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Economic Development Journal

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INTERNATIONAL
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# ABOUT IEDC

The International Economic Development Council (IEDC) is the premier international association dedicated to leadership and excellence in economic development. IEDC can equip you with the tools and resources that are helping to shape economic development throughout the country and around the world. Our services include:

- *ED Now*, a twice-monthly newsletter
- *Economic Development Journa*l, a quarterly publication
- Improved access to resources and information
- Enhanced educational choices
- Stronger advocacy and access at the Federal level
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- Industry-leader publications
- Expanded research and technical assistance
- An international presence


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# Economic Development Journal

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Chair: Paul Krutko, FM
President & CEO: Jeffrey A. Finkle, CEcD
Editor: Jenny Murphy

Paul Krutko, FM
*IEDC Chair*



# dear colleague

I look forward to welcoming many of you to IEDC's Annual Conference in Philadelphia on October 6-9. Over 1,500 economic development professionals from around the world will assemble for the year's biggest and most comprehensive economic development event. At IEDC, we believe this is the single most important conference you can attend during this period of economic recovery. It certainly is the highlight of the year.

Themed *Transformation, Innovation, Reinvention: Creating Tomorrow's Economy Today*, the event will address challenges facing economic developers and trends in our dynamic economy. With the right tools, economic developers everywhere can help to create a vision for the future, stimulate consensus, and prepare their communities for 21st century success. This conference will highlight IEDC's work in identifying new concepts and methods for staying ahead of an economy that is on the mend.

In continuing to advance the organization's role as a leader in economic development, we are dedicated to providing our members with the most cutting-edge information and thinking regarding the state of the economy and what it means to our profession. For example, recent research completed by IEDC's Economic Development Research Partners (EDRP) program includes three new reports on "The Economic Development Impacts of Immigration," "New Realities for Funding Economic Development Organizations," and "Accelerating Success: Strategies to Support Growth-Oriented Companies." The growth of the EDRP program allows us to continue performing important research that is not being done anywhere else, addressing topics that directly impact the work of the economic developer. In addition, IEDC's new report, "Federal Disaster Recovery Funding: Minimizing Roadblocks to Maximize Resources," helps guide communities, states, and economic development organizations through some of the challenges to using federal disaster recovery funds.

IEDC also recently released two reports on sustainability. "Creating the Clean Energy Economy," sponsored by the Rockefeller Brothers Fund, is a three-part report aimed at helping economic developers unlock the potential of the electric vehicles, offshore wind, and net zero energy homes industries. "Understanding Renewable Energy Businesses: Aligning Renewable Energy Firms and Economic Developers: A Survey of Renewable Energy Companies," was sponsored through grants from the Energy Foundation, Wind Energy Foundation, and the Solar Foundation. The report's goal is to help economic developers adjust their strategies to best support local renewable energy industries. The publication is a follow up to last year's "Powering Up: State Assets & Barriers to Renewable Energy Growth."

It is a privilege to serve this great organization as board chair, representing IEDC both in the U.S. and abroad. In a globalized world, it is imperative that IEDC continue to support and expand its international reach. As chairman, I have represented the organization at the Economic Development Council of Ontario annual conference and the EURADA conference in Brussels, along with participating in the International Network for Small Medium Enterprises conference in Izmir, Turkey. I will be traveling to Brazil and Australia later this year. On a personal note, my organization – Ann Arbor SPARK – recently went through the Accredited Economic Development Organization (AEDO) evaluation process, and we earned the AEDO designation. The rigorous process is a significant way to demonstrate to the community that we are doing the right things to move our regional economy forward and provide value to investors.

Through conferences, publications, professional development courses, clearinghouse service, and other resources, IEDC is the go-to organization to support you in today's economy. IEDC is leading the way in innovation, knowledge, and networking for economic developers. We are committed to providing leadership and excellence in economic development for our communities, members, and partners.

Sincerely,

Paul Krutko

Paul Krutko, FM
IEDC Chair

The IEDC
Economic Development Journal

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# the future of jobs

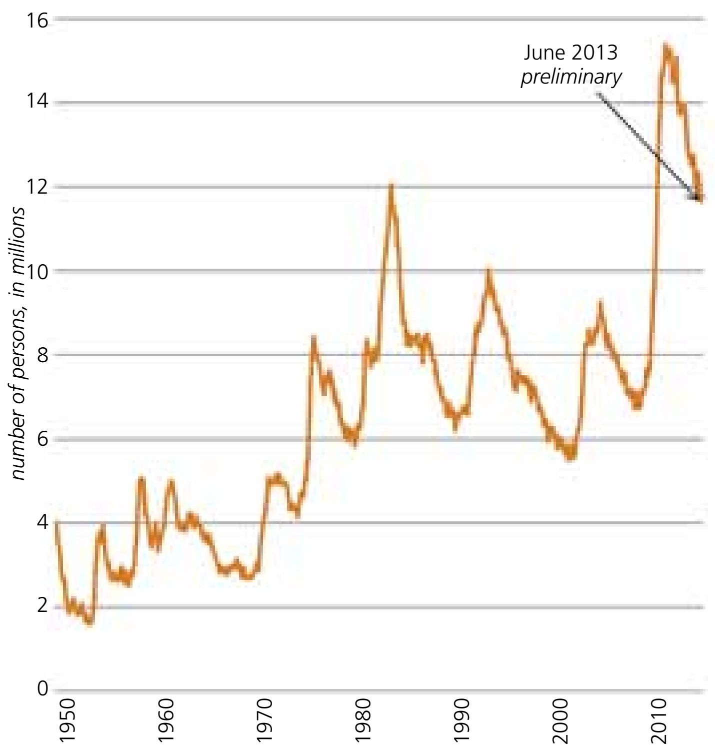
*By Jon M. Roberts*

"Creating jobs" has become a political mantra. No politician at any level of government can be taken seriously unless they have a plan for creating new jobs. We saw ample evidence of this during the 2012 presidential election and we see it on a regular basis from our mayors and governors. On the one hand, our focus on jobs is perfectly understandable. The recession into which we fell in 2008 left millions of Americans out of work [see Figure 1]. On the other hand, the U.S. economy continues to show signs of recovery. The unemployment rate is below 8 percent – a modest figure by some measures – corporate profits are at record high levels, and the stock market has rebounded above pre-recession levels. Yet, the sense that we *need* jobs is ubiquitous.

No one can afford to be sanguine about the economy (especially not politicians or economic developers). For those who have been out of work for an extended period of time, the current employment situation is no mere statistical aberration. Furthermore, a discussion of national unemployment hides significant regional disparities. For many reasons, the political and social implications of "job creation" have never been more pronounced. Yet, this apparent crisis requires a wider lens. In order to understand our current employment situation, we need to look more closely at the changing nature of jobs: what they represent historically and what the labor market may look like in the future.

The following article provides what we hope is a fresh perspective. By looking both at history ("the past of jobs") and the current dynamics of individuals and corporations ("the now of jobs") we can build a platform for which to look to the future. We want to see how we have arrived where we are, what the current landscape looks like, and where we are likely to end up. The premise is designed to stretch our sense of what employment has been and what it may become.

**FIGURE 1. TOTAL UNEMPLOYED, 16 YEARS AND OVER IN MILLIONS, NOT SEASONALLY ADJUSTED**




Source: U.S. Bureau of Labor Statistics (Current Population Survey)

The future perspective presented here is rooted in the premise that we are only at the earliest stages of an IT revolution. This revolution is so profound that the question of whether *any* jobs will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*At the 2012 IEDC leadership conference in San Antonio, TIP presented an Ignite PowerPoint on the "future of jobs." The format for this presentation creates its own intensity (five minutes total, with slides advancing automatically every 30 seconds) and allows for a kind of "shock value" that longer or more academic approaches would not. Yet, the future of jobs is a profound question, one that has enormous social and economic consequences. And one that is at the core of the practice of economic development. Existing data do not provide an adequate analytic framework for understanding how the nature of work is changing. This article is not an effort to provide that analytic framework. It is, however, a framework for a discussion of the issues we think the profession must come to grips with. If the very idea of a "job" were to go away, what would that mean to our economy, our profession, and – perhaps even more fundamentally – to our view of ourselves and the world?*

be necessary in the future is neither silly nor premature. This is the perspective presented by MIT professors Erik Brynjolfsson and Andrew McAfee, in their recent book, *Race Against The Machine: How the Digital Revolution is Accelerating Innovation, Driving Productivity, and Irreversibly Transforming Employment and the Economy*. Brynjolfsson and McAfee argue that, unlike prior technological revolutions, improvements in the economy will not be accompanied by job gains. Instead those very improvements will act to *reduce* employment.[1] Trends in manufacturing employment – where an ever-increasing number of goods are now produced with a fraction of the workforce once required – would seem to bear this idea out. Whatever your view, these ideas mark the beginning of a debate that we feel will remain current.

*If the very idea of a "job" were to go away, what would that mean to our economy, our profession, and – perhaps even more fundamentally – to our view of ourselves and the world?*

## THE PAST OF JOBS

"Jobs" have a history. This says that the notion of what jobs are is not something fixed and certain. Pre-industrial societies had a much higher share of the population engaged in "work" than we have in our culture, but that work – arduous and often dangerous – was nothing like what we think of as a job. People, including children, worked because they had no choice but to work. Peasants (not "agricultural workers") tilled fields, soldiers were conscripted, and craftsmen worked individually or with an apprentice to produce products for which they were not paid in any traditional sense. These observations – hardly new or unfamiliar – serve to underscore the sociology of work. They also underscore the fact that how we define "jobs" has a strict historical context. If, as we now think, a job defines a relationship based on payment for services, then it is correct to say that for most of human history there was no such thing as a job.

"Jobs" have a history. This says that the notion of what jobs are is not something fixed and certain. Pre-industrial societies had a much higher share of the population engaged in "work" than we have in our culture, but that work – arduous and often dangerous – was nothing like what we think of as a job.

Many writers cite the turning point for jobs as we know them occurring with the dawn of the Industrial Revolution (roughly at the end of the 18th century). This is not strictly accurate. Trade guilds flourished before the machine-based manufacturing that transformed world economies. These guilds were well-organized in the 17th century (and much earlier in some cases) and played a major role in central European societies. While they accounted for an important part of the economy, actual participation in these guilds was restrictive and did not change the essential nature of work before the Industrial Revolution.

So what changed at the end of the 18th century? The economic explanation adequately captures the very point we are making: there was a change in the individual's relationship to work itself. First, agricultural employment began its steady decline. Second, individually hand-crafted goods were supplanted with mass-produced items. These items required dramatically fewer hours to produce, and did not rely on the skills of a trained craftsman. In order for this system to work, however, there needed to be an abundance of workers who could be relied upon to produce these goods. The often notorious factory environments of that period have been much written about and shown most comically in Charlie Chaplin's *Modern Times*.[2] But they also brought about a period of astonishing and unprecedented prosperity. Whatever the consequences – and they are still being debated – the reality was that the Industrial Revolution effectively created the idea of "jobs" as we now know them.

So what are the characteristics of a job? A job is defined by work we do on behalf of an employer. This work – traditionally – is done at a place of employment, i.e., not in one's home. Agricultural labor, of course, is done in a field as it always has, but with a much smaller labor force than at any time in history. Compensation for the work is provided by the employer in the form of a paycheck, typically issued at regular intervals. The work usually involves the manipulation of tools, machines, or similar equipment to create a product for sale in the marketplace. Naturally, the products and equipment have changed over time, but in many respects the factory environment of today would be easily recognized as such by a worker of 150 years ago. These are all things we know, that hardly warrant being listed. But there is a reason to do so. It is to remind us that the worker-employer relationship that defines our notion of what a job is does not have a long history. What we take for granted about jobs is a recent phenomenon. More importantly, it is no predictor for what is to come.

*These attributes of a job (working a set number of hours, going to the place of work, manipulating equipment) all have social implications. They impact where we live, how we choose to get to where we work, how we educate ourselves. In fact, they define us.*

## THE NOW OF JOBS

If we can agree that a "job" is the description of a relationship, and that relationship is in some way fundamental to both ourselves and the society in which we function, we have some sense of how pivotal the discussion of **job creation** really is. First, there is little doubt that when we think of "work," we think of the formal employer-employee relationship. It is what politicians are talking about when they talk about creating jobs. But perhaps more telling, employment (and unemployment) is also the most readily available statistical measure. Creating jobs is, as a consequence, fundamental to what it means to have a functioning economy. In other words, the "now" of jobs is a world in which most of us cannot

## TOWARDS A TAXONOMY FOR THE "NOW" OF JOBS

Today's economic statistics do not accurately reflect our changing relationship with work. Many of today's workers are difficult to place within traditional data sets. To some degree, all of these employment categories are in a state of flux.

- *The temporary worker.* These are "employees" who do not work full-time with a single employer. They may have a formal contractual relationship with one or more companies and may work many more hours than a typical full-time employee. [Much of this group is likely to be captured when they work through a staffing agency – NAICS 56132.]
- *The sole proprietor.* This is typically a small business owner. The business itself can vary widely, from a garage-based repair service to a web developer. [These are captured in non-employer statistics and in BEA figures.]
- *The family worker.* This is typically a spouse but may include any extended family member associated with very small family-owned businesses. Since they are not claimed as an "employee," they are among those workers not counted by traditional standards.
- *Freelancers.* These workers differ from temporary workers in that they are strictly contractual. They are frequently project-driven, work for several different employers. They may assemble teams of their own but never act as employers in these relationships.
- *Pick-up workers.* Nowhere is this more true than with those who do temporary jobs on an as-needed basis. In fact, these individuals may have considerable skills (landscaping, automotive repair), or may perform tasks for which others have little time or inclination (dog-walking, lawn maintenance, child care).
- *The informal or shadow economy.* Perhaps, no segment of the market is more complicated, and harder to quantify, than what is often called the shadow (or underground) economy. It is complicated by the fact that we are often reluctant to admit its existence. Broadly speaking, it divides into two segments. The "grey market" encompasses activities which, while usually not illegal, operate outside normal business standards. People who work in grey market "businesses" operate in ways not intended by the manufacturer of the goods being traded, or the services being provided. These include sellers who acquire items outside of authorized distribution channels, those who produce a variety of "knock-off" products that mimic name-brand models, and still others who provide services that are illicit but not strictly illegal. By contrast, the black market includes activities that are specifically prohibited by law (including those which are largely unenforced, such as software pirating, and those the government actively seeks to prevent, like the drug trade). This broad category includes "workers" who themselves freelance, as well as those who are part of a formal network that often closely mirrors legal corporations.

imagine not having a job – a visible symbol of our relationship to the economy. This is a deeply held model of how we expect the system to function.

This is no small matter. If we determine the health of an economy by an exclusive set of data (i.e., the unemployment rate), we hardly know how to think about other means by which we can gain a livelihood. Yet, in fact, the model is already changing. Large percentages of our population operate outside the formal employer-employee relationship. There has been only limited analysis done on this subject, and existing data are incomplete and inconclusive. This means, among other things, that we can describe different work models but we have no data sets that allow for meaningful comparisons – or that give us a sense of how the economy may be changing. Building a framework for how to think about the relationships between traditional work and other income-producing activity is, therefore, essential.

In talking about the "now" of jobs, a new framework must help illuminate the general shape of an economy that cannot be understood through traditional statistics. Our existing employment measures shed little, if any, light on informal work arrangements. As a result, our current economic data fail to capture how large components of our workforce generate income. Workers who are not "covered" by unemployment insurance, including the self-employed, are not included in many of the most common and timely data sets. Discouraged workers, those that have stopped looking for work, are not captured in the published unemployment rate. Businesses and workers in the informal economy do not show up in any tally of gross domestic product at any level. If we are to truly understand the current economy and the opportunity for workers in the future, existing data are woefully inadequate.

While it is important to understand how workers operate outside the traditional employment model, we also need to see how the model is changing from within. Nowhere is this change more apparent than in the declining influence of unions. This decline – union membership is already down to just 11.3 percent of the U.S. workforce – is likely to decline further as more states adopt "right-to-work" legislation. Traditional unions can, in fact, be seen as a codification of the traditional employer-employee relationship. Their purpose was always to protect the worker against the potential rapaciousness of the corporation. They accomplished this not by questioning the underlying relationship, but by seeking to shape its terms. In other words, it was argued that safety, wages, and benefits – especially health care, and retirement benefits – would be provided by the company. The union existed to ensure that these benefits were fair and adequate. With the advent of the Affordable Health Care Act, health benefits are being decoupled from traditional employment models.[3] This decoupling of what was once a standard element of the arrangement may be seen as another aspect of how the current employer-employee relationship is in transition.

Among the many reasons for this transition (in addition to the changing nature of work and the declining influence of unions) are the competitive pressures faced by companies of all sizes. The demands of a constantly shifting marketplace are enormous. We are all familiar with the concept of globalization, which has made U.S. companies more vulnerable to competition, both from foreign producers capable of undercutting them and from other American companies who can source components from abroad at lower cost. The resulting price pressures push everyone to the margins. While there are companies who have established a powerful and compelling brand (Apple, to be sure), even the largest corporations see the threat – from companies both in their industry and outside of it. All the while, major companies are torn between the need for ever more advanced technologies and sensitivity to price points created by both low-end imitators and direct high-end competitors. Yet, even as competition creates price sensitivities that tend to reduce some kinds of employment, the struggle for market share creates demand for others. Nothing illustrates this more clearly than the battle between the iPhone and a host of Android options (as well as tablets and traditional PC manufacturers). The battle is fought simultaneously in the R&D labs, the courts, through phone service providers, by on-line retailers, and in social media. Each of these arenas requires skilled and talented people. These battles cannot (yet) be automated or out-sourced.

Finally, the "now" of jobs recognizes that the skills demanded by employers of all sizes and in all industries are increasingly complex. This complexity extends to all levels within a company. While product design has a huge impact on a company's future, so does its sales and distribution network, its legal team, and its public relations department. At the same time, businesses know that the more skilled the worker, the more transient they are. They are also keenly aware that today's high-demand skill set may be obsolete in a few years' time. The challenge is to appreciate the delicate balance between a transient talent pool and the importance of these workers to the creative output that drives a company's business model. And the more progressive the company (as defined by new product development) the more important it is for that company to view their customers in a new light. In effect, they have to enfranchise them. By doing this, they can create an environment that attracts workers as surely as it attracts buyers of their products.

*Today's businesses know that workers are not "permanent" any longer. They cannot be. Both because the worker doesn't want or need that relationship, but also because the company cannot ensure that those skills will be needed in the future.*

## THE FUTURE OF JOBS

It would be presumptuous to say exactly what employment will look like in 20 years. We can, however, explore certain trends and extrapolate from them. When we look at our current structure in the broadest sense – how work is accomplished and how workers are compensated – what we see is a series of historical precedents that are giving way. This change is slow and things that move slowly are not readily visible. But there is an inevitability about this change which suggests it will continue well into the future. What follows, if we extend this line of thought, is that the traditional notion of a job will disappear. This is not to argue – as Erik Brynjolfsson and Andrew McAfee do – that there is no future for jobs at all. There is, after all, a huge gap between what technology makes possible and how we respond to that change.

Work that is rote, unskilled, and repetitive is rapidly being eliminated – the acceleration of a trend that began a century ago. It is no stretch to imagine that it will soon cease to exist entirely. But a discussion about technology must go beyond automation. It must go beyond the view of machines as a means to replace humans on an assembly line. It is more telling to consider the ways in which technology upends the entire model.

Work that is rote, unskilled, and repetitive is rapidly being eliminated – the acceleration of a trend that began a century ago. It is no stretch to imagine that it will soon cease to exist entirely. But a discussion about technology must go beyond automation. It must go beyond the view of machines as a means to replace humans on an assembly line. It is more telling to consider the ways in which technology upends the entire model.

An appropriate illustration of that dynamic can be seen in the collapse and subsequent reemergence of the Swiss watch industry. With the advent of digital watches in the 1970s, cheap and accurate timepieces no longer required traditional factory production. The entire industry seemed destined for oblivion, a kind of latter-day buggy whip saga. And indeed, for several years major Swiss watch brands (such as Omega) stood at the brink of oblivion. In the US, Elgin and Hamilton did virtually cease to exist. Something quite different emerged, however. Led by a combination of Swiss government support and brilliant marketing, the wristwatch industry reinvented itself as an artisanal craft producing high-end, hand-made functional pieces of jewelry. These watches made no claim to being more reliable or more durable than their cheap plastic counterparts. They instead touted their uniqueness, their elegance, and the skill required to produce them. Now the Swiss watch industry is a major luxury exporter. Just three of its better known brands (Rolex, Omega, and Patek Philippe) had sales of $2.17 billion in 2012 – all in the wake of a global recession – and total Swiss watch sales are well over $20 billion.[4]

There are many lessons to be taken from this example. The first is that technology is disruptive. Firms did cease to exist and jobs were shed. The second lesson, however, is quite different. Because we can have a product that is cheaper and more reliable, and whose adoption is universal, does not eliminate alternative market segments. Our expectation for what a watch should be underwent a profound change. Mechanical watches are now a large and growing "craft industry." It can be argued that the technology that made digital watches possible, while first eliminating jobs, gave rise to a newly invented industry with which it does not compete at all. There are around 60,000 workers in Swiss watch companies, and the number is growing.

