

Mid America Regional Showcase Panel

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Communities in the mid-American region are working on smart city solutions targeted to improving outcomes for governments, citizens, farmers and ranchers, nonprofits, and businesses. These solutions run the gamut from economic recovery and increasing water quality to improving the efficiency of agriculture and decreasing the digital divide. This panel will focus on different examples of how this region is developing smart solutions for residents living in our nation's heartland.

Mid America Regional Showcase Panel Map (click to view)

This map represents the members of the Regional Showcase Panel: Mid-America region. KC Digital drive is represented by the green triangle around Kansas City, Missouri. The Council of the Great Lakes region spans the blue triangle into multiple jurisdictions, and is included as a member of the Great Lakes Smart and Sustainable Cities Cluster in based in Defiance, Ohio. The Tri-State Region-PA-WV-OH-Food System Project is in the red triangle connecting the region. Wabash Heartland Innovation Network is in northern Indiana in the brown square, and the newly named Bloomington-Normal Innovation Alliance is in central Illinois. Each panel member is listed under their respective cluster, as well as a brief overview and website for more information.

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Johnny Park, CEO, Wabash Heartland Innovation Network (WHIN)



Johnny is CEO of Wabash Heartland Innovation Network (WHIN), a consortium of 10 counties in north-central Indiana devoted to developing the region into a global epicenter of digital agriculture and next-generation manufacturing by harnessing the power of IoT (Internet of Things). Prior to WHIN, Johnny founded, scaled and led a successful exit of an agtech company, Spensa, focused on smart IoT devices and data analytics to help growers better manage agronomic pests such as insects, weeds and disease. Spensa was named by Forbes as one of the Top 25 Most Innovative Ag-Tech Startups in 2017. Before Spensa, Johnny was a faculty in the School of Electrical and Computer Engineering at Purdue University where his research spanned various topics on robotics, machine learning and sensor networks. Johnny received his BS, MS and Ph.D. degrees all from the School of Electrical and Computer Engineering at Purdue University.

Wabash Heartland Innovation Network (WHIN):

Wabash Heartland Innovation Network (WHIN), is a 501c3 nonprofit organization whose purposes are scientific, educational, and charitable. With the generous support of Lilly Endowment, Inc. (LEI), WHIN was created to cultivate a regional ecosystem that empowers globally-competitive businesses to plant and grow in its ten- county region in Indiana.

WHIN's strategy is to develop its region as a living laboratory for innovative, networked digital technology, with particular attention to the region's key agriculture and manufacturing sectors. The model benefits individual growers and manufacturers by reducing the cost of adopting innovative commercial and near-commercial technology. It advances the development and innovation of the technology by accumulating data from real use and making it available to Purdue and Ivy Tech for research, education, and workforce development.

Besides directly supporting the competitiveness of the region's ag and manufacturing sectors, the model serves as an attractor for the tech companies vetted by WHIN, who can more rapidly develop their products and business models in a unique, very large, living lab that includes a world-class research university. The goal is for those companies to establish a physical presence and create jobs in the region, and that is beginning to happen. It is also a marketing tool for economic developers. Being a living lab sets our region apart from all others for companies who are considering locating here.

Over the past 18 months, 35 farmers and 13 manufacturers in the region has joined the WHIN Alliance. In addition, 6 tech companies whose products are mainly based on networked sensors and digital technology have partnered with WHIN in order to accelerate the adoption of these technologies in the region.

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WHIN's Board recently adopted a broadband strategy that allows WHIN to utilize the same living lab model to accelerate the use of innovative connectivity/broadband technology that it has successfully used for networked sensor technology in ag and manufacturing. Accordingly, WHIN has identified promising and innovative technology that is specifically designed for rural broadband and sensor connectivity. It is putting that technology to real use and will gather data about its performance so that the rural divide can be addressed quickly and affordably, not only in our region, but in the country.

The technology WHIN has chosen to deploy in the living lab is an RTO Wireless AeroSite, in conjunction with two spectrums that are newly available and particularly well-suited for rural broadband and sensor connectivity. LoRaWAN is a low-frequency, long range network protocol that is a very affordable option for sensors. CBRS has the ability to deliver up to 100 Mbps down/20 Mbps up broadband service.

