“The DPI CURES Community Project Lab: Helping Small Communities Connect to Resources that Can Help them Make Progress with their Sustainability Project Priorities”

Presentation to 34th Annual Rural Community and Economic Development: Repositioning Rural for Economies of the Future
Carolee Rigsbee (UIS)
Tom Skuzinski (NIU)
Agenda

1. About CURES
2. CURES Community Project Lab Mission & Goals
3. CURES Community Project Lab Engagement Process & Network
4. What we have learned from the Surveys:
   - Community Priorities
   - Barriers to Implementation
   - How IL Communities Learn About Projects
5. Outcomes from the CPL to Date
   - Projects Identified through Network
   - Community Projects Initiated
6. Some Resources Available for Communities
7. Questions/Contact Information (welcoming collaborators, community connections)

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1. About CURES
About the DPI Illinois Center for Urban Resilience and Environmental Sustainability (CURES)

**Mission**

CURES works with cities on developing integrated sustainable solutions to improve community-wide health and prosperity now and in the future.

**Purpose**

The purpose of CURES is to harness core competencies to develop and deploy the research, applied learning and education, with public engagement, to generate the capabilities that cities will need to be more livable, prosperous, resilient, and sustainable. The Center will focus on strategies and policy tools to build resilience to climate change, promote human welfare and address the inter-dependence of urban water, food, and energy.

**Approach**

The work of CURES will be problem driven and issue focused in developing solutions that use a diverse set of tools to shape a critical set of interconnected urban systems to help cities meet sustainability challenges. CURES will harness existing expertise and catalyze new research on several interconnected elements of the urban system that are critical to questions of sustainability.
Connecting with Communities

- 2019 NSF Sustainable Urban Systems Conference
- 2021 IIN Sponsored CURES Community Project Lab
- 2022 IIN & Lumpkin Family Foundation Sponsored CURES Community Project Lab
2019 CURES Connections Workshop
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2. CURES Community Project Lab Mission & Goals
CURES Community Project Lab
Mission Statement

By connecting the research, outreach, and education segments of Illinois universities to agencies, research laboratories, NGOs, businesses, community leaders, foundations, and policy makers, we seek to help rural, small, and medium sized Illinois communities explore sustainability challenges and solutions around water, energy, and climate resilience in a way that generates funded projects that help these communities achieve and sustain their economic, social, and environmental goals.

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• Community group Banner Image available at https://freesvg.org/community-group-banner-image
CURES Community Project Lab

**Goals**

**Goal 1.** Gain insight into rural, small, and medium sized IL community social, environmental, and economic priorities

**Goal 2.** Develop implementable strategies that address overlapping identified community priorities.

**Goal 3.** Extend and sustain community resource network that can help communities tackle the identified issues by connecting the research, outreach, and education segments of Illinois universities to agencies, research laboratories, NGOs, businesses, community leaders, foundations, and policy makers.

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*Photo credit: Illinois Farm Bureau. Available at https://en.wikipedia.org/wiki/File:Illinois_Farm_Bureau_-_Combine.jpg. No modifications, Creative Commons Attribution-Share Alike 4.0 International*
CURES Community Project Lab

**Goal 4.** Integrate and share the findings around the needs, obstacles, and solutions to sustainability issues of small and medium cities with those already established for large urban centers to better understand and create regional sustainability.

**Goal 5.** Identify and communicate water, energy, and climate change related projects

**Goal 6.** Develop guidance for policy targeted at supporting small communities with their water, energy, and climate change related needs

**Goal 7.** Establish and implement mechanisms/processes for supporting and monitoring initiated projects
3. CURES Community Project Lab Engagement Process & Network of Collaborators
CURES CPL Community Engagement Process

1. Collect Information on Community Needs & Priorities
2. Analyze Community Level Priorities
3. Identify Candidate Programs, Education, & Research Projects
4. Communicate Community Project Lab Programs, Activities, Projects
5. Conduct Community Project Lab
6. Maintain Momentum: Project Follow-up

Completed 2 cycles (2021 & 2022)
CURES CPL Collaborators/Supporters: University Located Centers

- University of Illinois Extension Office (2021 & 2022)
- WIU Illinois Institute for Rural Affairs (2021 & 2022)
- UIS Center for State Policy and Leadership (2021 & 2022)
- Northern Illinois University Center for Community Sustainability (2021 & 2022)
- University of Illinois at Chicago (UIC) Energy Initiative (2021)

- UIC Institute for Environmental Science and Policy (2021 & 2022)
- UI Prairie Research Institute (2021 & 2022)
- Illinois Water Resources Center (2021 & 2022)
- UIS Confluence Lab (2021)
- EIU Center for Clean Energy Research and Education (CENCERE) (2021 & 2022)

- DPI CURES (2021 & 2022)
- UIC Energy Resources Center (2021)
- Illinois State Water Survey (2021 & 2022)
- UIUC Smart Energy Design Assistance Center (2021 & 2022)
- UIUC Applied Research Institute (2022)
CURES CPL Collaborators: State & Federal Agencies (presented at CPL meeting and/or support)

- IL EPA (2021 & 2022)
- US EPA Region 5 (2021)
- FEMA Region 5 (2021 & 2022)
- USDA (2022)
- US EDA (2022)
- IDNR (2022)
- Interagency Working Group on Coal and Power Plant Communities and Economic Revitalization (2022)
- Governor's Rural Affairs Council (supports - 2022)
CURES CPL Collaborators: Organization with Technical Expertise and Other Supporting Organizations

- Illinois Geothermal Coalition (2021 & 2022)
- Prairie Rivers Network (2021 & 2022)
- Greenleaf Communities (2021 & 2022)
- Climate Economy Action Network (2021 & 2022)
- Great Lakes Community Action Partnership–Rural Community Assistance Program (GLCAP-RCAP) (2021 & 2022)
- Affordable Community Energy Services Company/Imani Green Works (2022)
- IL Rural Water Association (2022)
- Clean Energy Business Network (2022)
- Southern Illinois Community Foundation (2022)
- CMAP (2021)
- Greenleaf Communities (2021 & 2022)
- Metropolitan Mayors Caucus (2021)
4. What we learned from the “Community Needs Assessment Survey”
Three phases of discerning

**Motivation:** Amplifying the voice of smaller communities

- Community needs assessments
- CURES Project Lab
- Community-Project Collaborations

Before use, contact Dr. Thomas Skuzinski at tskuzinski@niu.edu regarding attribution and citation.
Who did we survey?

**FALL 2021**
81 completed responses
(from 201 municipal managers; 40% response)

Average municipality:
Population: **22,319**  |  Density: **2,459** persons/sq. mi.  |  Home value: **$327,410**

**SUMMER / FALL 2022**
121 completed responses
(from 288 municipal managers; 42% response)


44 municipalities: <25,000 pop.  |  <2,500 persons/sq. mi.  |  <$250,000 home value

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What did we ask about?

How do you plan for sustainability?
Where is it in your organization?
Which external entities/organizations influence your decisions?
How are you working with neighboring communities?
How far along are you in implementation?
What are the barriers to further progress?
What are your biggest priorities?
What disasters/crises have you faced?

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What are your biggest priorities?
What disasters/crisis have you faced?

Green infrastructure
Wastewater reclamation
Tech to improve drinking water
Renewable energy incentives / assistance
Energy conservation incentives / assistance
Renewable energy use in public assets
Energy conservation in public assets
Biodiversity and habitat restoration
Residential recycling programs
Locally-produced food support programs
Greenhouse gas inventory
Lower-impact development incentives

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Priorities

Top Priorities

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Planning

Sustainability in Planning Documents

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Implementing water sustainability

Implementing Drinking Water Tech

- Internal meetings: 45%
- Public meetings: 26%
- Written plan: 18%
- Local laws: 9%
- Incl. in budget: 26%
- Not applicable: 42%

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Implementing water sustainability

Wastewater Reclamation

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Implementing water sustainability

Green Stormwater Infrastructure

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Implementing energy sustainability

Implementing Energy Conservation (public assets)

- Internal meetings: 24%
- Public meetings: 15%
- Written plan: 5%
- Local laws: 7%
- Incl. in budget: 7%
- Not applicable: 54%

