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INTERNATIONAL
ECONOMIC DEVELOPMENT
COUNCIL

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F. Michael Langley, FM
IEDC Chair

dear colleague

You'll be reading this letter right around the time of IEDC's 2017 Annual Conference, and we couldn't be more pleased and proud about our first meeting to be held outside of the United States. Eleven countries are represented, as are all Canadian provinces, 49 U.S. states, and four out of five U.S. territories. We quickly exceeded our registration goals, showing the high level of interest among IEDC members and partners to engage internationally in the fantastic city of Toronto.

Apart from this exciting event, we have much to reflect on since the beginning of 2017, having hit several important benchmarks. For example, our membership has exceeded 5,000 for more than a year, our highest sustained level to date. In addition, we now have 60 members in our Accredited Economic Development Organization (AEDO) program, a new high.

In May, IEDC observed the second annual Economic Development Week, with great growth in participation. Economic development organizations from across the country found all kinds of creative ways to help their communities better understand and appreciate the work we do. From resolutions and proclamations to videos, articles, photos and social media campaigns, it was a fantastic opportunity to celebrate and educate.

And as you know, education is a major part of IEDC's work. Over the past two years, we have conducted more than 50 training courses for local leaders in multiple states. The trainings have been attended by elected and appointed officials and other community partners to learn about their role in championing and supporting economic development. We're pleased at the reception we have had for the courses and look forward to the expansion of that program in the near future.

Our Economic Development Research Partners program is stronger than ever. So far this year, the group has released two insightful papers – one on regional economic development and another on the role of placemaking in economic development. A third paper, addressing next-generation business retention and expansion strategies, is next on the group's agenda.

IEDC also put extensive effort this year into reaching out to the new U.S. Presidential administration. We have strongly advocated for continued funding of programs and agencies related to economic development, and are pleased to see that they are open to hearing from us.

I'd also like to note that IEDC has continued its focus on exploring and sharing best practices for improving economic opportunity for all citizens. Following up on a related EDRP paper released this time last year, we have continued to include content on fostering economic opportunity in our conferences, newsletters, webinars, and other outlets.

As you can see, 2017 has been busy so far. It is an honor to serve IEDC and its membership as board chair, and I look forward to all we will accomplish together in the remainder of the year.

Sincerely,

F. Michael Langley, FM
IEDC Chair

The IEDC
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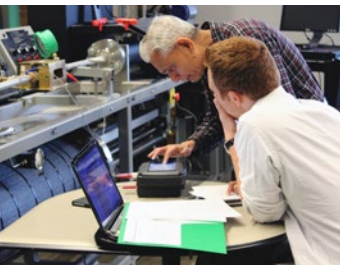

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the lansing lugnuts

OUTFIELD REDEVELOPMENT PROJECT

By Karl Dorshimer

INTRODUCTION

In 1994, Lansing, the capital city of Michigan, with the help of the Lansing Economic Development Corporation (LEDC), purchased property, cleared a blighted downtown red-light district, borrowed $12 million, and built Oldsmobile Stadium. The stadium was leased to the Lansing Lugnuts, a private minor league professional baseball team (Team). The lease provided for a revenue sharing arrangement that was mutually beneficial to both the city and the Team. The stadium, managed by the Lansing Entertainment & Public Facilities Authority (LEPFA), was an instant success, attracting millions of people to downtown in its first few years of operation. The stadium provided hope and signaled the beginning of the reversal of many years of decline in downtown Lansing. It was built on a tight budget and functioned very well for the first 10 to 15 years of its operation.

Michigan Governor John Engler, Lansing Mayor David Hollister & others at the original groundbreaking.

Stadium site on right, prior to redevelopment.

LANSING NEEDS TO UP ITS GAME

After over 1,000 home games and years of constant exposure to Michigan's harsh climate, the stadium began to show signs of wear and tear. Moreover, in minor league baseball, the overall entertainment experience is what draws in the fans and generates the revenue that pays the bills. Competition from other entertainment options has changed dramatically since 1994, creating a constant need to "up your game" to "get butts in the seats."

With stadiums becoming harder to fill on game day, teams are continually challenged to enhance the in-stadium game day experience to encourage fan attendance and engagement. No longer are light beer, soda pop, and hotdogs good enough. To compete, minor league baseball stadiums must now offer: great food and drink; good, affordable seating options; multiple venues for private and corporate parties; executive suites to rent; additional add-on entertainment; and great customer service, all on a nightly basis.

The look and feel of the stadium, and surrounding skyline as seen from inside the stadium, should

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LEVERAGING A PUBLIC ASSET TO CREATE PRIVATE DEVELOPMENT

Publicly owned sports stadiums provide great public benefits but often don't generate enough revenue to be financially self-sustaining. As a result, communities can be faced with the challenge of having to permanently subsidize stadium operations, maintenance, and improvements. The city of Lansing, Michigan met this challenge by combining necessary public stadium improvements with a private mixed-use development. The Outfield project, an IEDC Gold and Silver Excellence Award winner, has increased city revenues, boosted economic activity, attracted more people downtown, and turned the stadium area into a year-round hub of activity.

provide great views and sightlines for that urban experience. Additionally, the latest technology, including Wi-Fi, big screens, and scoreboards, needs to inform and entertain while also providing additional advertising and promotional options. With the honeymoon period long over, the ballpark becoming dated, and the team's 20-year lease nearing its end, the Team's owner asked the city to make improvements to the stadium. With other communities in the Midwest potentially looking to attract a minor league baseball team to their cities, Lansing needed to "up its game" to keep the team.

MAKING THE BALLPARK COMPETITIVE

In August of 2013, the city and Tom Dickson of Take Me Out to the Ball Game, LLC (TMO), the Team's owner, jointly funded a comprehensive facilities audit by Jones Petrie Rafinski, a Midwest-based architecture firm with extensive stadium design and engineering experience. The intent of the study was to evaluate the status of the stadium and recommend the repairs and upgrades necessary to modernize the ballpark and make it competitive. The results of the study (when prioritized to critically necessary items only) indicated that the city was facing a potential cost of $10.5 million for improvements to the ballpark. (see Table 1)

Nearing 20 years old the ballpark needed an upgrade.

In 2013, Lansing's economy (and Michigan as a whole) was still recovering from the "Great Recession," making it very difficult politically and financially to add more city debt payments for stadium improvements, instead of using that revenue for vital community services such as fire and police. In response to this dilemma, the LEDC, and the city administration, led by Mayor Virg Bernero, explored various options to finance the ballpark improvements. These options included local sales taxes on hotels and lodging, restaurants, rental cars and taxis, and grants from the state or federal governments. None of these choices turned out to be financially or politically feasible as funding sources.

However, Bob Trezise, CEO of the Lansing Economic Area Partnership (LEAP), proposed one idea familiar to economic developers that made enough good sense to explore further. The LEDC operates the Lansing Brownfield Redevelopment Authority (LBRA). The LBRA has tax increment financing abilities and a local brownfield revolving loan fund to provide funding for environmental testing and brownfield eligible activities.

TABLE 1

Final List of Facilities Audit Recommended Stadium Renovations

Lower Level (building)	$	395,200
Concourse Level (building)	$	1,248,500
Concourse & Seating Bowl	$	1,238,000
Tailgate Terrace / Right Field	$	1,105,000
Bullpen Bar & Grille	$	565,000
Left Field / Gasoline Alley	$	1,625,000
Playing Field / Maintenance Area	$	1,358,500
Suite Level / Roof	$	1,021,000
Scoreboard / Communication Systems	$	963,500
Stadium Exterior & Surrounding Site	$	278,000
Estimate for Soft Costs (7-10%)	$	740,000
TOTAL STADIUM RENOVATION COSTS	$	10,537,700

The estimated cost of needed improvements was almost as much as the original cost of the stadium

The LEAP idea was to leverage the assets of the stadium and related activities to attract private development adjacent to or inside the stadium. By doing so, the LBRA and the city could use the new property taxes generated by the private investment to help pay the debt service on the necessary ballpark improvements. Even more appealing was the potential for the new private development to be a catalyst for additional economic activity and to extend and encourage year-round use of the stadium. The new development and the stadium would together create a public-private development that would mutually benefit the city, the Team, and the developer.

THE POTENTIAL OF A JOINT PUBLIC – PRIVATE DEVELOPMENT

The LEDC contacted several local developers to conceptually propose a large mixed-use development that would take advantage of the location and activities of the ballpark. Each developer looked at the stadium and its surrounding plazas and brainstormed with the LEDC, city, and Team. Several locations were ruled out because of the need to have spaces outside the ballpark for fans to gather both before and after baseball games. All developers except one concluded that due to the physical and operational restrictions of the location, they were not interested. However, one developer, Pat Gillespie of the Gillespie Group, had experience developing mixed-use buildings near the stadium location and was willing to think outside of the box when evaluating the opportunity as presented.

The Gillespie Group focused on the outfield portion inside of the ballpark. This area was currently underutilized and offered the potential of dramatic views inside the park and skyline vistas of the downtown outside the stadium. The developer hired a design and architect firm

Original rendering of the Outfield development.

Location of proposed Outfield project (red) & parking (City Garage - yellow).

The basic concept was that there would be two parts to the project: one, the city's necessary improvements to the entire public stadium and two, the private mixed-use development inside the park.

to put together initial renderings and preliminary numbers, which were enough to get all parties very excited about the potential of a joint public-private project. To make it work, the city, Team, and LEPFA would need to design and build their improvements to the ballpark such that it also facilitated the private development. Likewise, the private mixed-used development could not hinder the baseball operations. The basic concept was that there would be two parts to the project: one, the city's necessary improvements to the entire public stadium and two, the private mixed-use development inside the park.

The city would build the necessary baseball supporting facilities underground and the first story in the park's outfield. This public outfield portion would include stadium access for maintenance vehicles and grounds keeping services, an underground batting cage, a restaurant/public space, beverage and food concessions, private party facilities, and a picnic area.

The private mixed-used facility now named the "Outfield" would be built upon the reinforced platform created by the roof of the first floor of the city's portion of the stadium. The space above the city-owned portion of the stadium would be condominiumized and sold to the developer. The developer would then build the three-story Outfield development on top of the platform. The Team committed to purchasing a new scoreboard that featured a large video screen and many other options to inform and advertise to fans and others.

Additionally, immediately north of the stadium was a city-owned parcel of land with an old maintenance garage and refueling station to service city fire trucks, police cars, and maintenance vehicles. The development plan proposed that this parcel become a surface parking lot to provide parking for the Outfield development tenants and visitors. The parcel would remain property of the city and leased to the developer.

OVERCOMING CHALLENGES – THE DEVIL IS IN THE DETAILS

As with most economic development projects, the devil is in the details. Detailed design and engineering took months to complete and indicated the complexity and extra cost of the proposed joint endeavor. For example, the supporting foundation for the Outfield building needed to come down through the publicly owned portion of the stadium. Additionally, what functioned as the ceiling for the first-floor public stadium also acted as the floor of the Outfield building above. Carving out the legal description of what property was going to be sold to the developer turned out to be much more complicated than just selling the air rights above the stadium's outfield.

City Garage brownfield site to be remediated and demolished.

City Garage site being demolished.

As the design of the Outfield and stadium improvements started to take shape, the Team and the developer encountered potential residential vs. baseball conflicts. With residents living right above and inside the ongoing operations of a professional baseball stadium, it became clear that the potential for conflict among users was high. For example, baseballs could strike the apartments causing damage to the units or even injuring the residents. Residents could act inappropriately on their balconies and disrupt baseball games. Residents would also need to have access to and from their apartments during ballgames.

Other challenges involved fire protection and access by the fire department. The city fire marshall insisted that each apartment unit be accessible by ladder truck in the event a fire trapped residents inside. Driving heavy fire trucks down and out onto the ballfield could get them mired in a wet or soft field. Creating access to and making the field strong enough to support the trucks would be costly and make the surface unsuitable to play baseball on.

Ballpark outfield area being demolished to make way for redevelopment.

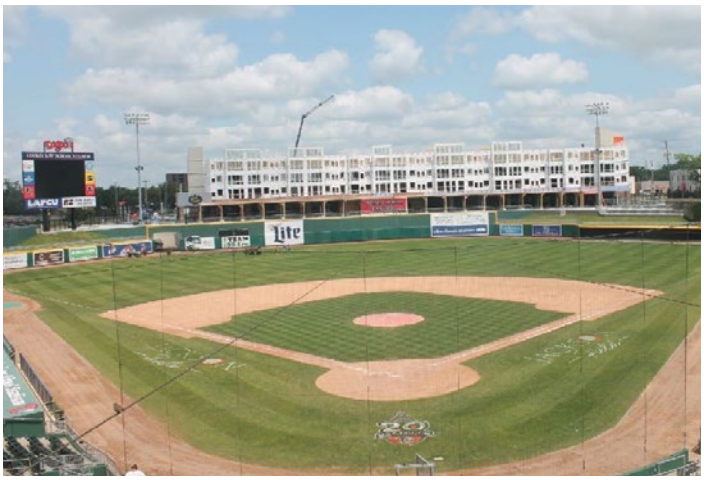
Additional new challenges continued to pop up again and again. The city-owned vehicle maintenance garage parcel had to be redeveloped into a parking lot to serve the development. However, this involved demolition of a large building; the removal of fuel tanks; environmental cleanup; site preparation; installation of drains, curbs, cut-outs, gates, plus painting and striping for parking. Complicating matters was that the city had signed a previous development agreement with another party who was attempting to locate a casino nearby that gave them the option to purchase the vehicle maintenance garage parcel. If the casino developers were to exercise their option, alternative parking arrangements needed to be available to serve the residents and tenants of the Outfield development. The Gillespie Group did not want to risk building the mixed-use facility and wind up not having the ability to provide convenient parking for their tenants.

Finally, there was a very complicated lease agreement that needed to be hammered out between the Team and the city. This would be a 20-year lease with base payments to the city and revenue sharing on top of that. The improvements to the stadium would offer multiple ways to generate revenue for the Team including food, drink, private party rentals, luxury suites, advertising, souvenir sales and other fees and services. The result was a complex formula for calculating the amount of revenue shared by the Team with the city each year.

A COMPREHENSIVE DEVELOPMENT AGREEMENT PROVIDES A PATHWAY

With these challenges to overcome, the city staff, LEAP, LEPFA, developer, and the Team began negotiating a Comprehensive Development Agreement (CDA) as a master agreement containing a collection of agreements and commitments and included the Team's new lease of the stadium. Negotiations were long, hard and frustrating, lasting a year and often causing the parties to walk away from the table and cool down. But a draft CDA was eventually crafted, addressing all the issues and providing a pathway to proceed forward. For example, the CDA provided clarity on the design, construction, and maintenance for the interfaced portions of the Outfield development and public stadium improvements. This included the one-story platform and foundation column supports upon which the mixed-use building would be constructed.

The fire access issue and access to the first floor of the public portion of the outfield structure was solved by a reinforced and widened pedestrian concourse that would extend around the inside of the stadium between the playing field and the new Outfield development. This would also allow people inside the park to walk all the way around the ballfield, providing new sightlines and access to all the many concessions offered inside the stadium. The concourse would also be strong and wide enough along the foul ball lines to allow the city's fire trucks to access the entire Outfield development with their ladder truck. The legal description of the property, including the air rights that were to be sold to the developer, was finished and incorporated into a purchase agreement conveying these rights.



Private Outfield development being built upon the public first floor platform.

Fans and residents have great views of the action from the Outfield.

The parties also overcame the redevelopment problem of the city's vehicle maintenance garage property. The city was in the process of moving these operations from the site to a different and more central location. However, there were two major items that needed to be addressed. The first was that the property was a contaminated brownfield site that included an old garage structure and underground fuel tanks. There would be demolition, remediation, site preparation, and redevelopment costs associated with turning this site into a parking lot able to service the Outfield development. The solution was to use the LBRA to help finance the costs associated with redeveloping this brownfield site. The LBRA was able to loan the city $600,000, and the developer pledged to cover the rest of the redevelopment costs. The completed parking lot would then be leased to the developer. The city dealt with the issue of the potential sale of the parking lot to the developers of a new casino by committing contractually to find suitable alternative parking for the Outfield tenants, should this occur.

The issue of potential use conflicts was handled by limiting access to the inside of the ballpark to non-ticket holders including Outfield tenants and their guests. Tenants and their guests would be free to view the games from their apartments and from private common areas, but they could not gain access to the public areas inside of the park without a ticket. Additionally, the Outfield was built with shatter proof glass and other materials that were resistant to damage from flying baseballs.

The issues of personal injury and misbehavior by tenants was to be addressed within the lease agreement between the Outfield tenants and the developer. Enforcement of the lease would be the responsibility of the developer. Complaints by either the city (LEPFA), the Team or the Outfield owners and their tenants were to be handled by the Team stadium staff if possible, or if necessary, by a dispute resolution board that included representation from all the parties. Enforcement action per the agreements and/or legal action would be the method of last resort.

