefits realization in 2010" (City of Charlotte OCIO Strategic Operating Plan FY 2010)*

What are the OCIO Technology Strategies?

The City uses a balanced scorecard approach, "a strategic, forward-looking framework to organize and implement performance measures." Each team and business unit aligns their operating plan with the corporate balanced scorecard themes and underlying objectives and the City Council Focus Areas. (Origination and History of balanced measures approach may be found at <http://govinfo.library.unt.edu/npr/library/papers/bkgrd/charlotte.htm> and City Council Focus areas may be found at www.Charmeck.org)

An Enterprise Architecture review report was completed for the City of Charlotte in an effort to seek

"greater clarity in technology project management roles and responsibilities. The OCIO drives accountability and visibility in IT project execution by putting appropriate benchmarks in place within the business workflow for governance teams across the City. Processes are being created for project management and technology activities such as coaching, mentoring and consulting. The OCIO is working directly with teams and is instrumental in driving towards a citywide IT architecture. This architectural approach is known in the industry as Service Oriented Architecture (SOA). The SOA approach will serve as the foundation for compatibility of present and future core business applications." Table 1 is an example provided for the OCIO 2010 fiscal year balanced scorecard, showing the "alignment of specific 2010 fiscal year strategic themes and initiatives for the OCIO with three of the City's Corporate Service Delivery Perspectives— Run the Business, Manage Resources and Develop Employees. These strategic themes and initiatives are directly linked to seven of the City's Corporate Objectives. The initiatives identify tactical areas for achieving the overall strategy of the OCIO and ultimately supporting the overall City strategy for comprehensive citizen service. The tactics are based on an architecture approach to comprehensive citizen service that strives for organizational transformation

with discernable outcomes and benefits through collaborative investments and orchestrated IT: 1) collaboration standards and governance to leverage commonalities across the enterprise businesses; 2) seamlessness through Service Oriented Architecture (SOA) to reduce divisional barriers to exchange information for citizen service; 3) accessibility, (e Government) to enable access information and data no matter the origination; and 4) responsiveness, begin application consolidation to respond better to change using deeper core Capabilities" (City of Charlotte OCIO Strategic Operating Plan FY 2010).

The strategic direction of the Office of the CIO is comprised of a three year strategic map that began in FY2009 with launching essential Building Blocks, continues with establishing the business technology Foundation in FY2010, and will proceed with Expansion in FY2011.

What technology initiatives have been identified for the 2010 fiscal year?

There are four areas identified for the current 2010 fiscal year. These specific initiatives outline the planned progress for business priority and operating strategies across the board (copied directly from the City of Charlotte OCIO Strategic Operating Plan FY 2010).

Information Security: Enhance information security and privacy with the formal adoption of the Protected Data Policy. The plan is to in-

crease opportunities through education and collaboration and boost the capacity to manage and monitor security incidents.

Enterprise GIS Program Support: Advance the implementation of standards, policies and procedures, and outline best practices for the City’s Enterprise GIS. This means strengthening investments in geospatial data storage, management and quality; also, focus on the needs of the GIS professional staff through formal training, mentoring, and support for less fortunate departments; evolve new and existing collaboration with strategic partners to ensure shared services.

SOA Integration Middleware: Guide the implementation of integration middleware for a SOA approach. This will allow for reusability throughout business processes and enhance the ability to interface across disparate systems and enhance ability for business intelligence and analysis. SOA middleware is essential to build the systems bridges needed for operational seamlessness.

Enterprise Applications: Demonstrate feasibility for customer relationship management (CRM) and enterprise resource planning (ERP) systems that maximize



Figure 2. GIS Enterprise Team Program Logo

Table 1. FY2010 OCIO Strategy Map with Alignment to Corporate Strategy (City of Charlotte OCIO Strategic Operating Plan FY 2010)

