

# Government Matters

ESRI • Fall 2003

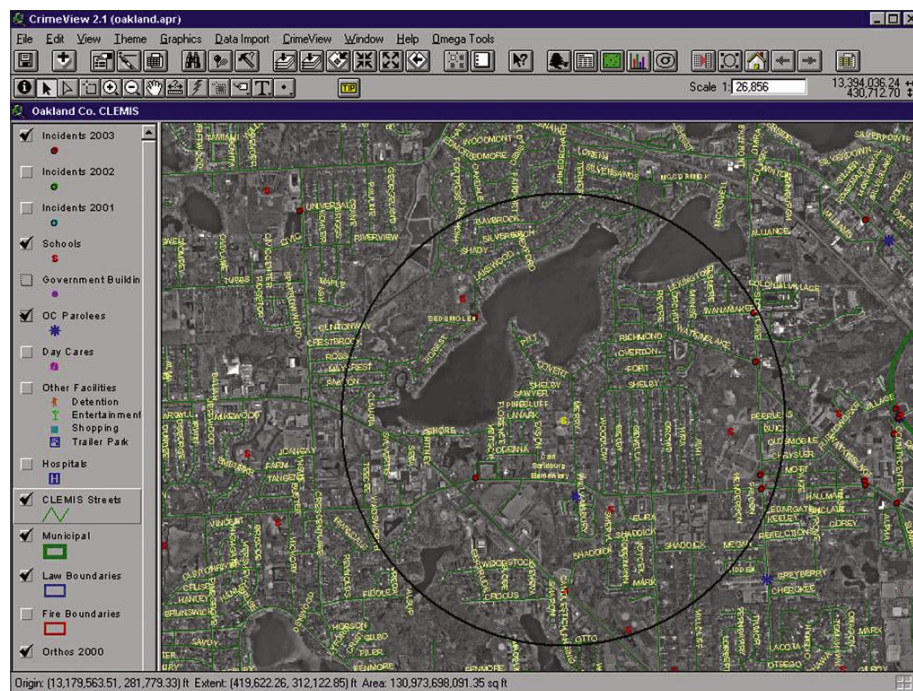
GIS for State and Local Government

## Regional Crime Analysis With CrimeView and Citrix

The spatial analysis of criminal activity provides information about crime patterns, hot spots, and trends that would otherwise be difficult to discern through nonspatial data. The ability to integrate crime data with other spatial data sets (such as land parcel data; demographics; and location of facilities such as schools, hospitals, and liquor shops) can help in better deployment of resources and proactive community policing. However, the real power of spatial analysis of crime data can be leveraged only by seeing patterns at various geographic scales—from neighborhood level to regional transportation corridors. This requires sharing and integration of crime data across jurisdictional boundaries among multiple public safety agencies.

The sharing of cross jurisdictional crime data is not new in Oakland County, Michigan. A unique partnership that has been evolving since the 1970s has resulted in 134 public safety agencies, including local police departments in Oakland, Livingston, Wayne, and Macomb Counties, sharing data through an organization called CLEMIS. CLEMIS (i.e., Courts and Law Enforcement Management Information Systems) is a division of Oakland County's Department of Information Technology.

When the benefits of spatial crime analysis became obvious to the CLEMIS consortium, it contacted GIS Utility, Oakland County's Enterprise GIS agency, to find an appropriate solution. GIS Utility realized that the primary challenge was to provide a solution with regional data to the consortium members who had a range of computer hardware capabilities. CrimeView, a commercial off-the-shelf tool from ESRI business partner The Omega Group, was chosen in 2001. It was customized



CLEMIS incorporates other GIS data sets that show the location of roads, schools, bars, and other landmarks so that analysts can determine the spatial relationship of incidents. Specific incidents that have occurred within a given distance of a school can be mapped by year, month, day of the week, or time of day.

for deployment in a Citrix architecture.

Crime data for CLEMIS participants is extracted from the CLEMIS Records Management System every 24 hours. Incident addresses are mapped as points and stored in shapefiles. As incident data increases, Oakland County expects to harness the advances in ESRI technology by upgrading to CrimeView 2002 with ArcGIS and ArcSDE. Currently, crime data for the years 2001 to 2003 is available to CrimeView users. On average, 900,000 crime incidents are recorded each year for the CLEMIS region.

Other GIS data sets, such as the location of roads, schools, bars, shopping centers, and government buildings, are added to the map so that analysts can determine the spatial

relationship of incidents. For example, the number of drug-related offenses that have occurred within a given distance of a school can be mapped, and charts showing when these incidents occur by the time of day or day of the week can be created to incorporate the temporal element in crime occurrences.

Oakland County's CrimeView deployment gained several benefits through its use of Citrix. The Citrix architecture allows client/server applications to emulate thin client architectures so that a significant amount of application processing occurs on the server. Consequently, the application performs well on the less powerful computers that are commonly found in law enforcement agencies.

The Citrix deployment also allows the

use of concurrent software licenses, which eliminates the need for individual licenses installed on each computer. Any issues or changes in the application can be resolved once on centrally maintained software, rather than requiring site visits to geographically dispersed communities. Additional Citrix servers are deployed to support redundancy and supply load balancing as use increases.

Finally, users have secure access to the application and data with the flexibility to store personalized projects and queries. This utility, though not originally planned, was added after requests were received from users.

As part of the CrimeView deployment, two days of training are offered to interested agencies. One day is devoted to basic GIS concepts and ArcView 3. The second day

focuses on CrimeView and spatial analysis. Currently, 12 agencies have been trained, and a user group has been formed to share knowledge and identify future data and technology needs.

For more information on Oakland County's CrimeView deployment, contact Penny Peters, user support specialist, at 248-858-2387 or [petersp@co.oakland.mi.us](mailto:petersp@co.oakland.mi.us).



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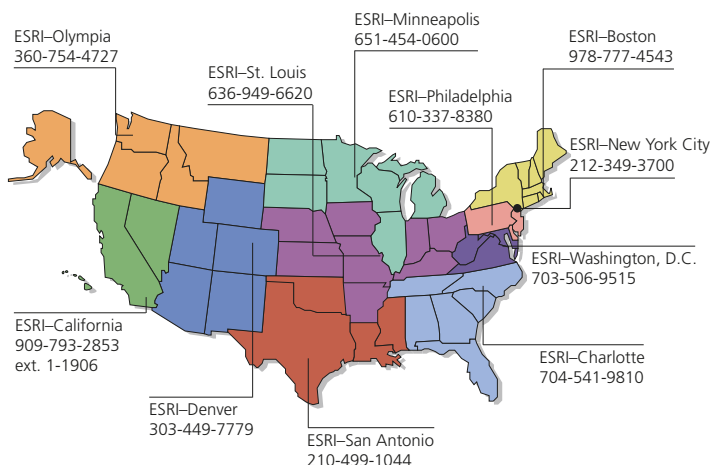
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