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INTERNATIONAL
ECONOMIC DEVELOPMENT
COUNCIL

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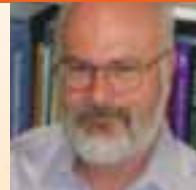
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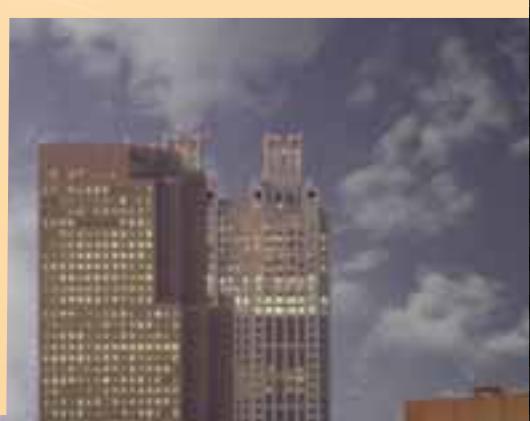
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THE NEXT BILLION: MOBILITY, FLEXIBILITY, AGILITY, LIVABILITY

ATLANTA, GA
OCTOBER 19-22, 2008



Join the International Economic Development Council (IEDC) in Atlanta for the world's largest annual gathering of economic developers, October 19-22.

In their article "The Next 100 Million," Arthur C. Nelson and Robert Lang note that "the U.S. is alone among industrialized nations in experiencing substantial growth... Only India will add 100 million people more quickly than the U.S." Preparing for such accelerated growth requires a new approach to economic development, the provision of infrastructure, environmental sustainability, and workforce development. Economic developers will have to embody **mobility, flexibility, agility, and livability**.

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Sonny Perdue
Governor of Georgia

welcome to georgia

Greetings:

It is my pleasure to welcome you to Georgia for the 2008 International Economic Development Council's Annual Conference. This year's theme, "The Next Billion: Mobility, Flexibility, Agility, Livability," is particularly fitting as Georgia was a leader in real population growth in 2007, trailing only the two largest states in the nation. With this significant population influx – more than 2.2 million people in the last 12 years – our state has taken on large infrastructure challenges while transforming Georgia into a prime destination for both multi-national corporations as well as smaller businesses.

Indeed, over the past decade, Georgia has become a leader in economic development because we possess a rare combination of assets, resources and people that come together to create a fertile environment where business thrives. With a metropolitan population of nearly 5 million residents, the city of Atlanta has become an international economic center featuring the world's busiest airport as well as the corporate headquarters of the Coca-Cola Company, CNN, the Home Depot, and UPS.

While Atlanta is deservedly seen as the center of economic development in our state, it is by no means the exclusive destination for investment in Georgia. Over the past five years, more than 300,000 new jobs have been created in Georgia, and more than half of these jobs are in rural areas of the state.

Savannah is a perfect example of how Georgia is combining its rich heritage with modern growth initiatives. Savannah features the fastest growing container port in the country while maintaining its status as a premier tourist destination.

At the heart of Georgia's economic strength is its commitment to farming. Agribusiness is the leading industry in the state thanks to state-of-the-art technology, a professional workforce and dedication to progressive investments, and Georgia boasts 11.1 million acres of land dedicated to agriculture.

These are but a few examples of the exciting developments we have going on here in Georgia. I hope you take the time to enjoy all of the various amenities Atlanta has to offer while you are here. The IEDC Annual Conference is a wonderful opportunity to share with colleagues from around the country and around the world. I hope you have a great conference and we look forward to welcoming you back to Georgia soon!

Sincerely,

A handwritten signature in black ink that reads "Sonny Perdue". The signature is fluid and cursive, with "Sonny" on the top line and "Perdue" on the bottom line.

Sonny Perdue
Governor



Shirley Franklin
Mayor of Atlanta

welcome to atlanta

Greetings:

As Mayor of Atlanta, I am pleased to welcome the International Economic Development Council (IEDC) as you host this year's conference, *The Next Billion: Mobility, Flexibility, Agility, Livability*.

IEDC is dedicated and committed to improving the overall quality of life by developing vibrant communities and creating high-quality jobs. *The Next Billion: Mobility, Flexibility, Agility, Livability* will allow you to experience and understand the important role that development professionals and community leaders play in our society. The City of Atlanta is excited that you have chosen to host your conference in our city and thanks you for your invaluable contributions.

While in our city, we encourage first time visitors to explore the many attractions Atlanta has to offer including: the Martin L. King Jr. Center, the Apex Museum, Underground Atlanta, the Georgia Aquarium, the World of Coca-Cola, CNN Center, Centennial Olympic Park, Woodruff Arts Center, Atlanta Botanical Garden, Children's Museum of Atlanta and many more! We invite you to share in our southern hospitality, sample cuisine at our many fine restaurants and enjoy the rich and diverse heritage of our city.

On behalf of the people of Atlanta, I extend best wishes to an exciting and informative event!

Sincerely,

A handwritten signature in black ink that reads "Shirley Franklin".

Shirley Franklin
Mayor

THE IEDC Economic Development Journal

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work ready

By Debra Lyons, George M. Israel, III, Kerry Campbell, and Fred McConnel

INTRODUCTION

Georgia Governor Perdue has developed a successful formula to link workforce development and education together in an economic development strategy that will quickly enable a "Ready for Business" to be put across all of Georgia.

Work Ready Formula: $(P) * (W + D) * A = CWRC$

Where: P is the public-private partnerships

W is the number of adults attaining a Work Ready Certificate

D is the number of additional students earning high school diplomas

A is the accessibility

$CWRC$ is the number of counties becoming Certified Work Ready Communities

Through his Office of Workforce Development, the governor is implementing this transformational state policy, which Georgia counties are quickly adopting. To date, 73 out of Georgia's 159 counties have signed up to complete the requirements to become Certified Work Ready Communities (Figure 1). While many states are utilizing a state work or career readiness credential to help validate their workforce, only Georgia has developed a formula for success that links workforce development and education together through a partnership where every stakeholder has a well defined role. The policy is simple, transparent, uniform, consistent, and easy to communicate and implement. The policy's success is defined by the number of counties that become Certified Work Ready Communities.



Debra Lyons, Gov. Perdue, Jonathan Collard (Director of Communications – Covidien, Washington, D.C.), Howard Jones (Production Superintendent), and William Joachim (Plant Manager) tour the Covidien plant in Bibb County prior to the governor presenting a plaque honoring the facility as Georgia's first Work Ready plant.

This effort is amplified through public-private partnerships led at the state level by the governor, the Georgia Chamber of Commerce, and Georgia Power. On a county level, a public-private partnership exists among local chambers, the local education community, graduation and community coaches, workforce and community agencies, and business and industry. The community chooses a team leader to guide the local effort. A county attains the status of Certified Work Ready when 25 percent of the available workforce and 3 percent of the existing adult workforce become Certified Work Ready and an increase in the number of students graduating is attained. The easy accessibility of statewide services is uniform and consistent and provided by the technical college system of Georgia with overall statewide direction by the governor's workforce development director.

Debra Lyons is director of the Governor's Office of Workforce Development (dlyons@gov.state.ga.us).

George M. Israel, III, is president and CEO, Georgia Chamber of Commerce (gisrael@gachamber.com).

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Acknowledgement
We would like to thank *Trey Childress, Heidi Green, and Jennifer Rippner* for their contributions in developing the policy framework for the Work Ready initiative.

A FORMULA TO DEVELOP GEORGIA'S 21ST CENTURY WORKFORCE

Georgia's Governor Perdue has developed a successful formula that links workforce development and education together through a county Work Ready Community team. This local partnership focuses on the available and existing workforce earning a set number of Work Ready Certificates and the county increasing its public high school graduation rate by a specified bench mark. The policy is simple, transparent, consistent and easy to communicate and implement. This effort is amplified through state and local public-private partnerships. The technical college system of Georgia provides easy delivery of Work Ready assessments with overall statewide direction provided by the Governor's Office of Workforce Development. The outcome is a community that knows how to work together to deliver irrefutable results.

FIGURE 1:

Georgia map that shows counties that are participating in Work Ready communities.



Certified Work Ready Community data are being collected and reported in the aggregate for each county. Monthly reports are posted and accessible to county team members to encourage friendly competition. The outcome is a community that knows how to work together to deliver the results to ensure economic growth in a globally competitive market.

This article presents the holistic approach of how the strategy was developed and initiated from the Governor's Commission for a New Georgia's Workforce Development Task Force to the development and successful implementation of Work Ready to the results obtained to the overall transformation of workforce development policy in the state of

Georgia. The article provides a roadmap for readers to successfully implement Work Ready in their communities within and outside of the United States.

BACKGROUND

In 2002, Sonny Perdue was elected with a pro-business agenda for a New Georgia. Early in his administration, he created the Commission for a New Georgia (CNG), a think tank consisting of top-level executives who would provide business driven recommendations to transform Georgia state government.

One of the Commission's first issues was how to improve Georgia's workforce. While the state is well-known for its excellent customized training programs through Quickstart, business and industry had expressed problems with hiring workers with the skill levels needed to help Georgia's industries remain competitive in the 21st century economy. The CNG Workforce Development Task Force, headed by Ann Cramer, director of corporate community relations, IBM, found Georgia has excellent workforce development resources. However, the failure to connect these resources end to end was limiting the state's ability to transform and sustain a competitive workforce at a skill level needed for the jobs being created today and tomorrow. Below are some of the task force's recommendations (Commission for New Georgia, Workforce Development Task Force Recommendations, www.newgeorgia.org).

- Establish an entity accountable for the success of Georgia's workforce development efforts.
- Create a solution that identifies and eliminates Georgia's skills gap.
- Move Georgia's high school graduation rate above the national average.
- Create a linkage among economic development, education, and employer communities.
- Implement an effective workforce development communication strategy.

Governor Perdue acted on these recommendations by reconstituting the State Workforce Investment Board (SWIB), creating the Governor's Office of Workforce Development (GOWD), tapping the Workforce Investment Act governor's statewide discretionary account to provide seed funding, and hiring a workforce development director to guide the process of implementing the task force's recommendations. The governor set forth a Workforce Development Vision for Georgia: to link education and workforce development together and align with the economic development of the state, its regions, and communities.

He swore in the new SWIB in February 2006 and asked it to develop a strategic plan that would implement his vision. At the same time, he asked his workforce development director to develop a plan to implement the recommendations.

Eliminating the skills gap was determined to be the key driver in transforming Georgia's workforce. Working as a team, the governor's workforce development director and his policy advisors met repeatedly to develop a plan that would drive change in Georgia, using a skills assessment system for workers and employers to determine skills possessed by Georgia's workforce, skills needed by Georgia's businesses, and a process to evaluate and eliminate the skills gap. To ensure a good connection with industry, the governor asked the Georgia Chamber of Commerce to be a partner with the state on the initiative. And, he decided on the name that simply communicated the strategy: Work Ready.

DRIVING CHANGE: DEVELOPING WORK READY

Through a competitive process, the GOWD selected ACT WorkKeys® as the skills assessment and job profiling vendor for Work Ready. With the tool selected to determine the skills gap, the next logical step was to develop a business plan that would motivate Georgians and employers to utilize this tool. The policy team wanted to keep it simple

and to utilize this tool as a fundamental building block, enabling the governor's vision to become a reality. The key was to find the change agent.

The governor's vision statement made it clear that he wanted to link education and workforce development together and align at a state and local level. In Georgia, the county is the fundamental building block and so it became the key variable in developing the formula that would incentivize local economic development.

County economic developers are responsible for helping their existing industries remain competitive while working to attract new industry. Economic developers would have a marketing tool with the ability to document the skill level of their workforce. Thus, the concept of Certified Work Ready Communities was developed.

The plan features a Work Ready Certificate for every adult Georgian at no cost and Work Ready profiles for all jobs that meet minimum hiring criteria. It incentivizes counties to become certified through a competitive process where a certain number of county residents earn Work Ready Certificates.

But that was only a part of the governor's vision. The next logical step was how to link education to workforce development. Thus, a second criterion was established – requiring all counties to demonstrate their commitment to increasing the high

TABLE 1:
Certified Work Ready Communities high school graduation rate increase policy

Certified Work Ready Community (CWRC) Public High School Graduation Rate Increase Guidelines			
County Public High School Graduation Class Size	Baseline Public HS Graduation Rate* At or Below 68%	Baseline Public HS Graduation Rate* Between 68% and 79%	Baseline Public HS Graduation Rate* Above 79%
Below 200 Students	9% total increase over a 3 year period (average 3%/yr)	4% total increase over a 3 year period (average 1.33%/yr)	2% total increase over a 3 year period (average .67%/yr)
Between 200 and 700 Students	6% total increase over a 3 year period (average 2%/yr)	3% total increase over a 3 year period (average 1%/yr)	1.5% total increase over a 3 year period (average .5%/yr)
Above 700 Students	3% total increase over a 3 year period (average 1%/yr)	2% total increase over a 3 year period (average .67%/yr)	1% total increase over a 3 year period (average .33%/yr)

* Baseline Graduation Rate Year for CWRC Requirements is the 2005-2006 School Year

Notes:

- For those counties that meet the improvement requirements but continue to have a county High School Graduation Rate (HSGR) below 70%, the county will attain **CWRC – In Progress**. County attains full status of **CWRC** when county HSGR reaches minimum threshold of 70%. The county must continue to demonstrate they are improving their public HSGR to keep **CWRC** status.
- For those counties (Baker County, Chattahoochee County, Clay County, Quitman County, and Webster County) that do not have a 2006 graduation rate, the county must describe how they will align with partner counties to achieve CWRC requirements.
- Governor's Office of Student Achievement will determine when county has demonstrated it has met its commitment to increasing their public HSGR.

school graduation rate (Table 1). After reviewing the plan, Governor Perdue especially wanted to be sure that the levels established were substantive and yet attainable. And so, the criteria for Certified Work Ready Communities were established at a threshold of three percent of the existing workforce, both public and private, and 25 percent of the available workforce (high school graduates, technical college students, GED students, and the unemployed) earn Work Ready Certificates.

The additional policy of step increases in county high school graduation rates was established based on population and current high school graduation rates. More importantly, even though high school graduation steps were based on percentages, those



Celebration of Georgia's first Certified Work Ready Plant on February 15, 2008.

percentages were turned into reality by providing what that percentage rate meant in terms of 'how many more students need to graduate per year.'

There was a discussion about establishing a minimum threshold of a 70 percent graduation rate to attain the designation; however, it was determined that establishing that benchmark could be a disincentive for some rural counties. And, rural counties were the ones that most needed to increase their graduation rates. Therefore, it was felt that counties could attain the CWRC status by reaching the step increase, but would need to continue to increase their HSGR to keep the designation. In addition, the 70 percent threshold became the dividing point for a county to become a CWRC of Excellence.

The last piece of the policy was establishing the timeframe. The Work Ready policy team determined that counties would have 36 months to complete the process of attaining their Work Ready Certificates and high school graduation goals.

IMPLEMENTING CERTIFIED WORK READY COMMUNITIES

The next step was how to provide a consistent framework across each county to enable a support system to be established. The GOWD looked at which partners needed to be at the table for each county. By assessing what results were to be attained and how the work load could be distributed, the GOWD determined that the following partners were needed: county commission chair, mayor, technical college, local workforce investment board, GDOL career centers, local board of education, regional economic development, regional department of community affairs, local chambers, and business and industry. Each county, though, selected its own team leader. That seemed to be a novel concept as most counties want the GOWD to determine who should be the Work Ready team leader. However, it was felt that natural leaders emerge and it is best left to local communities to select that leader.

The requirements for each county for Work Ready Certificates to be earned per demographic group and

The additional policy of step increases in county high school graduation rates was established based on population and current high school graduation rates. More importantly, even though high school graduation steps were based on percentages, those percentages were turned into reality by providing what that percentage rate meant in terms of 'how many more students need to graduate per year.'

the step increase in high school graduation rate were calculated and posted on the Work Ready website. The initiative included a competitive grant process for smaller counties that would be willing to complete the process in 18 months. The open enrollment period for counties was 90 days.

The GOWD then presented CWRC at a series of 12 Workforce Development Community forums jointly held with the State Workforce Investment Board, the 12 local Workforce Investment Boards, the Georgia Department of Labor, Fanning Institute of the University of Georgia, and the Economic Innovation Institute of Georgia Institute of Technology as a possible solution to local workforce development problems.



The Governor's Office of Workforce Development presents the first Road to Readiness award to the Upson County Team. (l-r) Kathy Love, President, Flint River Technical College; Gail Daniels, Upson-Lee High School Graduation Coach; Kris Thomas, Upson County Team Leader, Quad Graphics Education Manager; Robin Folsom, Work Ready Coordinator; and Fred McConnel, Work Ready Community Leader.

At the same time that the policy and implementation plans were being developed, a communications and public outreach plan was being assembled. All key stakeholders were identified with a special focus on connecting to the team leaders, local technical colleges, and local chambers of commerce. Tools were developed to specifically address the needs of each group. The first tool launched was the Work Ready website (www.gaworkready.org) which provided easy to find information on where Work Ready assessments are offered. Processes were established to ensure timely delivery of Work Ready Certificates and posting of monthly county results.

A statewide Certified Work Ready Community leader was hired to help build support among the counties to participate. An initial goal was established to have 15 counties participate by the end of the first 90-day sign up period. And, a process was put in place to begin to mentor the participating counties to be successful. That process included accountability, a support plan, and developing strong bonds with the team leaders and high school graduation and community coaches. The High School Graduation Coaches program provides a resource person at every high school trained to identify at-risk youth and develop plans to keep them on track to graduate on time. The Community Coaches program encourages local business leaders to volunteer to assist high school graduation coaches.

SERVICE DELIVERY OF WORK READY

Georgia is fortunate to have a well connected system of excellent technical colleges that is centrally organized and whose collective mission is only workforce development. When called upon by the governor to be the service delivery providers, the colleges quickly responded and implemented a plan to deliver Work Ready assessments on each of their campuses.

The GOWD streamlined the process so every Georgian can take a Work Ready assessment at any technical college throughout the state at no cost. If they reach a minimum level, a certificate is directly mailed to them. If participants desire to improve their score, several options of gap training are available to them through the technical colleges.

Georgians may either remediate via self-guided on-line tutorials or they may access personalized assistance at any one of Georgia's adult education centers at no cost. If participants desire an instructor led course, it is available at a minimum cost. Georgians may access information on location of Work Ready assessments by county at www.gaworkready.org.

PARTNERSHIP WITH GEORGIA CHAMBER OF COMMERCE

The partnership between Georgia and the Georgia Chamber of Commerce is one of the key variables in Georgia's Work Ready success formula. It is cemented through the signature of both the governor and the president of the Georgia Chamber on the certificate. The Chamber has helped promote Work Ready through its network of local chamber and industry members. It has also worked with the GOWD and its public outreach vendor in ensuring the tools being developed contained the right message and tone to move both businesses and chambers to action.

PARTNERSHIP WITH GEORGIA POWER

Change through Work Ready requires the business community utilizing the certificate and job profile tools to make better hiring decisions. During the 12 forums where Work Ready was introduced, a common recommendation received from attendees was to find a key business to endorse the program.

