



A COMPARATIVE ANALYSIS OF THE INCIDENTS THAT OCCURRED IN
MERSEYSIDE DURING THE BONFIRE PERIOD 20TH OCTOBER TO 7TH
NOVEMBER 2006

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KNOWLEDGE AND INFORMATION MANAGEMENT DEPARTMENT

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Arson Task Force		
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Related Documents

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1. Agreement

For the purpose of this report the following agreement was made between the client and the Knowledge and Information Management Department.

This work was requested by CFOA- Chief Fire Officer Association and received November 2006.

The Manager¹ has approved this report can be undertaken by the Knowledge and Information Management Department.

If the scope of the work changes, authorisation must be again obtained and would be noted within the version control document sheet.

It was agreed that this report would be produced in draft format by 9th January 2007, and would be sent electronically to the Director of Knowledge and Information Management and Client for comment.

The Manager / Client agreed that their comments would be received back by January 11th 2007.

The final report, which will always be in PDF format, would be produced by 12th January 2007, subject to receiving comments.

¹ John L Curtis

2. *Summary*

This report focuses on the analysis of the incidents that occurred in Merseyside during the bonfire period. The bonfire period commenced at 09.00.00hrs on 20th October and ended at 08.59.59hrs on 7th November.

This report primarily focuses on the number of anti-social behaviour incidents that occurred during the period, but reference is also made to recorded 'bonfire' and firework related incidents.

This report offers a comparative analysis of the incidents that occurred during the bonfire period in both 2005 and 2006, whilst including social context, to illustrate any potential differences between the two periods.

This report will illustrate that despite the best efforts of the Threat Response Group / Arson Task Force, which included joint collaborations, with Merseyside Police, anti-social behaviour incidents in the 2006 bonfire period increased by 57%. Incidents initially recorded as 'bonfires' witnessed a 58% increase and incidents where fireworks were involved rose by 35%.

Analysis revealed that whilst incidents increased in all districts in Merseyside, the increase was not evenly distributed, with the district of Liverpool witnessing an increase of 70% and Sefton experiencing a rise of 10%, when compared with the same time period in 2005. Analysis at Station Area, Ward and Super Output Areas is also presented in this report, to ensure that the findings are accessible by not only MFRS employees but also partner agencies as well.

Temporal analysis, which, is presented in this report, revealed that the greatest proportion of the increase in incidents in the 2006 bonfire period occurred during the peak hours of activity, which fell between 18.00hrs and 21.00hrs. Temporal analysis also highlighted that on 4th November incident numbers increased by 337% based on the number of incidents attended on the same date in 2005.

It is expected that the findings illustrated in this report will be used as intelligence to inform personnel involved in the planning of the 2007 bonfire period.

3. Introduction

This report presents a comparative analysis of the incidents that occurred during the bonfire period in both 2005 and 2006 in Merseyside. For the purpose of this report² the bonfire period commenced at 09.00.00hrs on 20th October and ceased at 08.59.59hrs on 7th November.

Primarily, this report will focus on the number of anti-social behaviour incidents that occurred during the stated period. This includes all deliberate incidents coded as '04'. The decision was made to include all deliberate anti-social behaviour fires, as it is difficult to decipher which incidents are 'bonfire' related. It will become evident throughout this report, that during the bonfire period incidents coded as '0403' (Intentional Burning / Bonfires) and '0405' (Refuse, Refuse Container) increased significantly. However, it is also clear that anti-social behaviour in general increased during this period. Reference is also made to the number of incidents initially reported to MACC (Mobilising and Control Centre) as a bonfire; this will offer an indication of the level of actual bonfire related activity during the period. The number of incidents where fireworks appeared to be involved is also presented.

This report offers both a spatial and temporal comparison of incidents for 2005 and 2006. This facilitates the identification of potentially significant changes in the volume of incidents by station area, super output area, ward and district. Different geographical scales are presented within this report to assist with partnership work by making the findings more readily accessible.

Comparative analysis also offers the opportunity for informed individuals employed by Merseyside Fire and Rescue Service to consider the effects of the initiatives deployed during the period. The intelligence offered in this report should be used in the planning of the 2007 bonfire period.

² Time period provided by CFOA – Chief Fire Officer Association

4. *Methodology*

To identify and analyse any trends in incidents during the bonfire periods in 2005 and 2006 the following methodology was adopted:-

- The period of analysis covered from 09.00.00hrs on 20th October to 08.59.59hrs on 7th November. This timescale is known as the 'bonfire period' and was determined by CFOA.
- Incidents that occurred in both the 2005 and the 2006 bonfire period were examined to enable comparative analysis. It is important to note that factors other than the time period effect comparisons and these have been both noted and considered where possible in this report.
- All deliberate anti-social behaviour ('04' FSEC code) incidents have been included in this report. All incidents that were initially recorded as 'bonfires' to MACC (Mobilising and Control Centre) by members of the public are referred to; this offers an indication of actual 'bonfires' during the period. Incidents that involved fireworks are also reported on; these incidents can be identified easily due to a tag, which is attached at the time of the incident.
- The analytical tools adopted in this report included:
 - Blue 8 Mapping Software – used as both a visual analytical tool and a tool to identify incidents occurring in the different spatial areas of analysis.
 - BOSS Fire Reporting System – used to manipulate data sources to gain the relevant raw data for fire incidents.
 - Excel – used as the primary tool for analysis, facilitating the creation of graphs and tables.
 - Strat-e-gis – used to extract and map police arson incidents.
- To increase the level of accessibility of this report in order to facilitate future partnership work, the information is presented at different geographical scales. The geographies studied include Station Area, District, Ward and Super Output Area.

5. *Interpreting the Results*

This chapter has been divided into eight sections to enable the main findings of the project to be presented clearly. The analysis is categorised by geographical scale. Each section presents a comparison in incidents between 2005 and 2006 for the bonfire period, which falls between 09.00.00hrs on 20th October and 08.59.59hrs on 7th November. The majority of analysis will be presented at the Merseyside level, as five further reports focusing on each individual district are available.

The five geographical scales at which analysis will be presented within this report are: -

Merseyside
Station Area
District
Ward
Super Output

5.1 *Merseyside Analysis*

Anti-Social Behaviour Incidents

During the bonfire period it is extremely challenging to distinguish between anti-social behaviour incidents and bonfires, therefore the majority of this report will focus on anti-social behaviour in general. Arguably, the bonfire period is the most active time period for Merseyside Fire and Rescue Service in relation to anti-social behaviour incidents; it is therefore imperative to understand the general trends in these incidents during this period, in order to produce intelligence, which can be used to develop proactive responses for the future.

Table One: A comparison of the number of anti-social behaviour incidents during the bonfire period in Merseyside.

Year	Number of Incidents
2006	1584
2005	1009
2004	1207

Table One presents the number of anti-social behaviour incidents in Merseyside by year for the past three years. In Merseyside the number of incidents increased by 57% from 2005 to 2006. Between 2004 and 2005 there had been a 16% decrease in the number of incidents. If 2005 is dismissed temporarily, as it has been argued that the decrease in this year was noteworthy, there was still a 31% increase in the number of

incidents between 2004 and 2006. This indicates that the increase between 2005 and 2006 was significant.

Bonfire Incidents

It is important to attempt to measure the actual number of bonfires that occurred during the identified period. The most accurate means of measuring the number of bonfires at present is through collating the number of bonfires recorded as the original incident type by MACC when the initial 999 call was made. This is not an accurate measure by any means, and is clearly reliant on the information provided by the public at the time of the call, but it does provide an indication, which can be used for comparative purposes and future planning.

It is important to note that the majority of incidents referred to in Table Two are included in Table one, the only exception being when the incidents were not attended.

Table Two: A comparison of the number of bonfire incidents during the bonfire period in Merseyside.

Year	Number of Bonfire Incidents
2005	642
2006	407

Table Two highlights the increase in number of 'bonfire'³ incidents between 2005 and 2006 in Merseyside. The bonfire period in 2006 witnessed an increase of 235 incidents, which can further be expressed as a 58% increase.

Fire Work Incidents

Table Three: A comparison of the number of fireworks involved in incidents during the bonfire period in Merseyside.

Year	Number of Incidents
2006	46
2005	34

During and immediately prior to the bonfire period a large quantity of fireworks are sold, the majority of these fireworks are used for safe recreational purposes, however, a minority are used in a violent and unsafe manner, and can result in fire. Some fireworks used in a safe and controlled manner can also lead to fire. It is therefore important to

³ Based on original incident type

compare the number of incidents in 2005 and 2006, to try and gauge if the number of incidents resulting from fireworks increased. There was a 35% increase in incidents.

The incidents included in Table Three are not included in the total number of anti-social behaviour incidents. Fireworks appear to be the cause of property and vehicle fires, further analysis will illustrate this.

In 2005 20% of the total number of incidents where fireworks were involved occurred in cars, this number doubled to 41% in 2006. As a percentage of the total number of incidents, dwelling fires reduced from 21% in 2005 to 13% in 2006.

Table Four presents a comparison of the number of incidents in 2005 and 2006 where a firework was involved.

Table Four: Number of Incidents where fireworks were involved by type in 2005 and 2006 in Merseyside.

Firework Incidents	Number of Incidents 2005	Number of Incidents 2006
Dwelling	7	6
Other Buildings	12	5
Mobile machinery	1	0
Vehicle Fire	7	19
Motor Vehicle	1	1
Fixed Outdoor Structures	3	2
Derelict Building	1	0
Other Special Services	2	0
Hazchem	0	7
Other with mobilisation	0	6

The increase in the number of firework incidents occurred despite the best efforts of the Threat Response Group, who in 2006 seized or placed under restriction approximately 40 tonnes of fireworks; this is approximately double the figure in 2005. In collaboration with Merseyside Police in 2006 the Threat Response Group seized fireworks on 5th November, which it was believed were going to be used to blow up a Police Station in the North Liverpool area. The Threat Response Group⁴ inspected 346 premises, which resulted in 32 formal written cautions, 4 registration and license revocations and 3 application refusals. They were also involved in 8 joint operations.

⁴ These figures are for an extended period, and are not directly related to the Bonfire Period as stated by COFA.

Comparative Analysis of Merseyside: Incident Type

The remainder of this report focuses on anti-social behaviour incidents during the bonfire periods in 2005 and 2006. The significance of anti-social behaviour incidents during this period has already been illustrated in this report, as has the considerable increase in the number of incidents witnessed in 2006. However, it is important to analyse the data in more detail to identify any trends that could further intelligence, which may assist in more proactive planning for the 2007 bonfire period.

