# The Polis Center

*We bring things into perspective.™*

# ANNUAL
# REPORT
# FY2022

*Mission*
*The Polis Center works with our partners to define, measure, and actively improve community health, well-being, and resilience.*

The Polis Center is an applied research center with staff dedicated to researching and applying data and advanced information technologies, especially GIS, to help organizations "bring things into perspective."  We use geospatial technologies to integrate, manage, and visualize the rapidly growing information about the places where we live and work.

Our strengths are in community and place-based research, analysis, and collaboration. We create actionable information and apply informatics to design creative solutions with our partners to address pressing community issues, build data literacy, design better programs, and impact policy.

We build capacity in nonprofits, community-based organizations, government, and researchers to use these resources effectively for community good.

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# Executive Summary

The Polis Center collaborated with more than 210 organizations on research and projects this year, applying informatics solutions to "real-world" place-based policies and practices for healthier and more resilient communities. Our projects represent 47 active awards, totaling $7,839,632.

Polis focused on inequities as a major theme through its emphasis areas, continuing an effort begun in 2020-21 in response to national and local health and racial equity crises. The Center's work in this matter is guided by an equity research advisory committee comprised of experts and members of affected communities. The SAVI Equity & Data Hub is one of the most distinctive developments of this endeavor, an invaluable resource for Central Indiana decision-makers and news media. It features our research on equity in economic opportunity, housing, criminal justice, health, and more presented as articles, reports, maps, and charts. We also examined inequity in flood prone and non-flood prone areas.

We partnered on four major Community Informatics projects that encompassed 1) an analysis of city police budgets to inform the city budget process in spending and allocation for community violence reduction efforts; 2) the use of data and technology to advance local criminal justice reform and decrease racial and ethnic disparities in policing, diversion and alternatives to incarceration, and prosecution; 3) a City of Indianapolis and IUPUI assessment of the impact of the Coronavirus State and Local Fiscal Recovery funds from the American Rescue Act; and 4) helping the Indianapolis City-County Council (ICCC) make more strategic decisions and policy for District Crime Prevention Grants Program funding with data that addresses disparities rather than equally distributing funds. We also helped ICCC evaluate the City of Indianapolis' internal and performance measures and community outcomes related to equity.

We published three community trend reports and hosted three SAVI Talks in partnership with WFYI Public Media to provide meaningful insights on key equity issues. The Data & Drafts "after hours, over beer" community conversations, a collaborative effort with WFYI and the Indianapolis Public Library, reached an additional urban demographic with whom we shared highlights from this important research.

The Polis Center has been designated a research and data partner for a new project with the John Boner Center, which is funded by a $30 million U.S. Department of Education Promise Neighborhood grant. The aim of the Indy East Promise Neighborhood program is to ensure healthy and thriving children and families in the Near Eastside neighborhood. Our role is to provide actionable data to stakeholders by developing an integrated database of client data and SAVI's neighborhood data, annual trend reports, and dashboards. Polis has collaborated with the John Boner Center and other city partners on multiple ventures through the years to redevelop the Near Eastside neighborhood and improve the quality of life with affordable housing options, jobs, increased economic activity, crime reduction, and educational opportunities.

As a Federal Emergency Management Agency (FEMA) Cooperative Technical Partner (CTP), our Geoinformatics team updated flood risk maps to inform governmental policy, local permitting, and flood mitigation planning. Additionally, we completed several county Multi-hazard Mitigation Plans (MHMPs) on behalf of the Indiana Department Homeland Security (IDHS) to prevent or reduce losses from natural disasters by combining spatial analysis, modeling, and outreach. Polis also improved

# Polis Center activities and accomplishments during the past year include:

**44**

Community-focused projects and research initiatives worth $9.1 million ; 27 were new contracts & grants worth $3.8 million

**50**

Students received experiential learning opportunities through Polis

**860**

Professionals and community organizers attended data events and input sessions

**405+**

Community members and professionals trained in geospatial data and tools

**63,000**

Visits to our websites, 19,100 uses of our data tools, and 44,000 reads of our reports.

**90**

People received support using data to inform decisions and measure impact

**207**

Community advisors for our research, technology, and programs

**17**

Social determinants of health research collaborations

**44**

Mentions of our research in media

access to statewide geospatial data through the Indiana Data Harvest Project. For the Wisconsin Emergency Management Agency, the Center assessed potential economic and social impacts of the 100-year flood.

In association with the IUPUI Department of Geography and the Indiana Poison Center, our Community Health Informatics team completed a pilot Chemical Surveillance System project. Polis integrated clinical and laboratory data for drug overdose emergency room patients and developed novel, interactive visualizations for public health surveillance of the compounds involved in drug

overdoses cases in Marion County. We also completed Phase 1 of a three-year effort for the State of Aging in Central Indiana Project studying senior adult needs, population trends, and vulnerabilities for the fastest growing demographic in Central Indiana. This project is a partnership with the Central Indiana Senior Fund, a fund of the Central Indiana Community Foundation. The team is updating 2021 report chapters as part of Phase 2, researching and drafting analyses on new areas of concern such as aging and transportation, coordinating guest blogs by local experts in the aging field, and planning community engagement forums to share highlights of our research.

The Digital Encyclopedia of Indianapolis legacy project of the Indianapolis Bicentennial launched in December 2021. Polis partnered with the city's major cultural and heritage institutions to develop the platform, which is now housed at the Indianapolis Public Library. Additional support for the project allows us to continue updating content with new entries, develop a guide to Unigov, and build a specialized technical framework to accommodate a wide variety of exhibit content types, including 3D and possibly Augmented Reality. This Gallery Module template will allow development of exhibits and similar content from various community organizations to showcase highlights from special exhibitions. Initial featured exhibitions will include The Hoosier Group, Indiana's Impressionist Painters, and Murals for Social Justice.

The Polis Center continued its support of the Lilly Endowment Inc. Religion & Urban Culture 2.0 project, which included assisting the research team and providing communications, web development, and administration. Our remaining work on the project includes a new SAVI mapping module that allows users to map their own address data. This element will be useful to congregations as well as nonprofits in general. The module is in beta form presently and will be launched for the public in September 2022.

We expanded student engagement and mentoring by working with more than 70 student scholars this year. The students were from IU School of Informatics & Computing at IUPUI (SoIC) departments such as Health Informatics, Computer Science, and Media Arts & Science; the IU Richard M. Fairbanks School of Public Health; Herron School of Art and Design at IUPUI; the School of Liberal Arts at IUPUI; IU Bloomington Data Science; Valparaiso University; IUPUI Environmental Science; IUPUI Geography; and IU School of Science at IUPUI. The opportunities provide students practical application of the skills they are learning, giving them an edge for their post-graduation job search efforts. In addition, Polis continues to develop of a suite of courses to be taught within a graduate specialization in Crisis Informatics in the SoIC Master of Science program in Applied Data Science. We plan to offer our first course, Modeling Crisis, in Spring 2023.

The Polis Center was recognized locally and nationally for its exceptional and important work. We received both the Census Bureau Open Data for Good Grand Challenge Award and the Indiana Geographic Information Council's (IGIC) Special Achievement Award for our work on the SAVI Covid-19 Impact Index measuring health and economic effects on Marion County residents. The National States Geographic Information Council (NSGIC) awarded the Indiana Data Harvest team (which included Polis), the 2021 Geospatial Excellence Catalyst Award. Polis also was  nominated for the TechPoint Mira Community Impact Award for developing the State of Aging in Central Indiana portal. In addition, local media continues to acknowledge the value our work brings the community by using Polis resources for stories covering topics like race, diversity, housing, transportation, health, life expectancy, crime, food insecurity, financial inequities, COVID-19, and more.

# Emphasis Area Activities

Polis Center programs occur under three categories—Geoinformatics, Community Informatics, and Community Health Informatics—and a special research area, Spatial Humanities.

Each of the three emphasis areas is responsible for generating funding for its programs, and all three work together to enhance the capacity and resiliency of Indiana communities.

# Geoinformatics

The Polis Center performs an important function assessing different types of vulnerabilities and needs for local, state, tribal and federal government, the private sector, and nonprofits. We reinforce community efforts to prevent or reduce losses from natural disasters by combining geospatial analysis, modeling, and outreach activities. Our crisis informatics initiatives support disaster preparedness, mitigation, response, and recovery activities. Polis designs and develops information systems through which to explore the interconnectedness of people, place, community, information, and technology. We also design and implement research to evaluate the physical, social, and economic impacts of hazards.

## Key Accomplishments

- Concluded the annual State of Indiana Data Harvest Project. Polis managed the integration and improvement of geographic information from all 92 counties into statewide datasets.
    - » 525,458 street centerlines
    - » 3,146,263 address points
    - » 3,615,020 parcels
    - » 11,609 administrative boundaries
    - » 92 county boundaries
- Completed FEMA flood map drafts for areas covering Bartholomew, Greene, Jackson, Pike, and Washington counties. We also wrapped up preliminary versions of the Flood Insurance Rate Map (FIRM) and Flood Insurance Study (FIS) reports for Grant and Wells counties and delivered those to community officials.
- Updated 12 Indiana county MHMPs, a process that usually takes a little more than a year from start to finish. Three plans are with IDHS for review. Two plans have been approved by FEMA and adopted by most of the participating communities.
- Polis finished a project in partnership with the University of Wisconsin Space Science and Engineering Center that produced an assessment of flood risk for all Wisconsin counties in support of the Wisconsin State Emergency Management Agency's State Hazard Mitigation Plan Update. The project leveraged a combination of existing and new data to define and assess potential economic and social impacts of a 1% annual chance flood (aka "100 Year Flood"), the measure commonly used to evaluate and guide flood risk decision-making in support of hazard mitigation.

## Major Projects

*We supported community disaster efforts for Indiana*
- Polis continued CTP work on a variety of projects related to the FEMA Risk MAP program. The Risk MAP program provides communities with flood mapping products and risk assessment tools to enhance their mitigation plans to better protect citizens and make informed decisions about reducing risk. Polis has received federal grants through the CTP program every year since 2017 and worked on Risk MAP projects since 2010. These grants support the Indiana Department of Natural Resources (IDNR) effort to update Indiana flood maps. The 2020 grant included funding to conduct discovery for multiple watersheds across 21 counties. The 2021 grant expands that effort to additional watersheds which intersect seven counties. The 2020 and 2021 grants both include the development of draft and preliminary datasets for portions of the Upper White River watershed (crossing Delaware, Hamilton, Henry, Randolph, Tipton, Marion, and Madison counties) and the Lower Wabash watershed (Vanderburgh County).

- After creating a building footprints layer for the State of Indiana from lidar last year, the Geoinformatics team is working with a large group of students to validate the footprints near rivers. These footprints will be used to assess the risk of flooding on a structure level.
- We continue investigation with the SoIC Data Science area of the use of machine and deep learning to identify the use of buildings. Currently, the team is trying to perform some simple classification of buildings—such as agricultural, commercial, and residential—with the aim of classifying the buildings into sub-categories. In addition, the U.S. Army Corps. of Engineers (USACE) approved an Interagency Nonstructural Flood Risk Management grant to verify the accuracy of and augment the building footprints. The project kick-offed June 24, 2022, and included participants from USACE – Louisville District, IDNR, and IDHS. Polis, IDNR, and IDHS do not receive funds for this project, but will provide subject matter expertise to the Corps.
- In collaboration with two teams of Data Science graduate students at IU Bloomington, we explored equity in floods. The team compared demographic information between flood prone and non-flood prone areas using FEMA's special flood hazard areas, Indiana Department of Local Government Finance's assessor data, and Census data.

## Education and Capacity Building

*Polis developed and taught disaster resiliency practitioner courses and workshops that build competencies in the identification of natural hazards, analysis of their potential economic and social impacts, and solutions in mitigating those impacts. Highlights this fiscal year include:*
- Continued development of a suite of courses to be taught within a graduate specialization in Crisis Informatics in the SoIC Master of Science program in Applied Data Science. The Crisis Informatics specialization will expand the career opportunities of students and degree holders from both technical and nontechnical disciplines by enabling them to apply data science skills specifically to addressing crises and more generally to other domains. We plan to offer our first course, Modeling Crisis, in Spring 2023.
- Delivered a multi-day virtual workshop for FEMA Region X, part of a series of related customized workshops that demonstrate how to use current research, methods, and spatial technologies to understand and mitigate social and economic hazards related to earthquakes and riverine and coastal flood hazards. FEMA Region X oversees federal management for 271 tribal nations and Alaska, Idaho, Oregon, and Washington states.
- Provided a series of customized multi-day workshops for the Florida Division of Emergency Management that demonstrate how to use current research, methods, and spatial technologies to understand and mitigate social and economic hazards related to hurricane winds and flooding.

## Other Notable Achievement

- The National States Geographic Information Council (NSGIC) awarded the Indiana Data Harvest team the 2021 Geospatial Excellence Catalyst Award. The Catalyst Award recognizes "extraordinary effort and/or results in getting things done." In addition, the IGIC awarded its Special Achievement recognition for the effort. Polis' role in the initiative included processing, standardizing, and augmenting contributed data with additional information, integrating the data into the state's internal databases, developing a new statewide geocoder, finalizing documentation, and making the data available to the public for download.

## Presentations/Workshops

- "Indiana Data Harvest Lessons Learned," Marianne Cardwell and Shaun Scholer, Indiana

Geographic Information Office (IGIO), and Charline Avey, TechHow, LLC. IGIC conference, Muncie, IN. May 23-25, 2022.

- "Structure Level Floodplain Analysis and Flood Elevation Points in Indiana," Marianne Cardwell and Dave Knipe, IDNR Division of Water Director. IGIC conference, Muncie, IN. May 23-25, 2022.
- "Modeling Risk with Hazus-MH: Fundamentals and Beyond," Kevin Mickey and Shane Hubbard, University of Wisconsin. Florida Division of Emergency Management facility, Tallahassee, Florida. April 19-22, 2022.
- "Structure Level Floodplain Analysis and Flood Elevation Points in Indiana," Marianne Cardwell and Dave Knipe. Stay Afloat conference, Indianapolis, IN. March 16, 2022.
- "Beyond Traditional Hazard Risk Analysis," Kevin Mickey with Shane Hubbard. Florida Division of Emergency Management facility, Tallahassee, Florida.  March 8 to 10, 2022.
- "Using Geospatial Technologies to Describe and Measure Risks and Vulnerabilities from Florida Hurricanes," Kevin Mickey and Shane Hubbard. Florida Division of Emergency Management facility, Tallahassee, Florida. January 25-27, 2022.
- "How can geospatial data and technologies help you," Marianne Cardwell, Sharon
- Kandris, and Jinha Jung, Associate Professor at Purdue's Lyle School of Engineering. 2022 Indiana Arborist Association conference, Indianapolis, IN. January 25, 2022.
- "Using Geoinformatics at The Polis Center," Marianne Cardwell. Purdue University's Lyles School of Civil Engineering, Indianapolis, IN. December 1, 2021.
- "Indiana Data Harvest: Past, Present, and Future," Marianne Cardwell and Shaun Scholer. Indiana's State GIS Day, Indianapolis, IN. November 17, 2021.
- "2021 Government Geospatial Coordinator's Forum," Marianne Cardwell and Kevin Mickey. 2021 Government Geospatial Coordinator's Forum, Indianapolis, IN. October 17, 2021.
- "Fostering a GIS Community Equipped to Improving Community Resilience," Kevin Mickey. Urban and Regional Information Systems Association (URISA) GIS Pro Conference, Baltimore, Maryland. October 4, 2021.
- "Decrypting Risk, Resilience, Social Vulnerability Data and Indices Workshop," Kevin Mickey, Norm Levine, Shane Hubbard, and Theresa Martin. URISA GIS Pro Conference, Baltimore, Maryland. October 3, 2021.
- "How Can GIS and IGIC Help You," Marianne Cardwell, Trohn Enright-Randolph, Second Vice President, IGIC, and Tom Maggard, IGIC Historian. 2021 Indiana Association for Floodplain and Stormwater Management (INAFSM) conference, Evansville, IN. September 15-17, 2021.
- "Collecting and Managing Data to Support Hazard Risk Assessment," Kevin Mickey and Shane Hubbard. FEMA CTP webinar. August 16-19, 2021.
- "Structure Level Floodplain Analysis and Flood Elevation Points in Indiana," Marianne Cardwell and Dave Knipe. Burke Engineering Webinar Series. July 22, 2021.
- "Indiana Data Harvest," Marianne Cardwell and Megan Compton, Indiana Geographic Information Officer (IGIO). Two-part webinar series. June 23 and July 28, 2021.

## Articles

- Romo F., Mickey, K., Steinberg, S., Layko, R. (2021). "At all Career Levels, Mentoring Drives Success." ArcNews, Esri. November 2021.

## Associations and Professional Appointments

- Indiana Geographic Information Council (IGIC), Member and Marianne Cardwell, President, Critical Infrastructure Board Member

- Indiana Math and Science Academy, Jim Sparks, Vice Chair of Board of Directors
- Urban and Regional Information Systems Association (URISA), Kevin Mickey, President (October 2019-October 2021); Immediate Past President (October 2021- October 2022); and Chair, Leadership Development Committee (October 2021- October 2022)
- North American Alliance of Hazards and Disaster Research Institutes, Member
- Association of State Floodplain Managers, Member
- Indiana Association for Floodplain and Stormwater Management, Member
- National States Geographic Information Council (NSGIC), Member
- Indiana Silver Jackets (a federal state coordinating body, Member. Through this group, we coordinate and facilitate activities related to mitigation of flooding in Indiana. Member organizations in addition to Polis include: Indiana Department of Homeland Security; Indiana Department of Natural Resources; Indiana Department of Transportation; Indiana Geographic Information Office; Indiana Finance Authority; Indiana Office of Community and Rural Affairs; U.S. Army Corps of Engineers Louisville; U.S. Geological Survey; National Weather Service; FEMA Region V; Center for Earth and Environmental Science; IUPUI; Indiana Geological and Waters Survey; Association of State Floodplain Managers; and Christopher B. Burke Engineering.

## Diversity Equity & Inclusion (DEI) efforts:

*Workshops*
- Staff attended several professional development workshops and webinars over the past year on DEI topics.

*Research*
- In collaboration with two teams of Data Science graduate students at IU Bloomington, we explored equity in floods. The team compared demographic information between flood prone and non-flood prone areas using FEMA's special flood hazard areas, Indiana Department of Local Government Finance's assessor data, and Census data.

