Joint Partnership Strategic Assessment 2010/11

Hinckley & Bosworth CSP Appendices

Hinckley & Bosworth CSP 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	445	6.7	C	11	16	176	High	Y	4.229	27.5
		Vehicle Crime	796	11.9	C	17	13	221	High	Y	7.564	-1.4
		Robbery	24	0.4	C	1	11	11	Low		0.228	-35.1
	Serious Sexual Crime	Sexual Offences Against Adults (18 & Over)	8	0.2	C	1	11	11	Low		0.076	-11.6
		Sexual Offences Against Children (Under 18)	52	0.8	C	2	16	32	Low		0.494	
	Serious Violent Crime	Murder	1	0.0	C	1	16	16	Low		0.010	0.0
		Manslaughter	1	0.0	C	1	16	16	Low		0.010	100.0
		GBH sec. 18	12	0.2	C	1	19	19	Low		0.114	-25.0
		GBH sec. 20	9	0.1	C	1	19	19	Low		0.086	-33.3
	Assault LSI	ABH s 47	443	6.6	C	11	19	209	High	Y	4.210	-14.6
	Criminal Damage	Arson	47	0.7	C	2	12	24	Low	Y	0.447	-16.1
		Damage	1301	19.4	C	17	18	306	High	Y	12.363	-5.5
NSIR categories	Anti-Social Behaviour	Animal Problems	77	2.1	C	5	6	30	Low		0.732	-28.0
		Begging & Vagrancy	11	0.3	C	1	6	6	Low		0.105	450.0
		Street Drinking	9	0.2	C	1	18	18	Low		0.086	12.5
		Malicious Communications	109	3.0	C	5	15	75	Low		1.036	11.2
		Noise	49	1.3	C	3	12	36	Low		0.466	11.4
		Prostitution Related Activity	0	0.0	C	1	6	6	Low		0.000	
		Inappropriate sale / use / possession of fireworks	26	0.7	C	2	6	12	Low		0.247	-7.1
		Hoax Calls to Emergency Services	140	3.8	C	5	6	30	Low		1.330	-26.3
		Littering/Drugs Paraphernalia	32	0.9	C	2	15	30	Low		0.304	
		R & N Neighbour Disputes	304	8.3	C	14	15	210	High	N	2.889	30.5
		R & N Rowdy or Inconsiderate Behaviour	2190	59.6	C	17	19	323	High	Y	20.812	-11.7
		Trespass	11	0.3	C	1	6	6	Low		0.105	-26.7
		Abandoned Vehicles (not stolen nor obstruction)	281	7.6	C	11	10	110	Med		2.670	2.2
		Vehicle nuisance & inappropriate use (not obstruction)	428	11.6	C	17	15	255	High		4.067	-23.7
Other categories	Domestic Abuse		467	12.9	C	17	19	323	High	Y	4.438	-12.1
	Business Crime (Local Objective Burglary OTD >£1000)		59	0.9	C	2	10	20	Low		0.561	-7.8
	Business Crime		711	19.6	C	17	10	170	High	Y	6.757	-15.4
	Hate Crime		38	0.6	C	2	17	34	Low	Y	0.361	-24.0
	Burglary OTD		600	9.0	C	14	13	182	High	Y	5.702	21.2
	Theft		1498	22.4	C	17	11	187	High	Y	14.235	9.4
	Gun Crime		4	0.1	C	1	15	15	Low		0.038	0.0
	Knife Crime		2	0.6	C	2	15	30	Low		0.019	-19.2
	Killed or Seriously Injured Road Traffic Collisions						17					
	Speeding						14					