Because technology can (and does) introduce better and cheaper products, it does not necessarily reduce the demand for alternative products and technologies. Large-scale digital watch factories in China produce many millions of watches with very little labor input. At the same time, the demand for highly labor-intensive watches is growing. The third lesson to be learned is the most telling. Those jobs made possible by a reinvented industry have a strong common thread: they require highly skilled workers. Without those workers, the industry cannot exist. One case study does not constitute a pattern, but there are many similar examples. Yes, technology disrupts traditional business models and displaces workers. In the wake of that change there is a shrinking and restructured workforce. The common thread, however, is towards higher educational requirements and greater skills. In addition, as in the watch industry, those skilled workers must be adept at using technology. While modern high-end watches are hand-crafted, the technology inputs remain exceptionally high – in design, in testing, and in materials.

The prevailing view of work – that the ultimate objective is to enter into a fixed relationship with a corporation by getting a "job" – is rendered obsolete. It is replaced by a vision of work as a means of meeting the individual's needs: financial, personal, and creative.

The nexus of digital information transmission and storage (both in the cloud and in personal devices) is another example of technology's surprising encroachment on traditional economic models. Unlike the watchmaking example, which radically altered consumers' perceptions about similar products within an industry, the application of technology to print media and the recording and film industry changed our very understanding of the product itself. What we once thought of as physical goods are now more appropriately viewed as information. It is worth remembering how recently we thought of our record or CD collection as *physically* important. We didn't think of the recorded tracks as information. The physical vinyl recordings and CDs mattered. They were the music. Without them we had no collection. They were "goods" in the economic and personal sense – to be stored, insured, and traded in just the same way that other physical goods might be.

Obviously, not all goods lend themselves to this model the way that print media, music, or video do. Yet each new technological innovation presents the potential to shift our thinking about what matters with regard to a product's physical versus its information content. If we say, well, that might apply to books but how could it apply to furniture, it's appropriate to respond by saying, "Yes, but could you have imagined your books being stored in the cloud?" The larger point is not that physical things don't matter, but that their economic value shifts with the advent of information technology. We'll still need chairs to sit on, but we may "manufacture" those chairs in our own homes with a 3-D printer. Concurrent with any future change is the possibility (indeed, the likelihood) that a non-digital alternative will exist side-by-side with the innovation. We've seen that with watches, and it's beginning with high-end printed books and hand-crafted furniture. Indeed, current discussions of the "Internet of things" focuses on making dumb things (pipes, clothing, even furniture) smart. This will be accomplished through sensors and through object-to-object communication – only in place in your car's monitoring of tire pressure and other mechanical systems.

Most importantly for this discussion, the type of workforce needed to support the production and management of these digital goods is very different from what was needed to produce their traditional counterparts and the skills expectations for those traditional counterparts goes up exponentially. In each extension of digital technology, additional opportunities for improvement arise, and these in turn change the skills requirements of workers.

Technology, in other words, has direct and indirect consequences on labor. It directly alters the skills needed to produce products and simultaneously creates employment opportunities in non-technology fields, both in services and traditional crafts. A further consequence of this restructuring can be seen in the *ways* in which we work. The worker of today often seeks levels of mobility and flexibility not easily satisfied by the traditional notion of a job. Even the term "worker" sounds like – and is – a dated expression. In this near future we are trying to imagine, individuals look to where they can apply their skills and talents. Younger workers in particular realize that they will hold multiple jobs, that they will move in and out of the "workforce," and that their talents will change as the demands of the marketplace change. In effect, **they are seeing their education and their skills as a means of producing income**. It is a very different thing to look at the world in this way. The prevailing view of work – that the ultimate objective is to enter into a fixed relationship with a corporation by getting a "job" – is rendered obsolete. It is replaced by a vision of work as a means of meeting the individual's needs: financial, personal, and creative.

Closely tied to this changing worldview is the recognition that interpersonal skills, problem solving, and strategic thinking apply across the entire spectrum of occupa-

We are approaching an economic model in which the question is not one of creating jobs, but one of creating income. This is true both for corporations and for individuals.

tional classifications. The retail worker, holding a job at a Banana Republic store (and, yes, even a Walmart greeter), is fully aware that what they are being asked to promote is also available on the Internet. They see customers take out their cell phones, comparing prices and features. They know that those phones have bar code scanners and that even the wholesale price is readily available to the informed consumer. The Home Depot sales person knows that the customer he is dealing with needs information as much as he needs help in finding the item. Just as surely as ATMs and airline ticket kiosks have replaced thousands of workers, so too will an increasingly sophisticated online retail environment. And as we go up the occupational ladder, to higher paying jobs, this dynamic becomes even more pronounced. It's not a matter of staying ahead of the machines and the electronic marketplace. That race has already been lost. The trick is to find where you can add value, either in advancing that world or in providing the personal services that machines and e-commerce cannot. Not everyone can make this transition. But certainly everyone will be forced to consider how they can contribute to an economy that no longer needs a whole range of traditional "skills."

*We are approaching an economic model in which the question is not one of creating jobs, but one of creating income. This is true both for corporations and for individuals.*

## THE ROLE OF JOBS

Clearly, the question of job creation is at the core of the economic development profession. And it is central to our political dialogue. It is no exaggeration to say it will play a continuing role in presidential politics, national policy, and state and local elections. As these political and economic conversations unfold, however, the notion of what a job is and what it *will* be is changing. As I have tried to demonstrate, these changes go beyond traditional ideas of where work is performed and how compensation is structured. The fundamental relationship between employer and employee is shifting

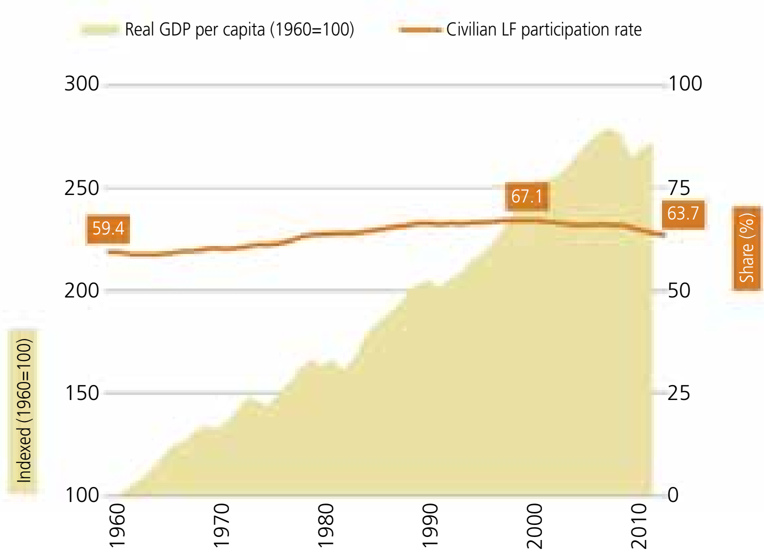
But describing this shift is not a vision of the future. That vision does not take shape until major employers – large corporations – adapt to a new employment model. And this new model may not be recognizable until there is a framework to measure it. The process of adapting to a new model is likely to be long and arduous. What may be most helpful to prepare for these changes from a policy perspective is to revisit some simple facts about "whose job it is to create jobs."

The question of jobs has always been a question of economic viability. As a profession, we have focused on jobs *not* just because no one likes dealing with the unemployed. We have focused on jobs because we operated under the assumption that our economy could not be productive without them. As a result, the concept of a job underpins our very notion of how an economy is structured. Yet one look at long-term trends in our gross domestic product and labor force participation rates shows little relationship between the two [see Figure 2]. So it is fair to ask what a productive economy will require from its workforce. In other words, even if our standard was the ability to create income instead of "holding a traditional job," we would need to ask whether that model is a sustainable *national* economic model. By asking this larger question, we gain insight into how the economic development profession can effect positive change in an individual community or region.

As we at TIP have been saying in our presentations for some time now, "business is not in the business of creating jobs." This statement always elicits a gasp from economic developers in the audience and a shrug of the shoulders from CEOs and HR directors. These divergent reactions speak to an enormous gulf between the expectations of EDOs (and politicians) and the market realities of operating a profitable business. From an employer's perspective, labor (i.e. "creating jobs") is desirable only when it is cheaper and more efficient than technology. Absent that edge, creating jobs is simply counter to the interest of a company seeking to maintain and expand its base.

Naturally, this discussion frequently defaults to the low wage rates of off-shore competitors. The advantage enjoyed by U.S. companies with Chinese or Mexican plants is most pronounced when labor costs operate at a high differential. In other words, an efficient, labor-intensive, high-volume foreign factory able to pay its workers at one third the level of comparable U.S. operations is

## FIGURE 2. GROSS DOMESTIC PRODUCT PER CAPITA AND THE CIVILIAN LABOR FORCE PARTICIPATION RATE, 1960 TO PRESENT (1960 = 100)




Source: FRED, Federal Reserve Economic Data, from the Federal Reserve Bank of St. Louis: *Real GDP per capita indexed to 1960 [USARGDPC_NBD19600101] and Civilian Labor Force Participation Rate [CIVPART]* at a clear cost advantage. We know there are exceptions to this rule (shipping costs, availability of raw materials, time-to-market), but the much lower labor costs provide a huge competitive advantage. But the larger question is not one of foreign versus domestic labor cost advantages. It is instead a question of the future of labor inputs *at any* cost. It is from this premise that we can argue that we need a different perspective on the workforce generally. Rather than focus on labor cost differentials, a new model would consider what makes a traditional labor force relevant in the first place. It would focus on flexibility and creativity – the very things that are gaining prominence at leading technology companies in their hiring and employment practices.

This is the framework in which to think about a different kind of labor market. Or whether the term "labor market" will be appropriate in the future. To put it another way, as long as the horizon between the physical production of goods and its IT equivalent is far off, labor markets and labor costs will matter. With each new incursion of digital information into production, labor demands change. They change and they shrink.

The problem is that we don't know how distant the horizon is for any given industry. And this matters. It matters immediately to workforce training as well as economic development agencies. These are the day-to-day questions of companies and economic developers. They are questions that follow directly from the larger question of international competitiveness, but with a twist. And that twist is technology. Beyond that lies the possibility of a fundamentally restructured workforce, both as a response to innovation and to the changing needs of individuals.

## ENDNOTES

1 A discussion of the themes presented in Brynjolfsson and McAfee's work is provided in a July 8, 2012, *New York Times* editorial, "The Hollowing Out," by Thomas B. Edsall. Accessed at http://campaignstops.blogs.nytimes.com/2012/07/08/the-future-of-joblessness/.

2 http://www.youtube.com/watch?v=pZlJ0vtUu4w.

3 The way in which health care became the almost exclusive responsibility of employers would constitute an entirely different analysis. In fact, the Affordable Health Care does not change that presumption; it does however provide an alternative to those who do not have access to such coverage. This is not an insignificant change. It has economic development implications for sole proprietors and entrepreneurs. It may change the way in which young couples especially make location decisions – now no longer dependent exclusively on whether one of the people can gain coverage through an employer who provides health coverage.

4 "Swiss watch industry defies export gloom," by Haig Simonian, *Financial Times*, January 10, 2012.

# boston's back streets

*By Lisa M. Hemmerle, CPA*

## INDUSTRIAL EROSION

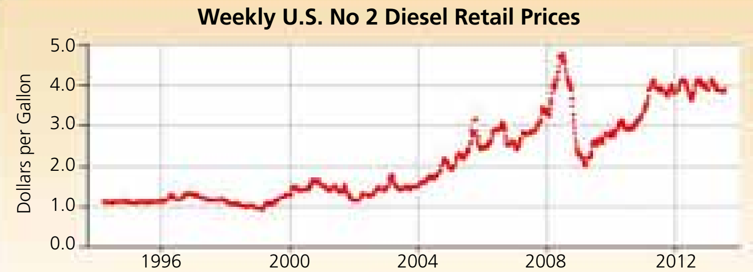
For over a decade in Boston, like many cities, there was intense pressure on urban industrial parcel owners to either store their properties until the market favored residential development, known as mothballing, or pursue a zoning variance allowing them to sell immediately to a residential developer. From a developer perspective, residential development was viewed as the highest and best use regardless of appropriate locale or loss of employment opportunities. A developer could build, sell to a REIT (Real Estate Investment Trust) or private investor, pocket the funds, and walk away with no cares about consequences. However, there were consequences.

Mothballing of properties left a swath of vacant buildings in what otherwise might have been vibrant employment districts, degrading the job market for Boston residents. Other building owners began putting undue financial pressure on their industrial/commercial tenants by raising rents in hopes that they too could cash in on the residential conversion train. The result was a mass exodus of industrial/commercial companies and jobs from Boston. A 2002 study on the state of Boston's industrial noted that between 1962 and 1999 Boston's "industrially zoned space declined 38 percent as a result of zoning and special permitting.[i]"

### BACK STREETS – BY THE NUMBERS

In 2011, Back Streets industries accounted for over 54,479 jobs and about 8 percent of Boston's economy, comprised of:

- 13,913 jobs in construction,
- 9,372 jobs in manufacturing,
- 9,325 jobs in wholesale trade,
- 18,806 jobs in transportation and distribution,
- 1,965 jobs in repair and maintenance, and
- 1,098 jobs in dry cleaning.



Source: U.S. Energy Information Administration

Recognizing this trend and ever trying to protect Boston's core employment, Mayor Thomas M. Menino created the Back Streets program in 2001 specifically to help Boston's manufacturing, wholesale, construction, commercial services, logistics, and food processing businesses, ensuring attraction, retention, and growth of this vital sector. The name Back Streets is indicative of the location of many of these businesses in the periphery neighborhoods and areas outside typical downtown and neighborhood business districts. These businesses offer supportive services to Boston's restaurants, hotels, and healthcare and academic institutions on a daily basis. The Back Streets program assists industrial and commercial businesses with real estate, financing, and navigation of city services.

## INDUSTRIAL PROTECTION

The 2008 real estate crash and gas price hike was perhaps the best thing that could have happened for urban industrial. For the food processors supplying to Boston area hotels, restaurants, academic and healthcare institutions, it suddenly became a great business decision to remain in the city, close to their ultimate customers, rather than trucking in from the suburbs, filling massive gas tanks at $3.80 [ii]/gallon, multiple times every day. The building owners also came to realize that mothballing their industrial buildings in hopes for a big payday in a residential flip was becoming a thing of the past, both from a market standpoint and a city policy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## SUPPORTING URBAN INDUSTRIAL

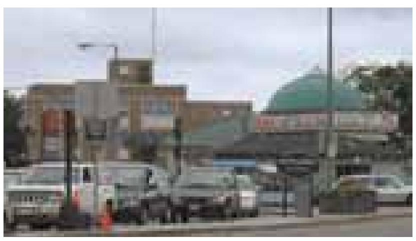
*The Boston Redevelopment Authority (BRA) is protecting light industrial uses in Boston, which face substantial pressures from residential and commercial development alike. Boston's light industrial companies provide living wage jobs for its inner city residents and large immigrant population. Through innovative policy solutions, the BRA is guarding against the erosion of this important sector.*

one. The downtown market prices began to fall to a level much more approachable to investors, making the industrial properties on the periphery less desirable.[iii] This is when the Boston Redevelopment Authority (BRA), the city's planning and economic development agency, recognized the opportune market shift as an opportunity to develop policy to protect the urban industrial land that was left.

The first step in this process was to research best practices in urban industrial policy elsewhere, including Santa Clara, California; Seattle, Washington; and Richmond, Virginia, among others. The BRA then pulled together the right internal team, which included all the individuals necessary to make appropriate recommendations with regards to zoning relief. These individuals included members of the BRA's planning, zoning, and economic development divisions. This was to ensure that not only were all the players aware of the development of a policy to protect urban industrial land, but were all in agreement as to its importance. The outcome was the Industrial Conversion Criteria ("Criteria").

### BOSTON REDEVELOPMENT AUTHORITY BACKGROUND

In 1957, the Boston Redevelopment Authority (BRA) was established by the Boston City Council and the Massachusetts Legislature. The BRA assumed the development powers previously held by the Boston Housing Authority and expanded them beyond public housing. In 1960, the City Planning Board was abolished and its powers were transferred to the BRA. Its broad development authorities include the power to buy and sell property, the power to acquire property through eminent domain, and the power to grant tax concessions to encourage commercial and residential development.



*The edge of the Newmarket Industrial District at Massachusetts Avenue and Southampton Street.*

Photo credit: Sue Sullivan, Executive Director, Newmarket Business Association

The Criteria's purpose is to provide consistent guidance for evaluating projects seeking land use variances for the conversion of industrial properties within a city of Boston industrial corridor. An industrial corridor is an area that contains industrial and commercial sector businesses as its defining characteristic. The policy protects these key industrial areas. In Boston, these areas especially include the South Boston and Hyde Park neighborhoods, as well as the Newmarket District. It is important to note that this policy does not change underlying zoning. Rather, it reinforces current zoning by creating a consistent policy throughout the BRA that must be followed in relation to requests for residential conversion of industrial zoned properties.

A three-tier system now exists to guide the BRA's response to requests for residential zoning relief to industrial zoned properties. This system helps the BRA's internal team, composed of planning, zoning, and economic development staff, determine the suitability of a site for urban industrial uses that may depend upon its location, orientation, size, and overall relationship to its surroundings. Non industrial projects to be located on small parcels that are effectively isolated within industrial/commercial areas are prohibited. Zoning variances for properties that fall within the first Tier will not be supported. For Tiers 2 and 3, specific criteria must be met for any zoning change to be supported by the BRA.

## WHY URBAN INDUSTRIAL IS IMPORTANT

The industrial sector has a tendency, at least in Boston, to employ at-risk populations such as immigrants and those with criminal records, while at the same time providing a "living wage." In addition, keeping your full supply production in proximity to the end use leads to a more environmentally sustainable supply chain.

Urban industrial provides employment opportunities that are low barrier to entry for Boston's large immigrant population. In 2010, approximately 27 percent of Boston's 617,594 residents were foreign born.[iv] In fact, "11.6 percent of both naturalized and non-naturalized immigrants work in blue collar industries, including construction and extraction, production, transportation, instillation and maintenance occupations."[v] Many of Boston's urban industrial companies have a strong relationship with the mayor's Office of Jobs and Community Services (JCS) group and coordinate English as a Second Lan-

### INDUSTRIAL TIERS

**TIER 1:** Definition: Tier 1 industrial is effectively a heavily concentrated area of industrial/commercial businesses within a zoned industrial district as defined within Article 3. Attributes will include, but are not limited to having excellent access to multi-modal transportation, such as truck, rail, and port access. Tier 1 zoning relief efforts are generally unsupportable because a zoning change in this area would result in an isolated designation and/or land use conflicts and/or conflict with adjacent employment viability due to the industrial cluster in the surrounding areas.

Criteria: Zoning relief will not be supported in areas designated as Tier 1.

**TIER 2:** Definition: Tier 2 is considered industrial property or properties which are adjacent to Tier 1 areas.

Criteria: Zoning relief is generally unsupportable in areas designated as Tier 2. Any change must meet the specific criteria in Tier 2 areas.

**TIER 3:** Definition: Tier 3 industrial is likely a lone industrial property that is not adjacent to or part of a larger industrial district zone. A Tier 3 property may be outdated and therefore cost ineffective to update for future industrial use and/ or the available transportation modes do not support industrial/commercial uses and/or are in conflict with abutting residential/mixed use areas.

Criteria: Zoning relief from employment to other uses would not adversely impact the city's fiscal and economic situation. To be considered for zoning relief, specific criteria must be met. Proposals should demonstrate that changes in the designation(s) of a project site would not adversely affect nearby uses.

**TABLE 1**

**BACKSTREET INDUSTRIES AND WAGES IN BOSTON: 2011**

| | Average Weekly Wage | Average Annual Wage |
|---|---|---|
| Construction | $1,787 | $92,924 |
| Manufacturing | $1,398 | $72,696 |
| Wholesale | $1,524 | $79,248 |
| Transportation | $1,015 | $52,780 |
| Repair & Maintenance | $795 | $41,340 |
| Drycleaning/Laundry | $531 | $27,612 |
| **WEIGHTED AVERAGE** | **$1,336** | **$69,462** |
| *Retail* | *$598* | *$31,096* |

Source: ES-202 wage and employment survey, Mass. Dept of Workforce Development
Prepared 2/5/2013 BRA Research J. Avault

guage (ESL) classes for their employees. "JCS provides workforce development and human service grants management, program development, and direct service, also working closely with the BRA to coordinate workforce with economic development projects."

Another reason urban industrial is important is the potential for a "living wage" working in urban industrial. The average weekly wage of an urban industrial job is $1,336 compared to the average weekly retail wage of $598 (See Table 1).