*Service*
- In Kevin Mickey's role as URISA President and now Immediate Past President, he encouraged and supported the development of workgroups, such as URISA's Pro Equity and Anti-Racism Committee, charged with identifying ways for the organization to incorporate DEI considerations into all aspects of its work.
- Several Polis staff members participate in the SoIC DEI committees.
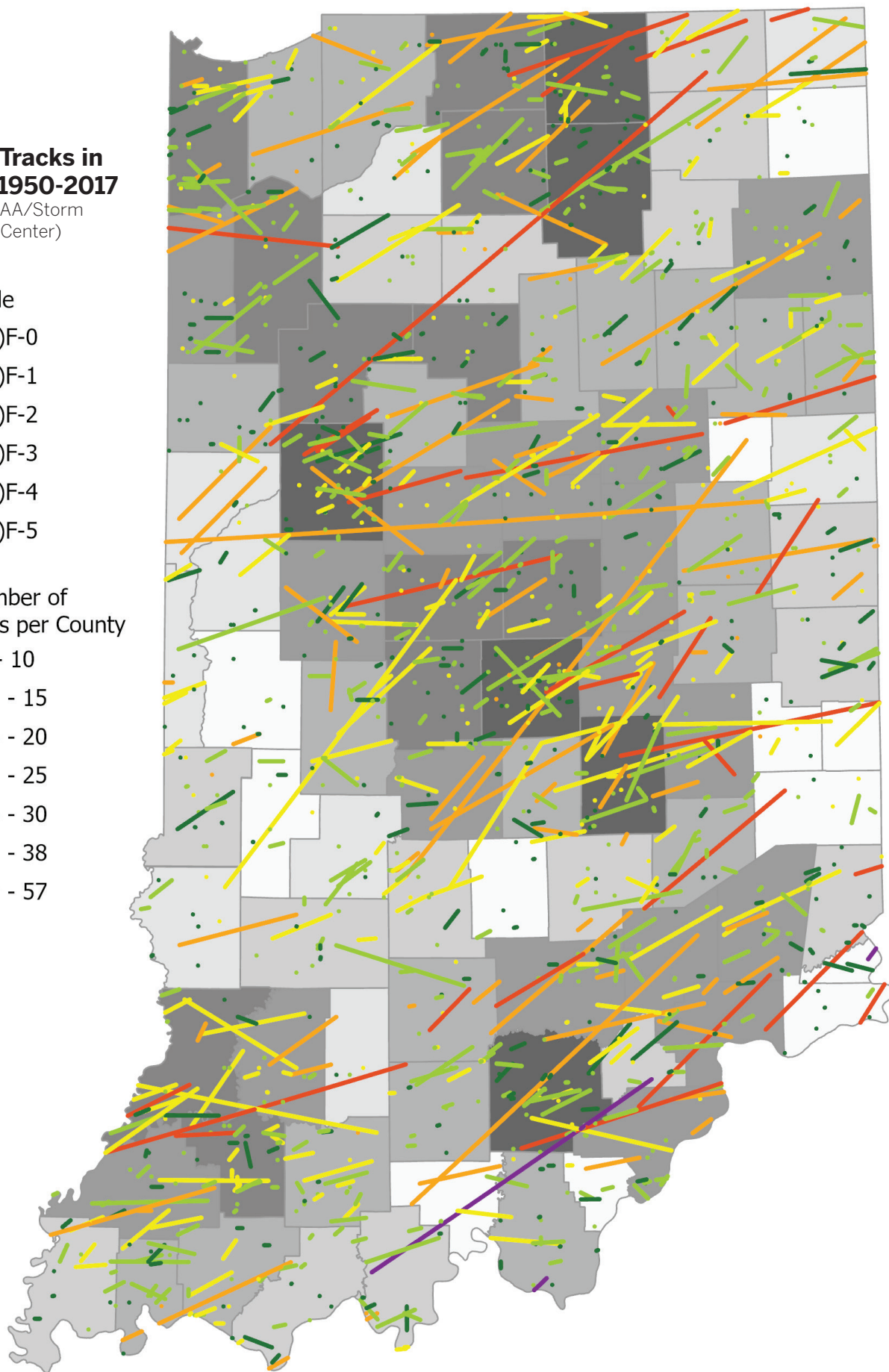
**TornadoTracks in Indiana 1950-2017**
(source: NOAA/Storm Predication Center)

Magnitude

— (E)F-0
— (E)F-1
— (E)F-2
— (E)F-3
— (E)F-4
— (E)F-5

Total Number of Tornadoes per County

- 4 - 10
- 11 - 15
- 16 - 20
- 21 - 25
- 26 - 30
- 31 - 38
- 39 - 57

Historic tornado paths, *2019 State of Indiana Standard Multi-Hazard Mitigation Plan*

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SAVI

# COMMUNITY TRENDS

## EQUITY AND CRIMINAL JUSTICE
### THE CRADLE TO PRISON PIPELINE IN INDIANAPOLIS

Authors: Rebecca Nannery, Erik Steiner, Sarah Smith, Unai Miguel Andres, Jay Colbert, Matt Nowlin

# *Community Informatics*

The Polis Center creates community intelligence to support the decision-making process with and for nonprofits, community-based organizations, and government. We build solutions grounded in data, research, and community process. Our work includes building community information systems and decision-support tools, transforming data to extend its utility, developing and analyzing community data to understand social issues and how they affect communities, bringing academic research to practical applications, fostering data literacy, and building capacity in others to use information for decision-making.

## Key Accomplishment

Polis developed the SAVI Equity Data and Information Hub, which features our research on equity in Central Indiana in economic opportunity, housing, criminal justice, health, and more. It was created in response to the national and local racial equity crises. Hub content includes information from recent and future SAVI Talks events and reports, an equity data profile for Central Indiana, equity measures, and previous research on equity. This fiscal year, we published three reports, four articles, and hosted four events as part of the Hub content. This research spanned topics such as aging, criminal justice, and affordable housing.

## Major Projects

*Increased data literacy and built capacity in the nonprofit community to use data operationally and strategically.*
- The SAVI community information system entered its 28th year of serving nonprofit and community-based organizations in Central Indiana by providing reliable data about communities, creating actionable information, developing tools for data analysis, and building capacity of nonprofit and community-based organizations to use data effectively. We built capacity for data use through 47 requests for support and 225 training participations. We held 21 trainings data literacy workshops as part of a 20-hour training curriculum, including nine hands-on modules that teach participants basic skills to find, analyze, and interpret data to make informed decisions. SAVI enjoyed 63,000 website visits; 19,100 tool uses; and 44,000 analysis reads.

*Hosted community conversations and provided meaningful insights on key issues*
- Three community trend reports and SAVI Talks public presentations in partnership with WFYI Public Media and one Data & Drafts "after hours, over beer" community conversations in collaboration with WFYI, The Indianapolis Public Library, and SAVI with support from the Civic Switchboard and beer provided by Sun King Brewery.
  - » SAVI Talks: Who is in the Marion County Jail? Exploring Length of Stay through an Equity Lens. We examined inmate and booking data obtained from the Marion County Sheriff's Office. Our analysis explored racial disparities, length of stay, access to bail, and the presence of mental health and substance use among Indianapolis jail inmates. The subsequent findings informed the identification of promising approaches to addressing the size of the local jail population and the needs of those impacted by incarceration. 154 participants. June 16, 2022.
  - » Data & Drafts: Home Loan and Redlining. We shared highlights from Modern Redlining in Indianapolis, our analysis of racial and geographic differences in loan denial rates. 55 attendees. April 14, 2022.
  - » SAVI Talks: Equity and Criminal Justice. Research shows that beginning from birth, various factors including disability, race, gender, and economic status result in disproportionate

impact on subpopulations in a way that makes them more likely to engage with the criminal justice system. These factors and policies that alleviate or compound existing inequities were examined using the Cradle to Prison Pipeline framework. 153 participants. November 18, 2021.
- » SAVI Talks: Worlds Apart 2.0: Gaps in Life Expectancy in Central Indiana. We updated our 2015 analysis that revealed a 14+ year gap in life expectancy between the longest and shortest living communities in Central Indiana. This event was a partnership with Polis, SAVI, WFYI, IU Richard M. Fairbanks School of Public Health, and the Central Indiana Senior Fund, a fund of the Central Indiana Community Foundation, Inc. 126 participants. August 26, 2021.

*Partnerships to address inequities*
- The Urban Institute awarded Polis an $80,000 grant as part of an 18-month cross-site study funded by the Tableau Foundation to analyze city police budgets. We are pairing Indianapolis police budget data with SAVI's neighborhood demographic and socio-economic data to understand inequities in spending and allocation. The results will inform the city budget process and how and where funding is allocated for violence reduction efforts within the community.
- The initiative, "Analyzing Data to Advance Police Reform in Indianapolis," with Faith in Indiana is one of nine local projects selected to participate in the newly launched Catalyst Grant Program (through the Urban Institute and Microsoft Justice Reform Initiative). The goal is to use data and technology to advance local criminal justice reform and decrease racial and ethnic disparities in three areas: policing, diversion and alternatives to incarceration, and prosecution.
- IUPUI was selected by the City of Indianapolis as its research and evaluation partner to measure the impact of 80 programs funded through $320 million in Coronavirus State and Local Fiscal Recovery funds from the American Rescue Act. IUPUI Office of Community Engagement is managing the effort with collaborators IU Public Policy Institute, Indiana Business Research Center, and Polis. Polis is leading the research and evaluation plan and the analysis for the project.
- In partnership with the Indianapolis City-County Council, Polis analyzed neighborhood data to understand spending allocation inequities for community violence reduction effort and provided training and technical assistance to council staff. Polis also is supporting the council's efforts to continuously measure equity-- both in terms of the city's internal performance measures and community outcomes—and define success and associated measures of equity.

*Supported teaching, learning, and research at IUPUI*
- Presentations and workshops
    - » "Tips for preparing for the Project Management Professional (PMP) certification and careers," Kim Sarver. Purdue School of Engineering graduate course, Integration of Project Management for Leaders, Indianapolis, IN. March 10, 2022.
    - » "SAVI," Unai Miguel Andres. IU School of Public Health course, Research Methods in Community Health course, Indianapolis, IN. November 29, 2021.
    - » "SAVI," Unai Miguel Andres and Matt Nowlin. Fall 2021 SoIC Design Sprint: Conceptualizing the 21st Century Neighborhood, Indianapolis, IN. October 29-November 15, 2021.
    - » "Polis Center Resources," Sharon Kandris and Matt Nowlin. IUPUI New Faculty On-boarding Orientation webinar hosted by Academic Affairs, Indianapolis, IN. Oct. 29, 2021.
    - » "Segregation and Redlining," Unai Miguel Andres and Jeramy Townsley. DePauw University course, Intro to Sociology, Greencastle, IN. October 15, 2021.
    - » "SAVI's Community Assessment Tool," Jay Colbert. IU School of Social Work, Indianapolis, IN. September 14, 2021.

