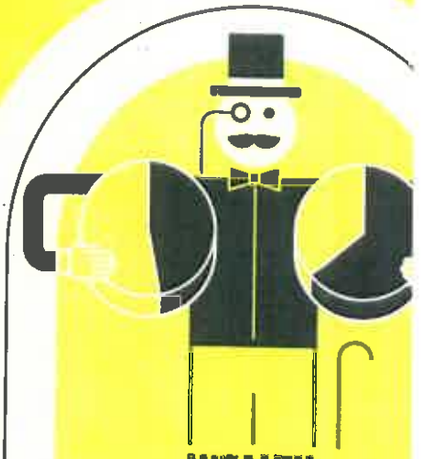
POPULATION

2018
7.6 billion

2030
8.6 billion



WEALTH

The richest 1% currently own **47%** of global wealth ...

... and could own **64%** of it by 2030

THE WO

MOBILITY

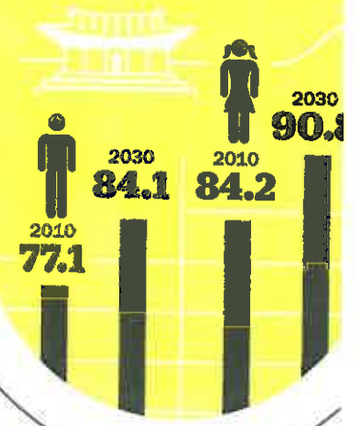
1 in 4

passenger-miles in the U.S. are expected to be traveled in shared, self-driving vehicles

LIFE EXPECTANCY

Life spans are likely to increase in industrialized countries, with South Korean girls born in 2030 projected to have the longest lives

PROJECTED LIFE EXPECTANCY IN SOUTH KOREA, BY BIRTH YEAR



ILLUSTRATIONS BY NICOLAS RAPP FOR TIME

SOURCES: U.N.; CREDIT SUISSE RESEARCH INSTITUTE; THE GUARDIAN; WORLD BANK; CDC; R
WOOD JOHNSON FOUNDATION; THE LANCET; BOSTON CONSULTING GROUP; PRICEWATERHOUS

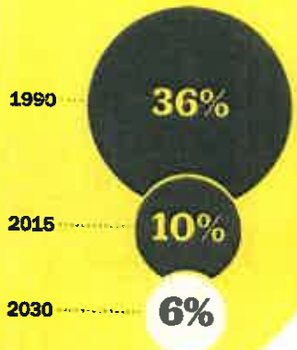
AHEAD

Trends and demographics show big changes on the way

POVERTY

An estimated 500 million people will be earning less than $1.90 a day

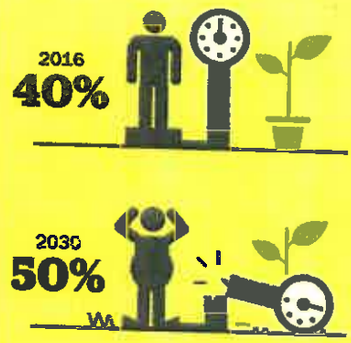
SHARE OF THE WORLD LIVING IN EXTREME POVERTY

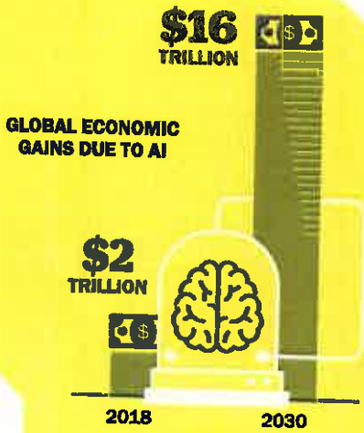


OBESITY

The obesity epidemic is expected to continue plaguing the U.S.

ADULT OBESITY RATES



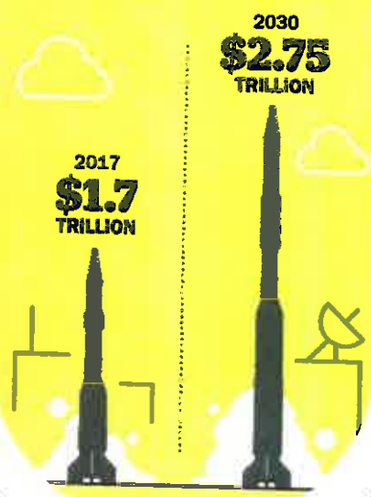


TECHNOLOGY

Artificial intelligence is expected to add more to the global economy than the current total economic output of China and India combined

MILITARY

If current trends continue, global annual defense spending will jump more than 50%



NOTES: 2030 OBESITY RATES ARE BASED ON A 2012 STUDY THAT PROJECTS THAT 39 STATES WILL HAVE OBESITY RATES ABOVE 50% AND 11 STATES WILL HAVE RATES OF 44% TO 50%. LIFE EXPECTANCIES IN SOUTH KOREA ARE BASED ON A MEDIAN FORECAST. MILITARY PROJECTIONS, CALCULATED BY TIME, ARE BASED ON CURRENT WORLD BANK AND OECD SPENDING FIGURES.

OPPORTUNITY ZONES PROGR

AND WHAT IT MEANS FOR KANSAS CITY, MO RESIDENTS

NNE CLEAVER

BY THE NUMBERS

5 MAJOR OPPORTUNITY ZONE CLUSTERS IN THE METRO AREA

89,597 PEOPLE LIVING WITHIN THE ZONES

67.35% OF RESIDENTS ARE PEOPLE OF COLOR

$30,825 MEDIAN HOUSEHOLD INCOME

31% AVERAGE POVERTY RATE

AVERAGE MEDIAN FAMILY INCOME IS 59% OF AREA MEDIAN

FOR MORE INFO

KCOZ.MINDMIXER.COM

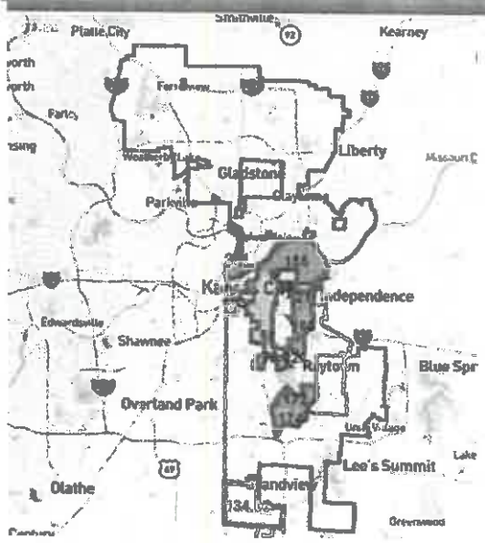
EWING MARION KAUFFMAN FOUNDATION

Urban Neighborhood Initiative

KC CHAMBER

Urban League of Greater Kansas City

WHAT ARE OPPORTUNITY ZONES?

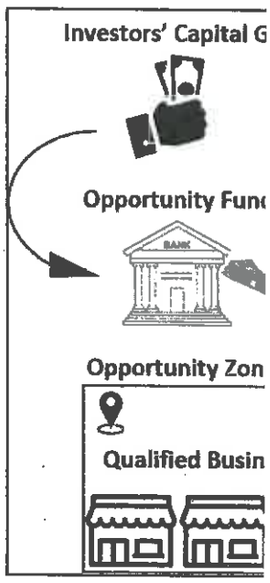


Across the nation, 1 in 6 people live in an area with insufficient development and minimal access to jobs that pay a livable wage. As part of the Tax Cuts and Jobs Act of 2017, the federal government established the Opportunity Zones program. This program offers tax incentives for investing in low-income communities.

These incentives include the deferral and forgiveness of taxes on capital gains. Investors receive the most benefits when they hold their investments for 10 or more years.

Opportunity Zones are for investment vehicle as Qualified Opportun Opportunity Funds are invested in qualified b within Opportunity Zo

- Opportunity Fu be used toward:
- Expansion of a business
- Rehabilitation o real estate
- Equity capital f development



WHAT SHOULD RESIDENTS CONSIDER?

Residents who live within or near Opportunity Zones will likely see some changes over the next several years:

An influx of investment within our neighborhoods. Investors will be looking for areas with potential and existing plans for development.

Increase in hiring. Expansion of existing businesses and the development of new enterprises will necessitate the hiring of additional staff.

Entrepreneurship opportunities. As new development occurs within Opportunity Zones, additional businesses will be needed to serve the needs of the expanded workforce and new residents. This will create opportunities for new small businesses.

Residents will need to partner with advocacy organizations and city leaders to ensure that the following takes place:

Community benefit policies are established, maintained, and monitored. Jobs that are created as a result of the Opportunity Zones Program should pay livable wages. Furthermore, businesses should put into place policies that require local hiring.

Development occurs without displacement. Existing affordable housing units should be preserved, and new affordable units should be developed alongside market rate units.

Opportunities are equitable. Minority/disadvantaged/women-owned businesses should have equitable access to development contracts.

Monitoring and accountability mechanisms are in place. Residents should have access to regular reports of how their communities are being impacted by Opportunity Zone development.

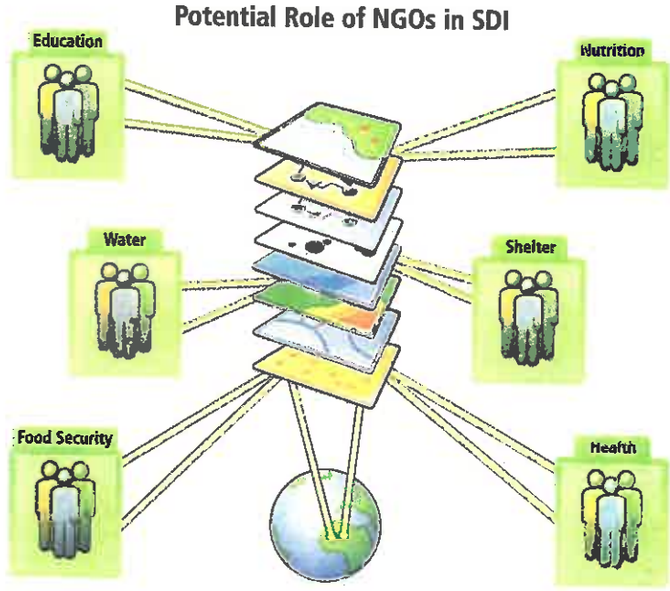
NGOs Contributing Geographic Information as a Public Good

By Jonathan Palmer, Director, Global Information Communication Technology, Wildlife Conservation Society

While for many, the term *BINGO* conjures the imagery of cozy, and perhaps outdated, social gaming halls, it also refers to big international nongovernmental organizations (BINGOs), a collective term for the world's largest nonprofit organizations, typically working across multiple continents and with annual budgets in the hundreds of millions of dollars. Their function in implementing major science- and evidence-based programs, independent of direct commercial and government interests, gives them a unique role as consumers and generators of geographic information across a range of scales from the local to the global. This unique role is accentuated by much of their effort being focused in the information-poor environments of the South, a loose geographic term based on the global North-South Divide (with countries such as Australia and New Zealand being in the North). Many BINGOs are household names like CARE, The Nature Conservancy, Oxfam International, Save the Children, Wildlife Conservation Society (WCS), and World Vision.

One key question facing BINGOs is this: To what extent should they publish the knowledge and information they generate as a free, public good (as in the sense of a free service or product)? From the point of view of economics, two conditions are required to be considered a public good: use of the good by one individual does not reduce the opportunity for others to make use of the good (nonrivalry), and everyone has access to the good (nonexcludability). While there is a range of physically free goods (e.g., clean air in most locations), the Internet and the supporting information technology revolution have seen the explosion of electronically free goods—ranging from free software to open access to data. While BINGOs have benefited from this explosion, many are what economists would refer to as free riders, with limited capacity to contribute back to the pool of the public good. Looking to the future, there are a number of reasons to be optimistic that BINGOs will increasingly contribute to the information capital of free goods available to the societies in which we work—not only based on the commitment of BINGOs and their supporters but also based on the support (and demands) of our donors and on the innovations by our technology partners, which are making contributions to information as a public good both easier and, increasingly, a competitive necessity.

Potential Role of NGOs in SDI



BINGOs work across a broad range of industry verticals, including conservation and the environment, emergency response, and development. In turn, development covers almost any sector you care to imagine—including areas as diverse as agriculture, water, microfinance, health, and education. Within these verticals, BINGOs play a range of roles including policy formulation and advocacy; the facilitation of change through capacity building and innovation in partnership with governments, civil society, and others; and direct service delivery together with the promotion of transparency and access to services. Across all vertical sectors and for all the different roles BINGOs adopt, geography mediates almost every aspect of our work; most of the major issues we face have an explicitly geographic element. There are many great examples of how geography underpins the work of the global nongovernmental organization (NGO) sector: land-use planning and creation of management plans for protected areas, rapidly assessing needs and gaps in services following a natural disaster, and balancing efficiency and equity in the delivery of health or education support services.

Geographic information has a key role to play not only because of the geographic nature of the issues we all are trying to address but also because geography provides a rapid and meaningful way to aggregate information and place it into a meaningful context. GIS is increasingly underpinning the decision making that takes place in the mashup society in which we now live. Such projects are not restricted to the North: grassroots, crowdsourcing initiatives, like Ushahidi (the international open source data visualizing project), while only leveraging basic points-on-a-map technology, demonstrate the power of simple GIS technology for promoting transparency. What will the future hold where more complex geographic tools are made easily available and usable for the people of the South to tell the compelling stories of the challenges they face in addressing poverty and securing their man-made and natural environments? How will BINGOs assist in telling these stories?

While historically BINGOs have been criticized for working in isolation, a range of factors has transformed and continues to transform the collaborative landscape, especially with regard to information sharing and information as a public good. First, the majority of agencies are now focusing on partnership and supporting local governments as civil society and other organizations address their needs, commitments, and priorities. Second, the interdependency of issues within and across both the natural and man-made world is increasingly making collaboration a prerequisite for success. Third, a range of initiatives is changing the competitive landscape in which we work. Beyond initiatives in the North, like Data.gov, a range of institutional and collaborative frameworks is emerging in the South that not only facilitates collaboration and data sharing but is also beginning to throw down the challenge that others collaborate and share information. For example, in East and Southern Africa, the Regional Centre for Mapping of Resources for Development (RCMRD) is increasingly taking on the challenge of responding to its mission of facilitating access to geographic information and products for use by its member states and beyond. Through engaging in the NASA- and U.S. Agency for International Development (USAID)-initiated Regional Visualization and Monitoring Station (SERVIR) project, RCMRD is ensuring the increasing capacity of its member states to respond to environmental threats such as wildfires, floods, landslides, and harmful algal blooms. The Water Center for the Humid Tropics of Latin America and the Caribbean (CATHALAC), based in Panama, provides a similar role to RCMRD but focuses on Mesoamerica. It will become increasingly challenging for BINGOs to claim the mantle of facilitating transparency if their own efforts are not visible at some level in initiatives like RCMRD. Finally, multisector initiatives, such as Conservation Commons as well as member-driven collaborations within the BINGO sector such as NetHope, are providing the institutional framework for collaboration linked with the

single point of e
support our collec
with leadership fro
WaterAid, and t
Society, NetHope is
how, through colla
can benefit the mis
leading NGOs.

While geography
collaboration is incr
valuable and compe
a long way to go to
of us aspire to. Inv
a challenge for any
economic environm
NGOs are extremel
issues we address ar
massive in scale: glo
tion and biodiversity
of people at the bott
on less than $2/day,
natural disasters tha
millions of people a
only a percentage of
are unrestricted, that
tion is free to deci
Even where a capita
might deliver signi
mission, it may also
overhead—one of th
used to compare NC
resources, we must
pace of organizatior
just driven by resou
own organizational
sharing has been, fo
prohibitively expens
a range of genuine r
as individual health
dangered species—
myth in some organ
not desirable, not a

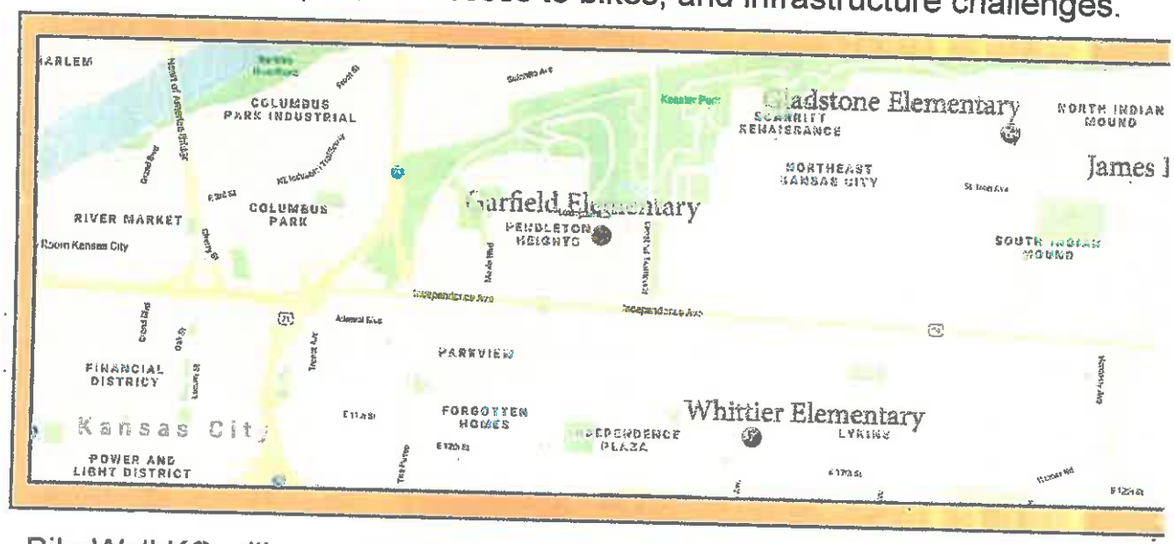
It would shock
how few of the majo
developed a spatial c
optimizing geograph
and sharing informa
organizations. For
shocking; impleme
challenge in many p
and with a choice b
back-office investm
most people would
the NGO sector se
services, like those
as an opportunity
the commercial sec
infrastructures with
hardware and softw
ciated with such wo
more than just log
data—our success
from the private s
the technology pro
of expertise. Perhap
evolving technologi
of our technologica
belief of many that
move the needle in t
to contribute to ge
public good.

As we do not ge
we are all heavily
and demands of ou
increasingly requirir
funds to be, at some

Building Collective Health
Community Interventions for Northeas

BikeWalkKC has been selected as one of 25 grantees for the Aetna Found Cultivating Healthy Communities program and awarded a $75,000 commu to work in partnership with Children's Mercy Kansas City.

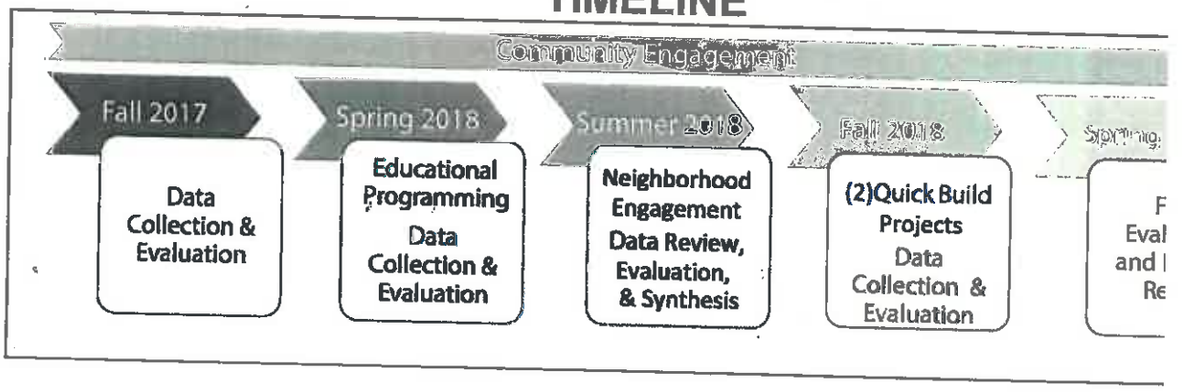
BikeWalkKC is working with four KCMO public schools and neighborhoods walking and biking to school. This project will explore and address barriers lack of education, lack of access to bikes, and infrastructure challenges.



BikeWalkKC will work with the residents, neighborhood organizations of Nor Kansas City, and our evaluation partners, Children's Mercy Kansas City, to c 18-month program comprised of evidence-based youth education programm hands-on built environment interventions to improve community health.

These activities will improve awareness, skills, confidence, and motivation ir participants to increase the number of residents biking and walking in Northe

TIMELINE



Your Business Is Not A Game To Us!!

Contact EGRC:
4747 Troost Building, Suite 203, Kansas City, MO 64110
Phone: 816-235-6075 Fax: 816-235-2947
E-mail: egrc@umkc.edu
www.umkc.edu/egrc

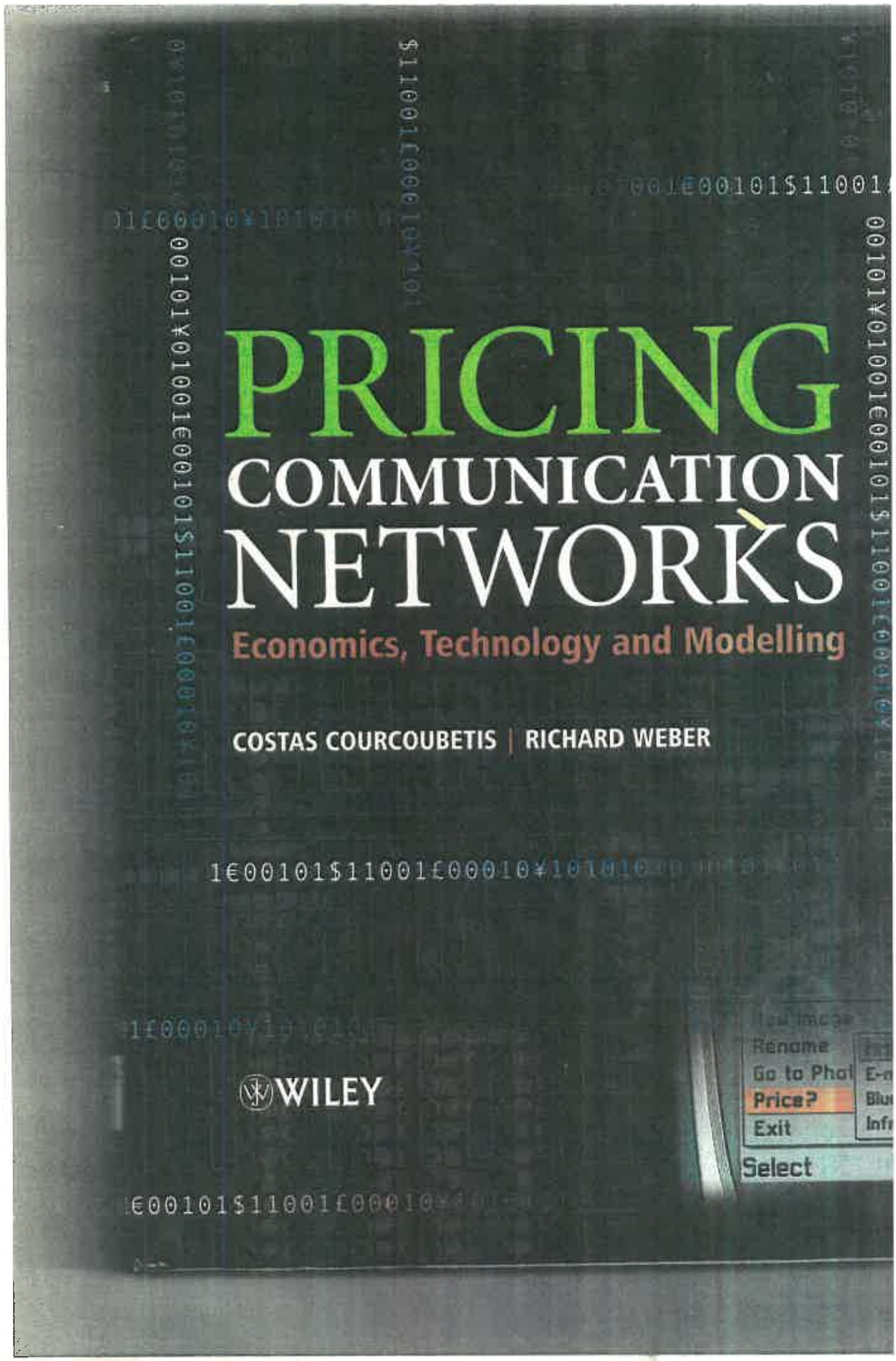
EGRC

KANSAS CITY UNIVERISTY CAMPUS MAP

1. Administration Building
2. Classroom Annex
3. Smith Hall
4. D'Angelo Library
5. Academic Center (AC)
6. Student Activities Center (SAC)
7. Dybedal Center for Research
8. Strickland Education Pavilic. (SEP)
9. Kesselheim Center for Clinical Competence (KCCC)
10. Butterworth Alumni Center (BAC)
11. Future Site of the Center for Medical Education Innovation (*Active Construction*)

