Industry Perspective

Responding to Homelessness in Crisis Mode

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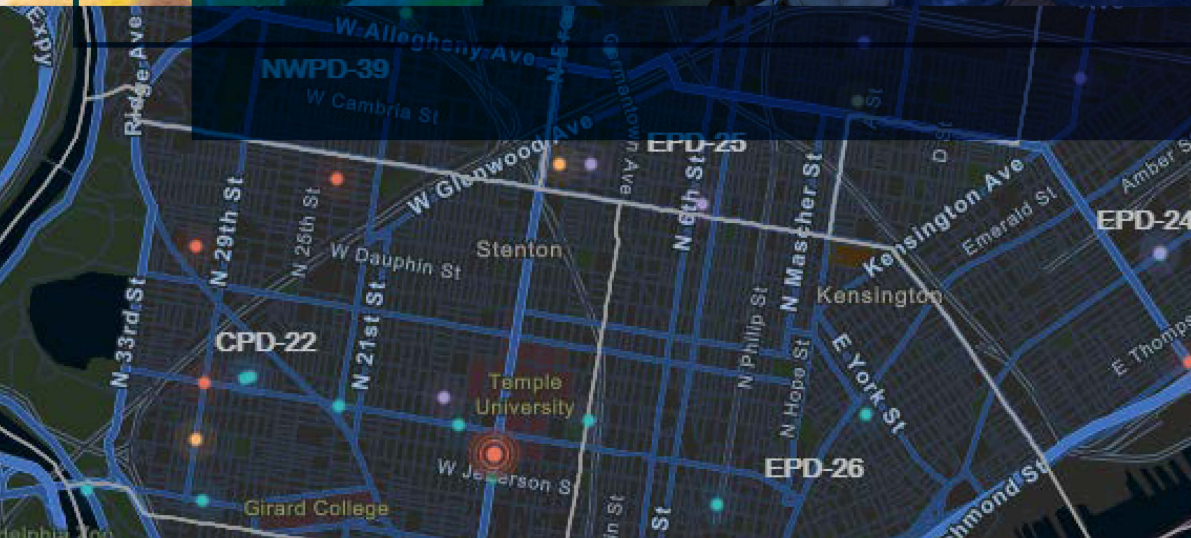
Executive Summary

The search for solutions and approaches to end homelessness is at the forefront of the dialog in many local communities. While housing affordability and employment are part of the conversation, nonprofit and governments recognize the need for a diverse plan of action to meet the needs of the today's homeless populations. The issue has become complex as the needed support spans to mental health services, veterans, drug addiction and families with children. Oftentimes, these diverse groups of people are congregating in encampments, causing impacts to infrastructure, health, and communities at large.

It is estimated that more than 500,000 people in the United States experience homelessness on a given night, according to the Housing and Urban Development Department. But by many estimates, that number paints an optimistic view of homelessness in America, primarily due to limited data gleaned from one-off counts of populations and encampments.

Local government leaders recognize that the plight of individuals experiencing homelessness has become a crisis that needs to be dealt with in an expedient manner. In fact, many cities across the country, most recently Anaheim, California, and Tacoma, Washington, have declared states of emergency regarding homelessness. This acknowledgement lends itself to asking a new set of questions. Could this crisis and similar health inequities be approached in a similar fashion to fighting declared emergencies such as a natural disaster?

The answer simply is yes. There are concepts learned in confronting a catastrophe that are transferable to effecting homelessness. Much like a natural disaster such as an earthquake, fire, or hurricane, local leaders must bring a plan to fighting the emergency in real time and help bring normalcy back to the lives of those impacted.

*Are you ready to tackle homelessness in real time?*

Homelessness is a pervasive issue in urban areas that impacts every part of a community. In addition to exposure to poor sanitation

and infrastructure, homeless individuals are at an increased risk for disease and other health concerns – many of which can spread beyond homeless encampments to impact the entire community. Encampments also present challenges for communities by damaging infrastructure, economies and ultimately the safety of other residents.

To tackle homelessness, many cities and counties are dedicating significant resources to providing clinics, job programs, mental counseling as well as shelters and food distribution centers. Additionally, government agencies are working to track encampments, co-locate human services where necessary and remove the encampments once abandoned.

