



## **OUR STORY SO FAR**

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# **Connecting Purdue to Innovative Regions**



## /// OUR PURPOSE OUR VALUES ///



SAM CORDES  
CO-FOUNDER



VIC LECHTENBERG  
CO-FOUNDER



LIONEL "BO" J. BEAULIEU  
DIRECTOR

Formed in 2005, the Purdue Center for Regional Development (PCRD) answered the call for our nation's research universities to become more engaged in **promoting regional prosperity**. And for good cause. Our nation's competitiveness is tied to our regional economies where sophisticated clusters of **innovative businesses form and grow**. Our research universities help accelerate this innovation with innovative approaches to regional engagement that are agile, adaptive and responsive.

**Pioneering these new approaches** comes naturally to Purdue, and this purpose — defining the contours of regional engagement for the 21st century research university — defines the work of PCRD. The energy to pursue this purpose is rooted in our values. We build sophisticated collaborations quickly by relentlessly looking for mutual benefits and behaving in ways that build trust and mutual respect.

We anticipate dramatic changes to the academic and market landscapes for our nation's research universities in the coming years. Our proactive response is to continue to **explore new ways** to co-create value with those willing to invest in their future prosperity. In defining the tools, frameworks and strategy disciplines to guide these sophisticated collaborations, PCRD stands at the forefront of this important work.

## PCRD HAS:

- **Developed** nationally recognized analytic tools for cluster analysis and data visualization
- **Collaborated** with Indiana University and others in designing path-breaking innovation platforms
- **Pioneered** the use of open networks to accelerate workforce innovation, dramatically improving the productivity of federal investments
- **Launched** a national network to pioneer the new discipline of strategic doing for communities and regions

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# WHAT'S CHANGED /// WHAT'S NEXT ///

## THE CONNECTED UNIVERSITY

In the past, we looked to vertically organized large companies to generate jobs and economic security by dominating the markets they served. Diminishing resources and relatively stable markets shaped strategic thinking.

Over the last three decades, shifts in the structure of our global economy transformed this equation. Now, **knowledge and innovation** — the process of converting ideas into valuable products and services — have moved center stage. To prosper in today's economy, regions nurture and grow clusters of innovating firms in a shifting web of support and exchange.

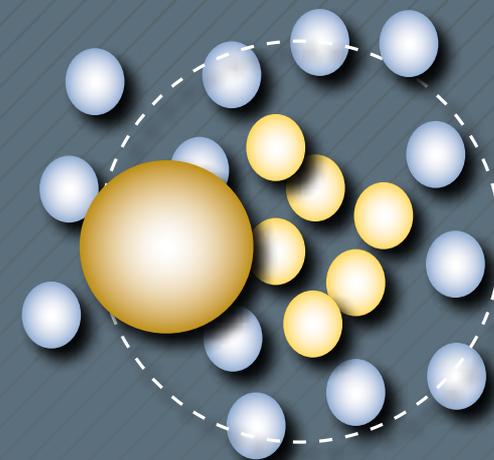
These networks enable firms to learn, spot opportunities, align resources and move faster. Within these clusters, innovating firms **become more competitive**. They create higher paying, more secure jobs.

This new competitive dynamic places research universities in a special role and emphasizes the critical connections among the university, government, other educational institutions and business.

### Research universities contribute to regional prosperity in four important ways:

- 1** As major employers, they provide stability to regional economies in the midst of the deep shifts taking place.
- 2** Knowledge from research is generated that can be turned into valuable new products, services and markets. These discoveries often provide the basis for new business clusters.
- 3** They generate a skilled workforce and transfer technology to business firms and clusters through their graduates.
- 4** With the vital convening role they play, they can bring together the various parties critical to the innovation process. Using their influence to convene and collaborate, they can anchor a cluster's development.

PCRD places Purdue at the forefront of these shifts by building the analytic tools, disciplines and collaborations needed to connect Purdue to innovating businesses, communities and regions.



## Regional Innovation Clusters

Developing regional innovation clusters involves a two-phase process of analysis and activation. Analytic tools help regional leaders see the strengths of their economy in a new light by tracing connections that can serve as the basis for a cluster. Activation involves developing a strategic action plan for the cluster. PCRD assists regions through both phases.