This section will focus on spatial and social trends as well as identifying any trends in the types of incidents

Table Five: A comparison of the number of anti-social behaviour incidents by type in Merseyside in 2005 and 2006.

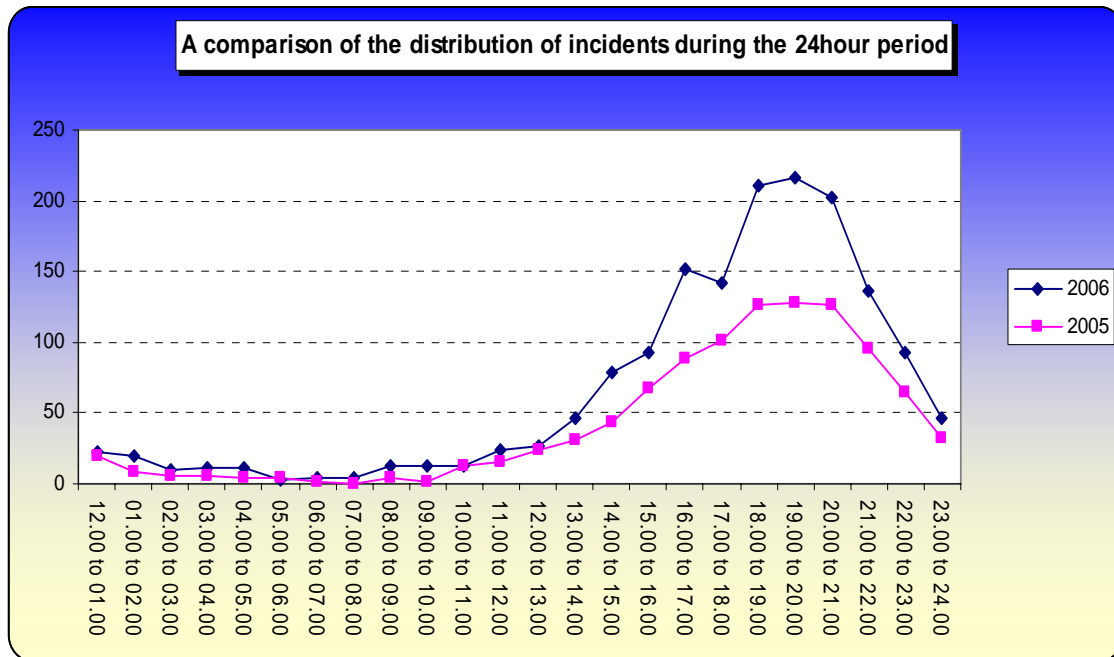
Incident Type	Number of Incidents (2005)	Number of Incidents (2006)
Derelict Building	54	41
Grassland	50	63
Intentional Burning / Bonfire	283	524
Outdoor Structure	21	44
Refuse, Refuse Container	598	908
Derelict Vehicle	5	7

Table Five illustrates that fires in refuse and refuse containers and intentional burning / bonfires were the most common form of anti-social behaviour fire in Merseyside during the bonfire period. Both these fire types increased dramatically in 2006, with intentional burning / bonfires witnessing an increase of 85% and refuse / refuse container fires witnessing an increase of 52%. Incidents in derelict buildings witnessed a reduction of 24% in 2006 from the previous year. This reduction could arguably be due to the efforts of the arson advocates who continuously work to ensure derelict properties are secured as quickly as possible, to prevent the opportunity for anti-social behaviour in these premises.

Comparative Analysis of Merseyside: Temporal Analysis

To be able to effectively tackle anti-social behaviour fires occurring during the bonfire period it is necessary to undertake temporal analysis, to enable the identification of peak times of activity. By comparing the temporal trend in 2005 and 2006 it is possible to observe potential changes in peak periods. This report has previously indicated that the number of incidents increased during the bonfire period. Graph One enables visual identification of when these increases occurred.

Graph One: Illustrates the number of anti-social behaviour fires during the 24hour period for the bonfire period in 2005 and 2006 in Merseyside.



Graph One clearly indicates that in both 2005 and 2006 the peak period fell between approximately 17.00hrs and 22.00hrs. When comparing 2005 and 2006, it is evident that the number of incidents in both years were roughly consistent from 12.00hrs until 14.00hrs. After 14.00hrs the numbers of incidents in 2006 were greater than in 2005, with the most significant difference being between 18.00hrs and 21.00hrs. It can therefore be argued that the rise in incidents in 2006 occurred during the peak period.

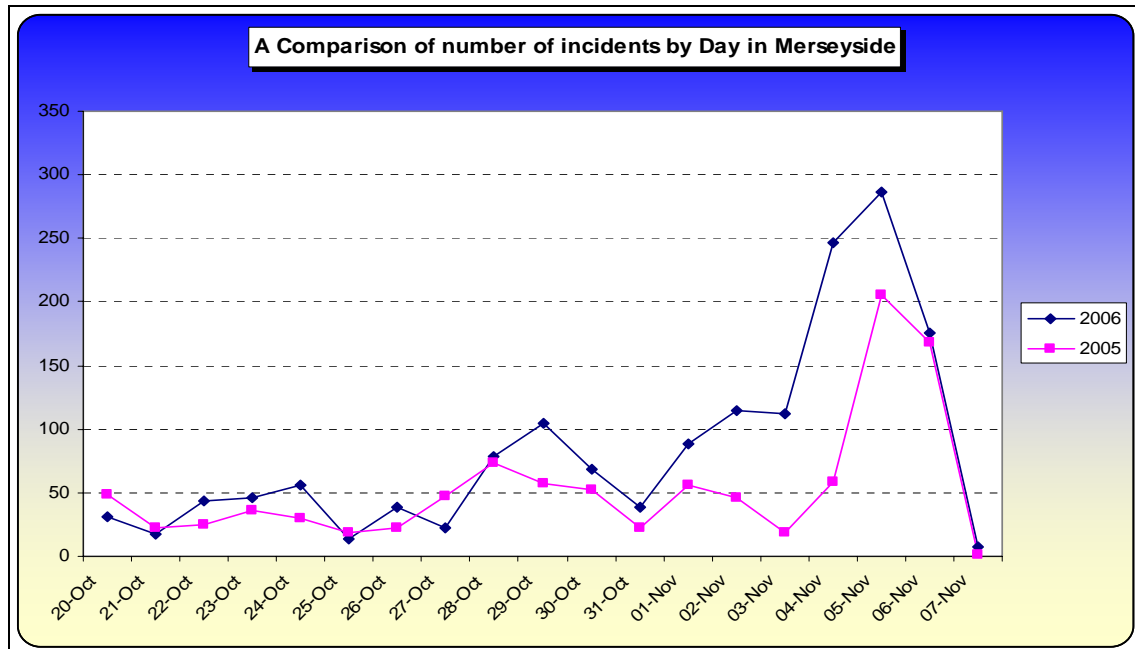
As this report compares the same period of time in both 2005 and 2006 it is possible to examine the trends by day in incident numbers. From Graph Two it is apparent that in 2006 the number of incidents increased dramatically from the 31st of October. In 2005 the number of incidents remained at a constant and relatively low level until the 5th November. The 4th November witnessed the greatest difference in the number of incidents between 2005 and 2006. In 2005 the 4th was a Friday and in 2006 the 4th fell on a Saturday. On the 4th November 2006 the number of incidents increased by 337%⁵, with the 5th witnessing an increase of 55%.

It should be noted that during the 2005 bonfire period the Police and Fire Service in Merseyside undertook no joint partnership work. The 30th and 31st October and the 5th November 2006 witnessed joint Police and Fire Service operations aimed at reducing anti-social behaviour on the

⁵ For breakdown of figure see individual district reports.

streets of Merseyside, this will be discussed in more depth in a further chapter.

Graph Two: Illustrates the number of anti-social behaviour fires by date during the bonfire period in 2005 and 2006 in Merseyside.



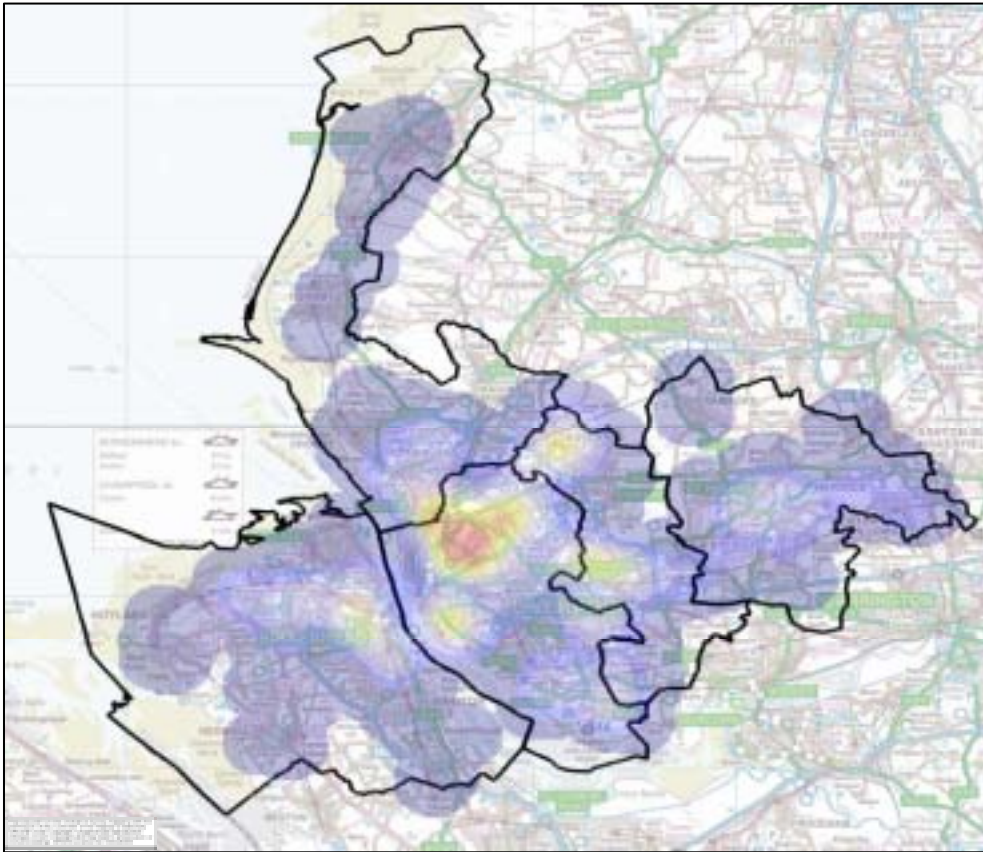
Spatial Analysis in Merseyside

This report has focused on the type and temporal trends in the incidents occurring in the bonfire period at a Merseyside level. It is also important to present spatial analysis, to enable hotspots in 2005 and 2006 to be compared. This will initially enable identification of the most active areas for incidents of anti-social behaviour in the 2005 and 2006 bonfire period.