HIGH = score > 151

MEDIUM = score 76 - 150

LOW = score 0 - 75

Figure 1. Scanning Matrix for Hinckley & Bosworth CSP

ABH

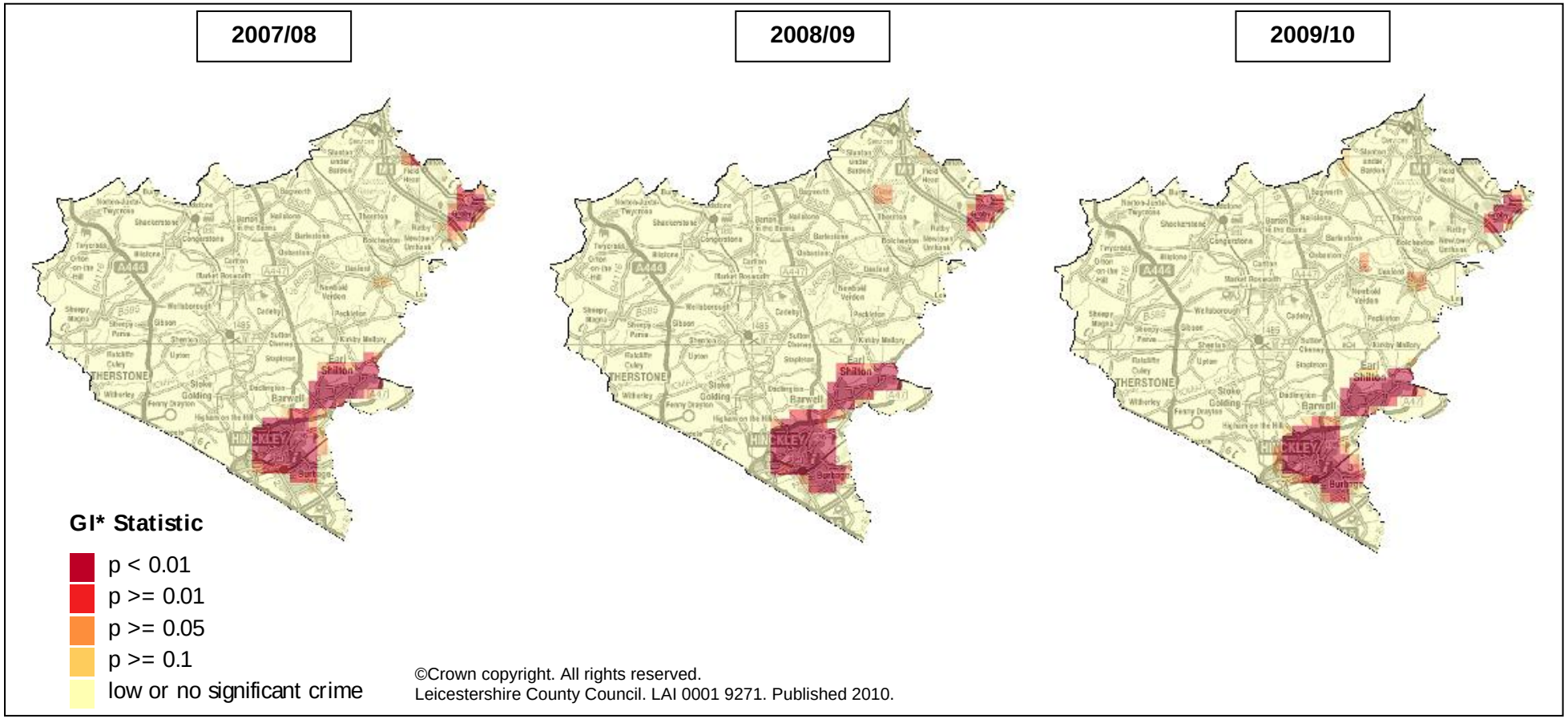

Figure 2. ABH Hot Spots in Hinckley & Bosworth CSP

Actual Bodily Harm hot spots in Hinckley & Bosworth CSP are restricted to the settlements of Hinckley, Barwell, Earl Shilton and Groby. Elsewhere there is little in terms of hot spots. These areas have remained fairly consistent over time, with no significant visible change in area of intensity since 2007/08. The highest actual incidents of ABH are in the centre of Hinckley, with the incidents in Barwell, Earl Shilton and Groby considerably smaller by comparison.

