



CITY OF
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BUREAU OF POLICE

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Portland Police Bureau Crime Mapping on the Internet CrimeMapper

CrimeMapper is the new neighborhood crime mapping tool on the Police Bureau's website. CrimeMapper creates maps using a database of Part 1 crimes specifically created from the Portland Police Data System (PPDS), and is easily accessed through the Police Bureau's website. In addition to mapping, CrimeMapper also creates detailed graphs and reports.

For more than 10 years, the Police Bureau has developed crime mapping data analysis as an effective tool to communicate, problem solve, investigate and evaluate. In 1995, the Bureau began developing CAMIN, Crime Analysis Mapping Information Network, which brought crime mapping capabilities to all police precincts and several other divisions in 1998. CAMIN combines calls-for-service data, arrest data and reported crime data in a user-friendly format. Data sources for CAMIN are comprehensive and confidential, but the Bureau also wanted to create a tool to provide crime mapping capabilities to our public safety partners and the public.

In 1998, the Bureau was awarded a portion of a Bureau of Justice Assistance (BJA) Block Grant to develop an Internet-based version of crime mapping. CrimeMapper, which provides reported crime data, becomes operational on Feb. 14, 2001.

Goals

The primary goal of the Portland Police Bureau is to reduce crime and the fear of crime. CrimeMapper supports that goal in four ways:

- Provides information about reported crime to the public so people have a more comprehensive view of what is occurring in their neighborhood.
- Encourages involvement in problem solving efforts through links to service providers.
- Provides a tool for public safety partners to evaluate their efforts to see if their activities are having an effect on reported crime in their neighborhood or business district.
- Demonstrates partnerships with the Office of Neighborhood Involvement (ONI), Neighborhood Watch Block Captains and other municipalities and jurisdictions.

By providing web-based tools that identify and track neighborhood crime, the community and police can work together to develop effective crime prevention and problem solving strategies. These strategies can target problems before they develop into more serious situations that require additional police services, or that negatively influence livability in our neighborhoods.

Neighborhood crime mapping will help track crime reduction successes, which will reinforce police and community problem solving partnerships and communication. In addition, the report and graphing features of CrimeMapper allow for greater distribution of statistical information and more detailed crime analysis.

Information in the system

CrimeMapper provides easy access to a wide variety of information on the types and occurrences of Part 1 Crimes in the City of Portland. These crime types are:

- **Assault** – An attack by one person upon another for the purpose of inflicting severe injury. This type of assault usually is accompanied by the use of a weapon or by means likely to produce death or injury.
- **Arson** – Any willful burning or attempt to burn a building, motor vehicle, aircraft, or personal property of another.
- **Burglary** – The unlawful entry of a structure (both residential and non-residential) with intent to commit a theft.
- **Larceny** – The unlawful taking of property from the possession of another; includes pickpocket, pursesnatch, shoplift, bike theft, and theft from motor vehicle (car prowl).
- **Vehicle Theft** – The theft or attempted theft of a motor vehicle; includes motorcycles.
- **Robbery** – The taking or attempting to take anything of value from a person or persons by force or threat of force.
- **Sexual Assault** – Includes rape, statutory rape, and sodomy. (Does not include prostitution). Attempts to commit such assaults by force or threat of force are included. This definition is broader than the FBI Part 1 definition.
- **Homicide** – The willful (non-negligent) killing of one human being by another.

This database contains one full year of data and will be updated monthly.

An on-line help file, crime definitions, links to Police Bureau resources and programs, as well as numerous other problem solving, law enforcement and neighborhood resource links are located on the website. These links provide the community with additional resources to assist them in their problem solving efforts.

Community feedback is an important element in the continued development of CrimeMapper. As we learn more about the community's mapping and crime analysis needs, changes or enhancements will be made to the system.

Accessing CrimeMapper

CrimeMapper is easily accessed through the Police Bureau website:
www.portlandpolicebureau.com

Capabilities

CrimeMapper has been developed with ease-of-use in mind. With a valid street address, intersection or address number, a user can create a map of Part 1 crimes surrounding a specific location within the City of Portland. Selection options will allow users to view crimes that have occurred in an area surrounding that location, create reports showing crimes and the reported date or date range of those crimes, and display information in graph form. The graphing and reporting features display crime data by month, day of the week, and time of day.

Users can view crimes by point of occurrence or crime density. Points of occurrence are represented by different colored symbols (circle, square, triangle, etc.). Crime density displays a shaded grid, with different shades representing different density of crimes in that grid.

CRIME

-  Burglary
-  Vehicle Theft
-  Larceny
-  Assault
-  Arson
-  Robbery
-  Sexual Assault
-  Homicide

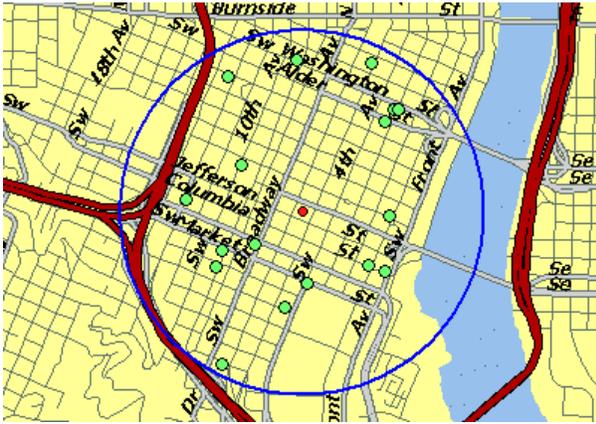
CrimeMapper symbols used to display Part 1 Crimes