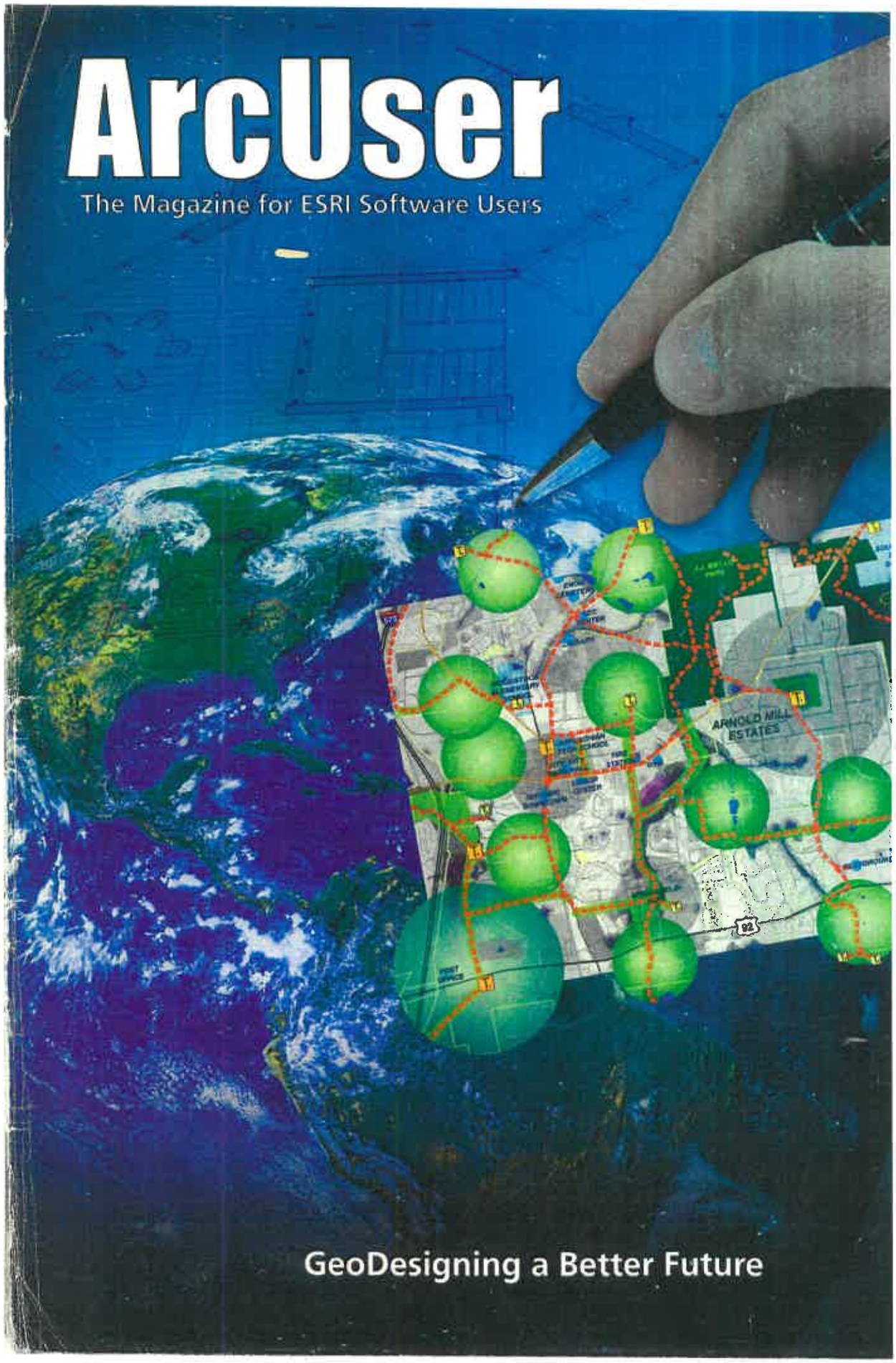
CAMPUS MAP AND G

- Guest Parking
- Pedestrian Crossing
- Emergency Call Boxes
- Accessible Parking
- Closed to All Vehicle and Pede


PRICING
COMMUNICATION
NETWORKS
Economics, Technology and Modelling
COSTAS COURCOUBETIS | RICHARD WEBER
WILEY
Rename
Go to Phol
Price?
Exit
Select

ArcUser

The Magazine for ESRI Software Users



GeoDesigning a Better Future

Dynoverse Corporation Breathes Life into Virtual Human

Imagine the simulation of the human body so realistic it's almost as if you're looking into a mirror instead of a computer screen.

With funding from NASA, Dynoverse was able to develop its Virtual Interactive Anatomy (VIA) technology by reanimating the digital tomography, magnetic resonance and cryosection of two cadavers. Dr. Robert Rice, CEO of Dynoverse, enlisted the expertise of MCTTC to identify strategic partners in order to facilitate successful commercialization.

"It was a highly favorable experience and was much more interactive than similar programs. The MCTTC group took the time to develop a good understanding of what we do so that they could see things from every possible angle. They made the contacts that we would never have been able to make and kept us from spinning our wheels with people that would not utilize our technology. Overall it was a wonderful investment," explained Rice.

www.mcttc.com

How Can the MCTTC Benefit You?

- Receive valuable insights about future technologies
- Save time and money with our cost-effective business services
- Make your products more marketable and competitive
- Improve your manufacturing process
- Receive solutions for your tough technical problems

MID-CONTINENT TECHNOLOGY TRANSFER CENTER

Regional Representatives

Initiatives Worldwide, Inc.

4112 Pennsylvania Ave., Suite 250
Kansas City, Missouri 64111

816-960-1903
816-960-1902 fax
www.initiativesww.com

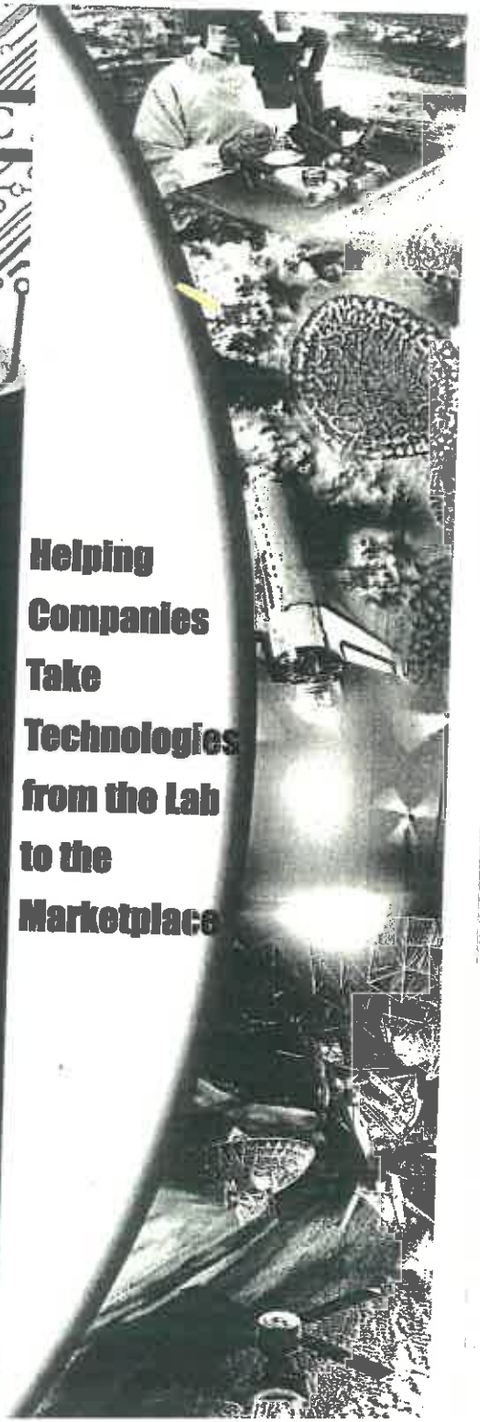
TEEX

MCTTC

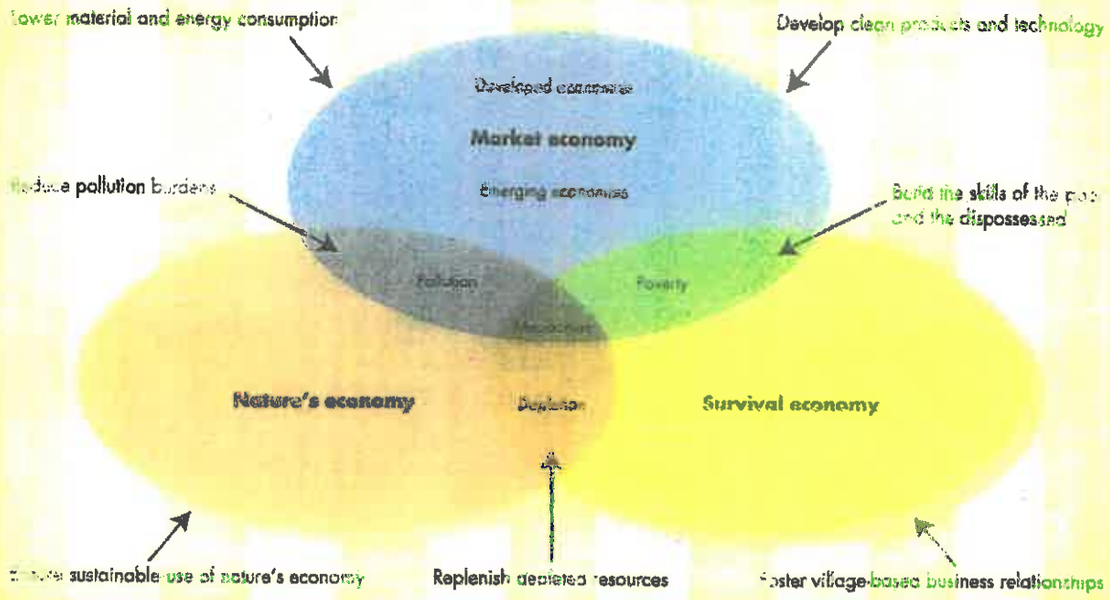
MID-CONTINENT TECHNOLOGY TRANSFER CENTER

A NASA Regional Technology Transfer Center

Helping Companies Take Technologies from the Lab to the Marketplace



Building Sustainable Business Strategies



Major Challenges to Sustainability

	Pollution	Depletion	Poverty
Developed economies	–greenhouse gases –use of toxic materials –contaminated sites	–scarcity of materials –insufficient reuse and recycling	–urban and minority unemployment
Emerging economies	–industrial emissions –contaminated water –lack of sewage treatment	–overexploitation of renewable resources –overuse of water for irrigation	–migration to cities –lack of skilled workers –income inequality
Survival economies	–dung and wood burning –lack of sanitation –ecosystem destruction due to development	–deforestation –overgrazing –soil loss	–population growth –low status of women –dislocation

[1]Hart, Stuart, "Beyond Greening: Strategies for a Sustainable World," ***Harvard Business Review***, January-February, 1998, Vol. 76, Issue 1, 41.

[2]Sekora, Michael C. and Evans, Eliza, "A New Approach to Innovation and Growth in the Texas Technology Corridor," ***Texas Business Review***, published by the Bureau of Business Research, IC[2] Institute, and The University of Texas at Austin, August 2006, 1.

[3]Johnson, Ann B., ESRI Higher Education Solutions Manager, "Spatial Thinking, Education, and the Workforce: The Importance of Incorporating Geospatial Skills into the Curriculum," ***ARCUser, The Magazine for ESRI Software Users***, July-September 2006, 8.

[4]Goldsmith, Stephen, Faculty Director and Christopher, Gail C., Executive Director, Correspondence to Lorraine Rost from Harvard University JFK School of Government's *Innovations in American Government Program*, February 28, 2002

The New York Times

Climate Hub

The moment is now. The action starts here.

Glasgow November 3–11 2021

Understand the science; learn about the challenges and innovations; engage with live talks, debates and exhibitions; and find out how you can create real change.