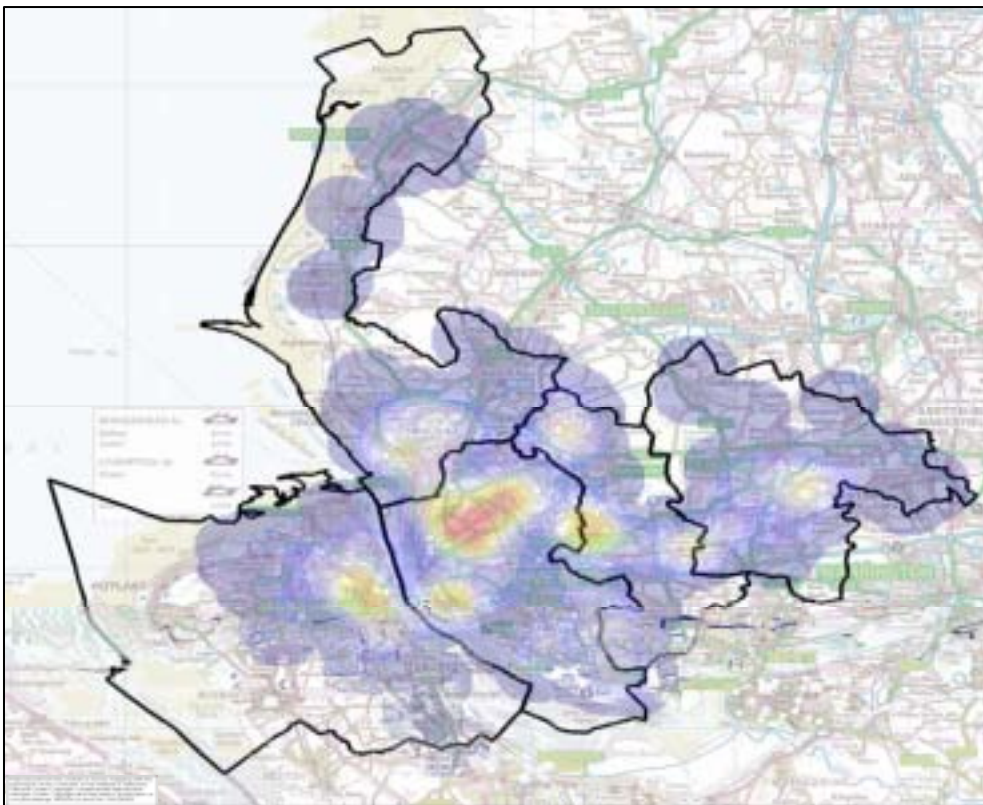
In 2006, Merseyside Fire and Rescue Service worked in collaboration with Merseyside Police on the 30th and 31st October and the 5th November in an attempt to tackle anti-social behaviour by targeting known hot spot areas. 2005 hotspot maps for fire related incidents were provided to Merseyside Police to assist with intelligence. It would appear from Map One and Map Two that in both 2005 and 2006 the hotspot areas remained in approximately the same locations. The main hotspot areas in 2005 and 2006 being in Anfield / Norris Green (Liverpool), Toxteth (Liverpool), Kirkby and Huyton (Knowsley)

It is worth noting that in 2005 there was a hotspot in the district of Sefton around Seaforth and Litherland, in 2006 this high concentration of incidents was no longer present.

Map One: Illustrates the location of incidents in Merseyside in 2006



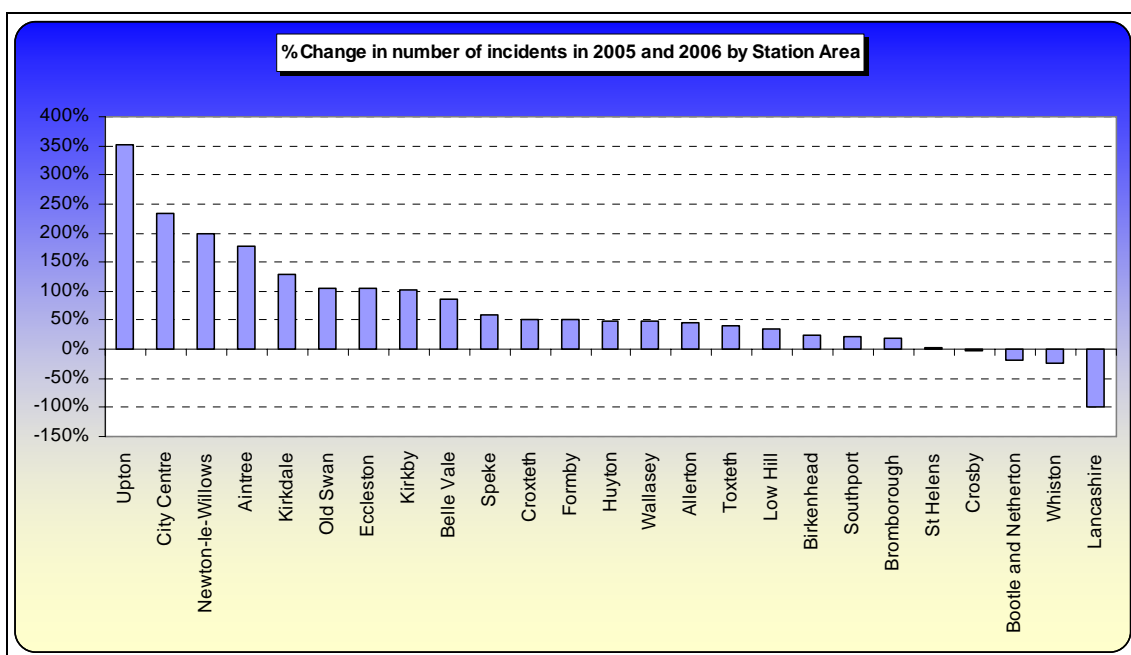
Map Two: Illustrates the location of incidents in Merseyside in 2005



5.2 Station Area Analysis

While, it is important to understand the trends at Merseyside level it is also necessary to gain an appreciation at a smaller geographical scale. The five individual district reports will focus on Station Areas in more detail, but an overview will be presented in this report, to illustrate trends in Station Areas across the whole Merseyside area.

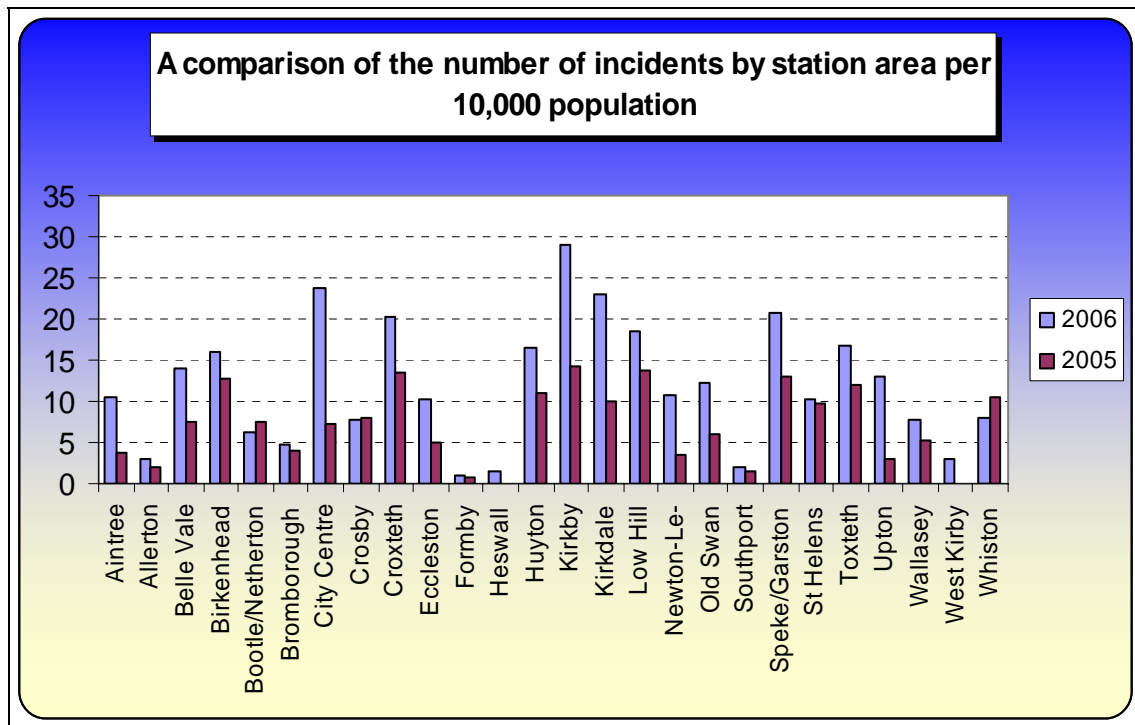
Graph Three: Illustrates the percentage change in incidents by Station Area in Merseyside for the bonfire period.



Graph Three illustrates the percentage change in incidents in Merseyside by Station Area. This highlights which Station Areas witnessed the greatest difference in the number of incidents occurring in 2006 than in the previous year⁶. It is evident that Upton experienced the most dramatic rise in incidents with a 350% increase. Only the Station Areas of Crosby, Bootle and Netherton and Whiston witnessed a decrease in the number of incidents. It is also worth noting that the number of incidents attended over the border experienced a decline in 2006.

⁶ The Station Areas not listed had no incidents in 2005 and therefore percentage changes could not be calculated. The stations may have had incidents in 2006.

Graph Four: Illustrates the number of incidents by Station Area per 10,000 population.



