

## Mapping crime

( [http://www.cce.org/resources/learning\\_centre/classroom\\_activities/mapping\\_crime.asp](http://www.cce.org/resources/learning_centre/classroom_activities/mapping_crime.asp) )

(submitted by John Newcomb, University of Victoria, who would be happy to discuss the lesson: [jnewcomb@office.geog.uvic.ca](mailto:jnewcomb@office.geog.uvic.ca))

### Course Level

This is a 2 hour laboratory in human geography, suitable for secondary school level or introductory post-secondary level. I've introduced it to our first-year Human Geography course.

### Objectives

To use data on break and enter crime incidents to make a map that will prompt discussion about the spatial location of crime in the city, why it would occur in those places, and how residents may reduce crime. Concepts about spatial mapping data can be discussed, as well as exploring how computerization may aid such mapping.

### Material

1. A database of break and enter crime incidents, with street addresses sorted in alphabetical order. Local police may furnish, or in the case of Victoria, B.C., a community newspaper, *Saanich News*, has published such data for several years. Necessary information includes the street address, either the exact address (not usually available for reasons of confidentiality) or to the nearest block. The number of incidents will vary, but a database of about 200 incidents will take a class of 22 students about an hour to map, and the map will start looking filled with about 500 or more break and entries. Additional information may include auto thefts, bicycle thefts, thefts from autos, and shoplifters arrested.
2. One street-finder map for every 5-10 students in the lab, with alphabetically ordered street coordinates.
3. A recyclable paper wall street map, about 1 meter by 1.5 meters or larger. The best map will only have streets and street names marked on it - nothing else. Local city planners will usually give teachers free or low cost maps for this purpose. The break and enter incidents will be marked on this map with a red pen.
4. 2-3 red pens to mark the break and enter incidents as points on the wall map.

### Activity

In teams of 4-5, students transfer data from the break and enter database onto the map, with each student responsible for mapping about 10 incidents each, using a red pen to put a small dot on the map for each crime incident location. After the mapping of data is done, careful inspection of the map may reveal patterns of high crime incidence, also called 'hot spots', and areas with almost no crimes. Discussion may focus on the transformation of the crime data from tabular form into spatial form, and the type of new information that becomes available to crime analysts when this is done.

Police regularly have a station 'push-pin' map, and find that the most valuable crime maps are those that are prepared and updated on a daily basis. This map uses data that may be six months or a year old. Other questions may be brought up by students, such as the socio-economic levels of the high and low crime areas:

1. As the data is transferred from a 'flat' spreadsheet-style database onto the map, do students begin to perceive a correlation between socio-economic levels and the spatial

location and amount of reported break and entry incidents.

Alternatively, is crime related more to the urban infra-structure (i.e. more crime near busy streets). Crime-stoppers, police, or criminologists may be invited in to view the maps and offer their opinion as to the spatial nature of crime incidents.

2. Are students surprised by the spatial distribution of break and entry crimes? By the number of such crimes? Have they or their families been victims of such crimes?
3. Can students understand how computerized mapping, or Geographic Information Systems, may improve on the crime mapping process? Can they see any problems or issues with such mapping? These problems may relate to privacy issues, property values, etc.

#### **Related websites**

- [Information Collection for Automated Mapping \(ICAM\)](#)
- [Geography on the job: Kim Rossmo](#)
- [Saanich Police "Break and Enter Statistics"](#)

#### **Bibliography Suggestions**

Grescoe, Taras. 'Murder He Mapped'. *Canadian Geographic*. Vol. 116, No. 5. September/October, 1996. pp.48-52.

Nagle, Garrett. 'Teaching the Geography of Crime'. *Teaching Geography*. Vol. 20, No. 3. July, 1995. pp.125-127.

Miller, Tim. 'GIS Catches Criminals'. *GIS World*. May, 1993. pp. 42-43.

Rich, Thomas. 'The Use of Computerized Mapping in Crime Control and Prevention Programs'. *Research In Action*. National Institute of Justice (US). July, 1995.

Brantingham, P. [Environmental Criminology](#). Waveland Press. 1991.

*Videos of GIS and crime mapping may be available. Several news-shows in B.C. have recently featured Dr. Kim Rossmo's work in Vancouver (the topic of the Grescoe article).*