Be the first to hear about tickets, speakers and programming.

nytclimatehub.com

Presented by

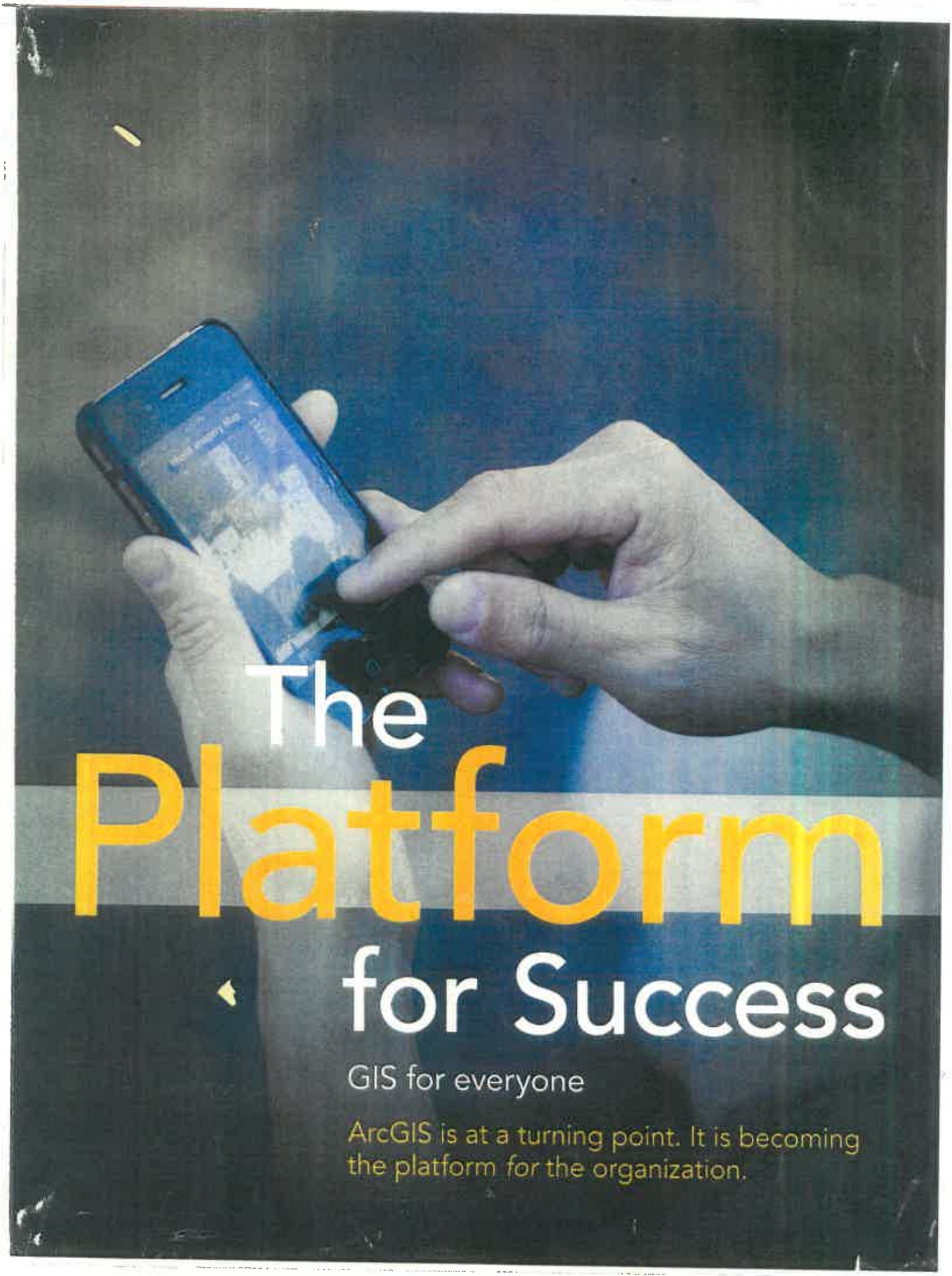
Morgan Stanley SIEMENS energy

Supporting Sponsor leaps

Contributing Sponsor HSBC

Event Management Partner Summerhouse Media

Event Content Partner Kite Insights



The Platform for Success

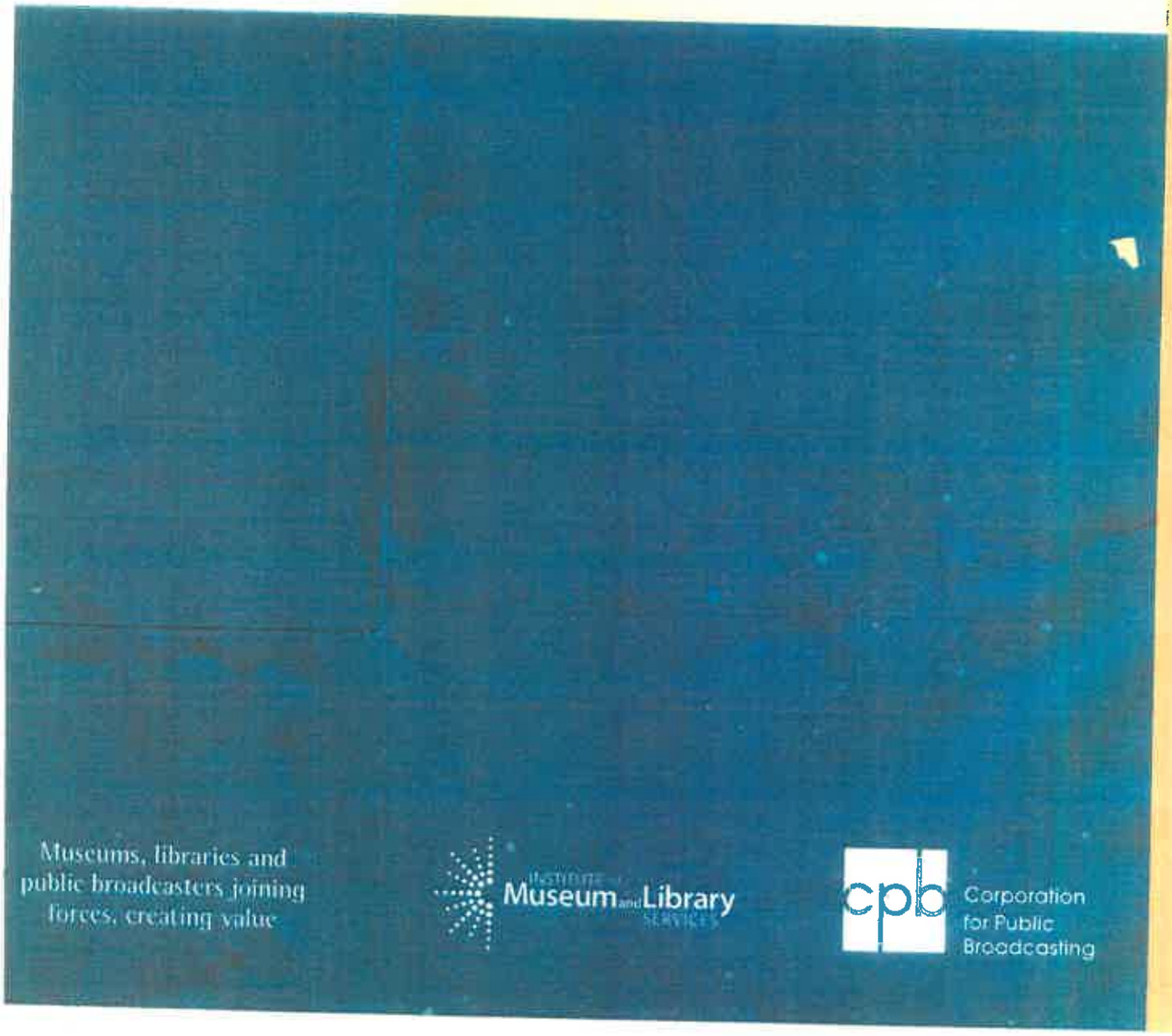
GIS for everyone

ArcGIS is at a turning point. It is becoming the platform for the organization.

Partnership FOR A NATION OF Learners

Joining Forces, Creating Value

June 2009



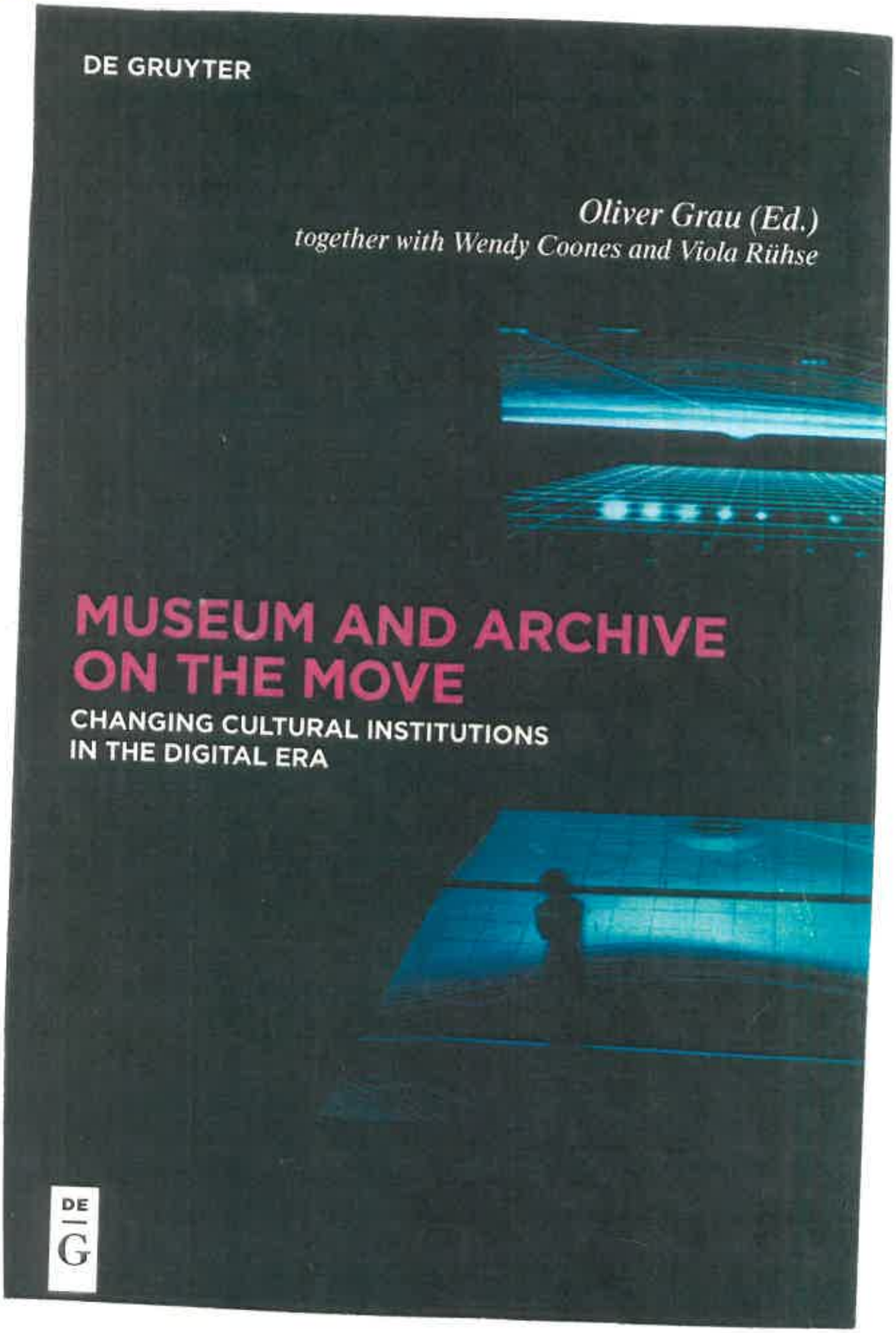
FOURTH EDITION

FRANCHISING & LICENSING

TWO POWERFUL WAYS TO GROW YOUR BUSINESS IN ANY ECONOMY

ANDREW J. SHERMAN

Author of *Mergers & Acquisitions, Raising Capital,* and *The AMA Handbook of Due Diligence*


DE GRUYTER
Oliver Grau (Ed.)
together with Wendy Coones and Viola Rühse
MUSEUM AND ARCHIVE ON THE MOVE
CHANGING CULTURAL INSTITUTIONS IN THE DIGITAL ERA
DE G