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Georgia Power has been working closely with the governor's office in providing support to help increase the state's high school graduation rate. It worked with the governor to help build a network of more than 350 volunteers to serve as community coaches. These individuals provide a business link to education by providing support to the high school graduation coaches.

Georgia Power is facing a baby boomer retirement situation that will require the company to replace 70 percent of its entry-level lineman jobs over the next 10 years. And, it is having significant problems finding entry-level candidates that could meet their entry level qualifications. Georgia Power is not alone. Many of the other energy companies in the Southeast are facing the same hiring crisis. The company began working with the GOWD earlier this year to build an Energy Council to explore how best to solve this problem.



Job seekers taking Work Ready assessments at one of Georgia's 35 technical colleges' Work Ready Centers.

Because of the company's work in helping to increase high school graduation rates, its desire to find a better pool of candidates to fill vacancies and its name recognition, it seemed like the perfect company to bring on board to endorse Work Ready. Mike Garrett, CEO of Georgia Power and a member of the State Workforce Investment Board, quickly answered the governor's call to serve as the 'business champion' for Work Ready. In this role, Garrett states, "Workforce readiness is critical not just to the electric utility industry, but to the economic well-being of Georgia and of the entire United States. Georgia's Work Ready is a great tool to help local communities validate they have the workers ready to fill the hiring needs for both existing and new industries. To keep Georgia moving ahead, the business sector must get involved in education and workforce issues. Improvement can come through focused initiatives and strong, effective partnerships between business and government."

WORK READY IS WORKING!

The plan worked. Within 90 days, 73 of Georgia's 159 counties signed up to begin the process of becoming Certified Work Ready Communities. And 23 had applied to become an Accelerated Certified Work Ready Community. What led to such a tremendous response?

- **Transparency** – By putting the CWRC criteria on the internet, each county knew exactly what its goals are and also every other county's goals.
- **Simplicity** – Work Ready Certificates can be utilized by every Georgian to demonstrate foundation work readiness skills for any job.
- **Economic Development** – On one sheet of paper, each county can demonstrate the work readiness level of its available workforce.
- **Communication** – Strong public outreach plan that consists of delivery of information via the website, tool kits for all partners, and direct marketing to all Georgians and Georgia businesses.
- **Competition** – Making results available monthly via the internet for each county.
- **Support** – GOWD provides forums for monthly meetings of all county team leaders and holds each accountable for results.
- **Delivery system** – Providing a uniform delivery of Work Ready Certificates and job profiling through Georgia's technical college system enables all Georgians and Georgia businesses to easily access Work Ready.

The policy and implementation of Governor Perdue's Certified Work Ready Communities is a formula for success. Results attained in the first 10 months (February through November 2007) are:

- 73 CWRC in-progress participating counties; another 25 have indicated their desire to participate in the next sign up period that began January 2008.
- Over 4100 Work Ready Certificates earned in that timeframe (Figure 2); over 5500 in the last three months; over 3100 in the last month.
- 45 of the 73 counties are on track to reach their high school graduation increase rate goals; 13 have already attained their high school graduation rate increase goals.
- 35 Work Ready job profiles conducted over the last six months and many more in the pipeline; over 270 active Georgia Work Ready job profiles on file.
- Over 70 people from 52 businesses and agencies attended the first Making Work Ready Work for your community forum; 70 percent indicated a strong desire to utilize Work Ready.

Some Georgia businesses utilizing Work Ready to make better hiring decisions are Covidien, Power Partners, Temple-Inland, Tara Foods, Callaway Gardens, and Propex Fabrics.

SUCCESS STORIES

Bartow County

The county is one of the Accelerated Certified Work Ready Communities in-progress and has successfully promoted the Work Ready Initiative using local radio, newspaper, and the participation of county leaders. On top of having its local high schools commit to having all of its seniors assessed, Bartow County has had an amazing boost from local community leaders. In the fall, Bartow County elected a new mayor. One of the first things Mayor-elect Matt Santini did for his community was issue a challenge. Now, Mayor Santini took the Work Ready assessment and scored in the top tier of the gold level.

He then issued a challenge to the rest of the community and local community leaders to try to beat his score. The prize for one-upping him was free massages donated by a local business. The challenge was publicized in the local paper and radio. On a cold December morning, 20 local community leaders sat for the assessment in the Bartow-Cartersville Chamber of Commerce. Of the 20, only two were able to beat the entire mayor-elect's scores. This was good news for the mayor, proving that maybe he was the right man for the job and also the local businesses didn't have to go into debt fulfilling the challenge!

This effort really demonstrates the commitment of the Bartow County leaders to Work Ready. They believe the certificate is a viable and useful tool to help residents identify and improve their job skills, making them a better potential or current employee.

Figure 2:
Work Ready certificates earned June through November 2007



Bibb County

In Bibb County, Covidien, a manufacturing facility whose product line includes diapers and other similar healthcare products, has been using ACT WorkKeys® to make hiring decisions for its production and warehouse workforce. When the governor rolled out Work Ready, which utilizes ACT WorkKeys® as the skills assessment tool, the company immediately came on board to endorse the program. The company's return-on-investment data shows how Work Ready is reducing its hiring and training budget (67 percent reduction in cost to hire and over 200 percent improvement in training), increasing its productivity (by 30 percent), and reducing waste (by 6 percent).

When the company saw that the counties where they draw their workforce from were participating

in the Certified Work Ready Community initiative, it decided to help these counties achieve their goal by requiring all of their hourly employees to take a Work Ready assessment. Within a two-month period, they had completed this goal and 379 of their employees have earned Work Ready Certificates. This effort has led to improved morale and greater productivity. And, Covidien has become Georgia's first Work Ready plant proclaimed by the governor during a plant visit to commend their support of Work Ready.



Covidien Plant HR Team with Work Ready plaque from the governor.

Work Ready is a successful transformational strategy for Georgia. Through its assessments, certificates, job profiles, communities and newest element, regions, Georgia is positioning its workforce as the state's number one competitive advantage. The key Work Ready driver is its Certified Work Ready Communities element.

Hart County

Hart has made the Work Ready effort a seamless transition period all the way from kindergarten to college and then the work place. Hart is looking beyond the remainder of its Work Ready period on to the future of the county with Work Ready at the center of its progress initiative.

All the school systems are informed on Work Ready and their students know that to get a job they will need to take the assessment. Current seniors who are assessed are then taken on tours of local

companies that have come to recognize the Work Ready Certificate. This has created a direct link between the high schools and the local businesses, driving them all towards the same goals using the same tool. Hart is also using local football players as motivational speakers and using the large retirement community to tutor and mentor at-risk students.

CLOSING COMMENTS

Work Ready is a successful transformational strategy for Georgia. Through its assessments, certificates, job profiles, communities and newest element, regions, Georgia is positioning its workforce as the state's number one competitive advantage. The key Work Ready driver is its Certified Work Ready Communities element. In a ten-month time-frame from the initial announcement of a new statewide workforce development initiative, results are already taking hold. The synergy being created by the friendly competition and county common cause has led to results and to better leveraging of workforce development resources. The state and companies are seeing significant returns on investment. *Work Ready – it Works and it can Work for your communities, regions, and state too!* 



AUGUST 7-8

REAL ESTATE DEVELOPMENT AND REUSE TRAINING COURSE

August 7-8, 2008
Monterey, CA



As economic developers work to improve the communities in which they work, real estate development and reuse often comes forward as a popular economic development tool. While most real estate development projects occur entirely within the realm of the private sector, the public sector becomes involved in real estate projects as it works to create jobs, improve the tax base or encourage development in a particular area.

It is important then that economic developers have a solid understanding of the real estate development process. Participants will learn about the various tools that are available at the local level, including tax increment financing, bonds, land assembly and eminent domain, in addition to the many federal programs available.

COURSE HIGHLIGHTS:

- Overview of the land development process
- Market, site and financial analysis
- The roles of private, public and non-profit sectors
- Considerations when providing gap financing
- Local and Federal tools and resources
- An overview of brownfields redevelopment
- Issuing a request for proposal (RFP) or request for qualifications (RFQ)

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buildings for the

NEXT BILLION

By Dennis Creech and Nancy Musselwhite, CEcD

economic developers love new buildings – especially build-to-suit or preleased with the promise of job creation and a rise in property values. Atlanta has seen innumerable new buildings, job creation that places our city consistently in the top ten, and stable or rising property values in a time of national property value dilution. We have a built environment to be envied. We are also living with the effects of a significant drought and air quality that places us in the ranks of marginal non-attainment under the new ozone standard.

Traditional environmental foci of economic developers (soil erosion, endangered plant/animal life, burial grounds, protection of waterways, brown-field remediation) by themselves are not sufficient to create a prosperous economy with high quality of life factors for the next billion people. Economic developers concerned with livable and sustainable solutions for their communities must consider *green buildings*, facilities designed to lessen the deleterious impact of the built environment, as we explore ways to increase capacity to prepare for the next billion. Now is the time for a 360-degree view of enlightened stewardship: a marriage of sustainable and innovative design, materials, and methods spanning public, private, and nonprofit facilities. The development and architecture community pushed boldly into the sustainable design arena but the public sector has been slower to move. One city in California stepped into the gap in late 2007 with a bold proposal.



Management Building, Technology Square, Georgia Institute of Technology, Atlanta, LEED-NC, v.2/v.2.1 – Level: Silver

AN AGGRESSIVE WEST COAST PROPOSAL

In December 2007, San Francisco Mayor Gavin Newsom delivered the broadest green building proposal in the US. In comments made on the steps of Tishman Speyer's planned LEED™ (Leadership in Energy and Environmental Design) Silver office building, Newsom laid out a proposed ordinance that would require newly constructed commercial buildings over 5,000 sft, residential buildings over 75 feet in height, and renovations on buildings over 25,000 sft be subject to an unprecedented level of LEED and green building certifications.

"We've got to stop playing within the margins and get serious about addressing our reliance on fossil fuels," said Newsom. "A lot of people don't realize that their homes and businesses also create a

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EXAMINING HIGH PERFORMANCE GREEN BUILDINGS TO SUPPORT SUSTAINABLE GROWTH AND HIGH QUALITY OF LIFE MEASURES

The bottom line for economic developers has always been economic prosperity and social well-being. However, as we approach a billion people and recognize the impact of built structures on our limited resources, it becomes imperative for economic development practitioners to embrace sustainable solutions that strengthen a healthy and dynamic balance between environmental, social and economic prosperity. Economic developers must consider *green buildings*, facilities designed to lessen the deleterious impact of the built environment, as we explore ways to increase capacity to prepare for the next billion. Green building techniques will have a dramatic economic, health, and environmental impact on our region, our state, and our country.

The key to the development of Atlanta's green cluster lies in a policy commitment of the state's largest municipality combined with an enlightened development community, a strong network of exceptional nonprofit and institutional players, and a development community and network of corporate owners and tenants that have embraced enlightened stewardship through sustainable initiatives.

major carbon footprint, so today, by proposing these strict green building standards for our city, we're saying enough is enough. It's time to tackle global warming and climate change on all fronts.”¹

According to the U.S. Green Building Council, buildings have significant impact on the economy, productivity, and urban air quality. In the U.S., buildings account for:

- 65 percent of electricity consumption,
- 36 percent of energy use,
- 30 percent of greenhouse gas emissions,
- 30 percent of raw materials use,
- 30 percent of waste output (136 million tons annually), and
- 12 percent of potable water consumption.²

According to the US Energy Information Administration, the impact of buildings on US greenhouse emissions actually approaches 48 percent when the energy to extract, process, and transport building materials is considered. Of particular importance to the parched Southeast is the strong connection between energy and water. The production of electricity is the largest industrial user of water. According to the National Renewable Energy Laboratory and others, each kilowatt-hour of electricity produced by central power plants takes roughly two gallons of water. Saving energy preserves water.

The sustainable building effort is spearheaded by the U.S. Green Building Council (USGBC), a non-profit organization created to transform the way buildings and communities are designed, built, and operated. The DC-based entity created the rating standard called LEED that has become the defining standard across all building types when it comes to sustainable site development, water savings, energy efficiency, materials and resources selection, and indoor environmental quality. Since 2000, 1100 projects have been certified for LEED ratings by the USGBC using a menu of 69 points toward certification in five progressive levels: Certified, Bronze, Silver, Gold, and Platinum.

The impact of the USGBC's work is being felt in communities across the US and in a number of foreign countries. Their 13,000 member companies and organizations and 72 local chapters and affiliates unite around a common cause: a sustainable built environment within one generation.

As the market accepts the value proposition of sustainable development, the role of the USGBC and local nonprofit partners like Atlanta-based Southface Energy Institute will be to strengthen bridges among developers, building owners and managers, architects and engineers, contractors and subcontractors, product and building system manufacturers, nonprofits, and public sector players.

The role of the economic development (ED) community will mirror educational and bridge-building efforts of such entities. ED practitioners can prepare for the next billion by:

- educating elected officials, local developers, and end users on the advantages of green buildings from an operating cost, asset value, and life cycle optimization perspective;
- suggesting targeted incentives to encourage development of sustainable structures and neighborhoods; and
- uniting analyses with policy and practice at the local and state level.

Why are economic developers discussing sustainable building practices? The simple answer is that green buildings deliver benefits on a number of levels. Green development reduces the operating costs of facilities (*economic benefits*), improves live-work-play environments (*social benefits*), uses existing resources effectively (*environmental benefits*), and supports the positioning of a community as an enlightened fiscally-conservative destination focused on developing a built environment for tomorrow's inhabitants and visitors (*branding benefits*).

Atlanta is one of the fastest-growing cities in the US. Atlanta also contains a concentration of LEED-certified buildings, as well as 4000 single-family and 1500 multi-family residences certified to local EarthCraft House guidelines. EarthCraft is a local program that reduces utility bills for the homeowner and protects the environment by building green. The key to the development of Atlanta's green cluster lies in a policy commitment of the state's largest municipality combined with an enlightened development community, a strong network of exceptional nonprofit and institutional players, and a development community and network of corporate owners and tenants that have embraced enlightened stewardship through sustainable initiatives.

AN EARLY PROONENT: SOUTHFACE ENERGY INSTITUTE

Founded in 1978, nonprofit Southface Energy Institute provides environmental education and outreach programs to the nonprofit, foundation, corporate, and government sectors. Recognized for excellence by the U.S. Department of Energy; U.S. Environmental Protection Agency; American Institute of Architects; American Society of Heating, Refrigeration and Air Conditioning Engineers; National Association of Home Builders; Earth Share of Georgia and numerous others, Southface began as a grassroots organization and today sponsors programs and services across the South which reach 40,000 people annually.

Perhaps what sets Southface apart from traditional environmental organizations is its understanding that the marketplace is the greatest force for advancing environmental change. Southface has forged partnerships to advance green buildings and sustainable development with diverse business interests including the Greater Atlanta Home Builders Association, Georgia Power, the Metro Atlanta Chamber of Commerce, and The Home Depot.

Southface is active in the policy arena and was a force behind Georgia and Virginia adopting some of the nation's most aggressive tax incentive programs for greening affordable housing. The result has been the commitment of private developers to construct over 1,000 green affordable housing units in just the first year of the programs. Southface is also active with local governments in their efforts to craft sustainable development policies that are market-based.

A LANDMARK DECISION BY AN EDUCATIONAL INSTITUTION

Emory University, a world-class private university nestled just outside Atlanta's city boundaries, has spent 20 years thinking about green buildings. Facilities management, faculty, and staff which met regularly with the university's Committee on the Environment to evaluate new building projects, sent a small group to a Second Nature workshop in 1999 in which LEED was outlined. The participants shared their passion for the idea with colleagues on campus and secured buy-in from trustees to try a LEED building. About the same time, the campus developed an environmental mission statement and LEED certification of campus facilities supported the initiative.

The concept of *doing the right thing* from an environmental perspective blended well with the finan-

cial case of lowering energy consumption of campus facilities. "We've been tracking the energy consumption of our buildings and the LEED buildings have been performing much better than others," states Laura Case, project manager/facilities at Emory and a LEED accredited professional. "Looking at the energy calculations you're required to do for LEED... some of the newer buildings are



Winship Cancer Institute, Emory University, LEED-NC v2.0 Certification



Whitehead Biomedical Research Building, Emory University, LEED-NC v2.0, Level: Silver

tracking close to 30 percent lower."

With five LEED-certified buildings and three more with documentation in and awaiting certification, Emory hopes to have over 2 million sft of LEED-certified space on campus within the next couple of years.

The Department of Defense, Ames Laboratory, Department of Agriculture Laboratories, and numerous colleges and universities have visited Emory to see its green build policies in practice. Guests on Emory's green buildings tour are exposed to ideas they can adopt immediately. "We capture condensate water off air conditioning coils. We send it to a cooling tower in one project and to a cistern for irrigation in another project," states Case. "It's free water." In one of the driest years in Georgia's memory, who can argue with free water?

A TIMELY STAND BY THE CITY OF ATLANTA

The city of Atlanta passed Ordinance #03-0-1693 in December 2003 stating "the City of Atlanta shall integrate green and/or sustainable building principles and practices into the design, construction, and operations of all city facilities, and city-funded projects to the fullest extent possible and at minimum to the extent described in section 75-19."³

The Atlanta Development Authority, the city's lead economic development entity, is a key propo-

ment in providing leadership and guidance on sustainable building principles and practices. As a result, ADA has partnered with municipal agencies across service areas to promote the benefits of green buildings to the city's triple bottom line – fiscal, social, and environmental.

Throughout Mayor Shirley Franklin's two terms as mayor of Atlanta, the issues of sound fiscal management, efficient service delivery, water resource management, economic development, community revitalization, and environmental sustainability have remained top priorities. Encouraging green buildings within the city is a natural policy progression for an administration focused on fiscal responsibility, positive social outcomes, and sustainability.

Mayor Franklin's New Century Economic Development Plan, the city's first comprehensive economic development plan, set ambitious five-year goals for job creation, commercial and residential development, affordable workforce housing, crime, high school graduation rates, and sustainability by targeting increased greenspace and parks. The plan called for coordinating ten broad initiatives with over 50 economic development partners and executing on a range of action items linked to each initiative. These initiatives are intended to help the city reach its goals of increasing greenspace by 1,900 acres, producing 10,000 workforce affordable housing units, beginning the Atlanta BeltLine project (a ring of greenspace, trails, transit, and new development over 22 miles of historic rail segments that encircle the urban core), and the revitalization of six underdeveloped areas.

While the city of Atlanta's green ordinance sets the example, Charles Whatley, director of commerce and entrepreneurship for the Atlanta Development Authority (ADA), points out that, "private investment drives real estate development and value creation. We are making the business case for green buildings and providing incentives where possible. Our next step is to develop green building policies and an incentive toolkit that will allow us to increase the production of green build-

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ings, both commercial and residential, throughout the city."

Green and Affordable. The Bureaus of Housing, Planning, Buildings, and ADA have teamed with Southface to develop green building policies and to ensure that plan reviewers and inspectors understand green building principles. The Bureau of Housing is working with the Enterprise Community and Southface to train the staff of Community Development Corporations that receive funding from the city of Atlanta in the ways of Enterprise's Green Community program. Terri Lee, director, Bureau of Housing for the city of Atlanta, is working toward having all affordable and market housing produced by Atlanta's Community Development Corporations use green building standards.

