



Summary Report for Incident Activity during 2019 Bonfire Period

AUDIENCE

AUTHORITY STRATEGIC LEADERSHIP TEAM TEAMS INVOLVED IN BONFIRE PLAN

This is an unpublished work, the Copyright in which vests in Merseyside Fire & Rescue Service. All rights reserved. The information contained herein is the property of Merseyside Fire & Rescue Service, and is supplied without liability for errors or omissions. No part may be reproduced or used except as authorised by Contract or other written permission. The Copyright and the foregoing restriction on reproduction and use extend to all media in which information may be embodied ©

COMMUNITY RISK MANAGEMENT DIRECTORATE STRATEGY & PERFORMANCE DIRECTORATE

Date work received: 11th November 2019

Date work completed: 10th December 2019

Page 1 of 24

Y:\Data & Projects\Projects\Bonfire Reports\Bonfire Reports 2019\Bonfire Report v1.3.docx

Document Control

Amendment History

Version / Issue No.	Date	Author(s)	Remarks / Reason for Change
1.0	13/11/2019	R Hanson	
1.1	20/11/2019	R Hanson	As per SM Woodward's comments
1.2	22/11/2019	R Hanson	As per SM Woodward's comments
1.3	10/12/2019	R Hanson	As per D Appleton's comments

Sign-Off List

Name	Position
ACFO Mottram	Assistant Chief Fire Officer
AM Keen	Director of Community Risk Management
Deb Appleton	Director of Strategy & Performance
GM Ryder	Group Manager – Prevention
SM Woodward	Station Manager – Arson Reduction / Incident Investigation
Mike Buratti	Community Safety Co-ordinator
John Fielding	Business Intelligence Manager

Distribution List

Name	Position	I / R
Authority		
Senior Leadership Team		
Bonfire Planning Team		

Related Documents

Reference No.	Title	Author	Version & Date
1.0	Bonfire Report v1.1	R Hanson	16/11/2018

Ownership

Has it been agreed with the client that this is a publicly owned document?

Yes/No

If Yes please state URL: <http://www.merseyfire.gov.uk>

If No please state reason why:

1. AGREEMENT	3
2. GLOSSARY	4
3. SUMMARY	4
4. INTRODUCTION	5
5. METHODOLOGY	5
6. RESULTS	6
6.1 Retrospective Analysis.....	6
6.2 Incident Breakdown.....	6
6.3 Location Analysis	7
6.4 Violence at Work.....	9
6.5 Deprivation Analysis	10
6.6 Historical Metropolitan Analysis.....	10
7. APPENDICES	11

1. Agreement

For the purpose of this report the following agreement was made between the client and the Strategy & Performance Directorate.

This work was requested by Area Manager Guy Keen and received 8th November 2019.

The Manager¹ has approved this report/ piece of work can be undertaken by the Strategy & Performance Directorate.

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 December 2019, and would be sent electronically to the Director of Strategy & Performance and Client for comment.

The Manager / Client agreed that their comments would be received back by December 2019. The final report, which will always be in PDF format, would be produced by December 2019, subject to receiving comments.

¹ Deb Appleton

2. Glossary

Abbreviation	Description
FRS	Fire & Rescue Service
FS	Fire Service
HR	Hose Reel
MF&RS	Merseyside Fire & Rescue Service
VAW	Violence at Work

3. Summary

This report provides a summary analysis of deliberate secondary fires and incidents of violence at work across Merseyside during the 2019 Bonfire Period, with a comparison against previous years. For the purpose of this report, the Bonfire Period is defined as the 19th October – 7th November.

The headlines from this report can be summarised as follows:

- Between the 2018 (**366** incidents) and 2019 bonfire periods (**243**) there has been a reduction of **123** incidents or **-33.6%**.
- Districts to see reductions were: Knowsley **-13 (-23.2%)**, Liverpool North **-23 (-23.0%)**, Liverpool South **-23 (-37.1%)**, Sefton **-37 (-66.1%)**, and Wirral **-33 (-52.4%)**. Overall Liverpool saw a reduction of **-46 (-28.4%)**.
- St Helens saw an increase of **6** incidents (**20.7%**)
- When aggregated proportionally to incidents per 10,000 population – Sefton had the fewest incidents with **0.7**. Knowsley had the highest proportion of **2.9** incidents per 10,000 population.
- The top wards for incidents attended were: Kirkdale in Liverpool North (**11**), Shevington in Knowsley (**10**) and Tuebrook and Stoneycroft in Liverpool North (**10**). Linacre in Sefton saw the largest reduction, going from **15** to **0**.
- Concerning incidents attended by station area: Stations 42-Kirkby and 19-Croxteth had the greatest number of incidents attended with **24**. Station 22-Heswall saw **0** incidents.
- Concerning increases and decreases, 52-Eccleston had the greatest increase of incidents during 2019 with **4**, followed by 17-Belle Vale and 32 Formby with **2**. 31-Crosby saw the largest decrease with **16** fewer incidents and 20-Birkenhead **-15**.
- There were **7** incidents of violence at work during the 2019 bonfire period, 2 fewer than 2018.

4. Introduction

Traditionally the bonfire period leads to heightened numbers of incidents, specifically deliberate secondary fires and violence at work. This report presents an analysis of incidents during the 2019 Bonfire Period in Merseyside, contrasted with the 2018 period as well as historical retrospectives.

For the purpose of this report the bonfire period covers the following time frame: 19th October to 7th November, allowing for a direct date-to-date comparison.

5. Methodology

To identify and analyse any trends in incidents during the 2019 Bonfire Period the following methodologies were followed:

- The period of analysis covered from 00:00:00hrs on 19th October to 23:59:59hrs on 7th November.
- Fire related incidents analysed within this report are all deliberate secondary fires² as recorded by MF&RS mobilisation system “Vision”. Instances of Violence at Work have been collected from the OSHENS Health and Safety reporting system.
- Deprivation data used within this report is based on Indices of Deprivation 2019 (obtained from Department for Communities and Local Government).
- Population figures are based on mid-2017 and mid-2018 population estimates published by Office for National Statistics
- The analytical tools adopted in this report include:
 - MapInfo 11 Mapping software – used to identify hotspot areas for incidents and used to filter data according to district and ward level.
 - Crystal Reports – utilised to extract raw data and information from the Vision mobilising system.
 - Excel 2013 – used to analyse raw data.

It should be noted that the majority of the analysis contained within this report will be presented at the Merseyside level. Six additional local authority appendices³ supplement this main report, (section 7).

² Deliberate secondary fires are based on FSEC (Fire Service Emergency Cover). Incident codes include: 04 01 – Derelict Building, 04 02 – Grassland, 04 03 – Bonfires, 04 04 – Outdoor Structure, 04 05 – Refuse, 04 06 – Derelict Vehicle.

³ Liverpool is divided into Liverpool North and Liverpool South.

Liverpool North is comprised of the following wards: Anfield, Central, Clubmoor, County, Croxteth, Everton, Fazakerley, Kensington and Fairfield, Kirkdale, Knotty Ash, Norris Green, Old Swan, Tuebrook and Stonecroft, Warbreck, West Derby and Yew Tree

Liverpool South is comprised of the following wards: Allerton and Hunts Cross, Belle Vale, Childwall, Church, Cressington, Greenbank, Mossley Hill, Picton, Princes Park, Riverside, Speke-Garston, St Michaels, Wavertree, Woolton

6. Results

6.1 Retrospective Analysis

Chart 1: 10 Year retrospective analysis of deliberate secondary fires between 2010 and 2019 bonfire periods

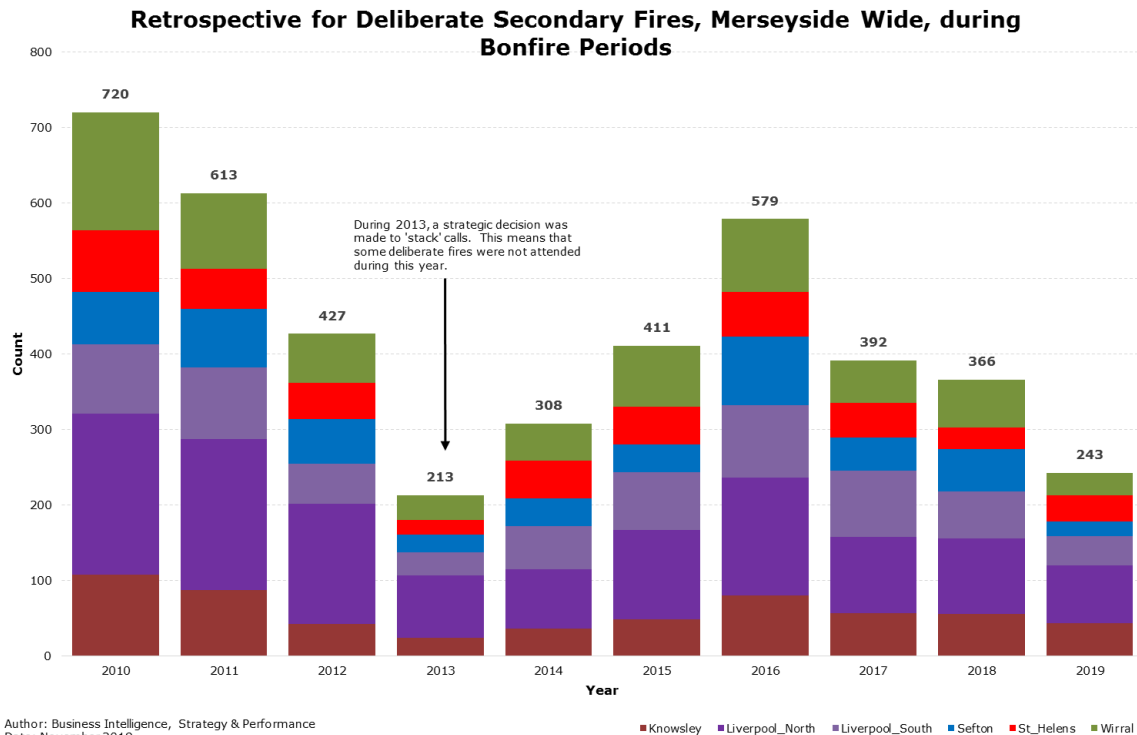


Chart 1 identifies that during the 2019 bonfire period the number of deliberate secondary fire incidents attended by Merseyside Fire and Rescue Service was 243. This is a reduction of 123 incidents (-33.6%) from 2018.

When compared historically to the 2010 period there has been an overall reduction of 477 incidents (-66.3%).

6.2 Incident Breakdown

Table 1: Breakdown of incident types attended during 2018 and 2019 bonfire period

Incident Type	2018	2019	Difference	% Difference
04 01 Derelict Building	12	3	-9	-75.0%
04 02 Grassland	25	8	-17	-68.0%
04 03 Intentional Burning / Bonfire	100	67	-33	-33.0%
04 04 Outdoor Structure	12	13	1	8.3%
04 05 Refuse Fire	217	151	-66	-30.4%
04 06 Derelict Vehicle	0	1	1	100% ⁴
Grand Total	366	243	-123	-33.6%

Table 1 identifies that the vast majority of deliberate secondary fires attended during the 2019 bonfire period were “04 05 Refuse Fires” with 151 incidents – accounting for 62.1% of total incidents. This is slightly higher than 2018, where the proportion was 59.3%.

⁴ This proportional increase is due to there being 0 Derelict Vehicle fires during 2018 bonfire period

“04 05 Refuse Fires” saw a reduction of 66 incidents (-30.4%) followed by “04 03 Intentional Burning/Bonfire” with a reduction of 33 (-33.0%).

“04 04 Outdoor Structures” and “04 06 Derelict Vehicles” both saw an increase of 1 incident on 2018 totals.

6.3 Location Analysis

Table 2: Comparison of incidents attended by district, between 2018 and 2019 bonfire periods (with incidents per 10,000 population)⁵

District	2018	2019	Difference	% Difference
Knowsley	56 (3.8)	43 (2.9)	-13 (-0.9)	-23.2%
Liverpool	162 (3.3)	116 (2.3)	-46 (-1)	-28.4%
Liverpool North	100	77	-23	-23.0%
Liverpool South	62	39	-23	-37.1%
Sefton	56 (2)	19 (0.7)	-37 (-1.3)	-66.1%
St Helens	29 (1.6)	35 (1.9)	6 (0.3)	20.7%
Wirral	63 (2)	30 (0.9)	-33 (-1)	-52.4%
Grand Total	366 (2.6)	243 (1.7)	-123 (-0.9)	-33.6%

Table 2 provides a breakdown of incidents attended by district. The table identifies that the majority of districts saw reductions; with only St Helens seeing an increase.

In summary, the reductions are as follows:

- Knowsley - a reduction of 13 (-23.2%)
- Liverpool North - a reduction of 23 (-23%)
- Liverpool South - a reduction of 23 (-37.1%)
- Sefton – a reduction of 37 (-66.1%), and
- Wirral - a reduction of 33 (-52.4%)

The increase was:

- St Helens - an increase of 6 (20.7%)

When aggregated to incidents per 10,000 population; Sefton had the fewest incidents during 2019 with 0.7 incidents per 10,000 population closely followed by Wirral with 0.9 incidents per 10,000 population. By contrast Knowsley had the greatest amount with 2.9 per 10,000 population.

Table 3: Top wards for deliberate secondary fires during 2019 bonfire period⁶

Rank	Ward	District	2018	2019	Difference	% Difference
1st	Kirkdale	Liverpool North	9	11	2	22.2%
=2nd	Shevington	Knowsley	6	10	4	66.7%
=2nd	Tuebrook and Stoneycroft	Liverpool North	6	10	4	66.7%
=4th	Town Centre	St Helens	5	9	4	80.0%
=4th	Clubmoor	Liverpool North	8	9	1	12.5%
=6th	Knotty Ash	Liverpool North	2	8	6	300.0%
=6th	Riverside	Liverpool South	10	8	-2	-20.0%
=6th	Northwood	Knowsley	10	8	-2	-20.0%
=9th	Croxteth	Liverpool North	5	7	2	40.0%
=9th	County	Liverpool North	9	7	-2	-22.2%

⁵ The proportion has been rounded to the one decimal place

⁶ Table 4 is ordered by the number of incidents seen and the largest difference

Table 3 provides the top 10 wards for deliberate secondary fires during the 2019 bonfire period when compared against 2018. The table identifies that Kirkdale had the largest number of incidents (11) followed by: Shevington and Tuebrook and Stoneycroft both with 10.

The table identifies that Liverpool North had 6 wards in the top ward list; followed by Knowsley with 2, Liverpool South and St Helens have 1 each. No wards from Sefton or Wirral appear within the top ward list.

When compared against the previous year; Knotty Ash had a 6 incident increase (300%) while: Shevington, Tuebrook and Stoneycroft, Town Centre and Upton all saw an increase of 4 incidents. Linacre has seen the largest reduction with 15 fewer incidents compared to last year followed by Everton (-12) and Ford (-9).

Chart 2: Comparison of incidents attended by station area

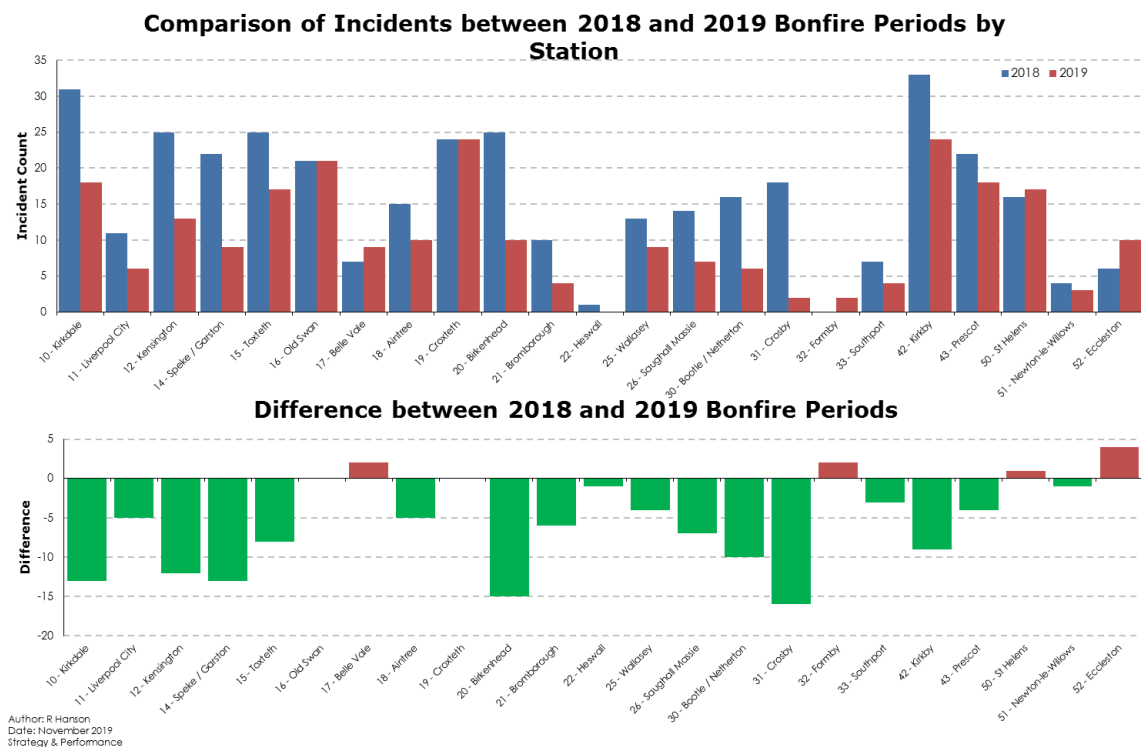


Chart 2 identifies that 4 station areas had increases in activity during the 2019 bonfire period. The stations to see increase are: 52-Eccleston (+4), 17-Belle Vale (+2), 32-Formby (+2), and 50-St Helens (+1).

Concerning reductions; the stations to see the largest reductions in incidents (10 or more) were: 31-Crosby (-16), 20-Birkenhead (-15), 10-Kirkdale (-13), 14-Speke/Garston (-13), 12-Kensington (-12) and 30-Bootle/Netherton (-10).

6.4 Violence at Work

Table 4: Overall counts of Violence at Work by district since 2015

District	2015	2016	2017	2018	2019
Knowsley	0	3	4	5	3
Liverpool	3	3	4	3	3
<i>Liverpool North</i>	2	3	1	2	3
<i>Liverpool South</i>	1	0	3	1	0
Sefton	0	2	1	0	0
St Helens	0	0	0	0	0
Wirral	3	2	0	1	1
Grand Total	6	10	9	9	7

During the 2019 bonfire period there were 7 incidents of violence at work; 2 fewer than 2018 and 2017. When taking the full five year date range into consideration; the count of violence at work incidents does fluctuate and therefore is difficult to reach a conclusion as there is little consistency.

It should be noted that though violence at work incidents are an unwanted aspect of the fire fighter role / arson officer role, it is imperative that all occurrences are reported as this intelligence allows partner organisations to target areas of risk as well as feeds into risk assessing areas where crews and arson officer teams could be working in future.

Table 5: Details of Violence at Work during 2019 bonfire period

Address	Call Date	Station	Details
Hartley Grove, Headbolt Lane, Kirkby,	29/10/2019 16:52:35	42-Kirkby	Youths Have Been Verbally Aggressive To Operational Personnel And Thrown Objects Including Bricks At Fire Appliance
168 Lower Breck Road, Anfield, Liverpool	30/10/2019 14:25:37	12-Kensington	Youths Firing Rockets At Appliance
Haswell Drive, Stockbridge Village,	30/10/2019 19:22:20	43-Prescot	Eggs Thrown At FRS Mini Bus By Group Of Youths. Vehicle With Drew From Area, No Damage, No Injuries.
Dovecot Park, Pilch Lane, Dovecot,	04/11/2019 19:42:16	16-Old Swan	Fire Work - Maliciously Thrown At MFRS Crew
Nr/Myrtle Court, Crown Street, Toxteth,	05/11/2019 20:38:58	11-Liverpool City	In The Park Area, Fireworks Being Set Off Into The Fire
Ilchester Road, Alwyn Street, Birkenhead Tc,	06/11/2019 10:27:45	20-Birkenhead	Fireworks Fired And Thrown At Appliance By Youth
Shaw Lane, Brookside Road, Prescot	06/11/2019 18:25:56	43-Prescot	Shaw Lane In Prescot When A Group Of Youths Threw A Stone At The Vehicle Hitting Front Windscreen

6.5 Deprivation Analysis

Chart 3: Deprivation Analysis during the 2019 Bonfire Period⁷

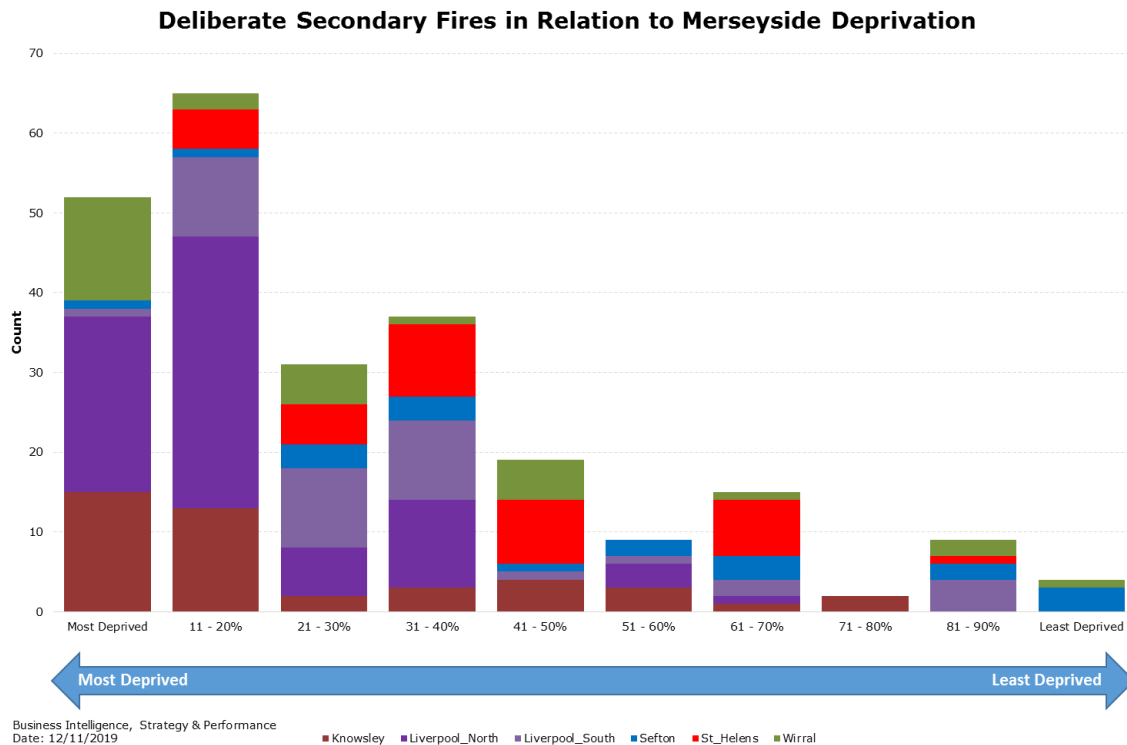


Chart 3 graphically illustrates the link between deliberate secondary fire incidents and levels of deprivation. The chart clearly identifies that more deliberate fire incidents occur in areas of high deprivation as opposed to areas of least deprivation.