In addition, urban industrial employers in Boston traditionally work more often with CORI (Criminal Offender Record Information) individuals. CORI represents a list of an individual's criminal court appearances as recorded by the state of Massachusetts. "Willingness to hire ex-offenders is greater for jobs in construction or manufacturing than in retail trade and the service sector, and is strongly influenced by the extent to which a variety of tasks are required on the job – especially contact with customers."[vi]

Finally, supporting urban industrial in Boston is the economic and environmental sustainability of the supply chain. For example, the Newmarket District in Boston represents 526 businesses employing over 11,000 people and generating nearly $3B in revenue. The top five industry types include accommodation and food services and wholesale trade. These business types, which include Boston Salads, Katsiroubas Produce, Shanghai Raviolis, and many more, provide the perishable goods to restaurants, hotels, and academic and healthcare institutions, among others daily, in some cases, several times a day. Keeping these perishable food types close to the end user not only makes economic sense by reducing the amount of fuel purchased due to less mileage, but environmental sense as well. The lower mileage means less diesel particulate matter released into the air, lowering a company's carbon footprint and improving the health of the neighborhood.

### WHAT IS URBAN INDUSTRIAL IN BOSTON?

The Industrial and Commercial Sector, known in Boston as Back Streets businesses, is comprised of manufacturing companies and supporting commercial service providers. The four main categories are **manufacturing, wholesale trade and transportation of goods, construction, and commercial services**. To consistently evaluate information related to labor market data, industry sectors were selected according to their 2-digit North American Industry Classification System (NAICS) codes. LINK: http://www.census.gov/eos/www/naics/

*Source: Labor Market Assessment Tool 2.0, (BRA) Research Division Analysis.*

## 21ST CENTURY URBAN INDUSTRIAL

In taking a look at 21st century industrial, there is still the perception of smokestacks and tar factories. These perceptions are what the BRA fought to reverse, especially during rezoning processes that included protecting industrial uses. Further, the BRA focused efforts on "greening" the industrial companies, and in doing so made them not only more environmentally and economically sustainable, but also better commercial neighbors.

### *ZONING*

Let's face it: Industrial has a dirty reputation. In Boston, gone are the days of smokestacks and tar factories, but even in recent community processes, people have come out vocally against continued industrial zoning.

Recently, Hyde Park, a neighborhood of Boston, underwent a rezoning process, the first in decades. According to the U.S. Census Bureau there are over 600 employees in the Industrial sector in Hyde Park, the majority of whom work in companies as described below. One of the biggest challenges facing the neighborhood was trying to use zoning to increase residential density to aid the development of its main streets and other retail areas, while not eroding its industrial jobs base. The community groups in Boston have a very strong position in the rezoning processes (see sidebar). Hyde Park is no different, and there was an extremely vocal residential contingent that wanted to see a major reduction of all industrial land uses in the neighborhood. This of course caused the industrial landowners to become concerned.

### HYDE PARK STRATEGY PROCESS:

- 2008: BRA Board, along with Mayor Thomas M. Menino, vote to plan for and rezone Hyde Park.
- An 11-member Advisory Group, composed of residents from all over Hyde Park, appointed by the mayor after an extensive nomination process.
- Approximately 20 Advisory Group working sessions and full community meetings are held during this planning process.
- 2011: The Hyde Park Strategic Neighborhood Plan is voted on by the BRA Board and subsequently approved by the city's Zoning Board.

Through discussions with the residents, the BRA team determined that the community group's perception of industrial uses in Hyde Park was based on past uses, such as an asphalt plant and a tire factory in the area. The BRA held meetings with residents and industrial landowners individually, to ensure they knew their concerns were heard. The team explained to both that uses like the asphalt plant and tire factory would be restricted in future zoning. For residents, BRA staff introduced them to the "new" face of Hyde Park industrial, which includes Sky Zone (a trampoline gym), Dancing Deer Cookies, My Grandma's Coffee Cakes, Fire Fly (a custom bicycle manufacturer), and several "green" manufacturers. For industrial parcel owners, BRA staff literally went line-by-line through the zoning code building agreement on what would be considered job-intensive uses the city would continue to support. In the end, everyone was brought back together in the broader community group meeting, reaching consensus.

The companies that are now thriving in Hyde Park are not the heavy industrial businesses of the past. Many of these companies provide valuable goods and services enjoyed by area residents. These companies include:

- Commercial bakeries: Dancing Deer, Boston Baking, My Grandma's Coffee Cakes, Sweet Cupcakes;
- Gym and fitness centers: Sky Zone, Broderick Gymnastics, Boston Rock Climbing Gym, Solid Body Fitness;
- Light manufacturers: Custom Metalcraft (lighting manufacturer), Firefly (bikes), Moda Cucina (cabinets), Solos Endoscopy, The Great American Rain Barrel Company; and
- Warehouse, logistics and distribution: Global Prints, CSN Stores, and others.

This is how Boston was able to use zoning to encourage job creation, additional investment, and expansion in the local economy.

***ENVIRONMENTAL***

BRA staff knew it was not enough just to update the zoning to change the reality and the perception of urban industrial. During the height of the recession, the city of Boston instituted Boston Buying Power, an aggregated buying pool for businesses to purchase electric and gas. Additionally, the BRA, with grant support from the Environmental Protection Agency (EPA) and in partnership with the Newmarket Business Association[vii], worked with business owners in the Newmarket District to improve the resource efficiency, profitability, and public health of the district for local businesses and residents. In particular, BRA and Newmarket businesses collaborated to identify cost-effective strategies to achieve local emissions reductions, focusing in particular on opportunities to incorporate energy efficiency, solar energy, waste reduction and recycling, and transportation use strategies into the district.

*F.W. Webb Sustainable Warehouse in Newmarket.*

| | |
|---|---|
| BIDFA | Boston Industrial Development Financing Authority |
| BizHub | Boston Business Hub (web portal) |
| BLDC | Boston Local Development Corporation |
| BRA | Boston Redevelopment Authority |
| CRM | Customer Relationship Management (software) |
| EI | Economic Initiatives (implements and manages key economic sector projects) |
| IDFA | Industrial Development Financing Authority |
| JCS | Jobs and Community Services (agency within the city's Economic Development Cabinet) |

Then in 2011, Mayor Menino committed over $2.2 million for infrastructure improvements in Newmarket Square, a central thoroughfare in Newmarket District, to improve the roadways, sidewalks, lighting, signage, and safety of the area. The 30 business abutters along with the Newmarket Business Association worked closely with the Back Streets staff to ensure the improvements will not impact business but rather enhance efficiency and safety by modernizing vital infrastructure through the heart of the industrial area.

## ADDITIONAL TOOLS IN THE TOOL BOX

***FINANCING***

Discussion has included the city's zoning and planning, policy behind zoning variances, as well as environmental and infrastructure projects. Financing provided by the Boston Local Development Corporation (BLDC) is another great tool the city uses to not only support but promote urban industrial.

The BLDC is a private 501(c) (3) non-profit corporation governed by an independent Board of Trustees. The day-to-day operation is provided by the BRA's Financial Services Department. The BLDC's principal objective is to create increased employment opportunities for residents by providing small business loans. The BLDC targets companies in the commercial, industrial, and service sectors of Boston's economy. In the last 15 years, the BLDC has provided $14 million in loans to over 100 businesses, while successfully leveraging over $81 million through collaborations with Boston's banking community. The loan funds have helped create and retain more than 2,800 Boston jobs. Most recently, the BLDC provided loans to industrial companies such as Seafood Specialties, the first LEED certified seafood processor on

Photo credit: Sue Sullivan, Executive Director, Newmarket Business Association

*Inside of Greater Boston Food Bank.*

the Boston waterfront, and Imported Foods, a South Boston wholesale specialty products company serving local restaurants.

One BLDC program incentivizes companies that create new jobs for residents by offering principal reduction during a two-year period that is also interest-only. During that period, the borrower receives, upon each new Boston resident full-time or full-time equivalent hire completing one year of employment, a principal reduction of $2,000, with a $4,000 maximum per new Boston resident employee.

The Back Streets manager acts as the case manager for all industrial/commercial businesses in the city, tracking any interactions in the BRA's customer relationship management (CRM) system, including inquiries coming from the city's web portal, the Boston Business Hub.

The BRA also administers the Boston Industrial Development Financing Authority (BIDFA). MassDevelopment is the Commonwealth of Massachusetts' finance and development authority. However, under Massachusetts General Laws, Chapter 40D, a municipality, in this case Boston, is allowed to form an industrial development financing authority (IDFA) separate from MassDevelopment. The resulting organization is BRA's BIDFA.

BIDFA issues bonds to finance the capital needs of the city's businesses and institutions including construction, capital expenses and working capital needs resulting from expansion. Through BIDFA, the city can make its tax-exempt status available to qualified borrowers though there are a variety of taxable bond options as well. The city's credit does not support these bond issues and the company must show the financial strength to support the bond. Due to the cost of issuance, these bonds are usually over $3 million. The most recent urban industrial example is a bond issuance for Brookline Ice and Coal, an 87-year-old, family-owned and operated company that serves the food service and hospitality industry with ice, charcoal, gourmet flavored woods, fuels, and refrigeration products. The BRA, through BIDFA, is issuing a $5M bond to develop a 55,000-square-foot parcel by building a 30,000-square-foot, state-of-the-art fully automated ice manufacturing facility in the Newmarket District, producing 40 new jobs for the city.

### *CASE MANAGEMENT*

The BRA employs a system of sector-based case management for business interactions. Each priority economic sector, such as industrial/commercial, is represented by a program. One example of an economic sector program is Back Streets. The Back Streets manager acts as the case manager for all industrial/commercial businesses in the city, tracking any interactions in the BRA's customer relationship management (CRM) system, including inquiries coming from the city's web portal, the Boston Business Hub.

The BRA's Economic Initiatives (EI) team, which includes seven sector-focused managers under the Economic Development Department, implements and manages key economic sector projects to promote a strong economy in Boston. These initiatives attract, retain, and grow retail, industrial, commercial, life sciences, and creative economy and high technology sector businesses, and promote environmentally sustainable growth to ensure continued growth. This is accomplished by working in partnership with neighborhood residents, business owners, community-based organizations, developers, and others. The initiative managers each act as a city point-of-contact, provide financial and/or site location assistance, and promote the city through sector outreach. The goal of Economic Initiatives is to assist the Economic Development division in providing a clear and integrated approach to economic investment that addresses the city's current and future needs. In addition to helping to identify and package together financial assistance, the managers help with:

**Site Selection** – In addition to helping identify possible locations for Boston businesses in one of the city's 17 neighborhoods, the BRA offers a range of very competitive real estate.

**Business Advocacy** – The EI experts help businesses to navigate the city's services and facilitate access to technical assistance and funding. The BRA's EI staff walks businesses through the process.

*Newmarket Seafood Processing.*

Photo credit: Sue Sullivan, Executive Director, Newmarket Business Association

Each of the EI managers works with businesses while they are trying to open, while they are operating, and when they need to move or expand. The businesses have comfort knowing that regardless of the issue – permitting, zoning, financing, site finding, water/sewer, etc. – they have one point of contact, a case manager, whom they contact. This person coordinates efforts within the city and the state on their behalf.

In recent years, these efforts have been enhanced by the addition of Customer Relationship Management (CRM) software, in this case Salesforce.com. This CRM system allows the managers to seamlessly track all interactions with the companies and to interface with each other on services where there is potential for collaboration. For example, Ginkgo Bioworks primarily is a life sciences company that received a $150K loan from BLDC. Additionally, the company began working on a project funded by the Department of Transportation on how to modify E. coli into biofuel. The system allowed seamless cross-coordination between the cleantech and life sciences managers, as well as the BLDC loan manager.

This system has been enhanced by the development of the Boston Business Hub (BizHub), the city's small business web portal. The portal actually uses Salesforce.com as its platform, allowing business constituents to easily connect to the right people, right away, with a guaranteed response within two business days. The Salesforce VP of government relations and marketing director called the Boston Business Hub "the most comprehensive public sector implementation of our technology in the country." Should a business customer enter an inquiry into the system, it auto-responds with an email providing an inquiry number, the name of the person who will respond, and their contact information. Other services the portal provides to customers include:

- Tracking the status and history of their inquiry(ies);
- Creating a permitting and licensing checklist based on business type, which includes details and links to the relevant departments, and downloadable application forms and a personalized checklist that can be saved or emailed;
- Compiling available resources so businesses can conduct market research based on a specific business type and location; and
- Conducting site searches and research demographics to find the best location for their business.

Urban industrial, even light industrial, can produce noise, smells, and truck traffic that is antithetical to residential living. Creating what are known as "buffer zones" between Boston's urban industrial and residential uses is a challenge in such a dense, built environment.

Photo credit: Sue Sullivan, Executive Director, Newmarket Business Association

*Boston Medical Center is a Newmarket Industrial District buffer use.*

## LESSONS LEARNED AND REPLICATION

### *BUFFERING URBAN INDUSTRIAL*

Urban industrial, even light industrial, can produce noise, smells, and truck traffic that is antithetical to residential living. Creating what are known as "buffer zones" between Boston's urban industrial and residential uses is a challenge in such a dense, built environment.

The BRA's Artist Space Initiative is particularly interested in projects that create spaces that are located in buffer zones between industrial and residential neighborhoods in locations that do not support traditional family housing. Artists help make Boston a more livable city – a city of people and neighborhoods, a center of cultural life, and a vital economic center. But, the city recognizes that space/real estate concerns are a primary issue for local artists.

One lesson taken away from the Initiative is that artists are like any other resident. They do not want to be woken at 3 a.m. by heavy truck traffic, food and flower processing, noises, and smells, among other distractions. In one example, a local high-end cabinet maker had been in a large building that for years had been zoned light industrial. More recently, artist/live work lofts became co-located in the same building. When the cabinet maker would perform the work he had been doing for years, the complaints started coming in almost immediately from other tenants/artists about loud and distracting noises, paint fumes, dust, etc. Eventually, the manufacturer had to find new space and a once industrial building is now purely residential. This was a painful lesson learned at the cost of much needed light industrial space in Boston. Since then, BRA staff has made a more concerted effort about how close these artist "buffer" zones are to light industrial uses, more often suggesting ancillary office, then artist housing, to buffer the "buffer."

### *REPLICATION*

The great news is that most of these programs can be successfully replicated in other cities. Boston's largest focus for urban industrial is providing the complete supply chain needed to support the other major sectors that exist around the city. In other words, to be the means to the end (i.e., the produce for the restaurant) as opposed to just the end. Perhaps the most difficult to replicate would be the financial services piece since the BRA is a quasi-public agency of the city of Boston, which generates the majority of its revenues from its own assets and development fees, instead of property taxes. This gives the agency more freedom to delegate funds for revolving loan programs. In addition, Boston formed its own Industrial Development Financing Agency, as allowed under Massachusetts General Laws, Chapter 40D, known as BIDFA, as described earlier. BIDFA brings in funds in the form of origination fees on bond issuances.

In taking a look at 21st century industrial, there is still the perception of smokestacks and tar factories. These perceptions are what the BRA fought to reverse, especially during rezoning processes that included protecting industrial uses. Further, the BRA focused efforts on "greening" the industrial companies, and in doing so made them not only more environmentally and economically sustainable, but also better commercial neighbors.

## CONCLUSION

The BRA is protecting light industrial uses in Boston, which provide living wages for city residents, including at-risk populations such as immigrants and those with criminal records. Protecting light industrial is a environmentally and economically sustainable solution to providing local products to local end-users. By identifying a mix of appropriate tools, such as zoning, financial incentives, and policy, other municipalities can focus efforts on this vital sector.

## ENDNOTES

[i] "Boston's Back Streets Planning a City Program to Preserve and Enhance Boston's Industrial Health," Ronald Mallis, 2002.

[ii] US Energy Information Center - http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=EMD_EPD2D_PTE_NUS_DPG&f=A.

[iii] "Report: Boston's commercial real estate market leading national recovery," Nov 19, 2012, 11:45am EST, Craig Douglas, Managing editor/online vertical products and research- Boston Business Journal http://www.bizjournals.com/boston/real_estate/2012/11/report-bostons-commercial-real.html?page=all.

[iv] "New Bostonians 2012," Mayor's Office of New Bostonians; Sources: U.S. Census Bureau, American Community Survey 2008-2010. U.S. Bureau of the Census, 2000 SF1. BRA Research Analysis.

[v] Ibid.

[vi] The Urban Institute Reentry Roundtable Discussion Paper: 10, "Employment Barriers Facing Ex-Offenders," Harry J. Holzer, Steven Raphael, and Michael A. Stoll.

[vii] Member organization that supports the planning and development growth of the Newmarket District.

# promoting economic
## DEVELOPMENT THROUGH FOREIGN DIRECT INVESTMENT

*By Rod Crider, CEcD, CCE*

As communities look to provide creative financing tools to spur economic growth, more are considering use of the Immigrant Investor Program, also known as "EB-5," which allows foreigners to gain permanent residency in the United States by making an investment in a project which creates American jobs.

This novel approach to bringing more foreign capital into local economies is gaining in popularity both because developers are struggling to get traditional sources of funding for their projects and, the EB-5 visa seems to be catching on with people in foreign countries with money to invest.

As communities look to provide creative financing tools to spur economic growth, more are considering use of the Immigrant Investor Program, also known as "EB-5," which allows foreigners to gain permanent residency in the United States by making an investment in a project which creates American jobs.

The program has been successful in supporting new investment in communities as well. It is estimated that since 2005, over $4.7 billion in foreign capital has been invested in the U.S. and those investments have created over 95,000 American jobs. In 2013, it is estimated that foreign investment through the EB-5 program will exceed $2 billion.

### EB-5 OVERVIEW

The U.S. Citizenship and Immigration Services (USCIS) administers the Employment-Based Immigration: Fifth Preference (EB-5) program which was created by Congress in 1990 to stimulate the U.S. economy through job creation and capital investment by foreign investors. The law provides for 10,000 green cards to be made available each year in this preference. The current annual usage is about 6,000 cards and is growing.

There are two types of EB-5 cases: Individual and Regional Centers. Both require that the investor make an investment that creates or preserves at least 10 jobs for U.S. workers, excluding the investor and their immediate family.

Under a pilot immigration program first enacted in 1992 and regularly reauthorized since, a certain number of EB-5 visas are set aside for investors in Regional Centers designated by USCIS. Under this pilot program, foreign nationals may invest in a pre-approved regional center, or "economic unit, public or private, which is involved with the promotion of economic growth, including increased export sales, improved regional productivity, job creation, or increased domestic capital investment."

The EB-5 requirements for an investor under the pilot program are essentially the same as in the individual EB-5 investor program, except that investments made through regional centers can take advantage of a more expansive concept of job creation including both "indirect" and "direct" jobs.

The Regional Center program is the mechanism by which communities, economic development or-

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### THE PROS AND CONS OF BECOMING AND RUNNING AN EB-5 REGIONAL CENTER

*In 1992, Congress created a temporary pilot program designed to stimulate economic activity and job growth, while allowing eligible aliens the opportunity to become lawful permanent residents. The EB-5 program allows foreign nationals to invest in a pre-approved regional center which promotes economic growth. A minimum investment of $500,000 is required and each investment must create 10 new jobs, either directly or indirectly. Many communities and economic development organizations have viewed the EB-5 program as a creative source of new financing and have turned to it with varying degrees of success. This article explores the pros and cons of establishing and managing a regional center as an economic development tool.*

ganizations, chambers of commerce, and private organizations are using the EB-5 program to promote economic development.

## REGIONAL CENTERS

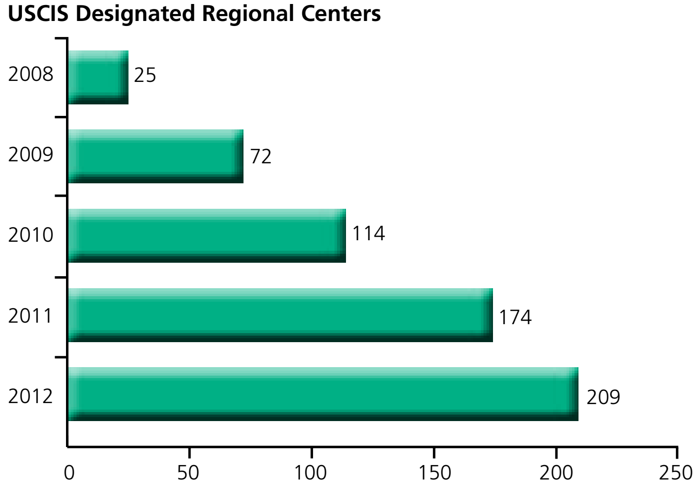
A "Regional Center" is defined as any economic entity, public or private, which is involved with the promotion of economic growth, improved regional productivity, job creation, and increased domestic capital investment. The organizers of a regional center seeking the "Regional Center" designation from USCIS must submit a proposal, supported by economically or statistically valid forecasting tools, showing:

- How the regional center plans to focus on a geographical region within the United States. The proposal must explain how the regional center will promote economic growth in that region.
- How, in verifiable detail, jobs will be created directly or indirectly through capital investments made in accordance with the regional center's business plan.
- The amount and source of capital committed to the regional center and the promotional efforts made and planned for the business project.
- How the regional center will have a positive impact on the regional or national economy.

Regional centers may have a for-profit purpose or be organized to promote economic development. In 2007, there were just 11 regional centers nationwide. Since 2008, the number of regional centers has grown by an astounding 836 percent to total more than 200 at the end of 2012 with dozens more under review. The states with the highest numbers of regional centers were California (71), Florida (22), and Washington (11). A list of regional centers can be found at www.uscis.gov/eb-5centers. (Figure 1)

### FIGURE 1 – GROWTH IN EB-5 REGIONAL CENTERS

**USCIS Designated Regional Centers**




The Regional Center Investment Program allocates 3,000 green cards each year for people who invest in designated Regional Centers. The 3,000 is not a limit, just the amount reserved specifically for Regional Center based investments. The Program has been renewed several times and is currently due to expire September 30, 2015. Approximately 90 percent of EB-5 investors get their green cards through a Regional Center.