*Continued to support the data and information needs of several community partners through research, analysis, and online data tools*

- Developed four articles in which we examined population growth and racial composition in Marion County, affordable rental housing, modern redlining in Indianapolis, and the state of tenants in Central Indiana.
- Polis is a partner in the John Boner Center U.S. Department of Education five-year $30 million Promise Neighborhood grant to ensure healthy and thriving children and families in the Near Eastside neighborhood. Our role is to provide actionable data to stakeholders by developing an integrated database of client data and SAVI's neighborhood data, annual trend reports, and dashboards.
- Polis continues its partnership with United Way in Fox Cities, WI. We are entering the third phase of updating metrics for the Leading Indicators for Excellence (LIFE) Study.
- Updated Community Profiles with new features. We now suggest prominent data in the community selected. Users can also search and sort saved profiles to easily find their work. Maps can expand to full screen, making it easier to focus on maps or charts and we simplified the user interface and fixed bugs.
- Updated vulnerabilities and assets to the SAVI platform and Profiles. These releases include:
  » 2020 Juvenile charge statistics
  » 2019 Education data describing attendance, graduation, and exam results by school and corporation
  » 2020 Building permits for Marion County and data from the Indianapolis Dept. of Business and Neighborhood Services
  » 2020 Home mortgage disclosure data for Central Indiana
  » 2020 Property assessment and tax data for the entire state
  » Health data from Center for Disease Control (CDC) Places Project and the Behavioral Risk Factor Surveillance System (BRFSS) via County Health Rankings
  » Flood data from FEMA
  » Subsidized housing data from the National Housing Preservation Database
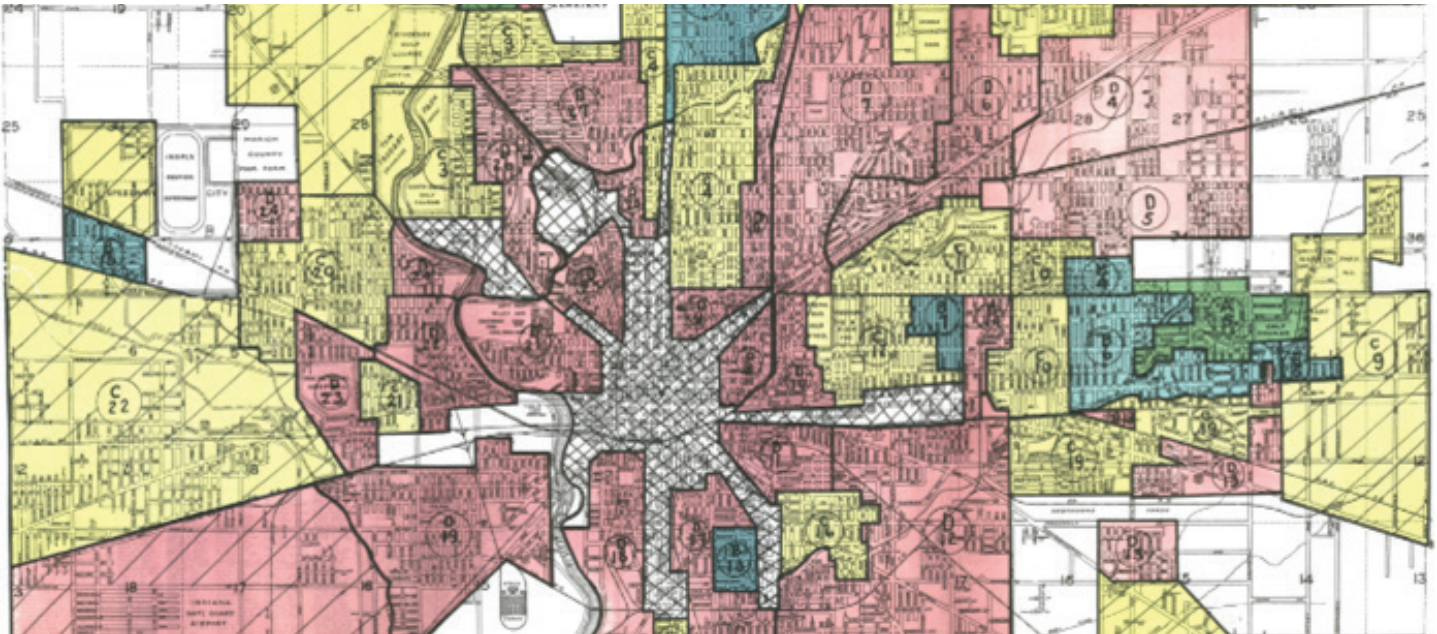  » International exports from the International Trade Administration

## Other Notable Achievements

- The Polis Center received a Census Bureau Open Data for Good Grand Challenge Award and a Special Achievement Award from IGIC for the SAVI COVID-19 Impact Index, which measures the effects on Marion County residents. The index was created as part of SAVI's research, " Health and Economic Impact of COVID-19 on Neighborhoods." The research and data are available on SAVI's Coronavirus Data Hub , where it remains active and available online. The Open Data for Good Grand Challenge was inspired by The Opportunity Project, a program of Census Open

Innovation Labs at the U.S. Census Bureau. It rewards the most creative and high impact uses of open data in digital tools that solve problems for the public.

- The Polis Center and SAVI are acknowledged for providing support for American Made: What Happens to People When Work Disappears, written by Pulitzer Prize-winning New York Times journalist Farah Stockman. Polis shared census records and city neighborhood data for the book, which explores the impact on former employees and the community when the Rexnord bearing plant closed in Indianapolis, moving production out of the U.S. The book was featured in the October 28, 2021, WFYI and Random House virtual book talk with Farah Stockman and WFYI's "All In" host Mariam Sobh.
- The SAVI team continues to work on the SAVI Strategic Plan, engaging technology experts and stakeholders in conversations about the future technology design, governance, and sustainability models for SAVI. Among other ideas, we are exploring a licensing model for replicating SAVI modules in other communities, with active conversations in Evansville, IN; Portage, WI; and Fox Cities, WI.

## Diversity Equity & Inclusion (DEI) Efforts



*1937 redlining map shows the home owner loan corporation (HOLC) grades in Indianapolis.*

*Workshops*
- Several team members attended DEI workshops, participated in a year long IUPUI Next Gen 2.0 leadership program with DEI elements,

*Research Initiatives*
- SAVI Equity Data & Information Hub
- Collaborating on four projects
    » Urban Institute/Tableau Foundation project grant to analyze city police budgets
    » Faith in Indiana Catalyst Grant program, Analyzing Data to Advance Police Reform in Indianapolis
    » City of Indianapolis American Rescue Act analysis on impact of Coronavirus State and Local Fiscal Recover Funds
    » Indianapolis City-County Council analysis of spending allocation for community violence

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reduction efforts and measuring equity of City's internal performance measures and community outcomes
- Produced three reports
    - » Worlds Further Apart
    - » Equity and Criminal Justice: The Cradle to Prison Pipeline in Indianapolis
    - » Who is in the Marion County Jail? Exploring Length of Stay through an Equity Lens
- Developed four articles
    - » Our Changing City Block by Block
    - » A Deep Dive into Affordable Rental Housing
    - » Modern Redlining in Indianapolis
    - » The State of Tenants in Central Indiana
- Community Engagement (community forums)
    - » August 2021 SAVI Talks: Worlds Apart 2.0: Gaps in Life Expectancy in Central Indiana
    - » November 2021 SAVI Talks: Equity and Criminal Justice
    - » April 2022 Data & Drafts: Home Loan and Redlining
    - » June 2022 SAVI Talks: Who is in the Marion County Jail? Exploring Length of Stay

## Select Presentations

- "The Polis Center's community engagement practices and processes," Matt Nowlin. Marion County Public Health Department, Indianapolis, IN. March 15, 2022.
- "Polis Center community outreach initiatives and geospatial expertise," Sharon Kandris. Naval Surface Warfare Center, Crane Division, IUPUI, Indianapolis, IN. February 28, 2022.
- "SAVI Equity Data and Information Hub," Sharon Kandris and Matt Nowlin.  Indiana Pandemic Information Collaborative (IPIC) Community Work Group. November 16, 2021.
- "Increase Your Data Literacy," Rebecca Nannery and John Marron, City Strategies. Prosperity Indiana, Indianapolis, IN. November 3, 2021.
- "IndianaImpact.org and other SAVI resources," Sharon Kandris and Matt Nowlin. Indiana United Ways Executive Roundtable. September 16, 2021.
- "Making SAVI More Useful to You," Sharon Kandris and Matt Nowlin. Series of meetings with community and university stakeholders to inform the SAVI Strategic plan, Indianapolis, IN. August 2021.
- "SAVI research on differential economic outcomes and the challenges of moving out of poverty," Sharon Kandris, Matt Nowlin, and Erik Stiner (Stanford). Nina Mason Pulliam Charitable Trust leadership team. July 28, 2021.

## Associations

- IU School of Information and Computing-IUPUI (SoIC) School of Library and Information Sciences Advisory Board, Member, Sharon Kandris
- Indianapolis Public Library CEO search committee, Member, Matt Nowlin
- American Association of Geographers, Member
- American Planning Association, Member; Environment, Natural Resources and Energy Division Communications Chair
- Indiana United Ways, Asset Limited, Income Constrained, Employed (ALICE) Research Advisory Committee, Member
- City of Indianapolis Government Alliance on Race and Equity, Member
- Indy Women in Tech, Member

- IUPUI Diversity Enrichment & Achievement Program (DEAP), Member
- IUPUI Black Faculty and Staff Council, Member
- National Neighborhood Indicators Partnership (NNIP, Urban Institute, Washington, DC), Member
- Women & Hi Tech, Member

## Community Advisors

Our project diversity requires that we operate several advisory boards to achieve the best and most relevant advice for work. Below is a list of our advisors.

*2022 SAVI Technology Advisory Board*
- Matt Selm (Chair), VP of Programs, SIM Indy and Program Director of Data Science, Anthem
- Louise Hughes, VP of Service Delivery, OneBridge
- Sequeira Leslie, Chief Information Officer, Patrick Industries
- Aaron Neal, Assoc. VP, Enterprise Systems, IU university Information Technology Services
- Mathew Palakal, Sr. Exec. Assoc. Dean and Professor, IU School of Informatics and Computing at IUPUI
- Elliot Patrick, Chief Information Officer, Information Services Agency (ISA), City of Indianapolis, Marion County
- Bryan Zaczek, Principal Data Scientist, Indiana Management Performance Hub

*SAVI Equity Advisory Committee*
- Imhotep Adisa, Executive Director, Kheprw Institute
- Rachel, Santos, Indiana Latino Institute
- Gurinder Hohl, CEO Immigrant Welcome Center
- Allison Luthe, Executive Director, MLK Center Indy
- Robin Turner, Associate Professor of Political Science, Butler University
- Carly Weidman, Manager of Community Engagement, WFYI

# Community Health Informatics

The Polis Center builds local, state, and national capacity for understanding and addressing the upstream determinants of community health. Our research and development inform community health improvement planning, population health management, public health intervention, patient-centered decision-support, and health policy.

## Key Accomplishment

We collaborated with the healthcare, public health, nonprofit, philanthropic, government, and academic sectors to advance the generation and use of place-based information for improving health and well-being in Indiana and beyond.

## Major Projects

*Built the capacity of local stakeholders to identify and address community health needs*
We completed Phase 1 of a three-year effort for the State of Aging in Central Indiana Project studying senior adult needs and vulnerabilities. With older adults the fastest growing demographic in Central Indiana, it is important to understand the population trends, notable changes, and basis needs of this demographic. As research partner for the Central Indiana Senior Fund, a fund of the Central Indiana Community Foundation, Polis led a major study of the needs and vulnerabilities of senior adults in Central Indiana, resulting in the *2021 State of Aging in Central Indiana Report* (SoAR), multiple research briefs, community forums, and an online information portal with older adult population profiles. These premier sources of data related to aging in Central Indiana provide community leaders, decision-makers, older adult-serving entities, and philanthropic organizations place-based information to identify needed programs, funding, and policies.

