The summer of 2022 brought us back to in-person Center for Civic Innovation internship programs in South Bend and Elkhart for the first time in three years. We welcomed 44 interns representing 15 schools into 12 community-engaged projects focused on themes including access for low-income individuals to healthy food, neighborhood development, safe and affordable housing, community asset mapping, equitable access to data, and K-12 STEM engagement. Further details about these projects and related work are included in this CCI Internship Program annual report. We were excited to launch the first summer of replicating CCI’s Community-Engaged Educational Ecosystem Model funded by a National Science Foundation research grant with partners at Youngstown State University the University of Louisville. Our partner sites engaged 18 interns in 5 successful community projects in 2022. Additionally, CCI’s internship program collaborated with our CCI youth program to secure a grant from the Leighton Foundation that supported an intern team designing and launching a makerspace with design thinking curriculum in our building at 1045 W. Washington St. As always, we are thankful for the support of our community partners, mentors, and sponsors who help make these internship opportunities possible.

Dr. Jay Brockman, Director

"We solve problems with our community through collaboration and innovation."

In our CCI Internship Program, students work closely with technical advisers, both from the college and the community, to bring about new perspectives and innovative solutions through multidisciplinary research projects. The projects aligned with our research areas of Urban Environmental Sustainability, Safe and Affordable Housing, Equitable Access to Health and Wellbeing, and Data Informed Decision Making. For more information on our projects, see page 3.
Serra Marquez (Elkhart) is sophomore at the University of Notre Dame studying Civil Engineering. She was part of the 2022 CCI Internship program and worked on the Downtown Vibrancy team for the city of Elkhart.

Connor Martin (South Bend) is a Senior at the University of Notre Dame studying Chemical Engineering. He was part to the 2022 CCI Internship program embedded with the City of South Bend.

Nicole Lopez (Elkhart) is a Sophomore at the University of Notre Dame studying Mechanical Engineering. She was part of the 2022 CCI Internship Program and served on the Renewable Energy team, determining sources of renewable energy for Bushelcraft Farm.

Avery Broughton (South Bend) is a Junior at the University of Notre Dame studying Sociology. She was part of the 2022 CCI Internship Program and served on the Lead Service Lines team to increase homeowner’s awareness of the water safety in their homes.
About Our Projects

Below you will find the Elkhart and South Bend CCI Summer Internship Program 2022 project descriptions organized by CCI research areas. Articles about some of the projects on our website: https://civicinnovation.nd.edu/.

Safe, Affordable and Efficient Housing

Safe and Affordable Housing (South Bend)
In this project, the CC interns partnered with Habitat for Humanity of St. Joseph County to research housing development solutions from engineering, architectural, and financial perspectives. Interns conducted multiple consultations with experts in real estate and finance and designed and deployed an online survey to gather feedback from community members. Finally, the team presented a feasibility analysis of the solutions in the form of a white paper and a presentation at the HFH Board Meeting. Developing innovative ways to reduce the appraisal value of homes without decreasing the quality will be critical to maximize the impact affordable housing projects can have in communities.

Renewable Environmental Sustainability & Resilience

Renewable Energy Comparisons (Elkhart)
CCI interns designed and helped implement an efficient renewable energy system to power Bushelcraft Farm’s electrical needs—including one existing and one new hoop house. Additionally, the group researched rainwater catchment systems to incorporate rainwater usage in the farm. The team took into consideration the farm’s budget and how their proposed solutions fit within time and monetary constraints, and they also presented their progress, research, and plans for the farm’s future at a Bushelcraft Fundraiser Event, helping to raise enough funds for implementation of the new hoop house.

City of South Bend Division of Engineering Partnership Projects (South Bend)
For the second year, CCI partnered with the City of South Bend Division of Engineering to work on two projects. For the MS4 project, the team developed a Rapid Trash Assessment (RTA) Pilot Program, implementing at 12 sites around the city and analyzing the data to recommend future actions for each of the pilot sites to help improve the safety of all road users. The Complete Streets Initiative began in South Bend in 2015 to design roads with all users in mind providing infrastructure such as bike lanes, ADA accessible ramps, and more. The team created a scorecard to educate the public on the City’s implementation progress and analyzed crash data to quantify injuries and fatalities to ensure equitable distribution of future projects.