# /// OPPORTUNITIES FOR CIVIC INNOVATION ///

## DOING MORE WITH LESS

Innovation requires a common language. At PCRD, we've developed new ways to communicate the complexities of economic transformation in ways that people can easily understand and accept. We use the core concept of the **“civic economy”** to explain the types of investments needed in order to support higher productivity in our market economy.

Our **market economy**, led by the business community, undertakes investments and activities that are both publicly valuable and privately profitable. In contrast, our civic economy is far more complex. Within it, government, educational institutions, businesses, nonprofit organizations and philanthropy pursue activities and investments that are publicly valuable but not privately profitable.

As in our market economy, organizations within our civic economy confront the challenge of transformation brought on by the global forces of competition. In short, we can no longer afford the silos of stand-alone organizations, each pursuing a purpose in isolation from others. We need to collaborate to compete.

PCRD explores the boundary between our market and civic economies. We look for new

ways to build sophisticated collaborations quickly through new insights and frameworks.

Within the civic economy, these new networks of collaboration can yield dramatic improvements in productivity of government and philanthropic investment. More important, they can accelerate innovations taking place in our market economy.

**The result:** We can do far more with less, if we think and behave in new ways.

Civic Economy vs. Market Economy	
CIVIC ECONOMY	
YES	Publicly valuable
NO	Privately profitable
MARKET ECONOMY	
YES	Publicly valuable
YES	Privately profitable



▲ PCRD STAFF ED MORRISON (FAR LEFT) AND PEGGY HOSEA (STANDING) AND COMMUNITY LEADERS FROM FLINT, MICH., WORK ON REBUILDING THE CITY'S CIVIC ECONOMY USING STRATEGIC DOING. PHOTO COURTESY OF SUE DEVRIES.

# /// OUR RESULTS ///

## COLLABORATING TO COMPETE

Innovation does not exist without results. Since its founding in 2005, PCRD has designed and guided civic collaborations with an impressive record of delivering measurable results.

**12,000**  
HIGH SCHOOL STUDENTS  
NOW STUDYING  
STEM DISCIPLINES

**30** STATES  
IN WHICH  
PCRD HAS PROVIDED  
WORKSHOPS IN  
STRATEGIC DOING

**\$25 MILLION**  
OUTSIDE INVESTMENT  
ATTRACTED TO REBUILD  
INDIANA'S CIVIC ECONOMY

**2,300** ENTREPRENEURS  
TRAINED IN  
STARTING A  
BUSINESS

**16,000**  
WORKERS AND FUTURE WORKERS  
RECEIVING TRAINING IN  
NEW SKILLS

**2,000**  
BUSINESSES ASSISTED  
IN THEIR PLANS TO GROW

**1,300**  
CIVIC LEADERS TRAINED  
IN THE NEW DISCIPLINES OF  
COLLABORATION

**5** NEW EMPLOYER-DRIVEN,  
SKILL-BASED CERTIFICATIONS,  
INCLUDING THE NATION'S FIRST  
GREEN COLLAR CERTIFICATION FOR  
SUSTAINABLE MANUFACTURING

## Global Growth

The success of PCRD has gained international attention. By responding to requests, PCRD assists Purdue in becoming one of the most engaged universities in the world. We've conducted workshops in over 30 states and Canada. Our approaches are being adopted in Australia, and we are expanding collaborations with European universities.

PCRD is leveraging this success to develop a national network of colleges and universities using these new approaches to regional engagement.

## /// PURDUE GUITAR CAMP ///

### TEACHING THE JOYS OF STEM

At PCRD, we focus on designing civic collaborations that are replicable, scalable and sustainable. When collaborations deliver measurable results that can be easily shared, these initiatives can grow quickly.

Here's a story of how a seemingly small idea, supported by PCRD, blossomed into a national initiative.

As the recipient of a \$15 million federal grant, PCRD started building new collaborations and sought fresh ideas to dramatically improve the productivity of federal investments in workforce development. We outlined a goal that the region around Purdue should become a national leader in **teaching the STEM disciplines** (Science, Technology, Engineering and Math).

