Written evidence from the Applied Criminology Centre, University of Huddersfield (SOR0009)

1. Summary

1.1 This submission presents findings from a research project that examined pick-pocketing on the London Underground (LU), in conjunction with Transport for London (TfL), British Transport Police (BTP), the Metropolitan Police Service (MPS), and City of London Police (CoLP). This project examined the use of a new method for better estimating the location of pick-pocketing offences on the London Underground. Due to the nature of this offence, the victims are often unaware of the precise location and timing of the incident. They only discover an item missing at a later date somewhere else. This innovative method has been termed Interstitial Crime Analysis (ICA). This project explored the robustness of this methodology for targeting pick-pocketing offences on the Underground (both time and locations) and the implications of this for crime prevention. It also identifies factors inside stations and near stations that may elevate the risk of pick-pocketing

1.2 The results indicated that the ICA method is a more effective way of estimating the locations of theft on the LU than alternatives (such as using the end of line (EOL), the middle station, or using a random station of a journey). It also found that theft rates (based on per million passenger journeys) were concentrated both in time and place, especially at peak travel times, and that theft on the LU ('below' ground) was related to theft 'above' ground near to stations. The latter was also strongest at peak travel times.

1.3 Particular characteristics were identified as predictive of theft, both within stations, and near to stations. The results demonstrate that; joint operations targeting offenders both above and below ground are more likely to impact on reducing theft; the ICA technique should be used to target resources effectively; and prevention introduced to tackle pick-pocketing should focus both on LU stations and in their nearby surroundings, at peak travel times in high risk locations.

2. Interstitial Crime Analysis

2.1 This analysis examined pick-pocketing offences reported on the LU and near to the LU for the period 1st April 2011 to 31st March 2012. A probabilistic modelling technique was used to estimate the locations of pick pocketing offences. 5,063 theft offences were examined on the LU and the following procedure was used to construct the ICA value. For every passenger journey that involves a pick-pocketing offence; assign an equal risk of theft to every stations on the journey, and every line segment (a section of line between two stations) on that journey; this gives a probability of risk each station and segment along that journey. This is repeated for all 5063 journeys. The cumulative risk is then calculated for every station and every segment based on all 5063 journeys.

2.2 The findings suggest the ICA measure more appropriate than the EOL) and that the ICA adjusted rate (standardised per million passenger journeys at each station) is an appropriate measure of identifying theft risk below ground on the LU.

2.3 Below ground theft offences are concentrated at particular stations; risk is highest during morning and late afternoon peak travel periods; at these peak times there is an elevated risk of theft at both high risk stations and in their surrounding environs; and that this relationship is not evident during the inter-peak and late night time periods

3. Predictor Variables of Theft (Inside and Near to Stations)

3.1 A range of possible predictor variables of pick-pocketing, selected from both the internal design of stations and features of their nearby environments were examined using a negative binomial Poisson regression model.

3.2 The results of this analysis revealed that: risk was increased by factors associated with higher levels of congestion within stations including lifts, waiting rooms and fewer platforms; and greater levels of accessibility close to stations, more paths and roads; risk was reduced by factors such as those likely to encourage detection and guardianship; stations with more personal validators, staff levels and shop rentals; and the presence of more domestic buildings nearby. Station type was also important; those that were 'attractors' of crime (which had both high counts of pick-pocketing, and high rates of pick-pocketing per million passengers at the station) and those frequently used by tourists were at greater risk. The findings suggest a transmission of theft risk between the internal settings of underground stations and their nearby surroundings.

4. Policy Recommendations

4.1 The findings of this analysis suggest that offenders who operate on the LU are also likely to offend near to rail stations. Moreover, due to the elevated risk that occurs at peak travel times both within and near to high risk stations, even if different offenders are in operation, the research suggests deployment of resources, joint operations and shared operations between the BTP, MPS and CoLP should be encouraged.

4.2 The ICA can be used as a useful tool to identify high risk stations and for the deployment of resources to reduce pick-pocketing. Since early 2013, the ICA technique has been automated and developed as a tool available to BTP officers on the Force Performance and Mapping Portal. The extent to which this resource is being exploited has not been evaluated, and it is recommended this is a priority research area.

5. Further Information

5.1 For the full papers and reports please see the following links.

- Newton, A. Partridge, H. and Gill. A. (*in press*) In and around: Identifying predictors of theft within and near to major mass underground transit systems. *Security Journal*
- Gill, A., Partridge, H. and Newton, A. (2014). Interstitial Crime Analysis. JDiBrief Series. London: UCL Jill Dando Institute of Security and Crime Science. ISSN: 2050-4853.
- Newton, A., Partridge, H. and Gill, A. (2014) 'Above and below: measuring crime risk in and around underground mass transit systems' *Crime Science*, 3 (1), pp. 1-14. ISSN 2193-7680

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