



# JDiBrief - Analysis

## Interstitial crime analysis: CASE STUDY (4 of 5)

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**APPLICATION:** Since early 2013, the ICA technique has been automated and applied to understand theft offences on the London Underground (LU) network. Theft represents approximately 50% of overall offences recorded by the British Transport Police (BTP) on LU, with more than 75% of these having unknown location and time. The interface (see figure 4) has been designed for ease of use by officers, enabling selections by bespoke time ranges, shift patterns, line and/or station analysis, and bi-directional flows on Underground lines (e.g. north and south on the Victoria Line). Users can also extract details for the crimes by the riskiest segments of interest to them, facilitating further research (e.g. to identify any commonalities between the crimes extracted).

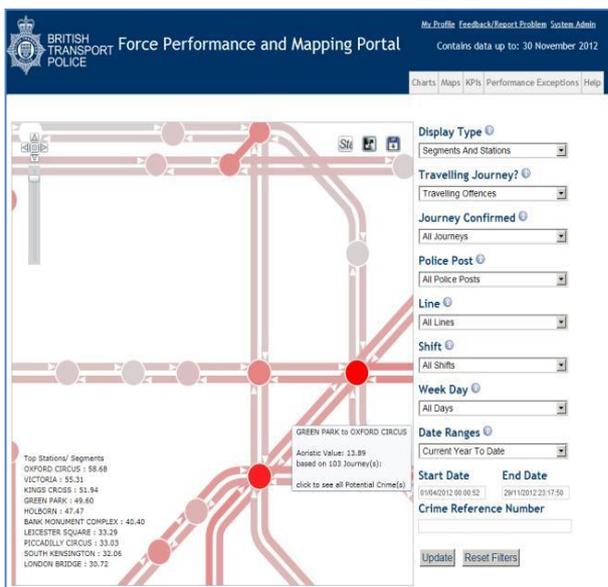


Figure 3 - BTP Force Performance and Mapping Portal

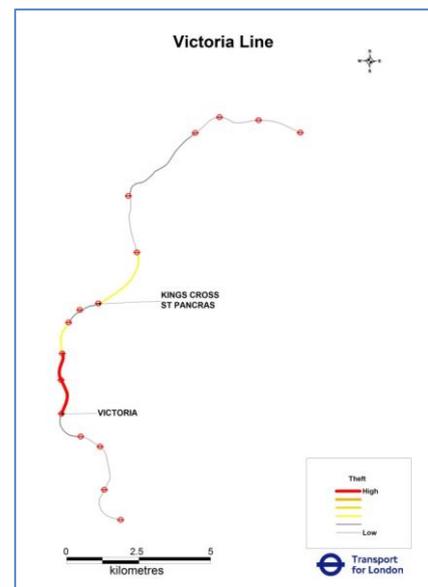


Figure 4 - ICA map

The ICA technique could easily be applied to non-transport related networks, for example, a street network where lots of on-street pickpocketing is occurring. In this instance you would treat junctions/intersections as the nodes in the network layer, and street segments between the nodes as the paths, and then require victims to have precise knowledge of where they last knew they had their belongings before they found them missing (presumed stolen). Similarly, the ICA technique can be applied to crimes other than theft where the victim was travelling along a route.

**DEVELOPMENTS:** The ICA technique can be further developed by incorporating other values to help standardise and provide context to the crime data; Newton and colleagues (details of which are in the resources brief) have done this with volume of passengers exiting and entering stations, and the results generate more representative ICA values. Alternative values could also be used to help refine the analytical model, for example, the time taken to travel between stations upon a network, as the greater the time travelled could present greater risk to victims as offenders have more time to identify a victim and select the most opportune moment to steal items.