But unless these resources are coordinated, they may fail to achieve the ultimate goal of ending homelessness. That's why many agencies are including geographic information systems (GIS) to their strategies. GIS allows organizations to effectively track and deploy resources using a location-based strategy.

This industry perspective was informed by interviews with local government leaders, as well as conversations with thought leaders from Esri. In it, we explore how a common, location-based framework can enable organizations to effectively monitor and combat homelessness across communities. We also explore case studies from cities and counties, and provide step-by-step instructions to help your organization reduce homelessness.
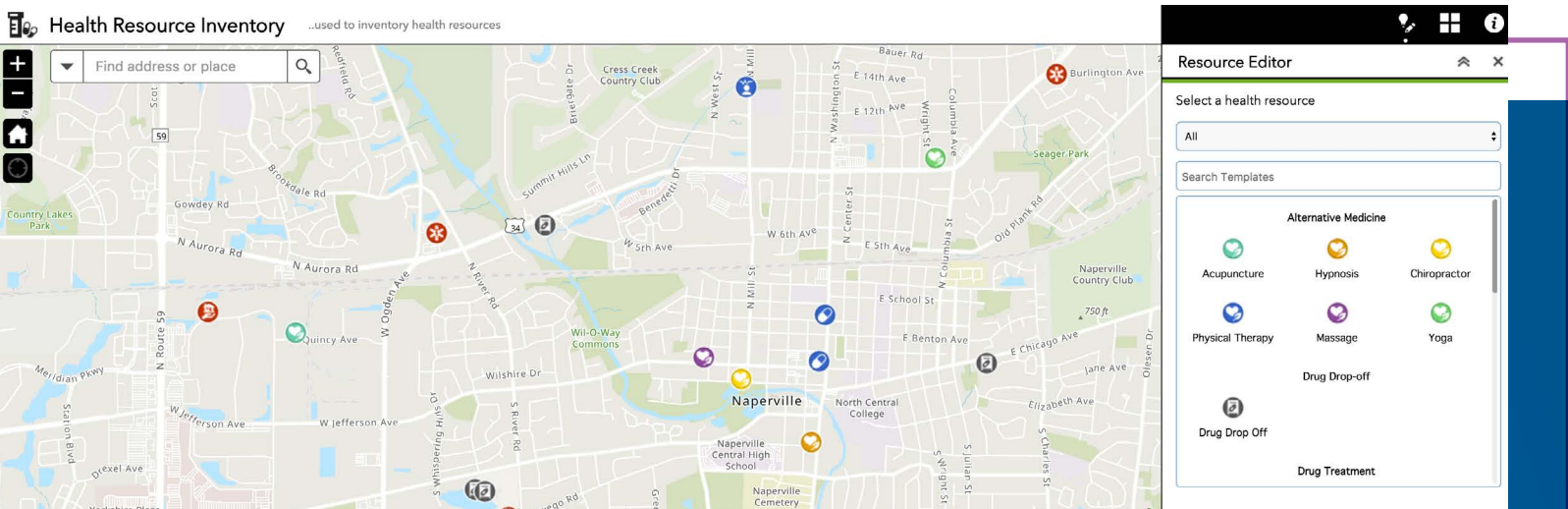
A Framework to Impact Homelessness

The role of GIS is obvious in many community emergencies, like wildfires, hurricanes or flooding. Borrowing from transferable workflows and decision support tools, state and local governments are applying these best practices to battle social inequities such as blight, opioid addiction and homelessness.

These similarities do require a shift in organizational and operational thinking when it comes to working with health inequities like homelessness. Real-time information must be accurately gathered in the field, collected in a central place, and analyzed to inform effective resource allocation and decision-making.

There are six pillars for resolving a crisis in real time: organize, collect new data, communicate, deploy and allocate resources, inform and educate. After each crisis, local leaders document what they learned and repeat the process. This shift in thinking moves organizations from the traditional programmatic approach we have seen in the past with efforts to curb homelessness, to a more direct approach that continually reviews and adjusts.

Ultimately, GIS allows responders to make better decisions and policy-makers to be better at adjusting methods and tactics to keep a community moving forward.