The next major issue was the preliminary financial structuring of both the public and private portions of the development. Then came the arduous task of gaining approval of the CDA by the Lansing City Council. The Michigan Economic Development Corporation (MEDC) also agreed to use their Community Revitalization Program (CRP) to finance a portion of the Outfield mixed-used development.

Finally, a master schedule of construction for all the intertwined public and private improvements was developed by the Christman Company, a Lansing-based construction management firm. Christman Company had the extra challenge of scheduling around the 2014 and 2015 baseball seasons that would take place while the multi-year project was under construction.

ONE LAST BARRIER

Just as everything looked like the project was ready to begin, the city ran into another major challenge. When the initial bids for the stadium improvements came in they were much higher than expected – nearly $5 million above pre-bid cost estimates! Not to be defeated after coming so far, the project partners, designers, and contractors worked intensely to value-engineer, and reduce the scope of improvements.

Completed private Outfield development on top of the newly improved public portion of the stadium.

Ultimately, the city and Team concluded that the most essential improvements to the ballpark would still cost as much as $3 million more than originally anticipated. Thus, the improvement costs facing the city rose from $10.8 million to $13.8 million. This cost increase required the Lansing City Council to authorize additional financing to complete the renovations and improvements. Additionally, the Team committed to making extra lease payments to the city equal to half of the increase in debt service resulting from the increased financing. Also, the developer pledged to contribute additional funds toward the construction of public infrastructure in the ballpark's outfield and toward the new city parking lot. Lastly the

MEDC committed to a $2.5 million Loan/Grant incentive package. (see Table 2)

Finally, with this last barrier out of the way, and after nearly two years of designing, planning, negotiating, finance structuring, and overcoming many deal-killing obstacles, construction began in early 2014 on the public improvements. These activities were slowed to allow the spring baseball season to take place and then continued full speed in the fall and winter. In early spring of 2015 the private portion of the project began and was partly completed when the 2015 baseball season took place. Immediately after the end of the 2015 season, the construction of the private portion went into high gear and the project was completed just before the start of the 2016 baseball season.

THE RESULTS

The results have been spectacular! The three-story $13.4 million Outfield development overlooks the currently named Cooley Law School Stadium, providing dramatic views, spectacular apartments, public spaces for events, room for concessions, and field maintenance facilities. It also generated jobs and tax revenues to finance $13.8 million of additional improvements to the public ballpark. The $28 million project is a creative and complex economic development joint venture that used private investment to create economic development, public improvements, and downtown revitalization. The community impact of the project has exceeded all expectations. The buzz and national attention this project attracted has been amazing. The project has been highlighted in many national publications including Sports Illustrated. It also won both Gold and Silver 2016 Excellence in Economic Development Awards from the International Economic Development Council (IEDC).

The new first floor public portion of the outfield has spaces to offer a variety of amenities to fans and residents.

The project has been a great boost to economic activity in the surrounding downtown Stadium District. A new brewery/restaurant has sprung up just north of the ballpark. Of the 85 apartments in the Outfield, all but a handful were leased by opening day of 2016. A nearby 80-unit apartment complex has leased up and there is another adjacent mixed-use project under construction. Nearby restaurants are reporting increased sales and property values are rising.

Over 50 jobs were created, $20 million of additional private investment was attracted, and 200 new residents and thousands of visitors have discovered downtown Lansing. The ballpark stands next to the Lansing Convention Center, which now benefits from the proximity of all this economic activity. Bookings are up and a long-awaited casino still appears to be a possibility. Finally, community pride has surged and rising optimism is sure to attract additional private investment.

Now that the Outfield project is completed and has over one full year of operation, the financial impacts to the city can be quantified. Table 3 gives the estimated final annual costs and revenues from the stadium. The city ended up borrowing $13.8 million at a three percent interest rate to finance the public improvements to the stadium. Yearly debt service and additional annual utili-

TABLE 2

Stadium Redevelopment - Project Numbers

Project Sources and Uses of Funds:	Cost	Percent
General Public Improvements to Ballpark	$ 12,350,000	44.2%
Public Infrastr./Site Prep for Private Development	$ 1,450,000	5.2%
Total City of Lansing Cost	**$ 13,800,000**	**49.4%**
Developer Contribution	$ 9,395,000	33.6%
New Scoreboard Funded by Team	$ 1,500,000	5.4%
MEDC Loan/Grant to Developer	$ 2,455,000	8.8%
Total Outfield Private Development Cost	**$ 13,350,000**	**47.8%**
LBRA Brownfield Investment in City Garage Site	$ 600,000	2.1%
Developer Investment in Parking Lot	$ 200,000	0.7%
Total Central Garage Redevelopment Costs	**$ 800,000**	**2.9%**
Total Project Cost	**$ 27,950,000**	**100.0%**

Combined budgets of public & private portions of project.

TABLE 3

Annual City Costs and Revenues for Stadium	Before Improvements	After Improvements	Change
Annual City Ballpark Costs			
City Debt Service	$ 900,000	$ 1,150,000	$ 250,000
Utilities Cost Share	$ 125,000	$ 125,000	$ -
Capital Improvements Commitment	$ 115,000	$ 70,000	$ (45,000)
Total Cost to City	**$ 1,140,000**	**$ 1,345,000**	**$ 205,000**
Annual City Ballpark Revenues			
Revenue Sharing Lease Payment - Baseball Operations	$ 240,000	$ 365,000	$ 125,000
Revenue Sharing Lease Payment - Naming Rights	$ 120,000	$ 120,000	$ -
Payment from Team for City Debt Service	$ -	$ 125,000	$ 125,000
Total Lease Revenue from Lugnuts	**$ 360,000**	**$ 610,000**	**$ 250,000**
New Sources of City Revenue			
New City Income Taxes from Jobs & Tenants	$ -	$ 50,000	$ 50,000
Brownfield Tax Capture on Private Development	$ -	$ 200,000	$ 200,000
Lease Payment for New Parking	$ -	$ 15,000	$ 15,000
Total New Revenue Sources	**$ -**	**$ 265,000**	**$ 265,000**
Total Net Annual City Cost	**$ 1,140,000**	**$ 1,345,000**	**$ 205,000**
Total Annual City Revenue	**$ 360,000**	**$ 875,000**	**$ 515,000**
Total Annual Net Cost to City for Ballpark	**$ 780,000**	**$ 470,000**	**$ (310,000)**
Estimated Net Cost Reduction to City over 15 Years			**$ 4,650,000**

The city was successful in financing the needed public improvements by attracting private development.

ties and capital improvement commitments pushed the city's annual stadium expenses to $1,345,000. However, because of the public-private partnership to redevelop the ballpark, the city now has several new and increased sources of annual revenue to meet this obligation.

Table 3 also depicts the change in the city's costs and revenues associated with the stadium. The city's annual cost obligation for the ballpark has now risen by approximately $205,000 per year. However, because the Team signed a new 20-year stadium lease agreement with the city, the city can expect to receive annual revenue sharing and fixed payments from the Team totaling $610,000, which is an increase of $250,000 per year.

Finally, because of the private Outfield development, the city has additional new sources of revenue including new city income taxes, property tax capture (tax increments) from the LBRA, and lease payments for the city-owned parking lot. These new sources of revenue amount to a total of $265,000 per year. Thus, the total annual revenue available to the city to make the $1,345,000 annual payments is $875,000, which is $515,000 more in revenue than before the improvements were made to the stadium. This results in a net savings of $310,000 per year for the city's general fund when compared to the pre-redevelopment years of the stadium.

The city accomplished its original goal of helping to finance the necessary improvements to the ballpark by leveraging the assets of the stadium to attract private development. Additionally, the Lugnuts have committed to another 20 years in Lansing, and the Outfield development stands as a great example of the power of using public-private partnerships to achieve economic development, talent attraction, and placemaking. Communities all over the country and world that own public sports stadiums can benefit from studying the Lansing Lugnuts Outfield Development example. The idea of incorporating private development into publicly-owned sports stadiums is not easy, but offers exciting potential results.

The Outfield development – a great example of a public-private partnership for economic development.

The journey of this site from a seedy red-light district in a rust belt city, to a pioneering public redevelopment success story in 1997, and now into a nationally heralded example of public-private economic development, is nothing less than amazing. Many people helped this process along the way and a project this complicated cannot possibly be fully described in this limited summary. Seldom in economic development do projects live up to the hype generated by the initial proposals and color renderings offered to sell the idea to decision makers. However, in this case the results speak clear and loud for themselves. The Lansing Lugnuts Outfield Redevelopment Project has truly hit an economic development grand slam for the city, the Team, the Gillespie Group, and most importantly the citizens of Lansing.

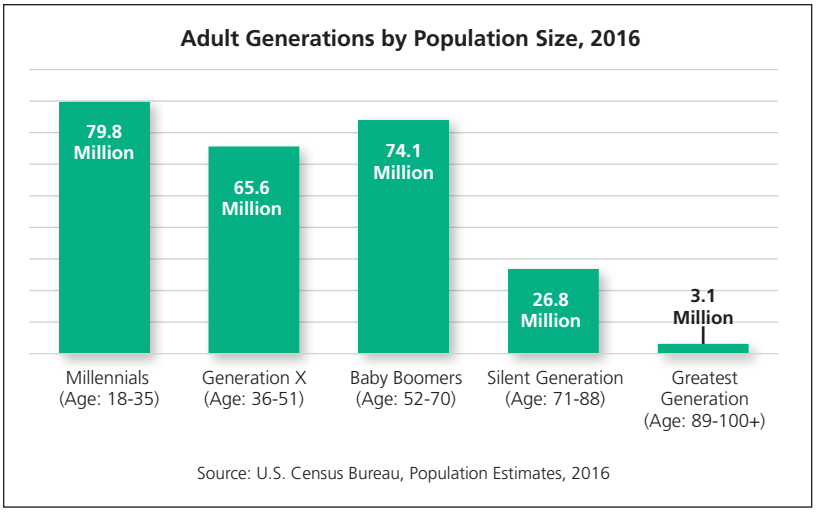
tolerance and inclusion

By Ryan Regan

Millennials.[1] It's a word that elicits such sharp opinions from people you'd think they were their own political party. Rarely has an American generation been so microscopically analyzed as this group of 20 and 30-somethings, and perhaps for good reason. They are on track to be the most educated generation in U.S. history,[2] and in 2015, they officially surpassed baby boomers as the largest living generation who now also make up the greatest share of the U.S. workforce.[3]

In an era when economic developers and business executives are grappling with attracting a skilled workforce that is sustainable over the long-term, millennials are a panacea of sorts. The sheer size, youthfulness (most have 30+ years of work ahead of them), and stellar educational credentials of this generation garner the bulk of the attention among economic development practitioners, and deservedly so. However, in recent years, other key attributes – namely their open-minded social values – have bubbled up and affected community and economic development decisions in ways that were completely unforeseen just decades ago.

In an era when economic developers and business executives are grappling with attracting a skilled workforce that is sustainable over the long-term, millennials are a panacea of sorts.



QUALITY OF PLACE REIMAGINED

The competition for talented workers is fierce, and there is no doubt that millennials' presence in the workforce is fundamentally changing how communities attract and retain jobs. Skilled labor continues to be routinely recognized as a dominant driver in the site location process. No longer are people flocking to where the jobs are, but rather, corporations are flocking to where their talent pool is, even if it means moving just miles down the road. High-profile corporate relocation decisions in just recent years involving General Electric (Boston), Weyerhaeuser (Seattle), McDonald's (Chicago), and NCR (Atlanta) are just a sampling of the companies who spurned the suburbs in their respective locales in favor of the downtown city core where millennials abound.

In light of evolving trends in the site location process from the corporate decision maker perspective, communities too have adapted their economic

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HOW MILLENNIAL SOCIAL VALUES ARE RESHAPING HOW COMMUNITIES GROW AND ATTRACT JOBS

The millennial generation now represents the greatest share of the U.S. workforce, and there is little doubt that they will have a significant long-term impact on the field of economic development. Increasingly it is the generation's trademark diversity and open-minded social beliefs that are driving new conversations about how economic development is thought of and practiced. Public backlash in recent years to "bathroom bills," "religious freedom bills," and restrictive immigration measures show how social policy and economic development are increasingly intertwined. Communities seeking to attract and retain millennial talent must be mindful of this reality given the premium that this critical cohort places on diversity, inclusivity, and tolerance.

development strategic focus. Investing in and maintaining traditional assets (buildings, sites, transportation and utilities infrastructure, etc.) remain central to any community's effort to grow its economy. However, competitive communities similarly understand the importance of investing in community assets that contribute to a high "quality of life" and "quality of place." Such investments play a critical role in any serious effort to grow a community's talent base.

Public investments that create a sense of community and a distinguishable quality of place are especially important in attracting and retaining millennial workers. This conversation is most often positioned in terms of physical investments like multi-family housing options, greenspaces, pedestrian-friendly public spaces, bike lanes, public transportation access, and more. While all are especially coveted by millennials drawn to central city amenities, quality of place is far more encompassing than just these visible assets alone.

While not a monolith, millennials are defined by their diversity and open-minded social beliefs. When it comes to two of the more hot-button topics in our modern political environment – LGBT rights and immigration policy – the uniqueness of the millennial generation relative to their peer adult generations is striking

A community's quality of place allows it to distinguish itself from peer communities not just in physical appearance, but in how residents and visitors attach themselves to the community. A strong sense of community and a shared sense of culture is not something that can be financed through a bond referendum like traditional quality of place investments. Instead, the authentic social bonds we develop with community members and the genuine emotional connection that one can claim with the place they live is what ultimately moves the needle when it comes to making a community an attractive place to live, work, and play.

These were precisely the findings of the influential *"The Soul of the Community"* study conducted in 2010 by the Knight Foundation and Gallup. The study encapsulates what so many communities get right and what so many get wrong when it comes to attracting and retaining millennial talent. As a part of this three-year study into the factors that influence community attachment, 43,000 people in 26 communities across the country – from Milledgeville, GA to San Jose, CA – were asked about the factors that influence their levels of attachment to their respective communities. The study examined 11 factors that influence community attachment and correlated survey responses by the respondent's stated level of satisfaction with their community. According to the report, the two most important factors that attach people to their community are:

- **Social Offerings:** defined as "places for people to meet each other and the feeling that people in the community care about each other"
- **Openness:** defined as "how welcoming the community is to different types of people, including families with young children, racial and ethnic minorities, gays and lesbians, immigrants, and young, talented college graduates"

The report's findings were remarkably consistent across the communities in the study, regardless of size or geographic location, and the factors outranked a number of more traditional "quality of life" factors, including public safety and education.

AMERICA'S OPEN-MINDED GENERATION

While not a monolith, millennials are defined by their diversity and open-minded social beliefs. When it comes to two of the more hot-button topics in our modern political environment – LGBT rights and immigration policy – the uniqueness of the millennial generation relative to their peer adult generations is striking. Consider the following:

- According to a 2017 Pew Research Center poll of adults, 74 percent of millennials (ages 18-36) support same-sex marriage. This level of support is the highest of all adult generations, and it is 18 points higher than the baby boomer generation.[4]
- A 2016 national Gallup poll of a representative sample of the U.S. population found that 7.3 percent of millennials (ages 18-36) identify as being gay, lesbian, bisexual, or transgender. This share of LGBT self-identification is more than double that of any other adult generation.[5]
- A 2015 poll by Fusion of 1,000 millennials (ages 18-34) found that 50 percent believe that gender exists on a spectrum and "some people fall outside conventional categories."[6]
- A 2016 USA TODAY/Rock the Vote survey of 1,539 millennials between the ages of 18 and 35 found that by nearly a 2-1 margin, millennials believe that transgender individuals should be able to use the bathroom according to the gender they identify with, not based on the sex they were born.[7]
- A 2016 Pew Research Center poll of adults found that 76 percent of millennials (ages 18-36) agree that immigrants "strengthen the country because of their hard work and talents." This is the highest share among all adult generations, and 28 points higher than the baby boomer generation.[8]
- Young immigrants continue to swell the ranks of the millennial generation. A Pew Research Center analysis of 2014 data notes that Hispanics are the youngest major racial or ethnic group in the United States, with almost 60 percent being millennials (ages 18-33) or younger.[9]

Appealing to millennial talent requires that communities be mindful of these attributes and employ a holistic, inclusive approach to their talent attraction efforts.

WHEN ECONOMIC DEVELOPMENT AND SOCIAL POLICY COLLIDE

Noted urban studies theorist, Dr. Richard Florida, has conducted no shortage of research that looks at the nexus between social policy and economic outcomes. He is perhaps most well-known for his research on the "Creative Class," a term he coined to describe the knowledge-based white-collar workers who he claims are key to driving economic growth in the post-industrial economy.