The ABCs of LEED

Site-plan for sustainability

- Control erosion/sedimentation
- Evaluate solar access
- Mitigate storm water on-site
- Preserve/restore vegetation
- Evaluate pedestrian/transit/vehicle accessibility
- Design for longevity

Improve energy efficiency

- Design, install, and calibrate building systems for maximally efficient operations at minimal levels of energy consumption
- Design to exploit natural light

Conserve materials

- Use recycled building materials
- Reduce construction/demolition waste
- Reduce occupant waste through comprehensive recycling plans/waste management

Improve air quality

- Reduce CFCs in HVAC-R equipment
- Improve air quality inside the built environment by establishing standards for indoor air quality
- Improve air quality outside the built environment by venting cleaner air and controlling environmental tobacco smoke

Safeguard water

- Control/prevent run-off
- Capture rainwater and condensate
- Reuse gray water
- Reduce use (low-flow toilets, etc.)

Incentives for Green. ADA, Planning, Housing and Law are exploring ways to use incentives to stimulate the production of green buildings. ADA manages 10 tax increment financing districts and over 100 urban enterprise zones. The most successful project to date is Atlantic Station, a 128-acre brownfield reclamation project that integrates a number of green/sustainable practices into the project. The BeltLine tax increment financing legislation includes language to provide financial incentives to projects that incorporate green building principles.

Finding Green Solutions. ADA and Sustainable Atlanta, led by Lynnette Young, former COO for the city, have begun work to create an Environmental Economic Development Roundtable with the Consulates and Bi-lateral Chambers of Commerce in Atlanta. One purpose is to identify sustainable technologies, including green building products and techniques. The Roundtable plans to hold a Sustainability Expo to showcase firms and their green technologies. Another aim of the group is to identify policy best practices for Atlanta to consider as it develops green policies and target metrics.

Putting the ECO in Industrial. Under the leadership of Luz Borrero, deputy chief operating officer and David Scott, commissioner, Department of Public Works, ADA and Planning are working with the

goal. Similarly, ADA and the city are using the same strategy to develop a practical and effective green building program. "The City and ADA recognize," says Charles Whatley, "that getting green right is essential to the sustainability of our growth. Just as Mayor Franklin tackled the city's aging sewer infrastructure challenge by bringing stakeholders together to study the problem and develop a workable plan, we are engaging the domestic and international private sector, communities, policy-makers, and academia to make green building an integral part of Atlanta's built environment."

LEADERSHIP BY THE PRIVATE SECTOR

Atlanta is a headquarters city: home to the third-largest concentration of Fortune 500 company headquarters. Corporations like Interface Inc., The Coca-Cola Company, Toto USA, Kimberly-Clark, and Acuity Specialty Brands stand out in metro Atlanta as sustainable market leaders. Interface's "Mission Zero" promises elimination of any negative impact the company could have on the environment by 2020. Founder Ray Anderson's vision for the company whose core business is modular soft-surfaced floor coverings is to champion a worldwide effort to pioneer the processes of sustainable development. The world may be finally catching up to Anderson.



New World of Coca-Cola building, Atlanta, LEED-Level: Gold

Operational Sub Cabinet to create an industrial policy that promotes and protects land use for industrial job centers, encourages green industrial buildings, and identifies locations for eco-industrial parks where city operating departments and private industry can co-locate. The operating departments recognize the link between green building practices and reduced construction waste, greater energy efficiency, and lower water consumption.

As with many of Atlanta's successes, public-private partnerships were leveraged to achieve the stated

Atlanta's development community plays a singular role in supporting sustainable initiatives embraced by corporations like Interface. Architectural firms like Lord, Aeck & Sargent, TVS, Perkins+Will, and Gerding Collaborative develop timeless designs that balance the needs of tenants/owners and the environment.

Holder Construction, an Atlanta-based company, incorporates sustainable design and construction practices into projects by evaluating every project for its *green potential*. "Making changes to the built environment is a significant factor for reducing greenhouse gas emissions and preserving natural resources. As a contractor, it is our responsibility to educate building owners with responsible decisions that improve the quality of their facilities while reducing the negative impacts to the environment. The LEED program is a great tool to implement sustainable strategies and measure results," states Beth

Studley, vice president at Holder Construction and chair of the U.S. Green Building Council Atlanta Regional Chapter.

Holder has completed eight LEED certified buildings and has 16 more registered with the USGBC for certification, including the renovation of their corporate headquarters in Atlanta. Over 20 percent of Holder's associates are LEED accredited professionals.

"Our industry is changing its behavior, becoming more sustainable with our designs and construction means and methods. In 2007 we experienced over 250 percent growth from 2006 in the number of our projects pursuing a LEED certification," states Studley. "Every effort makes a difference, the key is doing something. At a minimum, contractors should maximize the amount of waste recycled on jobsites and evaluate feasible strategies for conserving water and energy. Most well-designed buildings easily qualify for the basic LEED certification with minimal impact to the bottom line."

BALANCING ENVIRONMENTAL AND FINANCIAL NEEDS

Case studies done by the National Resources Defense Council highlight buildings completed between 2003 and 2006 showing electricity, water, and natural gas savings of 25-60 percent, and reduction in emissions of CO₂, NOx, and SOx of 12-38 percent.⁴ One of the core challenges to achieving widespread adoption of high-performance buildings is disagreement over which performance metrics are most important and best ways to measure and report those metrics.⁵

In December 2007, the Environmental Protection Agency announced that its list of "Energy Star Leaders" has grown to 50 organizations: educational, healthcare, retail, commercial, and hospitality entities that perform in the top 25 percent of energy efficiency nationwide based on the average of buildings in the portfolio. This group has reduced its greenhouse gas emissions by an amount equivalent to 30,000 American homes.⁶

Atlanta's challenges in air quality are well-known, especially during ozone season from May 1 to October 31. When Atlanta's air pollution challenges rose to national prominence in the mid-1990's, state and regional government agencies and the Atlanta business community cemented a public-



Southface Eco Office is a 10,000-square-foot commercial demonstration center that will help architects, builders, and developers learn easy ways to save energy, conserve water, and preserve the environment. Currently it's under construction, and tracking for LEED-Platinum certification. Architect: Lord, Aeck & Sargent.

private partnership in the creation of the Clean Air Campaign. A nonprofit organization with a staff of 28, the Clean Air Campaign works with employers, property managers, commuters, and schools to take voluntary action to improve air quality.

While the Clean Air Campaign focuses much of its work on the transportation side of air pollution, Executive Director Kevin Green recognizes that, "a clean commute is even more valuable when considered in concert with building practices and land use decisions that support clean air." This range of green decision-making represents a new business model that suggests that economic and environmental decisions are not mutually exclusive. "In fact," states Green, "between rising energy costs and more stringent federal clean air standards, going green has never been as financially viable as it is right now."

Is there a tradeoff in cost to building green? According to construction cost management firm Davis Langdon, "there is no significant difference in average costs for green buildings as compared to non-green buildings. Many project teams are building green buildings with little or no added cost and with budgets well within the cost range of non-green buildings with similar programs."⁷ While the NRDC places the green build premium at 0-5 percent, everyone emphasizes that cost per square foot is not the critical measure. Life cycle cost analysis is a better way to measure the cost of a sustainable building. In other words, think beyond delivered cost per square foot and learn to evaluate design options using a system that measures environmental and cost performance over the life of a facility -- from design to decommissioning/demolition.

GEORGIA: EARLY MOVES IN THE RIGHT DIRECTION

The state moved its primary economic development agency, the Georgia Department of Economic Development, into Centergy/Technology Square, which is a campus that includes one LEED Silver building, the Georgia Institute of Technology's Dupree College of Management. Numerous statewide economic development agencies co-located in the same building: Georgia Quick Start, Georgia Power Economic Development, the Advanced Technology Development Center, Georgia Electric Membership Corporation, Georgia Tech's Enterprise Innovation Institute, etc. The state's Department of Community Affairs has been a leader in providing incentives for green affordable housing, and the Georgia Department of Natural Resources is focused on green buildings for state parks with a half dozen LEED certified Silver, Gold, and Platinum commercial facilities as well as a commitment that future cabins meet the EarthCraft House standard.

The federal government, 15 states, and 46 cities require new public buildings to meet the U.S. Green Building Council's LEED standards. Four states and 17 cities offer incentives for LEED-rated private buildings. What can the state of Georgia do at this point to gain a leadership position in the Southeast in green built environment?

Photo by Brian Gassel/TVS



Interface Showroom, LEED-CI Pilot-Level: Platinum;
Holder Construction.

always been economic prosperity and social well-being. As we add the next billion people and recognize (a) the impact of built structures on our limited resources and (b) the expectations of ever-higher quality of life opportunities for our citizens, it becomes increasingly imperative for ED practitioners to embrace sustainable solutions that strengthen a healthy and dynamic balance between environmental, social, and economic prosperity.

- Exempt sales tax on building materials used in the construction of LEED-certified structures, an incentive which would:

- lead to substantial improvements in life-cycle performance and reduced life-cycle costs of building stock in Georgia;
- encourage companies that stake their reputation on sustainability to take a second look at Georgia when building new structures; and
- increase dramatically the number of LEED-certified structures in Georgia: a state that has fallen behind Florida and North Carolina in the number of green buildings proposed, planned, delivered, and certified.

- Require state-funded buildings to integrate sustainable building principles and practices in the design, construction, and ongoing operations with the aim of a minimum LEED Silver certification. States that have adopted mandatory sustainable building principles and practices today lead the way in construction and renovation of public buildings to LEED standards.

- Follow the lead of over 25 other states in providing financial incentives for energy efficient, green homes.

Georgia could lead the Southeast in preserving water, reducing greenhouse gases, and decreasing the amount of construction waste in state landfills by adopting these standards. The proposed ordinance in San Francisco through 2012 expects to achieve a reduction of CO2 emissions by 60,000 tons, waste and storm water by 90 million gallons, and construction and demolition waste by 700 million pounds. San Francisco also expects to save 100 million gallons of drinking water and increase green power generation by 37,000 megawatt hours, if approved. Savings on that scale would have a significant impact on any metro region and state.

The bottom line for economic developers has always been economic prosperity and social well-being. As we add the next billion people and recognize (a) the impact of built structures on our limited resources and (b) the expectations of ever-higher quality of life opportunities for our citizens, it

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RESOURCES

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Clean Air Campaign <http://www.cleanaircampaign.com/>

Environmental Protection Agency
<http://www.epa.gov/greenbuilding/>

Global Green <http://www.globalgreen.org/>

National Institute of Building Sciences
<http://www.nibs.org/>

National Resources Defense Council
<http://www.nrdc.org/>

Playbook for Green Buildings
<http://www.greenplaybook.org/>

Smart Communities Network
<http://www.smartcommunities.ncat.org/>

Southface Energy Institute <http://www.southface.org/>

Sustainable Buildings Industry Council
<http://www.sbicouncil.org/>

U.S. Department of Energy
<http://www.eere.energy.gov/buildings/highperformance/>

U.S. Green Building Council
<http://www.usgbc.org/Default.aspx>

Whole Building Design Guide <http://www.wbdg.org/>

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*The Power of
Knowledge and Leadership*



maconNOW!

By Donna K. Fisher, Ph.D. and Brian Trapnell

Photo credit: Ken Krakow



A view into historic downtown Macon at the intersection of Second and Mulberry Streets.

INTRODUCTION

Since 1990, the Macon, Georgia Metropolitan Statistical Area (MSA) has seen a 32.9 percent increase in total employment.

During the same time period, national employment rose only 23.2 percent. Moreover, the MSA population increased by about 10.9 percent in the 1990s (to over 320,000).

Unfortunately, per-capita income still lags behind national and state averages (\$29,466 compared to the national metropolitan level of \$36,043 and the state level of \$30,914). This is due in part to a decrease of nearly 3,000 jobs in the manufacturing sector. That decrease is largely attributable to the loss of two manufacturing companies which had been staples of the Macon and middle Georgia economy for several decades: Brown & Williamson (approximately 2,100 employees in 2004) and Keebler Foods Company (approximately 480 employees that same year). Both of these companies had completely relocated away from the area by mid 2006. This article details the economic struggles Macon has faced over the last decade. Specifically, it highlights the flexibility and agility the community exhibited in the face of adversity.

Although faced with adversity, local leaders in the public, private, and non-profit sectors have remained optimistic. Macon has utilized numerous approaches to spur growth in the area. Jobs in edu-

cation, health services, as well as professional and business services continue to increase. The remainder of the article highlights Macon's successful economic growth strategies. Macon and Bibb County's overarching strategy for enhancing growth in the area is outlined in the MaconNOW! program, which has as its goal to grow 4,000 new direct jobs over a five-year period through business retention and expansion, new business development, and an awareness campaign. The program's total budget is over \$2.5 million, contributed by the private sector and non-profit organizations; program partners provided cash and in-kind contributions. To effectively carry out the program's three initiatives over five years, the public, private, and non-profit sectors in Macon and Bibb County had to come together.

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MIDDLE GEORGIA'S ANSWER TO ADVERSITY

The loss of over 2,500 manufacturing jobs since 2004 posed certain challenges to Macon, Georgia. However, leaders in all sectors remained optimistic. Jobs in education, health services, as well as professional and business services continue to increase. Macon has utilized numerous approaches to spur growth in the area. The community launched an intensive strategic planning process, followed by a capital campaign to implement its economic development strategy and established a more aggressive business retention/expansion and recruitment effort, combined with a community image campaign. One of the key results of the strategic planning process was the MaconNOW! program, which offered an aggressive approach to keep middle Georgia economically vibrant. This article offers a case study of the Macon MSA and describes how MaconNOW! is positioning the local economy to allow Macon to continue to be one of the "best places to live" (Sperling, 2005).



The Boeing-Macon facility is consistently ranked among the elite manufacturing facilities in the state and in the Boeing family.

In spite of these vibrant elements, the Macon MSA faced some significant challenges associated with the loss of major employers like Brown & Williamson (tobacco product manufacturing), Keebler (food manufacturing), and First Data (business-to-business financial transaction service provider). Together, these companies employed nearly 3,000 workers. All three closed their doors in 2006.

ADDRESSING THE CHALLENGE

This section describes how the community stakeholders came together to move forward through a series of economic development initiatives. More specifically we discuss the role of the community regionally and the 2001 executive community assessment. We then describe how the community employed the findings of that assessment and translated the implementation of that initial assessment into a comprehensive economic development and community growth program called MaconNOW!. This is leading to a more dynamic local economy to match the community's active way of life.

In fact, Macon and Bibb County are home to a vibrant arts and music culture. Moreover, the community serves as the commercial center of middle Georgia. Daytime population experiences a net increase of about 20,000 workers coming into the area (Georgia Department of Labor, 2007). Musical legends such as the Allman Brothers, Otis Redding, and Little Richard all called Macon home at some point. Local museums highlight statewide as well as local achievements in music, sports, and the arts and sciences. In addition, a wide variety of industrial, retail, and service operations draw employees, shoppers, and customers from across the region.

In spite of these vibrant elements, the Macon MSA faced some significant challenges associated with the loss of major employers like Brown & Williamson (tobacco product manufacturing), Keebler (food manufacturing), and First Data (business-to-business financial transaction service provider). Together, these companies employed nearly 3,000 workers. All three closed their doors in 2006.

The post 9/11 economic downturn spurred Georgia into reevaluating the strategic plan for sustainable growth. Partnering with Georgia Power to revitalize its economic development strategy, the community began crafting a new vision for economic development five years earlier

in anticipation of such challenges. Other challenges the Macon area wanted to address included increased unemployment, a reduced and less diversified tax base, and reduced revenue from fee-based services such as water and sewer and the impact those losses could have on the community at large.

In 2001, Georgia Power commissioned a site selection firm to develop an executive community assessment for Georgia communities perceived to have significant growth potential. Macon and Bibb County were part of the study. The site selection firm's assessment included a site selection overview, site selection factors for target industries based on community feedback, an overview of strengths and weaknesses for the community, and target industries.

The assessment identified the following target industries for the Macon MSA: warehousing/logistics/distribution, aerospace (listed in the report as high-tech industries), back office/call centers, and manufacturing. The site selection firm determined these target industries by asking three questions:

1. Do the infrastructure and labor market resources in Macon provide a unique opportunity to support the industries?;
2. How does the community leverage those assets into a growth model for the community? (e.g., is the strategy realistic?); and
3. What is the "hook" in terms of positioning those industries for success within the community?

This series of questions helped refine the list of proposed target industries – initially the community desired information technology component manufacturing and assembly; during the site selection firm's community visit, they also explored warehousing/distribution, IT/software development, high-end back office/shared services and high-tech industries with a significant Atlanta presence as being a good fit for the community.

The assessment also noted that existing industry had expanded or maintained plants in the region while downsizing elsewhere. However, there appeared to be a lack of a unified strategy for economic development and community growth. The community marketing effort was not well communicated or executed. Moreover, there was a “pro-union” labor-management relations perception in the region.

Based on the report, the Greater Macon Chamber of Commerce (Chamber) and the Macon Economic Development Commission (MEDC) emerged as the leading organizations to address these issues. These two organizations were (and continue to be), by design, closely tied together: two-thirds of MEDC's funding comes from the Chamber and the president of the Chamber also serves as president of MEDC.

MEDC, as the lead marketing agency for the community, renewed its focus on marketing the community to its target industries. Activities included partnering with the Macon-Bibb County Industrial Authority to launch an effective existing business and industry program, initiating an intensive strategic planning process (which resulted in the MaconNOW! initiatives to be discussed in detail later), and developing marketing plans for three of the target industries.

These practical efforts initiated by MEDC helped carry the community forward. In 2003, they landed one of the largest build-to-suit construction projects to announce or locate in Georgia for that year. The community took an aggressive approach to incentivize the project. State and local incentives were offered, including tax credits, site preparation and land purchase assistance, as well as the preparation of a special tax schedule for real and personal property taxes. This new distribution center created over 100 jobs and more than \$30 million in investment. By 2007, the facility had doubled its number of employees. It was the rallying point and catalyst the community needed; this particular project, coupled with the executive assessment, was the foundation for creating a cohesive economic development team.

Landing the distribution center showed the effectiveness of local leaders in cooperating with one another to strengthen the attractiveness of the community to outside companies. From incentivizing the company to identifying available land, from clearly defining planning/zoning requirements to meeting workforce needs, the community was able to work across artificial political and departmental barriers to make the project work. Between January 2001 and May 2004, a total of 13 existing businesses/industries located to or expanded in the community. This translated into 3,579 new jobs and over \$86 million in new and retained investment.

The ability to move beyond political and administrative barriers and a clear, effective community

vision, however, could only help the community meet success to a point. It became clear that more resources were needed for the community's economic development efforts to continue moving forward. Community leaders realized through the 2003 location that Macon and Bibb County had what it took to be successful in the very competitive arena of economic development, in spite of having limited resources dedicated to its economic development efforts. This recognition begged the question: how much more successful could Macon and Bibb County be if there were enhanced resources available to fund those efforts? The answer to this question was the MaconNOW! program.