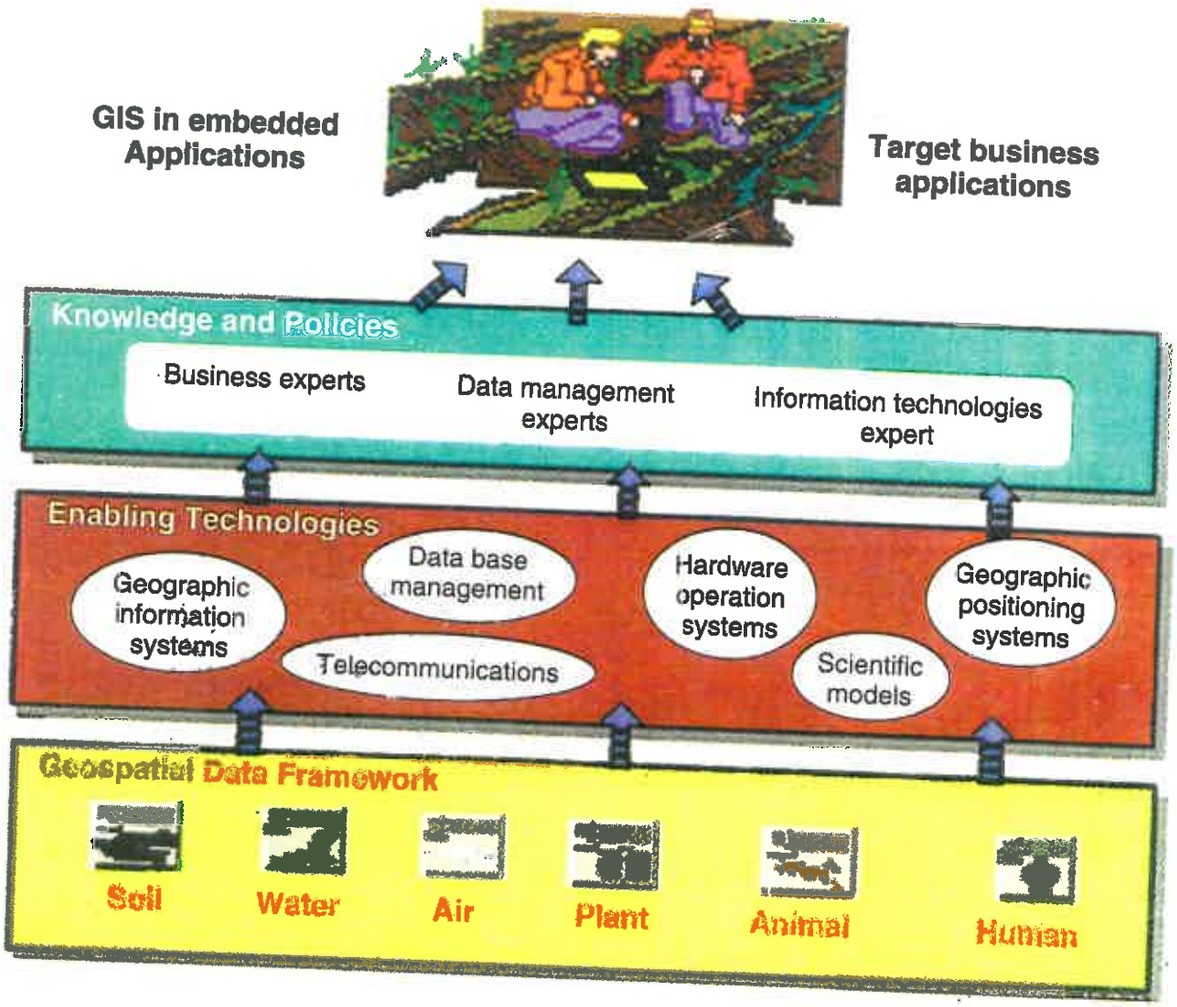
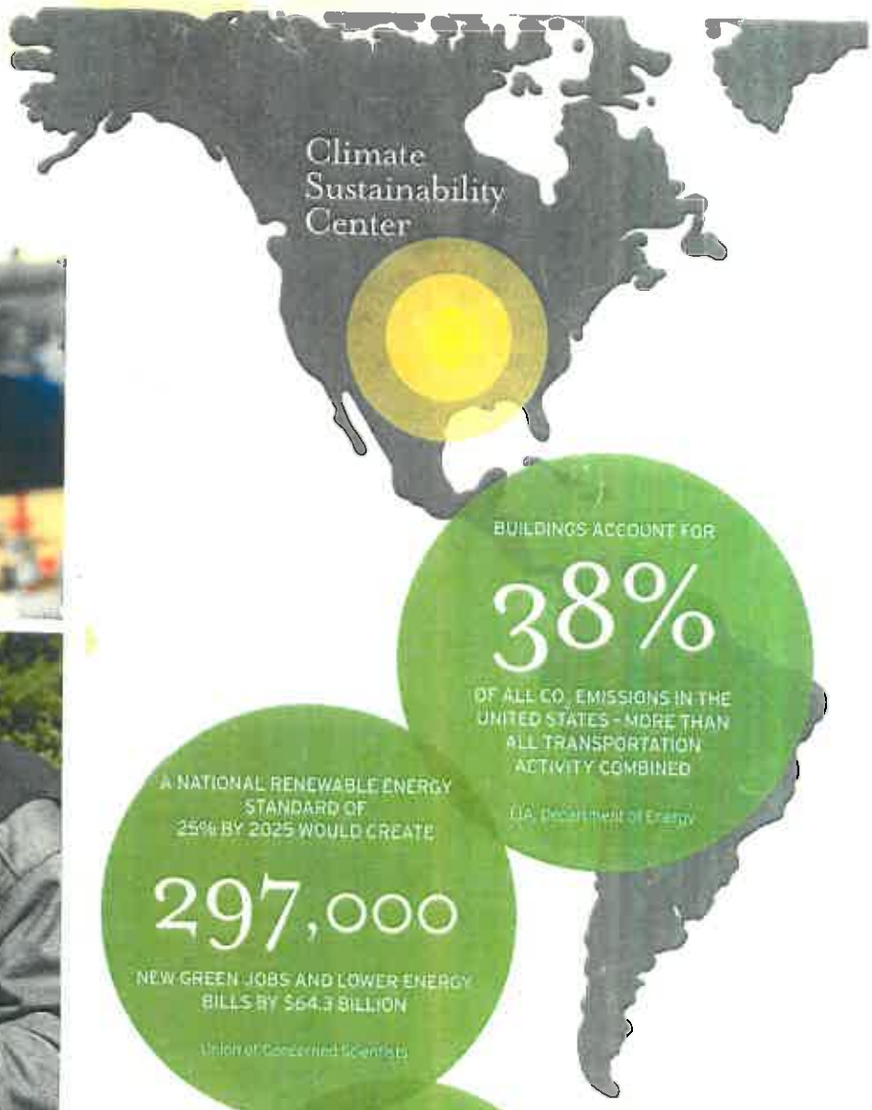


Figure 1. Model for a business-driven geospatial application environment



BUILDINGS ACCOUNT FOR

38%

OF ALL CO_2 EMISSIONS IN THE UNITED STATES - MORE THAN ALL TRANSPORTATION ACTIVITY COMBINED

U.S. Department of Energy

A NATIONAL RENEWABLE ENERGY STANDARD OF 25% BY 2025 WOULD CREATE

297,000

NEW GREEN JOBS AND LOWER ENERGY BILLS BY $64.3 BILLION

Union of Concerned Scientists

80%

OF THE NATION'S POPULATION NOW LIVES IN METROPOLITAN AREAS

U.S. Geological Survey

VISION

The Climate Sustainability Center will serve as both a regional resource and national model in developing a sustainable workforce for green collar jobs in the 21st century, providing opportunities for world-class research in renewable energy and featuring a botanical garden with an emphasis on research and education in urban agriculture.

green impact zone

The Green Impact Zone is a cooperative effort to focus federal stimulus funds on projects in a targeted area of Kansas City, Mo. — bounded by 39th Street on the north, 51st Street on the south, Troost Avenue on the west, and Prospect to 47th to Swope Parkway on the east.

The project, proposed by U.S. Rep. Emanuel Cleaver II, will put people and dollars to work to strengthen neighborhoods, create jobs and improve energy efficiency.

big goals

- Weatherize every home in the zone
- Train jobless residents to do the weatherization work
- Work with Kansas City Power & Light to deploy a "smart" electricity grid in the zone
- Develop a sustainable land-use plan for the zone
- Support green initiatives and demonstration projects in the zone

big impact

- Creates jobs
- Provides training that helps people develop lasting, marketable skills
- Reduces energy consumption
- Revitalizes neighborhoods
- Serves as a model for other communities across the nation

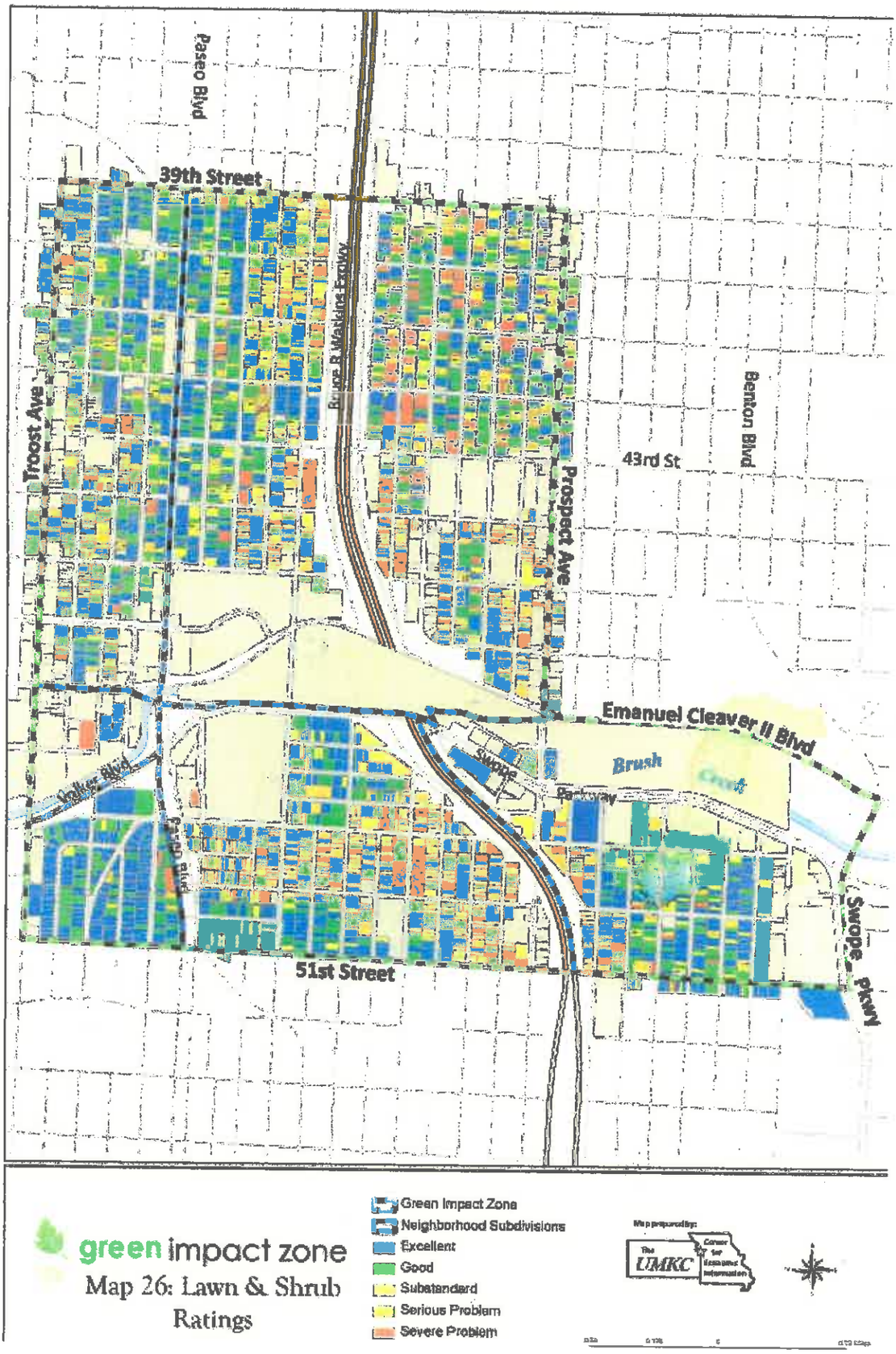
Green Impact Zone Demographics:

Population	8,374
Black, Non-Hispanic	89%
Hispanic	2%
White, Non-Hispanic	7%
Other	2%
Single-Parent Households	25%
Persons in Rental Units	48%
Persons in Poverty	31%
Median Household Income	$22,397
Per Capita Income	$12,239

Active Neighborhood Organizations:

Ivanhoe Neighborhood Organization
Historic Mannheim Park Association
Troostwood Neighborhood Association
49/63 Neighborhood Association
Blue Hills Neighborhood Association
Town Fork Creek Neighborhood Association
Blue Hills Community Services
Neighborhood Housing Services
Swope Community Builders
Brush Creek Community Partners

MARC
Mid-America Regional Council
Mid-America Regional Council
600 Broadway, Suite 200 Kansas City, MO 64105
www.marc.org/greenimpactzone



http://www.greenimpactzone.org/GZMaps/map26.jpg

10/9/2010

CONNECTING THE DOTS

How UMKC's Innovation Center is using a toolbox of programs to match resources with entrepreneurs and build business in a brand new way.

by PORTIA STEWART

Imagine for a moment a room full of new technologies and innovations. Then picture another room filled with the best candidates to run companies based on these new ideas. How would you open the door to create traffic flow between these two rooms — and build a network that makes the right connections to take these innovations out of the lab and prepare them for the commercial world?