Anti Social Behaviour

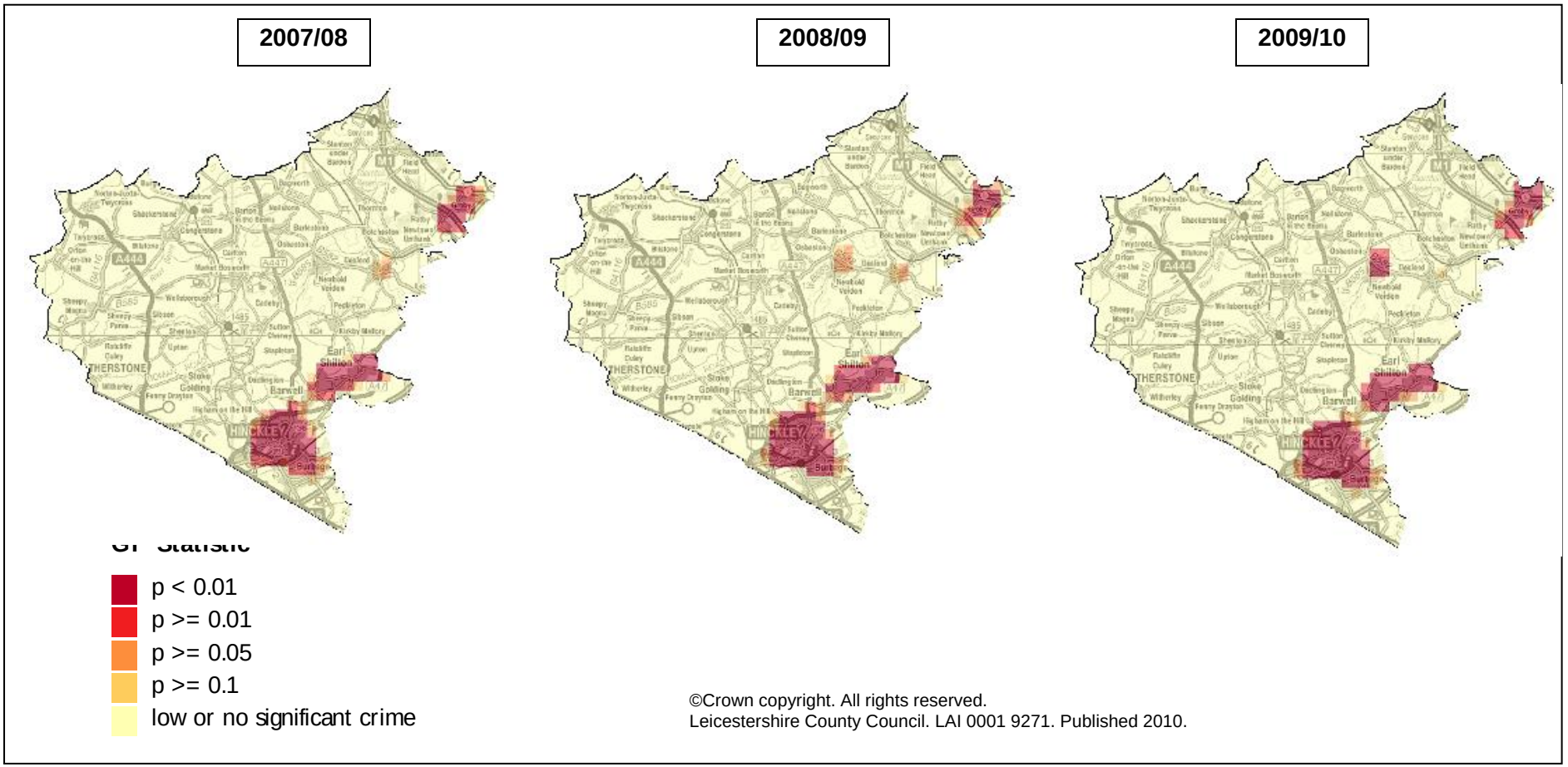

Figure 3. Anti Social Behaviour Hot Spots in Hinckley & Bosworth CSP

Hot spots for ASB in Hinckley & Bosworth CSP are focused in the urban areas of Hinckley and Earl Shilton, with some incidents in Barwell resulting in a degree of merging of the two hot spots. These have remained consistent through time. Other static hot spots include those covering Groby and Ratby. A slight increase in the volume of ASB in Newbold Verdon since 2007/8 has resulted in the emergence of a hot spot in this area, whilst at the same time a relative improvement can be noted in Desford.