- Community Engagement Forums
  - » Living in the Community with Dementia. A discussion of the many challenges faced by the growing number of older Hoosiers living with dementia in the community. 300 registrants and 247 attendees. February 10, 2022.
  - » Worlds Further Apart. Presentation of "Worlds Further Apart: The Widening Gap in Life Expectancy among Communities of the Indianapolis Metropolitan Area" analysis followed by a panel discussion of the many challenges faced by the growing number of older Hoosiers living with dementia in the community. 259 registrants and 126 attendees. August 26, 2021.
- Reports
  - » Living in the Community with Dementia, February 8, 2022.
  - » Financial Stability and Housing: A State of Aging in Central Indiana Research Brief, December 16, 2021.
  - » Gaps in Life Expectancy Across the Lifespan, September 23, 2021.
  - » Worlds Further Apart: The Widening Gap in Life Expectancy among Communities of the Indianapolis Metropolitan Area, August 2021.
  - » SNAP usage changes in the State of Indiana between 2019 and 2021, July 12, 2021. For the Indiana Family and Social Service Administration (FSSA).
- Blogs
  - » "Purpose to get up and get going": Grandparents play vital role as childcare providers" September 10, 2021.
  - » "We need teamwork to help older adults meet their housing needs," April 18, 2021.

- In partnership with the IUPUI Department of Geography and the Indiana Poison Center, we completed the pilot Chemical Surveillance System project. As part of this project and with funding from the IU Addictions Grand Challenge, Polis integrated clinical and laboratory data for drug overdose emergency room patients and developed novel, interactive visualizations for public health surveillance of the compounds involved in drug overdoses cases in Marion County.

*Supported biomedical research at IUPUI*
- Curated an extensive collection of datasets on social, cultural, economic, and environmental factors and translated those into place-based measures to examine determinants of health.
- Partnered with multiple IU School of Medicine (IUSM) research teams and individual faculty and medical students on study design and indicator development to investigate determinants of disease incidence, survival, and mortality for distinct projects focused on:
  » Pediatric asthma
  » Pediatric brain cancer
  » Multiple myeloma
  » Lung cancer
  » Liver cancer
  » Kidney disease
  » Adult asthma
  » Chronic inflammatory disease

*Created information and innovative tools and approaches for community-engaged health intervention*
- Redesigned and updated the Diabetes Impact Project (DIP-IN) Community Profiles in partnership with the IU Richard M. Fairbanks School of Public Health (FSPH), to provide community stakeholder with enhanced access and updated information regarding local diabetes risk factors.
- Collaborated with IU Health, the Indiana Clinical and Translational Sciences Institute (CTSI), and the FSPH on a plan for leveraging the DIP-IN project along with Polis data engagement approaches to support the design and implementation of community-engaged cardiovascular disease interventions.

*Developed innovative tools and approaches for population health management and patient-centered decision support*
- Enhanced the web service used for secure, daily geocoding of patient addresses from the Indiana Network for Patient Care with the ability to attach clinical records with attributes based on geographic boundaries developed by the U.S. Census Bureau for the 2020 decennial census.

*Collaborated on research proposals for local and federal funding*
- With IU Precision Health and the Department of Biostatistics and Health Data Science, a pilot project proposal to the IU Melvin and Bren Simon Comprehensive Cancer Center for predictive modeling of the social determinants of multiple myeloma.
- Four proposals to the National Science Foundation (NSF) to develop research cores for the Artificial Intelligence (AI)/Machine Learning (ML) Consortium to Advance Health Equity and Researcher Diversity program (AIM AHEAD). The goal of the AIM-Ahead program is to increase participation of researchers and communities underrepresented in the development of AI/ML models and to enhance the capabilities of this emerging technology, beginning with electronic health record data. Our collaborative AIM AHEAD research submissions included:
  » "Convergence of Use-Inspired and Data-driven AI/ML for Health Equity," a data and research core proposal, led by the University of Notre Dame and including IU Network

Science Institute, CTSI, IU School of Medicine Division of Children's Health Service Research, IU Kelly School of Business, Purdue University Regenstrief Center for Healthcare Engineering, and the Regenstrief Institute.

  » "GATEWAYS," an infrastructure core proposal led by Arizona State University and including Georgia Institute of Technology (Georgia Tech), Penn State University, Temple University, University of Virginia, University of Arizona, University of Alabama at Birmingham, Emory University, and North Dakota State University.
  » "RARE," a data and research core proposal led by Emory University and including Stanford University, Massachusetts Institute of Technology (MIT), Arizona State, and Georgia Institute of Technology (Georgia Tech), and Washington State University.
  » "ACCELERATOR," a data science training core proposal led by the SoIC and including Stanford University, the Massachusetts Institute of Technology (MIT), Emory University, Georgia Tech, University of Virginia, University of North Dakota, and Washington State University.

- Proposal submission to the National Science Foundation (NSF) Bridge to Artificial Intelligence (Bridge2AI) program. The goal of the Bridge2AI program is to move biomedical research forward with AI and ML that explores complex biomedical issues beyond human intuition. MIT led the joint proposal, "Addressing Generalizability and Algorithmic Bias in AL/ML Using an Ophthalmic Imaging Database," and included Harvard, Stanford, and Technical University of Munich.
- With the SoIC BioHealth Informatics Department, submission of a letter of intent to the Oak Ridge Associated Universities (ORAU)-Directed Research and Development (ODRD) program for a proposal to develop next generation intelligent, integrated, real-time monitoring frameworks for community scale detection, and tracking and socially aware interaction tools for pandemic preparedness.

*Provided service-learning opportunities to undergraduate and graduate students at IUPUI*
- Engaged 17 graduate students as interns or research assistants on community-based health informatics projects.
- Provided five student teams, including 29 graduate students in BioHealth Informatics, with class projects and associated mentorship.

## Other Notable Achievements

- Nominated for a 2022 TechPoint Mira Community Impact Award for the State of Aging in Central Indiana portal.
- Awarded funding from the Central Indiana Senior Fund for a second phase of the State of Aging in Central Indiana project, starting on February 1, 2022.
- Received ndiana Clinical and Translational Sciences Institute (CTSI) Trailblazer Planning Grant to conduct a strategic needs assessment of information needs of the healthcare sector in Columbus, Indiana. The award supports development of community-university partnerships to improve health, examine social determinants of health, or enhance health equity that results in future collaborative research proposals.
- Completed the pilot study, "Racial Disparities in Incidence and Outcome of Multiple Myeloma," in partnership with IU School of Medicine Precision Health. This pilot was funded by the Racial Justice Research Fund (RJRF) and included descriptive statistics, age-adjusted incidence and mortality rates and maps, observed survival curves, and cluster analysis to support future proposals for local and federal funding.

## Presentations

- "Racial Disparities in Incidence and Outcome of Multiple Myeloma," Karen Comer. Multiple Myeloma Research Group of the IU Precision Health Initiative, Indianapolis, IN. February 28, 2022.
- "Proposed Phase 2 of the State of Aging in Central Indiana Report," Karen Comer. CISF Advisory Board, Indianapolis, IN. September 30, 2021.
- "State of Aging Website and Financial Stability Research Brief," Karen Comer and Rebecca Nannery. Prosperity Indiana (a.k.a. Indiana Association for Community Economic Development), Indianapolis, IN. September 20, 2021.
- "State of Aging in Central Indiana Report," Karen Comer, Ellen Miller and Julie Koegel, Central Indiana Senior Fund (CISF) partners, and Marie Beason, Capacity Building Director, Prosperity Indiana. Prosperity Indiana membership meeting, Changing for Good, and annual summit meeting. August 23, 2021.

## Associations

- Indiana Clinical and Translational Science Institute Social and Structural Determinants of Health (SSDOH) Project Development Team, Member
- American Public Health Association, Member
- Indiana Addictions Data Commons Advisory Committee, Member
- Indiana Pandemic Information Consortium, Member
- National Network of Libraries of Medicine, Member

## Diversity Equity & Inclusion (DEI) efforts

*Workshops*
- Attended LGBTQ+ Culture Center's Public Training Series: Labels, Identity, and Community
- Attended UCLA Center for Health Policy Research: Workshop Series - Addressing Health Equity through Data Disaggregation

*Research Initiatives*
- Racial Disparities in Multiple Myeloma in Indiana funded by the IU Racial Justice Research Fund (co-PI). Completed March 2022. Invited by Simon Cancer Center to submit next phase proposal.
- Partnered with Richard M. Fairbanks School of Public Health on research on disparities in life expectancy and co-authored the report: World's Further Apart: The Widening Gap in Life Expectancy among Communities of the Indianapolis Metropolitan Area.

*Service*
- Development of equity framework for the State of Aging in Central Indiana annual report and information portal (2018-2021).
- Started phase 2 of this project in March 2022. Engaged a racial diverse Community and Research Advisory Committee for the project to assist project team in diving further into issues of equity in both the annual report and interim research briefs.
- Community Engagement (community forum)
  - » Worlds Apart, August 2021.