This is the task the UMKC Innovation Center embraced to move technology out of the university and into the hands of consumers.

To make this happen, the Innovation Center has created several programs that offer the resources researchers and entrepreneurs need to move ideas from the lab and into the commercial marketplace.

"There's no one way that it works," says Denise Fields, industry relations officer with the UMKC Small Business and Technology Development Center. "It's a collection of resources to pull expertise together to get the technology out there."

A recent success story, a start-up company called EyeVerify, offers a peek inside these programs and demonstrates how the Innovation Center's toolbox of resources work together to spell success for the university and the business community.

THE ENTREPRENEUR
Toby Rush
CEO, EyeVerify

Photographs by DAN VIDETICH

Can City Hall deliver on the East Side?

CHRIS OCHSNER cochsner@kcstar.com

On one of his first days on the job in 2020, City Manager Brian Platt, center, and Mayor Quinton Lucas, right, toured the Sheffield neighborhood on the East Side, where they walked past a blighted house on Ewing Avenue.

SPECIAL REPORT: PART THREE OF THREE

It will take more than promises to convince residents that city government will follow through on rebuilding plans.

BY MIKE HENDRICKS, KEVIN HARDY AND CORTLYNN STARK
mhendricks@kcstar.com
khardy@kcstar.com
cstark@kcstar.com

Countless plans for stabilizing Kansas City's East Side neighborhoods are stacked on shelves and parked on computer hard drives up and down City Hall.

None has ever amounted to much. But despite the skepticism he knows is out there, freshman City Manager Brian Platt is committed to making the one now percolating inside his head amount to something.

His idea: challenge developers to build single-family, affordable housing on the nearly 3,000 vacant lots the city owns east of Troost Avenue. Preferably not more apartments, although he's not ruling that out. And preferably not more rental houses owned by out-of-state investors charging rents that, increasingly, working class folks simply cannot afford.

No, what Platt would like to see are affordable, owner-occupied houses whose construction the city would subsidize in an effort to reverse the decades of disinvestment that have left the city's low-income and largely Black areas bereft of hope and, more recently, prey to land speculators who are pricing people out of

SEE EAST SIDE, 6A

The FY 2016-17 Budget, a "one-year snapshot" of the Citywide Business Plan, is the City's official policy of the specific programs and services the City will undertake between May 1, 2016 and April 30, 2017.

The City's total budget is $1.53 billion, which includes $1.0 billion in Governmental Activities funded primarily by taxes and licenses. The budget also includes $525 million in Business-Type Funds, including Water Services and Aviation, which are operated solely by service charges for their use.

PROGRAMS

- $10 million committed to removing over 800 dangerous buildings
- KC Streetcar arrives in Spring 2016 with a $9.2 million annual budget.
- The City will spend $20.5 million on solid waste collection including $587,000 additional on bulky item collection, recycling, and leaf and brush dropoff
- The budget allocates $31.2 million to Health and Medical Care Centers
- The City will spend $650,000 to maintain and enhance Bruce R. Watkins Drive
- The City will spend over $110 million maintenance of water and sewer lines, street improvements, airport maintenance, and parks maintenance
- The City will contribute $50,000 to the LaunchKC program to support local entrepreneurship
- The budget will increase bus funding by $5.1 million

Supporting policies with GIS



7

Built on a foundation of ideals and values, public policy serves as the basis upon which governments make decisions, take action, or choose inaction. The need to formulate policy can stem from a number of reasons or sources. Sometimes policy processes are initiated in response to issues that emerge from a crisis or emergency, as a consequence of another government's decision, or as a way to allocate resources. Policy can also be generated to meet stakeholders' or public concerns or as a reaction to untoward attention. Some issues are brand new, and the problems to be addressed have not been clearly articulated or documented, while others are known but lack viable solutions. In some cases, policies are in place, but their implementation is problematic.

Public-policy development generally wends its way through defining the problem, describing goals, fleshing out alternative scenarios, agreeing on a policy, and implementing and evaluating it. This process can be contentious. Outcomes of policy development can benefit some and become a painful experience for others. Successful policy implementation and support requires rational strategies that are based on relevant, persuasive data.

Decision support for budget and finance



1

Governments have a responsibility to ensure that taxpayers' money is spent wisely, and the process by which a government budgets and accounts for expenditures such as infrastructure and public services can be complex. With this complexity comes the difficult process of communicating to the public how taxes or rates are determined, setting up the accounting regulations that govern how monies can be spent, and reporting the progress of programs in relation to expenditures. In short, governments are faced with establishing sound, defensible revenue-generating and expenditure policies.

Applying technology to budgeting and finance can be as simple as generating electronic spreadsheets, or as involved as developing complicated accounting packages with the capacity to track and manage all of a department's financial processes. Either way, with the implementation of technology, organizations can realize a significant return on investment.

When governments began factoring geography into the equation, their benefits increased. Those agencies that took a geographic approach to solving and analyzing financial issues inspired the integration of traditional finance packages with GIS. In some cases, the straightforward application of GIS provided new insight into old problems and helped create sustainable financial planning.

Decision support for allocating resources

5

Governments have experienced increasing pressure to make savvy decisions with respect to resource allocation. Fair allocation of resources such as human skills, materials, inventory, financial resources, or information technology often has to be made amid budget constraints or with the "do more with less" philosophy handed down from management. With increased public scrutiny come the issues of performance measurement and accountability, increasing pressure on government leadership. Adding to the stress of managing resources, political pressures can weigh heavily on whether to deliver some services over others. These services can range from reducing the number of potholes to increasing public-safety personnel to supporting social-service programs.

Each of these decision constraints requires different analysis, with varying decision support tools and presentation methodologies. Most of the traditional tools available to policy makers have provided for modeling resource allocation based on individual tasks, but rarely do these systems allow for a holistic vantage point, or functional or cross-functional impact analysis after a decision is made. Governments have converged on using automated systems such as 311; enterprise resource planning (ERP); work-order, asset, facilities, and customer-relationship management (CRM); and executive dashboards. Can geography-based resource allocation offer an advantage over traditional methods or be combined with these systems for improved results?

Supporting policies with GIS



7

Built on a foundation of ideals and values, public policy serves as the basis upon which governments make decisions, take action, or choose inaction. The need to formulate policy can stem from a number of reasons or sources. Sometimes policy processes are initiated in response to issues that emerge from a crisis or emergency, as a consequence of another government's decision, or as a way to allocate resources. Policy can also be generated to meet stakeholders' or public concerns or as a reaction to untoward attention. Some issues are brand new, and the problems to be addressed have not been clearly articulated or documented, while others are known but lack viable solutions. In some cases, policies are in place, but their implementation is problematic.

Public-policy development generally wends its way through defining the problem, describing goals, fleshing out alternative scenarios, agreeing on a policy, and implementing and evaluating it. This process can be contentious. Outcomes of policy development can benefit some and become a painful experience for others. Successful policy implementation and support requires rational strategies that are based on relevant, persuasive data.

A Journalism of Humanity

A Candid History of the World's First Journalism School

STEVE WEINBERG

Lights, Camera, Action! Hollywood Turns to GSA for Film Locations

Every year, GSA courthouses, federal office buildings, land ports of entry, laboratories, national monuments, and post offices are featured in major motion pictures. The film industry turns to GSA and its Center for Historic Buildings when it wants to use GSA buildings or historic grounds for filming movies, commercials, television series and documentaries.

GSA manages thousands of federal properties across the United States and its territories. From stately Greek revival monuments such as the U.S. Custom House in New Bedford, Mass., to bold modern masterpieces such as the Everett M. Dirksen U.S. Courthouse in Chicago, Ill., GSA's buildings reflect 200 years of architectural design excellence.

GSA's Center for Historic Buildings has developed a nationwide program to encourage the use of its historic properties in film and television productions. The goal is to showcase and support the nation's building legacy by creating opportunities for the public to experience these buildings and their settings through film.

Just as importantly, location fees collected are reinvested in the historic inventory to keep historic federal buildings occupied, in good repair and economically viable.

If a studio wants to film in one of GSA's historic buildings, they negotiate a filming agreement with the government. The production company submits a proposal of the location to the regional historic preservation officer responsible for the state in which the filming is to take place. Once the proposal has been accepted, a Public Buildings Service representative arranges the necessary licenses, scheduling and fee payment.

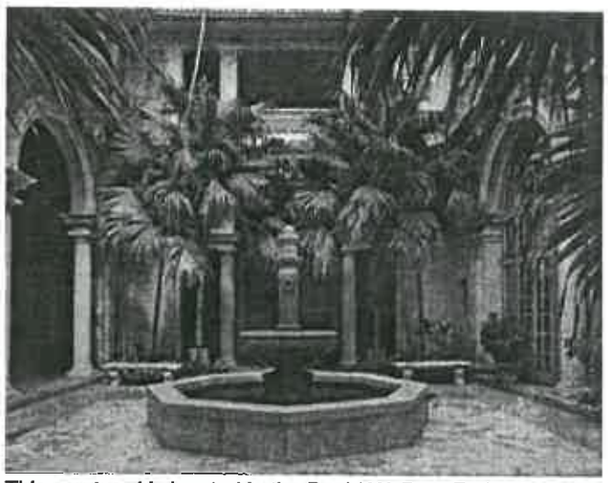
Filming in a modern GSA building requires a similar process, except without the regional historic preservation officer approval.

So, the next time you hear, "Lights, camera, action!" remember, GSA has a Hollywood connection.

Movies and Television Programs Filmed on Location at GSA's Historical Buildings and Properties

Explore (GSA buildings) by Architectural Style

The Ariel Rios federal building in Washington, DC was frequently shown in "The West Wing" television series (1999-2006).



This courtyard is located in the David W. Dyer Federal Building and U.S. Courthouse in Miami, Florida, featured in "Absence of Malice" (1981).

Showing lifestyle. Before it exists.

Rendering of the Power and Light District

Rendering of the Kansas City Live Concert Stage


Rendering of a Proposed Condominium

"Arnold Imaging is able to present a clear, visual representation of what the future holds."

Blake Cordish
The Cordish Company

We create photo-realistic renderings, animations, and web sites that show the lifestyle of proposed real estate developments before they are built.