Florida makes the argument that the "three t's" – talent, technology, and tolerance – are necessary foundational principles that communities must embrace in order to remain competitive in a global economy that places a premium on knowledge-based jobs. The talent supporting a technology-intensive economy is increasingly young, diverse, and tolerant, and these workers desire to live and work in communities that view these attributes favorably.

The tie between culture, tolerance, diversity, inclusivity, and millennial talent attraction has crystallized in just recent years for economic developers who, a generation ago, would have never placed a premium on such social and cultural factors.

North Carolina has, of course, been ground zero on this topic. In March 2016, the North Carolina legislature passed the *Public Facilities Privacy and Security Act* (also known as HB2 or the "bathroom bill"). The bill resulted in two primary changes to state law: it prevented municipalities in the state from enacting anti-discrimination policies, and it required that, in government buildings, individuals were to use the bathroom that corresponded to the gender on their birth certificate. The bill drew widespread condemnation from advocates in the LGBT community who contended that the bill greatly restricted the rights of members of the LGBT community.

The ensuing fallout was unlike anything seen before in the field of economic development. High profile projects like a proposed 400 new jobs from PayPal in Charlotte[10]; 250 new jobs from Deutsche Bank in Cary[11]; and 730 new jobs from CoStar Group in Charlotte[12] were all scrapped with corporate executives citing HB2 as the reason for the snub. The college and professional sports industries weren't spared either. The NCAA, ACC, and the NBA all relocated previously scheduled sporting events out of the state. Measuring the overall economic fallout from HB2 is an imperfect science, but just from publicized projects alone, the state lost thousands of jobs and hundreds of millions in capital investment amid the HB2 fallout. One estimate by *Forbes* from November of last year put the total economic loss at $630 million.[13] The number of non-publicized companies that removed North Carolina from consideration during the site selection process because of HB2 assuredly drives that figure higher.

Recognizing the economic losses and tarnished reputation the bill brought to the state, North Carolina's political leaders reached a compromise earlier this year to repeal the controversial bill. Still, similar bathroom bills were introduced in the 2017 legislative session in over 15 states, including economic development powerhouses, South Carolina and Texas.[14]

The fiasco over HB2 in North Carolina comes more than a year after a law with similar anti-LGBT impacts, the *Religious Freedom Restoration Act*, became law in Indiana and resulted in a similar torrent of bad press and economic losses for the state. Such "religious freedom bills" have been vetoed by governors in states like Georgia and Virginia due in part to intense pressure from the business community fearing the similar kind of fallout that befell North Carolina and Indiana.

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The notion that these bathroom bills or religious freedom bills would have had such a profoundly negative impact on a state's economic development efforts if passed a generation ago is almost implausible. But, with millennial workers now at the forefront of many a community's efforts to attract and retain jobs, cultural perceptions can no longer be an afterthought, but instead, should be a priority.

IMMIGRATION AS A TALENT ATTRACTION TOOL

Immigration policy has become front and center in our nation's political discourse, but unlike the debates going on in Washington, there is little disagreement among economic developers about the economic value of immigrants. Immigrants offer critical support at both poles of the workforce pipeline. According to analysis by the Pew Research Center of 2014 U.S. Census data, foreign-born workers exceed the share of native-born workers in both high-skill and low-skill occupations. This is the case for occupational groups related to Life, Physical and Social Science, Architecture and Engineering, and Computer and Math, in addition to Food Preparation and Serving, and Building and Grounds Cleaning and Maintenance.[15]

Immigrants are also highly-entrepreneurial and make key contributions to the innovation economy. A 2016 study from the National Foundation for American Policy, a non-partisan think tank, showed that over half of the nation's startup companies worth $1 billion or more were started by immigrants. These immigrant founders created an average of approximately 760 jobs per company in the United States, and the collective value of their companies was $168 billion.[16] The abundance of immigrant-fueled tech entrepreneurship in this country

Recognizing the aforementioned economic boost that immigrants can inject into a community, many locales across the country have taken concerted steps in recent years to make immigrants the focal point of their overall talent attraction efforts. Many of these same communities have also blossomed into burgeoning hubs of millennial talent.

Source: Global Detroit. http://www.globaldetroit.com/detroit-is-now-a-welcoming-city/

Immigrants and millennials are leading Detroit's turnaround.

is all the more remarkable when considering the fact that immigrants make up less than 14 percent of the total U.S. population.[17]

The concentration of immigrants in high-tech sectors of the economy is even more of a potential boon to economic developers when you consider the disproportionate number of local jobs created in an economy through growth in innovative industries. A 2012 report by the Bay Area Council Economic Institute found that for every one job in a high-tech sector – defined as those sectors most closely tied to STEM fields – more than four jobs are created in the local economy across a diverse array of income groups, from lawyers and dentists to cooks and retail clerks.[18] The U.S. Chamber of Commerce has long documented similarly positive economic impacts of immigrants, including the fact that they drive up – not down – average wages for all U.S. workers by increasing productivity and stimulating investment.[19]

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DETROIT, MI

The post-Great Recession plight of Detroit is well-documented. Roiled by manufacturing losses and an exodus of residents out of the city's core, the Motor City turned to immigrants to bring it back from the brink. Global Detroit – a nonprofit organization funded in part by the Detroit Regional Chamber of Commerce – spearheaded efforts several years ago to attract immigrant talent, connect immigrants to economic opportunities, and tap into their entrepreneurial spirit.

The immigrant-friendly initiatives being led by Global Detroit and other community stakeholders are bearing fruit. From 2010 to 2015, the number of U.S.-born residents living in Wayne County (home to Detroit) contracted by 4.4 percent, while a 10 percent rise in the number of foreign-born residents was seen over the same time period.[20] Detroit has been reinvigorated by new downtown investments and a burgeoning software and engineering workforce – fueled by immigrant and millennial talent – that has contributed to the resurgence of the region's increasingly advanced auto industry.

Residents between the ages of 20 and 34 accounted for 22.3 percent of the city of Detroit's total population in 2015, a share higher than it has been in over a decade.[21] Job browsing data released by the professional social network company, LinkedIn, found that Detroit is at the top of the mind for America's millennial job seekers. In 2016, Detroit had the third highest annual growth rate in job interest among millennials, falling only behind millennial juggernauts Austin, TX and Raleigh, NC.[22] Leading companies in the auto and tech industries, like General Motors, Ford, and Quicken Loans, were top drivers of the job searches.

SALT LAKE CITY, UT

Utah has long been recognized as one of the top states to do business in the country, but much of its recent success can be tied to the tech entrepreneurial activity taking hold in Salt Lake City. In 2015, the U.S. Chamber of Commerce ranked Utah #1 out of all the states for innovation and entrepreneurship and #2 for high-tech performance.[23] Salt Lake City's emergence as a tech hub has been driven by a boom in talented foreign-born and millennial workers who want to be a part of Salt Lake City's success story.

The Salt Lake County government and Salt Lake Chamber have been intentional in embracing immigrants in the community and leaning on them to fuel Salt Lake's economic growth. Last year, the Chamber and county government launched the Welcoming Salt Lake New Americans Task Force at the Salt Lake Chamber. The Task Force seeks to raise awareness about the economic contributions that immigrants make in the Salt Lake City

area. A report by the Task Force notes that immigrants in Salt Lake County contributed $8 billion to the metro area's economy in 2014, and the county is home to almost 7,000 immigrant-owned businesses that generate $145 million in annual income.[24]

Salt Lake's burgeoning tech sector and top research universities combine to make it a hotbed of millennial talent.[25] A 2016 CB Commercial Real Estate (CBRE) "Scoring Tech Talent" report that measures a community's ability to attract and grow tech talent, ranked Salt Lake City as a top small market for millennial tech talent. U.S. Census data from 2015 shows that 34.5 percent of people between the ages of 25 and 34 in Salt Lake County had a Bachelor's degree or higher, and this share increased by 6.2 points since 2010 – far better than all other age groups.[26]

DES MOINES, IA

The Des Moines area's primary economic development organization – Greater Des Moines Partnership – talks the talk and walks the walk when it comes to talent attraction. The Partnership sees immigrants and millennials as key drivers of a regional economy that is increasingly globally connected. In 2016, the Partnership released a multi-pronged plan to attract and integrate foreign-born workers into the regional economy. Action items include developing a micro-loan program specifically for foreign-born entrepreneurs, fostering integration between high-skill foreign-born workers and existing employers in need of talent, and creating a Central Iowa Welcoming Center to meet the information and services needs of the region's immigrants.

While the Des Moines region's immigrant attraction efforts are just beginning, the region has entrenched itself over the last decade as a thriving hub of millennial talent. In 2014, *Forbes* magazine dubbed Des Moines the best city for millennials in the country,[27] and housing data from Realtor.com shows that 25-34-year-olds are

Source: Gardner Company. http://gardnercompany.net/portfolio-item/adobe/

Immigrants and millennials are helping tech companies like Adobe thrive in Salt Lake City.

Source: kcactf5.org http://www.kcactf5.org/

The Des Moines Social Club anchors a downtown that has the "it factor."

dominating the Des Moines housing market.[28] The community's success in drawing millennials is due largely to a community ethos that embraces art, culture, and the spirit of creativity. The city's vibrant downtown is anchored by the uber-hip Des Moines Social Club, which acts as the city's cultural heartbeat. The innovative arts and entertainment venue is housed in a renovated downtown firehouse and draws 25,000 people a month from across the country.

Tangible quality of place assets like the Des Moines Social Club and a community culture that is welcoming of creative young people and talented immigrants has turned Des Moines into a thriving magnet for the best and the brightest. It should come as little surprise that a 2015 Gallup survey measuring the levels of community pride in the 100 most populous metros in the country penciled Des Moines in at the #1 spot.[29]

The field of economic development is constantly changing, and millennials are the definitive change makers of our time. Communities seeking to remain competitive in an uncertain future should be willing to adapt their talent attraction and economic development approaches accordingly, or, the workers of tomorrow may pass you by.

CONCLUSION

The millennials' takeover of the U.S. labor force is just beginning, and as time goes on, their role as drivers of economic development decisions will only grow more acute. As many in the economic development profession are learning, millennials aren't like the generations that came before them. They are unique among their peer generational groups in their racial, ethnic, and cultural diversity. As we have learned, their tolerant social beliefs necessitate that economic development professionals and policy makers rethink conventional approaches to economic development. Divisive rhetoric and policies that marginalize members of the LGBT community and immigrants are a surefire way to alienate a generation that is overwhelmingly supportive of both constituencies.

Every community seeking to compete for millennial talent should recognize that investing in tangible quality of place assets is important, but as *The Soul of the Community* report showed, promoting an inclusive community culture is the key to the talent attraction kingdom. A growing body of research shows that community attributes like low levels of income inequality and high levels of social, racial, and spatial integration are strong influencers of sustained economic growth in metro regions.[30]

The field of economic development is constantly changing, and millennials are the definitive change makers of our time. Communities seeking to remain competitive in an uncertain future should be willing to adapt their talent attraction and economic development approaches accordingly, or, the workers of tomorrow may pass you by.

ENDNOTES

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launching world-class

WATER TECHNOLOGY IN THE HEART OF MILWAUKEE

By Elizabeth Thelen

The BREW (Business. Research. Entrepreneurship. In Wisconsin.) Accelerator unleashes water innovation by funding water technology startups with commercialization potential. The Water Council in Milwaukee created and runs the BREW. Founded on a century of discovering inventive solutions for water issues, The Water Council (TWC) was established as a 501(c)(3) organization in 2009 by Milwaukee-area businesses, education, and government leaders.

With a mission of aligning the regional freshwater research community with water-related industries, the WC has played a vital role in establishing Milwaukee as a leading water technology cluster in the United States and one of the most powerful in the world. The driving force behind this success is the spirit of collaboration among public, private, and academic sectors and the shared commitment to finding innovative solutions to critical global water issues such as water quantity (sometimes too much and sometimes too little) and water quality, what is actually in the water, and reuse, the optimization of water.

The Water Council is focused exclusively on economic and business development for the water technology industry and the network of programs and support is unequalled among water cluster organizations in the United States. The BREW Accelerator is just one of the WC's programs to help companies launch, grow, and connect. It is housed in the Global Water Center, a state-of-the-art water business and research facility in Milwaukee.

BREW participant using the Flow Lab at the Global Water Center.

The BREW (Business. Research. Entrepreneurship. In Wisconsin.) Accelerator unleashes water innovation by funding water technology startups with commercialization potential. The Water Council in Milwaukee created and runs the BREW.

ABOUT THE WATER COUNCIL

The WC started as an idea with two CEOs, Rich Meeusen and Paul Jones from Badger Meter and AO Smith respectively. The idea gained momentum with staff from other organizations securing the founding members; driving the focus areas of economic, technology, and talent development; and defining the water technology industry as a cluster. After becoming a member-based non-profit, the council spun out of the Greater Milwaukee Committee, which incubated the idea, and found a new office before the Global Water Center was even part of the vision. At the time, there were three full-time

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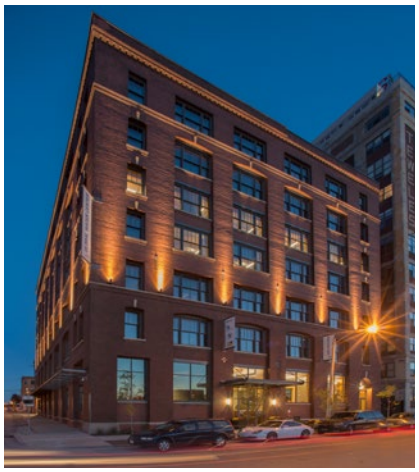
THE BREW ACCELERATOR UNLEASHES WATER INNOVATION

The BREW (Business. Research. Entrepreneurship. In Wisconsin.) Accelerator, which recently won IEDC's Gold Award for Entrepreneurship, unleashes water innovation by funding water technology startups with a 24-month launch target. The BREW is part of The Water Council (TWC) in Milwaukee, Wisconsin. The formation of TWC helped fill the need for the 21st century industry by leveraging Milwaukee's history and attracting new technology companies with innovative and creative people. With a robust network in place, the opening of the Global Water Center, and the galvanizing vision as the epicenter for water technology innovation, it was a natural fit for The Water Council to create the BREW Accelerator. In this article, take a tour of the accelerator and its portfolio.

Photo Credit: Kahler Slater

Global Water Center lobby.

AO Smith lab in the Global Water Center.



Exterior of the Global Water Center on 247 Freshwater Way, Milwaukee, Wisconsin.

staff. Since then the WC has grown to 10 full-time staff, numerous partners, 180 members, six global programs for water technology growth and soon to be a powerhouse at pulling technology out of federal labs and research labs all over the world.

In short, The Water Council and Milwaukee region have a special mix of people, location, industry, history, values, and bold leadership that make our city and state places that think about, know about, and care about water. This is at the core of what TWC is doing.

Situated along the shores of Lake Michigan, Milwaukee has deep, historic roots in the brewing industry and once was called the "beer capital of the world" with such brewers as Pabst, Schlitz, Miller, and Blatz. All of those breweries, except for MillerCoors, have ceased operations but their suppliers, the companies that made the parts including meters, pumps, and valves, have continued to flourish and grow. You could call this the perfect "economic concoction" for Milwaukee's future.

Over the years, the companies that once manufactured the parts and pieces for breweries evolved into the now 200+ water technologies companies that form Milwaukee's booming water technology cluster. These companies, just like the breweries, have deep roots in Wisconsin and vary from manufacturing of pumps, valves, meters, industrial water treatment processes, maintenance equipment, well services and products, big data and analytics, chemical and biological treatment products, and engineer consulting services.

THE BREW ACCELERATOR – A NATURAL FIT

The formation of TWC helped fill the need for the 21st century industry by leveraging Milwaukee's history and attracting new technology companies with innovative and creative people. With a robust network in place, the opening of the Global Water Center, and the galvanizing vision as the epicenter for water technology innovation, it was a natural fit for The Water Council to create the BREW Accelerator.

The Global Water Center (GWC), which houses TWC and the BREW, opened in 2013 as a place for "water-geeks," as one TWC member so fondly describes it. The center houses two research facilities, three universities, over 15 start-ups, and over 20 other water companies and partners. It is central to an area in a Milwaukee neighborhood called Walker's Point and now the hub of a new Water Technology District, which is home to a 17-acre Water Technology Park, the water utility, and University of Wisconsin Milwaukee's School of Freshwater Science. The economic growth and investment is over $221 million of public and private funding since the opening of the Global Water Center.