CrimeMapper Grid

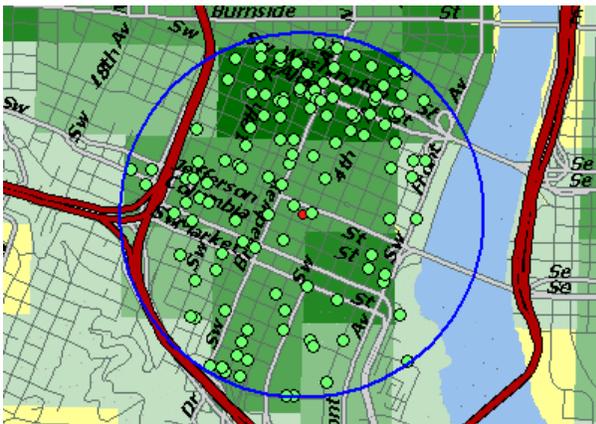
Since multiple crimes may be reported to the same location, occurrence points may overlap, thus viewing only point of occurrence data may present an incomplete picture. CrimeMapper, however, uses a randomly generated quarter-mile grid system that covers the City of Portland. The crime grid is the geographic unit used to aggregate and summarize occurrences of crime types within the city. As the number of crimes increases within the grid, the shading of the grid changes.



The CrimeMapper Grid



Map showing points of occurrence only



Map that combines occurrence points and crime grid

The quarter-mile grids are small enough to allow people to gain a meaningful understanding of crime density, without corresponding to existing neighborhood or precinct boundaries. The goal is to provide the information to encourage problem solving, not to discourage neighborhoods by mischaracterizing them.

Crime definitions and graphics are also displayed with this note: Many factors can influence meaningful comparisons between crime grids. For example, large work force populations in certain areas (Downtown, Old Town/Chinatown, Pearl, Northwest Industrial, and the Lloyd area) can distort crime rates for those locations. Other factors that may affect reported crime include organized Neighborhood Watch Block Captain programs, targeted police enforcement, or proximity to commercial and commuter zones.

In addition, the information is presented with referrals to police precinct staff, neighborhood crime prevention specialists and other resource providers. Data without analysis or assistance with interpretation can be misleading; these resource providers can work with community members to discuss the significance of the data and any action steps required.

Confidentiality

The Police Bureau is committed to retaining the confidentiality of much of the data contained in police reports for two reasons: to maintain the integrity of investigations and to provide privacy for crime victims. Accordingly, CrimeMapper will not access or display any victim information, any suspect information and any details about the specific crime (what was stolen in the burglary, for example).

It also will not provide a location for sexual assault crimes, but will show the general occurrence of these crimes on a density grid.

The search feature displays crime occurrences surrounding a location, not crime occurrences for an exact address. The information displayed will be a half-mile radius of the exact location the user enters.

System development

Since the 1970s, the Portland Police Bureau has used maps to display crime patterns and to illustrate crime profiles. Maps were made by hand and used to display crime patterns more than detect them. In 1988, the Bureau purchased its first automated mapping software. Although the system was complex, for the first time permanent data (streets, city boundaries, rivers, patrol districts) and transient data (reported crimes, stolen autos, calls for service) were displayed on the same map, giving users the ability to detect patterns and geographic “hot spots.”

In 1995, work began on an effort to create “walk up and use” mapping stations at each police precinct and in several other offices in the Bureau. The system needed to be easy to use, have timely data and be able to produce maps quickly. This project had considerable input from users within the agency, and CAMIN, the Crime Analysis Mapping Information Network, was installed in early 1998. This system was developed using federal grant funding.

The next step for crime mapping in a community policing agency was to provide crime mapping capabilities to our public safety partners, such as neighborhood crime prevention specialists, and to the public. An Internet-based tool, that would not require the purchase of special hardware or software for our partners, was the best solution and work began on Internet mapping in 1999 after receiving a BJA grant.

A partnership with the Corporate Geographic Information Systems (CGIS), a division of the Bureau of Information Technology, was formed last year. Bureau staff provided CGIS with the reported crime information, including type of crime, time of crime, location, and date. CGIS developed the interface and programming for this project and hosts the mapping and database servers that are used to deliver this service to the community.

While developing the system, project staff gained input from Office of Neighborhood Involvement neighborhood crime prevention staff, the Chief’s Forum, Police Bureau division managers and various other groups. This feedback was used to develop a user-friendly tool that gives detailed information while still maintaining confidentiality.

Next steps

Groups who have viewed the system have generated more ideas on additional crime data and information that could be included. Police Bureau personnel, as well, have a need for more access to the internal crime mapping network. The internal goal is to provide CAMIN to every Bureau employee and to expand the management information provided on the network. The community goal is to enhance CrimeMapper with more information on additional types of crimes and multi-year comparisons.

The Bureau also views CrimeMapper as a vital communication link between Neighborhood Watch Block Captains, neighborhood crime prevention specialists and Senior Neighborhood Officers.

Partners

Portland Police Bureau
Corporate Geographic Information System, Bureau of Information Technology
Office of Neighborhood Involvement, Neighborhood Crime Prevention

Acknowledgements

Leadership

Advances in crime mapping capabilities would not have been possible without support and leadership from Mayor Vera Katz and Portland Police Chief Mark Kroeker.

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