

KEOS End of Project Conference

Hub 2: Understanding Acquisitive Crime through Collaborative Spatial Analysis of Burglary and Shoplifting



Office of the
**Police & Crime
Commissioner**
West Yorkshire



Motivation

Burglary

- Leeds has historically had unusually high burglary rates
- Substantial reductions in recent years
- Why? What has worked well?
- **Analyse a combination of crime data (over the last decade), socio-demographic data, and geospatial data**
- **Attempt to explain differences in the distribution of acquisitive crimes across cities in West Yorkshire**

Shoplifting

- Nationally, it doesn't seem to be following the downwards trend of other crimes
 - Caused by the recession?
- Also, data don't give a true picture (e.g. under reporting)
 - Complement quantitative analysis with shop interviews

The Value of Collaboration

West Yorkshire Police

- Data!
 - Only limited data are publically available
 - Not adequate for detailed spatio-temporal analysis
- Expert knowledge
 - About crime
 - About data
- **Proposed outcome: a clearer picture of how acquisitive crime patterns in West Yorkshire have changed, how much of this is due to external influences (e.g. the economy), and what the most productive crime reduction initiatives have been / will be.**

University of Leeds

- Research expertise: analysis, modelling, visualisation
- Time / resources for in depth analysis
- Computing infrastructure

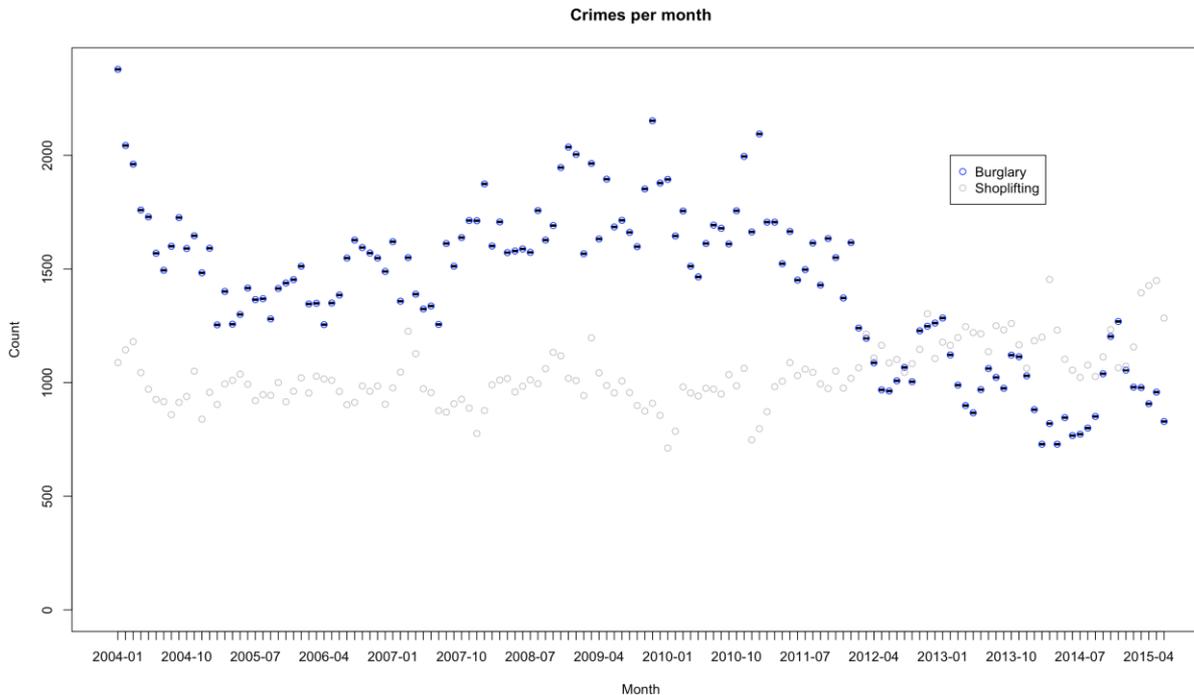
Workplan

1. **Preparation:** Data agreements, transfer data to secure Leeds storage.
2. **Cleaning:** analyse inconsistencies and changes in recording practices etc.
3. **Analysis:**
 - a. **Quantitative**, spatio-temporal analysis of of crime, socio-demographic and geospatial data.
 - b. **Interviews** to supplement quantitative analysis of shoplifting (*thanks Sean Walker, BACIL*)
4. **Collaboration:** Assist in the development of methods used by WYP to better predict emerging hotspots.