Advanced Manufacturing (Elkhart)
CCI interns worked closely with THOR Industries to research route optimization for electric RVs to help reduce gas emissions. This project largely entailed computer programming and the team’s main deliverable resulted in a computer code that calculates the complex variables involved in measuring how much electricity the RV is using based off of one route: Sacramento to Yosemite. Interns made recommendations for when and where they would need to find the nearest charging station—including considerations for convenience of the drive as well as nearby tourist attractions while the RV owners are charging their vehicle.

Downtown Vibrancy Initiatives (Elkhart)
Working with the City of Elkhart Development Services, the project team worked to collect Downtown Elkhart business inventory data to create a user-friendly interactive Geographical Information Systems (GIS) file for the City. This information will help inform the “bright” or “bight” spots of Downtown to inform future development projects. They also created an executive summary with their recommendations and developed a website outlining and organizing the team’s findings. Based on their recommendations, the city can determine what areas to further support and where to allocate funds for economic development to the community’s benefit.

Data Informed Decision Support

Advanced Manufacturing (Elkhart)
The dataMichiana project addressed equity issues through the usage of civic data and data visualization. The team worked with St. Joseph County Department of Health and the Tolson Center of Elkhart County to create interactive data layers and storyboards to address community needs using arcGIS. The overarching goal was to create digestible and interactive map layers highlighting concerns within the community, while creating storyboard narratives to provide additional guidance in understanding provided spatial data, which will be published on the dataMichiana website for public use.

Lead Service Lines (South Bend)
The Lead Service Lines Team partnered with the City of South Bend Divisions of Engineering and Water Works to assist them in gathering data on the materials of water service lines entering houses throughout South Bend. The team developed a questionnaire to collect information from individual homes and included educational materials and a step-by-step walk through for testing the water service line. Alongside this data, a rubric outlining how future funding could be allocated was created based on an analysis and was presented to the City. This is a framework the City can continue to use in the future.

Beyond Design Thinking (South Bend)
In 2022, the Center For Civic Innovation (CCI) was awarded a grant from the Judd Leighton Foundation to create a makerspace and develop and implement curriculum for a five day design thinking youth camp. For this project, the interns researched existing makerspaces and design thinking curriculum so that they could, in turn, implement a “pop up” makerspace and create daily lesson plans focused on design thinking. The team then implemented these lesson plans during a week-long camp for middle school students that took place at the Center for Civic Innovation makerspace.

Food Information Networks (FINs) - (South Bend)
FINs aims to help community members in St. Joseph County overcome geographical and financial barriers to healthy food access. Interns developed a survey to confirm previously identified shopper archetypes: menu, inventory, and adaptive shoppers. Additionally, they rolled out a pre-pilot program to have groceries delivered to a centralized location (food hub) for participant pick-up. The data gathered will be used to inform future food hub operations.

Michiana Community Health Coalition - (South Bend)
The Michiana Community Health Coalition (MCHC) is a regional partnership that aims to establish a stronger network between Community Health Workers (CHWs) and Certified Addiction Peer Recovery Coaches (CPARCs). This summer, the intern team worked towards understanding the needs of the coalition members by developing and executing a survey and focus groups. An analysis of the survey data and a comprehensive focus group report was compiled, and the findings and future recommendations were presented at the MCHC monthly meeting.
CCI Vision
The vision of CCI is an inclusive culture of innovation that fully engages University-Community partnerships for the common good across our region.

CCI Mission
“To address community-identified civic priorities in our region by integrating principles of design and innovation from engineering and the social sciences into interdisciplinary research and education projects.”

Thank you to our partners!
THOR Industries | Elkhart Community Schools | City of Elkhart | Bushelcraft Farm | Tolson Center for Community Excellence | Greater Elkhart Chamber of Commerce | City of South Bend | Riley High School | South Bend Regional Chamber | SOAR | 100 Black Men of Greater South Bend | 466 Works | Habitat for Humanity | Michiana Community Health Coalition

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- Michelle Sawwan, Research Associate
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- Madison Ward, Internship Program Manager - Elkhart
- Jenifer Eggleston, Administrative Assistant

cci 2022 internship program team

https://civicinnovation.nd.edu/about/leadership/

Summer Project Guides
Ellona Yoder, Elkhart High School Teacher (Elkhart)
Ben Brubaker, Riley High School Teacher (South Bend)
Jessica Kickbush, LaVille Jr./Sr. High School (South Bend)