

Community Issues Management (CIM)

Mission

To improve community decision making using facilitation technologies that engage people in ways that promote understanding, strategic collaborations and the wise use of resources.

Vision

A transparent society with communities engaged in a data-informed, robust dialogue to drive action about issues impacting the well being of those communities.

Overarching Purpose

The purpose of CIM is to better align community resources with people and place at all levels of the community. The CIM framework uses a patchwork quilt approach to link and organize data within an Internet-based geographic information system (GIS). The CIM system serves as the engine to engage organizations in a transparent and collaborative space. CIM's existing framework utilizes the place-based knowledge of these organizations to inform policy makers and stakeholders about local issues, assets and resources available to address their needs.

The Need for CIM

Organizations increasingly rely on data and geographic information technologies from web-based data warehouses to examine the place-based impacts of public policies. However, these organizations often lack the time, expertise or technological infrastructure to make the best use of data resources for decision-making.

Community Issues Management (CIM) overcomes these constraints by providing tools for framing issues; facilitating community dialogue; supporting decision-making procedures; and enabling data integration. CIM is designed to be flexible and responsive to user needs and questions, including incorporating of "their" data into the system. It provides more depth to the understanding of the issues and opens new ways of viewing the questions groups are seeking to address. CIM allows decision makers to deliberate how best to align resources with organizations, people and place.

What is CIM?

Community Issues Management (CIM) is a web-based system designed for local and regional organizations to frame, manage and take action on complex issues. CIM can be employed as a tool for use within organizations and as a tool for community engagement to foster participation in transparent, data-informed and collaborative decision making. The foundation of this system is a process for framing issues through a wealth of GIS data, and mapping and reporting tools custom built for organizations to better understand how issues impact people and place. The CIM system allows users to access these defined issues through the CIM Library, to learn how organizations in their region and across the U.S. are confronting issues. Unique to CIM is a streamlined process to integrate and overlay local mapping data with state and national mapping data that resides in CIM's Data Warehouse. Data can be organized around specific issues that CIM organizations or other user groups have identified.

At its core, CIM makes public data publically accessible in a more meaningful context for decision support. Informed community decision-making is realized through the use of CIM's unique tools and facilitation support. CIM helps organizations and other user groups tell sophisticated stories about key

issues such as gaps and overlap in service provision for vulnerable populations, health inequities, workforce retention, and emergency preparedness. Using CIM ensures that the stories told -- about people, place and the impact of organizations -- are more complete and more accurate. Stories developed with CIM's tools enable policy makers to better align resources with needs.

Who uses CIM?

CIM provides access to two types of user groups: CIM Partners and Public Access Users.

- *CIM Partner* serve as lead community conveners around issues impacting their region, engage local partners, and provide technical assistance and consultation for the community to maximize CIM's utility.
- *Public Access Users* can make maps, reports and search issue-specific content in the CIM library and explore how communities across the U.S. are using CIM to address pressing concerns.

See the "What you get as a CIM Partner" table below for complete details regarding the level of functionality and services for each of the user groups above.

What are the CIM Tools?

Issue notebooks: Issue Notebooks help organizations frame and manage the issues they have identified to address over time. An organization begins by creating a new Issue Notebook that can be continuously edited or updated to track the development and progress made in addressing the issue. Notebooks include the following tab sections: Overview, Data, Maps, Reports, Multimedia, Files Networking, and Notes (the amount of content generated, uploaded or hyperlinked varies depending on the issue).

The CIM library: The library is a space for viewing Issue Notebook content pulled together by an organization. Content may include interactive maps, custom reports, documents, videos, images, and presentations. A user can search the library by CIM Partner to find out what issues are being addressed in a given region. A user can also search by Theme (e.g. Health, Education) to learn about similar issues facing other communities.

Interactive maps: CIM's Interactive Geographic Information System (GIS) enables users to visualize and overlay 500+ national GIS data layers and state-level data where available (e.g., locations of all hospitals, schools, and libraries in the U.S., and other socio-economic, demographic, health, education, emergency preparedness, and infrastructure data available at various levels of geography). Additional local data is provided by CIM Partners. Users can visualize data for their area of concern, and use GIS tools to illuminate priority issues in their own back yards. CIM Partners have additional functionality to dynamically add new data (points, lines and polygons) through the Internet GIS interface and save mapping sessions to the Library for issues framing.