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Implementing energy sustainability

Implementing Energy Efficiency Incentives

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Barriers to water sustainability

Drinking Water Technology

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Barriers to water sustainability

Wastewater Reclamation

- Can't afford it: 19%
- Lack tech. expertise: 27%
- Unpopular w/ residents: 0%
- Need more staff: 12%
- Don't know enough: 41%
- Successful: 11%

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Barriers to water sustainability

Green Stormwater Infrastructure

- Can't afford it: 35%
- Lack tech. expertise: 8%
- Unpopular w/residents: 4%
- Need more staff: 27%
- Don't know enough: 10%
- Successful: 22%

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Barriers to energy sustainability

Energy Conservation (Public Assets)

- Can't afford it: 23%
- Lack tech. expertise: 16%
- Unpopular w/ residents: 0%
- Need more staff: 19%
- Don't know enough: 17%
- Successful: 17%

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Barriers to energy sustainability

Energy Efficiency Incentives

- Can't afford it: 20%
- Lack tech. expertise: 26%
- Unpopular w/ residents: 3%
- Need more staff: 18%
- Don't know enough: 28%
- Successful: 2%

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Which matter to sustainability decisions?

Sustainability Influences

- Federal agencies: 16%
- State agencies: 32%
- Regional orgs: 47%
- Prof'l ass'ns: 37%
- Other munis/twshps: 85%
- Counties: 69%
- NP/NGOs: 8%

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Working with neighbors

Working with neighboring local governments

- At least one IGA: 13%
- At least one MOU: 17%
- Collab. planning: 27%
- Resource sharing: 21%
- Informal interaction: 73%

Before use, contact Dr. Thomas Skuzinski at tskuzinski@niu.edu regarding attribution and citation
Thank you!

• Contact: tskuzinski@niu.edu
• Institute for the Study of the
• Environment, Sustainability, and Energy

• The slides are available at:
5. Some CURES Community Project Lab Outcomes to Date
Community Project Lab
Dec 3, 2021 and Nov 4, 2022 at
University of Illinois Springfield
2021 Attendees & Agenda

• Welcome
• Putting Communities First: Your stated needs and priorities
• Resilience Planning: Expected Impact of Extreme Events in Illinois
• Supporting Illinois Communities: State and Federal Policy/Programs
• WATER Projects (Stormwater, drinking water, wastewater management) - Activity, Panel, & Project Sign-up
• ENERGY (Efficiency programs, renewable energy options & incentives - Activity, Panel, & Project Sign-up
2022 Attendees & Agenda

• Welcome
• Putting Communities First: Your stated needs and priorities
• Federal Funding Opportunities (Water & Energy)
• State Funding Opportunities (Water & Energy)
• Other Funding Opportunities
• Geothermal Opportunities
• Promoting Collaboration and innovation in regionalization managing water & energy
• Grant/technical workshop
• Meetings with technical support organizations

Registered Attendees

Attendee (Non-Organizer/Presenter)
Assessment of Usefulness
Lessons Learned – By observation

• Communities want help
• Communities have faced challenges in accessing grants
• Lots of funding & programs but not sure where and how to start
• Be careful of information overload
• Small communities have intersecting needs & often same people dealing with multiple issues
• Communities learn from each other & want to see examples of projects (successes & failures) (also from survey)
• Meeting community representatives seems helpful
Community Projects Resulting from CPL Connections
1. A small IL community (<1K population; median family income about 50-55% of Illinois state-wide average) with severe stormwater issues (standing water; flooded roadways) needing help finding funding opportunities for work needing to be done.

2. A small IL Community (<1K population; median family income about 35-40% of Illinois state-wide average) with urgent water infrastructure issues (water pressure was lowered to keep pipes from failing) with little financial capacity to address.

3. A small IL community (~1K population; median family income about 45-50% of Illinois state-wide average) with severe sewer infrastructure issues.

4. A small IL community (pop <2000; median family income about 55-60% of Illinois state-wide average). RCAP assisting with rate analysis and maybe other projects.