MaconNOW! is a program to create a more dynamic local economy between 2005 and 2009 in Macon and Bibb County. Research and experience showed the community several things. First, face-to-face contact with existing companies leads to retention and expansion. Moreover, by listening to existing businesses, the community can identify barriers to success while there is time to address them. Second, marketing materials designed for specific industry segments generate results. Third, the attitudes and perceptions of community citizens have a direct impact on business expansion and new business locations. Finally, with new resources properly deployed, the community can generate more jobs and investment.

TABLE 1. MaconNOW! Initiatives and Goals

Initiative	Goal
Existing Business Retention & Expansion	To strengthen a comprehensive business retention and expansion program for Macon and Bibb County
New Business Recruitment	Bring quality companies, jobs, and capital investment to the region
Awareness Campaign	Develop a comprehensive awareness campaign that positions Macon as a dynamic and vibrant community in the minds of the citizens of Macon, Bibb County and Middle Georgia

The program developed three clearly articulated initiatives: existing business retention and expansion, new business development, and an awareness campaign. Table 1 details the goals associated with each initiative. From the funds supporting these efforts, approximately \$360,000 of the total budget is dedicated to investor relations, administration, and building maintenance.

The existing business and industry initiative, with a resource allocation of almost \$800,000, strives to significantly increase community understanding of the needs of existing business and industry partners. In addition, the initiative will enhance the level of support provided to these partners. Within the existing business and industry ini-

tiative, there are a total of 13 components intended to address various issues related to workforce development, permitting process improvement, and assessment of industry needs. (See Table 2.)

The new business recruitment initiative, which has a combined resource allocation of more than \$850,000, attempts to increase the level of community visibility within target industries and use that knowledge to develop a more competitive product. The new business recruitment initiative includes a total of six components intended to address various issues related to conducting a competitive analysis, enhancing the local tax base, and establishing a project assistance fund. (See Table 3.)

The community image enhancement initiative, with its resource allocation of almost \$500,000, will develop a comprehensive image campaign that positions Macon as a dynamic and vibrant community. The awareness campaign initiative has two components: 1) developing a branding campaign to focus community attention and energy on its positive aspects and 2) implementing that campaign with program partners. (See Table 4.)



The combined Bass Pro Shops and Distribution Center is the first such facility outside of Missouri, where Bass Pro Shops is headquartered.

PERFORMANCE METRICS AND SUCCESSES

Between 2005 and 2009, the MaconNOW! program plans to invest \$2.5 million in its three program initiatives. The economic impact of MaconNOW!, by the end of the program, is expected to be 8,400 total jobs (4,000 direct and 4,400 indirect), with an estimated total payroll of \$242.6 million (from both direct and indirect jobs).

Progress can also be measured by the number of projects opened during the MaconNOW! program

TABLE 2
Goals and Programs for Initiative 1

- Conduct 200 existing business/industry visits. Annually conduct an existing business industry needs assessment; use the information generated from the survey to develop a support program.
- Work in concert with other interested organizations to conduct an assessment of how to improve flow and efficiency of the permitting, inspection, and engineering approval processes in Macon and Bibb County.
- Work in concert with other interested organizations to lobby for the restructuring of the permitting, inspection, and engineering programs as indicated by the findings of the assessment.
- Create a public awareness campaign for the business community, which shares the successes and positive impacts that business has on the region.
- Identify and resolve issues that inhibit growth and expansion of existing industry.
- Upgrade the labor market survey to include business, industry, and professional organizations in the Macon trade area.
- Integrate the findings of the labor market survey with information from the target market analysis to develop a skill set matrix for emerging jobs.
- Share information on emerging employment opportunities and the skill sets required for these jobs with secondary and post secondary educational institutions in Bibb County and Middle Georgia.
- Work with business, industry, and professional organizations to identify intern and apprentice opportunities.
- Use information from existing business/industry visits to match internship and apprenticeship opportunities with students.
- Develop information/education programs for occupations for which internships and apprenticeships are not practical.
- Work with existing service providers to identify those services that are available to small businesses and entrepreneurs.
- Establish an outreach program to proactively work with the small business and entrepreneurial communities to address their needs.

performance period and the amount of investment made. As previously noted, between January 2001 and September 2004, 13 existing businesses/industries located to or expanded in the community, 3,579 jobs were created or retained, and there was \$86 million in new and retained investment. Between January 2005 (year one of the MaconNOW! program) and September 2007, 25 businesses and industries located to or expanded in Macon and Bibb County, creating 1,559 jobs with a total investment of \$254.8 million. Early in 2008, an automotive supplier announced it would construct a plant in the community, investing more than \$200 million and bringing with it over 400 jobs.

Another measure for gauging the community's economic development efforts is the number of projects opened by MEDC each year. The average number of projects per year opened by MEDC between 2001 and 2004 was 53. By comparison, the average number of projects opened by MEDC between 2005 and mid-August 2007 was 57. The corresponding increase in projects opened between 2005 and mid-August 2007 suggests that enhanced marketing efforts, combined with attention given to the community through press coverage of recent economic development successes, are paying off.

Investment made has become another key measure in the community for determining the success of its economic development efforts. The average investment per location/expansion between 2001 and 2004 was \$6.6 million. The average investment per location/expansion in the community between 2005 and 2007 was \$10.1 million. The increase in per project investment of more than \$3.5 million between 2005 and 2007 indicates that not only is the number of projects increasing but so is the dollar value.

While an increased number of projects are bringing with them more investment, they are also bringing fewer average employees. The average number

TABLE 4

Goals and Programs for Initiative 3

- Develop a branding campaign that focuses the community's attention and energy on the positive aspects of our community, including economic activity, cultural offerings, healthcare services, shopping opportunities, and education.
- Implement the campaign in partnership with print, broadcast, and electronic media outlets in Bibb County.

TABLE 3

Goals and Programs for Initiative 2

- Identify and resolve issues that inhibit growth and expansion of existing industry.
- Upgrade the labor market survey to include business, industry, and professional organizations in the Macon trade area.
- Integrate the findings of the labor market survey with information from the target market analysis to develop a skill set matrix for emerging jobs.
- Share information on emerging employment opportunities and the skill sets required for these jobs with secondary and post secondary educational institutions in Bibb County and Middle Georgia.
- Work with business, industry, and professional organizations to identify intern and apprentice opportunities.
- Use information from existing business/industry visits to match internship and apprenticeship opportunities with students.
- Develop information/education programs for occupations for which internships and apprenticeships are not practical.
- Work with existing service providers to identify those services that are available to small businesses and entrepreneurs.
- Establish an outreach program to proactively work with the small business and entrepreneurial communities to address their needs.
- Implement the competitive enhancement and marketing strategies.
- Conduct a competitive analysis of each of the three target markets: high end back office operations, aerospace parts, and sub assembly manufacturing – to include maintenance, repair, and overhaul operations; and warehouse, distribution, and logistics.
- Establish an "Economic Development Fund" to be used by the Economic Development Team to close deals.

of employees per project between 2001 and 2004 was 275, but between 2005 and mid-August 2007 that number was 62. These employment numbers reflect the employees related to projects with which MEDC is involved. These numbers do not include organic, market-related job growth within the community, such as with the retail and service sectors.

Increased prospect activity and average investment show the MaconNOW! program initiatives have succeeded in diversifying the local economy to reduce its exposure to the potentially negative impact of any one major industry closing its doors. As the community moves forward, it may consider searching out projects with larger numbers of employees; however, this may prove to be difficult. A recent high technology manufacturer made a \$100 million investment in its Macon plant but hired 100 workers. This could be indicative of a trend in economic development: more projects will bring more investment with fewer employees.

One component of the new business recruitment initiative within MaconNOW! was to carry out a competitive analysis to research the community's competitive position in each target industry, then to modify the community marketing strategy for each as appropriate. The analysis, completed in early 2006, confirmed that the community was still competitive for its original target industries.



The Sara Lee Distribution Center is located in the I-75 Business Park, considered a site of regional significance--there are 241 remaining acres in the park.

WHERE IS THE COMMUNITY HEADED?

One component of the new business recruitment initiative within MaconNOW! was to carry out a competitive analysis to research the community's competitive position in each target industry, then to modify the community marketing strategy for each as appropriate. The analysis, completed in early 2006, confirmed that the community was still competitive for its original target industries. In particular, the warehousing/logistics/distribution market remained strong because of the Macon MSA geographic location and road system. The analysis recommended two new target industries: automotive suppliers due to the Kia automotive plant location in west central Georgia and food processing manufacturers because of excess water and sewer capacity (a considerable need within the sector).

But the competitive analysis alluded to one potential challenge in the near future: dwindling industrial site inventory within Bibb County. The community has had considerable success in marketing available industrial sites but with that success there has been a corresponding reduction in the inventory. As follow up to that analysis, the Chamber/MEDC initiated a second phase of the competitive analysis to consider a regional approach to addressing the Macon and Bibb County industrial site inventory challenges. Partnerships are being

developed among regional economic development professionals, organizations, and elected leadership to expand the industrial site inventory. Those partnerships are also exploring the viability of a regional economic development program.

The loss of over 2,500 manufacturing jobs in the last three years posed certain challenges to the community. However, leaders in all sectors were driven to move the community forward. The MaconNOW! program offered an aggressive



With aggressive incentivizing by the community, the location in 2004 of the Kohl's Distribution Center provided the forward motion for the community's economic development successes.

approach to keep middle Georgia economically vibrant. Community leaders are confident that this approach will position the local economy to allow Macon to continue to be one of the “best places to live” (Sperling).

The program has helped Macon and Bibb County diversify its economy by bringing in new industry and expanding existing business and industry. An enhanced tax and job base will reduce the impact of any potential future loss of any one of those successes, which was not the case in 2006 with the closure of three major industries. However, it also provided an opportunity for the

community to develop a new community economic development strategy. Due to those significant losses in 2006, many thought the community was effectively “dead in the water” when it came to bringing in new business and expanding existing industry. Nonetheless, since 2005 there has been more than \$254 million (excluding the 2008 automotive supplier announcement) in new investment and more than 1,500 new jobs brought to or grown in the community. This shows that because of the MaconNOW! program the community is indeed alive and well. 

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*The Power of
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the economic development-

URBAN DESIGN LINK IN BROWNFIELD REDEVELOPMENT

By Kevin L. Bacon, Jr, Richard Dagenhart, Nancey Green Leigh, and John Skach



Aerial view of the former Atlantic Steel Company foundry and rolling mills in central Atlanta, now the site of Atlantic Station.

Photo credit: Brian Leary

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INTRODUCTION

the wave of deindustrialization over the past several decades has contributed substantially to the 450,000 brownfields that are estimated to exist nationwide.

Brownfield sites manifest themselves in a wide range of sizes, locations, contexts, and environmental states. Although they can have commercial as well as industrial former uses, the largest have industrial pasts.

In one sense, the U.S. created the brownfield redevelopment problem when it passed the 1980 Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). Its initial

intent was to promote clean up of contaminated land, and to provide opportunities for the U.S. Environmental Protection Agency to recover clean up costs from all potentially responsible parties (PRPs), but fear of being assigned liability as a PRP had the unintended consequence of significantly reducing interest in redeveloping brownfields.

The few who chose to accept the risks focused the majority of their resources and energy on environmental remediation. New development began only after extensive cleanup processes were complete. From start to finish, brownfield redevelopment was a complex, time-consuming process, involving numerous stakeholders and very large capital investments from a variety of sources. These facts combined to constrain redevelopment solutions to principles of cost effective site engineering along with the standard private development process that is driven by market demand and conventional financing packages. The ultimate impact is that brownfield redevelopment has cemented itself as a real estate – rather than an economic development – concept, particularly for large sites. Consequently, the physical design and planning for these brownfield projects are tied closely to short term market projections, and the opportunity to create a platform for sustainable economic development has been missed.

States and localities, particularly those in the “Rustbelt”, were leaders in seeking means to overcome CERCLA's unintended consequences. Regaining lost jobs, stimulating new businesses, and increasing tax revenues became top priorities and guided public sector support in the brownfield redevelopment process. In the case of smaller cities that depended on a single major manufacturer for sustenance of the local economy and whose identities were defined by its presence, the wounds creat-

LEARNING FROM ATLANTIC STATION

Today, large brownfield sites are valued real estate development opportunities for high density, commercial, and housing mixed-use projects. In the past, they were typically stand-alone industrial sites. Recent redevelopment efforts suggest they continue to be perceived as stand-alone sites even though they may be occupied by a variety of business, residential, and public uses. However, redesigning and redeveloping large brownfield sites so that they become part of the surrounding city and neighborhoods is key to gaining approvals from a myriad of local, regional and national stakeholders, and making lasting and maximum contributions to the local economy. This article discusses the critical role of urban design for maximizing the economic development benefits of brownfield redevelopment, illustrated through a case study of Atlanta's Atlantic Station.

ed by deindustrialization ran particularly deep. Larger cities with more resilient and diversified economies, often faced the problem of large abandoned sites threatening negative impacts on the surroundings and on city or even regional economic development marketing. The result was an inevitable urge to move quickly, identifying immediate or short-term uses. Capturing perceived markets quickly led the public sector to get involved in the redevelopment process. Brownfield redevelopment became synonymous with local economic development but little attention, if any, was given to the physical design, planning, and reintegration of these sites with the surrounding locality.

The U.S. EPA's 1995 Brownfield Action Agenda was a specific response to help promote economic development that fostered a sophisticated brownfield industry which includes specializations in environmental consulting, finance and investment, law, insurance, research and development of new remediation technologies, real estate, engineering, and remediation. Consequently, developer attitudes toward brownfield redevelopment have shifted, reinforced by the emerging trend in the reoccupation of central cities throughout the nation and increasing availability of financial incentives from various government agencies.

In some cases, financial incentives have even succeeded in making redevelopment of urban brownfield sites even more lucrative than pursuing new development on suburban, greenfield land. For example, Atlantic Station utilized a variety of sources including its tax allocation (also known as tax increment finance) district status to fund environmental remediation and general improvements of the site. This substantially reduced the overall cost of the property compared with similar "uncontaminated" property in the area (Berger, 2006, p. 207). The redevelopment of the former Atlantic Steel mill site in Midtown Atlanta is heralded for its leadership in refocusing growth and development back towards the inner city and away from the region's sprawling suburbs (Dunham-Jones, 2005, p.61). But Atlantic Station is not without fault. Though the project is often touted as a brownfield model for Smart Growth, its conventional approach may limit its contribution to brownfield redevelopment lessons. (Dagenhart, Leigh and Skach 2006, Miller, 2006).

While there have been a number of private and public sector innovations created to overcome market failures and enable brownfield redevelopment, there has been little accompanying innovation in the typical brownfield redevelopment process. This has the potential to short-change the economic development benefits to both the private and public sectors from the extraordinary levels of effort that have been undertaken to create a functioning brownfield redevelopment market.

In this article, we argue for a re-examination of the brownfield redevelopment process to focus on sustainable development that integrates economic development and urban design. We first consider the conventional brownfield redevelopment process, suggesting five guiding principles. Then we relate the story of Atlantic Station, suggesting lessons that can be learned from a project that was expected to integrate itself into the larger process of city design and economic development.

THE BROWNFIELD REDEVELOPMENT PROCESS

Four major steps are commonly associated with the brownfield redevelopment process – pre-development, securing the deal, cleanup and development, and property management. Each is a response to perceived redevelopment challenges of environmental liability, financial barriers, cleanup considerations, and reuse planning (*Anatomy of Brownfields Redevelopment*, US EPA 2006).

The first step, pre-development, involves a range of activities including: determining a new use or idea for the site, studying financial feasibility, analyzing environmental contamination, obtaining property access, and identifying sources of funding. Inception of a governing redevelopment idea typically begins here with a highest and best use analysis of the property. Consultation with all stakeholders, including the local community should occur (but often does not) during this first step.

While there have been a number of private and public sector innovations created to overcome market failures and enable brownfield redevelopment, there has been little accompanying innovation in the typical brownfield redevelopment process.

Once redevelopment use for the site has been established, it usually ends up driving the remainder of the process. A pro forma and environmental analysis are developed to study the financial feasibility of the project, based on the projected use, and to determine the extent of cleanup, again associated with the pre-determined use. After these basic first project parameters have been established, the remaining steps in the process are relatively straightforward: secure funding sources, obtain property rights, prepare architectural design, and acquire necessary approvals and permits. These steps follow the traditional real estate development process, with the exception of the development of a site remediation plan which coordinates cleanup activities with new construction so that both may be completed as quickly as possible. In concept, the process is simple and effective in creating new uses

for the site. However, the process can easily become internally focused, losing sight of the brownfield's surrounding urban context and future changing conditions, as we illustrate in our Atlantic Station case study. As a result, significant economic development benefits may be lost.

Unforeseen issues surrounding environmental cleanup, funding commitments, project marketing, and even public resistance may result in several adjustments during the remaining course of the process, but, they rarely change the original redevelopment. In some cases, such a rigid development concept and process can create irreconcilable problems that will ultimately cause the entire project to collapse. For example, in the case of the brownfields site of the Sleepy Hollow automotive plant in Westchester, NY, General Motors with developer Roseland Properties, attempted to transform a 97-acre site located along the banks of the Hudson River into a mixed-use village dubbed "Lighthouse Landing" in compliance with local laws and plans. However, differing views and values surrounding the project's proposed building density, village connectivity, public spaces, and environmental remediation ultimately kept Lighthouse Landing from ever proceeding past the drawing board. Though Roseland Properties spent over six years battling these issues at both local and regional levels, the developer ultimately withdrew from the project when it became apparent that scaling back the plan any further would make the project unfeasible (Bacon 2008).

The deindustrialization that brownfield redevelopment responds to must be understood as an ongoing, indeterminate process rather than a specific period with a discernable end point. In almost all cases, reconstruction of underutilized land eventually occurs. Consequently, acknowledging and preserving the original urban design patterns of the setting in which the cycle of economic change takes place is critical for mitigating future economic losses, and maximizing the public and private benefits of reinvestment. In the economic development field, this process is well known as "creative destruction," a phrase coined by Joseph Schumpeter in the 1930s. As an illustration, Atlanta recently witnessed simultaneous auto plant closings in nearby Hapeville and Doraville; yet new plants within the state promise to take their place. South Korean-based Kia Motors Corporation has constructed a new facility in West Point, Georgia, while German-based Volkswagen AG is contemplating construction of a new plant on a 1,500-acre site near Savannah (Chapman, 2008).

In an unpredictable manner, the arrival of these plants will transform all aspects of the cities they inhabit, but one day these plants too will close. Someday these cities will also be forced to respond to the very same set of circumstances being experienced by the numerous cities affected by the recent

Urban economic development is a complex series of ongoing processes of growth and change whose implications are impossible to predict beyond the immediate future. Despite efforts to the contrary, market demand and land use are no exception to this fact, and a brownfield redevelopment process that does not acknowledge these fundamentals is inherently flawed.

Ford and GM plant closings today.

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URBAN DESIGN AND ECONOMIC DEVELOPMENT

Urban design gives three dimensional form to area and project plans, focusing on building design guidelines and the public realm – open space, sidewalks, streets, and spaces between buildings.