Burglary Dwelling

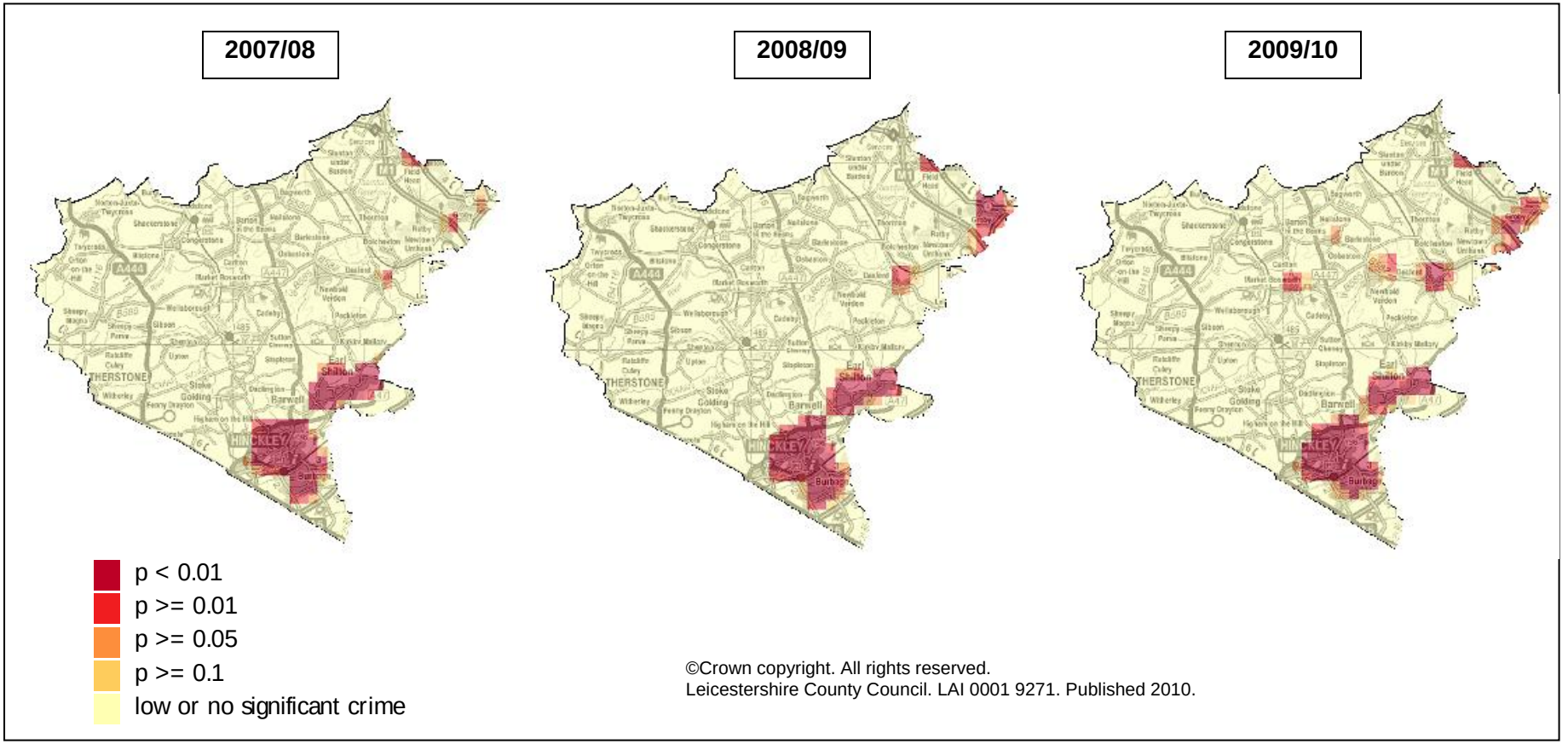

Figure 4. Burglary Dwelling Hot Spots in Hinckley & Bosworth CSP

The major settlements of Hinckley and Earl Shilton are the primary hot spots for domestic burglary in Hinckley & Bosworth CSP and these areas have remained stable since 2007/08. Slight decreases in volume of crime in Hinckley have meant that, in relative terms, the area around Barwell is now an emerging hot spot meaning that there has been a degree of merging of the primary hot spot areas. These slight decreases in levels of domestic burglary in Hinckley may also have resulted in the increase in geographical spread of the hot spots that cover the city border areas of Groby and Glenfield as these have seen very little variation in crime volume. Other emerging hot spots include Desford, Newbold Verdon and Market Bosworth.

