Tackling Burglary Dwelling
Repeat Victimisation: Road to Reduction

Disrupting the Optimal Forager
Predictive Mapping & Super Cocooning
Contents

- Setting the Context - Synopsis
- Predictive Mapping - *Disrupting the Optimal Forager*
- Development into other Crime Types
- Super Cocooning - *Reducing repeat & near repeat victims*
- Continuing Work - Strategic Application
- Iterative Process - SARA
  - Scanning
  - Analysis
  - Assessment
  - Response
UK Policing Boundaries

43 Forces in England & Wales

Trafford Division (M)

Population: 212,800

- White: 91.1%
- Black: 2.3%
- Other: 2.9%

Index Multiple Deprivation: 17.33 (placing 178)
Manchester United FC
Seating capacity over 76,000
Annually over 2,300,000 visitors

Trafford Park Industrial Centre
Over 1,400 companies
Employing over 35,000 people

Trafford Division Iconic Sites

The Trafford Centre Retail Mall
In 2010, 30 million visits were made in approximately
13 million vehicles

Lancashire County Cricket Club
Seating capacity between 15-25,000
Music venue capacity over 60,000
# Trafford Divisional Performance 2011/12

<table>
<thead>
<tr>
<th>Date</th>
<th>Volume</th>
<th>Detection</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2011/12 YTD</td>
<td>2010/11 YTD</td>
</tr>
<tr>
<td>THEFT</td>
<td>3596</td>
<td>3935</td>
</tr>
<tr>
<td>SAC</td>
<td>1969</td>
<td>2607</td>
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<tr>
<td>ROBBERY</td>
<td>218</td>
<td>345</td>
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<tr>
<td>BURGLARY</td>
<td>734</td>
<td>959</td>
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<td>VEHICLE CRIME</td>
<td>1017</td>
<td>1303</td>
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<td>HATE CRIME</td>
<td>168</td>
<td>174</td>
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<tr>
<td>DOMESTIC ABUSE</td>
<td>869</td>
<td>848</td>
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<tr>
<td>RAPE</td>
<td>35</td>
<td>31</td>
</tr>
<tr>
<td>SSO</td>
<td>88</td>
<td>90</td>
</tr>
<tr>
<td>SERIOUS VIOLENCE</td>
<td>80</td>
<td>93</td>
</tr>
<tr>
<td>ASB</td>
<td>8004</td>
<td>8629</td>
</tr>
<tr>
<td>DAMAGE</td>
<td>1924</td>
<td>2366</td>
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<tr>
<td>ALL CRIME</td>
<td>12620</td>
<td>14176</td>
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</table>

**Performance**

GREATER MANCHESTER POLICE
<table>
<thead>
<tr>
<th>Public Related Performance 2011/12</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASB perceived as a problem</td>
</tr>
<tr>
<td>Confidence in Police</td>
</tr>
<tr>
<td>Perception of drug dealing as a problem</td>
</tr>
<tr>
<td>Police deal with the issues that matter</td>
</tr>
<tr>
<td>Public feel safe outside after dark</td>
</tr>
<tr>
<td>Police do a good job</td>
</tr>
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</table>
In domestic burglary, for example, the danger of a further crime is greatest at the home of the original victim and spreads out to some 400 metres, but disappears over six weeks to two months ... instead of mapping past events in the conventional way we should map the risk they generate for nearby homes, with the map being dynamic to reflect how the risk declines over time.

Burglary Analysis

The Catalyst For Change

9.3% Target

Burglary Profile in Trafford

4% of properties account for 9% of burglaries

79% potentially attributable to an optimal forager

5 optimal forager target types identified

61% within 400m of a previous burglary within 3 weeks
In domestic burglary, for example, the danger of a further crime is greatest at the home of the original victim and spreads out to some 400 metres, but disappears over six weeks to two months ... instead of mapping past events in the conventional way we should map the risk they generate for nearby homes, with the map being dynamic to reflect how the risk declines over time.
Implementation

Initial idea and development

Dissemination

Neighbourhood

Response

Air Support
Tactical Firearms Unit
Road Policing Unit

Feedback and improvement

Evaluation

Community Safety Patrollers
Greater Manchester Fire and Rescue Service
Force Driving School

Feedback and improvement

Evaluation

*International Journal of Police Science Management*
### Predictive Mapping

#### Evaluation

**327** fewer victims

#### BDW Count

<table>
<thead>
<tr>
<th></th>
<th>2008/9</th>
<th>2009/10</th>
<th>2010/11</th>
<th>2011/12</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Count</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Orange</strong></td>
<td>139</td>
<td>234</td>
<td>218</td>
<td>159</td>
<td>479</td>
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<tr>
<td><strong>Red</strong></td>
<td>66</td>
<td>128</td>
<td>141</td>
<td>97</td>
<td>470</td>
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<tr>
<td><strong>Yellow</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Blue</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Outside</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>1229</td>
<td>902</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Intelectus