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As of May 31, 2012, the processing time for approving Regional Centers was nine months. The USCIS has recently taken a more conservative approach to approving additional Regional Center applications because of fraud suspicions and defects in job-creation estimates by developers.

If a regional center designated for participation in the EB-5 pilot program no longer serves the purpose of promoting economic growth, improved regional productivity, job creation, and increased domestic capital investment, USCIS can terminate the Regional Center designation.

## ISSUES IN APPLYING TO BE A REGIONAL CENTER

Organizers of a Regional Center have a few options to consider. The first is whether to use a loan or equity model. In most cases, the investors become limited partners in a limited partnership. The limited partnership may invest in and acquire an ownership interest in the development projects. This is the equity model. In the debt model, the limited partnership provides a low interest term loan (often five years) to the developer.

The regional center designation request may either include hypothetical projects or actual projects. A regional center may be created for one project or multiple projects over time. It is possible for each individual project to be pre-approved prior to investors investing in the project through a process called an exemplar I-526 petition.

Another issue is whether to have public or private sponsors. There are some advantages to both approaches and a hybrid model may be best. The predominant number of Regional Centers are organized by private concerns and many feel this is the most successful approach. Generally, public sponsored Regional Centers have an economic development or public purpose and the backing of a public entity may provide credibility and a stronger sense of security to the potential investor.

The cost of establishing a Regional Center can be prohibitive. Including the legal fees, application fees, econometric analysis and expenses, the cost of forming an RC can easily exceed $150,000.

If a Regional Center wants to add a project which has a new industry code, or add a geographic area not previously approved for the Regional Center by the USCIS, an amendment must be filed with the USCIS. There is an application fee associated with an amendment and the current estimated time for an amendment approval is eight months.

Regional Centers are not awarded exclusive rights to operate in a designated geographic area and in many cases, multiple centers may be established. There are Regional Centers that cover entire states, some are regional and yet others are project specific, i.e. a former military base.

While there are many advantages to establishing a Regional Center, it is important that an economic development organization consider the potential disadvantages that include:

- Regional Center certification can take a great deal of time with no guarantee of being approved. Nine months has been the average approval time and it can take even longer. Because of the rapid growth and problems with a few Regional Centers, applications for new centers have come under increased scrutiny. In late 2012, the USCIS reported that 60 percent of the I-924 Regional Center applications and amendments processed in Q1-Q3 2012 were denied.
- Regional Center certification requires a significant expense to hire an economist, develop a business plan, legal fees, and other expenses. Costs can easily range between $150,000 and $250,000.
- Earning status as a Regional Center does not guarantee approval of a particular Regional Center project.
- Regional Centers are growing in number and so the competition for foreign investment has become fierce. The USCIS currently lists 349 Regional Centers in the U.S. Many Regional Centers have attracted no investors. The older, more established centers have more resources for marketing and a proven track record of getting immigrant approvals.
- Without a targeted employment area (TEA) designation, it will be difficult to obtain foreign investors. A TEA qualifies for a $500,000 investment as opposed to a required investment of $1 million in areas outside of a TEA. Why would an investor choose a higher threshold when the same benefit can be achieved by directing their dollars to a Regional Center with TEA qualified projects?

Once a Regional Center is established, it can then seek foreign investments. An investor seeking an EB-5 green card through the program must make a qualifying investment of $1 million. This qualifying investment can be reduced to $500,000 if the project is located in a targeted employment area (TEA) or a rural area.

- Regional Centers have significant administrative and filing requirements that must be met. These regulations are complex and often require the assistance of a highly compensated legal expert with expertise in EB-5 matters. With the recent growth of the EB-5 program, the USCIS has faced more and more questions about key ambiguities in its EB-5 regulations. Dealing with ever-changing USCIS interpretations and delays is another issue that approved Regional Centers must confront.

There are also risks for the developer who uses a Regional Center to finance their project. If, for instance, a hotel developer would like to include EB-5 funding in their capital stack, they have a lot to consider when evaluating a potential Regional Center partner. H. Ronald Klasko is managing partner of Philadelphia-based Klasko, Rulon, Stock & Seltzer, LLP and chair of the EB-5 Committee of the American Immigration Lawyers Association. Klasko cites the following considerations for project developers:

- If the regional center is a profit-making enterprise, some of the developer's profit may be siphoned off to the regional center operators.
- The developer needs to do serious due diligence with respect to the regional center. If the regional center operators are less than scrupulous, or provide less than complete information, the developer may be affiliating with a regional center with which, in retrospect, it wishes it had not been in association.
- The developer is ceding some control of its project to the regional center operator.
- The developer assumes the risk that the regional center operator may become de-certified.
- The regional center may need to amend its certification with USCIS in order to incorporate the new project, thus entailing delay.

## REGIONAL CENTER INVESTMENTS

Once a Regional Center is established, it can then seek foreign investments. An investor seeking an EB-5 green card through the program must make a qualifying investment of $1 million. This qualifying investment can be reduced to $500,000 if the project is located in a targeted employment area (TEA) or a rural area.

A **targeted employment area** is an area that, at the time of investment, is a rural area or an area experiencing unemployment of at least 150 percent of the national average rate.

A **rural area** is any area outside a metropolitan statistical area (as designated by the Office of Management and Budget) or outside the boundary of any city or town having a population of 20,000 or more according to the decennial census.

Because of the intense competition for foreign investment capital, a project that is not contained within a targeted employment area is considered non-competitive. Since the investor can place their investment in any Regional Center in the U.S., most will choose to invest the lower amount required because it will provide them with the same green card benefits.

Before an investor can participate in a Regional Center's EB-5 investment program, each investor must independently petition USCIS for an EB-5 visa by filing Form I-526, Immigrant Petition by Alien Entrepreneur. The USCIS solely determines whether the investor qualifies for the EB-5 visa. USCIS' diligence includes a full background check, including detailed review of the sources of the investor's funds (to confirm its lawful origin), family history, and other representations of the head of the household and his/her immediate family member(s) under the age of 21.

Additionally, each investment must create 10 new jobs. The EB-5 Regional Center Program does not require that the foreign investor's enterprise itself directly employ 10 U.S. workers. Instead, it is enough if 10 or more jobs will be created directly or indirectly as a result of the investment.

The timing of required job creation numbers presents another issue. The USCIS limits regional center job creation to the job creation that exists 2.5 years from the filing of the I-526. This is an arbitrary rule, as there is no time limit for a regional center investment to create employment.

It is difficult for larger projects to comply with this timeline. In the case of a hotel for instance, there is the time and expense of required permitting, which can last from 12 to 18 months. It is not unusual to spend over $1 million to undergo required studies (soils, seismic, environmental impact, structural. etc.), develop a set of building plans, and go through land use and design reviews. Most Regional Centers need EB-5 capital to even begin this process. Once the permitting and review process is completed, the actual construction can take 18 months. Finally, a new hotel does not reach a stabilization stage for three years. Thus, the total time frame for a hotel project from start to stabilization is six years, not the 2.5 years the USCIS imposes. The timeline for stabilizing commercial property or redeveloping older buildings is similar.

The USCIS now interprets that direct and indirect construction jobs that are created by the petitioner's investment and that are expected to last at least two years may now count as permanent jobs. The USCIS has determined that the key to their eligibility is whether the position lasts for two years, not whether the same person works in that position the entire time. The positions must be filled by an employee, not an independent contractor and the USCIS forbids investors from combining multiple part-time positions to create one full time position.

As the program has grown, securities fraud has become more prevalent, and federal authorities have increased their oversight.

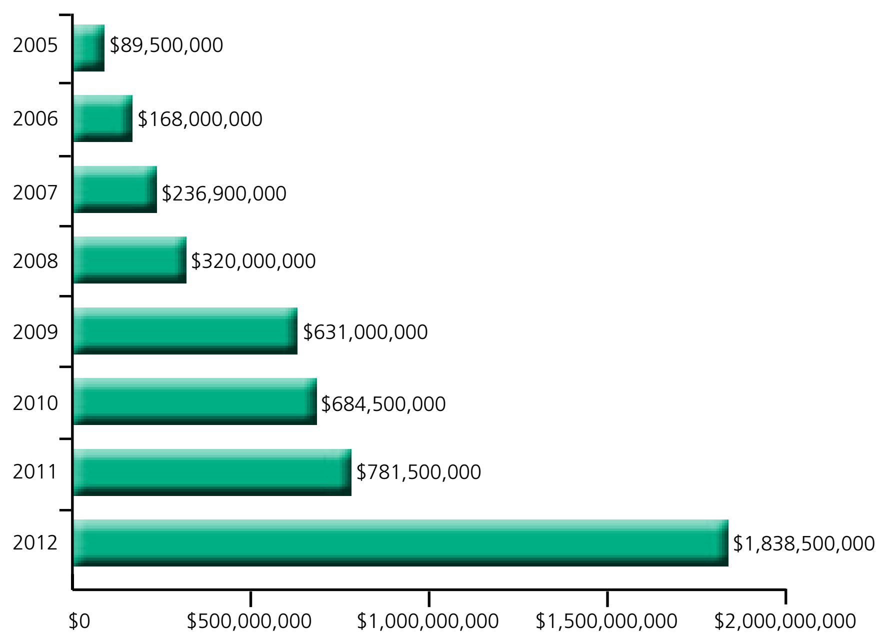
The Wall Street Journal reported that in early 2013, the SEC filed a lawsuit against an EB-5 project in Chicago federal court, alleging that the promoters of a hotel-and-convention-center plan had fraudulently sold more than $145 million in securities and collected $11 million in administrative fees from more than 250 Chinese investors. The SEC alleged that some of the funds had been misappropriated and nothing had been built.

In Louisiana 31 investors, mostly from China, filed a federal lawsuit alleging that the project they had invested $15.5 million in was idle and consisted only of an undeveloped property across the Mississippi River from New Orleans. The project developers are seeking to dismiss the suit partly on the grounds that immigration authorities thwarted the project by rejecting the project's job-creation estimates.

In San Bruno, CA, three Chinese investors allege that they lost $3 million when an EB-5 developer disappeared after he faked a heart attack in a karaoke bar and his associates concocted a story about his death. In January, the court awarded investors a default judgment because the developers never appeared.

Despite these increasing instances of fraud, the use of EB-5 capital is expanding and has grown from about $400 million in 2007 to over $1.8 billion nationally in 2012 (Figure 2).

**FIGURE 2 – EB-5 FOREIGN DIRECT INVESTMENT CAPITAL FORMATION 2005-2012**




Source: U.S. Department of State

## SECURING INVESTORS

The investment offering itself is subject to U.S. securities laws, enforced by state securities regulators and the U.S. Securities & Exchange Commission (SEC).

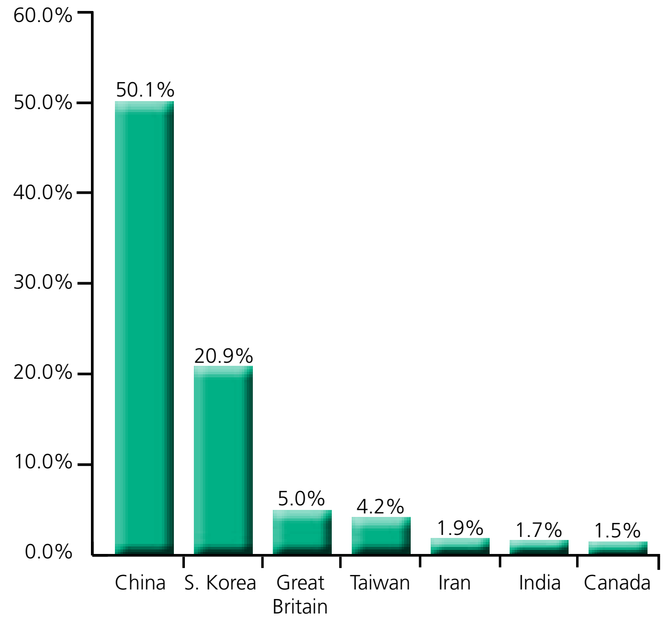
The benefits to the foreign investor of using the EB-5 program to secure a green card include:

- It provides a direct route to a green card.

- It does not require day-to-day business management of the project being funded.
- Permanent residency in the United States is granted to the investor, their partner, and any children under 21 years of age.
- The investor can live, work, and retire anywhere in the United States.
- The investor becomes a U.S. citizen after 5 years of being a green card holder.
- There are no quota backlogs - There are many delays and backlogs for employment and family based green card categories, but there is no backlog for the EB-5 Visa Investor category.
- The investor does not require a sponsor - Foreign investors use their own personal funds and do not require sponsorship from either an employer or a family member.

Investors in the EB-5 program come from a large number of countries. Between 2006 and 2012, there were 14,708 investors in the EB-5 program originating from more than 100 countries. China and South Korea have been the largest providers of EB-5 capital over this time period (Figure 3).

**FIGURE 3 – TOP COUNTRIES OF ORIGIN FOR EB-5 INVESTORS 2006-12**




Source: U.S. Department of State

## REGIONAL CENTER EXAMPLES

The Northeast Ohio Regional Center (NORC) was formed by the Wayne Economic Development Council and the City of Wooster Growth Corporation, covering a 16-county region that includes the cities of Cleveland, Akron, Canton, and Youngstown. It received Regional Center approval in June, 2009.

Communities within this 16-county region of Northeast Ohio can establish eligible investment projects in the following areas:

- Bio-science: Agribusiness, biotechnology, technology transfer from universities, hospital-related technology development, medical development and innovation;
- Energy: Alternative energy sources, energy conservation and pollution reduction;
- Information technology: Process improvements and advanced manufacturing techniques; and
- Revitalization, including commercial and other property development.

The application process took over a year, at an estimated cost of $250,000. It was originally intended to be a single-purpose Regional Center to meet financing needs for a new facility at the recently established BioHio Research Park.

During its early stages, the NORC struggled to educate the development community on the benefits of the EB-5 program; to identify which experts to use; and to capitalize the operation to the level needed to make the program more successful. Some of the post approval issues it has experienced are related to compliance, operations, and marketing.

The program is being marketed through local and regional economic development groups, through Jobs Ohio international business development managers, and through immigration attorneys. The group is also working closely with the Association to Invest In the USA (IIUSA), a trade association of Regional Centers and others interested in foreign investors.

The Vermont EB-5 Regional Center is the only USCIS Designated Regional Center in the United States owned, controlled, and supervised directly by a state government. As the only state run, statewide EB-5 regional center, Vermont offers unique advantages. It can provide the oversight and infrastructure required by USCIS, allowing businesses located in Vermont to access the EB-5 program without added cost or administrative burden.

Vermont's Regional Center was created in 1998 and is managed and operated by the Vermont Agency of Commerce and Community Development. Since 1998, more than $250 million has been invested in Vermont by EB-5 investors in companies such as Jay Peak Resort, Sugarbush Resort, Country Home Products, and Seldon Technologies. Businesses that are approved for an EB-5 project under the Vermont EB-5 Regional Center benefit from the added credibility that a state run EB-5 regional center provides.

The way that Vermont has structured its Regional Center is considered a big reason for its success. EB-5 investors often look for as much safety as possible in their at-risk investment. As one of the first EB-5 Regional Centers in the country, Vermont has a good understanding of the EB-5 program, offers the credibility of a government entity, and can demonstrate a significant track record to tout to investors.

A hybrid approach is used by some economic development organizations, chambers of commerce, and governmental entities. The City of Dallas, Texas, was interested in offering the EB-5 program and researched the Regional Center marketplace for two full years before launching the City of Dallas Regional Center (CDRC) in 2009.

The City of Dallas owns the Regional Center but has contracted with an outside party to manage the CDRC. Civitas Capital Management, LLC, is a professional, independent investment manager. Civitas performs rigorous institutional-quality financial analysis of each project, screening investments to ensure they meet job creation requirements and preserve investors' capital.

Civitas does not sponsor its own projects so the CDRC is able to choose projects based solely on their ability to provide what is important to EB-5 investors. The City of Dallas often co-invests directly in CDRC projects through tax abatements, grants, and other programs. By being strategically and contractually bound together, the CDRC and Civitas can offer a high degree of security to potential investors.

The CDRC, which operates exclusively within the city limits of Dallas, has made EB-5 investments in a range of industries, including assisted living, call centers, restaurants, and multifamily apartments. Most recently, the CDRC had raised $169.5 million, creating nearly 5,000 jobs in Dallas; funding all or part of eight development projects; and enabling 339 immigrant investors and their families to receive EB-5 visas.

While an investment must be considered to be "at risk," the main issues of consideration for the investor will include the safety offered by the project. Investors will want to know that the project will be completed and that it will generate the required number of jobs. Like most investors, they will seek investments that offer higher levels of security.

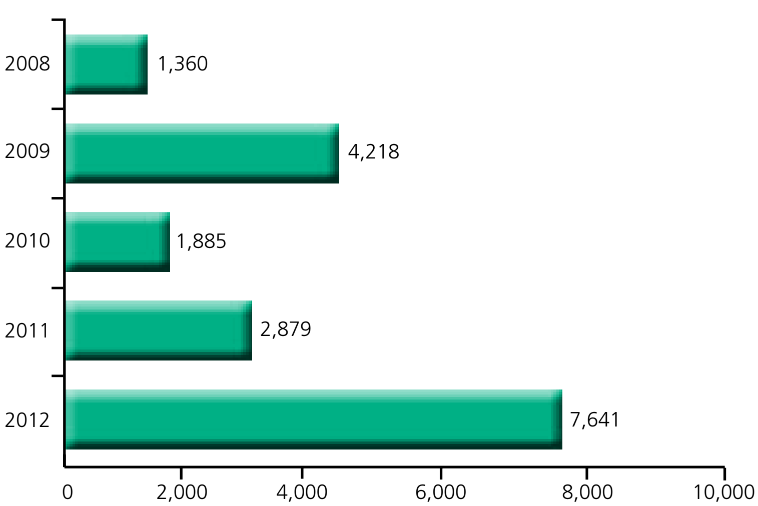
Investors are primarily motivated by receiving a green card; however, they also are generally looking for a return of their capital within a five-year time frame that includes interest of one to two percent. At a minimum, the investor must feel confident their principal is safe.

As with the regular EB-5 program, qualified investors investing through a Regional Center first receive a conditional green card valid for two years. At the end of that time, the investor files another application with USCIS showing that their money was "at risk" during the two-year period and that the jobs have been created. Once those applications have been approved, the investor and his immediate family become permanent green card holders and can later apply to become U.S. citizens. For investors, the whole EB-5 process takes approximately 3-5 years or longer depending upon the timeliness, quality, and validity of the project

The Regional Center designation does not mean that the Regional Center's capital investment projects are backed or guaranteed by the government. Further, there are no guarantees that an investor may ultimately be granted unconditional permanent resident status through an EB-5 investment. For example, if it is determined that the investor's money is not truly at risk or that insufficient jobs were created through the investment, then the investor's petition may be denied.

In the past, projects have failed and investors have lost their money. What's more, foreigners who've been allowed into the country through the program on a conditional green card face deportation if a project they invested in fails to meet the job-creation requirement after two years. Investors should exercise due diligence when making an EB-5 investment.

**FIGURE 4 – NUMBER OF EB-5 VISAS ISSUED**




Source: U.S. Department of State

As Regional Center popularity has grown, the competition for investors has increased. Regional Center representatives looking to drum up investors for their projects are frequent visitors to foreign lands. And, a virtual cottage industry has sprung up among marketing agents overseas who promote the centers while selling U.S. residency to the wealthy.

The number of EB-5 visas issued through the program is increasing each year (Figure 4). As the volume of applications has increased, both the Regional Center operators and the USCIS have become more adept at establishing clear policies and guidelines that lead to a successful investment.

## SECURITIES LAW: CENTERS & FINDERS

As Regional Center popularity has grown, the competition for investors has increased. Regional Center representatives looking to drum up investors for their projects are frequent visitors to foreign lands. And, a virtual cottage industry has sprung up among marketing agents overseas who promote the centers while selling U.S. residency to the wealthy.

It is important to point out that any U.S. person or firm associated with the purchase or sale of a U.S. security must be registered to receive success-based compensation. Payments made to non-registered persons may result in the offering losing its exempt status. It is common practice in the EB-5 program for Regional Centers and developers to pay non-registered "finders" compensation for bringing investors & capital into their projects. So far, there have been no sanctions or enforcement by federal and state agencies; however, there are investigations underway by Federal Bureau of Investigation, Department of Justice, Securities & Exchange Commission, and state regulators into issuer and promoter fundraising activity both in the U.S. and abroad.

Also, there has been virtually no litigation by investors facing removal due to failure of the project to create sufficient jobs to remove conditions or return capital. This will change as USCIS scrutinizes project results more closely and developers fail to exit with sufficient value to repay investors their capital contribution. Investors may invoke their rights to relief should there be violations of the offering, fraud, material misrepresentation or omissions by the issuer or their agents, whether or not they were registered.

Regional Centers and their members could be responsible for repayment of investment, fines, and penalties for failing to adequately audit and supervise the roles of the fundraisers and consultants they have contracted to raise capital for their development projects. This is a lucrative field for litigators because of the size of the capital raised and the lack of regulation & oversight.

## CONCLUSION

The EB-5 Regional Center program provides significant benefits to the U.S. and many foreign nationals. Communities and economic development agencies can use the tool to provide these heretofore unavailable sources of capital to spur economic growth. Localities receive much needed capital to spur economic growth while the foreign national gains eligibility for permanent residency status.

Those considering establishing an EB-5 Regional Center as an impetus for economic development should understand that the process is expensive and that they will be entering an environment that contains inherent risks, a high degree of complexity, and a great deal of ambiguity and delays from the regulating authorities.

In addition to the entry costs ranging from $150,000 to $250,000, an EDO should budget for operating expenses to cover marketing, legal fees, staffing, and other costs. It could take as long as 12 to 24 months before the Regional Center begins to generate sustaining revenue.

The staff for the Regional Center will need to be highly skilled professionals with an aptitude for complex legal issues, a marketing mindset, sales skills, and financial savvy. A separate governing organization will need to be established to carry out the legal and fiduciary duties of the organization and directors selected with a skill set and network that can support the Regional Center staff. Because of the complexity of the program, the new Regional Center will have to rely on a bevy of outside service providers, including those that can provide the requisite legal, accounting, marketing, sales, and economic forecasting knowledge.

Another inherent risk is a political one. The political climate surrounding immigration issues is a volatile one, and Congress has had to reauthorize the program every two years. It has suffered to overcome the unfounded criticisms that the program is simply a way to "sell" green cards.

Additionally, increasing instances of fraud are hurting the credibility of the program and causing investors to be more cautious. As a result, the USCIS is scrutinizing Regional Center applications more heavily and the job claims that go along with them. Likewise, foreign nationals can be much more selective about where to place their investments. They will seek those that offer greater safety and a higher return.

Finally, as more communities and for-profit enterprises apply for Regional Center status, the competition for the limited number of investors has become more intense. It takes significant resources, established networks, and much time to cultivate the relationships that will result in a foreign investment. Likewise, the community needs to be able to identify quality projects eligible to use EB-5 financing in order to draw investors' attention.

Despite these obstacles, there are still many advantages to receiving an EB-5 Regional Center designation. By providing an attractive way for a business project to raise low interest debt, communities can attract new development projects that spur economic growth.

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IEDC would like to thank the sponsors and exhibitors of the **2013 Spring Conference** for demonstrating their commitment to the important work of economic developers. It is through their generous support that IEDC has brought leaders of the profession together for this forum of professional development, peer networking, and discussions of the most imperative issues facing economic developers today. We proudly recognize the following sponsors and exhibitors as partners in helping economic developers to build strong, more vibrant communities.

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# NEWS FROM IEDC

### EDRP LAUNCHES LATEST REPORT ON ECONOMIC DEVELOPMENT IMPACT OF IMMIGRATION

Economic Development Research Partners (EDRP) recently launched its latest research report, "The Economic Development Impact of Immigration." The report does not take a political stand on the issue of immigration, but instead summarizes the large body of research on the topic, finding evidence that immigration strengthens the economy in several positive ways, including increased job creation, entrepreneurship, and workforce development.

Several case studies illustrate how economic development organizations can partner with immigrant populations for the benefit of local economies. The report is available to members to download for free on the IEDC website, and non-members can order a printed copy for $60, at the link http://www.iedconline.org/web-pages/resources-publications/edrp-publications/.

### AEDO PROGRAM ADDS FOUR MEMBERS, REACCREDITS TWO MORE

IEDC announces the accreditation of four new organizations: the Town of Gilbert, Arizona Office of Economic Development; Ann Arbor SPARK; Greater Akron Chamber; and Port Colborne Economic Development, Tourism, and Marketing Department (Ontario, Canada). In addition, there are reaccreditations of two AEDO members: Greater Houston Partnership and the Hutto Economic Development Corporation in Texas. These organizations represent the high quality and dedication to excellence that the Accredited Economic Development Organization (AEDO) program demands.

Earning accreditation is a great way for economic development entities to increase their visibility in the community and gain independent feedback on their organizational operations. For more information about becoming a program member, now totaling 36, visit the AEDO webpage or contact Program Manager Tye Libby at tlibby@iedconline.org.

### IEDC RELEASES NEW RESEARCH ON NASCENT CLEAN ENERGY MARKETS

IEDC has released new research on three nascent clean energy markets: electric vehicles, offshore wind energy, and net-zero energy homes. "Creating the Clean Energy Economy" discusses these sectors' economic development benefits in detail, hurdles to market development, and strategies to help overcome these hurdles. Supported by the Rockefeller Brothers Fund, the report aims to help economic developers unlock the potential of these industries to grow local wealth, jobs, and investment.

All reports and the executive summary (PDF) are free for download at http://www.iedconline.org/web-pages/resources-publications/iedc-publications-for-download/.

### NEW RESOURCES ON RestoreYourEconomy.org

IEDC has added resources to the disaster recovery web portal, RestoreYourEconomy.org, which features critical information for economic developers on how to be better prepared and recover economically from a major community crisis. New resources include recordings of the April 2013 webinar on how to prepare for the next economic disruption and the May webinar on building organizational capacity for recovery in rural places.

In addition, you'll find new reports and tools such as IEDC's Federal Disaster Recovery Funding: Minimizing Roadblocks to Maximize Resources, IEDC's Rebuilding the Tourism Industry after a Disaster, and a new business continuity toolkit from the Insurance Institute for Business & Home Safety (IIBHS).

### FEDERAL DISASTER RECOVERY FUNDING REPORT IS NOW AVAILABLE

IEDC recently released a new report, Federal Disaster Recovery Funding: Minimizing Roadblocks to Maximize Resources, which helps guide local communities, states, and economic development organizations (EDOs) on how to navigate through the requirements associated with federal funding for economic recovery after a disaster. The report provides an overview of which federal agencies fund economic recovery projects, outlines funding requirements, and discusses challenges that arise during the process of compliance.

Drawing on case examples from local communities and states, the report also provides practical guidance on how communities can successfully obtain waivers of specific funding requirements or can achieve alternative requirements to increase the flexibility of federal funds.

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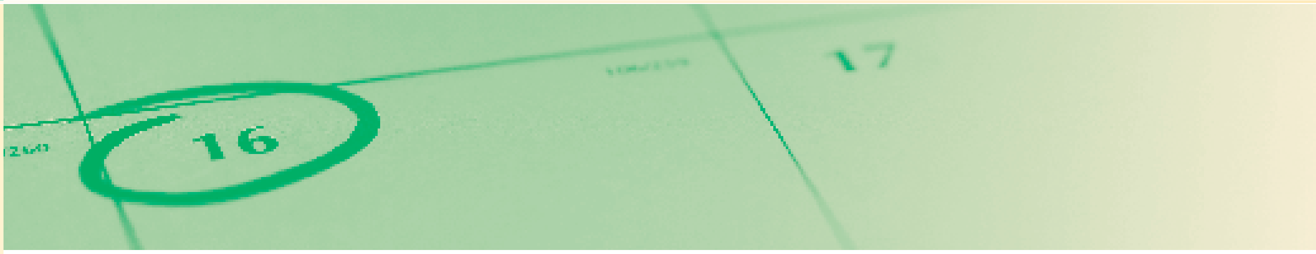
# CALENDAR OF EVENTS

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# e-marketing

*By N. David Milder*

## INTRODUCTION

Over the past year, DANTH Inc., a consulting firm specializing in downtown revitalization, has experimented with such social media as Facebook, LinkedIn, Twitter, and Pinterest and revamped our website, blog and email program. To support this effort, we did a lot of research on what the various e-marketing tools do best and the challenges small firms like ours have in using them. This article shares with the downtown revitalization community what we learned from our e-marketing overhaul, so that a) more independent downtown merchants might make an effective transition to e-commerce and b) to help downtown organizations and other EDOs create effective programs to assist them.

As a firm, we learned the importance of an analytical process able to identify the e-marketing tools that will most effectively use an organization's scarce resources to achieve critical marketing objectives. This process:

- Begins by looking at and prioritizing the organization's marketing objectives;
- Then matches the objectives with the e-marketing tools (e.g., website, emails, Twitter, Facebook, blog, etc.) that can best achieve each of those objectives; and
- Selects those objective-matching tools that can be implemented, because the organization has the required financial resources and either has or can acquire the needed skilled employees.

Understanding this process and then helping the merchants successfully go through it is the key to success for downtown organizations and other EDOs that want to help independent merchants establish a strong and viable e-commerce presence.

As a firm, we learned the importance of an analytical process able to identify the e-marketing tools that will most effectively use an organization's scarce resources to achieve critical marketing objectives.

**N. David Milder** is president of DANTH, Inc. (danthinc@me.com)

## WHERE NOT TO START

Downtown merchants and the staffs of their downtown organizations are likely to encounter a slew of e-marketing consultants who suggest one e-marketing tool or another because of the following:

- These e-marketing tools are popular;
- They are considered chic;
- The astonishingly rapid growth of users on Facebook and Twitter; and
- Most importantly, the social media's purported and vaguely evidenced ability to attract new customers and drive sales.

Such "follow the pack" reasoning is plainly inadequate. Many independent downtown merchants are small establishments, with fewer than five employees. They have limited financial resources available for their e-marketing activities. Most of such a firm's e-marketing activities will fall directly into the lap of the owner, where they compete with many other demands for his/her time and attention. As a result, it is essential to know that the use of an e-marketing tool will be:

- Consistent with the firm's overall marketing strategy;

## HOW EDOS CAN HELP INDEPENDENT DOWNTOWN MERCHANTS ENGAGE EFFECTIVELY IN E-MARKETING

*EDOs can facilitate effective small merchant online activities by helping them understand and use a simple analytical process. This process begins by looking at and prioritizing the organization's marketing objectives. It then matches the objectives with the e-marketing tools (e.g., website, emails, Twitter, Facebook, blog, etc.) that can best achieve each of those objectives. Finally, it selects those objective-matching tools that can be implemented, because the organization has the required resources. A primary objective for most small merchants should be "to be found" on the Internet. Another is cultivating repeat customers. Many small merchants can be effective online without having an e-store or the elaborate use of other e-commerce tools.*

Field observations strongly suggest that one of the biggest mistakes independent downtown merchants make is the failure to first identify the specific marketing objectives they want their e-commerce activities to achieve. It is essential for them to do so, if they want to effectively use e-marketing tools.

- Effective at reaching strategic objectives; and
- Affordable in terms of money, the owner's time, and the skill sets of the firm's current employees as well as any other skilled professionals it can afford to hire.

## POSSIBLE DOWNTOWN MERCHANT E-MARKETING OBJECTIVES

Field observations strongly suggest that one of the biggest mistakes independent downtown merchants make is the failure to first identify the specific marketing objectives they want their e-commerce activities to achieve. It is essential for them to do so, if they want to effectively use e-marketing tools. Typically faced with a scarcity of money, skills, and time, a small operator: a) needs to have objectives in order to make any judgment about the effectiveness of the e-marketing tools the firm invests in, and b) cannot hope to achieve all of the possible objectives. Therefore, prioritizing them and then focusing on the most important are essential.

There is a wide range of marketing objectives that a small merchant can try to realize through the use of the right e-marketing tools. Here is a brief list of some potential e-marketing objectives:

- Reaching target market segments
- Being found on the Internet
- Finding new customers
- Branding
- Making direct sales: setting up an e-storefront
- Advertising: information about new merchandise, sales, discounts, fun events; driving customers to brick and mortar stores
- Relationship building with customers; grooming "store apostles"
- Customer service.

When considering e-marketing, for the small independent downtown merchant, the most important of these objectives, the one that all should focus on, is "being found on the Internet." Here's why. The most significant impact the Internet has had on retailing is that, today, most shoppers first go online to research the merchandise or service they are interested in and the stores that sell them. For example, a 2010 Pew survey found that "58 percent of Americans research online about the products and services they buy," with 78 percent of Internet users engaging in this online researching (1). Merchants who are not in on the search, consequently, are unlikely to be in on the sale!" Being found" is complex and entails several components, such as:

- Name recognition – shoppers can learn who you are,
- Contact info – shoppers can learn where you are,
- Info about merchandise offered – shoppers can find what they want to buy, and
- "Why this store" info – reasons why the shopper should buy what he/she is looking for in this shop.

Merchants in different situations may vary in their needs for each of these components. For example, a new downtown merchant or a pure Internet retailer needs to be concerned about all four components, but a longtime downtown merchant may already be fairly well-known and found with relative ease. If the number of downtown merchants and the trade area population are small and/or relatively stagnant, then more merchants are likely to be in this situation. As a result, in many small and medium-sized downtowns, shoppers are probably more likely to want to know which merchants are offering the goods and services they want to buy and the reasons to make that purchase in that store.

The websites of too many downtown merchants and downtown organizations that provide member merchants with a web page usually just focus on the shop's name and contact information. Actually, the merchants usually have the stronger additional needs to display their product information and make persuasive appeals to patronize their shops.

Regarding online sales, although they accounted for an estimated 5 percent of the USA's 2012 total retail sales, a study in 2009 by Mckinsey & Company estimated that by 2011 the Internet will have played a role in 45 percent of the nation's retail sales (2). So the vast majority, around 89 percent, of the Internet's impact on retail is not via direct sales (Figure 1). E-marketing's impact is primarily indirect, but still critical. Also, many observers have noted that e-retail stores demand a lot of complex and expensive infrastructure related to storage, shipping, and payments. While this barrier has kept more firms from competing with Amazon, it also is a major reason that more independent downtown merchants have not attempted e-stores and why so many that did have failed.

### FIGURE 1. CURRENT IMPACT OF E-COMMERCE ON RETAILING

- In 2012, online sales only accounted for about 5 percent of total retail sales
- In 2011, the Internet played a role in an estimated 45 percent of the nation's retail sales
- About 89 percent of the Internet's impact on retailing is indirect, not through online purchases

## SOME EXAMPLES OF MATCHING E-MARKETING OBJECTIVES TO APPROPRIATE E-MARKETING TOOLS

Research on e-marketing tools is still unfolding, with many issues yet unanswered, but this much is clear: e-marketing tools differ in their ability to achieve various marketing objectives. It is critical to select those e-tools that are best able to achieve your firm's objectives. For example:

- The social media differ substantially in their penetration of the online audience: according to a 2012 Pew report, 66 percent of online adults use Facebook, 20 percent use LinkedIn, 16 percent use Twitter and 12 percent use Pinterest (3). (See Figure 2.)

### FIGURE 2. USE OF SOCIAL MEDIA AMONG ONLINE USERS

| Percent | Social Media |
|---|---|
| 66% | Facebook |
| 20% | LinkedIn |
| 16% | Twitter |
| 12% | Pinterest |
| 12% | Instagram |
| 5% | Tumblr |

Source: Pew survey, August 2012, 1,005 respondents

- The social media will also differ in their ability to penetrate specific market segments. Some illustrative findings by Pew: "African-Americans, young adults, and mobile users stand out for their high rates of Twitter usage" (4); 19 percent of online women use Pinterest compared to 5 percent of online males (5); LinkedIn attracts the most educated and male audience (6).
- E-commerce tools also vary in their ability to enable a downtown merchant to be found in Internet customer research efforts. (See Figure 3.) The Pew Research Center studied the sources that people rely on to get news and information about local restaurants, bars, and clubs. They found that 38 percent used a search engine and 17 percent specialty websites (e.g., zagat.com, urbanspoon.com, tripadvisor.com, etc.), while only 3 percent relied on a social networking site or Twitter. For finding information about other local businesses, Pew's survey had similar findings: 36 percent of respondents relied on a search engine, 16 percent on specialty websites, and just 1 percent on a social media (7).
- The most searched for online categories, when shoppers seek information about local businesses, are restaurants, financial services, and beauty services (8). Firms in these sectors definitely need an easily findable online presence.
- Research also suggests that social media do not drive online sales. For example, one study found that the average order value of e-commerce sales sourced from social media is 25 percent lower than the average sale coming from emails and 35 percent lower than those sourced from Internet search. (9). Another study in 2012 by Forrester Research found that only about 1 percent of e-retail transactions could be traced back to "trackable" social media links.
- Consumers making a first-time purchase with an e-retailer were far more likely to originate their purchase by first making a direct visit to the vendor site (20 percent), or finding it via "organic search results," i.e., the web page listings generated because they are closest to the search terms or "paid search," i.e., listings that businesses pay for so their web pages will be listed with certain keywords (16 percent and 11 percent, respectively). For repeat shoppers, e-mails and direct site visits are the keys: 30 percent of their online purchases are sparked by an e-mail from the retailer, while another 30 percent of repeat customer searches start with a direct visit to the retailer's site (10).
- For downtown retailers, the more important question is can e-marketing tools drive customers into their brick and mortar shops and increase sales. We could not find a reliable systematic survey of consumers that addressed this question. However, we did come across numerous anecdotal reports of special product and discount offers distributed via emails, Facebook, and Twitter that did bring more customer traffic and sales into traditional retail shops and eateries. For example, one ice cream parlor we visited in a New York City neighborhood reported occasionally offering special flavors only to people visiting their Facebook page, and they are always quickly sold out. But, this ice cream parlor has been around for about 50 years and has 8,000 Facebook likes.
- Many e-marketing experts claim that e-marketing tools, especially the social media, are very effective at building customer traffic and sales indirectly through stronger branding, relationship building, and better

### FIGURE 3. THE SOURCES THAT PEOPLE RELY ON TO GET NEWS AND INFORMATION ABOUT LOCAL RESTAURANTS AND BUSINESSES

| Information Sources | Restaurants, bars, clubs | Local Businesses |
|---|---|---|
| *Internet* | *51%* | *47%* |
| Search engine | 38% | 36% |
| Other specialty websites | 17% | 16% |
| Social Networking, Twitter | 3% | 1% |
| *Newspapers* | *31%* | *30%* |
| *Word of mouth* | *23%* | *22%* |
| *Local TV* | *8%* | *8%* |
| *Local radio* | *3%* | *5%* |
| *Printed newsletter* | *3%* | *4%* |
| *Mobile phone* | *2%* | *1%* |

Source: Pew survey, January 2011, 2,001 respondents customer service. For example, a 2012 survey of business to consumer marketers by Webmarketing 123 found that the top objectives of their digital marketing programs were increase brand awareness 33 percent, increase sales 26 percent, generate leads 22 percent, generate site traffic 11 percent, build online community 6 percent, and other 3 percent (11).

- It is interesting that only about a quarter of these marketing professionals were focusing on directly increasing sales. Among these marketers, 49 percent reported search engine optimization had the biggest impact on lead generation compared to 26 percent reporting it was pay-per-click advertising and 25 percent the social media.

The types of resources required to use a particular e-marketing tool will vary by the package of objectives it is targeted to achieve and the amount and complexity of the usages that are required to achieve them.

## WHAT ABOUT THE PERSONAL AND PROFESSIONAL SERVICE OPERATIONS?

Personal and professional service firms are very strong in many downtowns. Based on experiences as well as field observations and interviews, the expectation is that most of the previous section applies to these firms too, though there may be some important differences. For example, the potential for effectively using the social media is greater among hair and nail salons, gyms, spas, etc., because they do not primarily sell merchandise and personal relationships are so important in the delivery of their services. Also, LinkedIn will be very important for professional service firms that want to identify and cultivate new client prospects.

## SELECTING THE OBJECTIVE-MATCHING TOOLS THAT CAN BE IMPLEMENTED, BECAUSE THE ORGANIZATION HAS OR CAN HIRE THE REQUIRED RESOURCES

The types of resources required to use a particular e-marketing tool will vary by the package of objectives it is targeted to achieve and the amount and complexity of the usages that are required to achieve them. In my field observations, this is the second area where small merchants are likely to encounter problems – or have them made by consultants who just focus on the mechanics of using the e-marketing tools with which they are enthralled.

Given that "being found" online is probably the e-marketing objective most independent downtown merchants should focus on first, the initial inclination of these merchants – or their formal or informal "consultants" – might be to create a complex website with:

- Many pages,
- A full catalog of its merchandise,
- A matching e-store purchasing capability, and
- Lots of short marketing movies to liven up the website.

However, many small firms plainly lack the resources for such a robust effort and, more importantly, they probably do not need it to accomplish their e-marketing objectives. Following are three brief case studies to demonstrate this point.

*The High Effort E-Store for a Fast Food Shop.* Last year, in a NYC neighborhood that had sustained impressive economic growth through the Great Recession, I interviewed a fast food operator in the 6-10 employees category, who was very interested in penetrating the rapidly growing nearby office worker and high-rise residential markets. Though both market segments were strongly represented within a five-minute walk of the eatery, neither accounted for many of the pedestrians passing by or entering its doors. The owner was interested in creating a website where office workers and residents could find and learn about the eatery and its menu, order from the menu and daily specials, have their orders charged to their credit cards, and have their food delivered to their workplaces or homes.