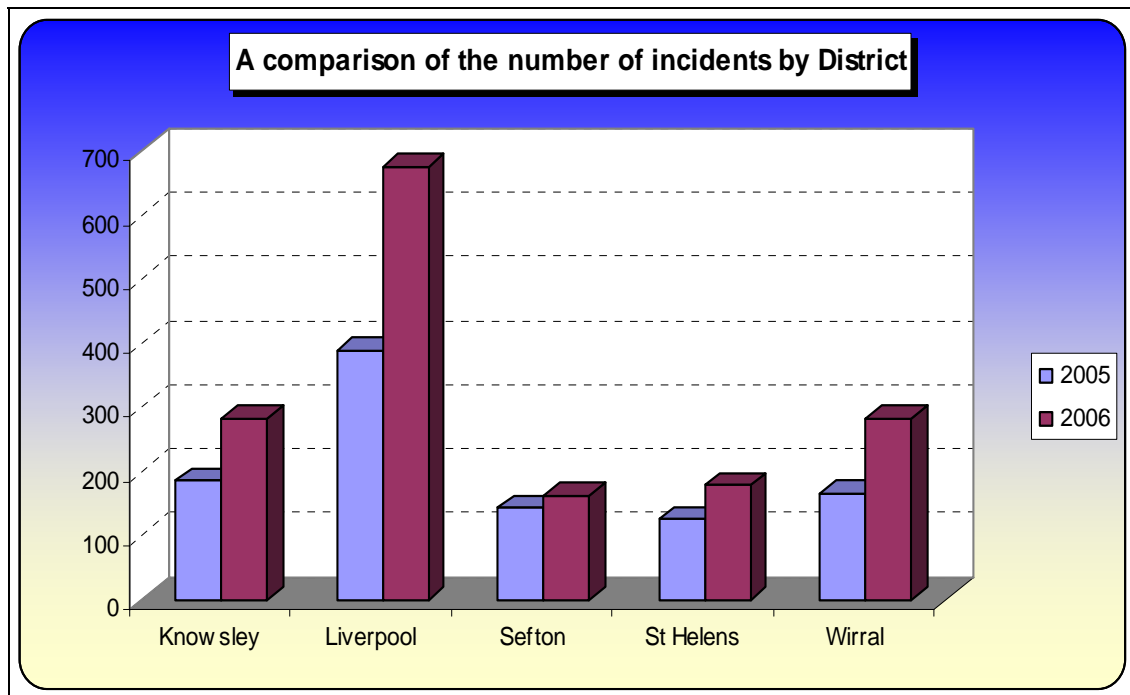
Graph Four illustrates the number of incidents when taking into account the population size⁷ of each Station Area. The figures represent the number of incidents per 10,000 of the population, this enables comparisons as all figures have been standardised. This graph illustrates that only three station areas witnessed a reduction in the number of incidents in 2006, these were Whiston, Crosby and Bootle and Netherton. The Station Area of the City Centre, Kirkby and Upton all witnessed significant increases in the number of incidents per 10,000 population in the 2006 bonfire period.

5.3 District Analysis

Five individual reports focusing on the incidents that occurred by district have all been produced. Each of these reports will focus on the incidents that occurred in the individual districts in more detail. However, by presenting the main findings in this report a Merseyside comparison by district can be observed.

⁷ The population figures are best estimates based on 2001 Census data. The same population figures have been used to compare 2005 and 2006 data.

Graph Five: Illustrates the comparison in the number of incidents by District for the bonfire period in 2005 and 2006.



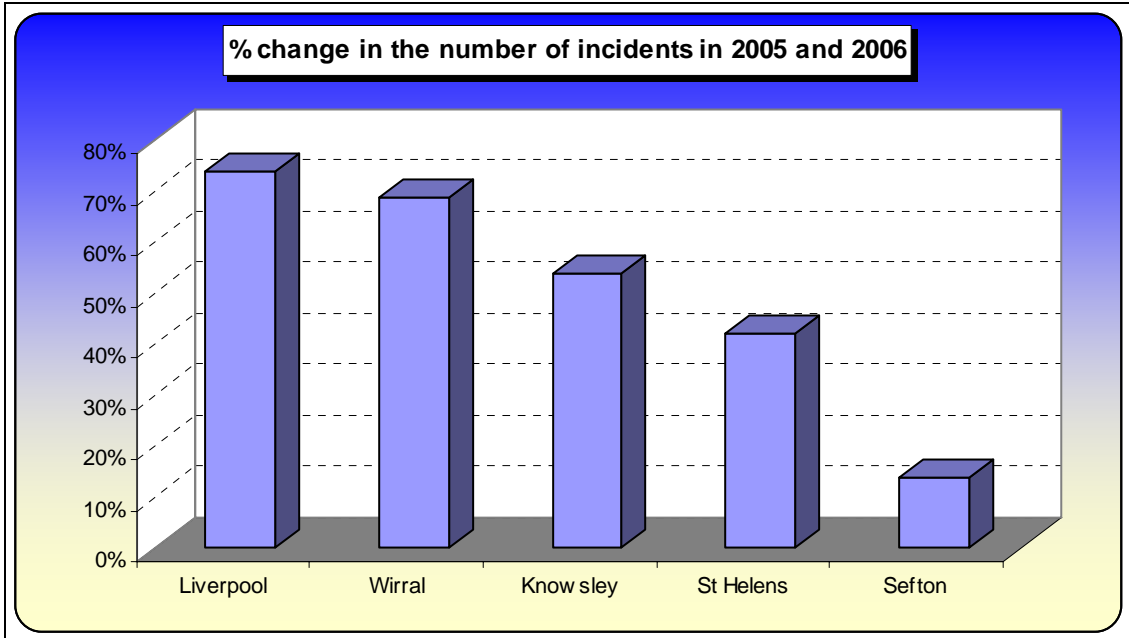
Graph Five visually illustrates the increases in incident numbers by district during the bonfire period. It is clear that the district of Liverpool witnessed the greatest increase, whilst the district of Sefton in general only experienced a slight increase. This is also shown in Table Six and Graph Six.

Table Six: A comparison of the number of anti-social behaviour incidents during the bonfire periods in 2005 and 2006 by district.

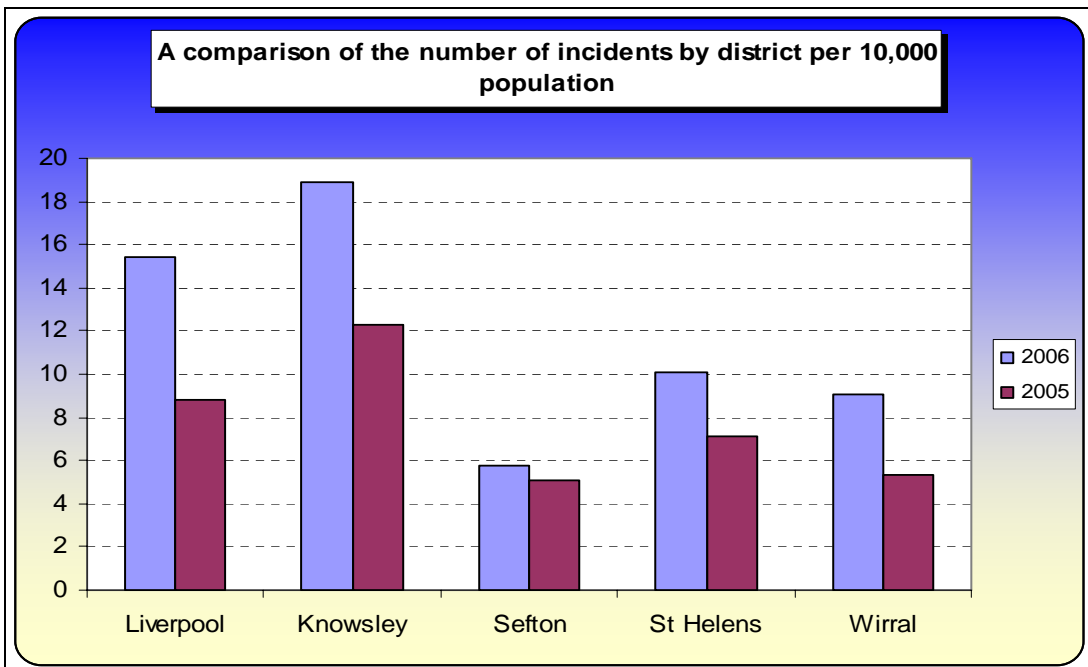
District	Number of Incidents 2005	Number of Incidents 2006
Knowsley	185	284
Liverpool	389	676
Sefton	143	163
St Helens	125	178
Wirral	167	283

Graph Six illustrates the percentage change in the number of incidents in 2006, it shows that the number of anti-social behaviour incidents occurring in Liverpool during the bonfire period increased by approximately 70%, while Sefton witnessed a much smaller, but still significant increase of 10%. The Wirral, Knowsley and St Helen's all witnessed percentage increases exceeding 40%.

Graph Six: Illustrates the percentage change in incidents by district in Merseyside for the bonfire period.



Graph Seven: Illustrates the number of incidents per 10,000 population by district.