The BREW Accelerator funds at least six startups per year focused on water and with commercialization potential. This first-of-its-kind place-based accelerator pairs a unique water-focused startup community with credible

WORLD WATER DAY

On March 22, 2016 – World Water Day – the Obama Administration hosted the first-ever White House Water Summit to shine a spotlight on the importance of cross-cutting, creative solutions to solving the water problems of today, as well as to highlight the innovative strategies that will catalyze change across the ways in which we use, conserve, protect, and think about water in the years to come. As part of the Summit, the Administration called on institutions and organizations from all sectors to make new commitments to build a sustainable water future in the United States. In response, institutions and organizations made the following commitments, as reported and described by respondents.

https://www.whitehouse.gov/sites/whitehouse.gov/files/documents/White_House_Water_Summit_commitments_report_032216.pdf

resources of the world water hub to help entrepreneurs from around the world accelerate results, inspire action to create further opportunity, and disrupt the status quo in a legacy industry. With the accelerator now starting its fifth year, Milwaukee is "brewing" water technology companies in Wisconsin to help solve world water challenges and bring new innovations to market.

BREW winner Iconac pitches in the Innovation Pavilion at the Water Environment Federation's Technical Exhibition and Conference.

The BREW Accelerator funds at least six startups per year focused on water and with commercialization potential. This first-of-its-kind place-based accelerator pairs a unique water-focused startup community with credible resources of the world water hub to help entrepreneurs from around the world accelerate results, inspire action to create further opportunity, and disrupt the status quo in a legacy industry. With the accelerator now starting its fifth year, Milwaukee is "brewing" water technology companies in Wisconsin to help solve world water challenges and bring new innovations to market.

The first BREW Accelerator applications were solicited worldwide in 2013 and since then 32 winning companies (see table) have moved into the Global Water Center. In the past year the program expanded to include a corporate track for partners looking outside of their corporations for innovations. In 2016, as part of the White House's first ever Water Summit, numerous organizations made commitments to solve water problems and create new business opportunities. The Water Council made three commitments at the Summit; specifically, the BREW committed to launch 75 water technology start-ups over the next five years. The goal is ambitious, worthy, and real! The BREW is an award winning accelerator. It has won a state award, Wisconsin Innovation Award; a national award from the State Science Technology Institute (SSTI); and finally IEDC's Gold Award for Entrepreneurship.

A STARTUP SUCCESS STORY

As TWC looks ahead, it sees success and growth for its BREW Accelerator portfolio. A great example of the world-class people and innovations occurring in the BREW is Microbe Detectives, a first round BREW winner. Microbe Detectives went through two rounds of judging from an outside global panel before being selected. Founder Trevor Ghylin, who had recently graduated from the University of Wisconsin - Madison with a Ph.D. and P.E. in civil and environmental engineering, had just worked his way through the initial judging process into round two with two water business ideas. The global team of judges knew the importance and the uniqueness of finding a coachable founder, and Ghylin was it.

The judges shared their first piece of advice, which was to focus on one business at a time and Ghylin listened. Soon after, he won the BREW Accelerator and launched Microbe Detectives with the $50,000 grant supported by the Wisconsin Economic Development Corporation. In addition to the money prize, winners also receive office space for 12 months in the Global Water Center, start-up sessions for six months with BREW coaches in partnership with the University of Wisconsin-Whitewater, and access to TWC's robust network of water mentors and experts.

Microbe Detectives accelerates the adoption of DNA sequencing technology in the water industry. Throughout Ghylin's time at the Global Water Center he participated in every session, pitched at numerous events, and won the Rice Business Plan competition at Rice University. He is the kind of "pitcher" that puts the crowd on the edge of their chairs and has you watching everyone else's reactions in the room. One of the investors was about to make an investment on the spot in the meeting, and Ghylin actually said, "I am not quite ready."

Though it may seem at odds to not be venture-ready, Ghylin knew he was not ready. He needed to refine his business model, team, and partners, all of which is part of the BREW Accelerator process.

By graduation, Ghylin had completed his customer interviews and pivoted to ultimately focus on water and wastewater, and he was generating some revenue. It was not enough to live on just yet. Again, listening to advice (often founders take advice too late), he needed to build out his team. As he moved forward to build his work team, he partnered with John Tillotson, a former chief marketing officer for Phigenics, a water systems company focused on safety and efficiency. Tillotson, who was part of the TWC membership and looking for his next opportunity, had experience in building new technologies and spinning them out, along with extensive experience in marketing and branding. He reached an agreement with Ghylin and forward traction continued.

BREW PORTFOLIO	TECHNOLOGY AREA
Cadens Wisconsin	Designed a low head micro-to small hydropower, Near Net Shape (NNS) technology to turbine design and production.
CornCob Wisconsin	A membrane system with a patented cross flow velocity intended to eliminate conventional pretreatment and reduce operating energy
DMR International Illinois	Engineered the NOVEX-AMG™ family of additive systems that have demonstrated unique solutions for water filtration systems with the added bonus of using environmentally responsible materials.
Ecoli-sense Ontario, Canada	Creates biosensor technology for a monitoring platform for water quality and agriculture, including a prototype of a magnetic bio-ink E. coli detection system.
Energy Tech Innovations, Wisconsin	Developing a low-cost, water-based gas treatment method that will convert biogas into renewable natural gas, a greenhouse gas neutral fuel.
H20 Score, now STEMhero, Wisconsin	Software to connect people who want to reduce their own water and energy footprint with those who want to support efficient use of water and energy. H20 Score sold to their spin-out company, STEMHero, a water and energy education platform.
Hydrate Gel Filtration Brisbane, Australia	Developed a new ultrafiltration range separation technology using a gelatinous layer of aluminum hydroxide hydrate that enables simple, high rate and cost-effective production of filtered water.
Iconac Ontario, Canada	Provides total pipe assessment using audible frequency sound to assess wall thickness, stiffness, leak location and more without service disruption or excavation.
IX Power Colorado	Developed OrganiClear, a complete treatment train for produced water. It was developed and licensed from Los Alamos National Laboratory.
MetaMateria Ohio	Offers material technologies to clean water using novel and nano-enhanced materials that economically address challenges in water purification, while also recovering phosphorous and other reusable contaminants.
Microbe Detectives (MD) Illinois	A bio-technology company that has accelerated the adoption of genomic technology in water and waste-water testing and analysis. MD applies advanced DNA sequencing to identify and quantify nearly 100% of the microbes in a sample of water.
NanoGas Illinois	A game-changing water technology company that infuses nanobubbles of oxygen and other gases to support the recovery of oil and gas while recycling water.
Nanolytix Ontario, Canada	A global leader in rapid testing technology in the areas of water and air. Using smart connected hardware integrated with artificial intelligence for real time water detections.
New Works India/Wisconsin	Offers hands-on training for Water Management professionals using state-of-the-art lab equipment from Festo Didactic; training water technician for the world.
Nutrient Recovery Upcycling Wisconsin	A precipitation process technology that extracts nitrogen and phosphorus from wastewater in the form of high-purity fertilizers.
pHinding Solutions Wisconsin	Was a biotechnology company that created a "fit bit" for collecting data in the lab. Has pivoted out of water technology.
Pellucid Water Wisconsin	Developed an application of Dense-Medium Plasma for water decontamination that does not require chemical additives, membrane filters or ion exchangers.
Plasma Environmental Wisconsin	Developed a new way in which to reliably generate reactive ions in sufficient quantity to be useful, and to mix these in the aqueous media to provide clean water.
Pulsed Burst Systems Wisconsin	PBS is a patented low pressure large bubble provider for better mixing in the water and wastewater industry. The PBS mixer accumulates small bubbles over a period of time and rapidly releases a series of giant or Megabubbles.
OptickTechnik Illinois	Provides optical sensors and instrumentation for characterization of particulate systems with patent-pending laser scanning and image analysis technology. It enables more accurate monitoring and control of key particle processes in water and wastewater treatment.

(Continued)

BREW PORTFOLIO	TECHNOLOGY AREA
Oxymem Ireland	They solve intensive wastewater treatment with the Membrane Aerated Biofilm Reactor (MABR). A system to achieve incredibly high oxygen transfer rates (up to 95%) resulting in superior energy performance, lower sludge production, using less operator hours.
Radom Wisconsin	Designed instrumentation with Inductively Coupled Plasma to promote continuous, routine, challenging and in-situ measurements of toxic trace metals in water, wastewater, industrial processes, and food and drugs.
Rice Technologies Wisconsin	Designed a battery operated, non-contact, water leak sensor that is positioned in places where water leaks commonly occur. When a leak is detected, an alarm is sent to a receiver. The water valve supplying water to the apartment or home is closed, preventing any damage.
Safe2 Drink Illinois	Created an innovative handheld water sterilization device that eliminates the need for batteries and chemicals.
SofTap Ohio	A water-softening technology utilizing a proprietary, passive filtration system to remove dissolved calcium and magnesium bicarbonates that form scale in drinking and industrial water systems.
Solar Water Works Wisconsin	A solar water treatment system which uses a photo-catalyst to accelerate natural water purification processes, eliminating the need for chemicals or external power which cuts operating costs and easy to install.
SmartWaters British Columbia, Canada	Creating a system to increase city resilience by harvesting rainwater and holding it indefinitely in order to provide strategic reserves for all municipal water needs.
Vegetal i.D. France	The US office of a global company, Le Prieuré, invented and patented the HYDROPACK® system which was the first modular green roof system.
Water Resources Monitoring Group (WRM) Wisconsin	Addresses deficiencies in current agriculture water run-off monitoring programs. WRM created an agricultural hydrology monitoring program that provides low-cost, high quality data that aids accurate decision making to help increase farm profits and improve water quality.
Watrhub Ontario, Canada	A data mining and analytics company that delivers timely, tailored market intelligence on water and wastewater systems.
WellIntel Wisconsin	A groundwater level sensing system and analytics to have groundwater information and trends at your fingertips.
WISRAN California	Provides real-time Business Intelligence Services for smart water grids to manage non-revenue water and agriculture management.

Over the last year and a half, Ghylin, Tillotson, and others on the team have completed a major rebranding, repacking, and "re-partnering effort." Through the BREW Accelerator and TWC's vast global network, this idea from a Wisconsin graduate student has launched into a revenue generating business tracking for new investments and growth in 2017.

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In addition, Microbe Detectives has launched an e-commerce site, secured five partnerships, and is thriving in Milwaukee at the Global Water Center. They have served clients with projects including membrane biofouling, legionella analysis, cooling tower water analysis, wastewater treatment troubleshooting, groundwater remediation, drinking water distribution system analysis, groundwater well characterization, and even beer and wine analysis.

OVERALL SUCCESSES AND THE FUTURE

The BREW Accelerator has seen some exciting transitions and successes over the last four years, most notably:

- A $50,000 two year convertible note replaced the traditional grant the winners received. As a result, there is more commitment from both parties, and TWC can grow a fund to reinvest in water start-ups. We can become shareholders, not just grant providers. This brings a new level of accountability to everyone involved.

  - The $50,000 is either a loan to be paid back within two years of entering the program or, with investment success, shares will convert at a 20 percent discount for a separate Water Council/BREW Seed Fund to reinvest in more water technology start-ups.
  - The funds are supported by an innovative Seed Accelerator program from the state of Wisconsin's Economic Development Corporation. Results are reported on a quarterly and annual basis for up to three years.
- An expansion of the accelerator included several global water technology corporations as partners for the BREW Corporate track, A.O. Smith, Rexnord, and Veolia. Each has their own innovation and research program and partnered with the BREW to expand their reach and place these start-ups in the Global Water Center.

  A. O. Smith Corporation is one of the world's leading manufacturers of residential and commercial water heaters and boilers, offering a comprehensive product featuring the best-known brands in North America, China, and India. The company was founded in 1874 in Milwaukee, Wisconsin, where today the company is headquartered. A. O. Smith employs approximately 13,400 men and women at operations in the United States, Canada, Mexico, China, India, the United Kingdom, the Netherlands, and Turkey, which has the global reach to serve customers worldwide.

  Veolia is a global environmental company focused on energy, water, and waste. Today, water, waste, and energy can all be recovered – transforming what is discarded into a valuable resource. Veolia embraces this future by developing access to, preserving and replenishing the world's resources. They do this by blending skills in operations, engineering, and technology with innovative business models, offering a complete range of environmental solutions to meet the challenges of cities, governments, campuses, businesses, and industries.

  Rexnord water management designs, procures, manufactures, and markets products that provide and enhance water quality, safety, flow control, and conservation. The two major divisions include Zurn and VAG.
- Oxymem, (oxymem.com) part of the BREW 3 start-up portfolio, is a membrane company from Ireland that achieves incredibly high oxygen transfer rates resulting in superior energy performance, lower sludge production, and less operator hours. They received a significant investment from DOW Chemical Company and our note converted! The BREW Seed Fund is now a shareholder. In addition, they received another investment this year from oil giant, Saudi Aramco Energy Ventures (SAEV).
- Radom (radomcorp.com), also part of the third BREW start-up portfolio, is an instrumentation company from Wisconsin. They offer the next generation of trace metal detection with Inductively Coupled Plasma to promote continuous, routine, challenging, and in-situ measurements of toxic trace metals in water, wastewater, industrial processes, and food and drugs. They have secured a license from a major global player in instrumentation, have customer traction, and products started being manufactured in Q1 2017.

CornCob Inc., a BREW winner, showcasing their advanced membrane technology.

Radom Inc., a BREW winner, demonstrating their next generation of trace metal analysis.

SofTap is the winner of the BREW Corporate powered by AO Smith.

- Having Preferred Partners who are designated service providers close to the program is vital to success. These companies are in such areas as accounting, legal, marketing, data, etc.
  - GRAEF – engineering
  - Michael Best – attorneys
  - Nelson Schmidt – marketing and branding
  - Sage-Water – Executive-in-Residence
  - Watrhub – data analytics and market research
  - WIPFI – accounting services
  - Wisconsin Economic Development Corporation – Seed Accelerator Program
  - University of Wisconsin Whitewater – coaching, research, and interns
  - University of Wisconsin Milwaukee – labs and advising
  - Marquette University – labs and the Law and Entrepreneurship Clinic
  - University of Wisconsin Extension – federal grant application assistance
- The Global Water Center, the BREW, and other business development programs such as our Small Business Channel have helped to attract more start-ups and founders to the region. We affectionately call them "BREW Plus."

In addition, the BREW has seen the quality and quantity of applicants increase along with growth in the geographic location of applicants. This is analogous to the fly-wheel concept from Good to Great by Jim Collins. The applicants from BREW 1 were nomination only and mostly from the Midwest and France. The inclusion of the French company was the result of a strong exchange collaboration that had developed over a couple of years with the Chicago office of UBI France. As a result of our partnerships and global reach, the BREW Accelerator is now attracting startups to the program from across the United States, Canada, Mexico, Australia, and numerous other countries.

Having Preferred Partners who are designated service providers close to the program is vital to success. These companies are in such areas as accounting, legal, marketing, data, etc.

BREW winner OxyMem accepting check for $50,000.

Through TWC's membership and program offerings, we have grown our talent base and startups have found top-notch business development people to add to their team through this network. Acting as a "magnet," the Milwaukee region is attracting a diverse set of skills in technology, business development, and commercialization, all vital to the success of an idea becoming a business with a North American headquarters in Milwaukee.

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LESSONS LEARNED IN THE BREW ACCELERATOR

While the BREW continues to evolve, grow, and launch start-ups, we have a few lessons learned to share.

- **Focus of the Start-up:** In the first round of applications, the judges' team focused heavily on the product being innovative, new, and disruptive technology. We now focus heavily on the team, its network, and ability to commercialize.
- **Coaching Team:** It is vital to have a mix of experts and styles. We have one professor from University of Wisconsin Whitewater, Dr. Bill Dougan. He brings academic and real-life experience. In addition, he has a best kept secret – a photographic memory for every application! Our second coach is John Tillotson, CEO of Microbe Detectives. Though it sounds unique, it is another part of our secret sauce. Tillotson has experience with a water tech company spin-out and numerous other start-up ventures. The coaches hold the start-ups accountable for participation and their milestone completion.

- **Start-up Team:** This is essential to success. The founders are usually technical innovators. As they grow, they need to build out their team with branding, administrative activities, and just as important, sales, marketing, and business development.
- **Time:** In water technology commercialization there is a unique understanding of time. Although innovators know they are on the tipping point of a breakthrough system change in a legacy industry, they still must push through with "pure grit" to a successful launch of a business.

Finally, as a BREW judge, Dr. Barry Liner from the Water Environment Federation, once affectionately called me, "the BREW Master," it does take a special concoction of ingredients – connections, capital, capacity, and communication to launch a successful start-up. Similar to the beer brewing process where a carefully crafted combination of ingredients is needed to create the perfect pour, the BREW Accelerator creates its own unique pairing. By matching innovators with the needed training, talent, funding, research space, and demonstration sites in the heart of the most densely populated water cluster, the final product is revolutionary. TWC has deep roots and loyal members across the city of Milwaukee, region, state, and nation, while reaching 22 global partners, making it one of the best places in the world to unleash and launch water innovations. The perfect economic concoction.