A location-based strategy can help create that holistic approach to data collection and analysis. Knowing where your community of homeless populations are and where best to allocate your resources are keys to success.

Esri Homless Service Locator

Organizations can use this six-step framework to integrate GIS into their tactics and ensure they are addressing homelessness from all sides.

1. Organize your data

Identifying all the variables that impact homelessness leads to a framework of understanding. Before directing or creating any new resources, it's critical to understand what's happening in your community today. While homelessness is a nationwide problem, the causes and symptoms are heavily localized. Whether it's a lack of adequate housing options, health or mental counseling, or other community support systems, it's imperative that agencies determine what resources are lacking within their community before they begin applying tactics.

GIS allows community leaders to gain an accurate picture of how and where homelessness is occurring, as well as the impact it's having on those areas. Public health officials, human services, law enforcement and volunteers can gather information from disparate data sources, geo-tag that information and then combine it in a single dynamic map to understand the effect of homelessness.

2. Collect new data in real time

Moving from static data to a data-driven policy approach requires collecting and organizing "ground-truthed" information. In addition to data gathered by events, such as official point-in-time count numbers, many organizations will find it necessary to create more data to inform their efforts. Using Esri mobile solutions, staff or volunteers can easily collect additional data from the field, such as new encampments, disease outbreaks, and nonprofit program locations/events to build a more complete picture of their community.

3. Communicate your findings

Collaboration between programs and agencies reduces redundancies and improves overall efficiencies. As data is collected and analyzed the information can be placed into an operational dashboard. The Operations Dashboard for ArcGIS provides visibility into data drawn from GIS, finance, accounting, customer relationship management systems, and other enterprise resource planning tools to begin monitoring and better understanding your progress. Staff at all levels must continually track changing community dynamics as well as the success of their prevention and response tactics to ensure ongoing success. Operations Dashboard for ArcGIS can offer dynamic, real-time views of every component of the strategy in a single place.
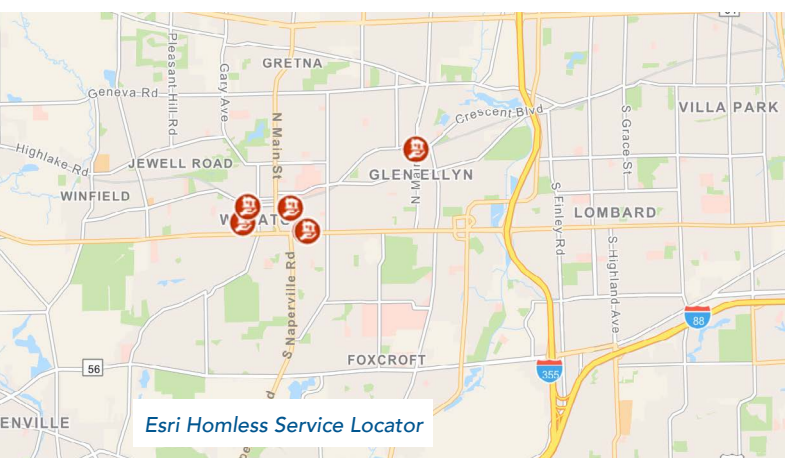
4. Deploy tactics and allocate resources

Once a full view of community-specific homelessness rates and resources is created, staff can use maps to quickly decide on a course of action. Optimizing and allocating resources based on need and location maximizes limited resources. For instance, with all information on a single map, they could quickly identify areas where homeless populations are concentrated, current resources are located, and where to add additional services such as housing, medical attention, food, counseling, training, or other resources.
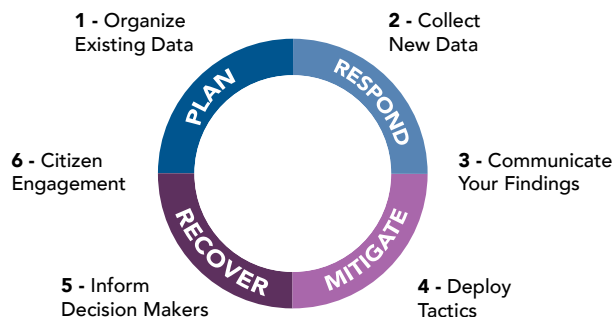
5. Inform decision makers

GIS is an excellent tool for public relations managers to provide briefings to elected officials and government executives. Operations Dashboard for ArcGIS can be used to present information on the state of the crisis, financial allocation based on communities, and progress of tactics so that swift decisions can be made in real time.