## Community Advisors

*Central Indiana Senior Fund (CISF) Advisory Board*
- Ken Bennett, Executive Director, Center for At-Risk Elders

- Andrew Class, M.D., St. Vincent Stress Center
- Keesha Dixon, Executive Director, Asante Art Institute of Indianapolis
- Robin Elmerick, Director of Effective Philanthropy, CISF
- Susan Guyett, Retired Heather Hershberger, Consultant/former Executive Director of Alzheimer's Association
- Dave Holder, Assisted Living Locators
- Kim Jacobs, Consultant
- Julie Koegel, Grants Officer, CISF
- James Leich, Retired President, LeadingAge Indiana
- Jane Malkoff, Scout Advocacy
- Ellen Miller, Executive Director, UIndy Center for Aging & Community
- Bud Myers, Retired, Indianapolis Housing Agency
- Jennifer Norton, Norton Estate Planning and Elder Law
- Candace Preston, Veterans Health Administration
- Annie Smith, Annie L. Smith Consulting LLC, Retired from United Way of Central Indiana

*State of Aging in Central Indiana Advisory Committee*
- Gerald Ardis, Coordinator of Seniors and Life Skills Services, Flanner House
- Julie Bednarski, Wellness programming for community dwelling adults, IU School of Health and Human Sciences
- Tauhric Brown, CEO, CICOA Aging & In-Home Solutions Inc.
- Dawn Butler, Director, GRACE Training & Resource Center, Project Manager, WeCare Plus, and Co-Director, IN Geriatrics Education & Training Center, IU School of Medicine
- Duane Etienne, CEO Emeritus, CICOA
- Nicole Fowler, Associate Professor, IU School of Medicine
- NiCole Keith, Research Scientist, IU Center for Aging Research
- Kristen LaEace, Indiana Association of Area Agencies on Aging
- Aqueasha Martin-Hammond, Assistant Professor, IU Luddy School of Informatics and Computing at IUPUI
- Ellen Miller, Board member Central Indiana Senior Fund (CISF) and Executive Director, UIndy Center for Agency and Community)
- Dan Mustard, Executive Director, Mill Race and Senior Center Coalition of Indiana
- Natalie Sutton, Alzheimer's Association, Greater Indiana Chapter
- Gail Strong, Vice President of Community Engagement, *WFYI Public Media*

*Community Advisors I-CTSI SSDOH Project Development Team (PDT)*
- Nitesh Chawla, PhD, Lucy Family Institute for Data and Society, University of Notre Dame (ND)
- Jessica Brookshire, MS, ND
- Brownsyne Tucker Edmonds, MD, IU School of Medicine (IUSM)
- Carolina Avendano, PhD, Children's Environmental Health Initiative, ND
- Eneida A. Mendonca, MD, Regenstrief Institute, IUSM 27
- Heather A Eicher-Miller, PhD, College of Health and Human Sciences, Purdue University (PU)
- Kun Huang, MD, IUSM
- Kristin Valentino, PhD, ND
- Bernice A. Pescosolido, PhD, College of Arts & Sciences, IU
- Sylk M Sotto, EdD, IUSM
- Tess D Weathers, MPH, Fairbanks School of Public Health
- Vania Smith Oka, PhD, ND
- Lane Coffee, MD, IUSM

# Spatial Humanities

Spatial Humanities relies upon powerful geospatial technologies and methods to explore new questions about the relationship of space to human behavior and social, economic, political, and cultural development. We partner with an international community of scholars in the humanities, geo-sciences, and computing who are interested in applying geospatial technologies to the disciplines within the humanities to explore new questions in this field. We have collaborated with researchers around the world to explore spatial narratives, advanced visualization, dynamic context, and immersive environments.

## Publications
Bodenhamer, D., Corrigan, J., and Harris, T.M.  Making Deep Maps: Foundations, Approaches, and Methods (Routledge Series on Spatial Humanities, 2021).

## Associations
* Virtual Center for Spatial Humanities (VCSH). A collaboration among IUPUI (Polis Center), Florida State University, and West Virginia University.
* Routledge Series on Spatial Humanities. David Bodenhamer, series general editor.

## Advisory Board Members Virtual Center for Spatial Humanities
* John Corrigan, Lucius Moody Bristol Distinguished Professor of Religion and Professor of History, Department of Religion, Florida State University
* Trevor Harris, Professor of Geography, Department of Geology and Geography, West  Virginia University
* David Bodenhamer, Executive Director, Polis Center at IUPUI
* Ed Ayers, Tucker-Boatwright Professor in the Humanities, Department of History and President Emeritus, University of Richmond
* Peter Bol, Vice Provost for Advances in Learning and Charles H. Carswell Professor of     East Asian Languages and Civilizations, Office of the Provost, Harvard University
* Peter Doorn, Director, Dutch Archives and Networking Service (DANS), Netherlands
* I-chun Fan, Research Fellow, Institute of History and Philology and Executive Director, Center for Geographic Information Science, Academia Sinica, Taiwan
* Michael Goodchild, Emeritus Professor of Geography, University of California Santa Barbara
* Yuzuru Isoda, Associate Professor, College of Asia Pacific Studies, Ritsumeikan Asia Pacific University, Japan
* Kim Knott, Professor of Religious Studies, University of Leeds, UK
* Anne Knowles, Professor of History, University of Maine; formerly Professor of Geography, Middlebury College
* Andreas Kunz, Economic Historian and Sr. Researcher, Institute of European History (Mainz), Germany Lew Lancaster, Professor Emeritus, Department of East Asian Languages and Cultures, University of California-Berkeley
* Gary Lock, Emeritus Fellow, Professor of Archaeology, Department for Continuing Education, University of Oxford, UK
* Barney Warf, Professor of Geography and Atmospheric Science, Department of Geography and Atmospheric Science, Kansas University
* May Yuan, Ashbel Smith Professor of Geospatial Information Sciences, Geospatial Information Sciences, University of Texas- Dallas
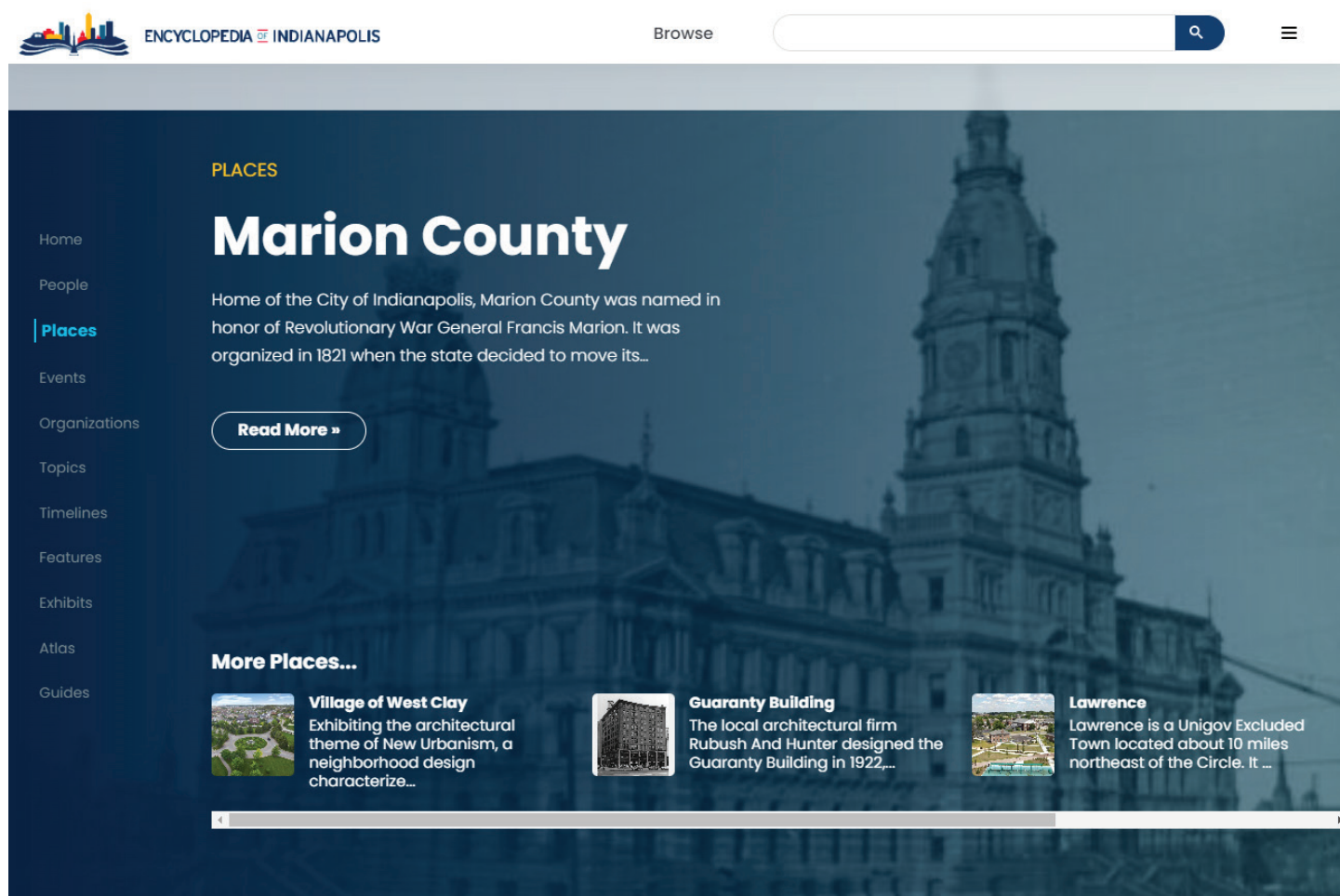
# Other Center Highlights

## Leadership Changes

- David Bodenhamer retired from IUPUI on December 31, 2021 after 32 years of starting and directing the Polis Center
    - » Sharon Kandris named Interim Executive Director
    - » Karen Comer named Interim Associate Director
    - » Matt Nowlin named Interim Community Analysis Manager
- Jim Sparks, Geoinformatics Dir., retired June 30, 2021
    - » Marianne Cardwell appointed successor
- Neil Devadasan named Director, Information Systems
- Jim Dowling named Manager, Information Systems

## Significant Accomplishment

Digital Encyclopedia of Indianapolis, a legacy project of the Indianapolis Bicentennial. We partnered with Indianapolis Public Library and leading heritage and cultural institutions to create this innovative knowledge platform that launched in December 2021. We are very pleased to share this virtual resource with people interested in learning more about the city's important institutions, services, and developments that affect the life, culture, and governance of Indianapolis and Central Indiana. The Indianapolis Public Library is now the trustee and official home for the project. Additional work

continues as funding allows. The Indianapolis Library Foundation board approved the funding and scope of work for Phase 2 of the Digital Encyclopedia of Indianapolis. Funding for this phase is made possible by Allen Whitehill Clowes Charitable Foundation and Indianapolis Foundation Special Library Fund – both grants secured by David Bodenhamer who continues to serve as encyclopedia's editor-in-chief. The Polis team is developing further technical infrastructure, updating content, and creating new features including a guide to Unigov and a digital exhibit module in this phase. (See Appendix A for advisors.)