Mark French, an associate professor in the College of Technology, responded to the call for proposals with his idea to **innovate workforce development**: the Purdue Guitar Summer Camp for high school students. The guitar camp has become so successful that the National Science Foundation has become a primary sponsor. The STEM guitar workshops are now conducted nationally.

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**LEARN MORE:** <http://guitarbuilding.org>

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▲ PROFESSOR MARK FRENCH WORKS WITH STUDENTS TAKING HIS INSTRUMENT MANUFACTURING AND TESTING CLASS. THE COURSE ALLOWS STUDENTS TO COMBINE SKILLS IN ENGINEERING, WOODWORKING AND MANUFACTURING PROCESSES TO BUILD THEIR OWN CUSTOMIZED ACOUSTIC GUITAR.

## /// GREEN MANUFACTURING ///

### NATION'S FIRST CERTIFICATION

Through a workforce innovation grant, PCRD guided the development of collaborations that led to the nation's first certification in sustainable manufacturing. Now offered nationally, this certification reinforces Indiana's position on the forefront of **sustainable ("zero landfill") manufacturing**.

Companies as large as Subaru in West Lafayette, Ind., and as small as DeKalb Molded Plastics in Butler, Ind., are developing leading-edge practices to eliminate waste streams through recycling and reuse.

Through a partnership between Purdue Technical Assistance Program (TAP) and the Indiana Department of Workforce Development, displaced manufacturing workers can now get this training throughout the state. Participants completing the course receive Purdue's Frontline Green Worker Certificate, based on Purdue's nationally recognized leadership in green manufacturing.

#### LEARN MORE:

[www.greenmanufacturing.purdue.edu](http://www.greenmanufacturing.purdue.edu)



▲ SMITH BROTHERS FURNITURE, LOCATED IN BERNE, IND., COMPLEMENTS ITS ADVANCED MANUFACTURING PROCESSES BY IMPLEMENTING ENVIRONMENTALLY FRIENDLY PRACTICES TO CURB ENERGY AND WASTE COSTS.

## /// RURAL COMMUNITIES ///

### BUILDING A NATIONAL BRAND IN MEDORA

Rural communities struggle with the pressures of globalization, and PCRD invests considerable resources designing new approaches for rural regions to compete in a modern, global economy.

Our center focuses on developing the **assets of a rural community** and connecting these assets to regional, national and international markets.

Medora, Ind., provides a good example. Home to one of Indiana's leading maple sugar producers, Medora launched a branding campaign to become the home of the National Maple Syrup Festival.

Following the agile strategy disciplines pioneered at Purdue, the community now sees its future more clearly.

#### LEARN MORE:

<http://nationalmaplesyrupfestival.com>



▲ THOUGH THERE ARE ABOUT 100 MAPLE SYRUP PRODUCERS IN INDIANA AND COUNTLESS FESTIVALS, THE EVENT IN MEDORA, IND., IS THE FIRST AND ONLY NATIONAL MAPLE SYRUP FESTIVAL IN AMERICA. PHOTOS COURTESY OF LOUISA CHU.

# /// GAINING NEW INSIGHTS ///

## POWERFUL GEOSPATIAL MAPPING AND ANALYSIS

One of the challenges facing regional leaders is making sense of the changes swirling around them. PCRD develops powerful mapping tools to generate useful insights for regional leaders. PCRD designs and builds decision support systems, processes big-data with data mining, and creates high quality cartographic representations and graphics. Here are two good examples.