48% decrease in Orange & Red zones

**26.6%** reductions vs UK decrease of **4%**

#### Response

Intelligence led policing

Fast turn around

**26.6%**

### Going Equipped
## Predictive Mapping

### 24 Month Evaluation

- **471** fewer victims of Burglary Dwelling
- **38%** reduction vs 8.6% UK

<table>
<thead>
<tr>
<th>Period</th>
<th>Trafford</th>
<th>GMP</th>
<th>Bolton</th>
<th>Stockport</th>
</tr>
</thead>
<tbody>
<tr>
<td>12/05/11 – 11/05/12</td>
<td>761</td>
<td>15487</td>
<td>1385</td>
<td>1351</td>
</tr>
<tr>
<td>12/05/10 – 11/05/11</td>
<td>909</td>
<td>17982</td>
<td>1380</td>
<td>1664</td>
</tr>
<tr>
<td>12/05/09 – 11/05/10</td>
<td>1232</td>
<td>19780</td>
<td>1480</td>
<td>1551</td>
</tr>
</tbody>
</table>

- £1.85 million* Saved to the public purse

### Displacement Concern

- **61%** Still within predicted areas (no change)
- Similar predicting percentages suggests limited displacement
- **Type Displacement:** Increase of pedal cycle theft vs GMP baseline

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*Home office: £3925 per burglary*
Monitoring Officers

Predictive Map

Officer Movements
### Other Crime Types

#### Application into another Crime Type - TFMV Problem

Johnson, Summers and Pease 2009: Journal of Quantitative Criminology

- **20%** Related to number plate/catalytic converter/fuel theft
- **35%** TFMV via insecure/unknown means
  - Main thefts: SatNav systems, loose change, mobile phones
  - High count repeat offenders

Join into burglary prediction maps.
Target the offender, not the crime type – The Optimal Forager

#### Theft from motor vehicle Counts

<table>
<thead>
<tr>
<th>Period</th>
<th>Trafford</th>
<th>GMP</th>
<th>Bolton</th>
<th>Stockport</th>
</tr>
</thead>
<tbody>
<tr>
<td>12/05/11 – 11/05/12</td>
<td>705</td>
<td>15004</td>
<td>1472</td>
<td>1623</td>
</tr>
<tr>
<td></td>
<td></td>
<td>-29%</td>
<td></td>
<td>2%</td>
</tr>
<tr>
<td>12/05/10 – 11/05/11</td>
<td>996</td>
<td>17527</td>
<td>1713</td>
<td>1596</td>
</tr>
<tr>
<td></td>
<td></td>
<td>-30%</td>
<td></td>
<td>-14%</td>
</tr>
<tr>
<td>12/05/09 – 11/05/10</td>
<td>1432</td>
<td>22742</td>
<td>1900</td>
<td>1859</td>
</tr>
</tbody>
</table>

**291** fewer victims  
29% Reduction vs 4.2% UK
Academic Evaluation

Jill Dando Institute of Crime Science Recommendations
S.Chainey (2011)

Potential to further reduce Repeat Victims and Near Repeat Victims
Increase regularity of maps
Face to face contact with resident
Cocoon within a 400m radius

Identify chronic hotspot areas
Provide crime prevention involving partner agencies
The propensity of victims to become repeat victims shows the necessary action that needs to be taken.

— (Farrell and Pease 2005)

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>A victim once</td>
<td>18.5%</td>
</tr>
<tr>
<td>A victim twice</td>
<td>33.9%</td>
</tr>
<tr>
<td>A victim three times</td>
<td>44.4%</td>
</tr>
<tr>
<td>A victim four times</td>
<td>50.0%</td>
</tr>
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</table>

9 times more effective than random patrolling
Repeat Victims of BDW

Three years

Repeat Victimisation Rate

4.6% of victims a repeat
9.5% contribution

Near Repeat Victimisation

Jerry Ratcliffe’s Calculator
50m 14 days

3 addresses 50.0%
4 addresses 50.0%
15 addresses 44.4%
149 addresses 33.9%

61 addresses likely to be a victim again
Repeat clusters

Repeat Cluster Areas

4 Specific cluster areas

Types of Housing

Higher proportion owned by registered social landlords.

