

The effects of targeted reductions of patrol dosage
on crime victimisation and costs in
night time economy hotspots:
A Phase 1 trial – Operation Reddleman

Chief Inspector Chris Gibson,
Merseyside Police



Research Questions

- ▶ **Can night time economy patrol dosage be reduced by switching from a ‘flooded’ random patrol strategy to a targeted hot spots patrol, without adverse impacts on crime?**
- ▶ **Will the targeted patrol strategy reduce costs of policing night time economy hot spots?**
- ▶ **Can this hot spots study be implemented with enough precision to deliver targeted dosage levels?**

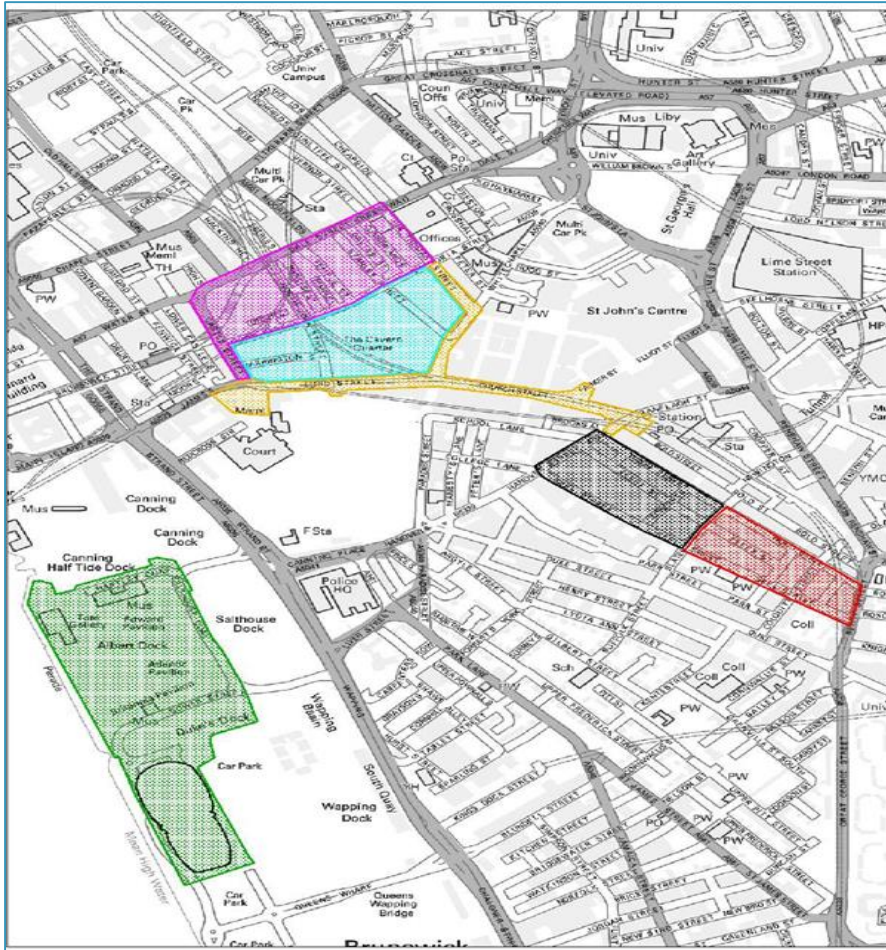


Definition of a Hot Spot

- ▶ Sherman et al, (1989, p31) – “a fixed physical environment that can be seen completely and simultaneously, at least on its surface, by ones naked eye”.
- ▶ Weisburd & Braga (2006) – **Micro Places**
- ▶ Sherman et al, (2014) – **Line of Sight**