Corporate Objectives		FY 2010 OCIO Strategic Themes	OCIO Initiatives	
Corporate Themes	Manage Resources	Invest in Infrastructure	Move Toward implementing new WAM and ERP System	
			Create timeline and budget to implement CRM	
	Run The Business	Develop Collaborative Solutions	Establish Architecture Cornerstones	Plan GIS Integration with Business Systems
				Refine the architecture roadmap for SOA & cornerstones
		Enhance Customer Service	Drive Benefits Realization	Focus on organization & culture change for technology change
		Optimize Business Processes		Strengthen alignment of IT investments with City Strategy
	Develop Employees	Promote Learning & Growth	Embed Program Best Practices	Add follow-up processes in governance procedures
		Recruit and Retain Skilled, Diverse Workforce		Provide guidelines for strategic technology selection
		Achieve Positive Employee Climate	Promote Employee Wellness	Drive adoption of best practices for IT management areas
				Continue to define IT Standards
			Create competency centers for enterprise applications	
			Institutionalize collaboration with recognition & rewards	
		Spotlight on wellness		
		Participation in wellness program		

seamlessness in citizen service delivery.

Also, the 3 year OCIO strategy is broken out into strategic themes, noting each year’s focus. This establishes a technology foundation to provide for the future of the City’s enterprise architecture, best practices, and governance processes. This will enable the City to have greater ability to execute the major IT projects that are required to realize comprehensive citizen service successfully. The OCIO Strategic Operating Plan for this fiscal year (2010) includes the following explanations.

Establish Architecture Cornerstones: Progress implementation of new systems for work order asset management (WAM) and enterprise

resource planning (ERP). Create a timeline and budgetary estimate to implement CRM. Chart the integration of GIS to enable all new systems to be “location aware”. Clarify and refine the enterprise architecture roadmap using service oriented architecture (SOA) and cornerstone technologies.

Embed Program Best Practices: Create competency centers that support enterprise applications across business units. Drive adoption of best practices for project and vendor management, IT portfolio management, and business process management. Continue to define IT standards for applications, data sharing and infrastructure. Institutionalize collaboration with recognition and reward collaborative actions.

Drive Benefits Realization: Focus on organizational and cultural change as the primary enablers of technological change. Strengthen the alignment of technology investments with Comprehensive Citizen Service principles and Council Focus Area plans. Add follow up processes in governance procedures to enable tracking of progress and benefits realized. Provide guidelines for strategic technology selection.

What technology initiatives have been identified for the 2011 fiscal year?

The foundation for the enterprise IT architecture frames IT investments for current and future fiscal years. “The elements such as the architectural cornerstones as well as a rich, robust Mas-

continued on page 10

ter Address Data Program combined with technology roadmaps set the direction for expansion. For fiscal year 2011 five areas are keys to success" (City of Charlotte OCIO Strategic Operating Plan FY 2010).

Enterprise Architecture Planning: Leading the development and implementation of the architecture or blueprint for the use of information technology to support the City's and key business unit Strategic Operating Plans. Developing strategies to advance the collaborative use of technology.

Information Security: Protecting information, information systems and technology investments from unauthorized access, use, disclosure,

disruption, modification or destruction. Goals of information security focus on confidentiality and privacy protection, information integrity and information availability.

Program Management: Leading the development of major business technology programs to include planning, organizing and managing resources in a collaborative environment to achieve successful, sustainable solutions in areas that include GIS, CRM, business intelligence (BI) and master data management (MDM).

Process Management: Leading optimization of management, operational and business support processes that avoid functional

silos and deliver efficiencies and effectiveness for seamless citizen service.

Portfolio Management: Managing the collection of information technology investments and guiding decisions about the investment mix and policies that match the investments with the City's Business Priority.

What are the benefits of interwoven Integration across/through cornerstones?

At a glance, the benefits of interconnecting data between business foundation systems, and having GIS identified as one of the main cornerstones, is an exciting acknowledgement for the hard work and natural collaboration that the GIS professionals in the GIS community are well known for. I

wondered what others were doing in this realm of integration, a quick search of the internet shows many other organizations going through similar thought processes to support services and businesses for their agencies and customers, driving efforts and best practices to cut through the difficulties and boundaries of providing the best business intelligence to users and hopefully realizing savings and better business process management.

Congdon (2009) reviews the exponential business benefits of GIS related to ERP and Work and Asset Management. The discussion surrounds integrated GIS and SAP (<http://www.sap.com/index.epx>) workforce management system and offers an example of how this software option and

2010 Exemplary Systems in Government Awards Process Now Open

The ESIG Awards recognize exceptional achievements in the application of geospatial information technology that have improved the delivery and quality of government services.