### MAPPING INDUSTRY CLUSTERS

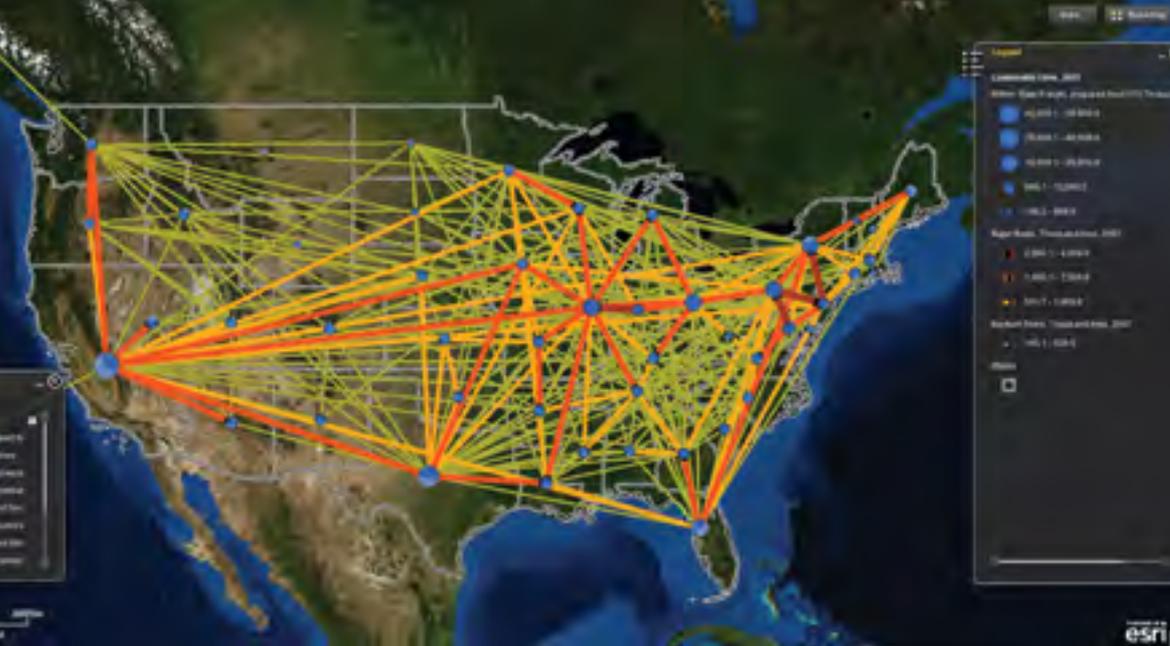
PCRD's business cluster definitions provide the basic framework for analyzing the competitiveness of a regional economy. They uncover value-chain relationships within connected markets. PCRD's definitions, combined with EMSI data, are the most detailed possible.

- **Purpose of industry cluster analytics:** Identify the competitive strengths of a regional economy. Cluster analytics can set the framework for competitive strategies of narrower geographies.
- **How industry cluster analytics are used:** Cluster analytics provide one of the most effective ways to develop practical strategies for accelerating innovation in a region.

### MAPPING OCCUPATIONAL CLUSTERS

Occupational cluster definitions give a unique glimpse of education and skills embedded within the human resources and labor pools in the region.

- **Purpose of occupational cluster analytics:** Provide insights to the level and distribution of occupations, knowledge and skills within a region.
- **How occupational cluster analytics are used:** Education and workforce development strategies are increasingly focused on knowledge and skill levels and how they can be upgraded with customized training. Occupational clusters provide business firms with insights into the quality and quantity of a workforce in a region. Educators and workforce development professionals use this information to build “talent pipelines” in partnership with business firms.



◀ **REGIONAL DECISION MAKER (RDM)** BRINGS TOGETHER DATA, CURRENT RESEARCH, ANALYSES, MAPPING TOOLS AND MODELS TO ASSIST COMMUNITIES THROUGHOUT THE PLANNING PROCESS.

## REGIONAL DECISION MAKER (RDM)

PCRD has integrated industry and occupation clusters into a new decision support system called Regional Decision Maker. This system includes other data layers that enable regional leaders to gain an **integrated view of their regional economy** from a variety of different perspectives.

With Regional Decision Maker, regional leaders are no longer constrained by inflexible geographic definitions, such as metropolitan areas. Civic leaders can now define the contours of their own county-based region.

Regional leaders can also combine business and industry cluster mapping with occupational cluster mapping. PCRD has developed a framework to **link industry and occupation clusters** by developing ICOC LQ, industry cluster-occupation cluster location quotients, which makes use of proprietary industry-to-occupation bridge databases developed by EMSI. These tools provide tailored information to assess competitive and comparative advantages in business and industry clusters, labor pools and human resources for any region in the U.S. The platform also provides trends and snapshots across time to help regions determine the industry clusters and labor skills on which to focus.