Criminal Damage

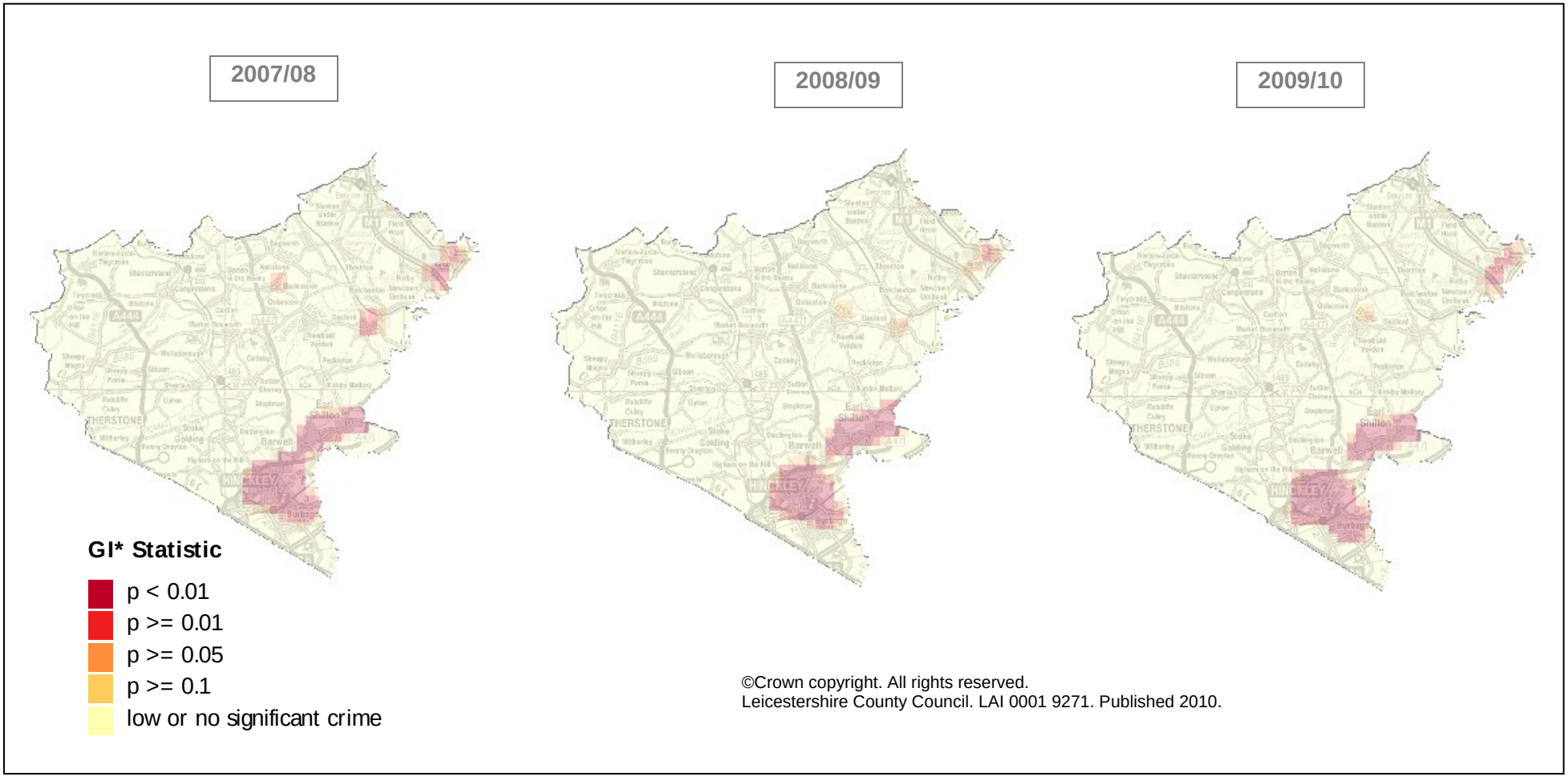

Figure 5. Criminal Damage in Hinckley & Bosworth CSP

Criminal damage hot spots in Hinckley & Bosworth CSP are focused primarily around Hinckley and Earl Shilton and Barwell. These have experienced little change in terms of intensity between 2007/08 and 2009/10, except for a separation of the two hot spots, due to a decrease in incidents in the south west of Barwell. Other hot spots existing around Groby and Ratby and have intensified somewhat in 2009/10. A significant hot spot in Desford in 2007/08 has decreased and is no longer visible in 2009/10.