Dynamic reports: CIM's reporting tool enables the public to generate dynamic reports about specific underlying social, economic, demographic and health characteristics for predefined geographic areas such as counties, cities and zip codes. These PDF documents contain maps, tables and charts, depicting the selected geography. CIM Organizations have additional functionality to generate dynamic reports based on: (1) integration of local GIS data; (2) user-defined areas that do not rely on pre-defined geographies; and (3) the most current GIS data available in the CIM Data Warehouse. CIM Partners can save reports to the Library for issues framing.

Partner Homepages: The Partner Homepage serves as a public portal for each CIM Partner Organization. Users living in CIM Partner regions can access these homepages directly rather than going to the national CIM homepage.

Administrative tools: Administrative tools allow CIM Partners to manage local profiles, communications, and security settings.

Security: CIM Partners have maximum flexibility in assigning security levels (individual access, organization access or public access) for each and every Issue Notebook, map, report or other content that is uploaded or hyperlinked to CIM. Setting varying security levels for content enables organizations to work internally or effectively engage the public around issues addressing their community.

Advantages to becoming a CIM Partner:

CIM Functionality and Services ¹	CIM Partner (Advanced) ²	Public User (Basic) ³
Issue Library		
Create, edit, delete Issue Notebooks	YES	NO
Upload or hyperlink to issue-specific content (multimedia, reports, documents, other files) ⁴	YES	NO
Set security level for Issue Notebooks and all related content (make public or keep private)	YES	NO
Search, view and download publically accessible content from Issue Notebooks	YES	YES
Search, view and download organization password-protected content from Issue Notebooks	YES	NO
Maps		
Access to national Internet GIS and CIM Community Portals ⁵	YES	YES
Basic Mapping Tools ⁶	YES	YES
Advanced Mapping Tools ⁷	YES	NO
Add local GIS data dynamically with GIS upload utility (Shapefile format) ⁴	YES	NO
Add local data manually – add points, lines or polygons that are dynamically saved as GIS data layers (Shapefile format) ⁴	YES	NO
GIS data download utility (Shapefile format)	YES	NO
Print Maps in HTML or PDF format	YES	YES
Save Maps to Issue Notebook and assign security level (make public or keep private)	YES	NO
Reports		
Basic Dynamic Reporting Tools	YES	YES
Advanced Dynamic Reporting Tools (you can generate reports for user-defined areas)	YES	NO
Print Reports in HTML or PDF format	YES	YES
Save Reports to Issue Notebook and assign security level (make public or keep private)	YES	NO
Other Services and Training		
CIM Partner Homepage (Template)	YES	NO
Customize CIM Homepage to reflect organization website	OPTIONAL	NO
Access to Online Training	YES	YES
Webinar Training	YES	NO

CIM Functionality and Services ¹	CIM Partner (Advanced) ²	Public User (Basic) ³
Custom services, data preparation and analysis (e.g., geo-coding)	OPTIONAL	NO
Group facilitation support for strategic planning	YES	NO
Personalized training	YES	NO
Report customization	OPTIONAL	NO
Consulting	OPTIONAL	NO

¹ "YES" = Functionality and Services included

"NO" = Functionality and Services not included

"OPTIONAL" = Functionality and Services are offered at additional cost

² *CIM Partner*: Lead local or regional community organization that serves as a community convener; engages other organizations through their local CIM umbrella; provides technical assistance, and consultation.

³ *CIM Public Access*: The overall mission of CIM is to facilitate open access to public information for making wiser public choices. Therefore, basic CIM functionality is made available at no cost to the public.

⁴ One gigabyte data storage limit for all uploaded content and GIS data (additional gigabytes of storage may be acquired if needed).

⁵ Access to hundreds of national GIS data layers and local GIS data layers for those areas in the US where there are CIM Partners and where data has been made publically available.