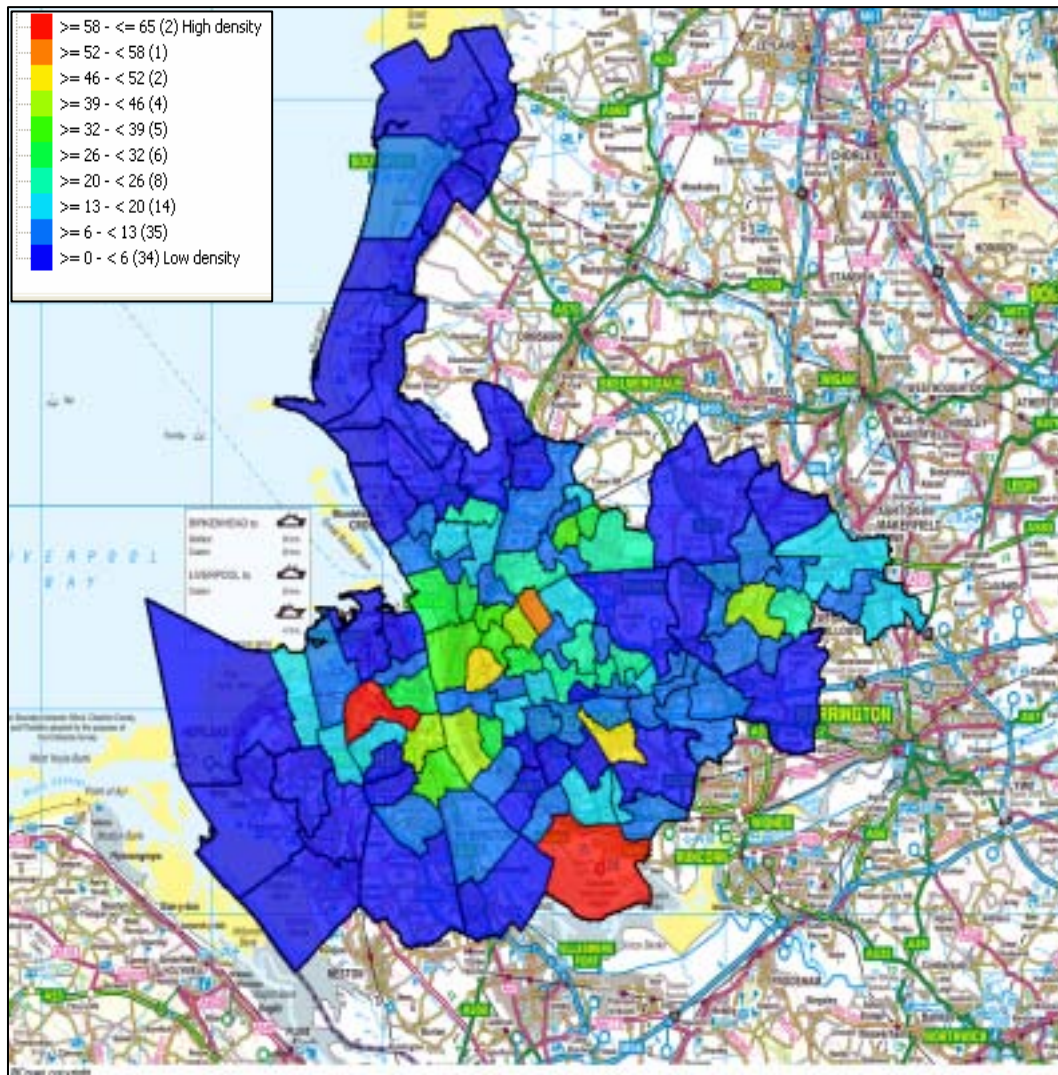
It is evident from Graph Seven that all districts witnessed an increase in the number of incidents per 10,000 population in 2006, with both Liverpool and Knowsley experiencing the most significant increases.

5.4 Ward Analysis

Merseyside Fire and Rescue Service is involved in partnership work with numerous different organisations, the Station Areas that MFRS duties are performed at are not of any direct use to our partner agencies. To ensure that this report will not only be of benefit to MFRS but our partner agencies as well, incidents are examined at ward and super output area geographies.

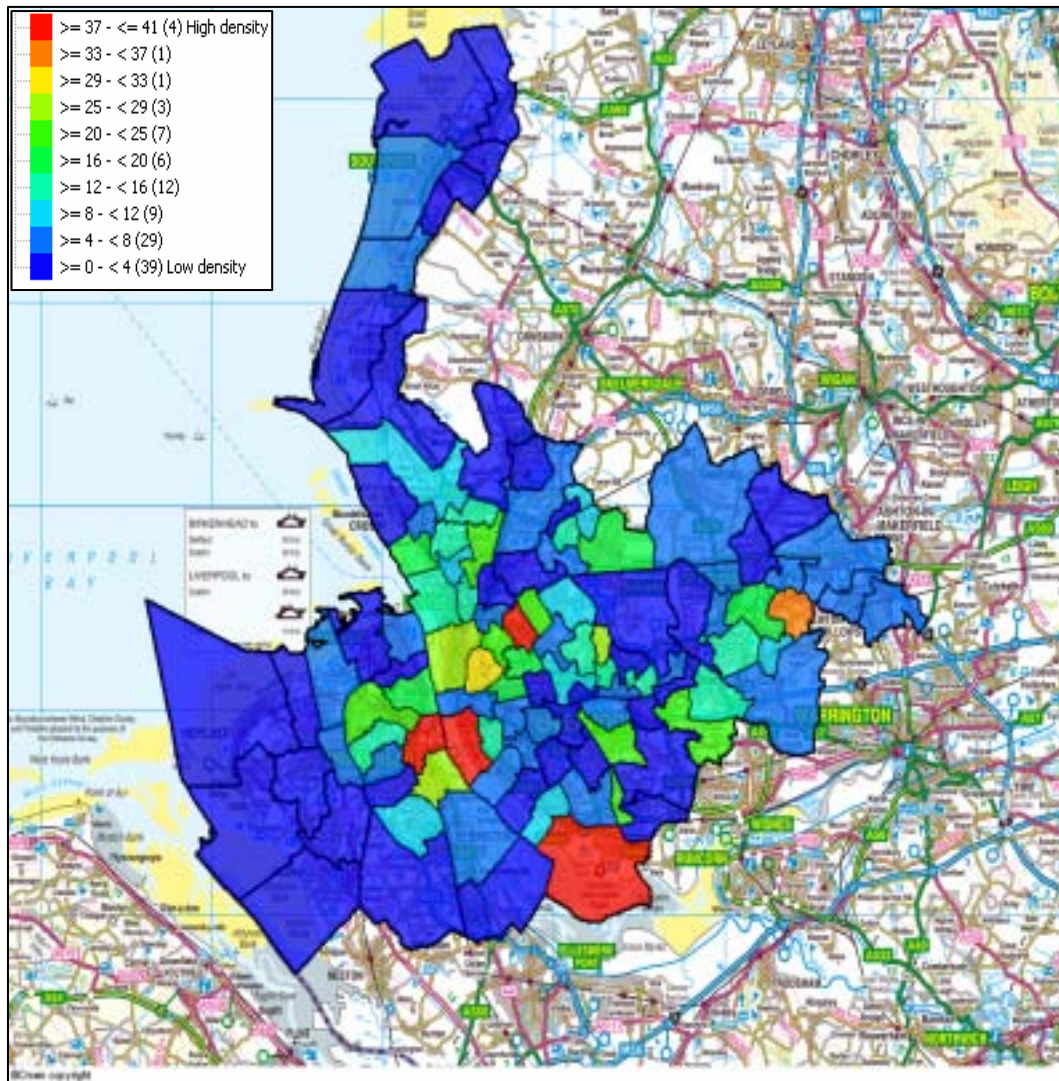
When comparing Map Three and Four it is important to note the key. As the number of incidents in 2006 was much higher than in 2005 the colours used do not reflect the same number of incidents experienced, they are used to indicate the worst wards, based on the number of incidents occurring in the specific year.

Map Three: Illustrates the number of incidents by Ward in 2006.



In 2006 the wards that had the greatest number of incidents during the bonfire period, with more than 58 incidents were Bidston and St James Wards on the Wirral and Speke-Garston Ward in Liverpool. Other wards that experienced more than 29 incidents during the bonfire period in 2006 were Clubmoor, Belle Vale and Everton.

Map Four: Illustrates the number of incidents by Ward in 2005.



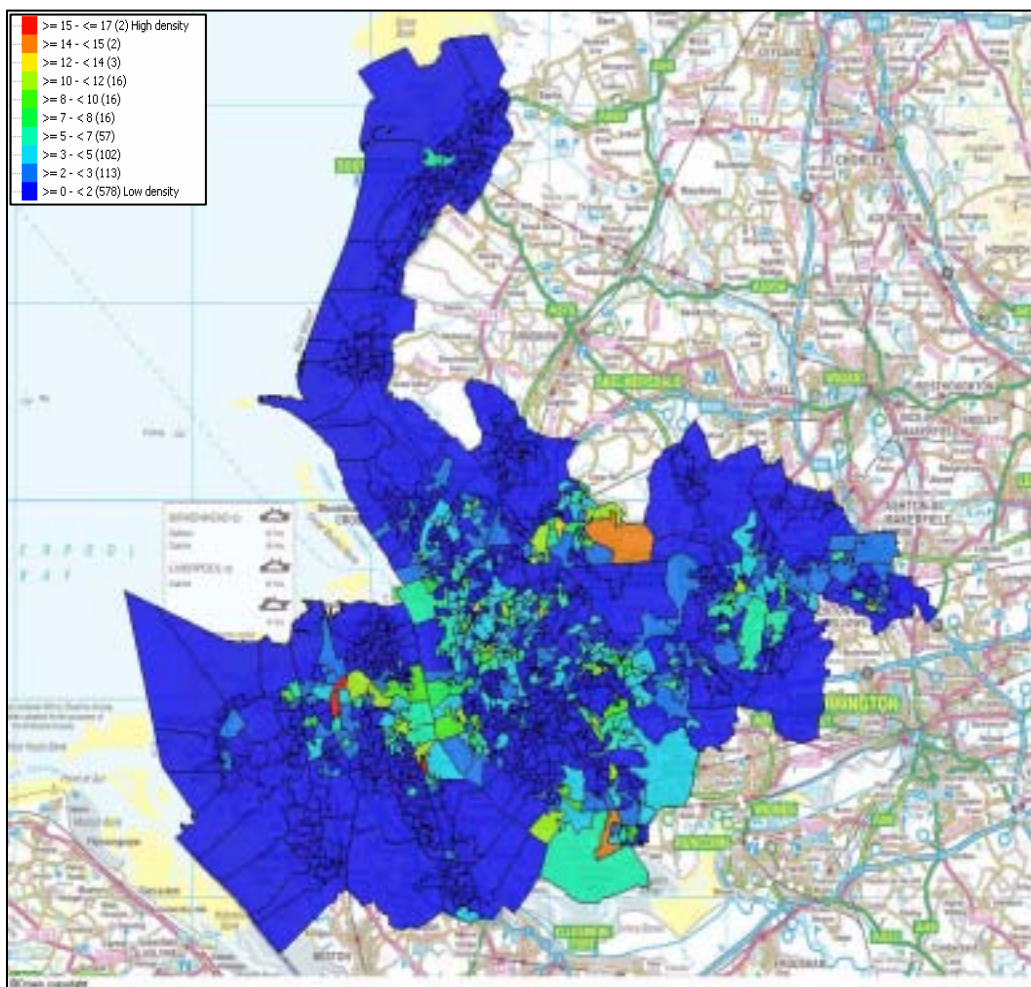
Map Four indicates that in 2005 the wards that had the highest number of incidents during the bonfire period, with an excess of 37 incidents where Speke-Garston, Birkenhead and Tranmere, Riverside and Clubmoor. Par in St Helens was also in the top five worst wards in 2005 with between 33 and 37 incidents.

