Linking Neighbourhood Data in the Analysis of Crime

Professor Susan McVie

University of Edinburgh

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The importance of crime mapping for policing in UK

- Understanding the geography of crime and using crime mapping tools in the UK is an increasing area of interest for both academia and policy.

- The Jill Dando Institute of Security and Crime Science at UCL hosts some of the world's experts in geo-spatial analysis and provides master classes on hotspot mapping, neighbourhood analysis, predictive mapping and geographic profiling.

- All UK police forces routinely employ crime analysts to create hotspots of high crime areas and these are widely used for operational and strategic planning.

Bringing crime mapping to the public

- In 2011, a new online crime mapping system was launched for England and Wales, allowing the public to see which offences have been reported in their local area.

- Police attitude to crime mapping was mainly positive – "magnificent achievement" which "brings accountability to the armchair for everyone who wants to monitor crime on their street" (Association of Chief Police Officers).

- Other have raised concern – from "complete farce" to more specific concerns about disclosure, dropping house prices, stigma and unfairly focusing on crime 'epi-centres')

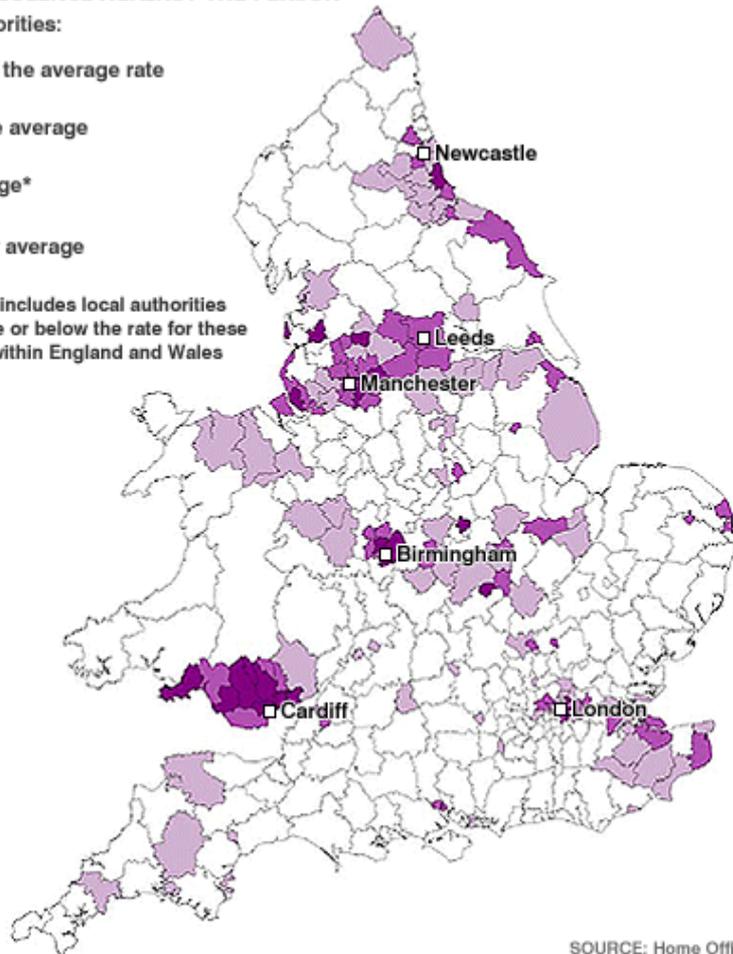- Public interest was initially high but the longer term impact is unknown.

The Scottish Institute
for **Policing Research**

SERIOUS VIOLENCE AGAINST THE PERSON

Local authorities:

- Twice the average rate
- Above average
- Average*
- Below average

* This band includes local authorities
  20% above or below the rate for these
  offences within England and Wales