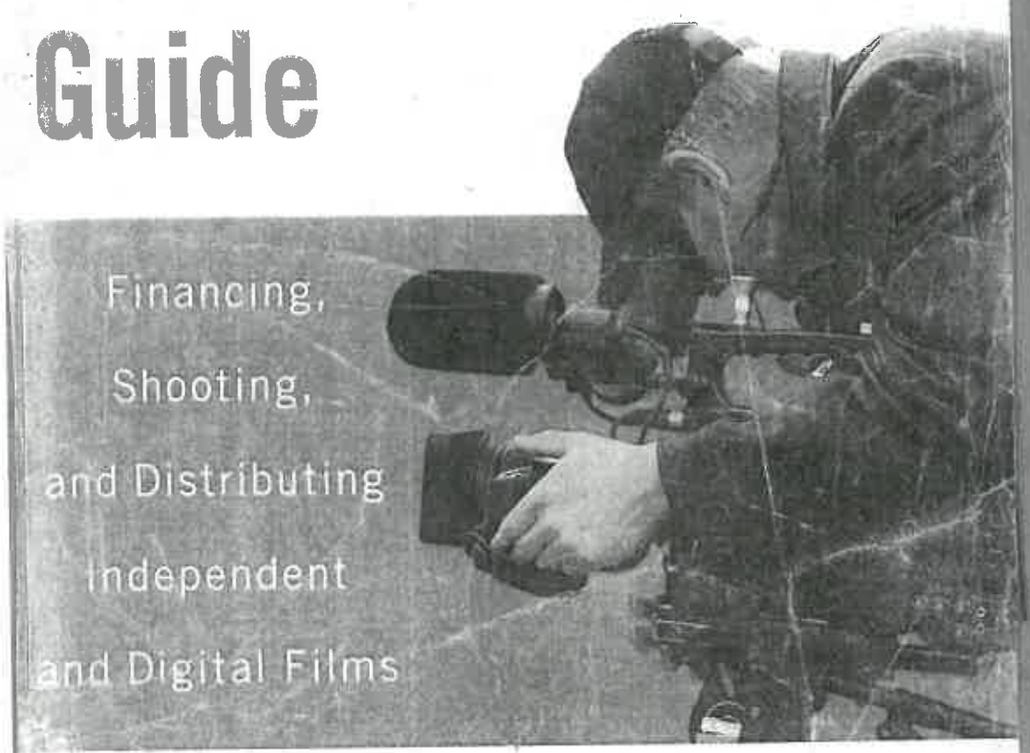
For more information:
- **Call us at 816.595.5000**
- Visit arnoldimaging.com

ARNOLD IMAGING

IDEAS INTO **IMAGES**

RENDERINGS ▪ ANIMATIONS ▪ INTERACTIVE SITES

The Independent Filmmaker's Law and Business Guide



Financing, Shooting, and Distributing Independent and Digital Films

SECOND EDITION

Jon M. Garon

"Crossing Borders"

A column by Doug Richardson,
Executive Director,
Association of American Geographers

A National GIS Infrastructure for Health Research

he AAG has been working closely with the US National Institutes of Health (NIH) on he integration of geography and GIS in medical and health research for nearly a lecade. Two years ago, we began building on the foundation of these research ollaborations and multiple NIH relationships with a far-reaching new initiative or GIScience, health, and geography, called the AAG Initiative for an NIH-Wide IS Infrastructure. This ongoing initiative, including a recent AAG-NIH joint orkshop to explore and further develop such a complex and large-scale undertaking, is described in more detail below.

he AAG Initiative

he rationale for this AAG initiative is the unmet need for spatial and spatiotemoral data and analyses, as well as for geographic context, across nearly all NIH's 0 individual institutes. This need is pressing for research undertaken at NIH ranging om gene-environment interaction in biomedical research to the tracking of disease utbreaks and the assessment of health service delivery.

While some progress has been made in recent years in developing geographic information systems, eocoding services, mapping, and associated standards, problems nevertheless abound in the lack of nteroperability among proprietary systems, longitudinal variation in data collection, difficulties of haring inadequately documented data, issues of confidentiality of location-specific data, and lack of nderstanding of the basic concepts of geographic/environmental context and of spatial and spatiomporal data and analysis. Although these problems and their solutions vary somewhat by institute cross NIH, they also share a great deal in common, and therefore very substantial scale economies can e achieved by addressing them collectively.

Some individual NIH institutes have made independent and fragmented investments in spatial data nd tools. The inefficiencies of this approach suggest that a common GIS infrastructure offers significant dvantages. The AAG Initiative for an NIH-Wide GIS Infrastructure has been exploring the potential for ich a collective solution, in consultation with many individual institutes and the NIH leadership. We e addressing opportunities and obstacles to establishing such an ambitious infrastructure, strategies r optimizing the long-term research value of an NIH-wide GIS infrastructure, common standards and otocols, a catalog of available data resources, training programs and examples of best practices, collective negotiation of software and data licenses, and tools specifically adapted to the needs of health search. The overall vision of the initiative is to enhance the ability of NIH researchers to make use of is rapidly growing and increasingly important area of research infrastructure while taking advantage economies of scale.

The AAG initiative is led by a steering committee appointed by the AAG Council, consisting of e leaders in the health-research applications of spatial and spatiotemporal technologies: Michael odchild, Doug Richardson, Mei-Po Kwan, Jonathan Mayer, and Sara McLafferty. It receives input m a larger advisory group that includes geographers and health researchers from across the disciines represented at NIH. The first phase of the initiative has focused on creating a broad road map for e development of a GIS infrastructure for health research, assessing and documenting the demand r such an infrastructure throughout the institutes and among NIH leadership, and developing a stainable funding model.

e AAG-NIH Workshop

ter discussions with NIH officials in multiple institutes, the AAG recently received funding support m NIH to hold a high-level workshop in February 2011 to further develop the conceptual framework d GIScience research needed for implementation of an NIH-wide GIS infrastructure, together th senior scientists and administrative leaders from all across NIH. This workshop, cosponsored by the AAG and NIH's National Cancer Institute and National Institute for Drug Abuse, was highly successful and represents what many attendees have characterized as a seminal event.

Presentations included an overview of current GIS activities at NIH institutes, perspectives from the GIScience research community, extramural researchers' views on GIS needs at NIH, and discussions of system architecture options for an NIH-wide geospatial infrastructure. Bill Davenhall of Esri also participated in the workshop and provided excellent background on a number of health-related GIS activities. Breakout groups in the workshop focused on identifying common needs, key challenges, and implementation alternatives. Recommendations, priorities, and next steps in this process were discussed and are the subject of a recent report prepared by the AAG and NIH (www.aag.org/health_geographies).

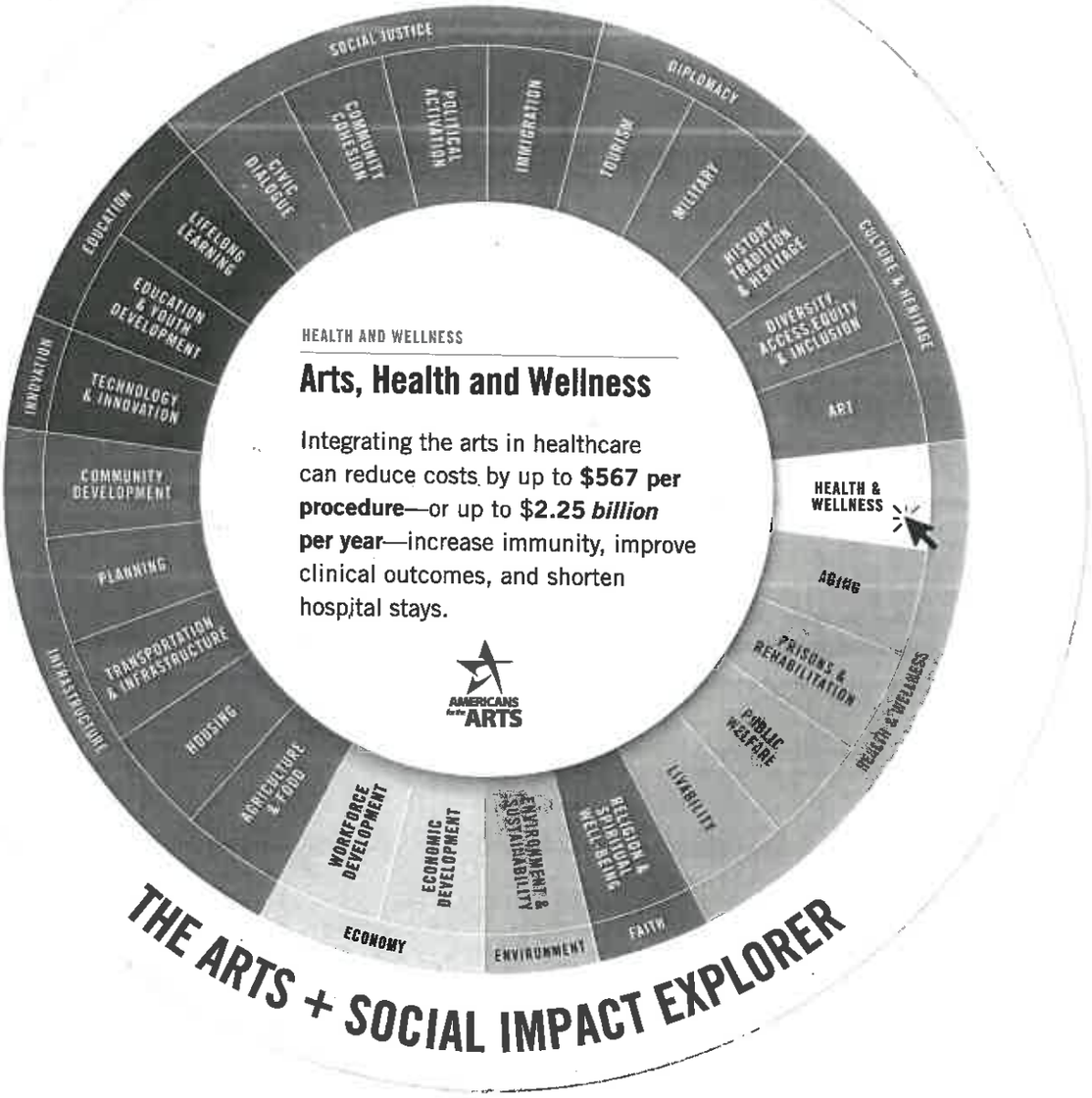
There was consensus among the participants in the workshop that developing a broader and deeper GIS infrastructure throughout NIH for medical research is needed. The discussion highlighted numerous benefits of geography and GIScience to NIH's health research programs. Examples of the benefits of a large-scale GIS infrastructure to health and biomedical researchers include generation of research hypotheses through discovering geographic patterns and by analyzing data in ways that would not otherwise be possible, increased ability to understand gene-environment interactions and their role in disease occurrence, ability to advance mobile health systems by incorporating real-time GPS/GIS technologies, and the potential to integrate and link other major health databases with such an infrastructure.

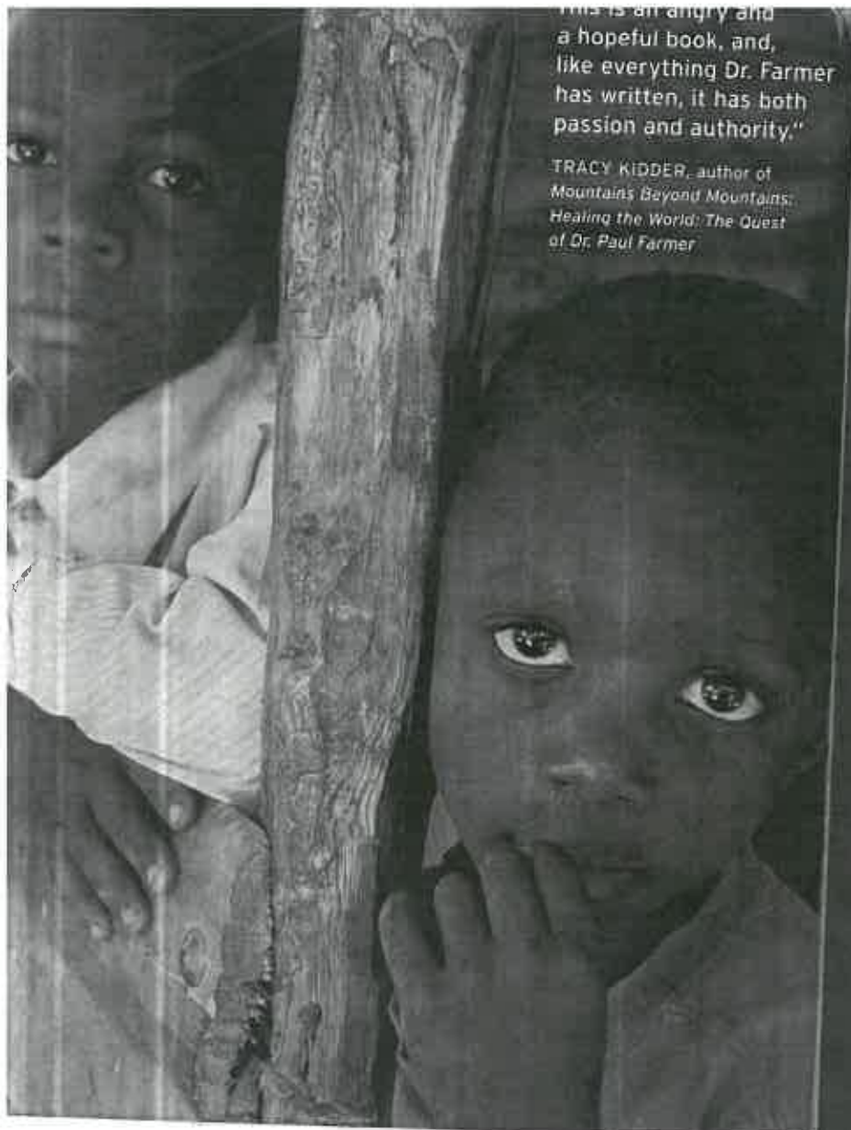
Workshop participants also discussed the substantial challenges to the implementation of such an ambitious project. These challenges include dealing with locational privacy and confidentiality issues; developing and disseminating GIS and analytic modeling tools specific to the needs of health and biomedical researchers; and incorporating training and education in GIS, geospatial tools, and spatial thinking for health and biomedical researchers. Participants also recognized the importance of having a forward-looking strategy in developing an NIH-wide GIS infrastructure, being mindful of new and emerging technologies, including, for example, the geospatial web, social media, new information from electronic medical records, real-time health monitoring, and developments in sensor and location-aware technologies.