In both 2005 and 2006 the wards of Speke-Garston and Clubmoor are in the top five worst wards based on anti-social behaviour incidents.

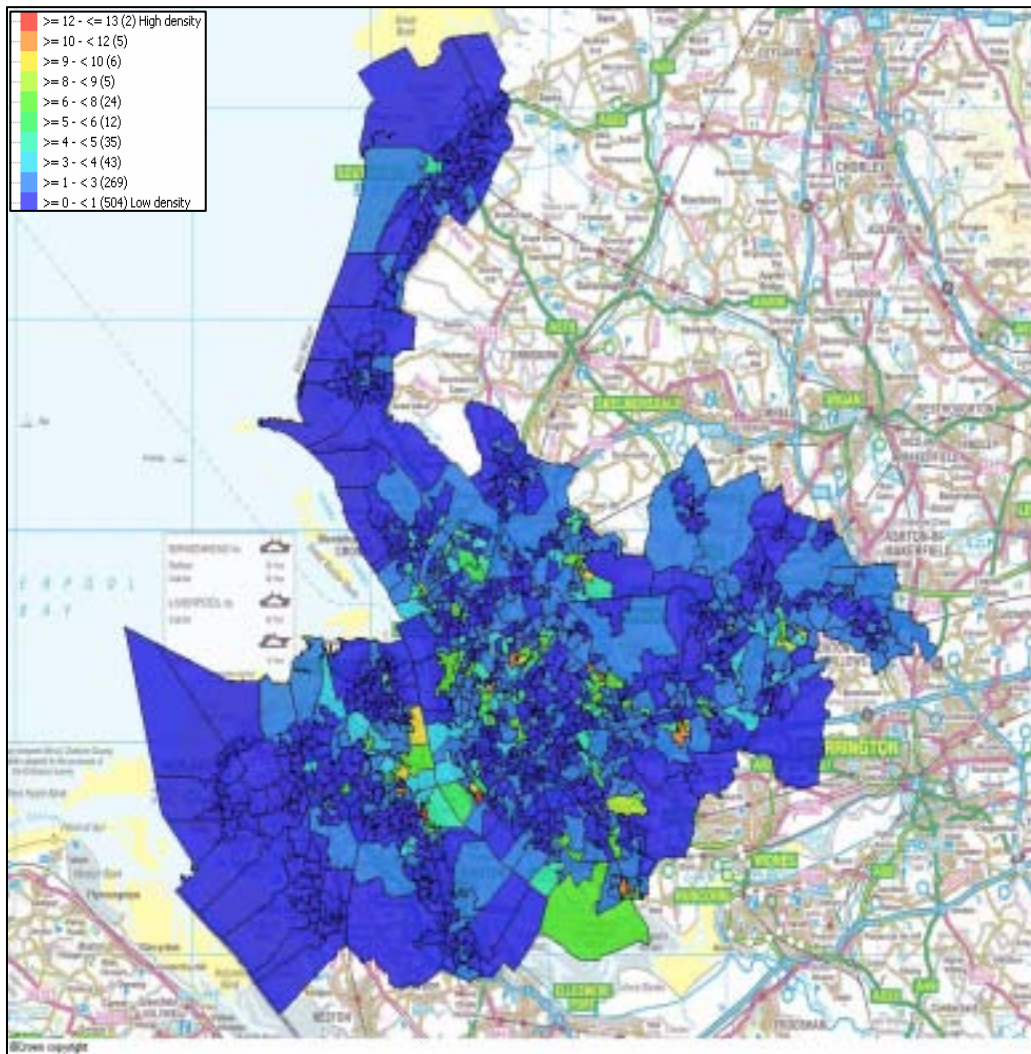
There could be a multitude of reasons why in general the worst wards in 2006 were not those in 2005. The most obvious argument being linked to the fact that the Threat Response Group / Arson Task Force targeted the 2005 hotspot areas in 2006 through joint operations with Merseyside Police. This initiative could have acted as a deterrent and reduced the number of incidents occurring in the identified hotspots, but a negative side effect could have been the dispersion of anti-social behaviour to surrounding areas. However, to attempt to prove this hypothesis much more work would need to occur between police and fire service analysts focusing on the exact areas the teams in the joint operation attended. Whilst, it may not be possible to prove this hypothesis, the argument should be considered.

5.5 Super Output Area

Map Five: Illustrates the number of incidents by Super Output Area in 2006



Map Six: Illustrates the number of incidents by Super Output Area in 2005



Out of all the Fire Services in England, based on an average of all the super output areas that combine to make up the 'Brigade' area, Merseyside is the most deprived Fire and Rescue Service⁸. Super output area geographies are therefore of great importance and it is necessary to illustrate, especially for our partner agencies, the super output areas that witnessed the greatest number of incidents in the 2005 and 2006 bonfire periods. This is visually portrayed in Map Five and Map Six, but Tables Seven and Eight also present the findings

In 2006 the super output area experiencing the greatest number of incidents was in Bidston and St James Ward on the Wirral, in 2005 the super output area with the greatest number of incidents was located in Riverside Ward, which is in the district of Liverpool

⁸ Source: David Robinson MFRS, findings also supported by Audit Commission: Fire and Rescue Performance Framework 2006/07, 'Guide to Service Assessment', published in July 2006.

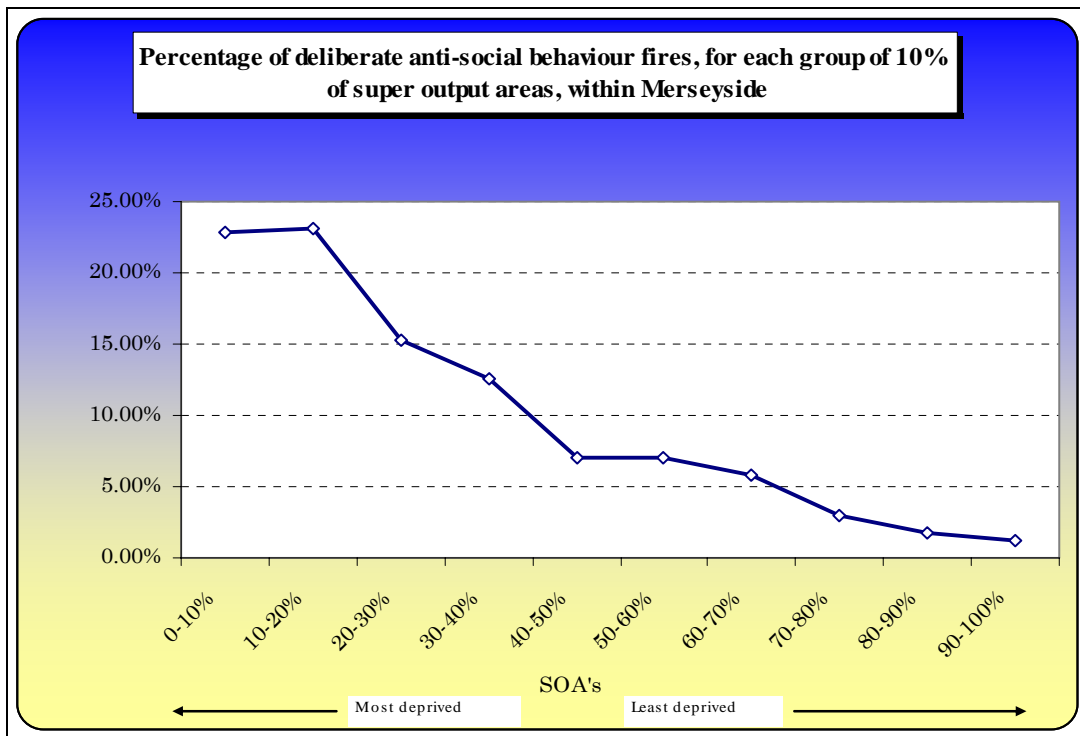
Table Seven: Super Output Areas in 2006 witnessing greatest incidents

Super Output Area	Ward	Number of Incidents 2006
E01007124	Bidston_and_St_James_Ward	16
E01007295	Rock_Ferry_Ward	15
E01006741	Speke-Garston_Ward	14
E01006610	County_Ward	13
E01006455	Whitefield_Ward	12
E01006599	Norris_Green_Ward	12
E01006433	Halewood_West_Ward	11
E01006446	Northwood_Ward	11
E01006450	Page_Moss_Ward	11
E01006515	Riverside_Ward	11
E01006658	Fazakerley_Ward	11
E01006770	Belle_Vale_Ward	11
E01006547	Anfield_Ward	10
E01006612	Clubmoor_Ward	10
E01006740	Speke-Garston_Ward	10
E01006860	Newton_Ward	10
E01007121	Bidston_and_St_James_Ward	10
E01007132	Bidston_and_St_James_Ward	10
E01007293	Rock_Ferry_Ward	10
E01006448	Northwood_Ward	9
E01006562	Everton_Ward	9
E01006676	Princes_Park_Ward	9
E01006701	Kirkdale_Ward	9
E01006756	Speke-Garston_Ward	9
E01006965	Derby_Ward	9
E01007127	Birkenhead_and_Trانmere_Ward	9
E01007228	Moreton_West_and_Saughall_Massie_Ward	9
E01007269	Seacombe_Ward	9
E01006434	Kirkby_Central_Ward	8
E01006471	Roby_Ward	8
E01006517	Riverside_Ward	8
E01006563	Everton_Ward	8
E01006673	Princes_Park_Ward	8
E01006772	Belle_Vale_Ward	8
E01007128	Birkenhead_and_Trانmere_Ward	8
E01007274	Seacombe_Ward	8
E01006442	Longview_Ward	7
E01006484	St_Michaels_Ward	7
E01006492	Shevington_Ward	7
E01006506	Cherryfield_Ward	7
E01006632	Riverside_Ward	7
E01006643	Knotty_Ash_Ward	7
E01006672	Norris_Green_Ward	7
E01006734	Norris_Green_Ward	7
E01006764	Tuebrook_and_Stoneycroft_Ward	7
E01006871	Parr_Ward	7
E01006877	Town_Centre_Ward	7
E01007008	Linacre_Ward	7
E01007297	Upton_Ward	7