Newcastle

Leeds

Manchester

Birmingham

Cardiff

London

SOURCE: Home Office

SERIOUS VIOLENCE AGAINST THE PERSON

SOURCE: Home Office

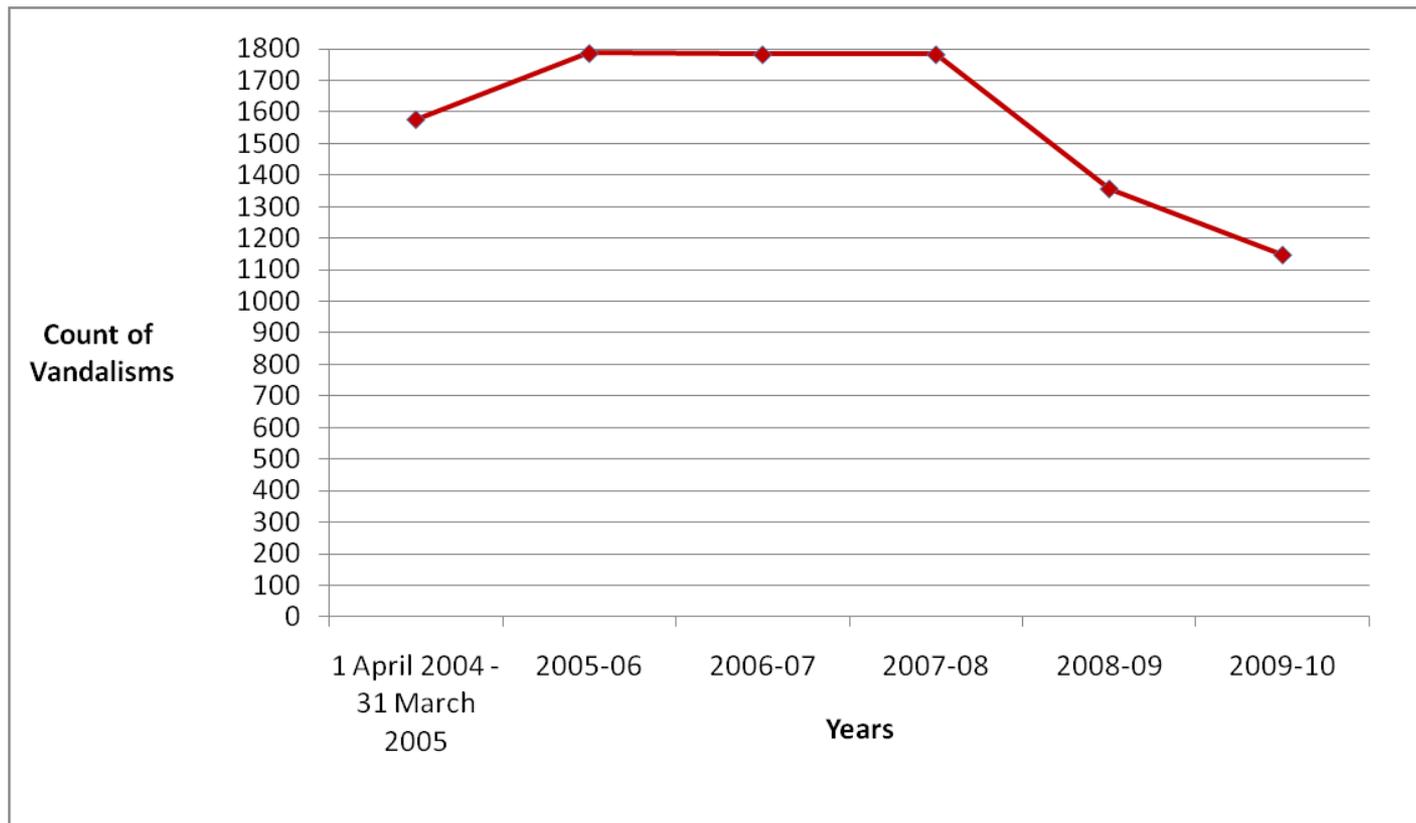# The importance of crime mapping for policing in Scotland

- Scotland's unenviable reputation of being 'murder capital of Europe' (WHO 2005)

- Majority of Scottish cities have below average crime rates; the exception being Glasgow.

- Majority of areas within Glasgow have below average crime rates; police hot spot maps have been used to identify the 'problem areas'.

- Understanding the geographical, social and physical context of specific parts of Glasgow has had a major impact in tackling violence and reducing crime rates.