The key to rethinking brownfield redevelopment is not eliminating uncertainty over development trends – an impossible task – but rather accepting that it exists and devising potential strategies that both guide and adapt development to whatever the future holds. Urban design must focus its energies on constructing frameworks that strategically accommodate development in this manner. In parallel, economic development strategies must expand their scope from short term to long, from market-driven strategies to integrated and self-renewing processes of investment, job, and business creation. Both urban design and economic development must reflect the idea that use is temporary and change is inevitable. Brownfield sites are not to simply be redeveloped for a new use, but rather reintegrated into a larger set of ongoing processes.

Urban design is inclusive in practice, and rightly so, because it must weave together physical design ideas, real estate development strategies, conformance to local development regulations along with multi-layered clients and approval processes. Long an important discipline in historic urban cores, urban design has emerged in a primary role in sub-

urban growth management and suburban retrofits. Land subdivision patterns should be understood as the most permanent aspect of the city. Buildings and especially land uses are temporary when compared to the durability of land subdivision. That is the reason that suburban growth management and urban design strategies focus more and more on a structure of small blocks and streets, instead of superblocks, cul de sacs, and gated enclaves of housing, offices, or industry. The same focus is especially relevant for suburban retrofits where land subdivided for one purpose is now obsolete. This is similar to most brownfield sites, which were originally organized for industry. Now their uses are changing again. The question for urban design, therefore, is how to re-organize brownfield sites to both guide and adapt to whatever the future holds.

Urban design is concerned with urban processes, instead of fixed end states, just like economic development. We have identified five key principles for weaving urban design and economic development for brownfield redevelopment: incremental development, organization of territory, layering of infrastructure, definition of boundaries, and creation of public space are described briefly below.

Incremental Development – Not Master Plans

The first principle, incremental development, maintains that design should reflect the uncertainty of the future. More fundamentally, urban development is understood as an ongoing process that has no determinant end form, and requires a strategic framework that allows the city and its neighborhoods to continually reinvent and reconstruct themselves while providing an organizing structure for growth. Instead of attempting to control a master planned outcome, urban design should remain flexible, adaptable, and indeterminate such that a wide range of future development scenarios, foreseen or unforeseen, can be accommodated. This is the opposite of the conventional brownfield redevelopment processes.

Organization of Territory – Not Land Use

While incremental development establishes a critical strategy for urban design, the second principle – organization of territory – directly informs the staging of incremental development. How a site is organized internally influences how and where development occurs. Thus territory should be organized in a way that specific uses and programs are allowed to change without altering the underlying ordering strategy. The traditional lot, street, and block arrangements found in cities across the world are organizations of territory that have proven to

accommodate change over centuries. Large single use parcels, whether brownfield or suburban superblocks, do not have that capacity to easily change. Instead of letting market analysis, which by definition is always short term, determine how territory is organized, the territory should be thought of as a part of a city and organized into patterns of lot, street, and block structures that are empirically proven to work. In great cities, land and economic use adapts to urban form and structure, not vice-versa, enabling the continuing changes and processes of economic development.

Layering of Infrastructure – Not Isolated Systems

How a territory is internally organized brings into discussion the third principle: layering of infrastructure. The traditional street grid has provided efficient organization of territory, accessibility, and mobility. However, widespread acceptance and use of a hierachal street system – arterials, collectors, and distributors – has shifted the focus more

The permanent nature of infrastructure necessitates that it reclaim its traditional ability to function as a critical organizing element, serving as the skeleton for a given site or larger territory. This is particularly important since one of the main forms of economic development incentives is to fund infrastructure improvements.
Infrastructure outlasts land uses and should be designed as such.

towards mobility almost to the point where any other design element has disappeared. Historically, streets have not only provided for vehicular movement, but they have shaped public space, encouraged economic development, incorporated the needs of transit and pedestrians, and connected to other urban infrastructure systems like water management and power distribution (Jacobs 2003, Mossop 2006).

The permanent nature of infrastructure necessitates that it reclaim its traditional ability to function as a critical organizing element, serving as the skeleton for a given site or larger territory. This is particularly important since one of the main forms of economic development incentives is to fund infrastructure improvements. Infrastructure outlasts land uses and should be designed as such.

Definition of Boundaries – Not Construction of Barriers and Buffers

Definition of boundaries, the fourth principle, underlies both the principles of organization and infrastructure and focuses on how brownfield sites are physically connected or bound to their surrounding context. One aspect of binding a site to its context is physical connections – extending streets to connect in as many places as possible with the surroundings. But it is also about economic connections – the economic processes on one site are bound to others. Some of these may be digital where distance does not matter, but many are physical.

Just as walking distance makes a difference between housing and retail, proximity is also important for business, manufacturing, and other uses. In fact, proximity makes many ‘green’ processes possible, which is fundamental to brownfield redevelopments. This is the opposite of conventional, especially suburban, real estate development practices, which are based on separating residential from office and retail uses with buffers and barriers that destroy community connectivity.

Creation of Public Space – Not Privatizing Space

The last principle, creation of public space, deals with physical design and the redevelopment process itself. As design, the principle of creating public space serves as an extension of the boundary, infrastructure, and organization conditions by des-

ignating locations for key public parks and programs. However, as process, creation of public space implicates public involvement in making spatial choices beyond the standard practice of reviewing and approving completed plans for redevelopment. True creation of public space validates surrounding communities, attracts users, and catalyzes development (Frenchman, 2004). Of course, it also strengthens economic development processes. In other words, public space “fertilizes” the economy.

In the next section, we examine how our case study satisfies the five key principles for weaving urban design and economic development for brownfield redevelopment.

ATLANTIC STATION, ATLANTA, GEORGIA

Atlantic Station is the name used to brand the redevelopment of the 138-acre site of the former Atlantic Steel Company foundry and rolling mills in central Atlanta. As the domestic steel industry collapsed in the 1980's, the plant became obsolete and its proximity to Atlanta's central core guaranteed its redevelopment eventually. With the maturing of the Atlanta Midtown district in the 1990's, the time was right for redevelopment to proceed. In 1996, the complex was sold to a joint venture partnership of Jacoby Development and AIG Global Real Estate.

The development team had ambitious plans for the site, which at buildout was projected to contain 12 million square feet of residential, retail, and office space with a major cultural facility (Table 1). However, formidable financial and environmental challenges mandated public subsidies, and both the city of Atlanta and the US EPA became involved. The promise of 20,000 new jobs and \$30 million in annual tax revenue prompted the city to create a TAD (equivalent to a TIF district elsewhere in the country) to issue bonds to cover infrastructure and remediation. At the same time, EPA recognized the potential for improving regional air and water quality with a transit-supportive Smart Growth project, and granted the development Project XL status, allowing the team to override Atlanta's air quality non-compliance Consent Decree to obtain funding for a major interstate bridge. However, both the TAD and Project XL processes were contingent on community involvement and premised on public benefits of Smart Growth design principles such as pedestrian connectivity and mixed-use development.

Since Atlantic Station's substantial completion in 2006, it has been praised as an economic and design success and a case study for large-scale brownfield reclamation. With an investment of more than \$2 billion, it is cited as the largest brownfield redevelopment project in the U.S. It has received an EPA Phoenix Award, accolades from unlikely combinations of sources like the Urban Land Institute and the Sierra Club, and national media coverage. It has become the de facto model for industrial redevelopment in Atlanta. Although laudable for its moving a

TABLE 1. Atlantic Station Development as of Spring 2008

Retail
■ Total retail in project: 1.5 million square feet with 75 retailers
■ Largest retailers – 226,953 sf Dillard's department store; 366,000 sf IKEA; 150,000 sf Target; 86,989 sf 16-screen Regal Cinema; 30,301 sf Publix grocery
Residential
■ Apartments: Park District, 231 units (\$28 million); Icon, 242 units (\$31 million); ATL Lofts, 303 units (above the mall buildings, \$71 million); 17th Street Lofts, 156 units (estimated \$25 million); Metro, 200 units (estimated \$25 million)
■ Student Apartments: The Flats, 86 units / 281 students (\$17 million)
■ Condos: Art Foundry, 347 units (\$48 million); Element, 322 units (\$55 million); Twelve, 404 units; The Atlantic, 303 units
■ Townhouses: Beezer, 56 units
■ Single-Family: Beezer, 34 attached, 12 detached
Hotel
■ Twelve, 101 rooms
Office
■ 171 17th Street (Wachovia) - 22 stories, 510,000 sf (leased up)
■ 201 17th Street – 17 stories, 350,000 sf (recently completed)



Figure 1: JDI-AIG First Plan

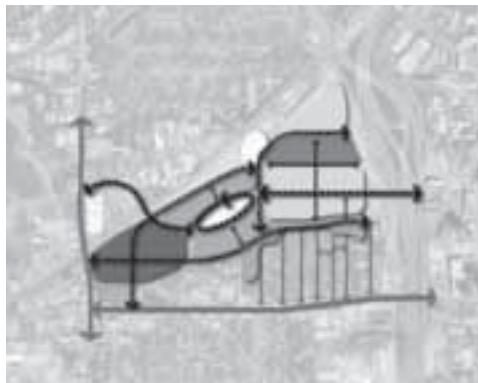


Figure 2: JDI-AIG Second Plan



Figure 3: DPZ Plan

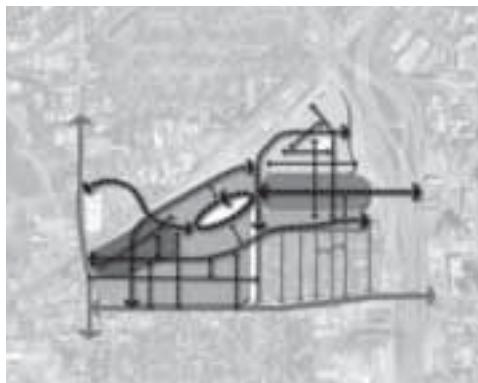


Figure 4: JDI-AIG Final Plan

complex project forward, the design and development process and final master plan of Atlantic Station offers important and cautionary urban design lessons that apply to other large-scale brownfield redevelopments. The process involved the Jacoby Development and AIG (JDI-AIG) original plan, two subsequent revisions, and a final one that was approved for construction with minor changes.

The first JDI-AIG plan (Figure 1) was based on a suburban model of land use compartmentalization that the developer was familiar with from prior projects. The master plan proposed three distinct development areas – a retail mall, a multifamily residential complex, and an office park – separated by landscaped buffers and linked together by a new arterial street crossing the Interstate 75/85 on the east to connect with Midtown Atlanta. Facing criticism from the city of Atlanta and the Midtown Alliance, the team went back to the drawing board attempting to change the project from a typical suburban format to an urban one.

The second JDI-AIG plan (Figure 2) reflected the influence of the city of Atlanta and Midtown Alliance's urban design objectives, and stakeholder voices that became involved in the process through the city's Neighborhood Planning Unit development review framework. Adoption of Smart Growth principles led to the use of higher densities, mixed uses, and increased pedestrian and transit accessibility. Still, although the appearance of the

Jacoby plan changed, the initial compartmentalized land uses remained, though diversified by the inclusion of a mixed-use district on the east. Likewise, although the expanded street network attempts to improve connectivity, it is still subservient to development in its hierarchical pattern of main arterial, peripheral access roads, and centralized themed streets. An 8,000-space parking deck was added to cap the eastern portion of the site and support the mixed-use, retail, and office activity.

EPA recognized the need for an independent benchmark against which the Jacoby plan could be measured, and so retained the Smart Growth planning firm of Duany Plater-Zyberk (DPZ) to conduct a public involvement process to develop an alternate master plan. The DPZ plan (Figure 3) abandoned the idea of land use compartmentalization and instead created a street network based on the traditional urban subdivision, continuing the adjacent Home Park neighborhood block format into the Atlantic Steel site. Although DPZ preserved some of the design concepts of the Jacoby plan, its solution is largely non-hierarchical and assumes incremental flexibility in locating land uses. Where the Jacoby plan favors development projects over the public framework of streets, the DPZ plan inverted this arrangement.

The final JDI-AIG plan (Figure 4) shows some incorporation of DPZ ideas but is largely the same diagram as its previous plan. Minor streets have

been added to increase internal and external connectivity, but the fundamental concept of functional street hierarchies supporting discrete land use districts remains. Connections to Home Park are marginally improved, though in practice a combination of medians and one-way restrictions make this very difficult.

In the years since its opening, Atlantic Station has been praised for its real estate development prowess, but criticized for its design shortcomings. Many first-time visitors to the retail district comment on its strong similarity to a traditional mall even though they expected to find a more urban experience. Though they may perceive the problem as a failure of aesthetics, they are in fact responding to the difference between the Jacoby and DPZ



Figure 5: Monolithic buildings and sites constrain future incremental development

teams. The principles discussed here are clear in the DPZ approach and mixed in their use in the Jacoby plan. The Jacoby plan, reflecting its origins and the multiple revisions in the design process, is caught between suburban, short term, land use driven development and a more urban approach organized for changes over time and the weaving of site, community, design, and economic development processes.

INCREMENTAL DEVELOPMENT

Atlantic Station developed quickly, aided by the extraordinary growth of the region and the central city, and the easy access to investment and mortgage funds for the developers, purchasers, and tenants. Additionally, the very large public subsidies for remediation and infrastructure effectively made the land cheap when compared to inner city Atlanta

real estate prices. Further, the subsidies enabled the construction of the 8,000-car parking garage in advance of any space for sale or lease, resulting in a fully prepared and “parked” site at a cost below other developable properties in the area. This is an extraordinary bonus for any real estate project, much less a brownfield. Incremental growth and development was not needed in a project that sat outside the normal constraints of real estate and brownfield practice. However, the ability to accommodate incremental growth may be of consequence in the future as the economy slides into a recession, the mortgage and investment problem continues, and Atlanta’s growth slows. Atlantic Station has few places that provide a framework for incremental growth, and future redevelopment will by necessity rely on large and heavily-capitalized players to be successful (Figure 5).

ORGANIZATION OF TERRITORY

This principle of design illustrates a major shortcoming in Atlantic Station. Although the project attempts to create a street grid, land uses, and typical buildings footprints, it organizes the site into three parts: a shopping mall on top of a 30-acre parking garage (Figure 6), an apartment development surrounding a 2-acre lake, and an IKEA store.

Essentially, one-third of Atlantic Station depends on the IKEA for its vitality. While the store is the first IKEA in the Southeast and draws customers from far outside the Atlanta region, what happens when the retailer decides to relocate to a new site to expand its business or change its format, as big-box retailers typically do? The present site has been highly customized for IKEA and will require substantial if not wholesale change and reinvestment to redevelop. Had the plan been organized with typical urban blocks, IKEA would have simply conformed to the framework, enabling easy transitions to other buildings and uses in the future. Even if



Figure 6: Parking deck below retail area

the IKEA building exceeded the dimensions of a single block, it would have been easy to combine blocks knowing that they could be re-subdivided at a later date. Other large-format retailers in the project like Target and Dillards present similar design arrangements; and even some of the housing blocks are so idiosyncratic in shape that efforts to subdivide would result in significant physical constraints.

The evidence from Atlantic Station reinforces the wisdom of traditional urban design practice where a large scale development site is subdivided first – not in isolation, but with knowledge of a number of possible building programs. In this practice, the

structure of lots, blocks, and streets is not determined wholly by land use but instead, governed by an understanding of cities and districts that have proven themselves resilient through endless economic cycles.

LAYERED INFRASTRUCTURE

One of the main forms of economic development incentives is to fund infrastructure improvements. Atlantic Station received \$50 million from state and federal funds for the construction of an essential bridge, while another \$170 million is being provided in three phases (the last occurs in 2010) through TAD financing. Atlantic Station would not have occurred without these public funding mechanisms, and these mechanisms can be important leverage for achieving layered infrastructure goals. Yet, given the functional hierarchies of the street network and the technical demands of conventional transportation planning, most of the streets in the project cannot fulfill these goals.

17th Street, presumably the most important public thoroughfare in the project, is a suburban parkway in disguise. It is a harsh environment for pedestrians as it bridges the interstate, despite the provision of sculptural sunscreens; it acts primarily as an interchange to funnel vehicles into Midtown (Figure 7). The condition at the west end is similar, with pedestrians subordinate to vehicles particularly in the intersection on the path to IKEA.

BOUNDARIES

Much of the disconnect between context, infrastructure, and development occurs at the project's internal and external boundaries. For example, the final plan fails to link the majority of its streets with the adjacent Home Park neighborhood (Figure 8). Additionally, the project's main north-south street rises to meet the mall and offices on top of the parking garage, creating a serious barrier between the development above and the remaining site at grade. The boundary condition is particularly important on a large brownfield site where its previous access had been highly restricted. It can be a critical influ-



Figure 8: Partial connections to adjacent neighborhood



Figure 7: Streets designed primarily for vehicular movement

ence in shifting perception of the site from one of restriction and isolation to one of access and invitation, thereby extending to the residents in the pre-existing neighborhood the benefits of the large public subsidies which made the project possible.

PUBLIC SPACE



Figure 9: Public space bisected and difficult to inhabit

Public space in Atlantic Station does not play a significant role in the development, contrary to the project's marketing materials. The main public square is located in the core of the retail district but because there is no intervening public right of way, it is a defacto front yard for the adjoining restaurants. It is also bisected by a sidewalk accessing an adjacent food court, making its two halves too small a place that is fully inhabited by the public (Figure 9). The other signature open space – Central Park – is primarily a storm water management device. The small lake it contains is fenced, making direct access impossible. Further, the slope from the surrounding streets to the lake is so steep the park is almost entirely unused (Figure 10 on the next page).



Figure 10: Stormwater basin with barrier

INSIGHTS AND ISSUES

It is estimated that Atlantic Station will take 10 years to complete, and many more years to mature and begin the processes of changing tenants, new uses, new buildings, and new designs for streets and open spaces. Thus, definitive conclusions on its ultimate success are premature. Yet, clearly, the conversion of the former Atlantic Steel brownfield site into Atlantic Station is a significant achievement by its developers and greatly benefits the city of Atlanta. However, the extraordinary level of effort required on the part of both the private and public sectors compels critical examination for lessons that can be used in future large scale brownfield

If brownfield redevelopment is instead seen as an urban design and economic development concept based on clear integrative principles, then these sites will have the potential to be transformed from isolated, environmental liabilities into integrated, vibrant amenities and economies that produce great places and, ultimately, great cities. Informed economic developers who use public incentives to strengthen the links between urban design and economic development have a significant role to play in their creation.

redevelopments of the scale and complexity of Atlantic Station. Our examination yields two important lessons.

The first is actually a warning, one especially warranted for the complex undertaking of brownfields. The first diagram developed for a project will resist change, because even if preliminary, it has already had commitments built into it. Thus, from the beginning, the design process must be collaborative and completed without haste. It will change only with colossal effort and, like Atlantic Station, will likely reappear as a major feature at the end of the planning process.

Second, in the maturing practice of large scale brownfield redevelopment, developers have come to expect significant public assistance such as that received by Atlantic Station. But without a commitment to the collaborative planning and design

process from the beginning, the extraordinary public assistance for a private development project may not be justified. Further, the potential to be a model urban redevelopment project with positive externalities for the broader community will not be realized.