The AeroSite is a tethered aerostat. Its helium-filled envelope will fly at 1500 feet and can go as high as 1999 feet. With a payload of LoRaWAN and CBRS radios and antennas, WHIN's AeroSite will have line-of-sight coverage that greatly exceeds that of terrestrial towers. RTO Wireless estimates that one AeroSite can provide coverage comparable to 8-10 terrestrial towers. It also has the ability to reach into areas that are blocked from service by tree lines and other difficult terrain.

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Raymond Lai, AICP, Executive Director, McLean County, Regional Planning Commission (IL)



Prior to joining McLean County Regional Planning Commission (MCRPC) as its Executive Director in January 2020, Mr. Lai was serving as the Director of Economic and Community Development for the City of Decatur (IL) and the Deputy Director of Economic & Community Development for the City of University City in the St. Louis metropolitan area (MO). Previously, he worked as an associate/senior planner in Asia for AECOM, a leading U.S.-based global consultancy, and the Director of Planning & Zoning for the City of Edwardsville (IL), after holding various professional planning positions with the City and the County of St. Louis (MO).

Over the years, Raymond has been invited as a guest lecturer/panelist at planning commissioner training workshops, in addition to giving presentations at national, state, and local planning conferences, as well as local universities. He holds a Bachelor of Arts (Advanced) in Regional & Urban Planning from University of Saskatchewan, Canada, and a Master of City & Regional Planning from Southern Illinois University at Edwardsville.

Background, Purpose, & Goals

While the Bloomington-Normal Innovation Alliance (BNIA) in Central Illinois is still in its infancy (its official name adopted not long ago), its evolution reflects involved parties' strategic long-range plans from a few years ago. A group of about 15 multi-jurisdictional/multi-disciplinary partners and representatives (including three local governments – McLean County /City of Bloomington/Town of Normal - administrations, staff, and elected officials; regional planning agency – McLean County Regional Planning Commission; educational institutions – Illinois State University (ISU) and Illinois Wesleyan University (IWU); economic development/business sectors - Bloomington-Normal Economic Development Council and McLean County Chamber of Commerce; regional broadband network provider - Central Illinois Regional Broadband Network; and IT administrator, etc.) has been meeting monthly since last year to discuss and learn about smart cities initiative and its potential applications in our urbanized twin-city area in McLean County, two hours south of Chicago. McLean County, with a total population of about 172,000, is the largest county by land area in Illinois. City of Bloomington is home to State Farm Insurance HQ, while its neighboring Town of Normal is home to ISU and Rivian – an electric truck and SUV manufacturer, a rival to Tesla.

Our purpose is to promote innovation and to collaborate, research, develop, deploy and evaluate technology and analytically based solutions to the problems facing the systems and infrastructure that serve the quality of life and economy of the Town of Normal, City of Bloomington and McLean County, and gradually other communities, cities, counties and metropolises around the globe.

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The partners with the Alliance aim to connect problems in the community to research and educational projects that might help solve them. The parties wish to show-case the McLean County area as a vibrant, innovative and sustainable community while developing technologies, methods, and models for use across the country and around the world. The parties also wish to create a pathway for students to remain in and contribute to the community after graduation.

A draft Memorandum of Understanding (MOU) is being considered by the partners for formal adoption. The primary purpose of this MOU is to ensure the communication and coordination necessary to implement research and educational projects agreed upon by the parties as well as collaborate on technology-driven initiatives of mutual interest.

Challenges

- While willing to collaborate and cooperate, the partners are seeking the proper direction and steps to achieve the purpose of our regional, multi-jurisdictional, and multi-disciplinary initiative which is still in its infancy
- Agreeing on priorities - taking those priorities back to the organizations we represent and getting buy in
- Training and education of our work force
- Budget and resources

Accomplishments

- McLean County Regional Planning Commission in early October approved a contract with a consultancy for a project of regional impact regarding wireless facility installations, with a focus on small cell wireless systems (5G) installations within the public rights-of-way in our urbanized area, as a result of a Request for Proposals (RFP) jointly issued by the Town of Normal and the City of Bloomington.
- Early internal discussion among partners about other innovative projects of regional interest

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Aaron Deacon, Managing Director, KC Digital Drive

Aaron Deacon is the founder and managing director of KC Digital Drive, a nonprofit civic organization with a mission to make Kansas City a digital leader and help cities adapt to disruptive technology change. He works with mayors, entrepreneurs and civic leaders in Kansas City and around the world to help build ecosystems that connect infrastructure, emerging technology and social impact. He combines a high-level strategic approach with boots-on-the-ground project implementation and management in smart cities, civic tech, digital inclusion, digital health, and education.