6. Educate the public and constituents

Understanding the state of homelessness and what is being done about the issue is important for the public to understand. Esri Story Maps can provide a context that is easy to understand and relatable to where your constituents work, live and play. Story Maps let organizations combine authoritative maps and data with narrative text, images and multimedia content to paint a picture of homelessness. They can better understand the health risks, effect on neighborhoods, and impact on infrastructure, as well as better realize why and how funding and assistance is being applied to keep their community resilient.

Finally, for nonprofits and volunteer-oriented citizens, the same tools can be used by staff to collect information and direct persons experiencing homelessness as to where and what opportunities are available to improve their lives.

Overcoming Social Inequalities Through Repeatable Patterns

1 - Organize Existing Data
2 - Collect New Data
3 - Communicate Your Findings
4 - Deploy Tactics
5 - Inform Decision Makers
6 - Citizen Engagement

PLAN
RESPOND
MITIGATE
RECOVER

Solutions to Serve Homeless Populations

Health and human services agencies can leverage multiple Esri GIS applications to help effectively decrease and serve homeless populations. Whether agencies are trying to provide decision-making tools to leaders or improving field collection of location-based data, GIS has a pivotal role to play. With GIS, agencies can:

Conduct point-in-time counts

Using Survey123 for ArcGIS, agencies and their network of volunteers can conduct counts of sheltered and unsheltered homeless from any location, and on any device. Homeless count results are then collected in a single online application and can be viewed via a single dashboard for in-depth trend and locational analysis.

Inventory health resources

Based on Web AppBuilder for ArcGIS, agencies can inventory homeless service providers to ensure they are appropriately located near communities in need. Additional services, such as health and drug addiction treatment centers, can also be collocated on the same maps to offer a more holistic view of services available.

Report homeless activity

While the homeless point-in-time count is typically conducted on a single night each year, surveys can be used year-round to report homeless activity and concerns.

Agency workers, partner organizations and even the general public can use the activity reporter to track the location of homeless individuals and encampments within the community. Additionally, health and human services personnel can use the Activity Manager and Dashboard to monitor their region's homeless activity and deploy resources as necessary.

Find health services

Finally, agencies can create public-facing maps of health services to educate and engage communities around the topic of homelessness. The Homeless Service Locator application is typically used by the homeless and households at risk of becoming homeless to find local agencies offering services including food assistance, emergency shelter, housing assistance, health services, and life and work skill training.

Homeless Activity Reporter

* Activity Observed

The type of homeless activity observed

○ Individual
○ Encampment
○ Other

Details

Any additional details

The Next Level of GIS Integration

The county of San Diego has been using GIS for nearly 15 years to monitor and inform decisions about health-related issues in the community. Most recently, the county's Health and Human Services Agency has been leveraging geo-tagged data to map and confront the Hepatitis A outbreak, which is spreading at historic rates through homeless populations and illicit drug users in the community.

But while county staff are using GIS to tackle health emergencies as they occur, they're also seeking ways to better correlate existing, geo-enabled data from disparate departments and organizations. Specifically, they are hoping to interconnect data to inform the Live Well San Diego initiative – a multifaceted program to improve the quality of life for residents. By connecting multiple programs' data in a single location, GIS analysts will be able to understand how and where initiatives complement one another, as well as where resources should be allocated to confront multiple community needs at once.

"Understanding what's going on with this kind of spatial information exchange and seeing how data aligns with our efforts of Live Well San Diego lets us bring together one solid vision that works toward the goal of making the county healthy, safe and thriving."

Tod Chee, GIS Coordinator Office of Business Intelligence, County of San Diego Health & Human Services Agency

Case Studies: GIS in Action

"We have been able to take an agile approach using GIS, allowing us to change from our original direction without wasting any time or resources."

Tina Miller, Geographic Information Officer, Municipality of Anchorage GDIC

Anchorage, Alaska

As the number of homeless people populating the streets and public facilities of Anchorage, Alaska, grew, the mayor's staff needed a way to keep track of camps and interactions with neighboring businesses and neighborhoods in an efficient and timely manner.