Why participate?

"I believe the award has done two things for me professionally. The first relates to leadership. The award was a source of pride for my team and reinforced the team's belief in my ability to pull all the pieces together to develop a product worthy of national recognition and

their ability to be successful in their roles. The second relates to credibility. Many of the District's senior leaders have little experience in GIS. However, many of these leaders are familiar with URISA. Receiving this award has reinforced their decision to entrust me with this large, complex project and has demonstrated that I can deliver despite the statistics related to failed and overly expensive IT projects." - Don Nehmer, Capital Program Business Manager, Milwaukee Metropolitan Sewerage District,

WI: SewerView, 2009 ESIG Enterprise Systems Category - Distinguished System

"It was an honor to receive the ESIG award from URISA this past year. By participating in the ESIG award process we were able to exercise another reason to evaluate our system, by doing so we were able to find ways to improve our current system. We also received local media exposure because of the ESIG award, this helped us inform the Forsyth County public of how we were applying GIS for

public safety in their county. This award also validated all of the hard work and development that went into this system, this helped the GIS department fortify a trust with the Forsyth County Administration." - John Kilgore, GISP, GIS Director, Forsyth County, GA: GIS Mobile Emergency Response System (ERS), 2009 ESIG Single Process System Winner

ESIG Applications will be accepted through May 3, 2010. For details, <http://www.urisa.org/2010esigapplication>

GIS are driving synergy across divisions, lessening issues of scalability over time, and integrating disparate systems. The author also adds advice on how integration of GIS with ERP adds “clarity to public works process, coordination, communication and responsiveness to run effective citizen services.” An example selected from the Oil and Gas industry, Abou-Ghanem and Arfaj (2008) examine how business processes can strive for better optimization and efficiency improvements by managing with ERP systems for workflow coupled with the power of GIS to gain location based information. The authors state case studies and techniques for integration as well as possible benefits realized from such system fusion. An example pertaining to CRM and GIS Integration, Williamson (2008), talks about the challenges and issues related to technology, commercial products, and organizational issues of GIS and CRM embedded in a

It is understood that good data is the key to good citizen service.

local authority customer contact center business activities. Petrecca and LaCombe (2009) present how integrated enterprise GIS technologies evolved to reveal the “power of GIS both knowingly and unknowingly.” The product called *IndyGIS* was developed for

functionality and efficiency to address problems, enhance processes, and remove hurdles of business connectivity. Taking a look at the benefits resulting from connection of ERP and business process management, Horwitt (2009) discusses how this type of integration lower costs, can reduce inventory, and confer time savings. Think about being able to track, monitor and measure key performance indicators (KPI’s) for any type of business public or private, across the business for any location or product at any time (thus an opportunity for tying in GIS and expanding the capability of business analysis for the enterprise).

Closing Comment

I chose the City of Charlotte example, mostly because I know it intimately and it affects my day to day business operations here at Charlotte-Mecklenburg Storm Water Services and activities of the GIS Enterprise Team which runs the GIS Enterprise Program for the City of Charlotte. The GIS professionals and business leaders for the city recognized early on that GIS could and should support the daily activities, however until recent years, it was not targeted as such an important building block and awareness has been elevated to senior business members because of several commitments made by the GIS professional staff and their willingness to get the job done and work hand in hand to benefit one another. This team of profes-

sionals has worked across and through some very difficult hurdles to sync up systems and data. It is understood that good data is the key to good citizen service. There are many examples of the GIS community at the city and within the Charlotte-Metro Region, coming together to aid in communication. We have many applications and a wealth of data sources which support daily activities, like Mecklenburg County’s public data portals which support vital city and regional activities on Charneck.org (a few main examples are POLARIS, GeoPortal and DataWarehouse). Our STREETS committee which allows regional entities to assist in supporting our excellent street centerline feature database. A Google based intranet-application named *Virtual Charlotte*, which ties citizen information with tax data, street centerline, address location, with our enterprise GIS spatial data warehouse framework datasets, and Charlotte’s Department of Transportation work order system, 311 call center database, emergency CADD event system, and returns reports in just a few seconds. Since the 1990’s, the Charlotte-Mecklenburg Storm Water Agency has depended on data collected from aerial photography for its utility billing (calculating impervious surface total per parcel). Solid Waste Services for the city use GIS for everything from tracking vehicle activities from daily routing and pickup to special pickups (bulky items for instance). Engineering & Property Management and Charlotte-Mecklenburg Utilities have collaboration applications, data and services that sup-