CONCLUSION: FROM BROWNFIELD SITES TO GREAT CITIES

The re-inhabitation of central cities and public funding of financial incentives have made brownfield redevelopment a far more lucrative opportunity for developers over the past decade. However, the redevelopment process remains virtually unchanged, maintaining a narrow focus on environmental remediation, site engineering, and short-term market demand. Land use drives the entire process. This approach does not recognize larger redevelopment opportunities based on a site's local and regional context. It also fails to provide a foundation for the subsequent rounds of economic development that are inevitable in our long-term process of creative destruction.

Further, despite an increasing amount of public money being used to fund incentives, development continues to overlook potential positive externalities presumably to avert risk and increase feasibility. The fundamental issue is that of uncertainty:

conventional brownfield redevelopment attempts to eliminate it, while urbanization thrives upon it. Deindustrialization, as only one process of urban development and a primary producer of brownfield sites, provides an invaluable lesson as to the impermanent nature of use and the inherent flaw in basing development decisions on such a dynamic variable. Urban design and economic development, in response, must accept change and forgo practices that promote static urban forms.

Instead, the two must focus their efforts on constructing frameworks that are capable of strategically guiding the development of a site or even a city over prolonged periods of time.

Whitman (2006) argues that brownfield redevelopment is ultimately a real estate concept that succeeds or fails, in each case, based on real estate principles (p. 27). If brownfield redevelopment is instead seen as an urban design and economic development concept based on clear integrative principles, then these sites will have the potential to be transformed from isolated, environmental liabilities into integrated, vibrant amenities and economies that produce great places and, ultimately, great cities. Informed economic developers who use public incentives to strengthen the links between urban design and economic development have a significant role to play in their creation.

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Slater Barr, CEcD, is CEO of Carroll Tomorrow, Carroll County Chamber of Commerce, The Burson Center. (slater@carroll-ga.org)

CONTEXT

Carrollton, Georgia, is a city of approximately 23,000 located 49 miles southwest of Atlanta, Georgia. In the late 90's, community leaders faced major challenges. The community's historically strong manufacturing base was starting to erode. Calculations showed that the area suffered a net loss of almost 1,200 jobs in the industrial sector from 1997 to 2001. Although the community was losing key jobs, it simultaneously faced serious residential growth pressures as Atlanta's growth turned an eye towards the west. In fact, from 2001 to 2006, Carroll County was listed by the U.S. Census

Bureau as one of the 100 fastest growing counties in the nation.

Astute local leadership foresaw a potentially devastating scenario. Two prominent business leaders, concerned about local economic trends and their impact upon both their businesses and their community, led efforts to revitalize Carroll County. Specifically, Loy Howard, CEO of Tanner Health System, and Roy Richards, Jr., chairman of Southwire Corporation, discussed the very real possibility of a shrinking local job and tax base coupled with increasing demands for community services due to rapid residential growth. Since much of the residential development was due to markets created by Atlanta's sprawl marching to the west, many of the new homes were priced in a range insufficient to generate enough tax revenues to compensate local governments for the cost of services provided to the new households.

This concern was verified by a 2002 study, "Service Costs and Revenue Streams of Different Land Uses in Carroll County, Georgia" by Dr. Jeffrey Dorfman of the University of Georgia. In it, he states,

...the break-even home value for Carroll County [is] \$122,000 (the average home value in 2001 was \$120,000) ... While the county government breaks-even on a \$122,000 [home], they are just one government entity in the county. From the school system perspective, the results are quite different. If a home contains just one child attending the public schools, the break-even home value jumps to \$184,000 (from the point of view of the schools' budget). Thus, the county government will be earning a fiscal surplus off a house with a single child long before the schools. With two kids in school, the break-even home price increases to \$331,000. For three and four children in a household, the break-even

AN ECONOMIC DEVELOPMENT STRATEGY

An inclusive, broad-based planning process in Carrollton, Georgia, addressed community problems holistically, recognizing the interplay among social, economic, and environmental issues. Although the plan wasn't designed around "creative class" strategies, the inclusive nature of the process engaged and empowered the community's existing creative class workers. As they worked to plan the type of community that they desired, by default they helped create a community attractive to their peers, other members of the creative class. Involving the creative class in the creative process of planning a better community is, in itself, an amenity that nurtures their attraction and commitment to a place.

prices rise to levels far above the home prices in all but the most exclusive community.¹

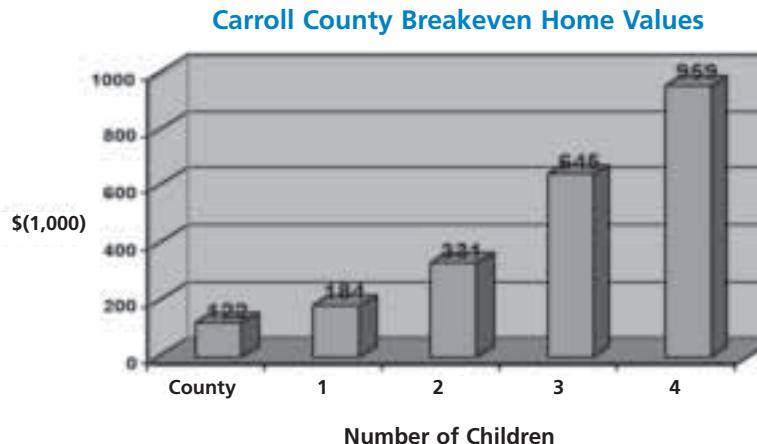
Howard and Richards organized a small group of government and business leaders, who agreed to fund a strategic planning process to address the pending crisis. Market Street Services, a leading economic and community development consulting firm based in Atlanta, Georgia, was hired to analyze and define community issues, followed by facilitation of the community's own strategic plan. The community analysis consisted of an economic and demographic profile, a business climate analysis, focus groups and surveys to measure community perceptions, and research on target business clusters. The conclusion of the study's demographic and economic analysis stated,

The findings of this research identify several challenges facing Carroll County. Low levels of wealth creation in Carroll County are foremost among these. The per capita income – one of the most direct indicators of wealth creation and overall economic strength – in Carroll County is below the benchmark communities, state and national levels. This limited wealth creation is a function of the occupational structure, the local business mix, and the low educational attainment levels of residents.²

Approximately 300 volunteers, representing a broad cross-section of the community, participated in the subsequent planning process over a one-year period. Representatives of various stakeholder groups, interested in specific aspects of the plan, were identified and asked to serve on committees appropriate to their interests. The spectrum of issues addressed in the plan was equally broad and inclusive. Committees were organized into five key areas of focus or goals: (1) A Stronger Economy, (2) Quality Workforce & Education, (3) Enhancing the Quality of Life, (4) Planning & Infrastructure Development, and (5) Local Government & Leadership.

The resulting strategic plan became known as the Carroll Tomorrow Economic Development Strategy and included 37 objectives with 239 action items. After some deliberation, the community decided to create a new 501(c)(3) public/private partnership to oversee the plan, encourage others to take direct action on the various items, and to track their success or failure. This new entity assumed

The community analysis consisted of an economic and demographic profile, a business climate analysis, focus groups and surveys to measure community perceptions, and research on target business clusters.



the name of the strategic plan and became known as Carroll Tomorrow. Staff for the new organization was hired in 2001 and a prioritized version of the overall strategic plan was unveiled in early 2002.

CREATIVE CLASS STRATEGIES

Later in 2002, economic development circles were buzzing with the publication of Richard Florida's treatise on *The Rise of the Creative Class*. Dr. Florida's research explored the importance of the "creative class" – people who added value to their products by the application of their intellect and creativity. His definition crossed traditional segmentation of occupations and included highly creative occupations ranging from entrepreneurs and business management to science and engineering, from arts and design to architecture and entertainment fields.

Dr. Florida's compelling arguments had many economic developers declaring that the "era of smokestack chasing is over; the creative class analysis suggests that chasing talent is a viable alternative for sparking local growth."³ According to US Department of Agriculture researchers McGranahan and Wojan,

The geographic mobility of the creative class is central to Florida's thesis. He argues that people in these occupations tend to seek a high quality of life as well as rewarding work, and they are drawn to cities with cultural diversity, active street scenes, and outdoor recreation opportunities. Good local universities alone will not lead to local economic dynamism as graduates may move to more attractive places upon obtaining their degrees. In this context, the key to local growth is to attract and retain talent, as talent leads to further job creation.⁴

However, Dr. Florida's work concentrated on urban areas with high concentrations of young, "hip", creative class workers. Only recently have researchers started examining the potential for cre-

ative class strategies in more rural communities. Again, referencing McGranahan and Wojan,

The creative-class analysis suggests that rural growth depends greatly on the attractiveness of rural communities, their landscapes, and their climates... Despite an urban affinity, the creative class – perhaps more able and apt than others in the workforce to choose where to live based on quality-of-life considerations – can be drawn out of cities to high-amenity rural locations.⁵

CREATIVE BY NATURE, IF NOT DESIGN

The inclusive nature of the public input into the Carroll Tomorrow Economic Development Strategy created a very broad, balanced approach to improving the entire community, rather than dealing with individual issues in isolation. Although the plan was developed slightly before the publication of *The Rise of the Creative Class*, many of the objectives and action items directly addressed the amenities required to attract creative class workers. Furthermore, the planning process engaged and empowered the creative class workers already existing in the area to become directly involved in creating the type of community that they desired. In short, although the plan was not directly designed to attract creative class workers, the plan's focus on building a better community, not just a better economy, naturally included many elements common to creative class strategies.



Filming "Conjurer" took place in several locations in Carroll County

For example, under Goal 1: A Stronger Economy, the strategy lists the objective of "Promote entrepreneurial development and the expansion of small businesses," with the action step "Secure funds and partners to jointly operate a business incubator focused on new businesses and technology start-ups." Goal 2: Enhancing the Quality of Life, includes the objective of "Promote the development of more local cultural activities and facilities, special events, and diverse entertainment venues" with the action steps "Support the development of the

Carrollton Cultural Arts Center in downtown" and "Expand the role of the Carroll County Cultural Arts Alliance." Similar action items throughout the plan address zoning and design standards, green-space preservation, and the development of a greenbelt, among many others.

WORKING THE PLAN

From 2002 through 2007, Carroll Tomorrow staff and volunteers focused on achieving each of the action steps in the strategic plan. Significant progress was made on most, but not all, of the items in the plan. Other worthwhile initiatives, not directly associated with the plan, gained momentum due to the interrelationships among all of the economic and social issues.

The city of Carrollton, through its Main Street Program, aided efforts by local developers to revitalize Adamson Square, center of the historic business district. With a \$1.2 million streetscape, mainly funded through a TEA-21 grant from the U.S. Department of Transportation, redevelopment of this area accelerated. Adamson Square soon became an exciting, vibrant mix of restaurants,

In short, although the plan was not directly designed to attract creative class workers, the plan's focus on building a better community, not just a better economy, naturally included many elements common to creative class strategies.

shops, and offices. Galleries and studios have located just off the Square. The city's continued commitment to this area is further evidenced by the construction currently underway of a new parking garage to alleviate shortages of available parking.

Another city project was the Carrollton Cultural Arts Center, which includes an art gallery with rotating exhibits, four arts classrooms, a 260-seat theatre, and rehearsal spaces. Located adjacent to Adamson Square, the Cultural Arts Center maintains a busy schedule of performances, exhibits, and classes for the community. Here, investment in a facility directly led to the attraction of creative class talent. Today, the Carrollton Artist Guild touts over 200 artists as members.

As already stated, the creative class embodies far more than artists. Few endeavors require more cre-

activity than starting a new business. As previously mentioned, one of the strategic plan's action steps required the creation of a small business incubator to nurture those daring entrepreneurs. That action step became a reality through the generous donation by a local physician and entrepreneur, Dr. John Burson, of a 24,000 sq. ft. building. Carroll Tomorrow solicited grants from a variety of sources, including the U.S. Department of Commerce Economic Development Administration, the Appalachian Regional Commission, OneGeorgia Authority, the city of Carrollton, and the Development Authority of Carroll County. In all, \$1.6 million was raised to renovate and furnish the new incubator.

The Burson Center mixed-use incubator opened in July of 2006. Today the facility is fully occupied and Carroll Tomorrow has started planning an expansion. Calculations show that, after just one year of operation, the incubator is servicing 23 tenant clients, creating 51 jobs with an average salary of \$26,000, with direct capital investment of over \$2.5 million.

Often, attracting super-creative personalities, particularly those with an entrepreneurial bent, leads to new business creation and the attraction of other creative occupations. Such was the case of entrepreneur Richard Mix and his selection of Carroll County as his home in 2001. Mix says, "At the time, my wife and I were constantly traveling. We were primarily looking for a location that had quick access to Hartsfield International Airport and Atlanta's amenities, but we also wanted a great quality-of-life in a more rural setting. The thing that impressed me about Carrollton was that it wasn't a stale community. It was obviously very progressive and was moving forward with a plan and a purpose."

In addition to being one of the world's foremost experts in Coca-Cola bottle collectibles, Mix had served as executive producer of the independent film "Terror Tract" back in 2000. He dreamed of bringing the film industry to his new home and initiated several discussions about the potential of film production in Carrollton. His encouragement led Carroll Tomorrow to open the Carroll Tomorrow Film Office to promote Carroll County as a location for the film industry.

In 2007, his persistence paid off, as he partnered with Red Five Entertainment from Los Angeles to film the psychological thriller "Conjurer" in Carrollton. The film headquartered in The Burson Center and starred Andrew Bowen (MAD TV, ER, The Work and the Glory), Maxine Bahns (Steam, Driving Me Crazy), and John Schneider (Dukes of Hazzard, Smallville). Carroll Tomorrow took an



The Burson Center incubator

equity position in the film in lieu of rent at The Burson Center incubator. Filming took place in several locations in Carroll County with the main story set at an old farmhouse in Whitesburg, Georgia.

The movie generated a tremendous amount of publicity for the incubator and for the viability of film production as a new industry. One local businessman, Randy Simpkins, was so impressed with the filmmakers' business model, potential rate of return on investment, and quality of product, that he approached Red Five Entertainment about becoming a business partner. After negotiations, the deal was struck and Red Five Entertainment relocated its offices to Carrollton. Now, Red Five is working on its next film project, to begin shooting in summer, 2008.

BUT IS IT WORKING?

These examples provide anecdotal evidence, at best, to support our contention that consistent, systematic focus on a strategic plan generated by a broad-based group of community leaders can improve a rural community's attractiveness to the "Creative Class." Conventional methods of measuring economic development demonstrate success in recruitment and expansion. Since 2001, Carroll Tomorrow's projects have resulted in over 2,000 direct jobs, almost \$350 million in new capital investment, over \$6 million in grants, and a Net Present Value calculation of over \$12.5 million in additional tax revenues. However, these figures don't directly reflect any measurement of an improved ability to attract creative class workers to the community.

Census data does show that, over the period 2000 to 2006, Carroll County's population grew 34.4 percent in the 25-34 age group compared to 5.9 percent for the Atlanta MSA, 3.0 percent for Georgia, and 0.0 percent for the United States. For the 35-44 age group, Carroll County's population increased by 17.9 percent compared to 19.9 per-

Percent Change in Population by Age Group 2000-2006

	Carroll County	Atlanta MSA	Georgia	United States
Under 17	21.2%	25.0%	13.0%	2.0%
18-24	11.4%	17.2%	12.6%	9.4%
25-34	34.4%	5.9%	3.0%	0.0%
35-44	17.9%	19.9%	8.8%	-2.8%
45-64	29.3%	46.3%	29.2%	21.0%
65 & older	20.2%	30.9%	15.5%	6.3%

Source: U.S. Census Bureau, compiled by Market Street Services

cent for the Atlanta MSA, 8.8 percent for Georgia, and a negative 2.8 percent for the United States.

Finally, an examination of a few key creative class job categories shows significant growth over the last few years. According to the Bureau of Labor Statistics, from 2004-2007, "Information" grew by 22 percent; "Finance and Insurance" by 22 percent; "Professional and Technical Services" by 33 percent; and "Arts, Entertainment and Recreation" by 54 percent. This compares to a total job growth over the same period of 15 percent.

WHAT'S NEXT?

The community continues to work on the remaining steps from the 2002 plan. Progress can be seen across the entire breadth of issues addressed in the plan. However, several issues have proven particularly "sticky" and difficult to solve. Substantial increases in per capita income remain elusive, teen pregnancy rates are still high, and school drop-out rates are unacceptable. Yet, progress is being made, even in these more difficult areas, and the community's commitment to the plan and planning process remains strong. Currently, several new initiatives are under development that should prove particularly attractive to creative class workers.

Carroll Tomorrow plans to expand The Burson Center small business incubator with a particular focus on the music, film and video industry. We feel that the right combination of facilities and services could be particularly attractive to independent film producers. A 2006 Motion Picture Association of America report shows that approximately 85 percent of these firms employ fewer than 10 people, meaning that the motion picture and television production industry is largely entrepreneurial.⁶

Technological changes are improving the prospects for independents with lower production costs and access to far more distribution channels. The "Hollywood model" of assembling teams of independent employees/companies for a brief period to produce a product seems well-suited to the incubator environment.

The University of West Georgia, with over 10,000 students, is a major economic engine in Carrollton's economy. Projections show extraordinary growth fueled by metro Atlanta's population growth and demographic age projections. With limited space on campus to accommodate this growth and in recognition of the importance of the university to the local economy, the city of Carrollton has donated over 200 acres of land adjacent to campus to relocate intramural fields, sports facilities, etc. to free up space on the main campus for academic needs. In addition, athletic boosters and the community are raising funds to construct a new football stadium on the donated acreage.

Although the university features a very attractive campus, much of the surrounding commercial area has less attractive strip centers, auto repair shops, and fast food restaurants. A Carroll Tomorrow sponsored committee is hard at work examining the possibility of creating an Arts & Entertainment District linking the university with the excitement of downtown's Adamson Square.

According to committee chairman Woody Cole, "I truly believe that our efforts will transform the Maple Street corridor into an exciting, vibrant mix of restaurants, coffee shops, art studios, galleries, and boutiques. This committee has a unique opportunity to assist with the growth of one of our largest economic engines, the University of West Georgia. Not only will our work create the appropriate environment surrounding a prestigious university campus, the resulting higher quality-of-life benefits us all. Whether it is the university attracting students or faculty, Tanner recruiting new doctors, or Southwire seeking to hire executive talent – everyone gains as we improve the appearance and function of our community."

The city of Carrollton continues to be a major ally in these efforts as it adds to the area with the Carrollton greenbelt, creating a 12-foot-wide bicycle trail surrounded by greenspace through this area and, ultimately, around the entire city. Discussions are also underway about the creation of a business park near the university, oriented towards technology-driven industries.

Finally, with many of the action steps completed from the original strategic plan, Carroll Tomorrow has again engaged Market Street Services to assist with developing a new, community-driven strategic plan, building upon the success of the original. As before, the organization will stress inclusiveness and broad participation.

CONCLUDING THOUGHTS

This story exemplifies the quote by noted anthropologist Margaret Mead, "Never doubt that a small group of thoughtful, committed citizens can change the world. Indeed, it is the only thing that ever has." For Carroll County, two committed community leaders, Loy Howard and Roy Richards, Jr., put into place a process that emphasized inclusion, strategic planning based upon detailed analysis, and a deep belief that community issues must not be addressed in isolation. A holistic approach must be pursued.