⁶ Basic Mapping Tools:

Basic Mapping Tools	
Available to the public (see mapping functionality in above matrix)	
Zoom in	Enlarge the map area either by clicking a single spot, or by dragging a box around the desired area.
Zoom out	Reduce the map area either by clicking a single spot, or by dragging a box. The current map will be fit to the box.
Pan	Re-center the map area by dragging the window.
Info	Return information about features in the active layer. Click a feature on the map to display information.
Full Extent	Re-size the map to the largest possible map area.
Back	Return to the last map areas.
Stop	Stop retrieving map or data.
Coordinates	Retrieve XY coordinate information at the click location.
Distance	Calculate length information for the entered line.
Area	Calculate square unit information for the entered area.
Modify Map	Add or remove layers (only works with Internet Explorer).
Print Map	Prepare a document for printing.

⁷ Advanced Mapping Tools:

Advanced Mapping Tools	
Available to CIM Partners (see mapping functionality in above matrix)	
Query	Select features using conditional statements.
Select by Rectangle	Select features by dragging a box around the desired features.
Find	Select features by entering a word or phrase.
Buffer	List features within a specified distance of selected feature(s).

Advanced Mapping Tools	
Available to CIM Partners (see mapping functionality in above matrix)	
Area Summary	List and summarize features for the entered area.
Radius Summary	List and summarize features within a specified distance from the click location.
Spatial Summary	Use selected feature(s) from one layer to list/summarize features within another layer.
Modify Legend	Change symbology for layers.
Transparent	Make the layer 'see-through' to view information in lower layers.
Clear Selection	Remove feature selections and refresh the map.
Mask Map	'White out' areas around the desired map features.
Save Mapping Session	Save current session to the Library
Extract Data	Retrieve data for download and use in a GIS.

CIM Oversight

The impetus for creating CIM was to marry local and regional data with CARES' national Web-based GIS. Trusted local and regional organizations would serve as a foundation for local decision making and provide the necessary local data to better inform public policy.

The CIM Partners below are recognized for their leadership in CIM's development and implementation. These Charter Members also serve as CIM Advisory Board Members.

Charter Member (alphabetical)	Advisory Board Member and Alternate
Center for Applied Research and Environmental Systems (CARES), University of Missouri	Dr. Chris Fulcher and Mr. Chris Barnett
Columbia / Boone County Department of Public Health and Human Services, Missouri	Ms. Stephanie Browning
Lehigh Valley Hospital and Health Network, Pennsylvania	Dr. Jeff Etchason and Dr. Cathy Coyne
Rural Policy Research Institute (RUPRI)	Mr. Brian Dabson and Ms. Jocelyn Richgels
Trident United Way of South Carolina	Mr. Chris Kerrigan (Board Chair)
United Way of Southeastern Michigan	Ms. Kelly Green
United Way of Tucson and Southern Arizona	Mr. Dan Duncan (Board Vice-Chair)
University of Missouri Extension	Dr. Mary Leuci and Dr. Steve Jeanetta

Contributors:

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- External CIM Advisor: Dr. Joyce Essien, Centers for Disease Control and Prevention; and Rollins School of Public Health, Emory University

About CARES

The Center for Applied Research and Environmental Systems (CARES) at the University of Missouri has a long history of integrating Internet accessibility with emerging technologies to assist decision makers, researchers, organizations and underserved, under-resourced communities.

The Community Issues Management (CIM) initiative was launched by CARES, the Rural Policy Research Institute (RUPRI) and the CIM Charter Member Partners in 2006. Our centers' institutional setting enables rapid response to stakeholder needs. We are uniquely positioned to address the rural-urban differential with respect to using, accessing, and adopting information and communications

technologies for decision support. Our understanding of the rural context with respect to resource limitations, data management issues, statistical challenges due to small numbers in rural settings, and mapping applications sets CARES apart from other information technology-based centers.

Our center's decision support framework requires ongoing monitoring and updating of existing datasets and scanning for additional datasets. These datasets, which include socio-economic, demographic, health, jurisdictional, political, environmental, and infrastructure data, serve as a distinctive foundation for addressing a myriad of public policy issues.