Table Eight: Super Output Areas in 2005 witnessing greatest incidents

Super Output Area	Ward	Number of Incidents 2005
E01006633	Riverside_Ward	12
E01007295	Rock_Ferry_Ward	12
E01006501	Whiston_South_Ward	11
E01006603	Clubmoor_Ward	11
E01007131	Birkenhead_and_Tranmere_Ward	11
E01006414	Stockbridge_Ward	10
E01006755	Speke-Garston_Ward	10
E01006434	Kirkby_Central_Ward	9
E01006547	Anfield_Ward	9
E01006600	Clubmoor_Ward	9
E01006632	Riverside_Ward	9
E01007274	Seacombe_Ward	9
E01006425	Halewood_West_Ward	8
E01006504	Whiston_South_Ward	8
E01006820	Parr_Ward	8
E01006875	Parr_Ward	8
E01006952	0_Church_Ward	8
E01006536	Cressington_Ward	7
E01006692	Kensington_and_Fairfield_Ward	7
E01006703	Kirkdale_Ward	7
E01006778	Kirkdale_Ward	7
E01006871	Parr_Ward	7
E01007126	Birkenhead_and_Tranmere_Ward	7
E01007128	Birkenhead_and_Tranmere_Ward	7
E01007289	Rock_Ferry_Ward	7
E01006431	Halewood_West_Ward	6
E01006484	St_Michaels_Ward	6
E01006563	Everton_Ward	6
E01006672	Norris_Green_Ward	6
E01006696	Kensington_and_Fairfield_Ward	6
E01006702	Kirkdale_Ward	6
E01006739	Speke-Garston_Ward	6
E01006880	Town_Centre_Ward	6
E01007019	Derby_Ward	6
E01007122	Bidston_and_St_James_Ward	6
E01006436	Northwood_Ward	5
E01006437	Whitefield_Ward	5
E01006441	Stockbridge_Ward	5
E01006562	Everton_Ward	5
E01006602	Norris_Green_Ward	5
E01006634	Riverside_Ward	5
E01006647	Everton_Ward	5
E01006678	Princes_Park_Ward	5
E01006757	Speke-Garston_Ward	5
E01006772	Belle_Vale_Ward	5
E01007048	Netherton_and_Orrell_Ward	5
E01007054	Netherton_and_Orrell_Ward	5
E01007162	Cloughton_Ward	5

Graph Eight: Illustrates that anti-social behaviour and deprivation are associated at the geographical scale of super out area.



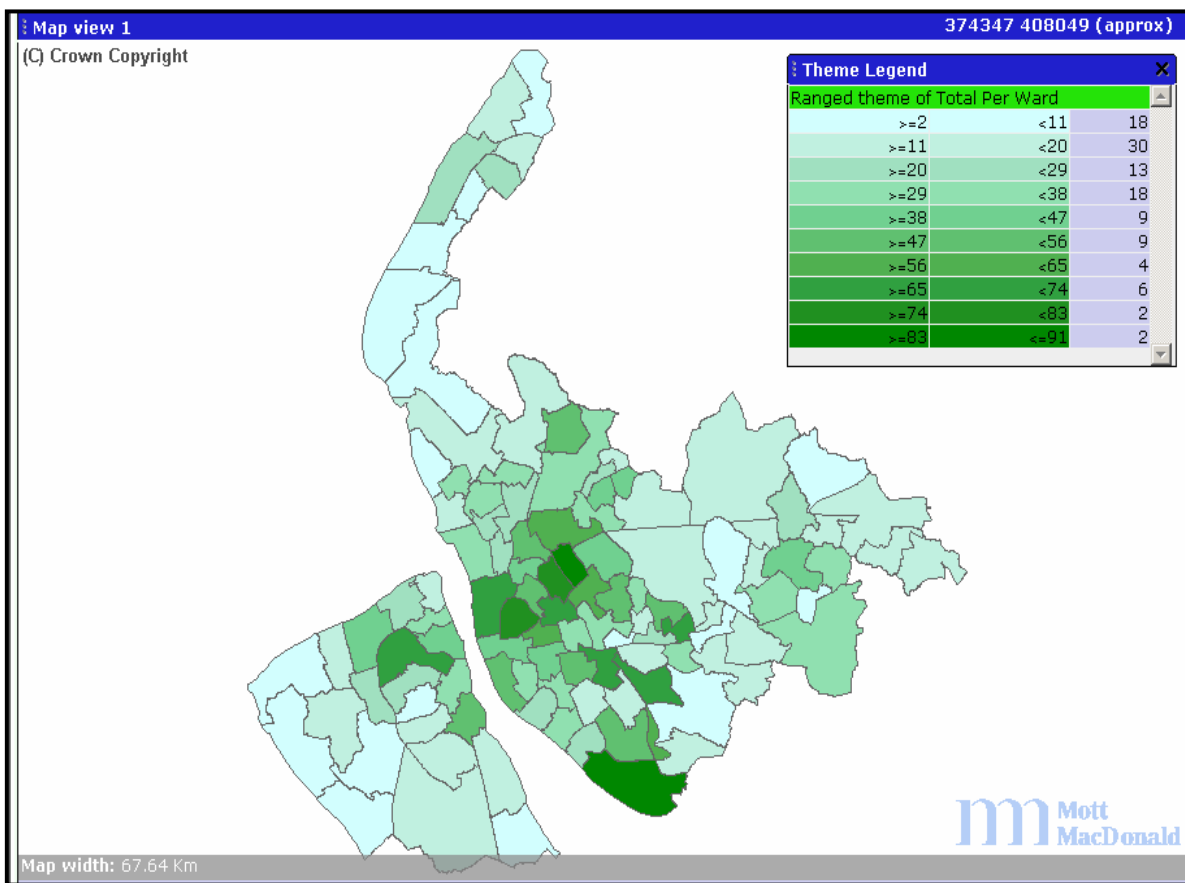
It has been previously mentioned in this report that Merseyside Fire and Rescue Service is the most deprived Fire and Rescue Service in England in relation to the deprivation scores of the super output areas that combine to make up the 'Brigade' Area. Graph Eight illustrates that the greatest number of anti-social behaviour incidents during the bonfire period were located in the most deprived super output areas in Merseyside, with the least deprived super output areas experiencing the fewest number of incidents.

5.6 Strat-e-gis

Strat-e-gis is a geographical mapping tool that Mott MacDonald created to allow partnership agencies data to be shared and presented visually through mapping functions. As Merseyside Police and the Arson Task Force / Threat Response Group worked in partnership during the bonfire period, it is worth illustrating the location of incidents of arson that the police attended during this time frame.

When the trends identified in Map Seven are compared with fire incidents attended by Merseyside Fire and Rescue Service, as illustrated in Map Three, it is of no surprise that the wards of high activity are the same for both the police in relation to arson incidents and Merseyside Fire and Rescue Service.

Map Seven: Illustrates the location of arson incidents Merseyside Police attended during the bonfire period by ward in 2006.



5.7 Violence at Work

Merseyside Fire and Rescue Service treat reports and the threat of 'Violence at Work' very seriously. Whilst crews are subject to both verbal and physical attacks throughout the year, during the bonfire period crews, due to the large number of anti-social behaviour incidents they attend, arguably could be more susceptible to attack. In 2005 during the bonfire period 15 incidents of 'Violence at Work' were reported. This number in 2006 increased to 28, an 87% increase.

During the 2006 bonfire period the Threat Response Group / Arson Task Force implemented a number of initiatives. One such initiative resulted in the Operational Support Room in MFRS Headquarters being opened. Uniformed staff monitored Vision Boss, to identify areas where fire-fighters were being attacked. This initiative was implemented so that the uniformed staff could provide intelligence to the police, which in turn meant that the police could respond more rapidly to areas of concern. It should be noted that crews were not aware of this operation, and

therefore this initiative cannot be used to explain the increase in the number of actual 'Violence at Work' reports submitted in 2006.

5.7 Issues to Consider

This report has illustrated that the 2006 bonfire period witnessed a significant increase in the number of anti-social behaviour, bonfire, firework and 'Violence at Work' related incidents. This report has analysed and presented the temporal and spatial changes in the observed trends between the 2005 and 2006 bonfire period. It is important to present the factors that could have had some influence over the number of incidents experienced in 2006⁹.

Rubbish Removal Initiative

As this report has previously stated the bonfire period is a period of high activity in relation to the number of anti-social behaviour fires in Merseyside. During the period in 2005¹⁰, Merseyside Fire and Rescue Service's Arson Task Force co-ordinated a partnership initiative. The primary focus of this initiative was the removal of bonfire material and rubbish from the streets of Merseyside, the aim being to reduce the level of opportunist arson. Individuals serving 'Community Restorative Orders' provided the labour and each of the District Councils provided funding for vehicles. This scheme resulted in the removal of 268.75 tonnes. During and immediately prior to the 2006 bonfire period this scheme was re-implemented in Merseyside. No accurate figures were available at the time this report was written, but it is believed that in each district in Merseyside the total tonnage of rubbish collected will be significantly lower than in the previous year, due to issues that arose which were out of MFRS control. The expected low tonnage of material removed arguably could be used to explain some of the increase in incidents during the bonfire period, this is only an argument that should be considered, but it must be noted that it cannot be verified.

No accurate geo-coded or street data was collated on locations where rubbish was removed. This prevents the possibility of comparative analysis between areas where fires occurred and areas where rubbish was removed. This issue has been discussed with the Threat Response Group and it is hoped that in 2007 it can be addressed, so that greater business intelligence can be provided.

⁹ These arguments are merely areas to consider and have no statistical proof in relation to this report.

¹⁰ This period covered a four week period

Police and Threat Response Group / Arson Task Force Initiative

Throughout this report reference has been made to the joint operation which ran during the bonfire period between Merseyside Police and the Threat Response Group / Arson Task Force. Police officers patrolled known hotspot areas for anti-social behaviour with members of the arson task force in mini-buses. The member of the arson task force drove the mini-bus. The hotspots were based on Merseyside Police top ten beats and bonfire hotspots from 2005 supplied by MFRS. This initiative ran on three days, on the 30th October (Mischief Night), the 31st October (Halloween) and the 05th November.