- Crime reduction has been facilitated by implementing policy and practice based on evidence linking police crime data to a range of other data sources.
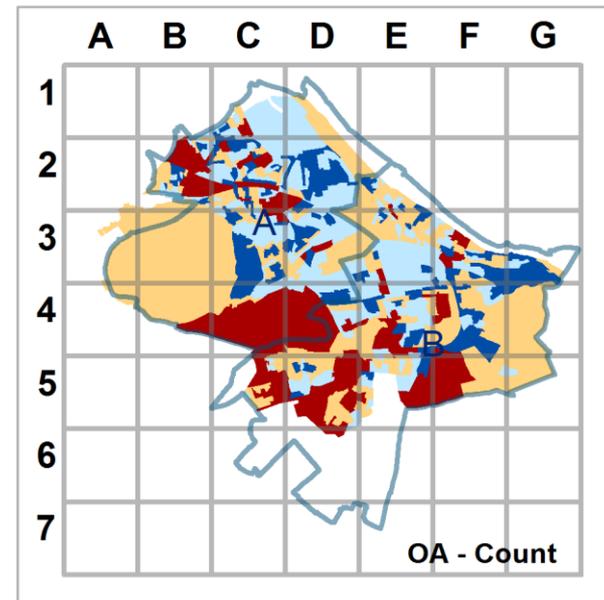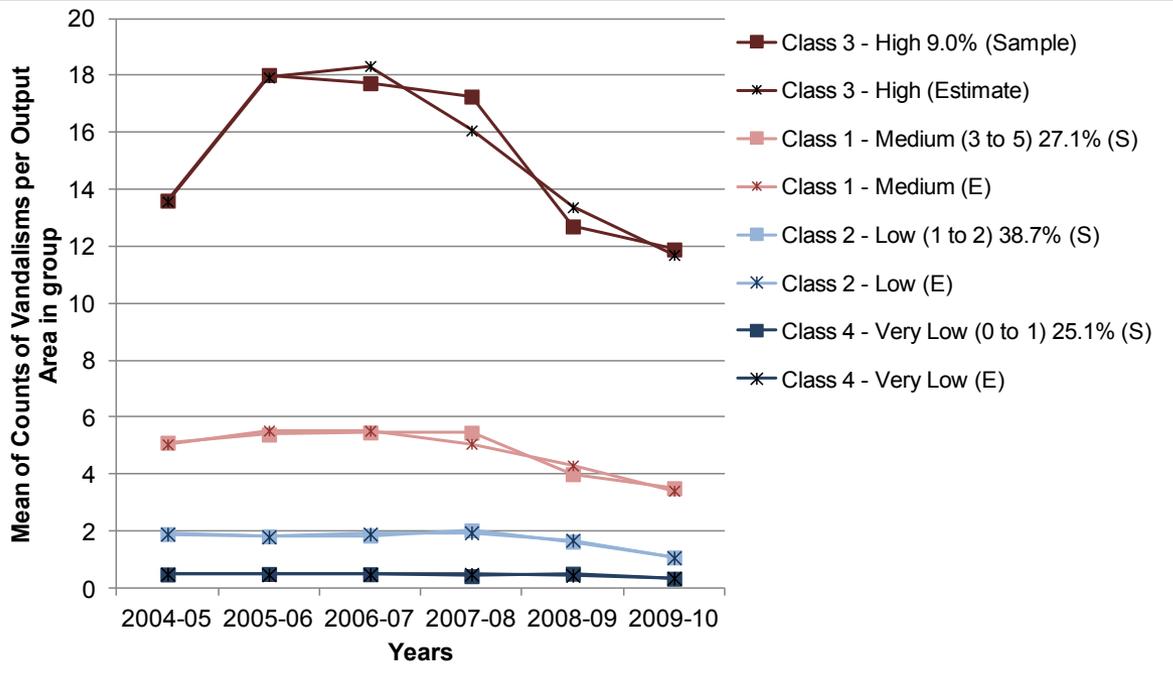
Quality and availability of geo-coded data

- From a criminologists perspective, the quality and availability of geo-coded data in Scotland (and other parts of Europe) is poor.

- Nationally available data for research is patchy and often available at macro levels of analysis (e.g. Homicide at Local Authority Level only).

- Data are not updated on a regular basis, which makes trend analysis impossible.

- Access to police data is difficult to negotiate and many restrictions are placed on users (trust between academics and practitioners is critical).

A Scottish case study of vandalism (Ellie Bates, PhD Student)