Organizations have varying resources and competencies for acquiring data and making it available to the public. Rather than focusing on the limitations of data availability across communities, states and regions, our center uses a "patchwork quilt" data acquisition approach by integrating data from Federal, state and local agencies, and non-profit organizations. Since data is continuously being created, updated, and made available to the public in a "chaotic" fashion, our center acquires data on an ongoing basis, and focuses on how it can be utilized for decision support at the community, regional and national levels.

CARES capabilities enable data users to: (1) geographically visualize community, regional, and national-level data via the Internet; (2) integrate new spatial data and overlay these data to conduct location-specific analyses; and (3) generate maps, dynamic reports, and "what if" scenarios that utilize the integrated nature of these information systems.

CARES utilizes a variety of hardware and software. We have 16 full time staff, including several trained and certified staff for hardware, software, database, and operating system support as well as access to extensive campus resources in these areas.

Hardware includes more than fifty Windows-based PCs and servers. All workstations are Ethernet networked and have full Internet access and utilize the University's gigabit speed TigerNet network. The centers have over 7 terabytes (7,000 gigabytes) of combined disk storage, a .6TB capacity tape archive and backup system, and the ability to scan and print E-size documents.

Software includes ArcGIS 9.2, ArcIMS 9.2, ArcSDE 9.2, ArcView 3.3, ERDAS 8.6 Microsoft SQLServer2000, and GAMS as well as several other economic and environmental modeling packages. Operating systems include Windows XP, Windows 2000 Server, Windows Server 2003.

The center's Internet capacity includes four servers, six development servers, web hosting for other campus centers, and internet mapping capacity. We serve nearly 500 gigabytes of data on the Internet, allowing public access to over 12,000 Internet map layers, and generate over 250,000 map images per month.

About RUPRI

The vision of the Rural Policy Research Institute (RUPRI) is that rural people and places have the resources and capacities to create strong, viable, meaningful, and sustainable futures that can both withstand and turn to advantage the forces of globalization and economic, demographic, and social change; and that rural and urban people find common cause and understanding about the future role and governance of rural places and the contribution that rural life and culture makes to national identity.

In support of this vision, RUPRI's mission is to provide unbiased analysis and information on the challenges, needs, and opportunities facing rural America, and spur public dialogue and help policymakers understand the impacts of public policies and programs on rural people and places. RUPRI was founded in 1990 to address a concern of members of the Senate Agricultural Committee that no objective non-governmental source of external data, information, and analysis, regarding the rural and community impacts of public policy decisions was available. RUPRI was created as a joint program of Iowa State University, the University of Missouri, and the University of Nebraska. It was, and still is, housed within the Harry S Truman School of Public Affairs at the University of Missouri although its reach is national and international. RUPRI is now a preeminent source of expertise and perspective on policies impacting rural places and people.

RUPRI in pursuing this mission commits to:

- Provide timely, empirically-based, and non-partisan advice and assistance to policymakers on the rural impacts of public policies and programs and on options for improving the prospects for rural people and places.
- Foster understanding of and the search for effective solutions to the challenges of rural America by providing safe venues for people with a stake in the future of rural America to discuss openly concerns, issues, and opportunities.
- Encourage collaboration and common purpose among scholars to pursue research that supports effective policy and practice, and among institutions and agencies that have the expertise, resources, and responsibilities to impact rural people and places.
- Promote innovative, collaborative, and systems-based approaches to rural issues that engage decision-makers and rural people at local, regional, state, national, and international levels.

RUPRI has created a set of core competencies both within its centers and programs and through its networks of scholars, policymakers, and practitioners across the country and internationally. These competencies are:

- Research – conducting, commissioning, and supporting timely policy- and practice-relevant research by universities, colleges, and institutes across the U.S. and internationally, and providing encouragement and assistance to young scholars interested in rural and regional policy.
- Decision Support Tools -- developing, adapting, and promoting tools that improve policymaking, such as data visualization, asset-mapping, and output measurement.
- Policy Analysis and Engagement -- providing independent analysis and framing of policy options, and direct advice to policymakers at the international, Federal, regional, state, and local levels on the impacts of policy options on rural people and places.
- Dissemination and Outreach -- bringing disparate people and organizations together in safe environments to discuss challenges and opportunities and to forge options and solutions that benefit rural people and places; and disseminating information and ideas electronically, through publications, and in conferences, seminars, and meetings.