The process shows that, if you can bring together a broad cross-section of a community's existing creative class and empower them to build the type of community in which they wish to live, you will by default create a place attractive to other creative class workers.

Finally, and perhaps most importantly, this process must be nurtured and sustained, year after year, until it becomes an integral part of your community's culture. The article has already discussed the geographic mobility of the creative class and the importance of a high-amenity lifestyle. Perhaps the greatest amenity that most cities can offer to their creative class residents is simply to include them in the process of "creating" their own community – physically, as well as socially. 

ENDNOTES

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moving into the future

By Russell K. Williams, Jr., Donna K. Fisher, Ph.D., and Cheryl Tatum



Gateway Regional Industrial Park in Bulloch County has quickly emerged as one of Georgia's fastest-growing industrial centers. Located three miles south of Statesboro, Georgia, on U.S. Highway 301, Gateway encompasses 953 acres and is just six miles from Interstate 16. The park is currently occupied by Wal-Mart's 2 million square foot distribution center which is located on a 164-acre site, Statesboro's Briggs & Stratton manufacturing facility and Viracon's glass fabrication facility. Growth in manufacturing and distribution has contributed to the increased demand for housing in the county.

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INTRODUCTION

Nelson & Lang (2007) suggest that the US will add the next 100 million people by the year 2037. This growth implies that 70 million additional housing units will be needed over the same period. Moreover, Nelson (2006) speculates that housing demand for detached houses on large lots will continue to decline. This article transforms these phenomenal growth numbers to the local level by looking at how a rural county in southeast Georgia might achieve sustainable growth in housing and population. Rural areas, without sewer service, rely on individual septic systems for wastewater dis-

posal. In 2006, more than 59 percent of Bulloch County's 63,207 residents lived outside the incorporated areas, up from 51 percent in 2004 (Census, 2006). The county's population growth of 19.2 percent over the last decade (UGA, 2008) indicates a need to examine environmentally friendly alternatives to traditional septic systems. This article details the options being considered by Bulloch County in its attempt to adapt sustainable, smart growth policies.

Coastal Georgia, as one of the state's fastest growing regions in terms of population and economic growth, has experienced two major droughts over the last decade. New York City's Department of Environmental Protection Commissioner Joel Miele, Sr., P.E. indicates, "[a]s a sanitary engineer, I would not want to install a septic system in an area that may be dry in a drought, but have saturated soils during years of normal rainfall. That can only lead to improperly functioning septic systems, causing contamination of the environment, streams and reservoirs, as well as problems for the owner of the defective system down the road," (NYC DEP, 2001). Moreover, C. Ronald Carroll, professor of ecology at the University of Georgia, affirms that to promote sustainable growth means "saying no to new developments that depend on septic tanks," (Hoslinger, 2007).

Nevertheless, throughout the state of Georgia, rural areas rely on septic tanks to dispose of bodily waste for small commercial, industrial, and residential construction. Septic tanks act as the most conventional system when properties fall outside the service areas of municipal and private wastewater treatment facilities. However, anecdotal evidence suggests that perhaps up to 30 percent of septic systems fail annually, causing, in the worst case, degradation to groundwater (drinking water) supplies.

SOLUTIONS FOR WASTEWATER TREATMENT IN RAPID GROWTH AREAS

New rural construction, which falls outside the service areas of municipal wastewater treatment facilities, typically relies on septic systems for wastewater treatment. However, anecdotal evidence shows these systems to be less than reliable. In areas experiencing rapid growth, environmentally friendly alternatives need to be explored to ensure continued smart growth. This article focuses on the factors driving economic growth in Bulloch County, a fast growing rural area in southeast Georgia. Next, we compare two waste disposal systems that could substitute for traditional septic systems. When taking into account extreme potential environmental costs associated with septic systems, these smart growth alternative systems become a more attractive option.

Bulloch County is strategically located in rural southeast Georgia about 60 miles west of Savannah (see Figure 1). Employment has increased by 14.5 percent over the last decade, compared to the state's 13 percent increase during the same time period. Quality of life, proximity to major transportation venues (the GA Port in Savannah and interstate I-95), and southern charm enabled Bulloch County to attract a Wal-Mart distribution center (serving the entire east coast at the time of construction), Briggs and Stratton (engine manufacturer), and Viracon (tempered glass products manufacturer). Other strong industry sectors include retail trade, transportation and warehousing, health care, food service, and government. The largest employer, Georgia Southern University, is a public, regional university serving 58 of the 159 counties in the state.

The county experienced steady growth over the last several years. In fact, over the last decade, Bulloch County's population grew by 19.2 percent (UGA, 2008). Therefore, with 59 percent of its population living outside incorporated areas (Census, 2006), examining alternatives to the traditional septic systems is warranted if the county wishes to maintain continued sustainable, smart growth.

A variety of community wastewater sewage package units can serve as alternatives to the traditional septic tank system. These units replace the use of septic tanks, and in some cases provide water as well. Furthermore, these units can handle wastewater for larger communities or subdivisions. This article focuses on the factors driving growth in Bulloch county including: population, housing, commercial and industrial development, subdivision development, and future development projections. Next, we compare two waste disposal systems that could substitute for traditional septic systems. Only through smart growth that sustains the environment will the county continue to thrive and prosper.

FIGURE 1. Bulloch County

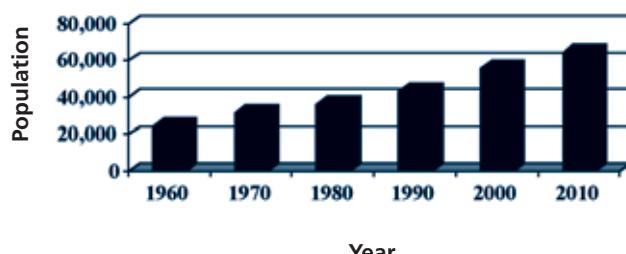


Source: Bulloch County

GROWTH IN BULLOCH COUNTY

As shown in Figure 2, the population of Bulloch County more than doubled between 1960 and 2000 (Census Bureau, 2003). The population in 2006 topped 63,200, well on the way to the 2010 projected level of 64,275 (UGA, 2008). Population growth will continue to drive demand for new housing in the area.

FIGURE 2. Bulloch County Population Estimates



Source: Census Bureau & UGA

Nelson & Lang (2007) point out that a growing population precipitates an increase in the demand for housing. Between 1990 and 2000 permits for both single family dwellings and manufactured homes increased significantly, 24.8 percent and 59 percent respectively (BCBID, 2004). The proliferation of manufactured homes may be attributed in part to the enrollment growth of 16 percent at Georgia Southern University (BCBID, 2004; GSU, 2002; GSU, 2006) and also to the relative cost of manufactured homes compared to site-built homes. The housing permits examined encompass the unincorporated area of Bulloch County, which excludes the municipalities of Brooklet, Portal, Register, and Statesboro. Since 2000, manufactured housing has been declining, while site-built homes have steadily increased during this same period (BCBID, 2004). In 2006, 205 manufactured home permits were issued in the unincorporated areas of the county. Industrial growth since zoning adoption (1994) includes the Wal-Mart Distribution Center, Briggs and Stratton, and Viracon to name a few. These companies also contributed to the housing growth in the county.

When zoning commenced in 1994, 139 subdivisions and 117 mobile home parks existed in Bulloch County (BCBID, 2004). By 2006, these numbers rose to 233 subdivisions and 118 manufactured home parks. Manufactured home parks have not increased substantially, due in part to more stringent regulations for new parks. In addition, manufactured homes are going into subdivisions rather than in manufactured home parks, with over 50 subdivisions now allowing manufactured homes.

TABLE 1. Subdivision Lots and Acreage

Year	Number of Lots	Total Acres
1996	226	109
1997	36	14
1998	21	498
1999	185	944
2000	439	664
2001	340	886
2002	385	668
2003	200	2,587
2004	434	5,547
2005	975	2,768
2006	817	3,026
2007	990	2,279

Source: Bulloch County Tax Assessors

New subdivisions utilized over 2,000 acres in 2003, as shown in Table 1 (BCBID, 2004). This growth has continued during the last several years with over 5,500 acres utilized in 2004, 2,700 acres in 2005, 3,000 acres in 2006, and 2,200 acres in 2007 (Bulloch County Tax Assessors, 2007). Population growth projections indicate that subdivision growth will continue in the near term, even though it may not be as rapid as in the past three years. Therefore, the Bulloch County Zoning Department is studying alternatives which allow for continued growth, yet limit the number of acres being consumed by subdivisions. In some subdivision locations, lot sizes range between one to 10 acres. While smaller lot sizes would encourage development with less land, smaller lot sizes are restricted by current sewage disposal standards.

Zoning has not hindered growth in the county. Even during times of economic downturn, Bulloch County has continued to grow. Part of this growth may be attributed to the increased student enrollment. Part may be attributed to the commercial and industrial growth in the area. Whatever the reason, one thing is certain, with economic growth comes a need for additional housing. Much of this housing development falls outside of the incorporated areas in Bulloch County. In other words, new residential development must rely on waste disposal systems other than those provided by cities in the county. As Bulloch County continues its strong record of economic development, the demand for housing will also increase. Smart growth dictates that alternatives to traditional septic systems be adopted.

WASTE DISPOSAL SYSTEMS

Bulloch County's steady population growth brought about an increase in wells, small community water systems, and septic systems. Consequently, there is rising concern regarding the

potential impacts of septic systems and contamination on the county water supply. Issues include septic system failure, inadequate septic system performance, environmental impacts, public health, and public safety.

Traditional Septic Tank Systems

A septic system is, simply put, a private sewage treatment plant receiving all wastewater from a household (De Cloet, 1995). Most are composed of a tank, a network of perforated pipes called the leaching bed or drainage field, and billions of microscopic organisms (Figure 3). The septic system itself has had very few technical improvements since its inception. The average life expectancy of a septic tank, under normal residential home use, is 20 years before the tank needs to be pumped out; however, this takes into consideration that no natural disasters or disruptions to the process of the system occur during the 20-year period.

The cost of a septic system for a single home differs due to numerous variables in a given region such as cost of supplies and labor, as well as the geology and topography of the specific location. The cost of a septic system for a three bedroom-two bathroom home in the Bulloch County area is \$5,150 (Adams, 2004). This does not include social costs or externalities for environmental damage or oversized lots (due to septic tank regulations). In the worst case scenario considered here, environmental costs include the soil damage repair and a new septic system installation to correct the faulty system. Resulting is the extreme of soil repair plus installation of a new system for a total cost of \$11,800. Soil repair generally refers to the reconstruction of drainage fields and elimination of contaminants from the soil. Ninety percent of septic system failures are due to malfunction of the soil in the drain field (www.septicseep.com).

In a subdivision with 200 homes, the installation cost is calculated by multiplying the per-unit cost by 200. While some economies of scale might be observed when purchasing in bulk, these would be offset by the storage costs of such a volume of materials. Soil conditions and technology determine the

FIGURE 3. Sample Septic Tank System

Source: www.septicseep.com

necessary lot size for an adequate septic drainage field and a safe distance from wells (DCA, 2008).

Over time, a septic tank accumulates solid material that must be removed. Moreover, raw sewage and potentially toxic chemicals will drain into the soil, contaminating wells, lakes, and streams. The environmental hazard affects property values as well. While septic systems do properly dispose of waste for a given amount of time, it has been demonstrated in many areas that over time these systems fail. If the tank is not properly maintained, ground and surface water sources become contaminated. As more septic systems are being placed into the ground, the chance of contaminated water increases (De Cloet, 1995). Table 2 describes Georgia communities with strict ordinances to ensure the proper maintenance of septic systems, and to minimize the adverse effects on the environment.

Bullock County presently does not provide community water or sewer system services outside the incorporated areas. To date, private developers in the county take the lead in providing their own water and sewer systems to developments outside of current service districts.

Environmental factors and worst case scenarios affect the cost of replacing or repairing a septic system. Depending on the factors that may be affected such as well contamination, or dangerous impediments in the soil, the system may have to be moved to a different location. In the extreme, a new well will have to be drilled in another location. The Environmental Protection Agency (EPA) notes that between 10 and 30 percent of septic systems fail on an annual basis (EPA, 2004). Moreover, 50 percent

of operational systems are over 30 years old. Sadly, most systems do not satisfy the EPA Clean Water Act requirements.

Bullock County presently does not provide community water or sewer system services outside the incorporated areas. To date, private developers in the county take the lead in providing their own water and sewer systems to developments outside of current service districts. This has resulted in several residential areas with multiple septic systems within a small geographic area (Thomas & Hutton Engineering Co., 2004). Because much of the population utilizes ground water in this area of the state (Fisher, et al, 2003), it is imperative to minimize contaminated discharges into the ground. In order to support the population influx that resulted from continued economic growth in Bullock County, smart growth alternatives to traditional septic systems must be considered. The following sections discuss two alternatives which minimize the adverse effects on the environment and thus foster sustainable growth.

Small Diameter Gravity Sewer System

A variety of community wastewater sewage package units exist. These units minimize the use of septic tanks and in some cases provide potable water.¹ More importantly, these units can maintain wastewater for larger communities or subdivisions. Figure 4 illustrates a Small Diameter Gravity Sewer System (SDGS) (EPA, 2000). Approximately 250 SDGS have been partially financed through the EPA, Construction Grants Programs. The cost of this system ranges in price depending on the site area, type of soil, number of consumers, and disposable area. The EPA (2000) estimates the system will cost \$57.89 per foot.

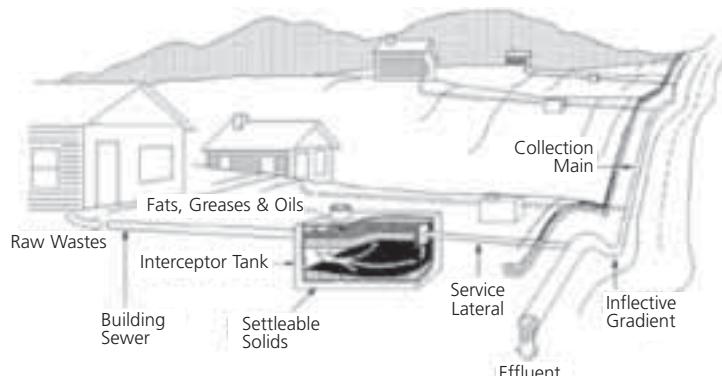
In the SDGS, a pipeline connects each dwelling to an interceptor tank, which catches all suspended solids, pushing these to the bottom of the tank. Fats, greases, and oils flow through the service lateral to the collection main. Unlike a septic system,

TABLE 2. Septic System Ordinances in Georgia

County	Requirement	Consequence
Douglas County	Pump septic tanks every 5 years	Disconnect water to houses along the county drinking water source river
Gwinnett	County provides information on septic system maintenance; has third party identify failing systems; tracks and catalogs septic systems	Not specified
Gwinnett—Berkley Lake	Inspection and service tanks every 5 years (lakefront homes)	\$500 fine and 60 days in jail

Source: Georgia Department of Community Affairs

FIGURE 4. Small Diameter Gravity System



Source: EPA, Office of Water, 2000

The SDGS allows for fast construction, making it attractive to developers, and unskilled personnel can operate and maintain the system.

in some cases water can be purified and redistributed to the homes if the treatment facilities are properly equipped. Otherwise the waste flows to a drip field. Minimal contamination transfers to the ground because sand filters break down the waste (EPA, 2000).

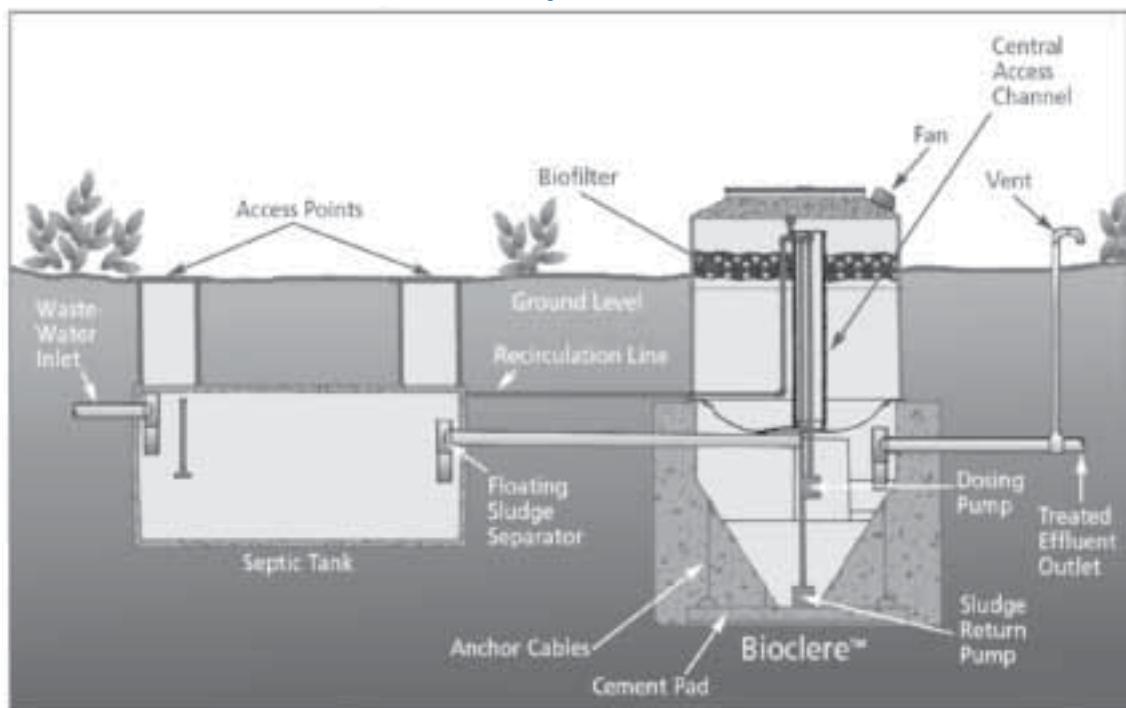
The SDGS allows for fast construction, making it attractive to developers, and unskilled personnel

can operate and maintain the system. The system's appeal increases due to minimal manholes, lower excavation cost of digging trenches for pipelines, and reduced material cost because of the small pipelines and one treatment center versus many separate operating septic systems. The operation and maintenance requirements for the SDGS system are similar to the septic system. Disadvantages include limited experience with the system. Also, large commercial wastewater with high grit and large settleable solids levels cause the system to fill faster than it can break down the waste.

Port Royal Estates, an 80-home subdivision in Texas, installed this system after conventional septic systems failed due to infiltration problems. The cost per residence was roughly \$3,500; however, the long term investment has paid off by alleviating the filtration problem (EPA, 2000). Georgia has one cluster type system located in Hall County (Harbour Point). Homeowners are responsible for installation and maintenance of their unit's septic tank and a wastewater filter. The community contracts with a private management company for monthly monitoring and maintenance for the communal drainage field (DCA, 2008).