## Major Project

- The Project on Religion and Urban Culture 2.0 continues its research on how Indianapolis congregations are responding to the many changes of the since 2002. These challenges include growing economic inequality, awareness of systemic racism, immigration, political polarization, and the pandemic. This project was led by David Bodenhamer, Polis and Arthur Farnsley II, Research Professor of Religious Studies and Senior Research Fellow of the Center for the Study of Religion and American Culture until David's retirement in December 2021. (See Appendix A for advisors)

## Notable Achievements

- The Polis Center Student Engagement Team hosted an information session for SoIC students November 10, 2021, in partnership with SoIC Career Services, sharing general information about Polis, what we do, how students have been involved in our projects, what skills we seek for a career with Polis, and courses that will be beneficial. The purpose of the event was to help with SoIC student retention and attract talent to Polis. 35 IUPUI students and alumni (in person and virtual) participated.
- We developed and tested sustainable processes to facilitate the engagement and mentoring of the course students through future semesters. This year, Polis worked with seven student teams (more than 30 health informatics students) on B535 Clinical Information Systems Classroom projects. The course pairs second semester graduate students with community partners and projects. Students worked on Polis projects: Developing a Database for the Chemical Surveillance Project, Mapping the Indiana Human Services Data Landscape, Researching Key Equity Metrics, Developing SAVI Equity Stories and Developing Data-driven Stories for the State of Aging in Central Indiana project.

# Organizational Structure

The Polis Center operates as a matrix organization, with directors for each area of emphasis who draw from a common pool of technical support staff for specific project needs. We also staff a communications function that supports our major areas of work.

## Administration
- David Bodenhamer, (former) Executive Director (also directed the Spatial Humanities area)
- Sharon Kandris, (former) Associate Director, Interim Executive Director (also directs the Community Informatics Area)
- Melissa Gona, Business Manager
- Tabitha Campbell, Project Management Specialist

## Community Informatics

- Sharon Kandris, Director
- Jay Colbert, Data Manager
- John Hayes, Data and Quality Assurance Coordinator
- Unai Miguel Andres, Research and Data Analyst
- Rebecca Nannery, Senior Research Analyst
- Matt Nowlin, Interim Community Analysis Manager
- Kim Sarver, Senior Project Manager

## Contracted Partners

- Theo Anderson, PhD
- Erik Steiner, Co-director, Spatial History Project, Center for Spatial and Textual Analysis, Stanford University
- Jeramy Townsley

## *Students*

- Akhil Battula, SoIC (SAVI)
- Aditi Bhardwaj, SoIC (Fox Cities)
- Divya Desabhotla, SoIC (SAVI)
- Alankrit Gupta, SoIC (SAVI)
- Alli Kraus, Herron School of Art and Design (Herron) at IUPUI (SAVI)
- Todd Madison, SoIC (SAVI)
- Vijay Mittal, SoIC (Domestic Violence Network and SAVI)
- Gokul Narayanasamy, SoIC (SAVI)
- Sagar Samanthapudi, SoIC (SAVI)
- Veena Mahesh, SoIC (SAVI)
- Bhushan Prakash, SoIC (SAVI)
- Sagar Varma Samanthapudi, SoIC (SAVI)
- Rashi Tyagi, IUPUI Computer Science (SAVI)
- Murali Vattikunta, SoIC (SAVI)

## Geoinformatics

- Marianne Cardwell, Director
- Kavya Urs Beerval Ravichandra, GIS Analyst
- Kari Leer, GIS Analyst
- Shaikh Abdullah Al Rifat, Senior GIS Analyst
- Matthew Riggs, Senior GIS Analyst
- Wanja Waweru, GIS Analyst

## Students

- Taofeek Ademola, IU Bloomington Data Science (IUBDS) graduate student (Flood & Equity research)
- Mindy Baker, IUBDS grad (Flood & Equity research)
- Andrew Blackford, Valparaiso Meteorology undergrad (Building QA/QC and MHMP)
- Sean Carlin, IUPUI Environmental Science undergrad (Building QA/QC and MHMP)
- Andrew Cruez, IUBDS grad (Flood & Equity research)
- Casey Daleiden, IUBDS grad (Flood & Equity research)
- Lisa Dick, IUBDS grad (Flood & Equity research)
- Hari Priya Reddy Enugu, SoIC HI grad (Building QA/QC)
- Ashutosh Godbole, IUBDS grad (Flood & Equity research)
- Pooja Rani Goranakonda, SoIC HI grad (Building QA/QC)

- Jason Gumaer, IUBDS grad (Flood & Equity research)
- Glenn Haag, IUBDS grad (Flood & Equity research)
- Andrew Heltzel, IUPUI Geography (GEO) undergrad (Building QA/QC)
- Logan Jefford, IUBDS grad (Flood & Equity research)
- Vindhyani Mallaram, SoIC HI grad (Building QA/QC)
- Pooja, IUBDS grad (Flood & Equity research)
- Joshua Pine, IUPUI GEO undergrad (Building QA/QC)
- Cherif Redissi, IUBDS grad (Flood & Equity research)
- Jay Stockwell, IUBDS grad (Flood & Equity research)
- Danel Thang, IUBDS undergrad (Building QA/QC)

## Community Health Informatics
- Karen Comer, Director, Collaborative Research and Community Health Informatics, now also Interim Associate Director, Polis Center

## Research Associates
- Unai Andres Miguel, MURP
- Amnah Anwar, MPH, MBBS
- Patrick Lai, PhD
- Rebecca Nannery, MA
- Matt Nowlin, MURP
- Jeramy Townsley, PhD ABD

## Research Assistants
- Daniel Asefa, SoIC Scholarship student (SoAR, RJRF Multiple Myeloma Project (MMP), and Racial Justice Research Fund)
- Srinivasulu Boligorla, SoIC HI (SoAR)
- Sai Anmisha Doddamreddy, SoIC HI (SoAR)
- Sai Duddukuri, Computer Science (CS) Intern (Chemical Surveillance System (CSS) Project)
- Dallas Hutchinson, SoIC HI (SoAR)
- Anudeep Reddy Inukollu, CS Intern (CSS)
- Akhil Joseph, SoIC HI Capstone Intern (MMP)
- Hindola Kancherla, SoIC HI (SoAR)
- Tom Loftus, Public Health intern (MMP)
- Regina Merine, SoIC HI Capstone intern (MMP)
- Amadou Sylla, School of Public Health Scholarship intern (SoAR and MMP)
- Rashi Tyagi, School of Science student (SoAR)
- Sai Vuppala, SoIC Scholarship student (SoAR and MMP)
- Basil Wilson, SoIC HI Capstone intern (SAVI+CoRDaCo COVID-19 Research)
- Chinmayi Sailaja Nimmaraju, SoIC HI Capstone intern (SAVI+CoRDaCo COVID-19 Research)
- Gundarapu Sai Varshith Reddy, SoIC HI (SoAR)
- Srinivasulu Boligorla, SoIC HI Capstone intern (SAVI+CoRDaCo COVID-19 Research)

## Consultants
- Bart Caylor, Caylor Solutions
- Mariana Lopez-Owens, MPH, La Plaza
- Tess Weathers, MPH, Richard M. Fairbanks School of Public Health

## Contracted Partners

- Theo Anderson, PhD
- Steve Counsell, MD, IU Center for Aging Research (IU CAR)
- Nicole Keith, PhD, IUCAR
- Breanca Merritt, PhD, Center for Research on Inclusion and Social Policy (CRISP), IU Public Policy Institute (PPI)
- Katie Rukes, MA, CRISP, PPI
- Melissa Sherman, MPH, IUCAR
- Kelsie Stringham-Marquis, MA, CRISP, PPI

## Systems Development

- Neil Devadasan, Director of Information Systems
- Jay Colbert, Data Manager
- James Dowling, Information Systems Manager and Database Administrator
- Robert Ferrell, Senior Programmer
- John Gona, LAN Technician
- John Hayes, Data and Quality Assurance Coordinator

## Students

- HarshaVardhan Reddy Beesai, SoIC (Chemical Surveillance System project, CSS)
- Anmisha Doddamreddy, SoIC, (SoAR)
- Sai Duddukuri, SoIC (CSS)
- Dallas Hutchinson SoIC, (SoAR)
- Akhil Joseph, SoIC, (SoAR)
- Hindola Kancherla, SoIC, (SoAR)
- Vini Khanuja, SoIC, (SoAR)
- Vijay Mittal, SoIC (Domestic Violence Network and SAVI)

## Professional Education

- Kevin Mickey, Director

## Communications

- Allegra East, Manager

## Spatial Humanities

- David Bodenhamer, Director

## Students

- Aproov Awasthi, SoIC, Digital Encyclopedia of Indianapolis (DEOI)
- Harsha Beesai, SoIC (DEOI)
- Amrita Datta, Herron (DEOI)
- Amrita Datta, Herron School of Art at IUPUI (DEOI)
- Nithika Elugala, SoIC (DEOI)
- Rathnapriya Gopalakrishnan, SoIC (DEOI)
- Sowmya Karpurapu, SoIC (DEOI)
- Alli Kraus, Herron School of Art and Design (Herron) at IUPUI (DEOI)
- Shruti Mukadam, SoIC (DEOI)
- Apoorva Nagesh, SoIC (DEOI)
- Rio Santos, Herron School of Art and Design at IUPUI (DEOI)

- Veena Mahesh, SoIC (Religion and Urban Culture 2.0)
- Bhushan Prakash, SoIC (DEOI)
- Sarah Smith, School of Liberal Arts at IUPUI (DEOI)
- Murali Vattikunta, SoIC (DEOI)
- Akshay Yelmar, SoIC (DEOI)

## Sustainability

Polis had 44 active projects in FY22, ranging from $10,000 to $1.2 million.  The directors continue to develop new funding opportunities while maintaining current relationships and funding sources. During FY22, Polis was awarded 27 new contracts and grants totaling $3,840,000. Major awards include:
- $1.2 million contract with John Boner Center for the Indy East Promise Neighborhood Initiative through a US Dept. of Education grant
- $615,000 from FEMA for the Cooperating Technical Partner program
- $450,000 grant from Lilly Endowment Inc. for the SAVI program
- $290,000 contract with Central Indian Senior Fund for the State of Aging Report

We are entering FY23 with 46 active projects and sufficient income to meet our obligations for the coming year.