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2017 ECONOMIC FUTURE FORUM SPONSORS & EXHIBITORS

IEDC would like to thank the sponsors and exhibitors of the 2017 Economic Future Forum 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

RECENT REPORTS FROM EDRP

IEDC's Economic Development Research Partners (EDRP) program is an advanced membership level of IEDC which supports practice-oriented research. In June 2017, EDRP released "Place Matters: The Role of Placemaking in Economic Development," a report that explores the practice of placemaking and provides examples of transformational projects. In January 2017, EDRP released "Organizing for Success: Regional Economic Development," which examines the benefits of organizing and executing regional strategies.

Both reports are available as free downloads for members from IEDC's website. A third report, exploring next-generation business retention and expansion practices, will be released this fall.

Interested in becoming an EDRP member? Contact Membership Director Phil Goodwin, pgoodwin@iedconline.org.

WHY INVEST IN ECONOMIC DEVELOPMENT

IEDC, at the direction of our Board of Directors and under advisement of the Public Policy Advisory Committee, has increased engagement and advocacy activities related to the federal government. One item of note is our Why Invest in Economic Development brochure, an effort led by IEDC in collaboration with our partners at NADO, NACo, and NLC.

The brochure provides an educational overview of a sample of key federal economic development programs and agencies targeted toward elected officials in Congress and the administration. IEDC and our members have used it in their outreach efforts over the past several months.

IEDC will be updating the public policy portion of the website to include additional tools for members in the months ahead.

RESOURCES FOR LOCAL AND ELECTED LEADERS

Community leaders need sound knowledge in order to support local economic development efforts. Fortunately, IEDC has resources available. "What You Should Know 2.0: Elected Leaders and Economic Development," is a recent publication that includes great information on the role of local leaders in the process and practice of economic development (available as a free download from IEDC's website).

In addition, IEDC has extensive experience conducting short training courses for local leaders on the basics of economic development and economic resiliency. We're available to bring the training to your community. Interested? Contact IEDC Vice President Lynn Knight, lknight@iedconline.org.

AEDO PROGRAM ACCREDITS A NEW MEMBER

IEDC is excited to announce the recent accreditation of its newest member, the City of Scottsdale Economic Development Department. The Accredited Economic Development Organization (AEDO) program is a means of recognizing the professional excellence of economic development entities.

In addition, IEDC has reaccredited four AEDO members: the Business Development Board of Palm Beach (West Palm Beach, FL), Hutto Economic Development Corporation (Hutto, TX), Lehigh Valley Economic Development Corporation (Bethlehem, PA), and Richardson Economic Development Partnership (Richardson, TX).

With several new applications, the committee hopes to exceed 60 organizations this fall. To learn more about becoming a member of the prestigious AEDO community, visit www.iedconline.org/AEDO.

ECONOMIC DEVELOPMENT RESEARCH PARTNERS ANNUAL RETREAT

IEDC's Economic Development Research Partners (EDRP) recently held their annual retreat at the Edward Lowe Foundation in Cassopolis, MI. Nineteen EDRP members attended the event with the primary goal of determining the group's research agenda for next year.

For 2018, the group will pursue a major research project on real-time adaptation to the changes in technology. This research effort will explore both the implications and unique opportunities presented by technological advances and Industry 4.0. There will also be two shorter papers on educating local public and private sector leadership and developing future readiness in economic development

INTERNATIONAL ECONOMIC DEVELOPMENT COUNCIL

CALENDAR OF EVENTS

RECERTIFICATION FOR CERTIFIED ECONOMIC DEVELOPERS

Fulfill a recertification requirement without tapping into your budget!

Earn two credits towards your next recertification by having an article published in the *Economic Development Journal*, IEDC's quarterly publication.

This is one of a number of ways that you can pursue recertification credits. Submissions are accepted throughout the year. The Journal Editorial Board reviews all articles and determines which articles are accepted for publication.

For more information contact Jenny Murphy, editor, at murp@erols.com (703-715-0147).

INTERNATIONAL ECONOMIC DEVELOPMENT COUNCIL

IEDC sponsors an annual conference and a series of technical conferences each year to bring economic development professionals together to network with their peers and learn about the latest tools and trends from public and private experts.

IEDC also provides training courses and webinars throughout the year for professional development, a core value of the IEDC. It is essential for enhancing your leadership skills, advancing your career, and, most importantly, plays an invaluable role in furthering your efforts in your community.

For more information about these upcoming conferences, webinars, and professional development training courses, please visit our website at www.iedconline.org.

CONFERENCES

2017 Annual Conference
September 17-20
Toronto, Canada

2018 Leadership Summit
January 28-30, 2018
Las Vegas, NV

2018 Federal Forum
March 25-27, 2018
Washington, D.C.

2018 Economic Future Forum
June 24-26, 2018
Buffalo, NY

2018 Annual Conference
September 30-
October 3, 2018
Atlanta, GA

2019 Leadership Summit
January 27-29, 2019
Ft. Lauderdale, FL

2019 Federal Forum
April 14-16, 2019
Washington, D.C.

2017 TRAINING COURSES

Economic Development Finance Programs
September 27-29
Baltimore, MD

Technology-Led Economic Development
First-Ever Online course, four sessions:
Tuesdays/ October 3, 10, 17 & 24

Economic Development Marketing & Attraction
October 12-13
Chapel Hill, NC

Real Estate Development & Reuse
October 19-20
Calgary, AB

Business Retention & Expansion
November 2-3
Atlanta, GA

Real Estate Development & Reuse
November 30-December 1
San Diego, CA

2018 CERTIFIED ECONOMIC DEVELOPER EXAMS

January 27-29, 2018
Las Vegas, NV
(Application Deadline: November 27, 2017)

March 24-25, 2018
Washington, D.C.
(Application Deadline: January 24)

June 23-24, 2018
Buffalo, NY
(Application Deadline: April 23)

September 29-30, 2018
Atlanta, GA
(Application Deadline: July 30)

2017 WEBINARS

#DIGIMAX-IEDC Virtual Learning Fall Series
The Future of Economic Development Is Online: Get the Most from Digital Marketing with a Six-Part Webinar Series
Wednesdays: October 4-November 8

Not Your Average EDO Website-Best Practices in Web Design for 2018
Wednesday, October 4

Digital Lead Generation – Five BIG Tips You Need to Know
Wednesday, October 11

Win Google's Attention + Affection
Wednesday, October 18

Online Storytelling
Wednesday, October 25

Social Media in 2018 – Use It or lose It
Wednesday, November 1

Marketing for ROI. Seriously.
Wednesday, November 8

It's All About Relationships: Trends in Supporting Your Existing Businesses
December12

process-based workforce

DEVELOPMENT IN THE NEW ECONOMY

By Nancey Green Leigh, Ph.D., FAICP and Benjamin R. Kraft

INTRODUCTION

Since the Civil War reconstruction, southern U.S. states have been associated with aggressive industrial recruitment, often based on direct subsidies or future tax reductions on top of already low labor and land costs (Cobb, 1993; McMath, 1991). This strategy, alternatively called "first wave" economic development (Bradshaw & Blakely, 1999; Eisinger, 1995), "smokestack chasing," or "corporate welfare," persists. However, in reaction to the heavily supply-side, export-oriented first wave, several additional trends in economic development, such as place-based entrepreneurship, industry cluster development, and local self-sufficiency have also emerged (Fitzgerald & Leigh, 2002; Leigh & Blakely, 2013). Now, several layers of strategies and approaches often exist simultaneously in U.S. state-based economic development.

The growing emphasis on the role of human capital in economic growth (Clarke & Gaile, 1998; Florida, 2002; Garmise, 2006; Glaeser & Mare, 1994; MacManus, 1986; Mathur, 1999) is one of the forces that has shaped this evolution. While states continue to use tax incentives and cost-reduction strategies such as anti-union "right to work" laws to compete for mobile capital, there is increasing acknowledgement that industrial recruitment must be accompanied by workforce development and retention efforts in order for places to achieve sustained benefits from capital relocations (Lowe, 2012). North Carolina's life science initiative, documented by Lowe (2007) and Leigh and Walcott (2002), is an example of how a comprehensive workforce development program can complement recruitment to grow a sector's presence in the state – in this case biotechnology.

This initiative, called the Alabama Robotics Technology Park (RTP), shares characteristics with a number of existing economic and workforce development strategies and paradigms, but is also unique in that it focuses entirely on a process technology – robotics – rather than a sector or industry.

In the case study presented here, we describe a recently implemented southern state workforce initiative that also exists in tandem with larger manufacturing recruitment efforts. This initiative, called the Alabama Robotics Technology Park (RTP), shares characteristics with a number of existing economic and workforce development strategies and paradigms, but is also unique in that it focuses entirely on a process technology – robotics – rather than a sector or industry.

This one-of-a-kind endeavor has significant implications not only for workforce and economic development as separate pursuits, but also for how the two may be coordinated in the future. Further, it raises fundamental questions of how the goals of increased productivity and employee wages can be reconciled with the potential for overall reductions in employment and increasing basic science, technology, engineering and math (STEM) knowledge requirements for traditionally middle class jobs.

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Benjamin R. Kraft is a Ph.D. student in the School of City and Regional Planning, College of Design, Georgia Institute of Technology (Ben.Kraft@gatech.edu)

THE CASE OF THE ALABAMA ROBOTICS TECHNOLOGY PARK

The Alabama Robotics Technology Park (RTP) is a unique facility and public workforce development program that provides robotics training and research and development space to Alabama manufacturing firms and their employees. In this case study, we describe how the RTP originated out of a recognition that cultivating a local robotics skill-base could fortify business attraction and retention efforts, and how it differs from traditional workforce development models by focusing on an emerging technological process rather than an industry sector. The study also addresses how the RTP aligns with existing statewide economic and workforce development programs and considers future implications for this model in a time of rapid technological change.

THE ROBOTICS TECHNOLOGY PARK AND THE EVOLUTION OF ECONOMIC DEVELOPMENT

The Alabama RTP is similar to the aforementioned biotechnology workforce program in North Carolina in that it is a state-supported workforce development intermediary that grew out of the recognition that new skills were necessary to attract and keep advanced manufacturing companies in the state.

However RTP, differing from North Carolina's biotechnology initiative in a number of ways, is a unique type of workforce intermediary in its own right. The fundamental difference is that the RTP is an entirely *process*-based program. That is, it trains employees to work with a firm's specific manufacturing process technology, regardless of the firm's industry. This is a departure from the increasingly popular sector-based workforce development strategy, which focuses on training for a specific industry or cluster of industries (Conway, 2014). North Carolina's biotechnology initiative is an example of a sectoral strategy.

However, the RTP's model is not necessarily at odds with the sectoral approach. Since industrial robots are used almost exclusively in manufacturing, the RTP could be seen as a de facto sector-based program (the sector being manufacturing). Still, the entire manufacturing sector is much broader than what a typical sector-based strategy would address.

Alabama's manufacturing base spans a range of subsectors (see Table 1). The state's largest and most rapidly growing subsector, transportation manufacturing, includes automotive, aerospace, and ship and boat manufacturing – all industries that Alabama has aggressively recruited, and all intensive users of robots. Automotive manufacturers were the earliest adopters of robots. They continue not only to operate significantly more robots than other sectors, but also to add robots to their production operations at a faster rate (International Federation of Robotics, 2014). At the same time, food and fabricated metal manufacturing – Alabama's second and third largest sectors – are also increasing their robot use (International Federation of Robotics, 2014).

Another way that the Robotics Technology Park differs from the North Carolina biotechnology initiative is that it is a "rediscovery of the foundations" (Shapira, 2005, p. 199) because of its emphasis on the technological upgrading of Alabama's mature industries, as well as its availability to both large multi-national corporations

TABLE 1: Alabama Manufacturing Subsectors, Employment and Establishments, 2005-2015

NAICS Code	Type of Manufacturing	Establishments 2015	Establishments 2005	Employees 2015	Employees 2005	Employment Change, 2005-2015
31-33	Manufacturing (all)	4,158	4,953	248,033	282,136	-34,103
336	Transportation equipment manufacturing	297	231	57,228	35,290	21,938
311	Food manufacturing	285	287	30,232	35,428	-5,196
332	Fabricated metal product manufacturing	896	982	25,557	26,391	-834
331	Primary metal manufacturing	107	127	19,133	16,540	2,593
326	Plastics and rubber products manufacturing	174	212	17,537	17,933	-396
321	Wood product manufacturing	329	453	14,469	21,469	-7,000
325	Chemical manufacturing	186	185	12,160	11,994	166
333	Machinery manufacturing	260	276	11,076	13,888	-2,812
322	Paper manufacturing	62	84	10,411	13,147	-2,736
337	Furniture and related product manufacturing	261	432	8,850	15,594	-6,744
334	Computer and electronic product manufacturing	100	128	7,781	12,440	-4,659
339	Miscellaneous manufacturing	280	343	6,621	7,795	-1,174
327	Nonmetallic mineral product manufacturing	273	336	6,208	8,225	-2,017
314	Textile product mills	91	102	4,802	7,721	-2,919
335	Electrical equipment, appliance, and component mfg	66	68	4,785	5,450	-665
323	Printing and related support activities	327	401	3,325	5,175	-1,850
313	Textile mills	30	80	2,430	12,706	-10,276
315	Apparel manufacturing	50	138	2,229	10,239	-8,010
324	Petroleum and coal products manufacturing	30	38	2,021	2,219	-198
312	Beverage and tobacco product manufacturing	42	32	1,125	2,332	-1,207
316	Leather and allied product manufacturing	12	18	53	160	-107

Source: U.S. County Business Patterns

Photo Credit: Nancey Green Leigh

RTP's main training space containing workcells for several types of robots.

and local small-and-medium sized enterprises (SMEs) alike. In the Southeast, this function has traditionally been performed by local Manufacturing Extension Partnership (MEPs) branches, which are part of a national network administered by the National Institute of Standards and Technology. Several Midwestern regions, such as Chicago and Cleveland, also have private non-profit retention and expansion intermediaries that assist manufacturers with technological upgrades. However, an entire regional facility dedicated to one technology – like the RTP – is a new approach.

In summary, the novelty of the RTP makes it difficult to characterize, although elements of existing economic development strategies are embedded in its model.

We suggest that the RTP's distinctiveness is related to its focus on the specific process technology of robotics. As opposed to life sciences manufacturing in Lowe's (2007) example, where students must master a comprehensive set of specific skills such as "chemical mixing, solid dose tableting, and coating" (p. 346), robotics is a process technology that automates a wide range of existing skills. This is especially true for painting and welding, where there are extensive sets of competencies and certifications (particularly for welding) that a worker must master, regardless of whether the application is manual or automated.

In the words of an RTP employee, to be a good robotic paint technician one must "know paint" in addition to knowing how to operate the robot. An RTP instructor also noted that, since most students are incumbent employees, they have some prior knowledge of automation. Only in rare cases do they come to classes without any prior experience, and students who do lack this knowledge have significant difficulty mastering class material. In other words, to get the most out of a robotics course, one must already be familiar with basic automation concepts and the applications to which they are learning to apply robotics technology. Thus, the RTP requires a significantly higher level of preparation from its trainees than traditional workforce development programs would require.

This situation raises the question of whether the success of the RTP will generate a "skill-biased" (Autor, Levy, & Murnane, 2003) effect in Alabama's labor market. That is, will the attainment of robotics skills benefit most (in the form of wages) those who already have a specialized or codified industrial skill that robots can complement? If this is the case, what will happen to the larger but less skilled industrial labor pool whose jobs may simply be replaced? Table 1 shows that Alabama's manufacturing workforce declined by over 34,000 between 2005 and 2015, while its average manufacturing wage increased from 84.9 percent to 89.3 percent of the U.S. average manufacturing wage during the same period (Table 2). The potential success of RTP and Alabama's larger industrial strategy may need to be balanced with other initiatives aimed at different strata of the workforce.

TABLE 2: Average Wages of Manufacturing Workers in Alabama and the U.S.

Year	Alabama	United States	Alabama Wage as % of U.S. Wage
2005	$37,309	$43,951	84.9%
2015	$50,517	$56,591	89.3%
% chg, 2005-2015	35.4%	28.8%	—

Source: U.S. County Business Patterns; calculated as annual payroll/number of employees. Not adjusted for inflation

ORIGINS AND ADMINISTRATION

The Robotics Technology Park is one of several specialized training centers in the portfolio of the Alabama Industrial Development Training (AIDT) agency. AIDT was established by the Alabama legislature in 1971 under the Alabama Department of Education, at a time when the connections between workforce development and economic development were not widely recognized (Harper-Anderson, 2008). However, the Agency moved to the Department of Commerce in 2012, reflective of its emerging prioritization as an economic development – as opposed to a workforce development – engine.