About this Editor



Allow me to introduce myself; I am Keri Schaber Shearer, a new co-editor for URISA’s GIS Professional Newsletter. I have scores of interests that encompass the geospatial realm of technology, geographic activities, and analysis. This newsletter gives me an opportunity to share ideas, hopefully give back to the GIS Community, and keep updated on the latest GIS technologies. I have been in the field of GIS for over 10 years, 8 of which have been with the City of Charlotte. Right now I am the GIS Enterprise Team Vice-Chair for the City of Charlotte for the 2010 fiscal year and my job title is IT Manager, with the purpose of coordinating efforts for Charlotte-Mecklenburg Storm Water Services technology needs for the City of Charlotte, North Carolina. I am a proud graduate of Mitchell Community College (AS) and UNC-Charlotte’s Geography and Earth Sciences Program (BS and MA). Also I am a member of the Charlotte-Metropolitan GIS User Group and URISA. Feel free to contact me with article submissions or ideas for articles for this newsletter via email: GISCommunity@gmail.com.

port capital improvement project collaboration and link project management data to a spatial interface. These two entities are in the planning stages for ArcGIS and City-

continued on page 12

works application to support WAM. The Planning Department uses GIS to support their area plans with documentation linked to spatial location and they use GIS to assist with creation of plans, an example is the General Development and Environmental Development Plans via utilization of custom extensions and *CityGreen*. So you can see these examples just scratch the surface of how, across the board, GIS is infused within the business for a myriad of purposes to inform and communicate. It is interesting to know that GIS is recognized more than just as an application, a database, or group of techies, but as a "system of systems" which support this local

government, the region, and its user's every hour of every day. It is exciting to see GIS directly in the spotlight. If you have examples of integration, business intelligence, business practices, applications, policies, standards, and/or strategic plans, or any other ideas that you would like to share with the readers of this newsletter, feel free to send them to my email address for publication consideration, GISCommunity@gmail.com.

Special thanks must be given to the wonderful OCIO Team who prepared this report, and especially Jeff Stovall, our CIO and great visionary for the City of Charlotte's technology future. Also, thank you to

Twyla McDermott who with her patience, guidance, and forward thinking has challenged us, this has allowed our GIS Community within the city and region to cultivate and blossom.

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President's Column

URISA Traditions

For most of you reading this, the time of traditional holiday celebrations are past. But in my neck of the woods, now is the time when we gather to celebrate a tradition that, while not uncommon around the globe, is unique in America: the Carnival Season. Carnival is a tradition that helps to define my hometown, New Orleans. For the residents and countless visitors alike, it is a tradition that unites us in the common goal of celebrating *les joie de vivre*.

The Encarta Dictionary tells us that traditions are "long-established action(s) or pattern(s) of behavior in a community or group of people...that ha(ve) been handed down from generation to generation," and "a body of long-established customs and beliefs viewed as a set of precedents." URISA has several traditions that define, unite, and make our association unique in the geospatial realm. As URISA nears its 50th birthday, I thought about those traditions that have evolved within our association. Three that were obvious to me were the traditions of GIS

education, GIS community development, and GIS ethical behavior.

Tradition of GIS Education

A review of URISA's traditions is incomplete without a look at URISA's past. An excellent synopsis of our association's history can be found on the website at <http://www.urisa.org/about/history>. URISA's founder, Ed Horwood, along with others, had the foresight to see that those individuals who chose a profession in GIS would require an organization to support them. A large part of the support envisioned by URISA's founders included educating those who create GIS, as well as the users and those that champion GIS projects. Over the decades, URISA responded to its members' needs for knowledge by creating a catalogue of twenty-six educational workshops: <http://www.urisa.org/workshops>. These workshops, taught by URISA members who are certified instructors, range from introductory to advanced, and represent an incredible asset to URISA's tradition of GIS education.