Vehicle Crime

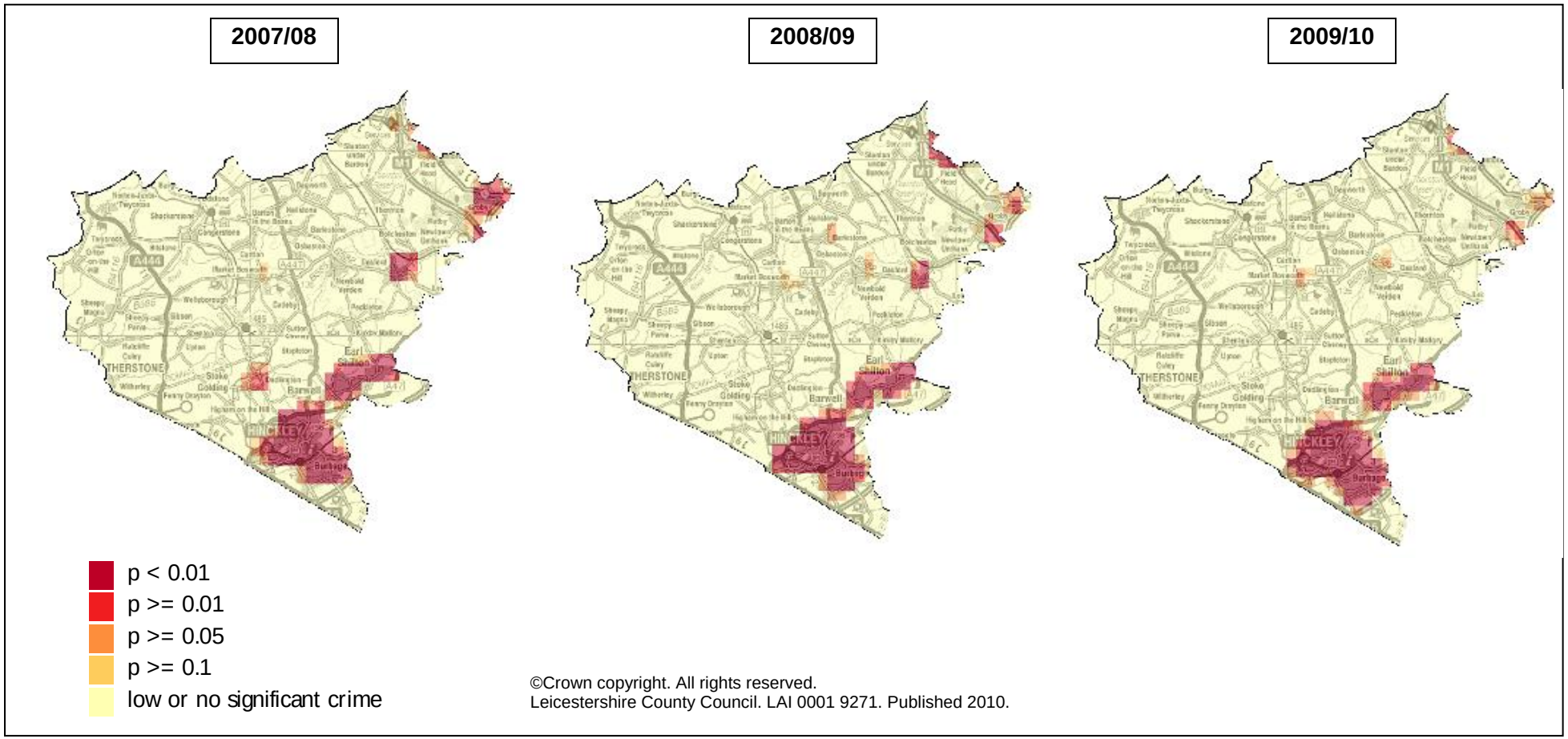

Figure 6. Vehicle Crime Hot Spots in Hinckley & Bosworth CSP

The main hot spot in Hinckley & Bosworth CSP is focused across Hinckley, Barwell and Earl Shilton. This hot spot has remained consistent in terms of size and intensity from 2007/08 to 2009/10. Elsewhere there are smaller, more localised hot spots around Field Head and Ratby. A significant hot spot was evident in Desford in 2007/08 and 2008/09, but this has disappeared by 2009/10.