## Analytic Tools

PCRD develops analytic tools to help regional leaders understand and improve their economy. We are a national leader in developing analytic tools for defining business and occupational clusters. In developing these tools, we partner with Economic Modeling Specialists International (EMSI), a leading firm providing data and analytics for communities and regions.

## Mapping Clusters

### JUST IN TIME CLUSTER ANALYSIS

Mapping tools enable regional leaders to “up their game” by providing useful insights on the fly.



# /// STRATEGIC DOING ///

## COLLABORATING QUICKLY

As the complexity of building a prosperous economy grows, more leaders recognize that they cannot “go it alone.” Yet, the alternative — collaboration — is easier said than done.

We’ve spent a number of years grappling with these core problems of regional development: How do we form sophisticated collaborations quickly that are capable of meeting the complex challenges of **rebuilding a regional economy**?

How do we keep these strategic collaborations moving toward measurable outcomes? How do we learn what works and make needed adjustments along the way?

In the new results-driven process of Strategic Doing, we believe we’ve found an answer. Following simple rules, we’ve designed a strategy framework that is fast, lean and adaptive.

## MOVING FROM IDEAS TO ACTION

Conventional approaches to strategic planning do not work well to meet the complex challenges we face today. The reason is simple. Strategic planning does not work easily in open networks. Traditional strategy practices emerged from large hierarchical “command and control” corporations. A small group of people at the top of the organization did the thinking, while the rest of the people did the doing.

In our civic spaces, there are no hierarchies. No one can tell anyone else what to do. Yet, we still need to do strategic thinking. So now, more than ever, we need to act strategically. How do we **focus our limited resources** where they’re likely to have the largest positive impacts?

The training from PCRD provides the tools and methods to answer that question. **Strategic Doing** presents new frameworks and road maps for developing and implementing strategy within the loose networks that characterize our communities and regions. Where strategic planning is slow, linear and costly, Strategic Doing is **fast, iterative and inexpensive**. Strategic Doing is catching on because people can understand it, apply it and discover new opportunities as they move their ideas into action. The discipline produces results quickly.

## A National Network Emerging

Across the country, colleges and universities have reached out to Purdue to learn the discipline of Strategic Doing. We have a wide range of emerging partnerships, and we’re working toward a more formal national network. This arrangement will allow us to share curriculum materials and advance the discipline.

Our initial conversations have included:

- Indiana University
- Michigan State University
- Arizona State University
- The University of Akron
- Northern Illinois University
- University of Wisconsin-Milwaukee
- University of Southern Maine
- University of Missouri
- University of Nebraska
- University of Alaska-Anchorage

# /// SUPPORTING INNOVATION ///

## ENTREPRENEURIAL BUSINESS NETWORKS

Entrepreneurial companies provide the engine for thriving regions. These companies prosper by connecting to resources that they don't own or control. Networks can provide quick access to management assistance, technologies, investors, skilled workers and training.

Equally important, networks can connect business executives to a trusted source of learning and guidance: other business executives.

**PCRD pioneers the development of new business assistance networks by leveraging the following resources:**

### ■ **Indiana Small Business Development Center Network**

PCRD operates two regional centers that are part of the statewide Indiana Small Business Development Center Network. These centers — the Hoosier Heartland SBDC and the Southeast Indiana SBDC — provide workshops, seminars and one-on-one business consulting that meet the diverse needs of small business owners.

### ■ **Companies to Watch**

Many civic leaders aren't sure how to grow jobs in their economy. Companies to Watch is a unique awards program developed by the Edward Lowe Foundation to honor companies that provide a major source of economic strength. These are growth-oriented companies from 10 to 100 employees. They have passed the stage of survival and moved on to the second stage of development: growth. Companies to Watch calls attention to "second stage" companies that are known for their performance in the marketplace, innovative products, unique processes or philanthropic actions. They make an astounding impact on the economy by collectively providing thousands of jobs and contributing millions of dollars of revenue.