Through KC Digital Drive, Aaron helps to lead the Code for KC Brigade, the Health Innovation Team, and the KC Coalition for Digital Inclusion. Aaron is a founder and producer of the Gigabit City Summit, an annual conference on how cities build value on technology infrastructure. He also leads Kansas City's participation in a number of global initiatives including US Ignite, NIST's Global City Teams Challenge, the IEEE Smart City Initiative and the MetroLab Network.

Aaron's work in cities and technology began as an instrumental leader in helping Kansas City prepare to be the first market for Google Fiber. He created and led a variety of community engagement initiatives around broadband deployment, including Building the Gigabit City and Give Us a Gig. He continues to help cities develop community playbooks to take advantage of ultra high-speed broadband.

Prior to working in the civic sphere, Aaron honed his skills in innovation management, design thinking product development, strategic planning and qualitative and quantitative research as a consultant and project director for a variety of Fortune 500 clients. He is the founder and principal of the research and strategic planning firm Curiolab. He earned a master's degree in social science from the University of Chicago and a bachelor's degree in history from the University of Dallas, and taught high school Latin for two years in between.

Accomplishments -- we've built a really broad, organic, well-networked ecosystem around our mission; really proved out the model around the Google Fiber launch here 7-8 years ago; more recently have been working on COVID response (testing, tracing strategy and operations) and setting up an Internet Access Support Program.

Challenges -- articulating the capacity need vs the specific interventions, threading the bottom up / top down needle--strengths and weaknesses at both the top and the bottom.

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Mark Fisher, CEO, Council of the Great Lakes Region (CGLR)



Mark Fisher was appointed Chief Executive Officer of the Council of the Great Lakes by the Council's board in 2014. Mark has 13 years of experience in policy-making, strategic business planning, corporate communications, stakeholder engagement, public advocacy, and issues management and experience in international affairs, with a focus on advancing the U.S.-Canada relationship.

Jeff Leonard, City Administrator, City of Defiance, OH



Jeffrey Leonard is a native of Defiance Ohio graduating from Defiance High School in 1975. Jeff earned a Bachelor's Degree in Business Administration from Bowling Green State University in 1981. Jeff joined the City of Defiance in 1992 as the Finance Director, having worked previously for Auditor Thomas Ferguson's office and the City of Bryan. In 2004, Jeff was appointed as the City Administrator and continues to serve in that capacity. Jeff and his wife Jane have two adult children and two grandchildren.

Great Lakes Smart and Sustainable Cities

The Council of Great Lakes Region (CGLR) Regional Action Cluster will address the United Nations' seventeen Sustainability Development Goals (SDGs) by consistently measuring sustainability at the neighborhood, city, state/provincial and regional levels. Our mission is to garner local engagement and collaborative actions to address issues and opportunities in the Great Lakes region with scalable, smart solutions. We aim to share knowledge and resources to jointly progress the Great Lakes region into a smart and sustainable economy.

Purpose:

- Create a collaborative network of partners interested in Great Lakes issue such as water quality, IoT, sustainability, connectivity and innovation.
- Form partnerships with local, regional and binational entities to invest in smart technology and data-driven projects to solve Great Lake challenges.
- Address sustainability concerns with innovative and collaborative solutions.

Goals:

- Leverage technology to develop economic benefit for the Great Lakes region that can be demonstrated, tested and evaluated.
- Provide support for joint investment in non-traditional approaches to problem solving.
- Meet metrics addressing United Nations' seventeen Sustainability Development Goals (SDGs).

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Challenges:

- Creating a cluster governance across multiple jurisdictions, interests and capacities.
- Quantifying project feasibility and success to potential investors, including showcasing the benefit of collaborative leadership.