Overall trends in vandalism in an Edinburgh suburb
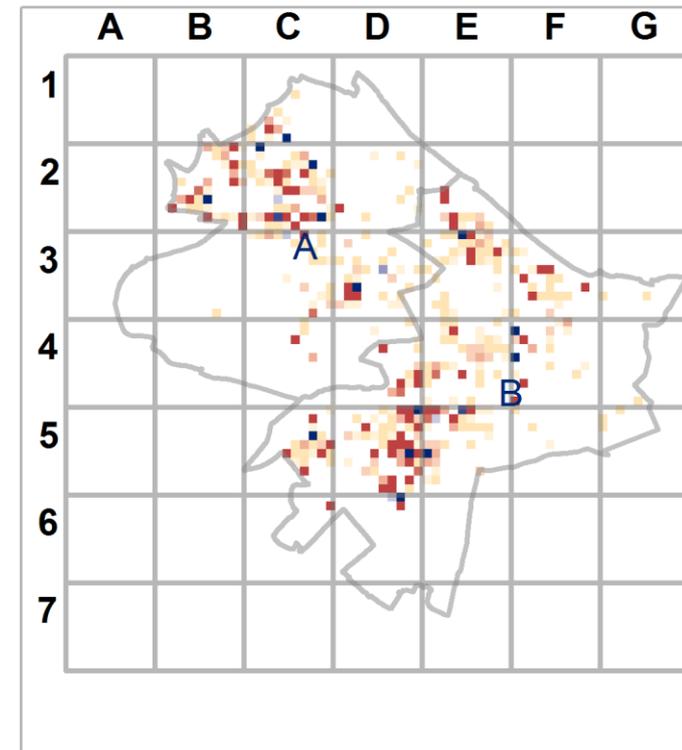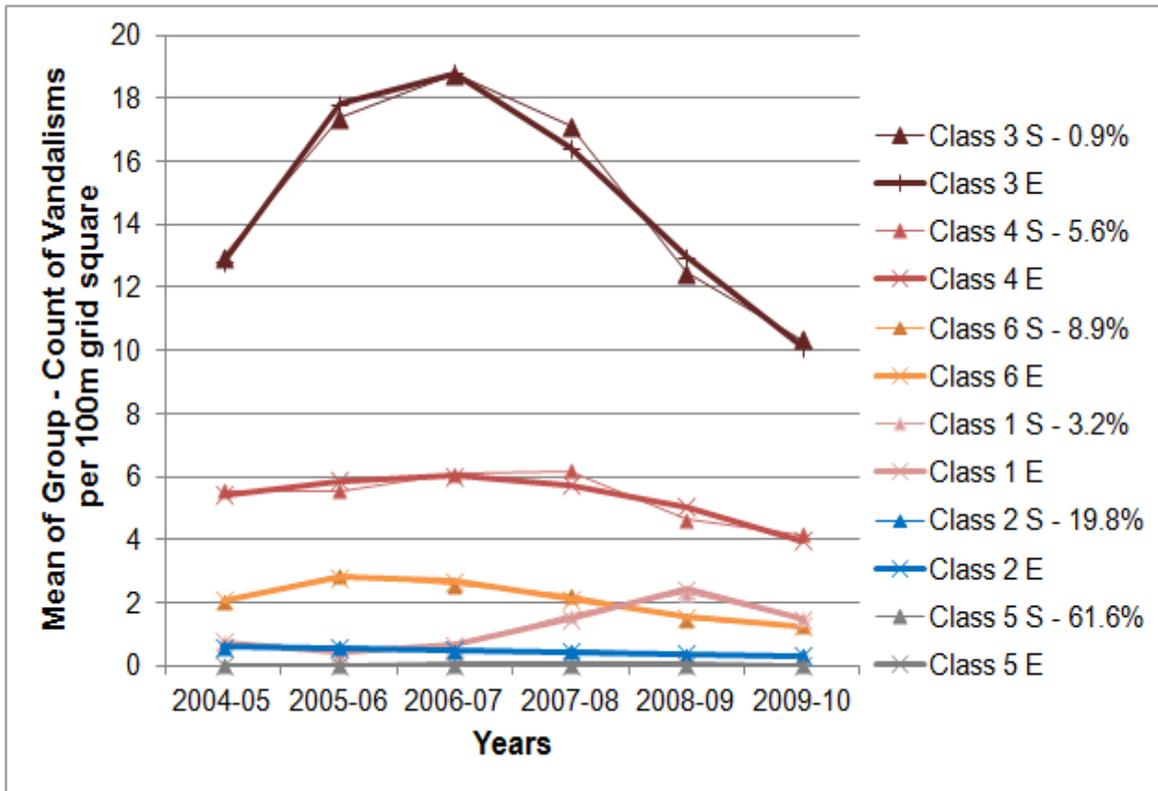
Trajectory patterns of vandalism at Output Area level

Trajectory patterns of vandalism at 100m Grid level

What predicts vandalism at these 2 levels?

- At the 100m grid level:
  - High residential density
  - High concentration of business addresses
  - In vicinity of local school
  - Lack of recreational facilities

- At the Output Area level:
  - High welfare dependency

Adding the voice of the police

- A similar dichotomy of 'micro' and 'macro' level explanations

- Specific examples of how the public 'interact' with space

- Complex understanding of the context of specific areas

- Areas of high, low and drifting crime

Implications for policy & practice

- The police (and other agencies!) need to improve data quality and availability AND researchers need to include practitioners as key stakeholders from the start and demonstrate in practical terms how research.

- Crime prevention strategies require both geographical knowledge AND understanding of the social and physical use of space.

- Processes that impact on crime may operate at different levels AND not all of these processes are the responsibility of the police.

- Statistical and mapping tools are important to see the 'big picture' BUT effective interventions require good local knowledge from those on the ground.