### ■ **Indiana Business Growth Network**

Helping these second stage companies grow represents the most certain path to success in building a regional economy. The Indiana Business Growth Network helps leaders of second stage companies grow their businesses by connecting them to sophisticated resources. The network also assists civic leaders as they make their communities great places to start and support high-growth businesses.

## The PCRD Approach to Growth

The PCRD approach to business development is asset-focused, regionally organized and network-based. Traditional approaches to business development have focused on recruiting single firms to a community. This strategy, developed by the state of Mississippi in the 1930's, has proven to be relatively expensive and increasingly unproductive.

In contrast, a strategy that focuses on leveraging regional assets provides a more certain path to economic growth.

# /// TRAINING CIVIC LEADERS

## TODAY'S SKILLS FOR PROSPERITY

Our civic economy represents networks embedded in other networks. The traditional “command and control” leadership style does not work well in the civic economy. Effective civic leaders are those who design and manage complex collaborations that cross multiple political and organizational lines. Effective leaders in complex, ambiguous situations master the art of **“learning by doing.”** They pay close attention to metrics to learn what works.

Equally important, today's effective civic leader encourages shared responsibility and movement toward clear, shared and measurable outcomes.

The leadership challenge is tricky. Mastering the **skills to be effective** takes practice. PCRD guides civic leaders in these new practices.



### ▲ THE NEW SKILLS OF REGIONAL LEADERSHIP

THE NEW TOOLS, FRAMEWORKS AND DISCIPLINES OF REGIONAL STRATEGY AND PLANNING MOVE AWAY FROM THE “TOP DOWN/BOTTOM UP” THINKING FOSTERED BY HIERARCHICAL ORGANIZATIONS.

TODAY'S EFFECTIVE REGIONAL LEADERS BUILD THEIR SKILLS AT DESIGNING AND GUIDING OPEN NETWORKS. MUCH LIKE OPEN SOURCE SOFTWARE DEVELOPMENT, REGIONAL DEVELOPMENT IN TODAY'S WORLD BALANCES BOTH OPEN PARTICIPATION AND CLEAR LEADERSHIP GUIDANCE.

EFFECTIVE REGIONAL LEADERS ARE MORE OPEN, COLLABORATIVE AND AGILE.

#### Traditional Strategic Planning



#### Agile Strategic Doing



# /// DESIGNING THE FUTURE ///

## PURDUE'S CIVIC ECONOMY LAB

Transforming a regional economy is a complex undertaking. Successful transformation takes collaborative investments, disciplined focus and time.

To help communities and regions drive this transformation, PCRD designs and tests new initiatives that enable us to do more with less. Sophisticated collaborations can dramatically **improve the productivity** of our civic economy. We look for initiatives that are potentially transformative: they are **scalable, replicable and sustainable**.

That's the work of our Civic Economy Lab. Core funding comes through a grant from the U.S. Department of Commerce, Economic Development Administration.

As we improve the productivity of our civic economy, we **boost the performance**

of our market economy. We make it easier for growth-oriented businesses to leverage the resources they need to grow. We accelerate the **flow of technologies** to business. We provide young people and adults with the skills they need for secure, high-paying jobs.

We create **"hot spots"** in places like downtown districts and research parks, where innovation takes place. We support the **open innovation** that can make regional clusters so dynamic.

Increasingly, how colleges and universities engage with the civic economy determines the overall productivity of a region's market economy. In our Civic Economy Lab, we're designing and testing these new frameworks, disciplines and tools for university engagement.

## Civic Economy Portfolio

### BUILD BALANCE

We use the Civic Economy Portfolio to map assets and explore potential collaborations across organizational and political boundaries.