This type of realignment is not unique to Alabama. For example, in Kansas, Missouri, and Oklahoma in the 1990s and early 2000s, economic development agencies absorbed workforce development agencies (Garber & Altstadt, 2007). Georgia followed suit in 2014. While not all state economic and workforce development de-

partments have merged, greater coordination between the two has been a theme since the 1980s for state governments (MacManus, 1986).

In its first decade, AIDT provided mobile training services to companies in Alabama, traveling to sites across the state to provide job training based on companies' needs (Marlowe, 2009). While it maintains 38 mobile training units (MTUs), it has also built 11 stationary training facilities throughout the state.

Trade and professional economic development publications have credited AIDT with the successful recruitment of Mercedes-Benz auto assembly plant in the mid-1990s, and the several other foreign auto-makers that followed (Marlowe, 2009). However, two more critical peer-reviewed accounts of the Mercedes-Benz deal do not mention AIDT as a factor (Gardner, Montjoy, & Watson, 2001; Spindler, 1994). Nevertheless, its model of employer-centered recruitment and training, largely aimed at heavy manufacturing, expanded throughout the state. Examples of other AIDT stationary centers are pre-employment training centers for Hyundai and Honda and the sector-based Maritime Training Center in Mobile, AL, that provides training for the shipbuilder Austal and other maritime-related businesses. These centers, with their pre-employment recruitment and screenings, provide more traditional workforce development functions than the Robotics Technology Park.

The strategy of complementing business attraction with workforce preparation and development is also common. Hanley and Douglass (2014) find that expenditures for these two activities tend to track together statistically across states, constituting a hybrid approach they call "education-driven recruitment." Indeed, a state economic developer confirmed that he and his team heavily emphasize AIDT (and individual centers where appropriate) in marketing and recruitment efforts. So the model may be effective, but it is not necessarily innovative, and it is in fact widely used. The authors' institution, the Georgia Institute of Technology, was in fact founded in part with industrial recruitment in mind in 1885 (McMath, 1985; Shapira, 2005). More recently, however, education-driven recruitment is usually sector-based (e.g. biotechnology in North Carolina). It remains to be seen whether the process-focus of the Robotics Technology Park will provide a first-mover advantage to Alabama that increases its national competitiveness.

The RTP, opened in 2011, is Alabama Industrial Development Training's newest and most unique center. In fact, RTP employees claim that it is the only one of its kind in the world. This statement is not without justification: as a facility comprised of three buildings and occupying over 130,000 square feet dedicated entirely to robotics training, our research has not been able to identify a comparable facility elsewhere.

Each of the three buildings, constructed in successive phases, has a different purpose. Phase 1, the Robotics Maintenance Training Center, is where the basic robotic training classes are held. Phase 2 provides facilities

Side view of RTP mobile educational trailer. The trailer provides hands-on robotics demonstrations to youth in communities across Alabama.

Photo Credit: Nancey Green Leigh

Rear view of RTP mobile educational trailer listing corporate partners.

Photo Credit: Nancey Green Leigh

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to companies engaged in research and development in robotics and automation. Phase 3 was originally supposed to function as an incubator for robotics-based entrepreneurs and integrators,[1] but after several companies requested training specifically for robotic painting and dispensing,[2] the size of the planned building was doubled to provide space for this specialized training. During our research visit to the RTP, the space for the paint facility had been built, and much of the equipment that had been donated by nearby companies was waiting to be set up and assembled.

While the RTP fits within AIDT's strategic purpose of providing workforce support to complement industrial recruitment and retention, the story of its conception is literally a "back-of-the-napkin" story. As it was related to us:

> "What happened was, we had a company fixing to expand down in Cullman, AL, and we had the Governor down there, [and] our boss, Ed Castile...and one of our coworkers… As they were there for the expansion, basically the CEO stepped up on the stage, he was going to make a presentation and welcome everybody, well, a person walked up on stage and whispered in his ear, and he turned around and apologized to the Governor and said 'well, I'm sorry I only have a few minutes and I have to leave because our line has crashed, and I've got to go out and handle that situation.' Governor Riley…says, 'Well, send your maintenance man, let him go fix it,' and [the CEO] said, 'I would, but he just quit,' so he [the Governor] said, 'Well send his backup.' He said, 'I would but we don't have one. You promised that when we would come here we'd have a trained, qualified workforce. We're having to go up north to hire those people. That's an issue for us.' [My coworker here, a robotics instructor] told the CEO of the company…'If you let me go with you I'll see if I can get you back up and running.' And so Art went with him, and when Art was gone, Governor Riley took a paper napkin and drew these three phases on it and passed it over to our boss, Ed Castile, and said, now you make this happen."

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Governor Riley's successor, Governor Robert Bentley, has continued to be supportive of the RTP, and so has the local state senator, Arthur Orr, who supported the necessary budget increase for the paint and dispensing space.

The location of the RTP in Tanner (between Huntsville and Decatur), while not arbitrary, was also not necessarily strategic. The site – a remediated brownfield – was chosen because the state already owned the property and the county (Limestone) was willing to contribute funds to the park's development. Essentially, the park could have been anywhere in Alabama because its most important locational aspect is that it is more convenient to both Alabama businesses and robotics companies than Michigan, the state where most robotics companies maintain their U.S. headquarters and base their training operations. Until the RTP was constructed, Alabama companies that needed training on specific robotic platforms either had to pay for trainers – usually based in the Midwest – to travel to their Alabama plants, or they had to send their own employees to the trainers in the Midwest. Both options are expensive and inconvenient.[3]

RELATIONSHIP WITH COMMUNITY COLLEGES

While sector-based workforce training programs often take place in community colleges, the RTP's model makes for an awkward fit with these traditional secondary education providers. Rather than being structured on a semester system, the RTP's classes are taught in its facility, in week-long (40-hour) modules. The classes are designed to provide employees with intensive training that will enable them to return to their jobs the following Monday morning and apply what they have learned. Beyond current employees, only students in community college who are in the last semester of their programs are permitted to take RTP classes. This restriction is in place because unaffiliated workers with RTP certifications are highly sought after by recruiters, and a lucrative job offer may lure a student away from completing a diploma or degree.

In this way, the RTP model sidesteps a critique of the economic development function of community colleges – that they are gradually becoming beholden to industries' needs at the expense of the needs of students (Dougherty & Bakia, 1999). By only focusing on employer needs and accepting advanced students, the RTP eliminates the possibility of duplicating this conflict.

However, it also reduces the incentive for corporations to provide their own training, further devolving education responsibilities to the public sector. As a heavily "employer-centered" training program, it becomes difficult to evaluate whether the RTP is offering publicly subsidized training that companies would otherwise pay for on their own (Osterman & Batt, 1993). This is the "but for" question central to evaluations of economic development incentives and subsidies, but rarely asked and answered (Persky, Felsenstein, & Wiewel, 1997).

In revisiting the RTP's "origination" story, we might ask whether the company with the robotics malfunction may have been able to solve its labor shortage on its own initiative and remain in Alabama. Still, providing "excess" training (and training capacity) can also be interpreted

Because of their employer-centered model, RTP staff members believe they are better positioned to provide quality robotics training than their community college counterparts, precisely. This is because robotics – like other types of industrial automation – is a highly proprietary field. Aside from several basic standards, robotic systems from different vendors are not always readily compatible with each other.

as an implicit goal of the RTP. If the RTP eventually produces an embedded stock of robotics expertise in Alabama, it may serve as a valuable asset in future attraction and retention efforts. If auto-makers and suppliers leave Alabama, many employees are likely to stay behind. With recent "reshoring" trends in manufacturing, Alabama policy makers may be confident that other firms will take their place because of this skilled robotics labor pool.

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WORKFORCE GOALS

With such a specific training focus, the Alabama RTP is not a "work first" or "welfare-to-work" (Brown, 1997; Giloth, 2000) oriented workforce intermediary. The only individuals eligible to take classes at the RTP are those who are currently employed by Alabama companies or advanced students in the Alabama Community College system. As such, RTP does not teach "soft" or basic skills, nor does it address the needs of hard-to-employ Alabamans, both of which may be required under federal programs. One interviewee emphasized the fact that the RTP does not receive any federal funding, which means that it does not have to follow federal mandates or regulations. While neither the Workforce Investment Act (WIA) nor its updated version, the Workforce Innovation and Opportunity Act (WIOA), were specifically mentioned, the RTP does not appear to have been designed with any of the traditional WIA elements in mind, such as one-stop shops or Workforce Investment Boards.

DISCUSSION

Our case study of Alabama's Robotics Technology Park raises a key question: What will a state-funded strategy to automate its workers' existing skills ultimately mean for its economic development trajectory?

Alabama is part of the evolving century-and-a-half long strategy of industrial recruitment by southern states that began after the Civil War to replace a plantation economy with an industrial economy, a strategy founded on attracting northern firms. After World War II, southern industrial recruitment was very successful promoting its low cost of doing business, cheap labor, and land. Then towards the last quarter of the 20th century, southern industrial recruitment began to focus on advanced, high skill and wage industries. In doing so, it benefited from northeastern and midwestern firms' desires to move away from unionized labor.

Today, Alabama has made a major investment in combining advanced technology (i.e. robotics) with workforce training to be competitive in its economic development strategy. While a complex set of factors is behind Alabama's relative increase in average manufacturing wages (Table 2), increased levels of roboticization may be having an impact. RTP staff and state economic developers have expressed confidence in the ability of the Robotics Technology Park to provide workers with more rewarding and higher paying career paths, and to increase employment via productivity-driven firm growth.

Our case study of Alabama's Robotics Technology Park raises a key question: What will a state-funded strategy to automate its workers' existing skills ultimately mean for its economic development trajectory?

Concerns, however, have been raised over whether advanced technology adoption is leading to a decoupling of the long held relationship between productivity and earnings, that is: higher productivity leads to higher wages. (Bivens & Mishel, 2015; Fleck, Glaser, & Sprague, 2011). To look for evidence of this trend in Alabama requires analyses of detailed manufacturing sectors, as well as computation of their median wages and wage distributions, for which data is not readily available. We cannot identify those who work with robots from traditional U.S. public data because robots are treated only as subcategories of machinery in the North American Industrial Classification System (NAICS) and Standard Occupational Classification (SOC) codes. Hence, future research requires primary data collection, (e.g. case studies and surveys) to examine how economic development strategy promoting workers using robots affects the productivity-earnings relationship and ability of local economies to retain and grow industry.

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ENDNOTES

1. Integrators are engineering consultants that design and/or manufacture robotics and other industrial automation systems. Integrators play an important but often overlooked role in robotic automation. See Leigh and Kraft (Leigh & Kraft, 2017).
2. Dispensation of paint and other industrial liquids has been a common robotics application, especially for machinery manufacturers. Robotic dispensation has the advantages of removing humans from toxic spraying environments and increasing the accuracy and efficiency of material application (Hägele, Nilsson, & Pires, 2008; International Federation of Robotics, 2012; Svejda, 2016).
3. Proprietary and contract training for industrial applications is a subject worthy of study in its own right. One instructor at the RTP had previously worked as a traveling instructor for a large automation company, but left the position when the trips became too frequent and distant.
4. While estimates of the structure of the industrial robot market vary widely, it is evident that several brands, including the four mentioned here, are most widespread in factories worldwide. An investor-focused industry profile from 2012 attributes nearly 17 percent of global market share to these top four brands (MarketLine, 2012), while a trade website in 2015 estimates that their share is closer to 70 percent of all installations (Montaqim, 2015), with several other robot suppliers maintaining significant presences. The RTP trains on each of these and several other brands.

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quality-of-life based
RETAIL RECRUITMENT

By N. David Milder

INTRODUCTION

Many downtown leaders and EDOs should adopt a new way of thinking about business recruitment, particularly retailers. They should focus far more on attracting talented people – even those not in Richard Florida's creative class occupations – than companies. This is especially true for, though certainly not limited to, those in many attractive suburbs or in towns and cities with populations under around 35,000 that lack trade area populations over about 70,000. The critical asset they should market is the high quality-of-life (QofL) offered in their communities and/or their surrounding regions. Many will have stronger QofL assets than they might first think. *For any downtown that must focus on independent operators, a QofL-based recruitment program is definitely the way to go.*

Strangely under recognized and under appreciated by EDO-run retail recruitment programs, QofL long has organically steered independent retailers and other small business operators to specific communities. If you go to almost any popular suburban community and look closely at the independent owners of their retail establishments, you are bound to find several who live in the town or very close by. For example, according to Deputy Mayor Nancy Adams of Maplewood, NJ, about 15 percent to 20 percent of her town's retailers live in the community. In its strongest commercial area, the picturesque and walkable Village, that number rises to about 40 percent. These folks bought homes in Maplewood essentially for very important QofL reasons such as terrific schools, sexual and racial tolerance, beautiful homes, a wonderful tree canopy, its residents' strong sense of community, and a commuter rail station with direct access to Manhattan.

> Quite surprisingly, few EDOs have consciously designed and implemented recruitment programs that target potential individual business operators for QofL based pitches. That is because so many economic development pundits clearly maintain that if you want a lot of new jobs, then you must look at the corporations and companies that have a lot of jobs and they care more about such things as workforce stats than a potential location's quality of life. This needs to change.

These communities can also have a significant number of residents who work at home. Many are telecommuters, artists and craftspeople. These "Lone Eagles" – a term coined by Phil Burgess for those who are relatively free to live any place in the nation with Internet access and adequate airline or passenger rail access – have selected these particular communities.[1] In Maplewood, about 6.7 percent – 158 percent above the national average – of its residents who are in the workforce work at home. This suggests that the QofL assets these communities offer are important reasons why these people have chosen to live in them.

The wealthiest Lone Eagles establish aeries in places such as Jackson, WY; Aspen, CO; and Nantucket, MA, but others are strongly attracted to college towns such as Ithaca, NY and Boulder, CO, as

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COMMUNITIES WITH POPULATIONS UNDER 35,000

For smaller communities, e.g., those with populations under 35,000, business recruitment should focus more on attracting talented people than on companies. This is best achieved through proactive quality-of-life business recruitment programs. The economic success of these communities is strongly tied to independent operators who today are most prone to being lured by quality of life assets. Such a program leverages what has been already happening organically: some of the best businesses in these towns are run by people who moved into their communities because of the quality of life offered in it or the nearby area. If well designed, such a program will not stress the resources of local EDOs.

The Sizes of "Lone Eagles" Nests in Some Jurisdictions in New York, New Jersey, Vermont, and Wyoming: Where Residents Work at Home

Geographic Area	% Working at home	% of US Level	Geographic Area	% Working at home	% of US Level
USA	4.4%	100%			
NEW YORK STATE	3.9%	88.6%	NEW JERSEY	3.9%	88.6%
Kings County (Bklyn)	4.1%	93.2%	Bergen County	4.7%	106.8%
Nassau County	3.6%	81.8%	Hunterdon County	7.5%	170.5%
NY County (Manhattan)	6.7%	152.3%	Mercer County	5.2%	118.2%
Suffolk County	3.6%	81.8%	Monmouth County	4.8%	109.1%
Tompkins County	6.1%	138.6%	Morris County	5.2%	118.2%
Westchester County	4.8%	109.1%	Union County	3.4%	77.3%
Briarcliff Manor*	11.6%	263.6%	Cranford	3.4%	77.3%
Chappaqua	9.3%	211.4%	Cresskill	4.9%	111.4%
Croton-on-Hudson	6.1%	138.6%	Edgewater	1.7%	38.6%
Garden City*	5.6%	127.3%	Englewood	3.8%	86.4%
Ithaca*	9.4%	213.6%	Ft Lee	6.9%	156.8%
Manhasset	5.7%	129.5%	Hoboken*	4.1%	93.2%
Mt. Kisco	4.6%	104.5%	Maplewood	6.7%	152.3%
Pelham Manor	4.1%	93.2%	Princeton*	6.1%	138.6%
Port Washington	3.9%	88.6%	Red Bank	5.6%	127.3%
Rye	3.2%	72.7%	Ridgewood	8.7%	197.7%
Scarsdale	10.9%	247.7%	Tenafly	4.7%	106.8%
			Westfield	7.2%	163.6%
			Westwood	7.0%	159.1%
VERMONT	6.9%	156.8%	WYOMING	4.7%	106.8%
Rutland County	5.8%	131.8%	Albany County	6.2%	140.9%
Rutland City*	3.4%	77.3%	Laramie*	5.1%	115.9%
* College or university in town		= double the US level		=150%-199% US level	
Source: U.S. Census Bureau, 2010-2014 American Community Survey 5-Year Estimates					

well as to affluent suburbs such as Scarsdale and Briarcliff Manor in NY. Most are attracted to major metropolitan areas, though their presence in non chi-chi rural areas is far from negligible. They also show how QofL considerations are often critical for independent business operators.