Trafford Housing Trust

10.5% of burglaries occur in 2.5% of their housing stock
Super Cocooning

BURGLARY PREVENTION ADVICE

Currently you have less chance of being a victim of crime in Trafford and more chance of the crime being caught than in any other area in Greater Manchester. A criminal is simply looking for the opportunities to commit crime, and if they are hit by a tempting situation, if we simply remove that temptation and make it difficult for someone, then it is estimated that a staggering 80% of crime would be prevented.

Burglars are currently operating in this area. Our aim is to prevent Trafford residents falling prey to criminals and as such the following advice has been compiled for your information.

Security is ALL - To help prevent burglary at home, remember the ALL message.

Alarms
- To deter burglars ensure your alarm is working correctly.
- Burglars do get in to your home, it will make them leave quickly.
- Leave at night, most systems can be armed.

Locks
- 1 in 3 burglaries occur due to an open or unlocked window or door.
- Always close and lock all doors and windows when you go out or to another part of the home where you wouldn’t hear someone.

Lights
- Make times look occupied when you are out or away.
- Leave lights on in the bedroom and bathrooms, not just in the hall. Automatic timers can switch on lights and blinds.
- Remember that in winter it can go dark in the early afternoon.

PHYSICAL SECURITY
- Fit British Standard deadlocks to external doors and remember to use them whether you are in or out.
- Always remove the keys from the locks to stop someone breaking in by opening the house.
- Keep them out of sight in a safe place.
- Fit locks to windows and ensure you choose one that pulls the window into the frame.
- Patio and French doors can be protected by fitting one or two purpose-made locks.

OUTSIDE THE HOME
- Make the house feel exposed when they approach the front of your property by using hedges or low fencing.
- Use Larson lighting to deter trespassers. Choose lights which have an automatic timer to come on at night and stay on all night.
- Low voltage bulbs can cost less than 10 pence per unit of electricity.
- Hanging a hedge made from a holly bush or planting prickly bushes near to fences can deter trespassers from climbing over.
- Don’t leave tools and materials lying around for burglars to use.

FURTHER PROTECTION
- Keep valuables out of sight of windows.
- Make items distinctive - Personalise property with a UV pen or consider specialist forensic coded solutions.
- Register your property on www.crimestoppers.com

Offer of target hardening (~£70 per house)

Face to face conversation with residents

Scripted visits

Joint agency environmental surveys (£500,000 spend)

Tactical
Rational choice to commit crime - Reward vs Risk
Dissuade offenders by altering the situation
Super Cocooning Results

12 Month Evaluation (Oct ‘11 – Sep ’12)

16,428 (or 17%) of houses in Trafford were visited

6,050 (or 36.8%) face to face contact

406 burgled addresses offered Target Hardening

Of the 406 target hardened, only 3 have subsequently been burgled*

Confidence of the Police doing a good job:

October 2011: 87%
September 2012: 94.1%

*2 of the 3 have Domestic Abuse Markers
Impact on Repeat Victims

2009/10: 4.3% repeat victims totaling 9% of overall BDW in Trafford (107 offences)

2011/12: 2.1% repeat victims totaling 4% of overall BDW in Trafford (30 offences)

National average of repeat victimisation 15-20%
Continuing The Cycle

- **Response**: Improved face to face resident contact during Super Cocooning
- **Response**: Working with all Housing Trust providers not just Trafford Housing Trust
- **Assessment**: Value added through further academic review - Super Cocooning
- **Scanning**: Farrell’s work on Super Targets (repeat victims, large contributors)
Interest around the UK

**Received an Input**

- HM Inspectorate of Constabulary
- Association of Chief Police Officers
- National Police Improvement Agency

- The Metropolitan Police Service
- North Wales Police
- Leicestershire Police
- Thames Valley Police
- Cleveland Police
- Hampshire Constabulary
- Essex Police
- North Yorkshire Police
- South Wales Police
- Nottinghamshire Police

**Implemented own version**

- West Yorkshire Police (Operation Optimal)
- West Midlands Police (Operation Swordfish)
- South Yorkshire Police
Operation OPTIMAL

Currently running for over 8 months

1 in 9 crimes was a burglary in 2011

6 times the national average in some wards

Average weekly counts of burglary:

Prior 79.8

Post 41.6

1184 fewer victims (2475 to 1291)

48% decrease
Conclusions

471 fewer victims of burglary dwelling
38% Not a panacea

291 fewer victims of theft from motor vehicle
29% Embracing academia

Change to working practices
Zero cost

Iterative process of SARA crucial for future development
Appreciation

Professor Ken Pease
Professor Shane Johnson
Spencer Chainey
The primary object of an efficient police is the prevention of crime: the next that of detection and punishment of offenders if crime is committed.

Metropolitan Police Instruction Book (1829)