The estimated cost of an SDGS for a 200-home community is \$2,017,233 and the per-unit cost is \$10,786, not including any potential EPA subsidies (McLendon Enterprises, 2004). The primary advantage of the SDGS over traditional septic systems is that only one drainage field is required per 80-200

FIGURE 5. Onsite Wastewater Treatment System



Source: Aquapoint Co., 2001

homes. This allows for smaller lot sizes, which appeals to developers. The size of the drainage field depends on the soil conditions and terrain.

Onsite Wastewater Treatment System

Another alternative to septic systems in residential areas is the onsite wastewater treatment (OWT) system. It is designed to handle commercial, residential, institutional, community, and light industrial wastewater. While this system functions quite differently than the SDGS, the distribution of waste is similar.

Figure 5 illustrates the system operations. Wastewater enters the septic tank from the pipelines within the community and separates floating sludge from solids. The waste is then transported to the central access channel of the OWT system where it is broken down by the biofilter. After the wastewater is purified, it can be pumped into a drip field (Aquapoint Company, 2001b).

FIGURE 6. OWT Community System



Source: Aquapoint Co.

This system is easy and relatively inexpensive to install and has a quiet treatment process. A potential disadvantage is the limited experience with long term use of the system. Furthermore, the high demand for these systems has resulted in a waiting list for installation (Aquapoint Company, 2001b).

The cost of the OWT system for a 200-home community is \$2,107,233, with a per-unit cost of \$10,536. Figure 6 illustrates the OWT system for a subdivision. The OWT system has been implemented in Piperton, TN (a suburb of Memphis), and at the US Naval Air Station, Guantanamo Bay, Cuba.

The increased demand for homes in small communities and lower density settings like rural Bulloch County make it costly to provide public sewer access. Available land suitable for conventional septic systems has become increasingly rare. Development in marginal soil forces the use of costly, land-intensive and often complex on-site systems

which require additional management. At the same time, local governments and developers must pay for the total sewer costs, previously subsidized by the federal government (EPA, 2000). These decentralized wastewater systems described here fill the gap between central sewer systems and septic tanks, providing a means to develop in more restrictive environments and with more cost-effective systems that can be managed economically (Dix, 1998).

MANAGING RAPID GROWTH

The SDGS and OWT systems provide a way for Bulloch County to manage the rapid growth in unincorporated areas. These systems are typically located on land owned by the developer. If the developer provides the system, the housing density can be increased, thus allowing the costs to be spread across more lots; costs often passed directly on to the homeowners. Initially, costs of these systems seem very expensive to consumers; however, the overall benefits to society of a more environmentally friendly system must be taken into account. The benefits far exceed the drawbacks of developing one of these systems to eliminate the proliferation of septic systems in the area.

The SDGS and OWT systems provide a way for Bulloch County to manage the rapid growth in unincorporated areas. These systems are typically located on land owned by the developer.

Developers who install these systems can provide potential residents with assurance of appropriate water and wastewater capabilities. This replaces the cost to residents of having to install septic systems for each lot and potentially contaminating the area. The developer benefits because residents will be attracted to an area where they can quickly hook up to the inexpensive, alternative system. Other benefits of these alternatives include increasing development density and the ability to overcome soil-based limitations compared to issues associated with traditional septic systems (Dix, 1998). Overall, the OWT system enables sustainable population growth in areas like Bulloch County that have experienced strong economic development.

Table 3 compares the cost of each system. It is up to the developer to decide which system is best suited for their area. The alternatives are clearly the less expensive option. As stated previously, the life expectancy of each system varies from region to region. External factors include construction of the systems, soil types, weather conditions, mainte-

TABLE 3. Sewer Disposal System Comparative Analysis

	Septic System	SDGS	OWT
Cost Per Household	\$11,800	\$10,786	\$10,536
Total (200) homes	\$2,360,000	\$2,017,233	\$2,107,233

nance, skill of labor, technology, and research and development affect the cost and life expectancy of each system.

Where the evidence of maintenance and depreciation of the septic system is clear, no data exist on maintenance and depreciation of the SDGS or OWT system over a 50-year period. However, with the data available and what we currently know about the systems, the major cost and life spans of these systems directly relates to the specific type and quantity of sewage being pumped through the system. Septic systems, when including costs to recover from severe environmental damage to drinking water systems, are the more costly alternative. Moreover, the advantage of the other systems is that they allow for a more dense development because of smaller lot size requirements.



Statesboro's Wastewater Treatment Plant for incorporated areas, while 59 percent of the population must rely on alternative systems.

Growth in Bulloch County will continue for the foreseeable future. In order to maintain environmentally viable economic and population expansion, county planners, economic developers, and zoning officials must adopt smart growth alternatives which enable the most efficient, effective use of scarce resources – in this case land and water.

CONCLUSION

Schultz (2004) identified Bulloch County (Statesboro, the county seat specifically) as a rural area of sustained economic development. Growth in Bulloch County will continue for the foreseeable future. In order to maintain environmentally viable economic and population expansion, county planners, economic developers, and zoning officials must adopt smart growth alternatives which enable the most efficient, effective use of scarce resources – in this case land and water.

Septic systems require significant space (land) to ensure adequate drainage so as not to contaminate ground and surface water supplies. Yet even when the land constraint is satisfied, the potential environmental degradation caused by faulty and failing septic systems must be mitigated. One viable alternative is to transition into more ecological waste management systems.

If Bulloch County decides to use one of these alternate wastewater treatment systems, the growth in the rural areas will be supported with minimal environmental damage in the future. There is no doubt that using alternative wastewater systems will benefit the county, from a governmental, developer, environmental, and residential standpoint. No matter which alternative is chosen, Bulloch County will continue to grow. 

This article is based on a study conducted in conjunction with the Bulloch County Board of Commissioners. The authors gratefully acknowledge financial support for this work received from the Georgia Soil and Water Conservation Commission, Contract No. 480-05-GSU1—1; and the U.S. Department of Agriculture, Award Document No. 2003-38869-02007-1; and the Georgia Southern University Coastal Rivers Water Planning and Policy Center.

ENDNOTE

1. Analysis of the cost of providing drinking quality water is beyond the scope of this article.

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Director of Membership and Development at 202-942-9460 or mcobb@iedconline.org



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NEWS FROM IEDC

What's Your Professional Development Plan?

Our 2008 course lineup meets the needs of economic developers at all levels. What can IEDC's professional development training courses do for you?



- Become a Certified Economic Developer (CEcD)
- Keep current and maintain your CEcD certification
- Boost your knowledge of specific topics

On July 24-25, IEDC offers its new Workforce Development course, focusing on techniques to bridge the gaps between workforce and economic development. The organization has been working with experts from the field on a new Workforce Development manual, which will accompany the course. Leading economic development and workforce professionals – Richard Seline - New Economy Strategies and Dr. Parminder Jassal - Greater Louisville Inc. – will teach this dynamic course in Baltimore, MD.

State Organization Earns AEDO Recognition

IEDC announces the new accreditation of the Delaware Economic Development Office (DEDO) and the reaccreditation of the Tyler Economic Development Council (TEDC) of Tyler, Texas, through the Accredited Economic Development Organization (AEDO) program. DEDO is the second state organization to earn the AEDO recognition. Both organizations display the professionalism, commitment to economic development, and technical expertise deserving of the honor.



The organizations join 23 economic development organizations recognized nationwide for excellence in economic development. Maintenance of the AEDO status is required every three years.

IEDC Works with New Orleans to Establish Economic Development Organization

IEDC is working with economic development partners in New Orleans to evaluate the creation of a public-private economic development organization. The project, which involved a team of IEDC member experts, includes identifying activities and means for sustainability, recommending a process to establish the organization and leadership structure, and advice on coordinating city and regional economic development strategies.

The project is part of the IEDC Economic Recovery Volunteer Project, funded by the Economic Development Administration.

2008 Annual Conference

October 19-22 • Atlanta, Georgia



In their article "The Next 100 Million," Arthur C. Nelson and Robert Lang note that "the U.S. is alone among industrialized nations in experiencing substantial growth...Only India will add 100 million people more quickly than the U.S."

This year, IEDC's Annual Conference will focus on how communities prepare for *The Next Billion: Mobility, Flexibility, Agility, Livability*. Four tracks – Globility/Mobility, Flexibility/Agility, Livability, and Sustainability – set the path for better understanding the latest trends and tools to get ready for the increase in population.

Atlanta, as conference host, provides five case study tours with hands on learning opportunities. Check out exciting new additions to the Annual Conference including the International Cross Border Connection Event, Sunday morning Town Hall Forums, and exhibit hall presentations.

IEDC Efforts in Native American Communities

IEDC is conducting economic development assessments for three Native American tribes this summer as part of the Indian Economic Development Initiative out of the Community Capacity Development Office (CCDO), Department of Justice. The goal is to strengthen the legal infrastructure for business and economic development in the tribes. The three tribes are Leech Lake Band of Ojibwe (Minnesota), Keewenaw Bay Indian Community (Michigan), and Santa Clara Pueblo (New Mexico).

Economic Development Research Partners Tackle Globalization

The Economic Development Research Partnership is IEDC's newest membership category – a think-tank environment supporting practice-oriented research on pressing issues in the profession.

The Partners are guiding IEDC researchers in developing a *Roadmap to Globalization* for economic developers. The first deliverable, *A Primer on Globalization*, summarizes the major global phenomena shaping the new competitive environment, emphasizing the challenges and opportunities for US communities. The report was made available in May, along with a one-page user's guide. IEDC hopes members will distribute the report among key community stakeholders to spark dialogue and build support for a 21st century approach to economic development.



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The AEDO designation recognizes the professional excellence of economic development entities and also provides independent feedback on their operations, structure, and procedures. Earning this stamp of approval for your organization increases the visibility of your economic development efforts in the community or region and enhances credibility with business and political leaders, funders, clients, and other stakeholders.

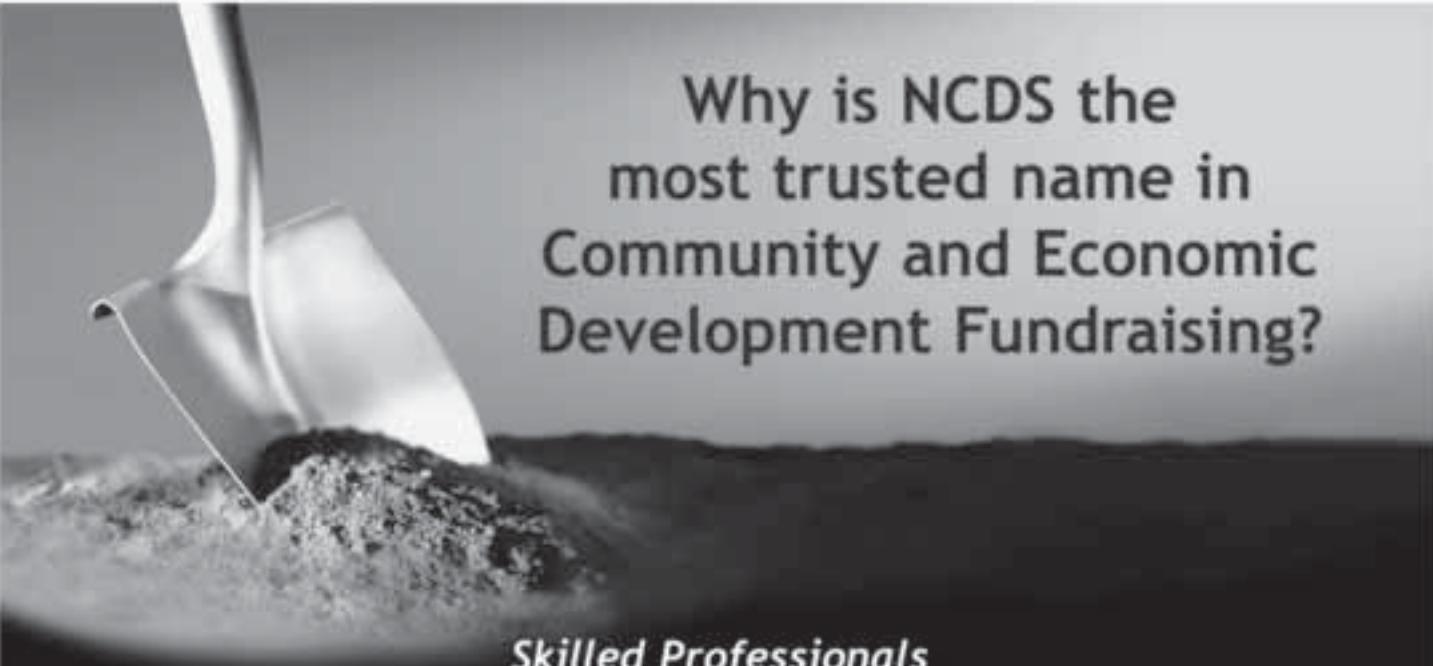
“I place a high value on the CEcD designation, and as an employer, it is my responsibility to ensure my Board that they have the best professional team to serve our community. I support and encourage staff to become certified.”

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SPECIAL EVENTS & NETWORKING OPPORTUNITIES

GOLF OUTING AT STONE MOUNTAIN GOLF CLUB (\$)

Sunday, October 19 / 8:00 a.m. – 1:00 p.m.

Stone Mountain Golf Club is located in one of the most popular attractions in the southeast, Stone Mountain Park. Stone Mountain offers 36 holes of championship golf that has challenged golfers for over 30 years. Stone Mountain Golf Club's courses serpentine through a forest of Georgia pines and hardwoods and around famous Stone Mountain and Stone Mountain Lake. Courses offer breathtaking views and wonderful, natural rock formations that will make your event truly a memorable one.

CHAIRMAN'S RECEPTION

Sunday, October 19 / 5:30 p.m. – 7:00 p.m.

Don't miss the opportunity to see old friends and make new acquaintances. Join IEDC Chair Robin Roberts Krieger and your colleagues for an evening of networking at the Atlanta Aquarium.

RECOGNITION DINNER (\$)

Monday, October 20 / 6:30 p.m. – 9:00 p.m.

Join in honoring those who have contributed to making the profession what it is today. Honors to be conferred include:

- Lifetime Achievement Award in honor of Edward DeLuca
- Fellow Members (FM) and Honorary Lifetime Members (HLM)
- Leadership Award for Public Service
- New Economic Developer of the Year Award
- Citizen Leadership Award
- Chairman's Award for Excellence in Economic Development

EXCELLENCE IN ECONOMIC DEVELOPMENT AWARDS CEREMONY

Tuesday, October 21 / 4:00 p.m. – 6:00 p.m.

INTERNATIONAL CROSS BORDER CONNECTION EVENT

Tuesday, October 21 / 6:00 p.m. – 10:00 p.m.

The conference's signature international business networking reception. Take this opportunity to connect with economic developers and business leaders from across the globe. Whether you represent a US community seeking foreign investment, an international community seeking connections to the US market, a trade promotion agency or the private sector, this reception is focused on facilitating connections. Networking booths at the event will feature international consulates and bi-national chambers of commerce from the Metro Atlanta area.

EDUCATIONAL TOURS

Chattahoochee Hill Country and the Settlement of Serenbe (\$)

Saturday, October 18

10:00 a.m. – 2:00 p.m.

Kingwasong: Chinese Insourcing Jobs to Coweta County (\$)

Sunday, October 19

8:00 a.m. – 12 p.m.

DeKalb & Fulton Counties Perimeter Community Improvement Districts (PCIDs) & Flyover Bridge (\$)

Sunday, October 19

1:00 p.m. – 4:00 p.m.

(\$) extra fee event

Technology Square on the Campus of Georgia Tech (\$)

Monday, October 20

2:00 p.m. – 5:00 p.m.

World's Busiest Airport Behind the Scenes (\$)

Monday, October 20

2:00 p.m. – 4:30 p.m.

The Villages of East Lake (\$)

Monday, October 20

2:00 p.m. – 5:00 p.m.

PROFESSIONAL DEVELOPMENT

PRE-CONFERENCE EDUCATION COURSE REAL ESTATE DEVELOPMENT & REUSE (\$)

Thursday, October 16 / 8:00 a.m. – 4:30 p.m. &

Friday, October 17 / 9:00 a.m. – 4:30 p.m.

As economic developers work to improve the communities in which they work, real estate development and reuse often comes forward as a popular economic development tool. Participants will learn about the various tools that are available at the local level, including tax increment financing, bonds, land assembly and eminent domain, in addition to the many federal programs available.

CERTIFIED ECONOMIC DEVELOPER (CECD) EXAM (\$)

Saturday, October 18 / All Day

Sunday, October 19 / 8:00 a.m. – 3:00 p.m.

Are you ready to begin your path to earning an average of \$12,500* more by earning the CECD designation? The deadline for the October 2008 Certified Economic Developer (CECD) exam is Monday, August 18. Gather your course certificates and documents and send in your application today to sit for the October 18 - 19 exam.

The exam will be held in conjunction with the 2008 Annual Conference. Visit the IEDC website at www.iedconline.org to confirm your eligibility to apply for the exam or contact IEDC staff at kenwemnwa@iedconline.org.

**Based on information from the 2006 Salary Survey*

SPECIALIZED DEVELOPMENT SEMINAR: PREPARING FOR THE CERTIFIED ECONOMIC DEVELOPER (CECD) EXAM WORKSHOP

Monday, October 20 / 7:30 a.m. – 8:30 a.m.

IEDC will offer the popular CECD exam workshop on Monday, October 20, 2008. This event will give participants an overview of the CECD program and useful tips on preparing for the exam. Participants will witness a mock CECD oral exam interview. This is a free event that is beneficial to economic development practitioners interested in attaining the CECD designation.

2008 IEDC ANNUAL CONFERENCE

CONFERENCE TRACKS

Globility/Mobility

In today's fast-paced global economy, communities can no longer afford to remain self-contained. The effects of the globalization are reaching even the smallest of towns. As knowledge and technology increasingly transcend borders, communities must respond by facilitating the global flow of information, goods and services to meet 21st Century economic demands. This track will take an in-depth look at ways in which a community can integrate into the global economy including new business and transportation models, technology development and international strategies.

Flexibility/Agility

In recent years, communities have learned the need to diversify their economies, find solutions to meet workforce needs and drive innovation and entrepreneurship. By incorporating flexible economic development strategies, communities are able to build a local competitive advantage unique to their economic strengths. This track will highlight best practices and innovative strategies to create a talented workforce and entrepreneurial environment in communities of all sizes.



Livability

Quality of life increasingly influences the location decisions of businesses and people. By providing an environment that is both people-friendly and forward-thinking, neighborhoods and communities can build livable and attractive places. From revitalizing downtowns, retail attraction and arts and sports facilities to partnerships with higher education and branding the community all have impacts on citizen and business location choices. Sessions in this track will focus on how communities can invest in their economic assets to attract and retain citizens and businesses.

Sustainability

As sustainability becomes the catchphrase of the new century, communities are coming under increasing pressure to ensure their physical and industrial environment is both environmentally and business friendly. From greening of existing and new infrastructures and use of renewable energies to strategic partnerships and innovative design, communities worldwide are finding new ways to create sustainable growth and patterns for the future. Sessions in this track will examine how communities of various sizes can and are building sustainable futures.



REGISTRATION FEES

	Jun 14 - Aug 15	After Aug 15
IEDC Member	\$715	\$815
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Spouse/Guest	\$220	\$245

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