6.6 Historical Metropolitan Analysis⁸

Table 6: Deliberate Secondary Fires across Metropolitan FRS in the Period⁹

Year	2015	Rank	2016	Rank	2017	Rank	2018	Rank	2019	Rank
Greater Manchester	627	7	700	7	640	7	625	7	414	6
London	144	1	187	1	142	1	163	1	90	1
Merseyside	422	6	580	6	384	4	361	4	243	4
South Yorkshire	144	1	260	2	263	3	259	3	119	3
Tyne and Wear	344	4	407	4	587	6	508	5	373	5
West Midlands	204	3	347	3	254	2	210	2	100	2
West Yorkshire	404	5	566	5	527	5	514	6	No data	No data

Table 6 shows the number of deliberate secondary fires attended by Metropolitan FRS between 2015 and 2019. This shows that Greater Manchester have seen the most incidents each year compared to other Metropolitan FRS.

⁷ The chart axis runs from 1-10% which represents the most deprived areas of Merseyside and 91-100% which represents the least deprived

⁸ Data is sourced from Fire Statistics datasets published by the Home Office, are based on IRS returns and will be slightly different to the FSEC count: <https://www.gov.uk/government/statistical-data-sets/fire-statistics-incident-level-datasets>

⁹ Please note that data for 2019 has sourced directly from Metropolitan FRS and may differ slightly from what is published by the Home Office following Quality Assurance checks

Since 2015, Merseyside have moved from seeing the 6th most incidents to the 4th most incidents during 2018.

Table 7: Deliberate Secondary Fires across Metropolitan FRS on 30th October¹⁰

Year	2015	Rank	2016	Rank	2017	Rank	2018	Rank
Greater Manchester	13	5	28	4	24	4	13	4
London	8	3	8	1	4	1	4	1
Merseyside	21	7	66	7	43	7	21	6
South Yorkshire	2	1	9	2	20	2	17	5
Tyne and Wear	8	3	31	5	30	5	6	2
West Midlands	7	2	23	3	21	3	7	3
West Yorkshire	16	6	41	6	30	5	21	6

Table 7 compares the number of deliberate secondary fires attended by Metropolitan FRS between 2015 and 2018 on 30th October (Mischief Night).

This shows that Merseyside have seen the most incidents each year compared to other Metropolitan FRS, with the exception of 2018 when they saw the same number as West Yorkshire (21).