City Plan Hot Spots



Effective Dosage for Deterrence

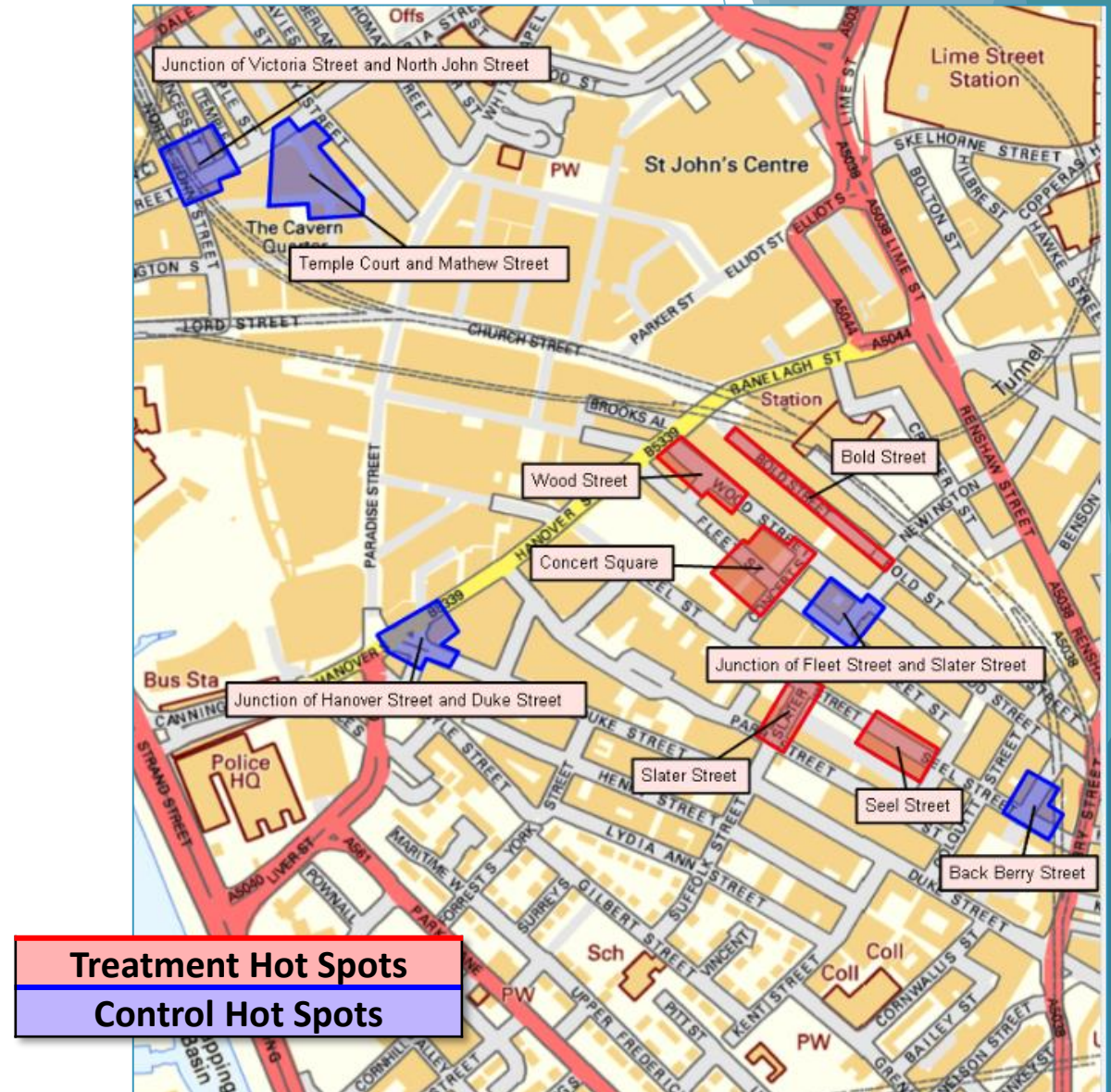
- ▶ **Sherman (1990)** – Police crackdowns “intermittent, unpredictable crackdowns make risks of apprehension far more uncertain than could any system of fixed police priorities” (1990).
- ▶ **Koper (1995)** – the ‘Koper curve’ “patrols appear to be most effective when they are 13 to 15 minutes long. After 15 minutes, the benefits of increasing duration decline”.
- ▶ **Goddard (2013)** – PSNI experiment



Research Design and Methods

Liverpool City Centre – Innovative hot spot approach to policing

- ▶ 6 week trial – Sat/ Sun 0000-0400hrs
- ▶ 5 paired groups (5 treatment/ 5 control)
- ▶ 12-15 min dosage vs. random patrolling
- ▶ Approx. 450 officers briefed
- ▶ Tactical Command
- ▶ Live time tracking via Airwave radios
- ▶ Implementation plan delivered