The problem wasn't a lack of data but the city's ability to collect and synthesize multiple sources of information to create a single plan of action.

For instance, Anchorage conducted the required yearly point-in-time surveys mandated by the U.S. Department of Housing and Urban Development (HUD). These processes, as well as citywide efforts to regulate and clean vacated homeless camps, required data tracking and collection. Those efforts, however, pulled from and created disparate data sources that made processes inefficient and ineffective.

That's why the Geographic Data and Information Center (GDIC), part of Anchorage's Office of Economic and Community Development, developed a holistic approach to understanding and responding to the problem of homelessness with data.

The first step was to make the annual homeless point-in-time count digital and gain a geographic perspective of the collected information. GDIC wanted to create a mechanism for coordinating outreach to the homeless, and to provide real-time data on the locations of camps.

Anchorage chose a configure-first approach, using multiple items in the Esri ArcGIS Online software suite, including configurable apps for collecting data in the field.

Next, GDIC employed Collector for ArcGIS in various departments, such as Anchorage Police Department and Anchorage Parks and Recreation, to easily share maps and data collected at homeless camps via mobile devices. This enabled the police and social services outreach workers to find and assist the homeless campers more easily and to refer the sites for cleanup once the camps were vacated.

Using ArcGIS Online, GDIC created its AncWorks Camps Dashboard. Employing the Esri GeoForm template, it incorporated residents' input of camp locations into the management tool monitored by GDIC and the mayor's office.

Since implementation, two annual homeless point-in-time counts have been conducted, increasing the community's ability to accurately count the individuals and camps. Each year, over 150 volunteers use Survey123 with minimal training to accomplish the homeless count in just one day.

Through collection of this information, outreach and social services teams have been better able to provide help in getting medical and mental health care. The information has also enhanced social services responses through the development of a coordinator position located within the Anchorage Police Department to help connect homeless individuals with needed resources quickly.

Aurora, Colorado

The city of Aurora, Colorado sought a way to not only conform to HUD's requirement to annually conduct a point-in-time survey, but also ensure the count was both accurate and useful. That's why it turned to Survey123 – an ArcGIS application that allows users to quickly create and deploy easy-to-use surveys on mobile devices.

The city's GIS team conducted a 10-minute training of the survey application for its 40 volunteers before deploying them into the field. Volunteers had easy-to-use drag-and-drop surveys loaded onto their own smartphones before they began driving around Aurora to conduct the count. Since using the app didn't require a download, all they had to do was click a link using their mobile devices, and it took them straight to the survey.

In the field, data was collected on a no-contact basis and based on what the volunteers could see. The survey form included categories for "Place of Stay" such as a tent, car, sleeping bag, beach, building alcove or park. It also asked for each homeless individual's approximate age and whether the person was inside or outside a business district.

Volunteers were largely social services providers, individuals experiencing homelessness, city council members, police officers and parks and recreation workers, as well as faculty from the University of Colorado. With that in mind, the survey also asked whether the person conducting the data collection was familiar with the homeless individual being counted.

Finally, surveyors were asked to drop a pin on the map where they noted a homeless individual, often providing notes with the pin indicating services, like medical services, food, or showers, that would be especially helpful. Survey data was updated in real time in the city's homeless census, which saved time and effort for the workers.

Not only did the survey allow the city to identify and record the locations of over 100 more homeless people than were included in last year's count, it also helped streamline a previously paper-based survey process to more effectively serve a population in need. Now, the city is also sharing its information from the count with the Metro Denver Homeless Initiative, which will collate and analyze data from throughout the region to address homelessness on a wider scale.

"Real-time GIS data helped ensure that the city maximized its resources, as census takers could tell at a glance where other teams had or had not been already."

Ryan Witsell, GIS Specialist,
Aurora, Colorado

Getting Started

Winning the war on homelessness requires a cross-discipline approach with many departments providing much needed support. GIS can be a powerful tool in turning this crisis around. A quick assessment of community data needs, the prioritization of analysis and apps that will improve operation efficiency and effectiveness, and a review of government's technical capacity should always be the first steps taken.