Another one of URISA's educational traditions is the Annual Conference. For forty-seven years, URISA members have convened annually to learn, share and present on all things geospatial. This year, URISA introduces a new tradition: GIS-Pro 2010:

URISA's 48th Annual Conference for GIS Professionals. This year's Conference Committee is hard at work revamping conference content and presentation methods by adding new ways to learn, network, and connect with geospatial professionals from across the globe.

Tradition of GIS Community Development

By their very nature, traditions are participatory. Observers of current traditions pass on the traditions to those that will carry them into the future. In the case of Carnival, those that preserve traditions like the masque balls and the second-line brass bands realize that keeping traditions alive requires support both from and for the communities that practice those traditions.

URISA's tradition of supporting and advancing the GIS community is no different. Prior to the formation of URISA, Horwood and his peers were a loose group of urban planners and information system professionals. They had no established community to provide reinforcement for their research or their advances in the evolving computerized geospatial analysis field. Once URISA was formed,



Kathrine Cargo

the activities of the association set into motion the customs that would serve as the foundation, or traditions, for URISA's community of members.

Examples of those traditions that persevere today include the URISA Chapters, the *URISA Journal*, and perhaps most important, the provision of networking opportunities for like-minded individuals with a passion for GIS. Newer traditions that serve to develop the GIS community include attaining a GIS Professional (GISP) certification, volunteering for the GIS Corps, and participating in the on-line member discussion forums and blogs.

Tradition of GIS Ethical Behavior

Every year in New Orleans, Carnival traditions are challenged to see if they can stand the test of time. Some traditions, such as excluding club members based on race or gender, have thankfully fallen by the wayside. Other traditions, such as the date the Carnival season starts (January 6) and the date it ends (Mardi Gras, or Fat Tuesday), are deeply rooted in religious observances and celestial occurrences, and thus are more permanent. Carnival traditions that persevere are ones that are

flexible, yet rooted in an unwavering foundation, providing the framework to sustain the holiday's core while incorporating the inevitable changes that occur over time.

URISA's tradition of promoting ethical behavior by geospatial professionals is one of the foundational principles of the association. Horwood recognized that turning digital data into information can have unintended consequences if used in a non-ethical manner. URISA's tradition of promoting and following the GIS Code of Ethics (http://www.gisci.org/code_of_ethics.aspx) offers

its members and all GISP's guidance to always do right by and with GIS. The GIS Code of Ethics, rooted in several theories of ethical behavior, may evolve like the Carnival traditions that change in response to societal advances. However, the foundation of the Code, with its basis in morality, is inflexible, and thus allows the tradition of GIS ethics to be sustainable and robust year after year.

For both Carnival and URISA, traditions provide a touchstone for historical perspective and the framework to move forward. Over the years, URISA's traditions have supported

its members in the ever-changing landscape of geospatial analysis. They have assisted the GIS community to advance to the point that GIS is now considered a profession. I believe that traditions

which support and nurture events and communities as unique as both Carnival and URISA should be embraced and practiced with great regularity, and with passion. I hope as URISA members, you agree. Happy Carnival, y'all!



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By Twyla McDermott, GISP and Michael Waltuch, GISP

PAM SIG MAP GIS
THE ADVENTURES OF

This episode: Pam Ponders Standards
Next: Pam gets social...

Um... there are 5 parts to a GIS... data, software, hardware, people — and procedures...

I've gotta get my head around **STANDARDS!** How do I funnel the plethora of standards into **PRACTICAL PROCEDURES?** That's the real **WHAT** of my ponderance...

and then, **WHERE** do standards come from? There's OGC and FGDC, State Agencies, DHS, and probably some acronymic agencies I never heard of!! Seems like everywhere you turn there's another set of standards.

WHEN do I apply those standards??

Use Daily for Best Results...

Do I apply them...

- For **GRANTS** only?
- Emergency Services only?
- Business Applications?
- Everything in the **WHOLE WIDE WORLD!!!??**

The **WHY** of all this is critical, especially these days... there are benefits for

- DATA SHARING**
- DATA MANAGEMENT**
- DATA DEMOCRATIZATION**
- DATA HOARDING**

So **WHO** do I turn to to solve the puzzle?

- My Manager
- IT Department
- Peers
- Profession
- Therapist
- Dog

I **KNOW!!**

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is a multidisciplinary association
where professionals from all parts
of the spatial data community can
come together and share concerns
and ideas.

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