On the 30th October 4 mini-buses patrolled Merseyside, this number decreased to 3 on the 31st and 2 on 5th November. No joint operation was ran on 4th November, the Saturday prior to Bonfire Night. This report has illustrated that the date that witnessed the most significant increase in Merseyside Fire and Rescue Service incident numbers during the bonfire period was on Saturday 4th November. This date experienced a 337% increase, 192 incidents more than in 2005. Incidents did increase on the days that the joint initiative was operated, but not to the level experienced on the 4th November.

Rainfall

Rainfall, it has been statistically proven in previous reports¹¹, has a degree of influence over the number of anti-social behaviour fire incidents. It was hoped that it would be possible in this report to accurately reflect the effect rainfall in the 2005 and 2006 bonfire periods had on incident levels, however, whilst it has been possible to obtain accurate data for 2005, 2006 data has proven more difficult and this has meant no statistical tests could be carried out.

It can be argued that 2005 on a whole for the entire bonfire period was slightly 'wetter' than the same period in 2006, which may have had some influence on incident numbers; however, the increase in incidents cannot solely be associated with this. If it were to be accepted that rainfall was the sole cause of the observed increases in incident numbers, it would have to be argued that the decrease in incident numbers in 2005 was simply due to rainfall.

¹¹ Source: David Robinson: Analysing Secondary Data for Bonfire Period 2004

Advocate Duties

Despite the significant increase in the number of incidents, the arson advocates were working throughout the bonfire period. Prior to and during the bonfire period arson advocates in each district in Merseyside performed a number of duties in an attempt to control the number of anti-social behaviour incidents occurring during the bonfire period. Each advocate carried out their own activities to meet the requirements of particular problem individuals and areas within their districts, working alone and in partnership.

Each individual district report will focus on the work of the associated advocate; this report will illustrate some of the initiatives that were common to all districts. All arson advocates were also involved in the joint Police and Threat Response Group initiative previously mentioned.

Initiatives included:-

- School Visits - Primary and Secondary Schools were visited in each district, by an advocate, with either a school liaison officer or a police officer. Informal presentations were delivered to the pupils covering the themes of bonfires, fireworks and general anti-social behaviour.
- The 'Bonfire Removal Scheme' was publicised by the advocates to ensure other agencies working within the district were aware that they could ring to get potential bonfire material removed. Advocates also continually scouted known areas within their districts for bonfire material, in an attempt to get it removed as quickly as possible. (Due to issues out of MFRS control, removal was not always as rapid as it had been hoped).
- Advocates performed random checks on premises selling fireworks within Merseyside to ensure owners were registered and storing their firework stock in the correct manner.
- Vulnerable members of the public were contacted by advocates and 'target hardening' was carried out on the premises if deemed necessary.
- Some districts also arranged activities such as the 'Street Soccer Cage' in Sefton and website competitions in Knowsley to try to engage youths in activities and divert them away from participating in anti-social behaviour.

6. Conclusion

This report has highlighted many significant findings in relation to anti-social behaviour, bonfire and firework incidents occurring within Merseyside during the bonfire period in 2006. Comparisons between the 2005 and 2006 bonfire periods have been emphasised throughout this report.

This report has focused on the different geographies within Merseyside, including Station Areas, Wards and Super Output Areas, to ensure that the findings are not only accessible for Merseyside Fire and Rescue personnel but also all relevant partner agencies.

The significant findings from this report were:-

Incidents

- In 2006 there were 1584 anti-social behaviour incidents in Merseyside during the bonfire period. This was a 57% increase in the number of anti-social behaviour incidents witnessed during the same time period in 2005.
- In both 2006 and 2005 during the bonfire period the two most common forms of anti-social behaviour incidents experienced were fires in refuse / refuse containers and intentional burning / bonfires. In 2006, both these incident types witnessed significant increases.
- In 2006 anti-social behaviour incidents in derelict buildings decreased by 24%.
- In 2006 there were 642 bonfire incidents, where the initial 999 call was recorded as a 'bonfire'. This was a 58% increase in the numbers recorded in 2005.
- In 2006 during the bonfire period 46 incidents involved the use of a firework, in 2005 this figure was 34, thus there was a 35% increase.
- In 2005, 20% of the total number of incidents where fireworks were involved occurred in cars, this number doubled in 2006. As a percentage of the total number of firework incidents, dwelling fires reduced from 21% in 2005 to 13% in 2006.
- Reports of 'Violence at Work' in the 2006 bonfire period increased by 87%, when compared to the number reported in the same period in 2005.

Temporal

- In both the 2006 and 2005 bonfire period the peak period of activity fell between approximately 17.00hrs and 22.00hrs.
- In both 2006 and 2005 the number of incidents occurring between 12.00hrs and 14.00hrs was roughly consistent.
- The most significant increase in the number of incidents in the 2006 bonfire period was between 18.00hrs and 21.00hrs. It can be argued that the rise in incidents in 2006 in Merseyside as a whole occurred during the 'peak period'.
- When analysis by date was performed, it was observed, that in 2006 the greatest increase in incidents occurred on the 4th November. The increase was 337%. On the 5th November the increase was still significant but at a lower rate of 55%.

Spatial

Merseyside

- In both 2006 and 2005 at a Merseyside level, in general it would appear that the hotspot locations in relation to bonfire related activity remained in approximately the same locations. The main hotspots being in Anfield / Norris Green, Toxteth, Kirkby and Huyton. In 2006, a high clustering of anti-social behaviour in Seaforth and Litherland significantly reduced.

District

- All districts in Merseyside witnessed an increase in incidents during the 2006 bonfire period, compared to the same period in 2005. Liverpool experienced the most significant rise in incident numbers, with an increase of just over 70%, whilst Sefton witnessed an increase of roughly 10%.

Station Area

- In 2006 only the Station Areas of Crosby, Bootle and Netherton and Whiston witnessed a decrease in the number of incidents during the bonfire period compared to the same period in 2005. The Station Area of Upton, which is located in the Wirral, experienced the greatest increase in incident numbers in 2006, with an increase of approximately 350%.

Ward

- In 2006 the wards that had the greatest number of incidents during the bonfire period, with more than 58 incidents, were Bidston and St James Wards on the Wirral and Speke-Garston Ward in Liverpool. The wards of Clubmoor, Belle Vale and Everton also witnessed a significant number of incidents during the 2006 bonfire period. Only the wards of Speke-Garston and Clubmoor are in the top five worst wards in Merseyside in relation to incident numbers in both 2006 and 2005.

Super Output Area

- In 2006 the super output area experiencing the greatest number of incidents was in Bidston and St James Ward on the Wirral. In 2005 the super output area with the greatest number of incidents was located in Riverside, which is within the district of Liverpool.

Social

- When analysis was undertaken at the smaller geographical scales of Ward and Super Output Area, it was evident that areas that experienced high incident numbers were not the same in 2006 and 2005; this indicates that the problem areas between years are not static. However, what is clear is that the areas that witnessed the greatest number of incidents during the bonfire periods are consistently in the more deprived areas of Merseyside.

Important Considerations

- 'Rubbish Removal Initiative' - In 2005 the rubbish removal initiative was launched immediately prior to and during the bonfire period. This resulted in 268.75 tonnes of potential bonfire waste being removed from the streets of Merseyside by individuals serving 'Community Restorative Orders'. This same scheme was implemented during the 2006 bonfire period, however, it is expected that the total tonnage of rubbish collected will be significantly lower than in the previous year, due to issues that arose that were out of Merseyside Fire and Rescue Services control.
- Rainfall - Unfortunately due to difficulties in obtaining the levels of rainfall in Merseyside during the 2006 bonfire period, it was not possible to measure the influence rainfall had on the increase of incidents witnessed in 2006. It is thought that the 2005 bonfire period was slightly 'wetter' than the same period in 2006, which arguably had some influence on the increase in incident numbers. However, it is important not to over-state the significance of rainfall, as if it is accepted that rainfall was the sole cause of the increase of incidents, then it would have to be argued that

the decrease in 2005 was also solely due to the weather. This argument would indicate that incident levels in Merseyside are only controlled by the weather, which is arguably not the case.

- Police and Merseyside Fire and Rescue's Threat Response Group / Arson Task Force ran a joint operation on the 30th and 31st October and the 5th November. Police and arson advocates patrolled known hotspot areas in minibuses, responding to police calls. However, the operation was not implemented on Saturday the 4th November; this day witnessed a 337% increase in incidents. Only half the number of minibuses patrolled Merseyside on 5th November compared to 31st October (Mischief Night). On bonfire night, two minibuses patrolled Merseyside.

- The increase in the number of firework incidents occurred despite the best efforts of the Threat Response Group, who in 2006 seized or placed under restriction approximately 40 tonnes of fireworks; this is approximately double the figure in 2005. The Threat Response Group inspected 346 premises, which resulted in 32 formal written cautions, 4 registration and license revocations and 3 application refusals. They were also involved in 8 joint operations prior to and during the bonfire period in 2006.

- Arson Advocates worked throughout and prior to the bonfire period in their individual districts in an attempt to control the number of incidents. All advocates worked closely with partner agencies and visited both primary and secondary schools in an attempt to illustrate the seriousness of anti-social behaviour during the bonfire period. The full extent of the work they undertook has previously been highlighted in this report.

- This report has illustrated that anti-social behaviour in general occurs in deprived areas. It was not possible however, in this report to explain why this type of behaviour is more likely to occur in some deprived areas than in others.

The report has identified the wards and super output areas that experienced the highest number of incidents in both 2005 and 2006. It would be beneficial for a future report to focus on these specific geographical areas.

By working within the field, it would be possible to profile the individual geographic and social factors of the area, including the topography and housing composition. With this information it may be possible to identify specific factors that are contributing to high incident levels of anti-social behaviour during the bonfire period, which in turn might be able to be applied to anti-social behaviour incidents throughout the year.

Map Eight, (see appendices) illustrates the spatial trend of anti-social behaviour fires across Merseyside in 2006. Comparing the findings of this map, with the maps featured in this report would assist in identifying

those areas of which it would be of benefit to profile in more depth. Understanding why the incidents are occurring in specific locations may assist in planning for the 2007 bonfire period and for anti-social behaviour incidents in general.

It is expected that the findings illustrated in this report will be used as intelligence to inform personnel involved in the planning of the 2007 bonfire period.

7. Appendices

Map Eight: Illustrates Anti-Social Behaviour Fires in Merseyside by Ward for the period 01st January to 31st December.