# TRANSFORMING /// REGIONAL ENGAGEMENT ///

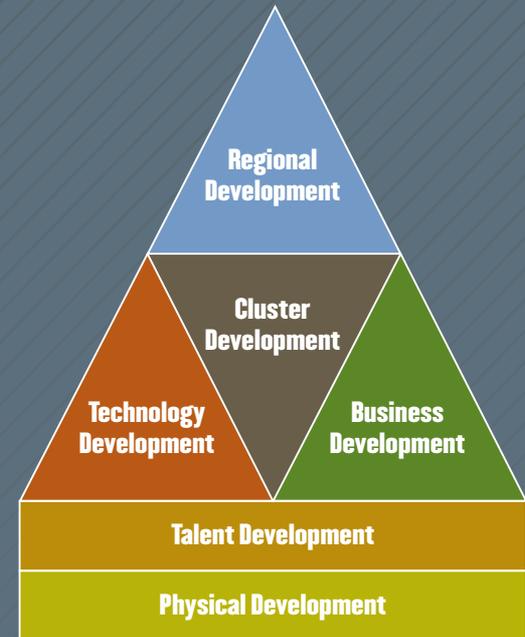
## A NATIONAL NETWORK OF ENGAGEMENT

PCRD is exploring new networks with multiple universities that are also on the forefront of transforming university engagement. Together, we are developing new frameworks to define the 21st century **“connected university.”**

To increase their impact on the nation’s competitiveness, universities must overcome the natural tendency to protect their organizational and political boundaries. These barriers slow innovation. They also stand in the way of a sensible national strategy to translate the public’s investments in higher education into higher levels of economic performance.

By **sharing insights and assets**, new networks of community colleges and universities can accelerate regional innovation. They can drive our civic economy to higher levels of productivity and support for our market economy.

In the end, the core competitive strength of the U.S. economy derives from our flexibility to pursue new opportunities quickly. The coming decades will require us to define new pathways and policies to leverage these strengths. PCRD helps Purdue stay on the front edge of these developments.



Source: TRE Networks

## The Scope of University Engagement

Universities support regional development with a wide range of engagement strategies. PCRD works with multiple universities in the U.S. and abroad to explore new ways to link and leverage the assets of Purdue.

# /// THOUGHT LEADERSHIP ///

## PCRD Working Paper Series

The PCRD Working Paper series reflects the diverse range of interdisciplinary research interests of the center staff. By publishing papers as works in progress, the series aims to encourage and promote the interdisciplinary research work by members of the center and their colleagues inside and outside Purdue.

These papers also provide a forum in which to share innovative ideas and approaches in regional development and to elicit feedback from peers before submitting to more formal peer-reviewed conference papers or journal articles.

The working papers are available at [www.pcrd.purdue.edu](http://www.pcrd.purdue.edu)

## REDEFINING POLICIES AND PRACTICE

PCRD probes the boundaries of the civic economy to find the **new pathways to prosperity** for our next generation. A large part of this task involves questioning traditional policies and practices for community, economic and workforce development.

These approaches, largely defined by federal policies established over 50 years ago, do not take advantage of the new opportunities emerging in today's networked and global economy.

To highlight these shifts, PCRD produces a working paper series for policy makers and practitioners. These working papers highlight the promising pathways forward. PCRD also works with faculty to develop and publish peer-reviewed publications.

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**LEARN MORE:** [www.pcrd.purdue.edu](http://www.pcrd.purdue.edu)

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## /// DON KOVERMAN ///



On January 20, 2012, we lost Don Koverman, who died less than a month after being diagnosed with advanced pancreatic cancer. Don was serving as senior associate at the center.

Don served our country for over 30 years in government, education and nonprofit organizations in both rural communities and metro regions. His career included working for the City of Indianapolis; as a city manager in rural Minnesota; a faculty position at the University of Minnesota; director of community development for the Southeast/South Central Minnesota Initiative Fund; a county plan director for Morgan County, Ind.; the executive director for the Indiana Rural Development Council; and chair of Minnesota Rural Partners.

With the depth and breadth of his experience, Don participated actively in a rarefied collaborative of professionals who defined the fields of rural and community development in this country. He dedicated his life to building communities and exploring new ways to bring us together around shared concerns and intersecting opportunities. At the time he left us, Don was leading a network of experienced community development professionals exploring new ways to bring prosperity to rural communities in an era of globalization and dramatic shifts in our economy.

We carry on our work in his spirit.

# PURDUE

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