5. A small IL community (pop <10000; median family income about 70-75% of Illinois state-wide average). RCAP assisting with a lead service line survey.
6. Some Resources Available for Communities
### CPL Promoted Water-Related Projects

<table>
<thead>
<tr>
<th>Project</th>
<th>Details</th>
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<tbody>
<tr>
<td>Energy efficiency assessments for public water infrastructure</td>
<td>wastewater and drinking water (2021 &amp; 2022)</td>
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<tr>
<td>Water Affordability Assessment (2021 &amp; 2022)</td>
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<td>Water Energy Nexus – water/energy &amp; efficiency (2021 &amp; 2022)</td>
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<tr>
<td>Data-Informed Benchmarks of Meter-Level Residential Water Consumption</td>
<td>(2021 &amp; 2022)</td>
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<td>Rainscaping Training Program (2021)</td>
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<tr>
<td>Stormwater Infrastructure Assessment and Management (2021 &amp; 2022)</td>
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<td>M36 Water Audit (AWWA standard for water audits) (2021 &amp; 2022)</td>
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<tr>
<td>Public Water Infrastructure Assessments /Operations &amp; Management (2021 &amp; 2022)</td>
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<td>Grant Writing Assistance (2021 &amp; 2022)</td>
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<tr>
<td>Vulnerability Assessment (e.g., water supply, flood, drought, extreme heat) (2021 &amp; 2022)</td>
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<tr>
<td>Private Well Testing Services for Residents (very small communities) (2021 &amp; 2022)</td>
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</table>
CPL Promoted Energy-Related + Other Projects

- Solar Feasibility Assessments (2021 & 2022)
- Energy Efficiency Assessments and Energy Efficiency Planning Assistance (2021 & 2022)
- Energy Efficiency Assessments for Public Water Infrastructure (Wastewater and Drinking Water) (2021 & 2022)
- Energy Efficiency Workforce Initiative (2021)
- Vulnerability Assessment for Communities (2021 & 2022)
- Illinois Geothermal Coalition: Supporting the Electrification of Illinois Communities (2021 & 2022)
- Opportunities for Enhanced Geothermal Energy from Abandoned Hydrocarbon Wells in Southern Illinois (2021 & 2022)
- Geothermal Energy Education and Outreach Program for Illinois Communities (2021 & 2022)
CPL Promoted Energy-Related and Other Projects

- Industrial Energy Assessments through U.S. Department of Energy Industrial Assessment Center (2021 & 2022)
- Helping Develop Energy Resilient Communities through the U.S. DOE Midwest Combined Heat and Power Technical Assistance Partnership (2021)
- Building Energy Assessments to Support Underserved Rural Communities Fighting Climate Change (2021 & 2022)
- Technical Assistance to Divert Food Waste from Landfills to Anaerobic Digesters to Increase Biogas Energy Production, U.S. EPA TEACH AD Program (2021)
- Public Water Infrastructure Plant Efficiency Program (2021 & 2022)
- Blockchain Enabled Recycling to Reduce Disposal and Increase Municipality’ Sustainable Materials Management Capacity (2021 & 2022)
- E2 Assessment for Community Buildings (2021 & 2022)
- Zero Waste Illinois (2021 & 2022)

Website:
For 2021  https://dpi.uillinois.edu/applied-research/cures/cures-community-project-lab/cpl-projects-2021/
Resources to Help Communities

• Quick Reference Guide from 2022 CURES CPL

• Many Energy Incentives & Funding on SEDAC (Smart Energy Design Assistance Center) web site
  https://smartenergy.illinois.edu/illinois-incentives/
7. Questions/Discussion
Discussion Questions

• Any water or energy challenges in your community that you would like to share?
• Any projects/success stories that you would like to share? Tips for communities facing challenges?
• How do your experiences reaching out to and connecting with rural communities complement the work we’re doing via surveying and project labs?
• What questions are we missing in anticipation of our broader survey rollout?
• What is the best scale for running our project labs (ex: one county, multiple counties, economic regions)?
• Besides water and energy, what do you see as major sustainability issues that are not yet on the rural radar?
For More Information:

“CURES Community Project Lab”

https://dpi.uillinois.edu/applied-research/cures/

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