As this small merchant became aware of the intricacy and full costs of such an operation, he began to question its efficacy. He was expecting to pay consultants to set-up his website, merchandise basket, and credit card charging. However, he did not foresee that he would also need:

- Someone to update the "specials" daily on the website and to periodically keep the overall menu up to date. Updating and maintaining a website can easily eat up far more resources than creating it;
- Additional part-time employees to process the lunchtime orders;
- Additional part-time employees to deliver the ordered food;
- Someone to provide the copy for his website pages;
- Someone to provide the photos and other graphics for the website pages; and
- To spend a lot more of his time and money putting together the needed new team and then managing a complex new operation.

A year later, this small operator has no website but has affiliated with a telephone-based service that takes orders and delivers food if customers know about the delivery service and call it. The eatery also does have a simple "name, rank and serial number" page on its BID's website, a Facebook page with one like and no postings, and is listed on a few special websites such as Foursquare. Right now, not much info is to be found on the web about this eatery. It still needs a much stronger "being found" on the web capability.

This could be accomplished by a modest website, without the e-store. It would successfully provide name and contact information as well as information about the

Website visitors, for example, could see the full menu and be invited to visit or phone the eatery to learn about and order the daily specials. An even simpler solution would be a substantial improvement of the information provided on the eatery's BID web site page, combined with a campaign to get it listed on more special web pages.

menu and reasons to patronize this eatery. Such a website would provide an affordable and acceptably better, if not optimal, penetration of the office worker market. Website visitors, for example, could see the full menu and be invited to visit or phone the eatery to learn about and order the daily specials. An even simpler solution would be a substantial improvement of the information provided on the eatery's BID web site page, combined with a campaign to get it listed on more special web pages.

The prime take aways from this case study are that:

- Small merchants should be wary of complex uses of e-marketing tools that are beyond their resources;
- More modest deployments of these tools are often more viable and ultimately more effective; and
- BID/SID web pages can be very useful for a small merchant if they do more than just provide the store's name, contact information, and business category. They need to also provide space for information about the shop's merchandise and to tell the merchant's story. This is the prime way that BIDs can help their merchant members gain a viable e-commerce presence.

*The Low Effort Ice Cream Parlor.* The very popular ice cream parlor in a New York City neighborhood mentioned earlier is a unique and highly regarded operation. It has been around for over 50 years and, for decades before that, it was an ice cream parlor under a different owner and name. Today, it is "a functioning antique," with an old soda fountain, tin ceiling, and marble small tile floor. It makes its own ice cream and is famous for its fresh homemade whipped cream.

When I spoke to the owner about his e-marketing activities, he smiled, reporting that he knew nothing about such things, but his workers, most of whom are high school or college students, had created a Facebook page that gathered 8,000+ likes. He felt Facebook definitely had helped generate some additional sales. The shop occasionally offers special flavors only to its Facebook page visitors, with the young workers doing the postings, and they are always quickly sold out. The owner said, with another smile and shrug of his shoulders, that he would like to do more with Facebook, but…. My guess is that the shop was doing well enough that there was no great need now to do more online marketing.

Googling the shop's name showed that this ice cream parlor had a lot more going for it than just its Facebook page. The search showed that its authentic, old time story and favorable customer reviews and contact information were available on a whole slew of specialty web sites such as:

- google.com,
- plus.google.com,
- www.yelp.com,
- www.facebook.com,
- patch.com,
- newyork.seriouseats.com,
- www.zagat.com,
- www.urbanspoon.com,
- newyork.citysearch.com,
- untappedcities.com,
- www.tripadvisor.com,
- www.delivery.com,
- www.menupages.com,
- www.bridgeandtunnelclub.com,
- events.nydailynews.com,
- newyork.grubstreet.com,
- www.scooponcones.com,
- chowhound.chow.com, and
- www.flickr.com.

*Ice Cream Parlor*

That these positive reviews were coming from customers and not the parlor's ownership enhances their credibility and power. Aside from the Facebook page, all the other listings came about organically without any effort by the ice cream parlor owners or employees.

The net result is that this ice cream parlor, with little effort on its part, can be very easily found on the Internet and its story is certainly being told. The very nature of its limited menu means that people do not really need to know much about all the flavors to be convinced they should visit the shop. Consequently, it probably can do fairly well without its own website. On the other hand, given its ability to easily attract a significant number of Facebook likes, it also might easily garner many Twitter followers and also use Tweets to inform followers of special flavors or coupons. It might then also use its Facebook and Twitter capabilities to further cultivate its existing store apostles – frequent customers who advocate a shop within their social networks – and garner new ones.

This ice cream parlor had very substantial name recognition and a bevy of store apostles well before or separate from any of its e-marketing activities. The strength of this non-electronic customer network substantially eased the challenge and costs of collecting 8,000 Facebook likes. A new ice cream parlor would need to expend a lot of resources to get enough Facebook likes to make its use worthwhile. The same is true of using Twitter. Indeed, one might ask if the use of these social media is cost effective for small merchants with say 30 transactions or less a day. Might they achieve the relationship building and customer service functions much more effectively and efficiently by focusing on face-to-face interactions? However, they still would need to be found online.

One thing the ice cream parlor owner probably should do is to have his young, Internet capable, employees check their listings on the special web pages to make sure they are accurate and up to date. Research has shown that this is where most small businesses are apt to fall down (12). Another thing he certainly needs to do is to keep hiring young employees who know how to use Facebook.

The prime take aways from this case study are that:

- Strong small businesses that have been around for a while probably will have strong assets that can make their entry into e-marketing a lot easier than start-ups or weaker operations.
- A robust, easy-to-be-found on the Internet capability does not always require a complex website if the merchant has sufficient positive listings and reviews on the special website pages, and a narrow range of products are offered.
- These special website pages are too often overlooked, especially by the food related operations that they so frequently cover and that account for such a high proportion of downtown businesses.
- Young, Internet savvy, employees can often be a source of the Internet related skills a small merchant lacks, but needs.

*A Well-Calibrated Retail Website.* A toy retailer has two brick and mortar stores in the Chicago suburbs and a very interesting website. The retailer quickly appears at the top of searches for toy stores in its two towns. Its website does not present a catalog of all of its toys but has a page that shows all the toymaker brands it sells with their logos. It does not have an e-store that sells scads of different toy products online. Its e-store is limited to selling just one new toy a week. Customers can sign up to get the "new toy" newsletter each week via email. The website has short movies, one to two minutes long, for each of the new toys. The website shows that the "new toys" are sold out every week. That they are sold out so often strongly suggests that the retailer is building up a core of repeat purchasers. Repeat customers are the makings of a band of store apostles, a solid revenue stream and a strong word of mouth network.

The website reportedly was put together and is maintained by a relative of the store's owner who is skilled in developing websites. It also has a Facebook page that has garnered 604 likes. People in the 35-44 year old age group are its most frequent visitors and they are most likely parents.

The important take aways from this case study are:

- The one new toy a week strategy is a great example of how calibrating a small firm's deployment of an e-marketing tool to its level of available resources can help assure its successful use.
- The site appears to be meeting all of the "being found" challenges, while also building a core of store apostles and making significant online sales.
- Family members can often be a source of the Internet related skills a small merchant lacks, but needs.

A robust, easy-to-be-found on the Internet capability does not always require a complex website if the merchant has sufficient positive listings and reviews on the special website pages, and a narrow range of products are offered.

## HOW CAN DOWNTOWN ORGANIZATIONS HELP?

The transition to e-marketing calls upon small merchants to innovate, something most of them feel very uncomfortable doing. Experience with trying to get small merchants to improve their facades suggests that many more – but not most – would innovate, if innovating can be made easier for them to do (13). This means providing them with needed information in easy to digest terminology and helping to bring the costs of their innovation down to affordable levels.

Some questions to which they may need answers are:

- What can they do and accomplish with e-marketing, what are the benefits and how much will it cost?
- Are there local merchants who have made this transition who they can talk to?
- Which types of skilled people will they need help from to get into e-marketing? Where can they find them? Or who can do a whole package for them?
- How can they afford to create and maintain the e-marketing effort?

Here are some actions downtown organizations and other EDOs might take:

- Post a 20-minute webinar or podcast on the organization's website – that the merchants can access at their discretion, when they have sufficient time – focused on what small merchants can do with e-marketing, its benefits, and costs.
- A tie-in to SCORE or other free or low cost consulting assistance to help clarify the connections between the e-marketing tools and the firm's overall marketing objectives.
- A mentoring program that connects e-marketing "newbies" to local merchants who have successfully made the transition.
- Provide a vetted list of technical assistance providers.
- Most importantly, offer each merchant who lacks a website a web page on the organization's website that can provide name, contact information, information about products or services sold, and the firm's story.
- Perhaps the downtown organization can charge a fee for an "enhanced page," i.e., updating, writing copy, supplying graphics, creating movies, etc., that would be meaningfully lower than what the merchants would have to pay if they did it by themselves.
- Provide website consultants to merchants at a lower than market rate cost, because the downtown organization can aggregate member demand and "buy in bulk."

- Provide an expert, on a reduced fee basis, who can help merchants get listed on special web pages. This is something different than search engine optimization.
- Use a downtown organization's strong Facebook and Twitter presences to help the merchants get sufficient likes and followers to be able to effectively use them. It is getting followers, not setting up and using the Facebook or Twitter page, that now impedes most small merchants from effectively using these e-marketing tools.
- Set up an "e-department store" where merchants, like the toy store described earlier, would only sell a few items. A dedicated and limited e-department store may be a good way to strengthen a downtown niche.

## ENDNOTES


1. Jim Jansen, "Online Product Research: 58% of Americans have researched a product or service online," September 29, 2010, Senior Fellow, Pew Internet Project http://pewinternet.org/Reports/2010/Online-Product-Research.aspx.
2. Steve Noble, Amy Guggenheim Shenkan, Christiana Shi, "The promise of multichannel retailing," McKinsey Quarterly, October 2009.
3. Lee Rainie, Joanna Brenner, and Kristen Purcell, "Photos and Videos as Social Currency Online," Sept. 13, 2012, Pew Research Center's Internet & American Life Project, http://pewinternet.org/Reports/2012/Online-Pictures.aspx.
4. Aaron Smith and Joanna Brenner, "Twitter Use 2012," May 21, 2012, Pew Research Center's Internet & American Life Project, http://pewinternet.org/Reports/2012/Twitter-Use-2012.aspx.
5. Lee Rainie, Joanna Brenner, and Kristen Purcell, "Photos and Videos as Social Currency Online," Sept. 13, 2012, Pew Research Center's Internet & American Life Project, http://pewinternet.org/Reports/2012/Online-Pictures.aspx.
6. Keith N. Hampton, Lauren Sessions Goulet, Lee Rainie, and Kristen Purcell, "Social networking sites and our lives," June 16, 2011, Pew Research Center's Internet & American Life Project, http://pewinternet.org/Reports/2011/Technology-and-social-networks.aspx.
7. Lee Rainie, Kristen Purcell, Amy Mitchell, and Tom Rosenstiel, "Where people get information about restaurants and other local businesses," Pew Research Center, December 14, 2011, pp.30. http://pewinternet.org/~/media//Files/Reports/2011/PIP-Local-business.pdf.
8. YP.com, "The YP Local Insights Digital Report" http://i2.ypcdn.com/radiant/radiant_assets_47482_YP-Local_Insights-Q3.pdf.
9. Keith N. Hampton, Lauren Sessions Goulet, Lee Rainie, and Kristen Purcell,"Social networking sites and our lives," June 16, 2011, Pew Research Center's Internet & American Life Project, http://pewinternet.org/Reports/2011/Technology-and-social-networks.aspx.
10. The Forrester report, The Purchase Path of Online Buyers, is reported in Brad Tuttle, Study: Posts on Facebook Almost Never Lead to Retail Sales" TIMEMoneyland Sept 27,2012 moneyland.time.com/2012/09/27/study-posts-on-facebook-almost-never-lead-to-retail-sales/ and Zak Stambor, "Social media posts don't lead to sale, Social Media, Sept 25, 2012, www.internetretailer.com/2012/09/25/social-media-posts-dont-lead-sales.
11. Webmarketing 123, 2012 State Of Digital Marketing http://go.webmarketing123.com/rs/webmarketing123/images/DMR%202012%20FINAL.pdf.
12. MarketingCharts staff, "1 in 2 Small Businesses Fail to Update Their Online Listings, Find Inaccuracies," February 6, 2013, http://tinyurl.com/atexhky.
13. N. David Milder, "BEING A DOWNTOWN CHANGE AGENT: Facilitating Change for Downtown Business Operators," June 3, 2007, http://www.danth.com/category/formats-facades-signs.

# brownfield redevelopments

*By Gary Bartek*

All too often, economic development organizations (EDOs) are choosing greenfield projects and bypassing opportunities associated with brownfield redevelopments. Many EDOs assume brownfields are too costly for redevelopment project candidates. However, Leavenworth, Kansas, has found that brownfield sites are often cheaper than greenfield sites as they have the necessary utility infrastructure already in place like water, sewer, gas, electric, data and voice networks. Equally important, the infrastructure is already paid for by the previous development.

By considering this approach, you can often achieve better economic development returns for your community. There is no faster way to make an immediate impact in your community than to eliminate all of the negative demographics of a brownfield site and turn that unfavorable situation into a more successful, better use in your city. Think of a new community imaging benefit by eliminating a problem area – an area or site (perceived or real) that is holding back your community potential and possibly holding back your community brand – thereby creating something of greater economic and social value.

Many EDOs have some brownfields in their communities. These sites have far reaching negative impacts on new business development and retention that may be difficult to realize at first glance, like a nearly invisible fog of blight impacting your community.

*City of Leavenworth Central Business District.*

Many EDOs have some brownfields in their communities. These sites have far reaching negative impacts on new business development and retention that may be difficult to realize at first glance, like a nearly invisible fog of blight impacting your community. In response, consider for your next strategy a direct, hands-on economic development approach to brownfields. By carefully choosing your EDO tactics and analyzing your returns on investment, successful brownfield projects can produce "a multiple win payout" result like no other type of greenfield economic development project. They can achieve this by eliminating all of the negative impacts of the past and creating new jobs and investment for the future – all within one successful project.

Let's take a closer look at brownfield redevelopment as a favorable way to impact neighborhoods by creating better living space environments and by eliminating blighted conditions in the community. This article describes the successful efforts in Leav-

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## STOP BYPASSING THIS OPPORTUNITY TO REVITALIZE A CENTRAL BUSINESS DISTRICT

*All too often, economic development organizations choose greenfield projects and bypass the opportunities associated with brownfield redevelopments. In many cases, however, brownfield redevelopment and historic preservation can be the most cost effective option and can also produce the best results. This article focuses on the successful efforts in Leavenworth, Kansas, to redevelop a deteriorating downtown industrial property on a city block in the central business district. It offers lessons learned and tips for success for other communities considering the prospect of brownfield redevelopment.*

*Choctaw Lofts Apartments*

*High Noon Saloon*

enworth, Kansas, to redevelop a deteriorating downtown industrial property. It features lessons learned and tips for success, emphasizing the importance of collaborative relationships and the need for patience and commitment.

## THE GEOGRAPHY AND HISTORICAL SIGNIFICANCE

Leavenworth, Kansas, home to the United States Army's Fort Leavenworth, is one of the 50 Ring-Road Cities of the Greater Kansas City, Missouri, area. This historic region became the indisputable "First City" of Kansas in 1854. Leavenworth immediately grew and prospered into a leading manufacturing center in Kansas, serving customers throughout the United States, particularly cities west of the Missouri River.

Today, the city is the 12th largest in Kansas with a population of 35,000. It is also a part of the 2,000,000 Greater Kansas City MSA population area. The city continues a rich tradition of historic preservation with eight landmarked districts throughout, as well as the diverse economy supported by a strong federal employment presence.

## THE BROWNFIELD DOWNTOWN SITE

The Great Western Manufacturing Center was established in 1858 on the corner of Second and Choctaw Streets. In the beginning, they produced flour-mill machinery, saw mill equipment, and manufactured cooking and heating stoves. By 1875, they specialized in manufacturing stoves for their product line and renamed the company, Great Western Stove Company. During its heyday, the company occupied two brick foundries plus six industrial buildings that employed about 150 people. At its peak, their product line comprised over 100 styles and sizes of cooking stoves, ranges, and heating stoves. The company was located at a downtown location, ideal for worker and water barge access as well as easy transport. The facility later closed and relocated several times over the next 60 years.

By early 1990, the century-old buildings became a neglected blighted property. Its downtown location created an immediate urgency in the community; because the site took up nearly a full city block, it profoundly impacted several additional areas in the downtown central business district. Thus, the brownfield project presented an excellent opportunity to help revitalize the CBD.

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### Early Partial Success

Greenamyre Rentals, a developer, acquired two buildings of the former Great Western Stove Company complex in 1990. They rapidly redeveloped one brownfield property unit into new residential housing. By 1991, the developer converted this 3,000-square-foot building into new housing stock, naming the new apartment building Choctaw Lofts. One unique architectural feature of the building is that the first floor is four feet above street level. In its early history, this floor was used to load and un-load product out of the door directly to awaiting rail cars. The four feet mark was the perfect height to do this. Today, the two-story building contains six residential apartments with market rents ranging from $695 to $715 per month and a long waiting list for persons wanting to rent.

Greenamyre Rentals converted a second, 16,250-square-foot building on the original site into commercial space in 1991. Today, the building is occupied by popular High Noon Saloon, a Midwest micro brewery made famous for their production of Annie's Amber Ale.

During the period of 1991–2005, a CPA firm became a tenant next door to the High Noon Saloon, successfully growing their accounting business with many clients.

**Later Success**

In 2005, the city of Leavenworth completed a three party agreement with the property owner (Tire Town Inc.) and a regional real estate developer, Foutch Brothers, to relocate the property owner to a new location at 1825 S. 4th Street and allow the developer to acquire the remaining six buildings of the Great Western Stove Company for future redevelopment. From 2005 to 2012, the Foutch Brothers faced several pre-development obstacles. From the very start, it was a difficult financing environment to secure federal and state tax credits and to secure adequate financing for the project. Commercial bank financing markets also collapsed in 2008 and hurt the project's momentum, subsequently halting redevelopment until mid 2012.

Fortunately, the Foutch Brothers had developed a strong relationship with the city and area businesses in the very beginning of this undertaking, while working with the Kansas Department of Health and Environment on environmental issues at the site itself. This early relationship later became a key lesson in the success of getting the project financed and overcoming many of these early obstacles.

In mid 2012, the banks were again interested in lending for the project. By December of that same year, the city negotiated an addendum to the 2005 agreement with the developer, allowing it to restart the project. On December 23, 2012, the developer received new financing for the entire project and named the redevelopment Stove Factory Lofts.

The addendum to the 2005 agreement called for the project to be completed in three phases: Phase 1 – Buildings E & F; Phase 2 – Buildings B, C, D; and Phase 3 – Building A.

*Foutch Brothers Building F Redevelopment*

In January 2013, the developer began construction on Buildings E & F. Today, nearly 20 carpenters and masons work on the project, many of them hired locally. The developer's Master Plan calls for 186 market-priced apartments plus an additional 15,000 square feet of office, retail, and a restaurant site.

## FINANCIAL IMPACTS

The original site has improved property valuations by $233,500 and $563,700, respectively, for the first existing two redeveloped buildings. It also has over $14 million in planned improvements for the remaining six buildings over the next three years. The progress thus far has all been accomplished on a brownfield site that originally had a combined property tax valuation of $186,120 in 1990. This all changed when community stakeholders responded with a viable solution for the property.

| SITE NAME | 1990 $ TAX VALUATIONS | 2013 $ VALUE |
|---|---|---|
| Choctaw Lofts | $31,800 | $233,500 |
| High Noon Saloon | $101,000 | $563,700 |
| Stove Factory Lofts | $53,320 | Planned $14,000,000 |

## COMMUNITY IMPACTS

Today, the brownfield redevelopment has had an immediate, positive impact on Leavenworth's downtown businesses and residential housing neighbors. Nearby property owners have advised that they are now planning to make new investments in the area. External investors are also making plans for a new hotel, as well as retail and housing projects, all within a mile of the former Great Western Stove Company property.

The emotional impact to the community was much larger in lifted spirits and pride for the major improvements in the city. That renewed spirit in 2013 made community residents throughout the area rethink their perceptions of Leavenworth, as that particular site was no longer viewed as a redevelopment failure but another win to be added to the city's long history of successful historic preservation projects. The city is now realizing

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Make a commitment to the brownfield redevelopment. From the start, all parties made a commitment to restore the buildings, refusing to abandon or demolish them at any point in the project.

the multiple win payout because of this successful redevelopment. As with any redevelopment project, there were some challenges along the way.

## CHALLENGES MET

One of the contract challenges for both parties was that the original agreement signed in 2005 did not contain terms with construction start dates or planned completion dates; it was more open-ended as to when the project would commence. A second challenge was that the original contract failed to contain standard financing completion date language. Both items were successfully added to the 2012 addendum signed by the city and the developer. These became critically important items in the contract to bring the project forward. It is especially beneficial to pay close attention to the contract details and secure, if necessary, outside legal counsel in drafting real estate development agreements.