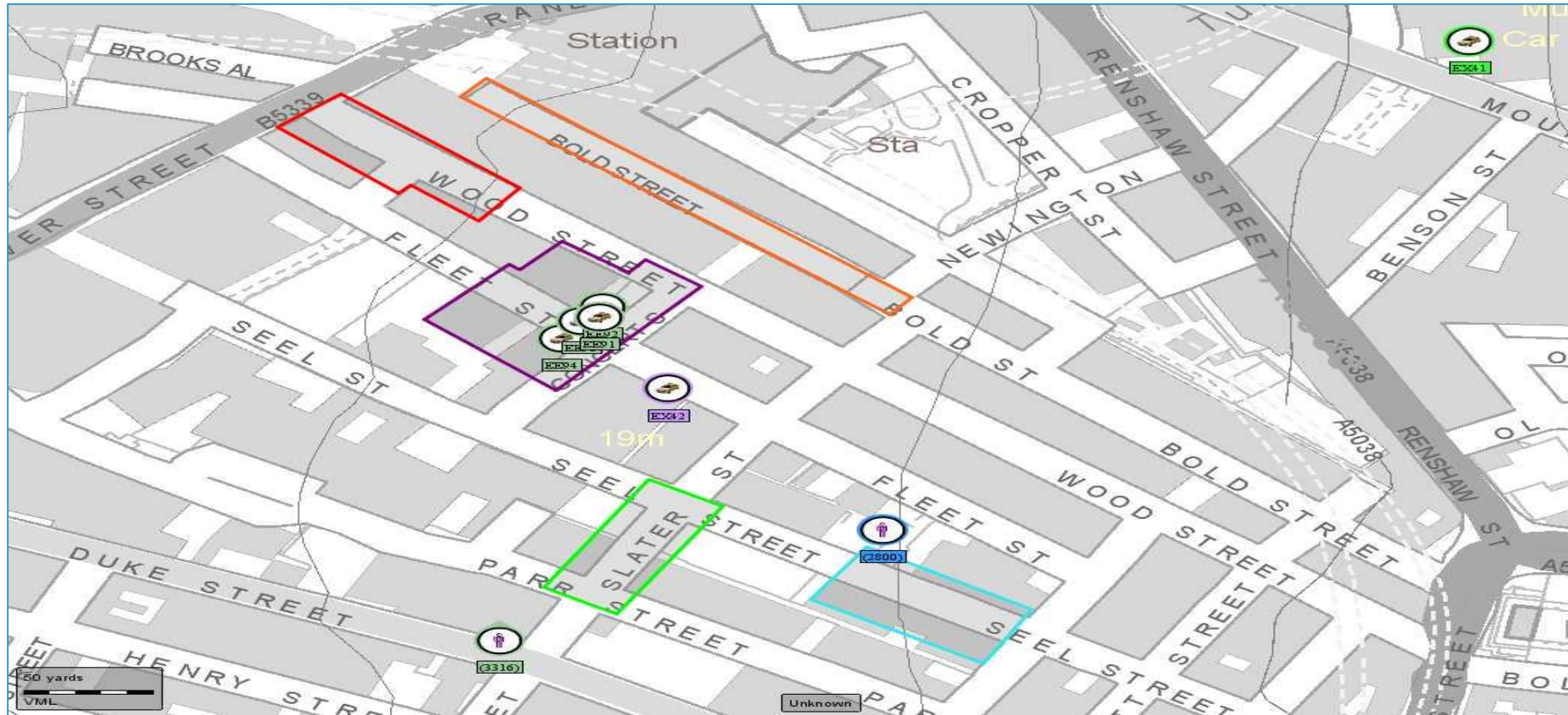
Randomised Control Trial - Control and Treatment Areas

	Polygon Measurement (sq metres)	NTE Crimes (2015)
Concert Square	4150	169
Temple Court	5362	109
Wood St	2343	82
Fleet St/Slater St (BaaBaa end)	2496	105
Seel St	2472	75
Victoria St/North John St	3190	47
Slater St	2192	37
Back Berry St	1978	29
Bold St	2564	24
Hanover St/Duke St	2858	26

Treatment Hot Spots
Control Hot Spots



Live Time Tracking via Airwave GPS



Crime Volumes

Volumes of crime during the Op Reddleman experimental 6 week period 23/04/16 - 29/05/16 for treatment and control areas excluding officer generated crime

Treatment / Control Hotspot	2015	2016	Difference	Difference Between Treatment and Control Group
Concert Square	23	20	-3	Same drop in crimes
Temple Court	14	11	-3	
Bold Street	1	0	-1	Same drop in Crimes
Hanover St/ Duke St	2	1	-1	
Seel Street	7	7	0	3 less crimes in control group
Victoria St/ North John St	3	0	-3	
Slater Street	2	1	-1	2 more crimes in control group
Back Berry Street	1	2	1	
Wood Street	5	5	0	3 less crimes in control group
Fleet St/ Slater St	10	7	-3	
Total Treatment Group	38	33	-5	4 less crimes in control group
Total Control Group	30	21	-9	

Treatment Hot Spots
Control Hot Spots

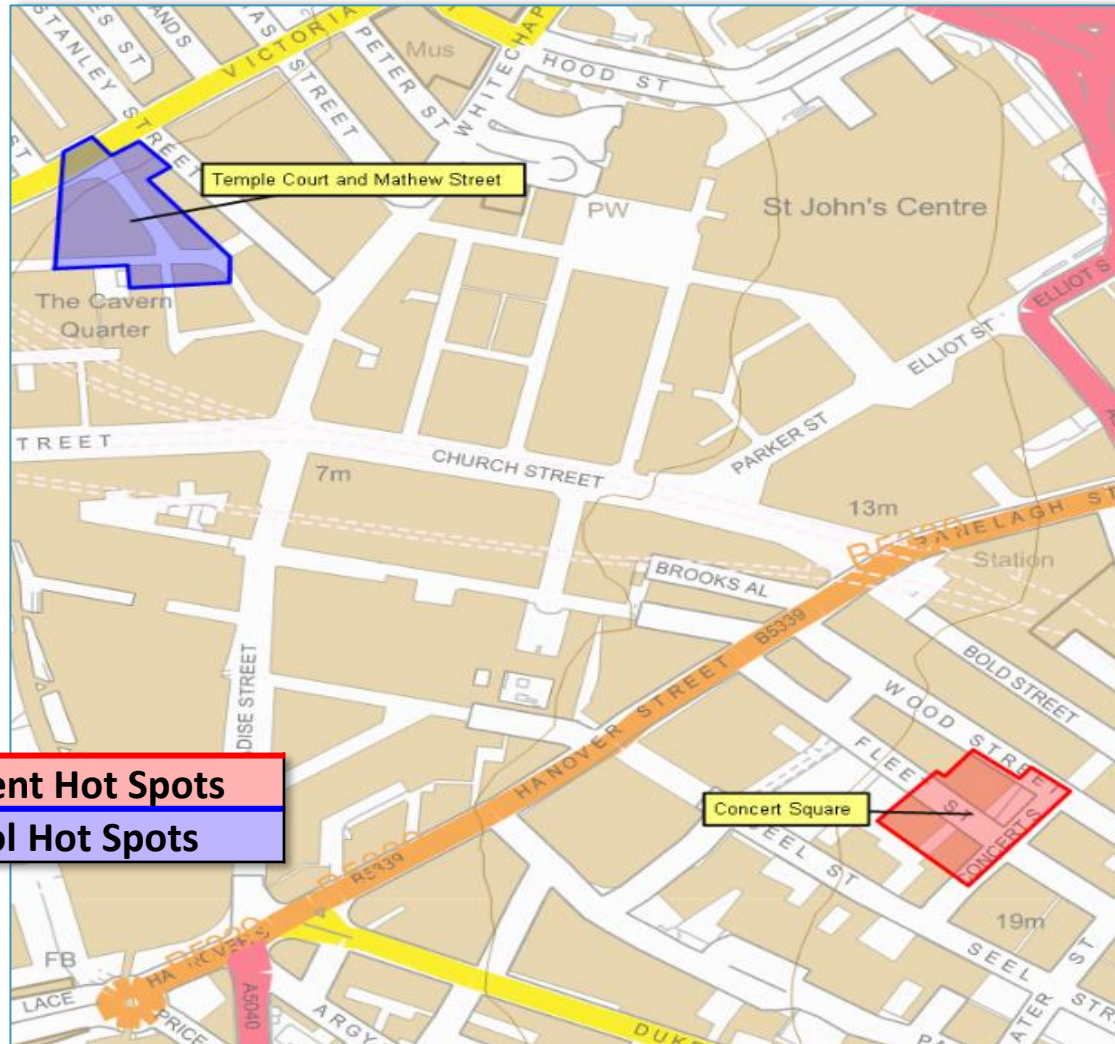
Overall only **4** less crimes in the control group vs the treatment group from 2015 to 2016

However, treatment group had

75%

Less policing

Concert Square and Temple Court



Treatment Hot Spots
Control Hot Spots



Cost Benefit Analysis – Treatment Vs. Control

Overall the Treatment Policing was **60% more cost effective**

	5 Min Reads	Cost based on Constable
All Control Groups	2737	£3,977.77
All Treatment Groups	1638	£2,380.56
Difference	-1099	-£1,597.21

High Demand Area (Concert Square Vs. Temple court) was **78% more cost effective**

Highest Demand Area	5 Min Reads	Cost based on Constable
Temple Court	1854	£2,694.48
Concert Square	449	£652.55
Difference	-1405	-£2,041.93

Cost of Individual Officer 5 Minute GPS Ping = £1.45



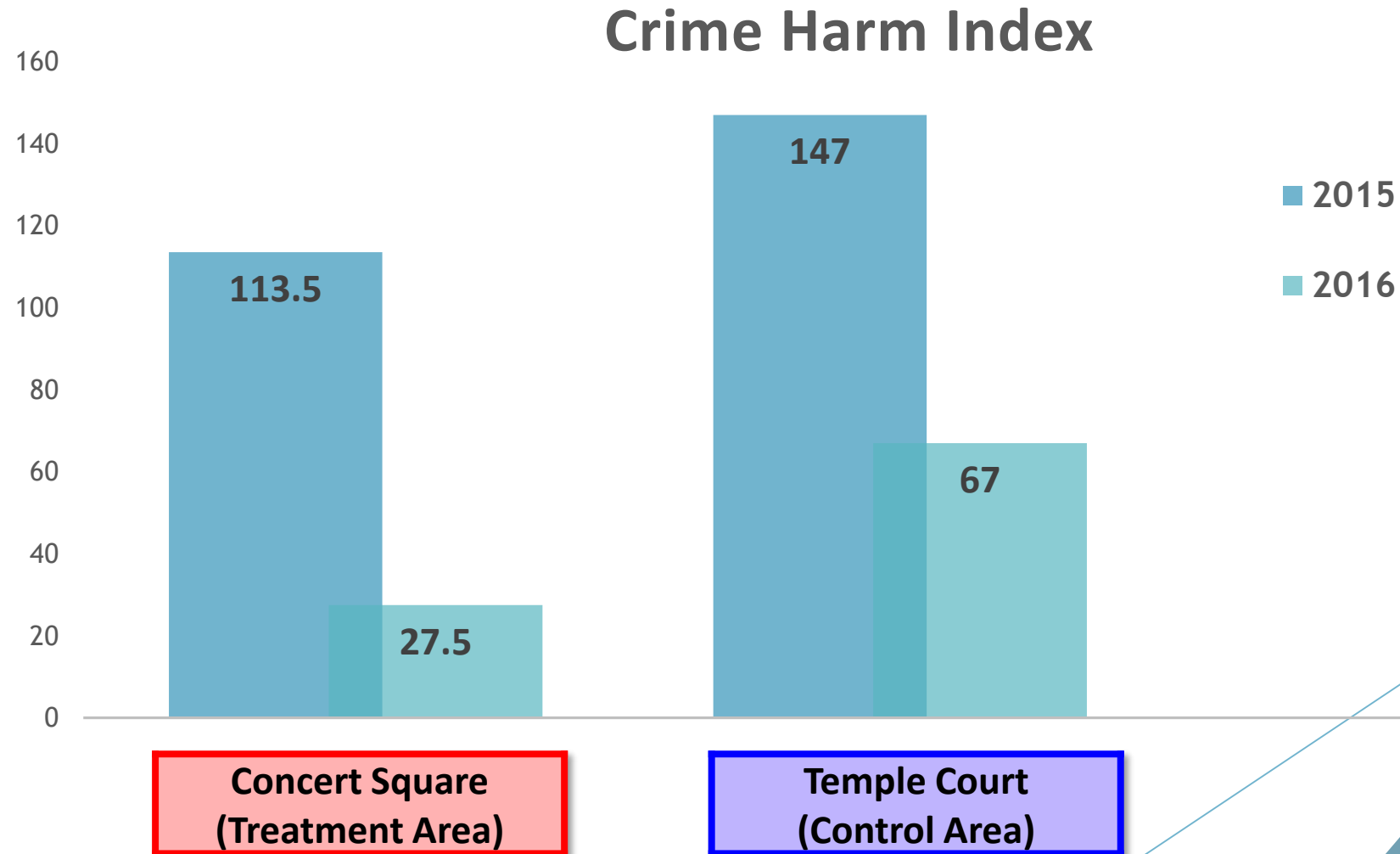
Summary of Treatment and Control Area CHI scores

		Crimes	CHI Score	CHI score (exc self-generated)
Treatment Areas	2015	46	251	233
	2016	41	230	206.5
	Variance	-5	-21	-26.5
	% Diff	-11%	-8%	-11%

		Crimes	CHI Score	CHI score (exc self-generated)
Control Areas	2015	33	209	188
	2016	22	113	111.5
	Variance	-11	-96	-76.5
	% Diff	-33%	-46%	-41%



CHI score (Operation Reddleman period vs. 2015 comparative period)



Thank You



christopher.m.gibson@merseyside.pnn.police.uk



[@MerpolEBP](https://twitter.com/MerpolEBP)