The next steps for pursuing the concept of a large-scale, NIH-wide geospatial infrastructure to support health research will include wide dissemination of the AAG-NIH Workshop Report to both the geography and health and biomedical research communities, preparing a more detailed inventory of the portfolio of intramural and extramural GIS projects supported by NIH, and developing NIH requests for proposals and focused workshop proposals that address specific research needs related to such a complex infrastructure. Potential research would need, for example, to address spatiotemporal analysis in health research, where issues of scale, privacy, large datasets, and computational capacity are just some of the areas that need to be investigated; defining a distributed computing architecture (including cloud computing) for an NIH-wide GIS; developing a common language, or ontology, shared by biomedical researchers and geographers to foster collaboration; and addressing other needs and challenges described above. The workshop concluded with an executive briefing for senior leadership from many institutes in the NIH.

If successful, I believe this AAG initiative will open new doors for geographic research and discovery at NIH in collaboration with biomedical scientists at most institutes within NIH and in related public health fields, as well. For geographers, GIScientists, and medical researchers alike, it also holds real promise for making a meaningful difference in the health and lives of people around the world.

Doug Richardson, drichardson@aag.org


SOCIAL JUSTICE
DIPLOMACY
CULTURE & HERITAGE
HEALTH & WELLNESS
FAITH
ENVIRONMENT
ECONOMY
INFRASTRUCTURE
INNOVATION
EDUCATION
POLITICAL ACTIVATION
IMMIGRATION
TOURISM
MILITARY
HISTORY, TRADITION & HERITAGE
DIVERSITY, ACCESS, EQUITY & INCLUSION
ART
AGING
PRISONS & REHABILITATION
PUBLIC WELFARE
LIVABILITY
RELIGION & SPIRITUAL WELL-BEING
ENVIRONMENT & SUSTAINABILITY
ECONOMIC DEVELOPMENT
WORKFORCE DEVELOPMENT
AGRICULTURE & FOOD
HOUSING
TRANSPORTATION & INFRASTRUCTURE
PLANNING
COMMUNITY DEVELOPMENT
TECHNOLOGY & INNOVATION
EDUCATION & YOUTH DEVELOPMENT
LIFELONG LEARNING
CIVIC DIALOGUE
COMMUNITY COHESION
HEALTH AND WELLNESS
Arts, Health and Wellness
Integrating the arts in healthcare can reduce costs by up to $567 per procedure—or up to $2.25 billion per year—increase immunity, improve clinical outcomes, and shorten hospital stays.
AMERICANS for the ARTS
THE ARTS + SOCIAL IMPACT EXPLORER



a hopeful book, and, like everything Dr. Farmer has written, it has both passion and authority."

TRACY KIDDER, author of *Mountains Beyond Mountains: Healing the World: The Quest of Dr. Paul Farmer*

OLOGIES OF **POWER**

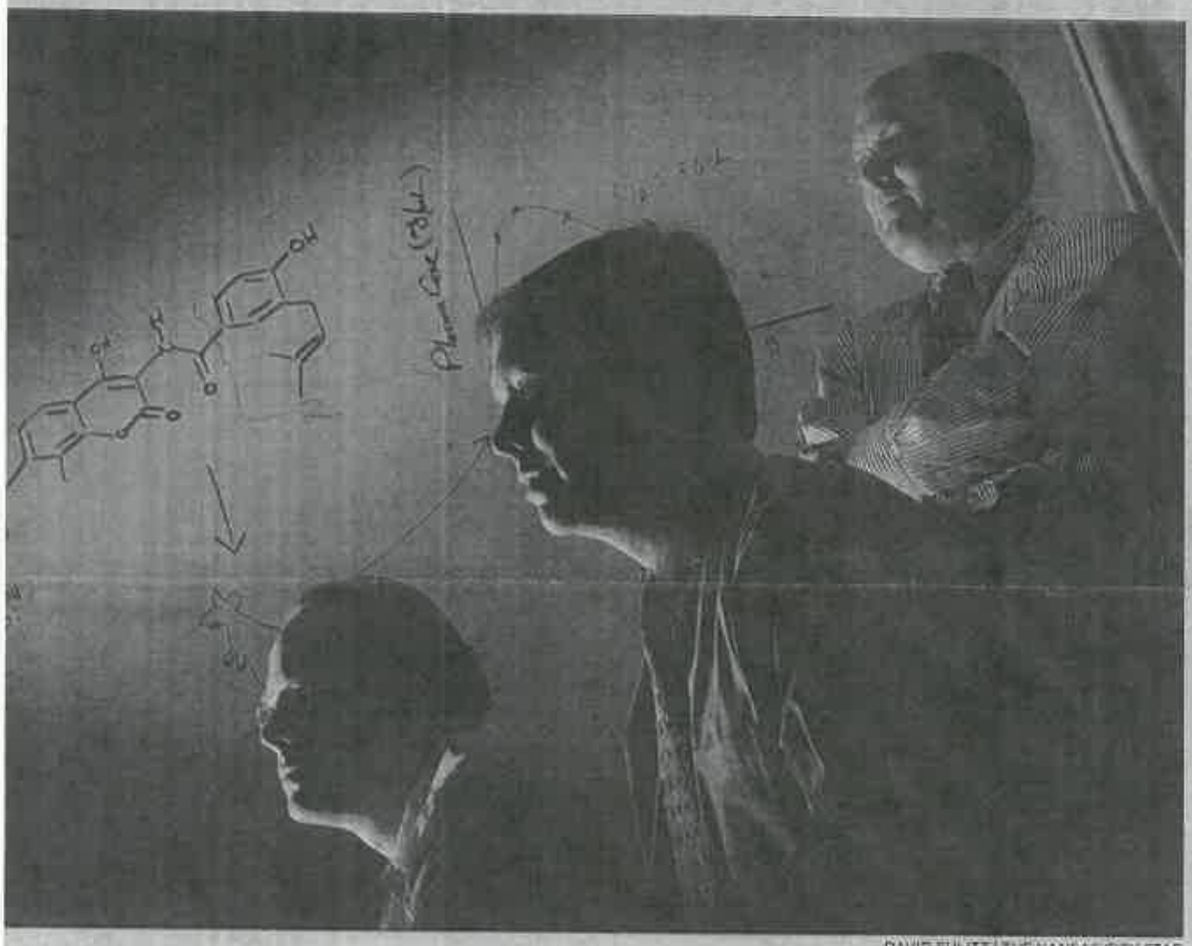
MAN RIGHTS, AND THE NEW WAR ON THE POOR

FARMER

WITH A NEW PREFACE BY THE AUTHOR

ORS AND PROFITS | Schools, public stand to gain

IVERSITIES PURSUE HNOLOGY TRANSFERS



DAVID EULITT | THE KANSAS CITY STAR

t Brian Blagg (from left), pharmaceutical chemist Roger Rajewski and clinical pharmacologist Scott Weir are part iversity of Kansas to turn academic research into commercial products.

earch can lead king products.

By JASON GERTZEN and MARA ROSE WILLIAMS
The Kansas City Star

unts for treasure in **Univer-**s laboratories.
of the pharmaceutical in-g for researchers' innova-d provide cures for cancer, es or other maladies — millions of dollars for the

become the top academic nding promising anti-can-e test tube into patients," nt 20 years working with before joining KU and the **KU Medical Center** in 2006. He leads KU's office of therapeutics, discovery and development.

> "The challenge for the academe is to get the best pure scientists and let them do their work but steer them in the areas that have commercial application."
>
> KU PROVOST RICHARD LARIVIERE

Across the country, universities have intensified their search for professors' inventions that could be sold in commercial markets. Dwindling state funding and pressure from the business sector and taxpayers to produce high-tech advances are driving the technology transfer trend.

The heart stent, the nicotine patch and the sports drink Gatorade are inventions that originated with a professor's idea.

Kansas and Missouri universities have yet to experience such blockbuster success, but technology developed by their researchers is behind some intriguing products.

Consider that Captisol, which improves the solubility of certain drug compounds, was invented at KU.

Zegerid, a fast-acting heartburn and acid reflux drug, sprang from a **University of Missouri-Columbia** laboratory.

And a **Kansas State Universi**ty scientist invented nanoparticles able to neutralize a sulfuric acid spill, a mold outbreak or other toxic

SEE TRANSFER | D5

DAVID EULITT | THE KANSAS CITY STAR

Jim Lunsford works out of his Kansas City home to create simulation games, primarily for the U.S. military.

TECHNOLOGY | 'Decisive Action,' 'Future Force,' 'Forward Into Battle' ...

READY, AIM, PLAY

From his Northland condo, retired colonel helps train the Army with his

through or pull back? What if you make a mistake?

Don't worry. You can always run the computer simulation again.

DAVID EULITT | THE KANSAS CITY STAR

Jim Lunsford works out of his Kansas City home to create simulation games, primarily for the U.S. military.

TECHNOLOGY | 'Decisive Action,' 'Future Force,' 'Forward Into Battle' ...

READY, AIM, PLAY

From his Northland condo, retired colonel helps train the Army with his computer games.

By JAMES A. FUSSELL
The Kansas City Star

Your heart beats faster as the sounds of combat echo in your ears. Explosions. Machine gun fire. Your eyes dart right, then left as you scan a multicolored military map.

You're the commander of an armored company with 180 soldiers, 10 tanks, four Bradley Fighting Vehicles and a rocket launcher. Your mission: clear a pathway through an enemy minefield without being annihilated.

You're taking withering fire. And just as you blow a hole in the minefield, your lead vehicle is destroyed, and the smoke you'd been using for concealment vanishes, leaving your unit exposed.

Now what do you do? Push through or pull back? What if you make a mistake?

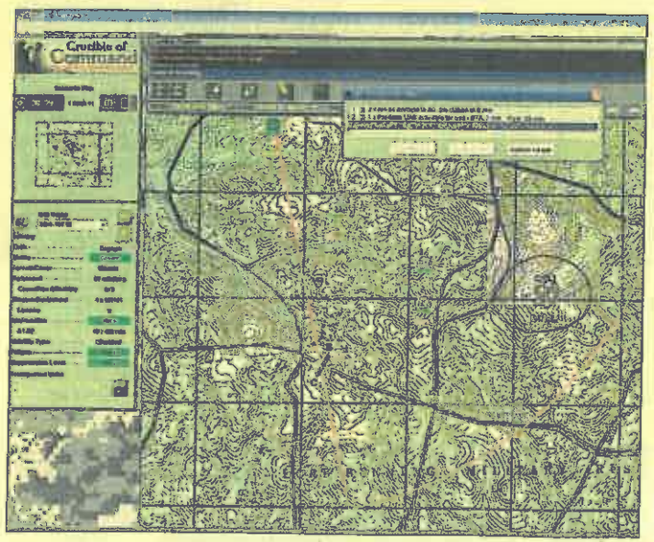
Don't worry. You can always run the computer simulation again.

For thousands of new Army captains this is what it's like playing the pulse-pounding "Crucible of Command," one of a number of computer games designed by Kansas City entrepreneur Jim Lunsford to teach the art of war-fighting.

Over the last decade the former Army officer has sold nine of his "serious games" to the Army, far more than anyone else. From Fort Leavenworth to West Point, his games help train officers in strategic planning and war-fighting tactics such as troop movement, intelligence, logistics and fire support.

Lunsford, 55, is the president and founder of Decisive-Point, a million-dollar company he runs from his Kansas City condo north of the river. He also has sold serious

SEE LUNSFORD | C7



DECISIVE-POINT

The game "Crucible of Command" teaches Army captains to apply tactical war-fighting skills for a full company of soldiers.