Accomplishments:

- Created working relationships with agricultural, binational (CGLR), and regional leaders
- Identified potential pilot projects, actors and areas for economic investment for joint cluster interest.
- Drafting of a Memorandum of Understanding to develop shared vision and responsibilities.

Tri-State Region (PA, WV, OH) Food System Project

Mark Critz, Western Regional Director, PA, Dpt of Agriculture



Former Congressman Mark Critz is dedicated to public service. Since 2015, Mark has served as the Executive Director of the Governor's Advisory Council on Rural Affairs/Rural Development Council (RDC). In this capacity Mark advises the Governor on policy as it impacts rural citizens and serves as the advocate for rural Pennsylvanians to the Governor.

The RDC has focused much of its attention on the priority issues of broadband, the heroin/opioid crisis, workforce and healthcare policies and programs as they affect rural communities. The RDC and its advisory board have also endeavored to increase regional efforts in an effort to promote cooperation and collaboration.

In 2019, Mark took on the additional duties as the Western Regional Director for the Department of Agriculture. The position of Regional Director is tasked with serving as a point of contact for western PA stakeholders and will be directly engaging with these stakeholders on a daily basis. The Regional Director serves as an advocate for industry and will be responsible for identifying opportunities and challenges that exist for agriculture within the region.

The Western PA Region covers the following counties: Allegheny, Armstrong, Beaver, Butler, Cambria, Clarion, Crawford, Elk, Erie, Fayette, Forest, Greene, Indiana, Jefferson, Lawrence, McKean, Mercer, Somerset, Venango, Warren, Washington, and Westmoreland.

Tri-State Region (PA, WV, OH) Food System Project

This project intends to develop and implement a plan to increase the supply of local food available to residents of the Pittsburgh food shed (200-mile radius) in several states. By using a data-driven strategic plan as a guide, it envisions a series of targeted interventions to increase the number of producers, add to the variety of the local food inventory, create and enhance aggregation entities to the distribution system, reduce choke-points in supply chains, expand the number of distribution opportunities, and organize consumer demand in ways that improve the equitability of the food system.

Challenges:

- As a region, the food shed faces a deficit of local food caused by a gradual withering away of producers.
- Producers tend to concentrate on one aspect of production rather than diversifying.

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- Operations growing local food product tend to be small and not operating at a scale to enter more diverse food outlets.
- Farmers are selling off their mineral rights and leaving the business as the opportunity for gas contracts present themselves.
- There is a lack of processing facilities for locally produced meat.
- Produce farmers avoid getting food safety certifications that are required for larger food outlets (retail food chains, retail food service)
- Changes in attitudes among young consumers has brought food entrepreneurs to the table but the system itself often lets them down as local product becomes increasingly scarce.
- Large national and regional chains control retail food distribution which often unwittingly create food deserts as the search of productivity and profit.
- Technology solutions either don't exist or they have been unevenly deployed.

Proposed solutions include...

- Diversifying the product mix in the region to include locally grown meat and poultry (sheep, lamb, and goat; small flock poultry; more variety in produce).
- Increase the scale of local food production (more producers, more product)
- Explore ways that current owners of farmland can retain mineral rights while transferring operation of their farms.
- Assist entrepreneurs in building and accrediting new USDA-certified meat processing facilities.
- Assist farmers in obtaining GAP certification.
- Organize the retail food distribution system so that new markets are open to producers as local food outlets.
- Assure that food deserts in the region are addressed by local food resources.
- Conduct an inventory of technology resources in the food shed as well as identify gaps where technology may help to overcome barriers.

Actions:

- A series of workshops conducted by the PA Association for Sustainable Agriculture.
- Dozens of workshops in conjunction with Penn State Cooperative Extension around diversifying the product mix in the region to include locally-grown meat and poultry (sheep, lamb, and goat; small flock poultry; more variety in produce) continue in spring 2019.
- Two action plans around increasing the number of meat processing facilities as well as increasing the number of producers that are GAP certified will roll out in 2019 in cooperation with the PA Department of Agriculture, PASA, and several Pittsburgh foundations.