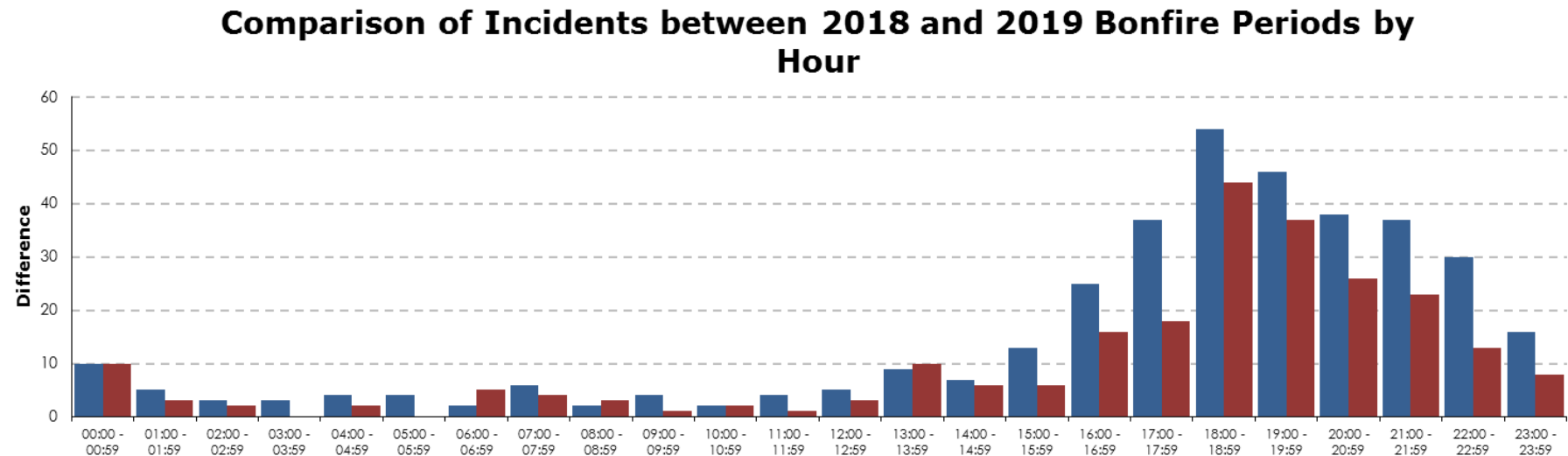
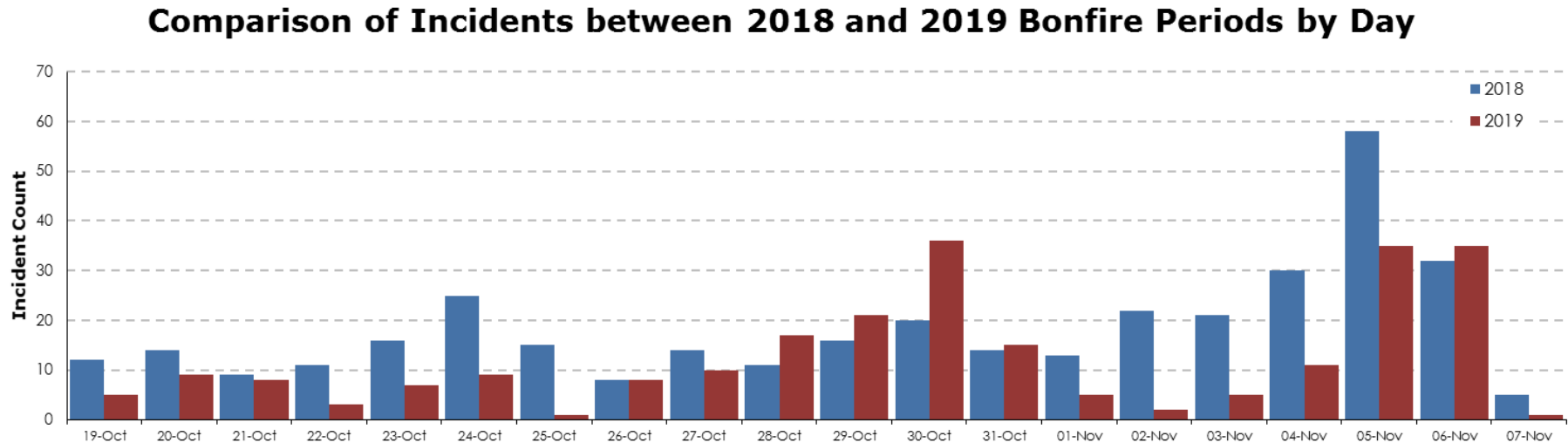
This analysis suggests that locally the 30th October is a significant area of concern for MFRS and partners.

7. *Appendices*

The following appendices include: a temporal analysis by day and hour with mapping including brief breakdowns of incidents attended by district, identifying hotspot areas and incidents of note.

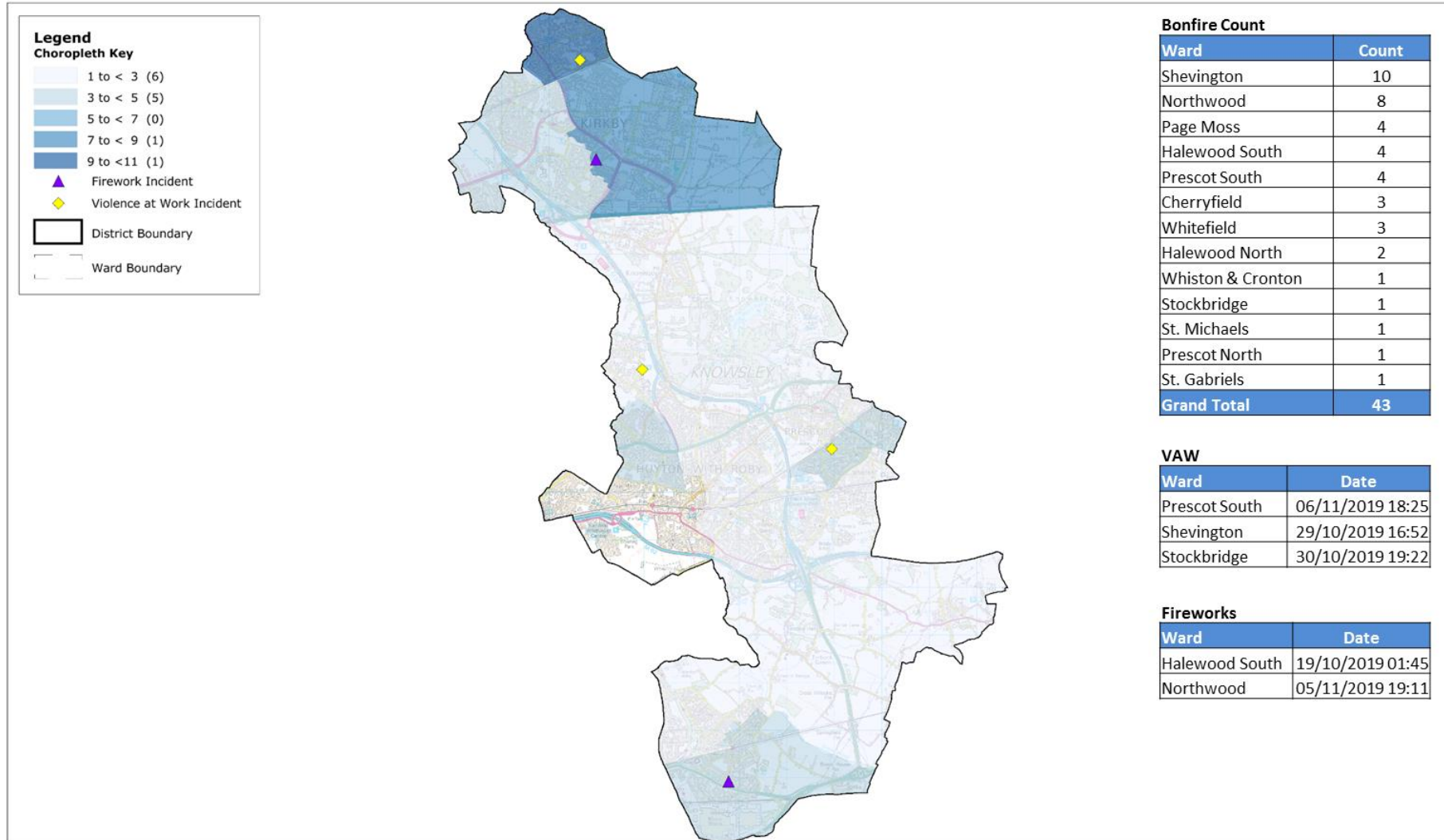
¹⁰ Data is sourced from Fire Statistics datasets published by the Home Office, are based on IRS returns and will be slightly different to the FSEC count: <https://www.gov.uk/government/statistical-data-sets/fire-statistics-incident-level-datasets>