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[1] which was run via the Rook's Case[2] 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.

[1] 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.
[2] http://www.lpc.uottawa.ca/data/scripts/index.html

Deliberate Fires in Hinckley 2009/10

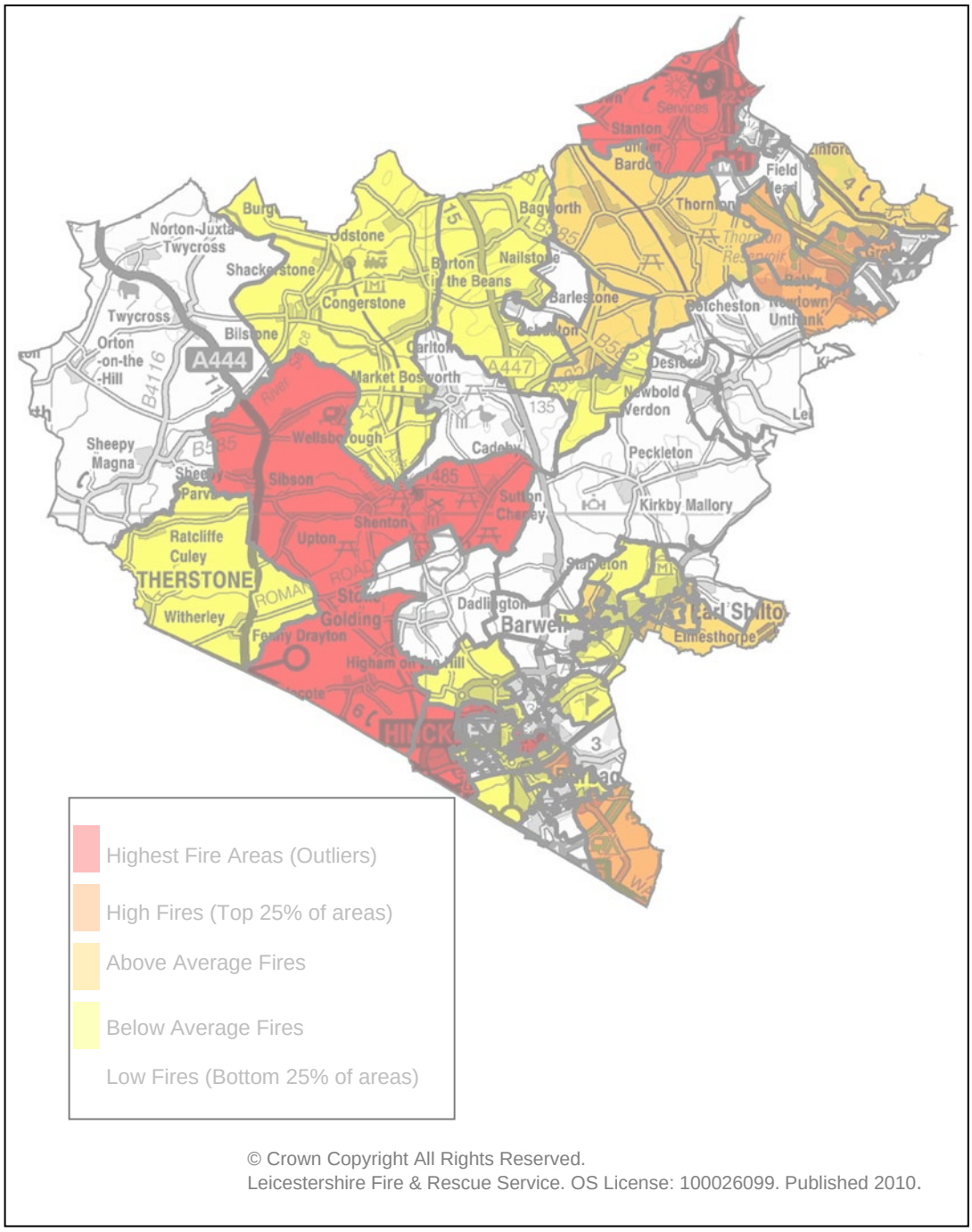

Figure 7. Deliberate Fires in Hinckley & Bosworth CSP 2009/10

Hinckley & Bosworth Road Traffic Collisions 2009/10

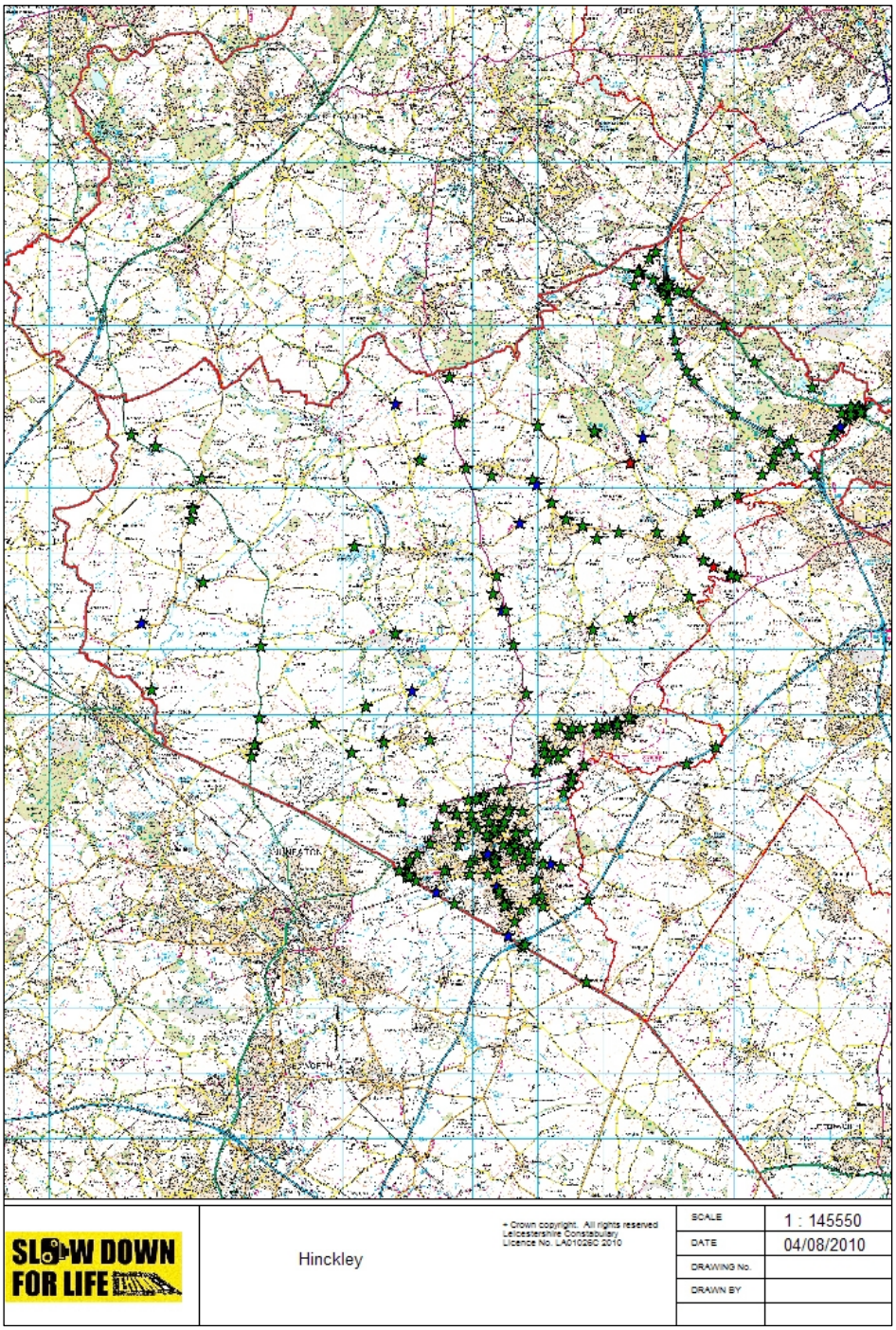

Figure 8. Road Traffic Collisions in Hinckley & Bosworth CSP 2009/10