Quite surprisingly, few EDOs have consciously designed and implemented recruitment programs that target potential individual business operators for QofL based pitches. That is because so many economic development pundits clearly maintain that if you want a lot of new jobs, then you must look at the corporations and companies that have a lot of jobs and they care more about such things as workforce stats than a potential location's quality of life. This needs to change.

First of all, the probability of small and medium-sized towns attracting new firms with lots of new jobs is actually pretty slim. Even more importantly, *we are focusing on retail recruitment and such efforts are seldom if ever undertaken to generate new jobs. Their usual objectives, by far, are to improve the type of retail being offered to local residents, while also improving the downtown's attractiveness and image. Big firms and corporations are not required to achieve those objectives.*

In pursuing this strategic vector, downtown leaders also need to be age and gender agnostic. Many of their best retail prospects may be women who are experienced in business, well educated, computer literate, Internet savvy, over 40 years old and looking for new lifestyles and careers. *They also need to jettison any proclivity to focus mostly on hip young millennials (while not forgetting them) and recognize that young creatives are not where most of today's business start-ups are coming from.*

The really viable retail prospects and their spouses/partners are members of, or prepared to join, our nation's growing workforce of contingent workers or they are looking to start their own new small companies. Moreover, they want to do this in geographic places that will best enable them to enjoy the lifestyles they prefer. They are very likely to first think about moving to a place they find most attractive and then look for a job or career near there that can help support their new lifestyles. Where they want to live is a critical question for QofL based business recruitment programs to learn and then leverage.

In pursuing this strategic vector, downtown leaders also need to be age and gender agnostic. Many of their best retail prospects may be women who are experienced in business, well educated, computer literate, Internet savvy, over 40 years old and looking for new lifestyles and careers.

PROPERLY SCOPING OUT THE RETAIL RECRUITMENT PROBLEM IN THESE COMMUNITIES

The Barriers They Face Recruiting Retail Chains. These downtowns are usually hindered by a number of very strong factors when it comes to attracting national and strong regional retail chains:

- Their trade area populations are too small to attract retailers with GAFO shops (general merchandise, apparel, furniture and home furnishings, and other miscellaneous types of retail), though they are often large enough to attract restaurants, drugstores, convenience stores and other neighborhood type retail chains. This may be the result of very powerful commercial centers being close enough geographically to constrict the town's trade area or it may be that nearby mountains, rivers or lakes mean that substantial parts of the downtown's potential trade area are sparsely populated.
- Their downtowns do not attract the level of auto and/or pedestrian traffic these chains look for.
- They often lack a cluster of chain stores that the big chains like to be close to.
- Very importantly, they often lack the appropriately sized "vanilla box" spaces that these chains look for.

The Pivotal Importance of Small Independent Operators. If the downtowns in these communities want to attract GAFO retailers, then they will have to focus on small independent operators, small regional chains, and some larger chains that specialize in smaller communities. The smaller the community, the more it will have to rely on independent merchants.

Moreover, when we look at non-GAFO retailing and food services, e.g., McD's, Dunkin Donuts, 7-Eleven, GNC, etc., the importance of the independent operators in these communities remains very high. *Many of those chains' locations are franchises, owned and managed by local independent operators.*

The communities under discussion can offer some significant advantages to independent small retailers and restaurateurs:

- Many of their restaurants will not need to capture large market shares to survive.
- Rents likely will be substantially lower than in larger communities.
- Labor costs also probably will be lower.
- In-town competition is likely to be relatively low.

The small GAFO merchants in these downtowns do not need anywhere near the annual sales revenues required by the national chains to survive as businesses, while adequately supporting their own households.

But, Let's Be Real and Recognize That Small Merchants Often Mean Big Problems. The failure rate of new independent merchants is notoriously high and the performance of small retailers can be lackluster. One might reasonably argue that the smaller the labor pool and retail base a community can tap, the less likely it is to develop successful merchants from its local population resources. Also, while local shoppers and community leaders often state their support for their small retail merchants and/or restaurants, they also often strongly wish they were of significantly better quality. For these shoppers and leaders, improved retailers are seen as those who can provide bigger selections, higher quality merchandise, and more value pricing.

Economic gardening programs capable of nurturing small independent retailers definitely have considerable potential value. However, they must overcome some strong challenges:

- *By definition, half of any town's small merchants will have under average abilities and performance. The ones who most need outside technical assistance and education are usually the most resistant to getting and actually using it.* They often simply lack the time. Also, their independence and desire to do things their way too frequently inures them to new business ideas and methods.

Most of the downtown EDOs in the communities under discussion lack the resources, interest and/or skill sets to mount an effective economic gardening program. Some very large Business Improvement Districts (BIDs) have put considerable resources into such programs with little return to show for it.

- Most of the downtown EDOs in the communities under discussion lack the resources, interest and/or skill sets to mount an effective economic gardening program. Some very large Business Improvement Districts (BIDs) have put considerable resources into such programs with little return to show for it. When approached about the possibility of such a program, several other downtown EDOs and their leaders simply shuddered at the thought, while dutifully acknowledging the need. At heart, a lot of them don't like the prospect of working with small merchants who are in trouble or soon will be. This suggests that these programs might be best anchored in a larger geographic jurisdiction, such as the county, under a functionally dedicated agency umbrella.

RECRUITING RETAILERS FROM THE OUTSIDE

One of the reasons for the interest in recruiting national and strong regional retailers is to bring in outsiders with proven retail skills who also usually have needed resources. Although these smaller communities are even far less likely to recruit GAFO chains today than they were a decade ago, many have been able to attract a significant number of individuals who opened some of their downtown's most successful retail and restaurant operations. Here are some examples:

Photo by Ken Regan.

Karen Allen in her shop in Great Barrington, MA.

- ***Karen Allen Fiber Arts*** *in downtown Great Barrington, MA, population 7,104.* In 2003, the well-known actress Karen Allen opened her own store in downtown Great Barrington. The shop sells, among other things, items Allen knits herself. A few years later, she opened a clothing store there. She still takes on acting jobs, directs and teaches at a local college. She was born in IL and lived all over the US *before deciding to live in Great Barrington because it would be a good place to raise her son.*
- ***Heron*** *in Narrowsburg, NY, population 400.* Paul Nanni opened his restaurant in this small town near the Delaware River to escape "the constant stress that city chefs live with." He said "the parking tickets alone would have driven me crazy." (Many chefs and their families are locating to new towns based on quality of life factors. See, for example, http://www.nytimes.com/2013/08/14/dining/city-chefs-head-to-the-hudson-valley-lured-by-fresh-ingredients.html *and* http://www.nytimes.com/2010/02/17/dining/17amuse.html)
- ***Fruition Fineries and Raw Honey Apparel*** *in downtown Rutland, VT, population 16,495.* Rebecca Buonadonna, who grew up in nearby Mendon, left the area after graduating from high school. She resided in MA for 17 years, where she opened and eventually sold a business she had founded there. She returned to the Rutland area to marry and was happy to live again in her hometown. She then realized she would have to create a new business. The success of Fruition Fineries was followed, a few years later, by the opening of her second shop, Raw Honey Apparel.
- ***Tattersall's*** *in downtown Rutland, VT, population 16,495.* The following is from Christine Tattersall, the owner of this apparel shop, and is quoted directly from its website:

  "My husband, Bill, and I made our first visit to Vermont in 1969...to the beautiful little town of Grafton...where we immediately fell in love with the town, and with Vermont. We visited Grafton every year since that time, usually in the fall, and gradually began to feel more like Vermonters... and less like folks from Connecticut, where we lived at the time. So, in 1990, after deciding that if we really were Vermonters (we know that no one is a true Vermonter unless you are something like 10th generation, but that doesn't stop us from feeling like Vermonters) we bought our home in Grafton as a weekend and vacation home. By 1995, Bill had retired, and I was seeking new challenges. Colleagues in Connecticut suggested that Rutland would be a good place to start a clothing store, and have a business with my name on the storefront. At the time I was the manager of a retail store that catered to runners and outdoors people, so I felt I had the experience to run my own business."

Fruition Fineries window in downtown Rutland, VT.

Tattersall's in downtown Rutland, VT.

- ***The Graham & Co Hotel*** *in Phoenicia, NY, population 309.* This small hotel was opened by four "creative class" types from Brooklyn, NY who were looking for a more rewarding and relaxed lifestyle. Hipness apparently may become tiresome and boring.

What all of these entrepreneurs have in common is a desire to change their lifestyles by moving to a different kind of geographic location that maximizes the lifestyle opportunities they prefer. They also share having abundant business related and professional skills. All also

were able to raise the funds needed to successfully establish their new ventures.

Many downtown retail recruitment efforts would be enormously more effective if they could attract more of these lifestyle rebooters. In these downtowns, there may be 100 to 200 shops, though far fewer will be in retail. These downtowns will be durable if, among their retailers, there is a quality core of about 10 really strong and attractive shops. A retail recruitment effort that can add to this core group just one new strong retailer each year, or even every other year, may not seem at first as such a big deal but when viewed over a 10-year period, the potential percentage growth can indeed be impressive.

Many downtown retail recruitment efforts would be enormously more effective if they could attract more of these lifestyle rebooters.

WHAT DOES QUALITY OF LIFE INCLUDE AND WHERE CAN IT BE LOCATED?

A strong quality of life can be associated with a wide variety of assets: the beauty of a geographic place, its surroundings, public buildings, and homes. It can also include the opportunities a place has to engage in athletic activities, attend cultural events and enjoy great restaurants. Additionally, it can include a low crime rate, good schools, great commuter rail access, a walkable and lively downtown, and nearby first-rate medical facilities. Less noticed, but often pivotal in residential location decisions are an area's social tolerance and acceptance of strangers and the existence of an ethnic, racial or sexual sub-community ready to welcome new members. Some people prefer fast paced large cities with dense populations and numerous opportunities to engage in recreational and leisure time activities. Others prefer slower paced, small rural communities, while still others prefer suburban living, where detached single family homes are cornerstones of a distinctive lifestyle.

There Are Numerous QofL Opportunities for All Types of Communities. *There are lots of ways for a community to have a very desirable quality of life and there usually are significant numbers of people who highly value those assets.*

This is amply demonstrated by some large national surveys that show the types of communities – urban, suburban or small town rural – where Americans now live and where they would like to live. Trulia provided the data for the graph that is based on its 2014 survey of 2,000+ respondents. Its findings about where Americans want to live are very consistent with those of two similarly large telephone surveys done for the National Association of Realtors Smart Growth studies. Most Americans today still prefer living in a suburban area,

Where People Live Today and Would Like to Live in Five Years

	Urban Area	Suburban Area	Rural Area
Live Today	26%	53%	21%
Would Like to live in 5 yrs	22%	50%	28%

but 22 percent prefer urban living and 28 percent prefer small towns and rural areas. Converting some of those percentages into population numbers helps convey fully the survey's findings:

- 28 percent means that about 69.3 million American adults prefer living in rural areas. That's greater than the entire population of the UK or Italy.
- About 7 percent or 17.3 million American adults would like to live in a rural area, but now don't. That's greater than the entire population of Greece, Hungary or Sweden.

For many years, it was conventional wisdom that millennials were all flocking to hipster urban areas. However, many studies have found this is not the case. According to one of these studies, most of today's millennials (those between the ages of 18 and 34) want to live in suburban areas or small towns and rural areas:

- 37 percent want to live in cities
- 36 percent prefer the suburbs
- 23 percent want to live in small towns and rural areas. (See: http://www.pamplinmedia.com/pt/9-news/257884-127741-study-most-millennials-want-to-live-in-burbs-small-town.)

The QofL assets that help a downtown attract a new retail operator do not have to be in that downtown or even the surrounding community, but they then need to be in the surrounding region, within about a 30 minute drive.

True, a substantially greater number of millennials prefer urban living, 37 percent, than does the general population, 22 percent, but other evidence suggests that this preference may be in flux as millennials nest and have children.

Your Downtown or Community Does Not Have to Be the Location of All QofL Assets. The QofL assets that help a downtown attract a new retail operator do not have to be in that downtown or even the surrounding community, but they then need to be in the surrounding region, within about a 30 minute drive. For example, retail operators were drawn to downtown Laramie, WY,

but the wide array of attractive places to ski, snowboard, bike, rock climb, fly fish, hunt, etc., that helped lure them to the city are all about a 30 to 40 minute ride away.

LOOKING AT THOSE MOST LIKELY TO HAVE QofL CONCERNS SHAPE THEIR BUSINESS LOCATION DECISIONS

While the number of QofL seeking potential retail prospects may be relatively modest, the number of people with very serious QofL concerns is significantly larger. A retail recruitment effort will be most successful if it is embedded in a broader business recruitment effort aimed at all QofL prospects:

- Since QofL concerns are the first key filter for identifying potential retail prospects, a lot of prospects for other types of business ventures probably will also be identified. It would be unwise for an EDO to ignore these prospects.
- Their attraction means more skilled people moving into a town or its region and, consequently, probably more savvy shoppers.
- Their growth and clustering can make a town even more attractive to others like themselves and to retailers.
- Among this group of QofL prospects will be those with an established desire to open a retail operation, others that will come to that conclusion after moving to their new communities, and still others whose spouses or partners will end up wanting to open a retail shop or restaurant. A successful QofL retail recruitment program needs to identify each of these types of people and then facilitate their successfully opening a retail or restaurant operation.

Let's take a look at the folks who are likely to have strong QofL concerns.

Knowledge Workers/Creatives. One of the things that both Richard Florida and Joel Kotkin point out is that today's creatives/knowledge workers tend to put lifestyle opportunities ahead of job opportunities. This may mean that they move to where they want to live and then find a job or that they will not accept a job offer in a place with unacceptable lifestyle opportunities. While it is doubtful that many of them, while relatively young, would want to be traditional brick and mortar retailers:

- They may be interested in an omni channel approach that includes the use of websites and social media as well as a brick and mortar store.
- Their spouses/partners might be interested in opening a brick and mortar retail shop, bar or restaurant.

Rebooters. Phil Burgess is an astute observer of economic and social trends. He has given monikers to two of these groups, the "Lone Eagles" and the "Booters". According to Burgess, Booters are baby boomers who are now taking on new careers and often also moving to different geographic regions (see http://www.booternation.com/). An important indicator of this is that according to a Kauffman Foundation report, the 55- to 64-year-old age group accounts for 25.8 percent of new entrepreneurs in 2014, compared to 14.8 percent in 1996. These boomers also have a slightly higher level of entrepreneurial activity than the 20- to 34-year-old group, which accounted for 24.7 percent. (See: http://www.kauffman.org/~/media/kauffman_org/research%20reports%20and%20covers/2015/05/kauffman_index_startup_activity_national_trends_2015.pdf .)

These boomers may have active rebooted careers well into their late 70s or early 80s.

As reported online by US NEWS, according to an AARP expert, the fastest-growing age group of folks who are starting their own business are boomers and they generally fall into one of two categories. Those who are launching a new business because they need the money, and those who are looking for something interesting and satisfying to do during retirement. In the first, they've been laid off during a recession, aren't finding a new job, and see entrepreneurship as a way to start earning income again. The second group is already relatively financially secure, but they expect to live a long life, and they don't want to just sit on their porch or play golf. That group is looking into small business ownership as a second career. (See: http://money.usnews.com/money/personal-finance/articles/2014/03/26/why-so-many-seniors-are-launching-businesses.) And that's the kind of boomers business recruitment programs should try to identify and cultivate.

After a Great Recession induced hiatus, retiring boomers are moving again. They are looking to downsize their homes, which are now marketable, and moving to less expensive states and smaller cities. (See: http://money.usnews.com/money/blogs/on-retirement/2015/12/07/why-retirees-are-moving-again.)

Others with QofL Mismatches. While Burgess has focused on baby boomers, the examples provided here of retailers and chefs who moved for quality of life reasons suggest that even those who are younger than boomers, some with new young families, are rebooting their lifestyles and moving to new places.

All of those who are now living in a type of community (e.g., urban or suburban) and would prefer living in another type of community (e.g., rural and small town) are mismatches that generate potential prospects for QofL business recruitment programs.

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WHAT MIGHT A QofL RETAIL RECRUITMENT PROGRAM LOOK LIKE?