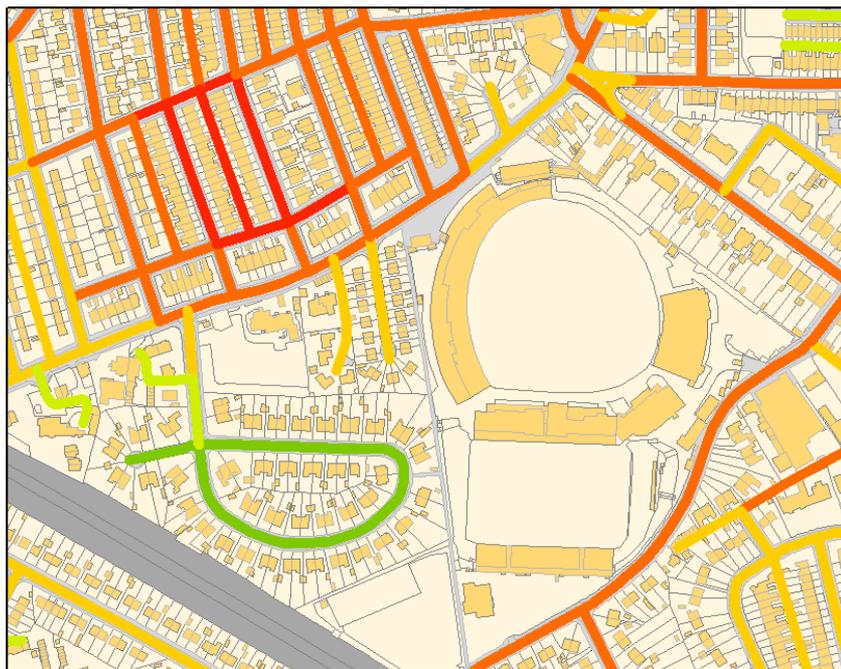
Have had some holdups completing the data sharing process

Progress

- Data have been delivered!



Future Work Example – Burglary



Future Work Example – Shoplifting

- A confused picture!
 - Retail Crime Survey (British Retail Consortium)
 - Increases in customer theft from 2010-11 onwards
 - Commercial Victimization Survey (ONS)
 - Insignificant decreases in theft
 - Police data (from CSEW) (Home Office)
 - 7% increase on previous years
- “Anecdotal evidence from police forces suggests that this rise is likely to be a result of a genuine increase in crime rather than any change in recording practice.”
(Office for National Statistics, 2014)

Future Work Example – Shoplifting

- **Drivers.** There is a working hypothesis that it is **driven by austerity**, whereas the historical driver was drug use. Can we **identify changes in stolen goods** that point to a **change in motivation**? E.g. nappies and vegetables (austerity) v.s. coffee, meat, knives (drugs).
- **Reporting.** How much shoplifting goes unreported? Do shopkeepers have **internal thresholds**? Does a new person have lower thresholds and report absolutely everything?
- **Displacement.** Is there displacement of shoplifting from city centres (where there is CCTV and higher staffing levels) to out of town mini markets which don't have CCTV and have lower staff levels?

Implications / Next Steps

- Identified issues with data sharing
- Have overcome institutional barriers and bottlenecks
- Next steps: the **N8 Policing Research Partnership**
 - Continue current work
 - Vital lessons around data sharing agreements and processes
 - New data infrastructure could speed things up in the future
 - The Leeds Institute for Data Analytics (LIDA)



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