One public relations challenge and city response that frequently came up throughout the project was the importance of defending the developer's reputation when things didn't proceed as quickly as everyone in the community would like. The reality was that the developer knew all the facts about the difficulty of securing bank financing and the city also had a good understanding of financial markets, but many in the community didn't understand the complexity of a brownfield redevelopment. Given the fact that the first two buildings of the Great Western Stove Company were so quickly developed, this early success created some very high community expectations for the second developer to meet. In order to appease the city's citizens, mayors and commissioners provided support for the developer to reduce any negativity. Again, this is where the importance of relationships is essential throughout the project.

## LESSONS LEARNED

*First and foremost, patience is absolutely necessary.* Brownfield redevelopment can be complex, to say the least. During the process, the city understood the tax credits and bank financing markets along with the challenges facing the developer over that seven-year period. During that time, the federal government was issuing emergency TARP funds to shore up weak banks, approving and establishing forced mergers among financial institutions, and quickly approving new massive infrastructure projects across the United States as a reborn Keynesian approach to stimulate the economy.

Leavenworth civic leaders had respect for and confidence in the Foutch Brothers to complete the project. That confidence and respect was initially secured by the company's first successful brownfield redevelopment in 2001 in Leavenworth. Then from 2005 to 2012, the developer continued to make new real estate investments in the community, demonstrating to city officials their continued long term commitment to the area. Today, the Foutch Brothers are one of the largest property owners in Leavenworth. A prime example of persistence and patience was the fact that the developer and the city continued an open dialogue with neither party ever giving up on the realization of the project. The developer was always looking for new ways and approaches to secure financing. That tenacity, as explained previously, produced success in 2012.

*Collaborative relationships* were also necessary for the success of this enterprise. The Foutch Brothers developed excellent working relationships with the city of Leavenworth, Leavenworth County, and the Kansas Department of Health and Environment throughout the entire process. This communication provided a sense of fluidity and cooperation that helped all parties understand and accept the challenge to preserve the history of the buildings by maximizing their functionality.

## TIPS FOR SUCCESS

There are several steps a community can take to help ensure a successful redevelopment project.

- *Make a commitment to the brownfield redevelopment.* From the start, all parties made a commitment to restore the buildings, refusing to abandon or demolish them at any point in the project.
- *Be open to new ideas on the revised contract language between the city and the developer to meet both sides' present needs and real estate market realities.* Several examples for the benefit of the city included: standard construction start date terms and planned completion date terms. Examples that benefited the developer, included: new incentives that waived all city permit fees, sewer connection and city internal plan review fees for the project. This represented

Be open to new ideas on the revised contract language between the city and the developer to meet both sides' present needs and real estate market realities.

*Frederick Henry Harvey House built in 1883.*

*Historic residential residence along Broadway Street.*

no direct cost to the city. However, it meant the city would forego future revenue and did translate to a $120,000 benefit to the developer.

- *Engage and bring in the appropriate environmental regulators early on in the brownfield redevelopment.* In the beginning, the Kansas Department of Health and Environment was a very important stakeholder to identify all the environmental risks with the project. Both potential and real environmental risks were identified in the early project phases. This helped each site developer with information needed to make necessary business decisions with their projects. Remove the clouded uncertainties as early as possible. This was a critical success factor for the decision makers at the time and can't be emphasized enough for any brownfield project.
- *Focus on solutions instead of problems with all stakeholders.*
- *The use of city and county economic development tools is also imperative.* In the 1990s, Leavenworth established a Special Street Paving District on Choctaw Street. Through this, the city determined it would remove abandoned rail tracks on the existing non-paved street and pave Choctaw Street approximately seven blocks through the central business district. This was especially important to Greenamyre Rentals in getting the first two properties developed as an early success of the project. The Foutch Brothers' Stove Factory Lofts qualified for a 95 percent property tax abatement for their capital investment for a period of ten years on any incremental increase in property valuations. The Leavenworth School District, Leavenworth County, and city of Leavenworth jointly contribute to the success of this property tax abatement program. Both incentives were critically important as they lowered the cost of redevelopment for the high risks associated with the property.
- *Finally, stay committed for the long-term and secure an early success as soon as possible.* In almost all real estate transactions, there are ups and downs, hills and valleys, and emotional swings. Brownfields are aged projects, usually far more complex in makeup than that of greenfield sites. Brownfields simply take more time. Make sure to factor that in your timetables and community expectations.

Engage and bring in the appropriate environmental regulators early on in the brownfield redevelopment.

## WHAT THE CITY OF LEAVENWORTH GAINED FROM BROWNFIELD AND HISTORIC REDEVELOPMENT OVER THREE DECADES

The city of Leavenworth is fortunate to have in the community a strong will for historic preservation. There is a widespread commitment that continues today to preserve structures worth saving.

In 2001, the Foutch Brothers began a successful brownfield redevelopment in Leavenworth at the former Abernathy Brothers Furniture warehouse located at 2nd & Seneca. The furniture manufacturing business was established in 1856 by Colonel James L. Abernathy and quickly became the leading furniture manufacturer in the Midwest. The building received a second life and is today a 54-unit affordable senior living facility. Exposed structural wood beams and columns are featured in each apartment. Abernathy Lofts has received the Kansas Preservation Award of Excellence and is also a National Main Street Redevelopment Award Winner.

Eight historic districts have been created to date in Leavenworth. They include: the Downtown Historic District, North Broadway Historic District, North Esplanade Historic District, South Esplanade Historic District, Arch Street Historic District, 3rd Avenue Historic District, In examining brownfield decisions in the community, consider the value of creating a portfolio of redevelopment properties just as you might for the high-profile, new capital investment offices or industrial buildings that all economic development professionals pursue.

Union Park Historic District, and the Leavenworth Industrial Historic District.

Additionally, "stand alone" National Register Historic Properties include: Angel House, Insley House, Sante Fe Depot, Union Pacific Depot, Leavenworth County Courthouse, Brewer House, Burt House, and Carroll Mansion.

These properties were all actively generated by a community population of approximately 35,000. Multiple generations in the community have done the preservation "pushups and chin-ups" over a long period of time. This work is not always easy, but real accomplishments have been made and realized. The Leavenworth County Historical Society, Leavenworth Historical Museum Association, and the Preservation Alliance of Leavenworth are community based non profits that continue to be active voices for brownfield redevelopment and historic preservation in the community.

## CONCLUSION

Brownfield redevelopment is a necessary part of any neighborhood and CBD revitalization program. Economic development professionals frequently face the time and investment decision on what to do with brownfields. In many cases, however, historic preservation and brownfield redevelopment can not only be the most cost effective option but also produce the best results.

In examining brownfield decisions in the community, consider the value of creating a portfolio of redevelopment properties just as you might for the high-profile, new capital investment offices or industrial buildings that all economic development professionals pursue. Keeping both the old and new within a community provides the diversity needed to create a healthy balance. Economic development projects should mirror the composition and commitments of the city, and target each segment of the developer community as a whole.

# when the lights go out

By John A. Adams, Jr., Ph.D., CEcD

*Cyberspace has fundamentally transformed the global economy. Cyberspace is the new frontier – the new domain – full of possibilities to advance security and prosperity in the 21st century. And yet, with these possibilities, also come new perils and new dangers. These threats are real and they exist today. A cyber-attack perpetrated by nations, state or violent extremist groups could be as destructive as the terrorist attack on 9/11. Such a destructive cyber-terrorist could virtually paralyze the nation.*

*Imagine the impact an attack like that would have on your company or your business. For example, we know that foreign cyber actors are probing America's critical infrastructure networks. They are targeting the computer control systems [SCADA] that operate chemical, electricity and water plants and those that guide transportation throughout this country. We know of specific instances where intruders have successfully gained access to these control systems; that could contaminate the water supply in major cities or shutdown the power grid across large parts of the country.*

*The most destructive scenarios involve cyber actors launching several attacks on our critical infrastructure at one time, in combination with a physical attack on our country. Attackers could also seek to disable or degrade critical military systems and communication networks. The collective results of these kinds of attacks could be a cyber-Pearl Harbor, an attack that would cause physical destruction and loss of life. In fact, it would paralyze and shock the nation and create a new, profound sense of vulnerability.*

Secretary of Defense Leon E. Panetta
October 11, 2012

The remarks of former Secretary Panetta highlight the tremendous amount of concern and attention on the identification and protection of critical infrastructure and key resources (CIKR). For decades, as we felt insulated from outside terrorist attacks, security was sacrificed for the economy of operations, expanded market demands, and low cost service. Outside of government regulations on safety, monopolies, and interstate trade – growth and market share have been the engine of the big four infrastructure services: electricity, telecommunication, water, and oil and gas. Prior to 9/11, infrastructure was generally taken as a given and few, other than the military and local base operations, raised the question of what should be protected and how? Our nation had been insulated from homeland disruptions and "attacks."

Protection of each critical infrastructure component is paramount, yet the electric grid is the most important element to the overall economy, security, and safety of the nation.

While there have been veiled incidents against the homeland, such as espionage threats and penetration of U.S. war production during World War I and German U-boat patrols in the Gulf of Mexico off New Orleans during World War II – the last time we were attacked at home was two centuries ago, during the War of 1812, when the British burned the White House. This all changed on 9/11, as cyber expert Ted Lewis notes: "The devastation of 9/11 demonstrates that attacks on the infrastructure can result in massive casualties, sizeable economic, political, and psychological damage, not to mention damage to the American psyche."[1]

Protection of each critical infrastructure component is paramount, yet the electric grid is the most important element to the overall economy, security, and safety of the nation. (Figure 1) Electricity is the lifeblood of today's modern world and a prime necessity for all citizens. It powers economies, consumer conveniences, national security, critical tele-

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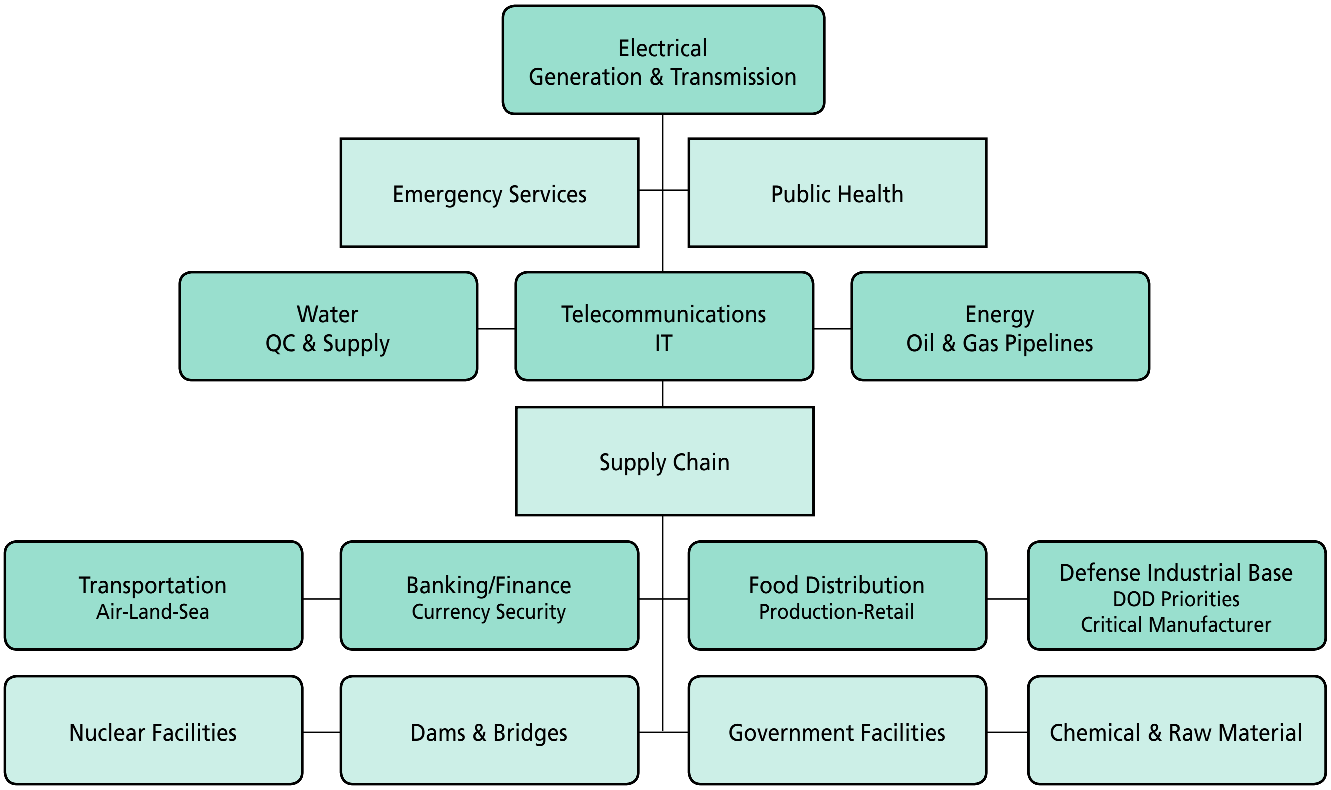
## CYBER THREATS TO CRITICAL INFRASTRUCTURE

*The wired world we live in today has proven both a tremendous boost to the economy as well as a potential for disruption. The purpose of this article is to introduce an awareness overview to economic developers and local leaders who daily work with public and private entities that are impacted by cyber threats. No longer is the realm of cyber threats left only to the IT experts. In today's connected world, the economic development community needs to have a heightened awareness of how cyber-attacks can impact the safety and security of their communities and regions.*

**FIGURE 1 CRITICAL INFRASTRUCTURE HIERARCHY**




Sources: White House. Executive Order 13010, Washington, D.C.:1996; White House. Comprehensive National Cyber Initiative (CNCI). July 2008; GAO. "Critical Infrastructure Production." December 2011

communications, and the industrial production/supply chain ability to deliver competitive advantages to global markets. Given the efforts to provide sector specific cyber information and procedures, there is a "plethora of guidance available" to manage and protect our critical infrastructure.

**Cyber-note:** Security is only as strong as its weakest link. The best attackers know instinctively to look for that weak link.

Each element of our overall infrastructure is vitally important; the simple fact remains that the cascading impact of local and regional failure of electrical power will impact all primary services – especially water, telecommunication, and oil and gas. The vastness of the country has resulted in the evolution of the interconnection of the power grid connecting over 3,000 power providers, generating more than 800 megawatts transmitted over more than 210,000 miles of transmission lines. Thus, in this review of the critical infrastructure, each critical sector will juxtapose a position against the role electricity has in the delivery, safety, security, and impact of any event that would diminish and disrupt overall service.[2] (Figure 2)

Disruption of the electric power grid can happen at a number of points, yet the most critical is at the site of generation, followed by the transmission to customers. While both are important, the ability of a cyber-attack to penetrate the SCADA (Supervisory Control and Data

**FIGURE 2 INVENTORY OF CRITICAL INFRASTRUCTURE**

| | |
|---|---|
| Energy | 5,800 power plants<br>824,847 oil and gas producing sites |
| Transportation | 5,179 public airports<br>140,000 miles of active railroad with 21,178 passenger miles<br>600,000 bridges & tunnels<br>2.5 million miles of pipelines<br>361 ports |
| Telecommunications | 2 billion miles of fiber and copper cable<br>14,000 radio & 1,700 television broadcasting facilities<br>252,000 cell phone towers<br>293 million wireless subscribers |
| Agriculture and Food | 2,200,930 farms<br>28,000 food-processing plants |
| Water | 1,048 federal reservoirs<br>14,780 public wastewater treatment facilities |
| Public Health | 5,754 registered hospitals |
| Emergency Services | 19,971 EMS agencies |
| Banking and Finance | 7,280 FDIC insured institutions |
| Postal and Shipping | 151.5 million delivery sites |
| Key Assets | 87,265 historic places<br>104 commercial nuclear power plants<br>84,000 dams<br>1,500 government-owned facilities |

Sources: Department of Homeland Security, Department of Energy, Federal Energy Regulation Commission, Government Accountability Office and Department of Defense

Acquisition) systems that control electric production and delivery, some of which have outdated security features, presents a significant vulnerability. (Figure 3).[3]

### FIGURE 3 TEN COMMON SCADA VULNERABILITIES

| Common Vulnerability | Reason for Concern |
|---|---|
| * Unpatched published known vulnerabilities | Most likely attack vector |
| * Web Human-Machine Interface (HMI) | Supervisory control access |
| * Use of vulnerable remote display protocols | Supervisory control access |
| * Improper access control/authorization | SCADA functionality access |
| * Improper authentication | SCADA access |
| * Buffer overflows in SCADA services | SCADA host access |
| * SCADA data/command manipulation | Supervisory control access |
| * Structured Query Language (SQL) injection | Data historian access |
| * Use of IT protocols with clear-text authentication | SCADA host access |
| * Unprotected transport of application credentials | SCADA credentials gathering[4] |

The potential attackers have far too much access to power providers and opportunities for a cyber-attack. Hackers and cyber-spies, from both nation-states and rogue groups, probe for the weakest link. They have already successfully penetrated our power grid at a number of locations that we know of and likely at locations we do not even know about. While rogue actors continue to explore ways to hack systems, the threat to the electrical power grid and other key infrastructures across the country long ago moved from amateur incidents to intentionally state-sponsored disruptive events and terrorism. According to the National Security Agency (NSA), both the Russian and Chinese intelligence networks have repeatedly probed the U.S. electric power grid for vulnerabilities. Thus, one of the most concerning aspects of cyber-attacks on the grid is that most "advanced persistent threats" (APT) have completely evaded detection. If and when a threat is detected, positive attribution as to source, scope of attack, and intent is often difficult.[5]

## ADVANCED PERSISTENT THREATS

The range of attackers, including state-sponsored hackers, and the breadth of targets include intelligence gathering and high-value targets across many industry sectors and types of critical infrastructure. The scope of the APT is measured by the available resources and determination of the attacker. One element of persistence is the ability to adopt the attack to the target's security profile and neutralize access in order to extract data or disrupt critical infrastructure. Thus, this makes defending against APTs very problematic. The Director of the Counter Threat Unit of Dell Secure Works, Barry Hensley, noted, "The tools, procedures and other controls used to defend commodity security threats are often ineffective against targeted APTs. When actors are focused on a specific target, they customize and adopt their tactics, techniques and procedures to predict and circumvent security controls and standard incident responses."[6]

Such APT attacks can occur over months and years as the attacker responds to counter measures and explores security lapses. Once the hacker has gained access to the network, it is very difficult to rid the network of the intrusion. Stuxnet, Shady Rat, and Night Dragon are examples of highly successful APTs. The resourceful and adaptive adversaries generally have very specific targets and, when planned and encouraged by a nation-state actor, many times are executed by decentralized agents of the state. And the move to enhanced smart grids and cloud computing, while hyped as the "next best thing," is also the "next" great target for adversaries.[7]

In spite of new "smart grid" programs – new digital electricity networks – required by the Federal Energy Regulatory Commission (FERC) and supporting agencies, we are as a nation still highly exposed to APTs. This is due primarily because the utilities use commercial software operated over the Internet that has not been fully vetted and protected.[8] The smart grid is intended to open a new era beyond traditional grid interconnection and technologies – to enhance systems to be more flexible, accessible, secure, and reliable.[9] Notwithstanding, the power industry has expressed concern that coordination among agencies has been lacking and some have questioned whether FERC has the technical or intelligence-handling expertise to oversee hardening of the grid. Furthermore, there is a lack of enforceable requirements and standards thus making interoperability of the smart grid mandates costly and challenging. Blackouts from catastrophic electric power systems failure would produce significant cascading financial loss across the broader economy. An interdisciplinary approach to security measures is imperative to a robust cyber defense-in-depth.[10] (Figure 4)

Since some utilities do not think they are targets for monetary defalcation, espionage, or Internet theft, they fail to recognize the risk. The electric power industry is undergoing profound changes to address security concerns. Currently it is estimated that energy companies that do invest in computer/systems security are able to

The potential attackers have far too much access to power providers and opportunities for a cyber-attack. Hackers and cyber-spies, from both nation-states and rogue groups, probe for the weakest link. They have already successfully penetrated our power grid at a number of locations that we know of and likely at locations we do not even know about.

prevent about 70 percent of known cyber events. Increased spending, replacement of old systems, and employee training help reduce exposure, yet, there will always be threats. Despite the replacement of older equipment with "digital devices," exposure to hackers still remains a threat. Anywhere there is a digital system – from the generation plant to the smart meters to the home controls – the system is vulnerable to an ever-growing set of motivated and highly-skilled attackers.