The following ideas are intentionally broad brush, meant to be suggestive rather than definitive. They were shaped by a desire to keep the program simple, affordable, and focused on what can be done locally, often leveraging local assets. The only kind of travel involved would be electronic via the Internet. They are also informed by my professional experience which found that *people are much more likely to undertake important changes if someone or some organization can make it much easier for them to implement those changes.*

1. Identify Who Might Want to Live in or Near Your Community. This is the critical first step.

Rebooting merchants who relocated to new communities followed a definite pattern: they visited their new community often as tourists or to see family prior to moving there. Some of these merchants were returning to the towns where they had grown up.

Some research DANTH, Inc. did a few years ago in Gering, NE (population about 8,500) shows what such tourist flows can look like. Importantly, each year Scotts Bluff County has a stream of leisure tourists who are prone to being empty nesters, on average are about 51 years old, college educated and have annual household incomes averaging over $83,000. Moreover, these people are interested in the history of the Oregon and Mormon Trails that run through Gering and they appreciate small town lifestyles.

DANTH estimated that, among Gering's hotel guests in 2012 there were over 900 leisure tourists with annual household incomes over $75,000. Many more probably were to be found among the Scotts Bluff National Monument's 122,000 annual visitors, most of whom must drive through Gering's downtown, as well as the leisure travelers staying in numerous hotels in Gering's twin city, Scottsbluff.

The best way to reach out to people who are passing through your town either as daytime or overnight tourists is while they are in places where they enjoy the area's amenities: their hotels, ski lodges, restaurants, marinas, parks, theaters, cinemas, etc.

The residents of the local community and even of its surrounding region should not be forgotten. They should be messaged to reach out to their relatives about returning home and opening retail businesses. Brief letters containing the message should be sent, via email or snail mail, to the alumni of local high schools and colleges. For example, Superior, NE, contacted high school alums to find people who would purchase and restore its large inventory of Victorian homes.

The message to send is: if you like this wonderful place, why don't you think of living here or opening a business here. If you are interested, we can help. Contact ABCDEF at 800-123-4567 or at some email address.

The messages might be communicated via your local hotel's in house TV channels or in signs in local restaurants, bars, shops, real estate brokerage offices, near ATMs, etc. Messages also could be attached to bills in these establishments.

A good website and/or Facebook pages can be helpful for people who live outside of your community's region and who have not visited it. The website needs first to pitch your community's quality of life assets to encourage visits. The website also should provide the standard business recruitment information that traditional business recruitment programs have on their webpages.

The best way to reach out to people who are passing through your town either as daytime or overnight tourists is while they are in places where they enjoy the area's amenities: their hotels, ski lodges, restaurants, marinas, parks, theaters, cinemas, etc.

2. Follow Up with the "Interested" and Contact New Residents in Your Town and Region.

At the initial level, the recruitment program is focused on identifying new residential prospects for your town and/or region. For most communities, new residents, especially those who are likely to bring in new skills and spending power, are a pretty good thing. But the QofL retail recruitment program needs to then proceed by taking these new residential prospects and identifying those who also are interested in opening a new business, hopefully including some new retail shops. *Most importantly, the program then needs to help prospects establish those new businesses by making their start up processes as easy as possible.*

If the initial outreach to visitors has any success, then they should be contacting the recruitment program's staff. It is at that point that the possibility of opening a local business should be raised. *Suggesting a retail operation, clearly would be in order, especially if there has been some credible market research to identify the types of retail operations most likely to be viable locally.*

The role of the recruitment program's staff then becomes one defined by providing the newly identified retail prospect with relevant information and connecting the prospect to other key actors who either might be of help or whose approvals would be required. For example:

- Info about available retail spaces and prevailing retail rents;
- Introductions to commercial brokers and landlords;
- Information about the area's demographics, traffic levels and parking, purchasing patterns and power, other downtown retailers, and competitive retail centers;
- Introductions to the local Small Business Development Center and SCORE business mentoring program;

It is also helpful to recognize that new residents may have arrived on their own, independent of the QofL program's actions. They, too, should be contacted to inquire about their interests in establishing a new business.

- Introductions to local banks;
- Info about any relevant incentive programs; and
- Info about the town's permissions and approvals process and introductions to its key actors.

This should not be taken as a burden by any fairly effective EDO, since it probably has been already providing such assistance to walk-in prospects for many years. In an important sense, a QofL business recruitment program is just a way to increase those walk-ins as well as their rate of successfully starting a business.

It is also helpful to recognize that new residents may have arrived on their own, independent of the QofL program's actions. They, too, should be contacted to inquire about their interests in establishing a new business.

SOME SUGGESTED TAKEAWAYS

1. Recruiting independent business operators, especially small merchants, is quite different from recruiting larger companies and corporations.
2. Quality of life factors have long played a powerful and organic role in determining where many of these individuals and their households would reside and operate their businesses.
3. A significant number of downtown retailers and Lone Eagles, in communities with populations under 35,000, already have made their locational decisions based on QofL considerations.
4. A QofL retail recruitment program aims at meaningfully increasing these numbers through simple marketing techniques.
5. Competent EDOs will already have appropriate protocols for handling walk-in independent business prospects. They should be easily applicable to the increased walk-ins stimulated by a QofL retail recruitment program.

ENDNOTE

1. Philip M. Burgess, "Lone Eagles Are a Varied Species", The Rocky Mountain News, April 12, 1994. See also: Joel Kotkin and Wendell Cox, "Lone Eagle" Cities: Where the Most People Work From Home., New Geography, 02/27/2014 http://www.newgeography.com/content/004195-lone-eagle-cities-where-the-most-people-work-from-home

long-term, spatially

COORDINATED ECONOMIC DEVELOPMENT MAKES SENSE

By Emil Malizia, PH.D., FAICP

INTRODUCTION

Economic developers are expected to deliver as soon as possible. Constituent expectations are high, and the pressure on developers is often intense. Yet most economic developers understand that long-term strategies and programs that build on strengths or mitigate weaknesses will be more impactful. Economic developers are hired by state and local jurisdictions. Although coordinated economic development implemented across a metro area holds more promise, economic developers are expected to pursue locality-specific strategies that are often competitive with other jurisdictions within their metro area. This article is based on a study commissioned by the Land Economics Foundation. The research examines the influence of metro-level factors on economic outcomes in central cities. The study results reported below offer support for long-term, area-wide approaches to economic development practice.

In the following three sections, the article presents the justifications for the factors included in the analysis. It then summarizes the empirical results and discusses the implications for economic development practice.

Economic developers are expected to deliver as soon as possible. Constituent expectations are high, and the pressure on developers is often intense. Yet most economic developers understand that long-term strategies and programs that build on strengths or mitigate weaknesses will be more impactful.

FACTORS ANALYZED

Many economic developers must facilitate economic *growth* in the near-term. More jobs and larger tax base are the typical mantras. However in the long-term, higher levels of economic *development* are indicated when incomes increase, poverty and inequality decline and property values appreciate. The three outcome measures in this analysis reflect these developmental factors for central cities: median household income, percentage of households in poverty and downtown office capitalization rates that serve as surrogates for underlying property values. Median income and poverty are measured in 2010 for 103 central cities located in 100 large metro areas. The capitalization rates are measured in 2015; lower "cap" rates indicate more valuable property.

Both near-term economic growth and long-term economic development require a strong economic base. At any point in time, industries in the basic sector that are globally competitive can penetrate markets outside the metro area and receive payments that are spent and re-spent locally. Over time, metro economies that take on new specializations or increase productivity in existing ones are expected to thrive relative to metros with more stagnant economic bases. The essential idea is that, in a competitive global economy, dynamic metro areas that adapt to changing conditions and adopt new activities or improve existing ones are more likely to remain viable and outperform metro areas unwilling or unable to evolve. This *dynamic version* of economic base theory suggests that structural change in the past will influence current outcomes.[1]

In this analysis, Woods & Poole earnings data for 18 two-digit industrial sectors were used to ex-

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EVIDENCE FOR ECONOMIC DEVELOPERS

This article is based on an empirical analysis of 100 large metro areas in the U.S. Their economic base measured from 1970 to 2000 was associated with economic outcomes in 2010. Metro areas with a more dynamic economic base had higher household incomes and higher property values than more stagnant metros. The study provides support for this article's conclusion that long-term, spatially coordinated economic development makes sense.

amine the economic base of the 100 metro areas with 103 central cities.[2] Location quotients (LQs) were calculated to identify sector specializations, but LQs are not well suited for comparative analysis. Two well-known structural indicators were used instead: the Hirschman-Herfindahl Index (HHI) and the Krugman Specialization Index (KSI).[3]

Each index looks at economic structure differently. The HHI is an *absolute* measure that calculates how unequal the distribution of earnings is in each metro area without reference to any other place. More evenly distributed earnings are taken to indicate a less organized economic structure. As earnings become more concentrated, economic structure becomes more organized with deeper sectoral specializations and higher HHI values.

On the other hand, the KSI is a *relative* index. It compares the distribution of earnings in one metro area to another area, in this case, to all 366 census-defined metro areas in 2009. The KSI is the sum of the absolute differences between the earnings share in each sector compared to the average share in that sector for all metro areas. The KSI increases as the metro area's economic structure diverges from the average of all metro areas reflecting either more or less sectoral concentration of earnings.

Dynamic economic base theory calls for examining changes in these indexes over time to show changes in economic structure. For the HHI, the 2000 index values were divided by the 1970 index values. Over this 30-year period, reductions in HHI occurred indicating regression to a more disorganized or entropic state. Metro areas with higher ratios are considered more organized and therefore more dynamic. Higher ratios are expected to associate with better subsequent economic outcomes.

When the KSI values in 2000 and in 1970 are similar, the small differences between them indicate less temporal divergence from all-MSA norms. As the KSI values become more different, divergence compared to all metro areas has increased. Larger absolute KSI differences in 2000 compared to 1970 indicate greater divergence over time. Larger absolute differences therefore reflect metros with more dynamic economic structure.

These measures agree with the production-focused theories like economic base theory that emphasize functional specialization and inter-regional trade. Across all metro areas, businesses select or remain in their most profitable location and offer jobs at these locations. Workers are attracted to available employment opportunities (people follow jobs).[4] This logic was first articulated by Sir James Steuart in 1767 (nine years before Adam Smith published *The Wealth of Nations*).

> I now proceed to the other class of inhabitants; the free hands who live upon the surplus of the farmers.
>
> These I must subdivide into two conditions. The first, those to whom this surplus directly belongs, or who … can purchase it. The second, those who purchase it with their daily labour or personal service.
>
> Those of the first condition may live where they please; those of the second must live where they can (find work).[5]

However, another credible viewpoint emphasizes that cities also serve as centers of consumption. Aside from production advantages, amenity-rich cities are likely to be among the most attractive.[6] Richard Florida has applied amenity theory in the following way. Cities offering the amenities that talent craves will attract businesses (jobs follow people).[7]

Amenity theory is measured with per capita earnings in arts, entertainment and recreation (AER). Higher per capita values identify the metro areas offering more amenities to prospective residents. Higher levels and greater increases in per capita AER earnings from 1980 to 2000 should associate with central cities that experience better economic outcomes in 2010.

Two straightforward indicators of economic structure are the percentage of earnings in professional services and the percentage of earnings in manufacturing. For many years, the professional service sector has been growing whereas manufacturing has been declining across U.S. metro areas.

Two straightforward indicators of economic structure are the percentage of earnings in professional services and the percentage of earnings in manufacturing. For many years, the professional service sector has been growing whereas manufacturing has been declining across U.S. metro areas. Changes in earnings from 1980 to 2000 were expected to associate with central city economic outcomes, positively for professional services and negatively for manufacturing. Also, growth in professional services indicates metro areas where talent has increased either because people follow jobs (economic base theory) or because jobs follow people (amenity theory).

EMPIRICAL RESULTS

The variable distributions and diagnostic tests indicated that ordinary least-squares regression analysis could be used to associate the three outcome measures with the factors identified above. Total employment in 2010 was added to control for differences in metro area size. Although cross-sectional models are by definition not causal, measuring the independent variables for 2000 or earlier and the outcome variables for 2010 or 2015 make before-after inferences plausible.

Variation explained (R-squared) needs to be high enough to warrant practitioners' attention. This was the case for the median income and cap rate models but not for the poverty models. Apparently, other factors have more influence on the variation in rates of central city poverty.[8]

Coordinated strategies for the entire regional economy may have greater impacts on income and property values than ones focused only on the central city or specific localities within the metro area. Furthermore, development strategies designed to deepen or broaden economic specializations should be more effective when applied consistently over time and coordinated across jurisdictions within the metro area.

With total employment as the control variable, changes in the HHI and KSI from 1970 to 2000 were associated with higher median household income in 2010 and lower 2015 cap rates, beyond the 5 percent level of significance. The models explained 30 percent of the variation in median incomes and 46 percent of the variation in cap rates with only these three independent variables. These results support the conclusion that metro areas with more dynamic economic bases have achieved higher levels of income and property values in their central cities.

On the other hand, neither the level of per capital AER earnings in 2000 nor changes in per capita AER earnings from 1980 to 2000 was associated with median income or cap rates. Furthermore, although the percentage of 2000 earnings in professional services was positively associated with median income and negatively associated with cap rates beyond the 1 percent level, *change* in professional service earnings from 1980 to 2000 was not significant in either model. These results support the idea that cities function as workshops first (economic base theory) and playgrounds second (amenity theory).

Perhaps the most interesting result pertains to manufacturing. The percent of 2000 earnings in manufacturing was significantly associated with the central-city variables in the expected negative direction: lower median incomes and higher cap rates. However, *change in manufacturing earnings*, that is, higher ratios of manufacturing earnings in 2000 divided by manufacturing earnings in 1980 at the metro level associated significantly with higher central-city household incomes at the 1 percent level and lower central-city cap rates at the 5 percent level.

Manufacturing has declined in importance over time as services have become more prominent; only six metro areas had more manufacturing in 2000 than in 1980. However, metro areas that maintained a greater share of earnings in manufacturing over this 20-year period experienced better central-city outcomes in 2010. The ability to retain employment and earnings in a declining sector may be an indicator of economic strength. Furthermore, retaining manufacturing may be especially impactful since it is a higher-wage sector with relatively strong local multiplier effects.

IMPLICATIONS FOR ECONOMIC DEVELOPMENT PRACTICE

These empirical results have practical implications from both the temporal and spatial perspectives. In general, long-term strategies designed to facilitate change in a metro area's economic base over many years appear to have positive results and may turn out to be superior to near-term strategies. Coordinated strategies for the entire regional economy may have greater impacts on income and property values than ones focused only on the central city or specific localities within the metro area. Furthermore, development strategies designed to deepen or broaden economic specializations should be more effective when applied consistently over time and coordinated across jurisdictions within the metro area.

Although long-term strategies are more likely to have positive impacts than quick fixes, long-term coordinated strategies are hard to sustain for many reasons. The advocates for the long-term area-wide perspective are usually weak. Local, state and federal politicians focus on the near-term related to 2-6 year election cycles and are elected to serve specific jurisdictions. Publicly-held companies are locked into increasing quarterly shareholder returns, often at the cost of long-term competitiveness. Non-profits including universities financially supported by government and foundation sources are often expected to show meaningful results in only one or two years. The body politic especially during recessions or when living in declining cities clamors for jobs now.

The possibility of spatially coordinated economic development is also challenging. Although metro areas/city-regions function as the basic functional units in the global economy, constituent local jurisdictions have far more incentive to compete than to cooperate. The problem is exacerbated in home-rule states that suffer from political fragmentation and by income and wealth disparities that encourage "we-they" attitudes.

Attempting to present one set of long-term, comprehensive strategies applicable to all metro areas would be misguided. There is no silver bullet since every place is unique.

This reality is especially harsh for central cities. First, in-commuters who use city services contribute little to the city's tax base. Second, suburbanization has driven development for the past 60 years and has drawn wealth outward, leaving concentrated poverty in many inner city jurisdictions. Third, instead of strengthening the social safety net to counteract spatial segregation and fiscal disparities, the federal government with the exception of the Affordable Care Act has weakened the social safety net.

Attempting to present one set of long-term, comprehensive strategies applicable to all metro areas would be misguided. There is no silver bullet since every place is unique. Perhaps the most realistic viewpoint is to

accept that economic developers will have to devote most attention to industrial recruitment, incentives and other near-term tactics but may have time left for long-term strategic thinking about their region's unique situation. They could learn more by engaging other developers from the same metro area and work with them to coordinate development efforts. On the basis of this research, the following questions deserve serious attention: How should the basic sector be supported over time? How can productivity be enhanced in companies that are exporting goods or services? What specific social capital and physical infrastructure could make the local economic base more dynamic?

The Land Economics Foundation is an affiliate of Lambda Alpha International.The reader can access the report which includes an example of long-term regional economic development planning in Buffalo, New York and the complete data base at www.lai-lef.org/ Funded Research, "An Empirical Analysis of Central-City Decline…" The author will also provide the full study on request. malizia@email.unc.edu

ENDNOTES

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