## Media Mentions

- June 17: Indianapolis Recorder, "Report: Race, gender strong indicators for how long someone stays in jail"
- June 16: IndyStar, "Study: Major Indianapolis landlord, apartments nationwide hike rent prices as profits soar"
- June 16: Indianapolis Recorder, "John Boner Neighborhood Centers restores community garden, honors residents' legacy"
- June 8: IndyStar, "Worrisome.' Indy housing market is overvalued, study finds. Is a housing crash coming?"
- May 19: IndyStar, "As Indy grapples with gentrification, affordable housing advocates turn to bold solution"
- May 10: IndyStar, "IndyGo to launch on-demand ride service in southeastern Indianapolis"
- May 2: IndyStar, "Fatal crashes occur more often in low-income areas and communities of color. But why?"
- May 2: IndyStar, "People keep dying in crashes on Indianapolis streets. What can actually be done about it?"
- April 26: IndyStar, "Indianapolis to invest nearly $56 million in affordable housing, anti-displacement efforts"
- March 28: IndyStar, 'I'm not moving.' Riverside residents worry as gentrification looms alongside 16 Tech
- March 8: IndyStar, Far Eastside Indy transportation access gap addressed with micro-transit program
- March 3: WFYI, "Micro-transit initiative launches on far Eastside to bridge transportation gaps"
- March 3: Indianapolis Recorder, Horizon House fighting disparities in homelessness
- Feb. 23: IU Research Impact podcast segment: Covid-19
- Feb. 21: IUPUI Office of the Vice Chancellor for Research's Research Enterprise newsletter: U.S. Census Bureau Presents Health & COVID-19 Open Data for Good Grand Challenge Award to The Polis Center/SAVI

- Feb. 4: VP for Government Relations & Economic Engagement website: IU leading pioneering effort to share big data and facilitate new connections to address skills gap, substance abuse and other major challenges in Indiana
- Feb. 2: IndyStar: ' This indeed has become our homeland': How Indy's south side has grown in diversity.
- Jan. 20: IndyStar: From 'milk and honey' to decay, 38th Street neighborhoods hope this time will be different
- Jan. 7, 2022: Current: Carmel's Bodenhamer retires as executive director of IUPUI Polis Center
- Dec. 24: IBJ: Q&A with David Bodenhamer, executive director of Polis Center
- Dec. 17: Inside Indiana Business: Polis Center Chief Announces Retirement
- Dec. 8: IndyStar: These Indianapolis neighborhoods, some once predominantly Black, are becoming more white
- Dec. 1: WBIW: Encyclopedia of Indianapolis now available in digital form
- Dec. 1: WFYI: Video series offers conversations around food insecurity in central Indiana
- Nov. 19: IndyStar: This is how the racial makeup of Indianapolis has changed since 19780 and up to 2020 census
- Nov. 18: WFYI: Data finds racial disparities in Indianapolis' criminal justice system, from children to adults.
- Nov. 5: IBJ: Mid-North area chosen for 3-year, $3,5M Lift Indy investment program.
- Oct. 18: IndyStar: Old National Bank preventing loan access to Black borrowers could be illegal, expert says.
- Oct. 13: IUPUI Research Enterprises: Project on Religion and Urban Culture 2.0
- Sept. 30: Indianapolis Recorder: Parks are essential for quality of life. But what if a community park doesn't serve its people?
- Sept. 22: WFYI Side Effects Media: Parks are essential for quality of life. But what if a community park doesn't serve its people?
- Sept. 17: IUPUI Professional Development and Continuing Education: SAVI Talks: Worlds Further Apart
- Sept. 16: News at IUPUI: Project to improve health equity in Indianapolis expands with funding from Lilly
- Sept. 16: IndyStar: Lilly gives $5M to diabetes program targeting Indianapolis' least healthy neighborhoods
- Sept. 14: Research Enterprise, OVCR: New study shows a widening gap in life expectancy in Indianapolis
- Sept. 2: Indianapolis Recorder: New study shows a widening gap in life expectancy in Indianapolis
- August 26, WFYI: New Study Shows Widening Gap in Life Expectancy in Indianapolis
- August 9, Fox59: CRIME MAPPING: How the city is addressing violent crime
- August 5, IndyStar: Martindale-Brightwood loses its sense of self as gentrification moves in, residents say
- August 3, IndyStar: Selling your home for cash may sound quick and easy, but scams riddle the industry
- July 23, WFYI: In Northeast Indianapolis, Business Pushes Boundaries in Trend to Counter Community Disinvestment
- July 21, IndyStar: This is how the racial makeup of Indianapolis has changed since 1970
- July 20, IndyStar: Need food assistance in Indy? Here's how to find resources near you in multiple languages
- July 16, Indy Midtown Magazine: The Lasting Impacts of Segregation and Redlining

# Appendix A

Community advisors of the Encyclopedia and Religion projects.

## Encyclopedia of Indianapolis Steering Committee

- Keira Amstutz, Indiana Humanities
- David Bodenhamer, Polis
- Sally Childs-Helton, Butler University
- Justin Clark, Indiana State Library
- Allegra East, Polis Jackie Nytes, Indianapolis Public Library
- Ted Frantz, University of Indianapolis Institute for Civic Leadership & Mayoral Archives
- Suzanne Hahn, Indiana Historical Society
- George Hanlin, Indiana Humanities Sharon Kandris, Polis
- Chandler Lighty, Indiana State Archives and Records Commission
- Matt Nowlin, Polis
- Kristi Palmer, University Library at IUPUI
- Casey Pfeiffer, Indiana Historical Bureau/Indiana State Library
- Nicole Poletika, Indiana Historical Bureau/Indiana State Library
- Suzanne Stanis, Indiana Landmarks Beth Van Allen, Indianapolis Public Library

*Civic Advisory Committee*

Co-Chairs
- Sarah Evans Barker, Sr. U.S. District Judge, U.S. District Court for the Southern District of Indiana
- Rick Fuson, President, Pacers Sports & Entertainment
- Lacy Johnson, Senior Partner, Ice Miller

*Members*
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- Dan Appel, Gregory & Appel
- Kevin Armstrong, IU Health
- Charles Bantz, IUPUI
- Phil Bayt, Ice Miller
- Jerry Bepko, Chancellor Emeritus, IUPUI
- Phil Borst, Southside veterinarian
- Brian Bosma, former Speaker of the House
- Bill Browne, Ratio Architects
- Tiffany Browne, Historic Indianapolis
- A'Lelia Bundles, Author and Public Speaker
- Moira Carlstedt, Indiana Neighborhood Housing Partnership
- Brad Chambers, Buckingham Companies
- Molly Chavers, Central Indiana Community Foundation
- Murray Clark, Faegre Baker Daniels
- William Enright, Retired, Second Presbyterian and Lake Institute
- David Eskenazi, Sandor
- Dan Evans, formerly IU Health
- Greg Fehribach, The Fehribach Group
- Nate Feltman, *Indianapolis Business Journal*

- Marlene Dotson, President, Indiana Latino Institute
- Charlene Fletcher, Curatorial Director, Conner Prairie
- David Hampton, President, Local Initiatives Support Corporation
- Sean Huddleston, President, Martin University
- John Krull, Director, Pulliam School of Journalism, Franklin College
- Anita Morgan, Senior Lecturer, Department of History, IUPUI
- Richard Pierce, Associate Professor of History, University of Notre Dame
- Sandy Eisenberg Sasso, Rabbi Emeritus, Congregation Beth-El Zedek
- Gail Thomas Strong, Vice President for Community Engagement, *WFYI Public Media*
- David Wantz, President, Independent Colleges of Indiana Special Advisor
- Robert G. Barrows, Professor Emeritus, IUPUI

## Religion and Urban Culture Indianapolis Advisors

*Clergy Advisory Committee*
- Bishop Jennifer Baskerville-Burrows, Episcopal Diocese of Indianapolis
- Lori Bievenour, Senior Pastor, St. Peters United Church of Christ
- David Coats, Former Vicar General Archdiocese of Indianapolis
- Rob Fuquay, Senior Pastor, St. Luke's United Methodist Church
- Bere Gil Soto, Pastor, Iglesia Hermandad Cristiana
- David Hampton, Deputy Mayor, City of Indianapolis (formerly Senior Pastor, Light of the World Christian Church)
- Chris Henry, Senior Pastor, Second Presbyterian Church
- Brett Krichiver, Senior Rabbi, Indianapolis Hebrew Congregation
- Clarence Moore, Senior Pastor, New Era Church
- Derek Nelson, Director, Wabash Pastoral Leadership Seminar
- Rob Saler, Director, Center for Pastoral Excellence (CTS)
- Tim Shapiro, President & CEO, Center for Congregations
- Martin Wright, Pastor, Ogilville Christian Church

*Study Clergy and Congregations*
- Rev. Patrick B Eidelman, St. Mary's Catholic Church
- Rev. Ronnie Bell, Cumberland United Methodist Church
- Lori Bievenour, St. Peter's United Church of Christ
- Aaron Brockett, Traders Point Christian Church
- Luther Brunette, Cornerstone Lutheran
- Shane Fuller, Dwelling Place Nora
- Rob Fuquay, St. Luke's United Methodist Church
- Rev. Bere Gil Soto, Iglesia Hermandad Cristiana
- John Girton, Jr., Christ Missionary Baptist Church
- Rev. Robert Heimach, Irvington Presbyterian Church
- Rev. Chris Henry, Second Presbyterian Church
- Rob Hock, Southport Presbyterian Church
- Rev. Dr. Stephen Hre Kio, Chin Baptist Church Southport
- Dr. James Anthony Jackson, New Beginnings Church
- Rev. Dr. Phillip Karl James, Mt. Zion Baptist Church
- Jeffrey A. Johnson, Eastern Star
- Rabbi Brett Krichiver, Indianapolis Hebrew Congregation

- Dr. Gray Lesesne, Good Samaritan Episcopal
- Chet Martin, Avon Light and Life Free Methodist Church
- Linda McCrae, Central Christian Church
- Melissa Millis, Trinity Church
- Clarence Moore, New Era Church
- Chris Philbeck, Mt. Pleasant Christian Church
- Janae Pitts-Murdock, Light of the World Christian Church
- Steve Poe, Northview Church
- Father Todd Riebe, Christ the King
- Rev. Theodore Rothrock, St. Elizabeth Seton Catholic Church
- Father Dennis Schafer, St. Patrick's
- Kenneth Sullivan, New Direction Church
- Erik Thein, Common Ground
- Rev. Zhigang Zang, Chinese Community Church
- St. Monica Catholic Church