PURPOSE: Identifying where crime concentrates is one of the the principle aims of crime analysis. However, the spatial analysis techniques commonly used to identify ±hot spotsqof crime typically assume that crime can occur anywhere in a study area and ignore the effect that the built environment has on the spatial distribution of crime. As some crimes are particularly constrained by networks (e.g. street robbery by the street network, bus crime by the transport network) it is important that there are appropriate analytical methods available to capture such linear concentrations.

Hot Routes was devised to be a straightforward spatial technique that analyses crime patterns that are associated with a linear network (e.g. streets and other transportation networks). It allows an analyst to map crime concentrations along different segments of the network and visualise this through colour. It is deliberately simple, meaning that an analyst just needs access to a regular GIS package and suitable data sets. More sophisticated tools are available[1], but access to them is usually limited by police IT systems protocols on installing software.

THEORY: According to crime pattern theory, the distribution of crime largely depends on how victims and offenders converge in space. In an urban environment an individual's 'activity space' is defined by streets and transport networks called 'paths' along which they travel to 'nodes' where they live, work, or engage in leisure activities. Crime tends to concentrate at the nodes and along the paths that connect them when the routine activities of individuals provide a regular supply of suitable targets for offenders. Certain shopping malls, transport hubs and streets become 'crime generators' because they attract large numbers of people, and therefore multiple opportunities to commit crime. Since streets and transport networks constrain the routine movements of individuals and their encounters with offenders, they strongly influence the spatial distribution of crime.

Crime pattern theory, and the crime concentration patterns predicted by it, is supported by an

Hot Routes is a spatial technique that analyses crime patterns that are associated with a network. It allows an analyst to map crime concentrations along different segments of that network and uses colour and line-width to visualise the results (known as thematic mapping).

GENERAL RESOURCES

Network spatial analysis software:

SANET: http://sanet.csis.u-tokyo.ac.jp

GeoDaNet: