



# Joint Partnership Strategic Assessment 2010/11



# Charnwood CSP Appendices



## Risk Assessment Matrix

		Crime/Disorder Type	No. crimes/incidents last 12 months	% of overall crime/incident	Level of Control	Probability Score	Harm Score	Threat (Probability x Harm)	Classification	Include with Strategic Assessment?	Rate per 1000 Population	Year on Year Percentage Change
SPI categories	Serious Acquisitive Crime	Burglary Dwelling	995	8.1	C	14	14	196	High	Y	5.954	11.0
		Vehicle Crime	1068	8.7	C	14	11	154	High	Y	6.391	-19.9
		Robbery	111	0.9	C	2	11	22	Low		0.664	-2.6
	Serious Sexual Crime	Sexual Offences Against Adults (18 & Over)	26	0.2	C	1	14	14	Low		0.156	12.9
		Sexual Offences Against Children (Under 18)	88	0.7	C	2	13	26	Low		0.527	
	Serious Violent Crime	Murder	0	0.0	C	1	12	12	Low		0.000	0.0
		Manslaughter	1	0.0	C	1	13	13	Low		0.006	100.0
		GBH sec. 18	34	0.3	C	1	18	18	Low		0.203	-18.2
		GBH sec. 20	27	0.2	C	1	18	18	Low		0.162	-30.6
	Criminal Assault LSI	ABH s 47	949	7.8	C	11	17	187	High	Y	5.679	-19.6
Criminal Damage	Arson	107	0.9	C	2	12	24	Low		0.640	24.4	
	Damage	2332	19.1	C	17	16	272	High	Y	13.956	-6.4	
NSIR categories	Anti-Social Behaviour	Animal Problems	56	0.8	C	2	8	16	Low		0.335	-50.0
		Begging & Vagrancy	20	0.3	C	1	8	8	Low		0.120	-25.9
		Street Drinking	12	0.2	C	1	13	13	Low	Y	0.072	-63.6
		Malicious Communications	177	2.6	C	5	10	50	Low		1.059	22.9
		Noise	103	1.5	C	3	12	36	Low		0.616	-14.2
		Prostitution Related Activity	0	0.0	C	1	6	6	Low		0.000	
		Inappropriate sale / use / possession of fireworks	28	0.4	C	1	6	6	Low		0.168	-30.0
		Hoax Calls to Emergency Services	247	3.6	C	5	9	45	Low		1.478	-19.5
		Littering/Drugs Paraphernalia	51	0.7	C	2	13	26	Low		0.305	
		R & N Neighbour Disputes	495	7.2	C	11	11	121	Med		2.962	13.0
		R & N Rowdy or Inconsiderate Behaviour	4511	65.7	C	17	17	289	High	Y	26.996	-9.4
		Trespass	33	0.5	C	1	13	13	Low		0.197	37.5
		Abandoned Vehicles ( not stolen nor obstruction)	380	5.5	C	8	6	48	Low		2.274	-21.6
		Vehicle nuisance & inappropriate use (not obstruction)	739	10.8	C	17	8	136	Med		4.422	5.9
Other categories	Domestic Abuse	1071	8.8	C	14	18	252	High	Y	6.409	2.6	
	Business Crime (Local Objective Burglary OTD >£1000)	67	0.5	C	1	14	14	Low		0.401	-26.4	
	Business Crime	1984	16.2	C	17	14	238	High	Y	11.873	-10.1	
	Hate Crime	137	1.1	C	3	14	42	Low		0.820	1.5	
	Burglary OTD	849	6.9	C	11	12	132	Med		5.081	-16.0	
	Theft	2987	24.4	C	17	14	238	High	Y	17.875	-6.2	
	Gun Crime	16	0.1	C	1	8	8	Low		0.096	0.0	
	Knife Crime	51	0.4	C	1	7	7	Low		0.305	-3.7	
	Speeding						11					
	Killed or Seriously Injured Road Traffic Collisions						19					
	<b>HIGH</b> = score > 151											
	<b>MEDIUM</b> = score 76 - 150											
	<b>LOW</b> = score 0 - 75											

Figure 1. Scanning matrix for Charnwood CSP

## ABH

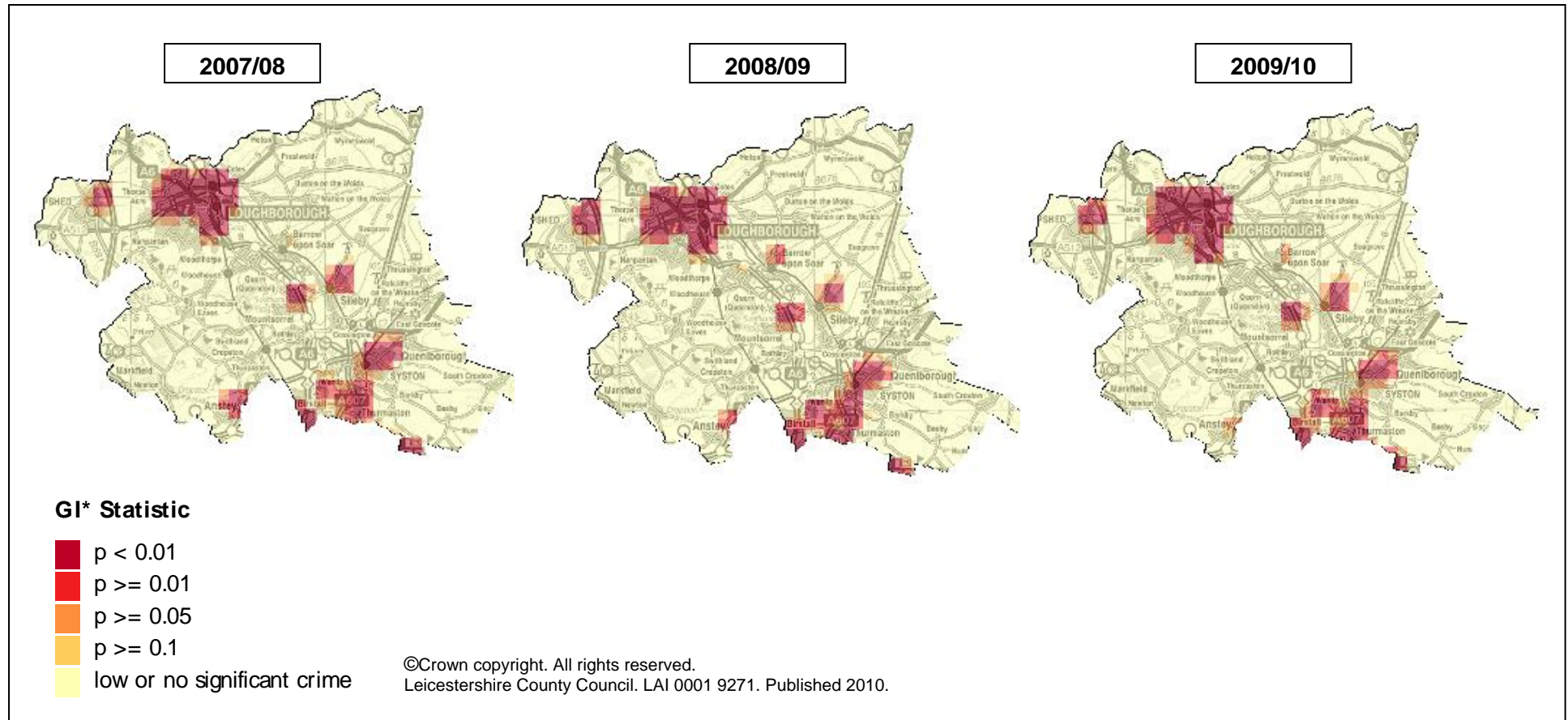
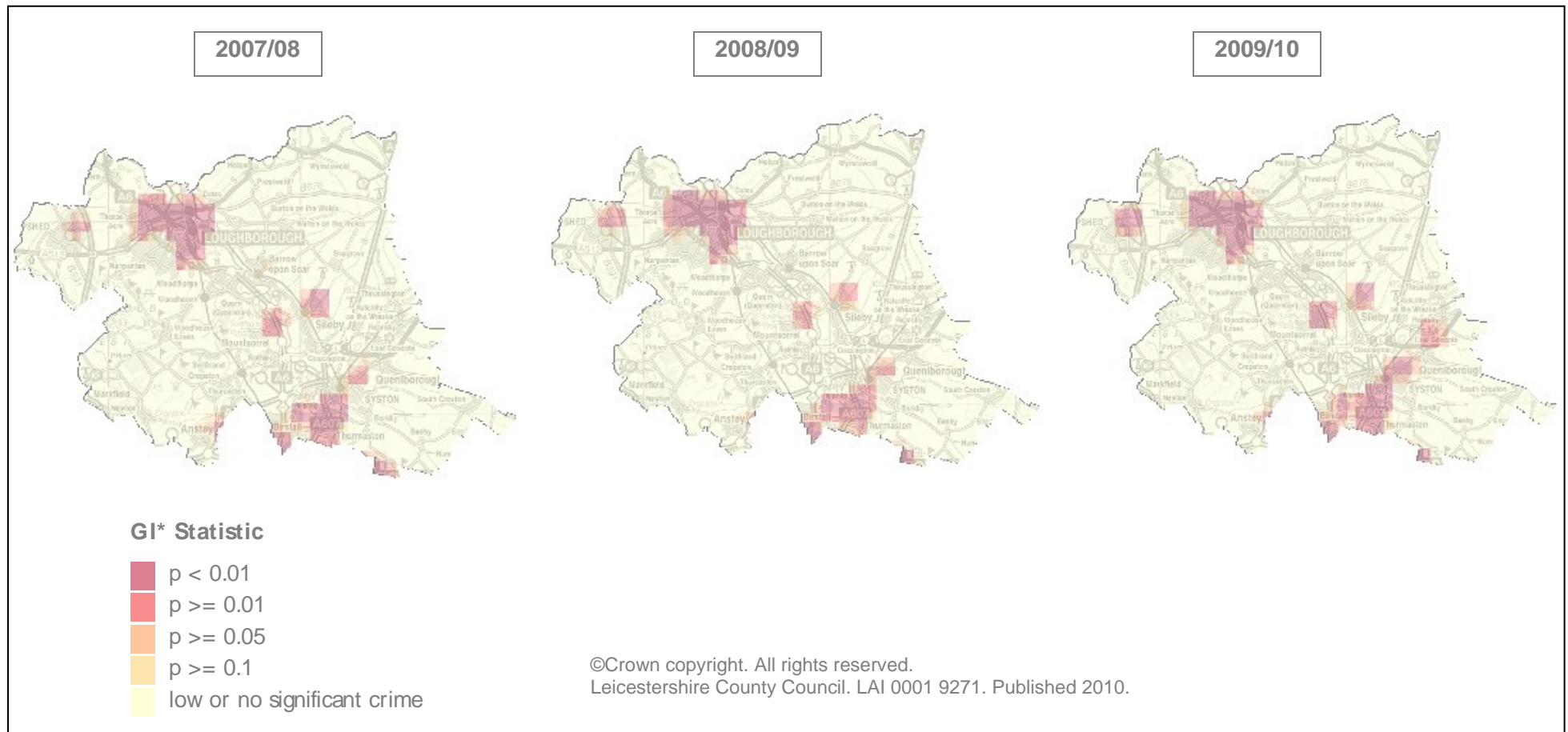


Figure 2. ABH Hot Spots in Charnwood CSP

Hot spots within Charnwood borough are focused on Loughborough and the main urban area adjoining Leicester, covering Thurmaston and Syston. Elsewhere, there are a number of smaller hot spots covering Anstey, Mountsorrel and Sileby. The Loughborough hot spot has remained constant in terms of size and intensity from 2007/08 to 2009/10 even though actual incidences of ABH have fallen since 2008/09. Since 2008/09, the hot spot covering Thurmaston and Syston has become less intense, with a distance divide appearing between the two settlements in terms of intensity.

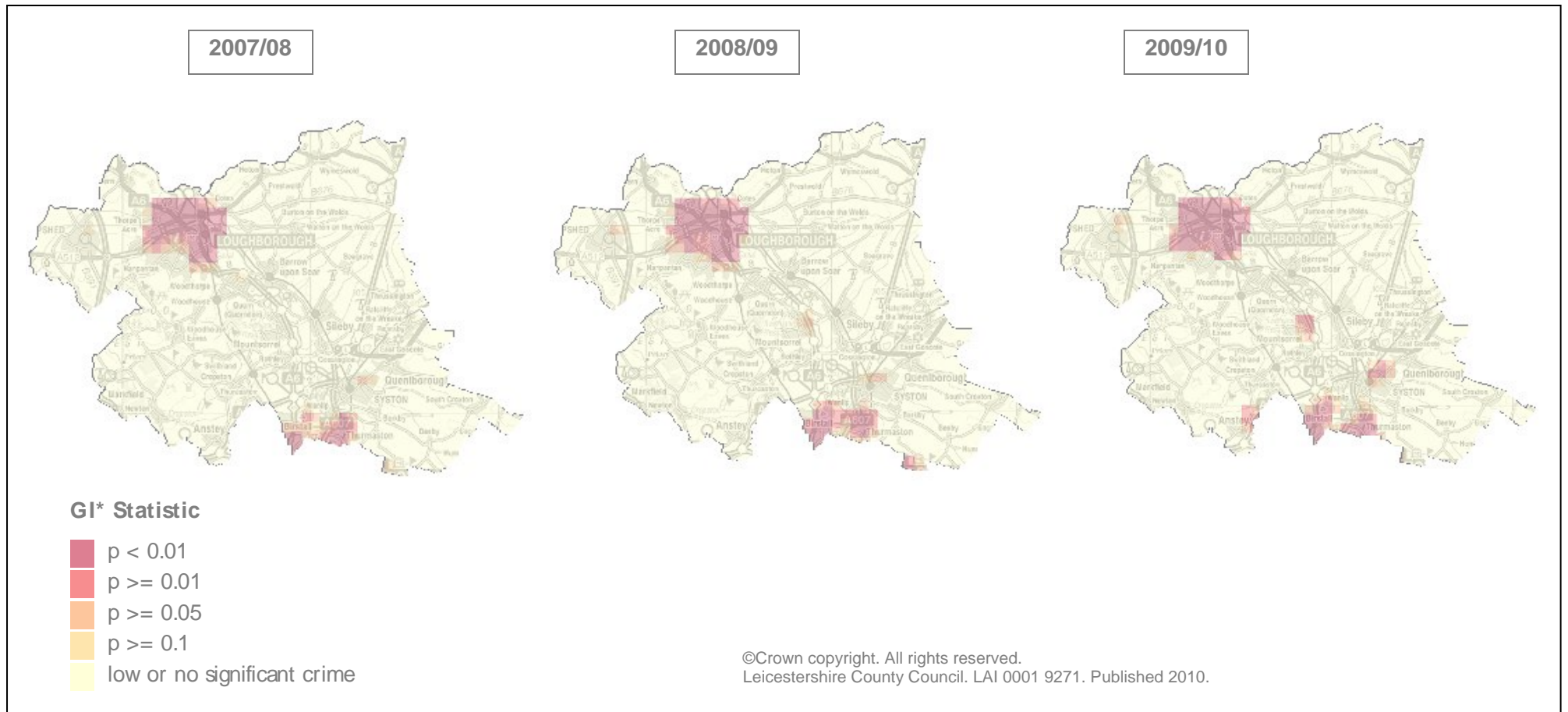
## Anti-Social Behaviour



**Figure 3.** Anti Social Behaviour Hot Spots in Charnwood CSP

Problem areas for ASB in Charnwood remain consistent through the three years. The main areas cover the settlements of Shepshed, Loughborough, Mountsorrel and Sileby. There is also a hot spot that extends from the city border area of Birstall and Thurmaston through to Syston and Queniborough. In 2009/10 the only emerging area is East Goscote, but the area around Anstey has also seen a slight increase in intensity of the hot spot.

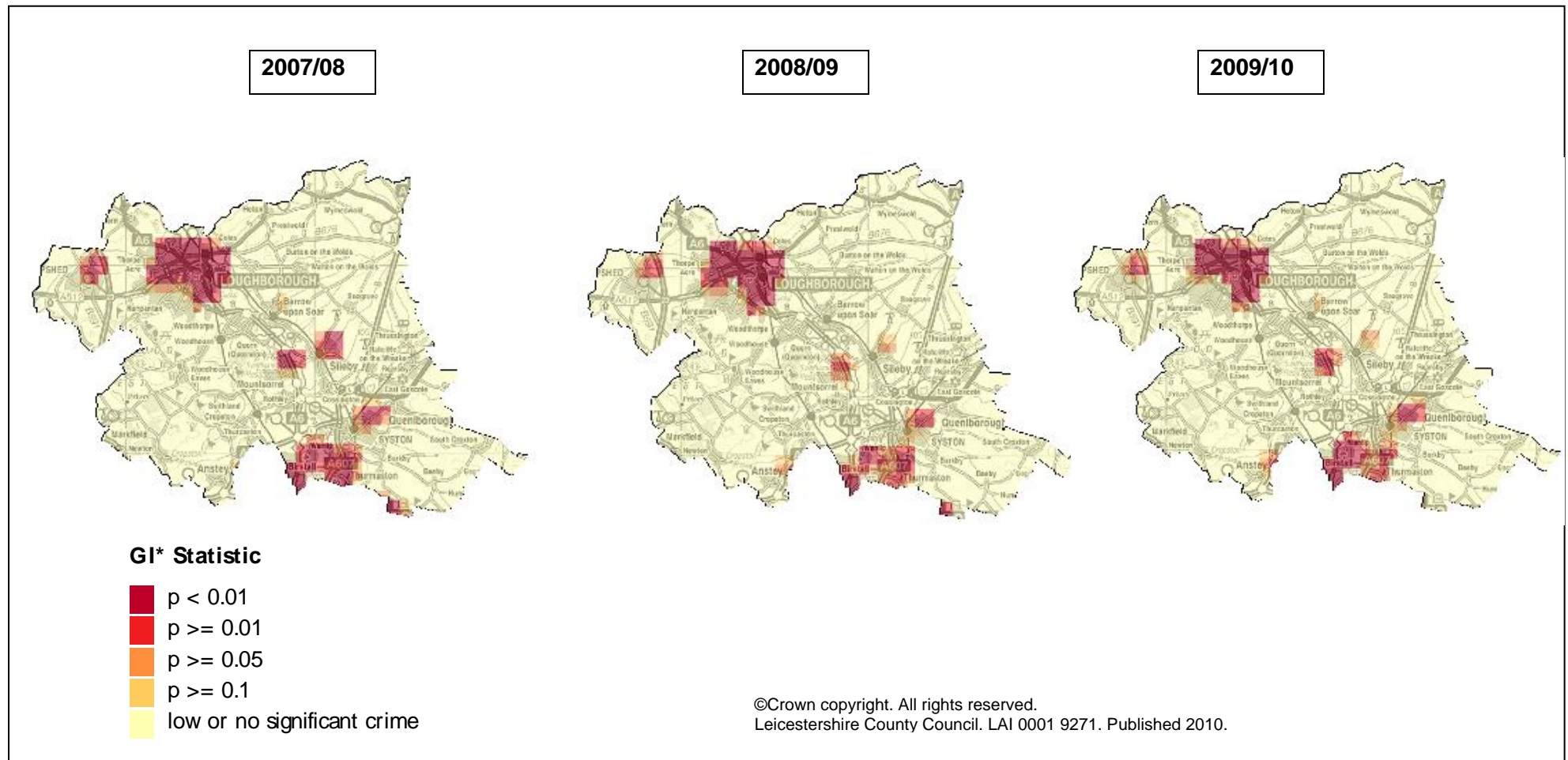
## Burglary Dwelling



**Figure 4.** Domestic Burglary Hot Spots in Charnwood CSP

The main hot spots for domestic burglary in Charnwood have largely remained stable since 2007/8 with areas such as Shepshed, Loughborough, Thurmaston and Birstall seeing little relative change in importance across the three years. However, relative to 2007/8, 2009/10 sees more areas emerging as significant for this crime type meaning that the geographical spread of possible priority areas is expanding. Areas such as Anstey, Mountsorrel and Syston are now showing as hot spots with a wider geographical spread in 2009/10, but similar volume levels to the previous years.

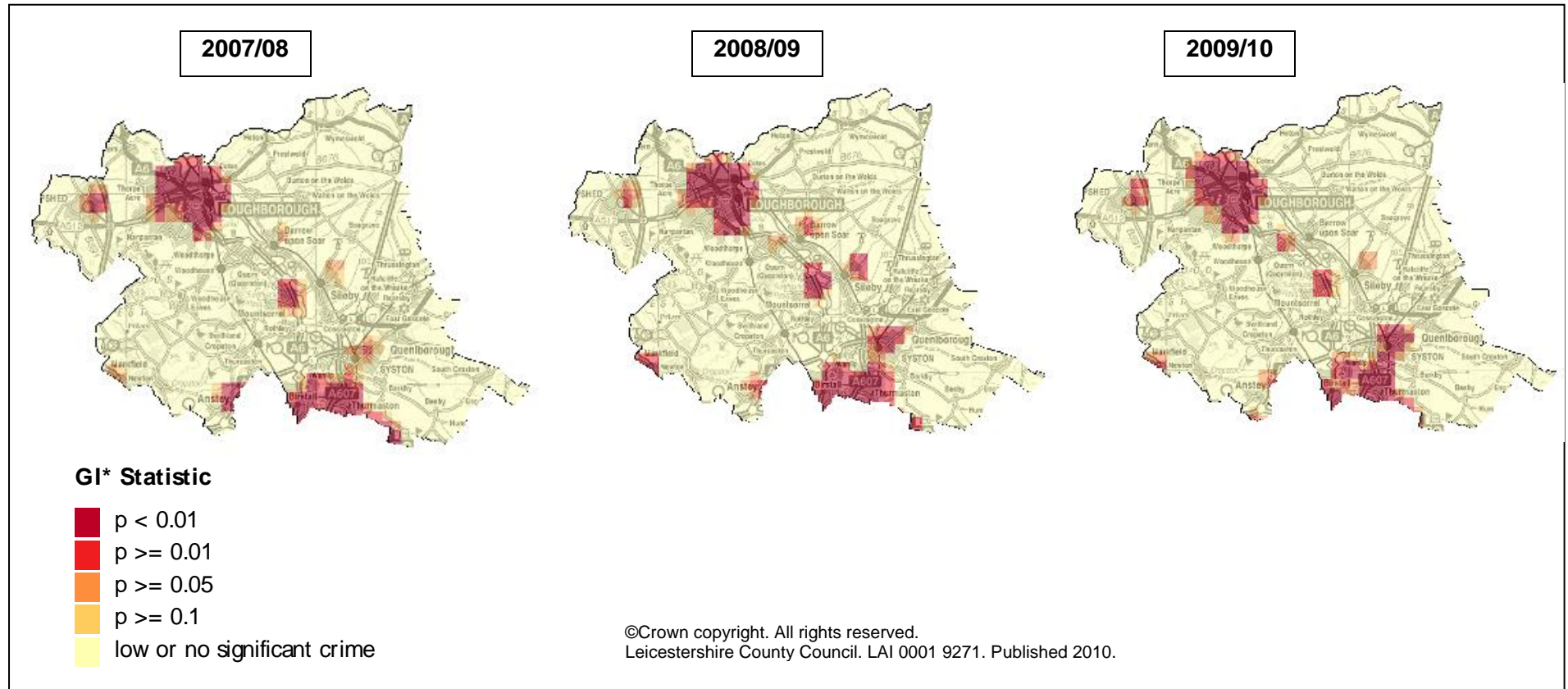
## Criminal Damage



**Figure 5.** Criminal Damage Hot spots in Charnwood CSP

Hot spot patterns in Charnwood borough have remained relatively stable from 2007/08 to 2009/10 with only slight changes. Loughborough has remained stable with the exception of the Nanpantan area, which has experienced a relative reduction in the intensity for 2009/10. Elsewhere, main hot spots in the Soar Valley are in Mountsorrel and Sileby, although Sileby has experienced a receding of intensity from 2008/09.

## Vehicle Crime



**Figure 6.** Vehicle Crime hot Spots in Charnwood CSP

Charnwood experiences significant hot spots in Loughborough and in the urban area adjoining Leicester city, covering Birstall, Thurmaston and Syston, however, Loughborough has a much higher individual incidence of vehicle crime for each 500m square than the latter, focused around the town centre. The shape and intensity of the Loughborough hot spot has remained fairly constant between 2007/08 and 2009/10. Elsewhere, there are a number of smaller, more isolated hot spots within the borough, most noticeably in Shepshed, Anstey (which has receded in intensity since 2007/08) and the Soar Valley settlements of Quorn, Mountsorrel, Sileby and Barrow. Of these settlements, Mountsorrel has a relatively high number of incidents spread over a larger area than the rest of the Soar Valley, resulting in a more defined and intense hot spot.

## Mapping Methodology

The maps cover five different crime types identified as being of interest to the Partnership Strategic Assessment 2010: Actual Bodily Harm, Anti-Social Behaviour, Vehicle Crime, Criminal Damage and Domestic Burglary. Due to methodology employed it was necessary to provide separate maps at all levels of geography covering the Leicestershire Constabulary Force Area, Leicester City, Leicestershire County, each of the seven districts, and Rutland.

The maps operate on a 500m grid resolution and use a spatial statistic to test for local spatial autocorrelation, or how closely near-by areas resemble each other in terms of the volume of crime. The statistic used is the Getis and Ord (1996) GI\* statistic<sup>1</sup> which was run via the Rook's Case<sup>2</sup> add-on for Microsoft Excel. The volume of crime in each individual grid square is compared to the values in the eight squares that immediately surround it. These values are then compared to the global average for the area under consideration. A high positive value for the GI\* statistic means that lots of high crime grid-squares are grouped together, whereas very low, negative, GI\* values mean that lots of low crime areas are group together. For the purpose of the PSA mapping these low grid squares were classified together with areas of no crime.

As well as comparing local and global averages, a significance test is applied to the result for each grid-square that identifies if the local pattern of crime is significantly different to what is generally observed across the whole study area. The Rook's Case software reports this result as a standardised z-score which can then be converted into a probability. Where the probability is equal to 0.1 it means there is only a 10% chance that the differences observed occurred by chance rather than any real statistical difference in the grid pattern. The probabilities range between 0.1 and 0.01.

Standard thematic maps by grid square are used to display these probabilities in MapInfo and the following analysis is based on these maps. It is important to note that because of the way the statistic works: it considers only the distribution of values at a given point in time for a given area; direct comparison over time is not possible. Where comments have been made about changes over time, it is because either further analysis has been used within the GIS to work with the volume of crime, or the discussion relates to relative changes through time regarding emerging or improving hot spot locations. For the most part, the analysis is based only on the mapping evidence (particularly for the individual districts) and it should be noted that the volume of crime in these areas can be at very low levels, even in the identified hot spots. However, when considered in the context of each district individually, these areas are picked out as being statistically different from others by the mapping statistic.

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<sup>1</sup> Getis, A. and Ord, J.K. (1996) Local Spatial Statistics: An Overview. In Longley, P. and Batty, M. (eds.) *Spatial Analysis: Modelling in a GIS Environment*. (pp. 261-277). Cambridge, England: GeoInformation International.

<sup>2</sup> <http://www.lpc.uottawa.ca/data/scripts/index.html>

### Deliberate Fires in Charnwood 2009/10

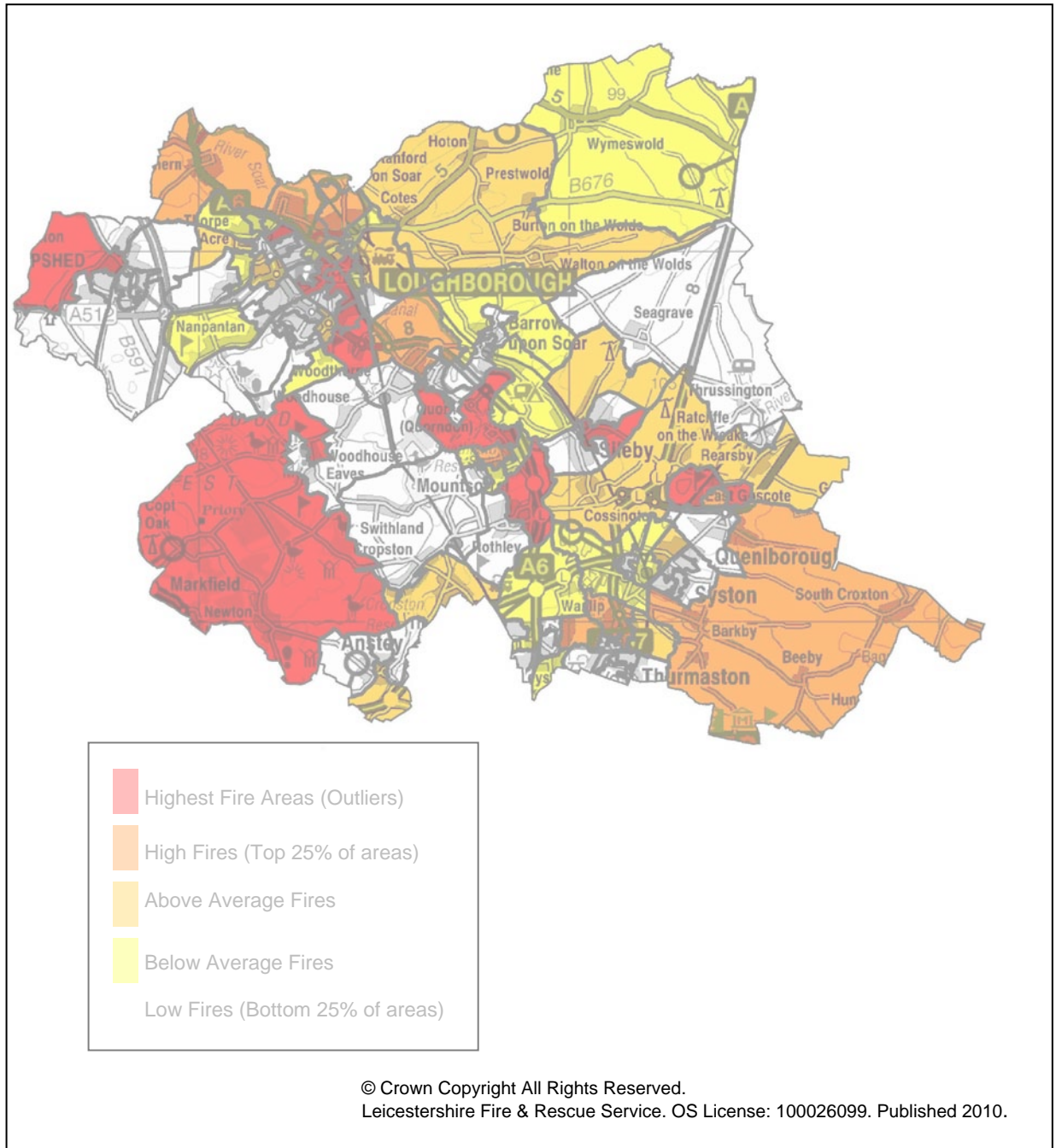


Figure 7. Deliberate Fires in Charnwood 2009/10

### Charnwood Road Traffic Collisions

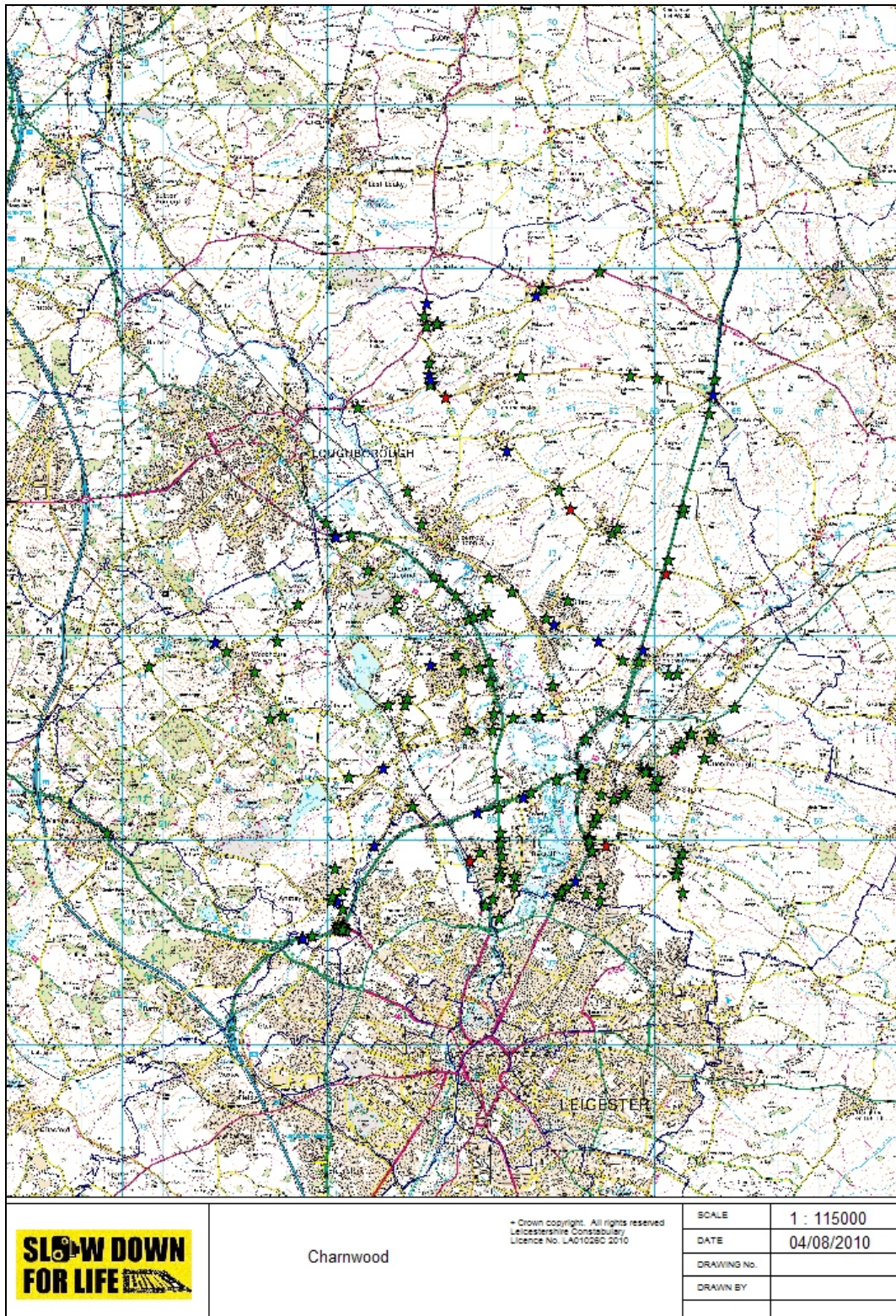


Figure 8. Road Traffic Collisions in Charnwood CSP 2009/10