Once you have completed your organizational self-assessment it's time to select an execution strategy. This includes the following steps:

1. Do it yourself

Organizations with access to the Esri platform, as well as strong technical resources and the domain knowledge of dealing with homeless issues, can implement the approaches described by simply using in-house staff and resources. The solution sets are based on out-of-the-box functionality and the community maps and applications. The ArcGIS Solutions Deployment Tool allows users to browse a catalog of ArcGIS Solutions and begin configuring the templates to easily start mapping homeless encampments, resource centers and other relevant data points.

2. Explore a technology jumpstart package

This is for organizations that are looking to execute the maps and apps quickly but are short on technical staff, resources, and experience in building homeless applications. It may be worth exploring jumpstart packages to fill gaps for the short term. Jumpstarts provide both GIS software and technical staffing.

These engagements are designed to supplement agency staff with Esri professional services or a certified Esri business partner. Jumpstarts are a service that help staff quickly become self-sufficient in installing, implementing and managing Esri software. They also provide technical knowledge transfer and best practices for the use of the ArcGIS Platform.

3. Leverage a professional services engagement

Want to really use the concepts and apps to further government's mission to eradicate homelessness? Consider a full engagement with Esri Professional Services or an Esri Business Partner to provide consulting and implementation services for an optimal return on your GIS investment. These professional services engagements can help transform an organization through advice and hands-on help from GIS experts, industry specialists, developers and designers.

GIS is rapidly becoming a critical component to eradicating homelessness through better understanding your community and by placing the best resources where they are needed. A smart approach requires a complete approach.
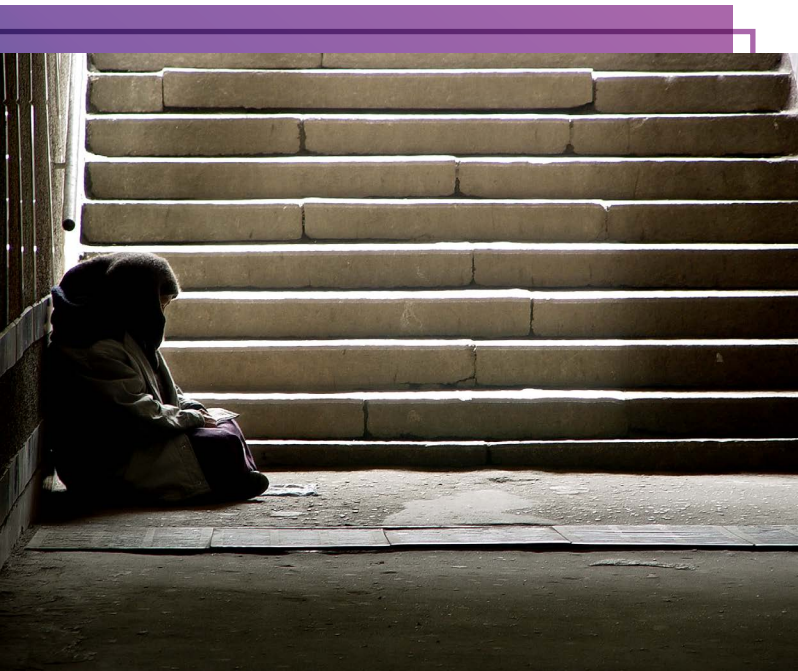
Conclusion

With intelligent mapping and survey tools, agencies can collect better data from the field and do more to combat the causes and effects of homelessness. GIS technology delivers the power of geography and spatial analysis to help human services and law enforcement organizations collect, manage, visualize and understand this data in new ways. Ultimately, GIS empowers communities to take a holistic and strategic approach to tackling homelessness.

When Esri was founded in 1969, we realized even then that geographic information system (GIS) technology could make a difference in society. Working with others who shared this passion, we were encouraged by the vast possibilities of GIS.

Today our confidence in GIS is built on the belief that geography matters - it connects our many cultures and societies and influences our way of life. GIS leverage geographic insight to ensure better communication and collaboration.

Explore our website to discover how our customers have obtained the geographic advantage by using Esri software to address social, economic, business, and environmental concerns at local, regional, national, and global scales. We hope you will be inspired to join the Esri community in using GIS to create a better world.

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