The sophistication of new malware attacking systems, including zero-day attacks, control systems rootkits, and software has shown it is difficult to prevent and/or detect attacks. The simplest intrusions may be the most damaging. For example, new systems that allow home owners to remotely set their thermostats are a direct portal for hackers to penetrate. Furthermore, there is only modest sharing of cyber information between private utilities and government agencies.[11]

To date, there has been an alphabet soup of government agencies that have compiled extensive reports, data, and technical briefs, driving the creation of regulations and oversight that has done little more than cost the industry millions of dollars. Since most of the grid is owned by the private sector, there has been a natural push back to invest adequate funding to keep pace with security requirements. Safety is paramount and has been a world-class hallmark of the industry. As such, the security aspects – due to cost and oversight – have not kept pace with the increased threats. A number of risk management models have been developed to define techniques and methodologies to assess cyber-security risk. Electrical providers across the nation deal daily with risk, yet few have ever dealt with a cyber-attack. Thus, many questions remain – has management defined risk constraints, does each organization have a risk tolerance profile, do they know their cyber security requirements and have they organized them accordingly, and is there a creditable and flexible plan for recovery.[13]

## FIGURE 4

**A robust cyber security defense-in-depth strategy includes:**

- Concise and accountable command and control guidelines
- Well defined and monitored boundary for controls of cyber authorizations
- Robust authentication, authorization, and accounting controls
- Restricting physical access to industry control system (ICS) network and devices
- Established risk tolerance and risk methodology: threats and vulnerabilities
- Monitored and defined encryption techniques for data processing and storage
- High-level cyber policies, procedures, authentication, and standards
- Documented purpose, functions, sensitivity, and capabilities of each function
- Clearly crafted roles and responsibilities for cyber incident response
- Implementing a network topology for the ICS that has multiple layers
- Secure assessment of organizational affiliations, access rights, and privileges
- Ensuring that critical components are redundant and are on redundant networks
- Operating standards that provide defense in depth and defense in breadth
- Clear requirements for implementing controls and cyber-attack response
- Robust operational standards for addressing high-impact risk
- Effective monitoring and measurements of cyber security programs[12]

**Cyber-note:** Cyber deterrence has to be repeatable because no feasible act of cyber-retaliation is likely to eliminate the offending state, lead to the government's overthrow, or even disarm the state. Thus, a state could attack, suffer retaliation, and live to attack another day.[14]

When the lights go out as a result of a cascading cyber-attack over a wide area of the country, there will be little concern for mission or vision statements, financial limitations, legislation, or stockholders. Elaborate outlooks promoting a "holistic" approach will be useless. The prime objective will be to safely assess the problem, defend against the threat – if possible – and restore service. Thus the most important objective of the industry working with government agencies at all levels is, and always will be, to first "frame the risk" as clearly as possible – given all the best data, training, and intelligence available; second, conduct a "risk assessment" which is shorthand for, what are the priorities?; and third, given the assessment of the situation and priorities, determine what will be the "response" or recovery time objective.

In a classic sense, risk management is the process of risk avoidance, mitigation, sharing and/or transference. What may initially appear as an isolated cyber-attack on a local system, could without the ability of the operators to act fast enough cascade into a statewide or regional outage. In other words, a "systems" attack could not only create damage and disruption to the grid, but escalate into widespread physical damage as vital services shut down and routinely sustainable basic services such as transportation, water, food supplies, and telecommunications are disrupted.[15]

As such, the security aspects – due to cost and oversight – have not kept pace with the increased threats. A number of risk management models have been developed to define techniques and methodologies to assess cyber-security risk. Electrical providers across the nation deal daily with risk, yet few have ever dealt with a cyber-attack.

## RISK-BASED DECISIONS

Framing the risk depends on assumptions about the threats – how likely is the occurrence, can the initial impact be quickly measured, and what is in place to protect our perceived vulnerabilities. If a tree falls across a power line, the disruption is quickly noted, traced to the location, the grid is rerouted, and crews are dispatched to service the outage. Procedures are in place and action taken. In the case of a cyber-attack, a Trojan Horse or sleeper virus could go unnoticed for days or weeks, planting the seeds of corruption and doing unnoticed damage. The risk tolerance could be mishandled or misinterpreted because of false positive and false negative responses to system checks, and operators crippled by the speed of the disruption once it starts. In the event of such a catastrophic event, there will be only two key elements to addressing the attack and responding in kind.

The first and foremost element is a "trusted relationship" among all the players, both public and private, addressing the event. These relationships need to form long before such an incident, due to experience, training exercises, cyber education, and constant communication. The second critical item is communications; point-to-point over secure lines is paramount among vendors, those with interconnections to the system, and government agencies. Those with communications access should be based on a prequalified access control list. For example, security protocols need to be in place in writing and easily accessible long before an incident to allow third parties and vendor access to sensitive data and systems. When the lights go out, so do the cell towers, land lines, and given the presence of electromagnetic pulse or EMP – radio frequency traffic can also be disturbed.[16]

**Cyber-note:** security and the smart grid: It remains to be seen how the industry will guard the security and privacy of the data while also integrating smart metering data into the utility smart grid analytics frameworks.[17]

Incident response to a cyber-attack on the electric grid or sub-system will need an organization-wide response. Determination of the attack and resulting damage will be driven by the ability of all responders to mitigate the impact. A clear and informed assessment of the situation must occur followed by the development of alternatives to correct and defend against the attack. If in fact there is a multi-level attack regionally or in a specific area, the response could be a mixed approach to both the cyber damage and the resulting physical damage due to disrupted systems. At this stage, the government should engage economic development professionals and community leaders at all levels to participate in the response as well as coordinate the triage for the recovery.[18]

To insure a robust response to a cyber-attack, there needs to be a very clear chain of command to address the levels of priorities needed to combat the threat and insure recovery. It is imperative that command and authority are driven by the person in charge. There is always a concern that the experts who solve and lead the response and recovery will be undercut by those interjecting political clout or perceived authority – generally resulting in confusion, uniformed pronouncements, and costly delays in addressing the situation.

While attribution of a cyber-attack is important to federal officials, the immediacy of action takes low priority unless it is directly related to the immediate recovery of first responders against an imminent attack. Nevertheless, fresh forensic evidence is important, as long as it doesn't interfere with the first responders and recovery efforts.[19]

Thus, a better understanding of the means and impact of a cyber-attack should be key in training civilians, employees, elected officials, or responders who could and will come in contact with the results of a cyber-attack. Although volumes are written on these topics, awareness of the cyber threat must be conveyed in the clearest terms possible. The awareness is not for computer programmers, but for those who drive policy, economic development (recovery), and respond to cyber incidents.[20]

### ACRONYMS

APT – advanced persistent threats

CIKR – critical infrastructure and key resources

COOP – continuity of operations plan

EMP – electromagnetic pulse

FERC – Federal Energy Regulatory Commission

HMI – Human-Machine Interface

ICS – industry control system

NSA – National Security Agency

RTO – response or recovery time objective

SCADA – supervisory control and data acquisition

SQL – Structured Query Language

## FOOT PRINTING

The first step in hacking a system or network is to gather information. Attackers systematically glean data and information from whichever "door" they can find open or unprotected. Like a burglar in the dark of night casing a break-in opportunity, cyber attackers accumulate a systematic footprint of an organization, site, or component of the grid by completing a detailed profile on the organization's security posture. The ultimate strategies of a covert attack are to sift through the data to develop a list of intrusion detection systems, domain names, specific IP addresses, access control functions, and possible passwords. Such information is often found in open access sites across the Internet. Following a data probe, hackers can refine footprint information by identifying related companies, phone numbers, email addresses, and reviewing privacy policies. One of the best backdoor means of gathering data is developing a list of web servers and links related to the target. The more enticing the information, the easier it is to focus a hackers' attack.[21]

The threats to the critical infrastructure in transmission and distribution systems have not been reduced or fully managed but instead are becoming more and more complex and growing. (Figure 5) The range of threatening cyber exploits from possible rogue hackers, espionage, or terrorists in our daily more wired world have only compounded.[22] Those who intend an attack are able to mix and match a deadly combination of system damaging "cyber exploits" resulting in interruptions, driven by: Denial-of-service, Phishing, Worm, Trojan horse, Zero-day-exploit, and Virus – only a sample of intrusion methods that are growing daily.[23]

The greatest threat to the electrical grid is the aging SCADA control systems and the lag in updating these systems to prevent a cyber-intrusion. Assessing vulnerability, determining the best risk mitigation means, and managing the resources to reduce vulnerability are largely the responsibility of the entity that owns and operates infrastructure.[24] The ability of organizations to provide strategic information and security investments may be compromised based on the strategic funding and resources available. Thus, the penny wise and pound foolish approach retards industry attempts to reduce cybersecurity vulnerabilities.

Real and present threats have seemed to elude both the industry and consumers who harken for more access, lower rates, and growth. The nature of these demands has increased the number of entry points that can be exploited and the introduction of new and yet unknown vulnerabilities as systems are either only updated or replaced. The biggest vulnerability lies with the overall "connectivity" both internally and with surrounding systems and networks of so-called shared information. This gives potential adversaries the incentive to hack – driven in the final analysis by – electricity! The sources of "cyber threats," either unintentional or intentional, vary by source, intent, and expertise: criminal groups, rogue hackers, insiders, aggressive nation-states or terrorists.[25]

Incident attacks on the power grid are only seldom reported, yet data indicated that "reported" SCADA systems attacks in the industry have increased from three in 2009 to 25 in 2011. Across federal agencies, "reported" cyber incidents have increased 680 percent over the past six years. The FBI has hundreds of energy related cases under investigation, including sophisticated hackers of large amounts of power through smart meters – largely by remotely changing the power consumption recording settings with software commonly available on the Internet – or phishing attacks collecting customer data. Moreover, the August 2003 northeast power blackout, due to an over loaded transition line making contact with trees, caused the failure of 508 generating units at 265 power plants across eight states…that cascaded from Ohio through the east coast and up to Canada. Were these cyber related? Could advanced cyber systems have prevented the incidents?[26]

**Cyber-note:** the privacy hurdle – there is no political consensus, at least in the United States, on how to strike the balance between preserving privacy and preventing criminal activity.[27]

## FIGURE 5

**Sector-Specific Agency and CIKR Sectors**

| Sector- Specific Agency | Critical Infrastructure and Key Resources |
|---|---|
| Department of Energy | energy, generation, refining, distribution |
| Department of Defense | defense industrial base and sourcing |
| Department of Agriculture | food and agriculture |
| Dept. Health and Human Services | healthcare and public health |
| Department of Treasury | banking, finance, currency |
| Environmental Protection Agency | water and wastewater systems |
| Department of Interior | national monuments and icons |
| Department of Homeland Security | |
| Cyber Security | IT and communication sectors |
| Transportation Security | postal and shipping transportation systems and infrastructure |
| U.S. Coast Guard | maritime security |
| Federal Protective Service | government facilities |
| Infrastructure protection | emergency services, commercial facilities, critical manufacturing, chemical sectors, dams, and nuclear reactors, materials |

Source: 2009 National Infrastructure Protection Plan

## THE CHALLENGE

The general public as well as local leaders have little or no concept of the dynamic and fragility of the electrical grid system across America. In August 2012, a blackout hit northern India leaving 600 million people – nearly twice the population of the United States and ten percent of the world's population – in the dark. This is the largest known blackout in history in terms of population. Delhi commuters discovered "electricity [is] the life blood of an economy."[28] What was reported as an "unprecedented grid failure as a result of negligence and incompetence," is the first of massive rolling blackouts in years to come that will likely impact the less industrialized world mired in debt and operating outdated power production facilities facing daily growing shortages of coal and natural gas. As demand for critical resources outstrips supply, it is little wonder that the Chinese, also stretched to capacity, are globally sourcing tremendous hoards of oil, coal, and natural gas.

To date, customers in America expect and have received a level of reliable service unequal in any other country. Electrical companies, which are owned by over 95 percent of private industry, work to maximize service, increase efficiency, and by so doing – enhance the revenue curve to generate profits. In so doing, the electrical industry has heavily focused investment and new technology in advanced metering infrastructure driven

## RELEVANT WEBSITES

*Community:* http://msisac.cisecurity.org/ A review of best practices and suggestions offered by each state government.

*DHS:* http://www.dhs.gov/topic/cybersecurity Offers a broad overview of U.S. cyber security awareness at the national and local level including safety precautions individuals can take to protect themselves.

*DOE:* http://energy.gov/oe/services/cybersecurity An in-depth focus on the steps taken by the DOE to protect one of the U.S.'s most vulnerable targets: our energy grid.

*NIST:* http://csrc.nist.gov/nice/awareness.htm The National Initiative for Cyber Security Education (NICE) is designed to disseminate safer practices and knowledge to the general population.

*U.S. Cyber Command:* http://www.arcyber.army.mil/org-uscc.html The forefront of the U.S. military's defensive and offensive strategy related to cyber.

by vendors, and not focused on industry control systems (ICS). The realm of vulnerability is growing daily through the increased points of entry in the high-tech smart meter. One industry analysis concluded: "The utility cyber security market will be characterized by a frantic race to gain the upper hand against the attackers."[29]

Without extensive security, smart meter technology is only as good as the next major systems intrusion and attack. The systems today are not secure. The magnitude and stealthiness of the Stuxnet worm by highly motivated attackers on the Iranian nuclear SCADA systems is a troubling case in point. The electrical grid is only as strong as its weakest link. The Stuxnet code and others developed by hackers in the cyber domain, instinctively look for the weakest link through the "back door."[30] Most for now have evaded detection. Compounding the protection of the electric grid and smart system is the fact that there are no enforceable smart grid security measures anywhere in the world for power distribution grids. Industry invests in cyber security only when the bottom line is threatened or with financial penalty.[31]

The cooperation of private sector providers of electricity, vendors, and government agencies at all levels continues to be critical to a continued robust approach to risk. All three entities share a common concern to protect system data from unauthorized access, disruption, and modification. The keys going forward include establishing clear protocols for data security and integrity of information, while simultaneously protecting the confidentiality of private information, ensuring data availability to authorized users on a timely basis and maintaining safe and secure operations.[32]

**Cyber-note:** opaque transactions – technology-facilitated transactions can be designed to be invisible; alternatively, they can be designed to be visible but anonymous.[33]

Thus, leaders in the economic development community should increase their knowledge of cyber-threats and how to respond to minimize loss and restore critical systems. While Hurricane Sandy in late October 2012 was not a cyber-event, the massive storm did highlight the damage and cascading impact of over 8 million customers without electricity.[34] When the lights go out – there is a corresponding impact on fuel and water supplies, health care services, transportation systems, and communications. And a cyber-attack that cripples the electric grid could in fact have a much longer period of disruption. The future threats are real, as noted by Kenneth Van Meter, GM of Energy and Cyber Services for Lockheed Martin. "By the end of 2015 we will have 440 million new hackable points on the grid. Every smart meter is going to be a hackable point…if you can communicate with it, you can hack it."

## ENDNOTES


1 Ted G. Lewis, *Critical Infrastructure Protection in Homeland Security,"* Hoboken: John Wiley & Sons, 2006, p. 6. See also White House, Presidential Policy Directive – PPD-8: National Preparedness, Washington, D.C.: March 30, 2011 and Henry Landau, *The Enemy Within: The Inside Story of German Sabotage in America*, New York: Putnam Sons, 1937.

2 Homeland Security, National Infrastructure Protection Plan. Washington, D.C.: 2009. Note: In terms of actions dealing with infrastructure and cyber there are some 20 laws in statute, over 25 Homeland Security Presidential Directives, and a half dozen presidential executive orders. See also GAO, "Critical Infrastructure Protection," Washington, D.C, December 2011, pp. 7-8, 46-7.

3 U.S. House, Subcommittee on Emerging Threats, Cybersecurity, and Science and Technology, "The Cyber Threat to Control Systems: Stronger Regulations Are Necessary to Secure the Electric Grid," 100 Cong., 1st sess., October 17, 2007. Note: SCADA encompasses several types of "control systems" that typically remotely control critical infrastructure devices and operate processes in the electricity, oil and gas, and water industries.

4 DOE, Idaho National Labs, "Vulnerability Analysis of Energy Delivery Control Systems," September 2011, p. v-vi.

5 Dan Verton, *Black Ice*, pp. 39-54; Bob Lockhart and Bob Gohn, "Utility Cyber Security: Seven Key Smart Grid Security Trends to Watch in 2012 and Beyond," Pike Research, 4Q 2011. See also Le Xie, "False Data Injection Attacks in Electricity Markets," *IEEE Proceedings*, 2010, pp. 226-231.

6 Quote seen in GTCSS, "Emerging Cyber Threats: Report 2012," p. 10, www.gtisc.gatech.edu.

7 Ibid., pp. 10-12.

8 Testimony of Joseph McClelland, Director, FERC, before the U.S. House, Committee on Homeland Security, Subcommittee of Emerging Threats, Cyber Security, and Science and Technology, Washington, D.C., September 12, 2012.

9 Y. Yang et al, "Impact of Cyber-Security Issues on Smart Grid," Belfast: 2011, pp. 1-7; Rebecca Smith, "Power Shortage Vexes Texas," *Wall Street Journal*, June 5, 2012.

10 Brian Wingfield, "Power-Grid Cyber Attacks Seen Leaving Millions in Dark for Months," February 1, 2012, www.bloomberg.com; James Lewis, ed. "Cybersecurity Two Years Later," January 2012, pp. 4-7. See also House Cyber Threat Report, pp. 7-29 and Huma Khan, "Cyber Attack on U.S. Electric Grid 'Gravest Short Term Threat' to National Security, Lawmakers Say," May 31, 2011, www.abcnews.go.com.

11 Alvaro A. Cardenas, et al. "Attacks Against Process Control Systems: Risk Assessment, Detection, and Response," *ASIACCS '11 Proceedings*, March 2011, pp. 355-366; Gail Reitenbach, "Regulators Cannot Move Fast Enough to Protect Grid, FERC Warns," September 12, 2012, www.powering.com; Wingfield, Power Grid Cyber Attacks, February 1, 2012.

12 DOE, "Cybersecurity Risk Management," pp. 43, 49, 53, 61; Keith Stouffer et al, NIST "Guide to Industrial Control Systems (ICS) Security," Washington, D.C., NIST, June 2011, p.3.

13 DOE, "Electricity Subsector Cybersecurity Risk Management Process," Washington, D.C.: DOE, May 2012.

14 Martin C. Libicki, "Cyberdeterrence and Cyberwar," Rand Corporation, 2009, p. 31.

15 DOE, "Electricity Subsector Cybersecurity Risk Management Process," p. 26; Brian Wingfield, "Power-Grid Cyber Attack Seen Leaving Millions in Dark for Months," February 1, 2012, www.bloomberg.com/news.

16 McClelland, FERC, testimony to U.S. House, September 12, 2012; Libicki, "Cyberdeterrence and Cyberwar," pp. 11-36.

17 Kevin Cornish, "Smart Grid and Intelligent Infrastructure," 2012 Strategic Directions in the U.S. Electric Utility Industry, Overland Park: Black & Veatch, 2012, p. 51.

18 DHS, *National Cyber Incident Response Plan,* Interim version, September 2010, pp. 26-9.

19 Ibid., Appendix A: B3—4, C1-2.

20 Libicki, "Cyberdeterrence and Cyberwar," pp. 91-115.

21 Oliver Kusut, et al, "Malicious Data Attacks on Smart Grid State Estimations: Attack Strategies and Countermeasures," IEE Proceedings, 2010, pp. 220-5; Stuart McClure, et al, *Hacking Exposed: Network Security Secrets and Solutions*, Osborne/McGraw-Hill, 1999, pp. 5-28.

22 "Cybersecurity: Challenges in Securing the Modernized Electricity Grid," GAO 12-507T, Washington, D.C.: February 2012.

23 Jacob Kitchel, "2011 NERC Grid Security Exercise After Action Report Review," May 27, 2012, http://blog.industrialdefender.com/?p=1271.

24 James J. Carafano, *Wiki at War*, p. 224. See also Steve Kroft and Graham Messick, "Stuxnet," *60 Minutes*, March 4, 2012 and DOE, INL, "Vulnerability Analysis of Energy Delivery Control Systems," September 2011, pp. 1-162.

25 Clay Wilson, "Computer Attack and Cyberterrorism: Vulnerabilities and Policy Issues for Congress," CSR Report, April 1, 2005, www.history.navy.mil/library.

26 "Cybersecurity: Threats Impacting the Nation," GAO 12-666T, Washington, D.C, April 2012, pp. 9-11. Note: According to US-CERT "reported" cyber incidents have increased from 5,503 in FY 2006 to 42,667 in FY 2011.

27 Christopher Bronk et al, "The Dark Side of Cyber Finance," *Survival*, April 2012, p. 139.

28 "Blackout Nation, *The Economist*, August 4, 2012, pp. 10-1, 35-6; Cassell Bryan-Law, "U.K. Blocks Extradition of Alleged Hacker," *Wall Street Journal*, October 17, 2012.

29 Lockhart and Gohm, "Utility Cyber Security," 2011,, p. 1; Amol Sharma et al, "India's Power Network Break Down," *Wall Street Journal*, August 1, 2012; Gardiner Harris, "Power Is Restored Across India After Crippling Blackout," *New York Times*, August 1, 2012: Russell A. Green, "India outage illustrates infrastructure woes," *Houston Chronicle*, August 2, 2012. Note: India in 2012 had an estimated population of 1.22 billion, of which 300 million have no access to electrical power, and at least an additional 300 million have only sporadic access.

30 NERC, "2011 NERC Grid Security Exercise: After Action Report," March 2012.

31 Ibid., pp. 1-17; Yan Sun and Haibo He, "Understanding Cascading Failures in the U.S. Power Grid," Cybersecurity Symposium, University of Rhode Island, 2011. See also James Kimmance, "Infrastructure Risk & Resilience," BCI Workshop, Bristol, 2011.

32 DOE, INL, "Vulnerability Analysis," pp. 1-150.

33 Christopher Bronk et al, "The Dark Side of Cyber Finance," *Survival*, April 2012, p. 130.

34 George Pataki, "In Sandy's Wake, Time to Upgrade the Power Grid," *Wall Street Journal*, November 26, 2012.