Chart 4: Temporal Breakdown of Incidents across Merseyside



Author: R Hanson
Date: November 2019
Strategy & Performance

Map 1: Geographical Breakdown of Incidents in Knowsley



Author: Business Intelligence
 Date: 11/11/2019
 Produced using MapInfo
 Strategy & Performance

Map Reference:

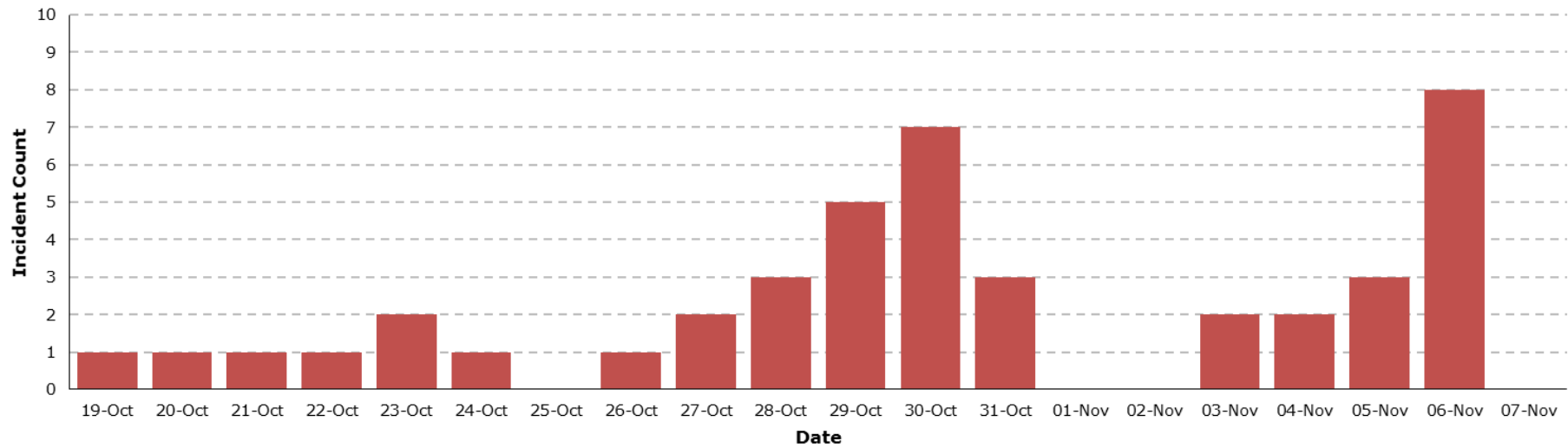
Deliberate Secondary Fires in Knowsley during 2019 Bonfire Period between 19th October - 7 November 2019

© Crown copyright and database rights 2018 Ordnance Survey 100026956

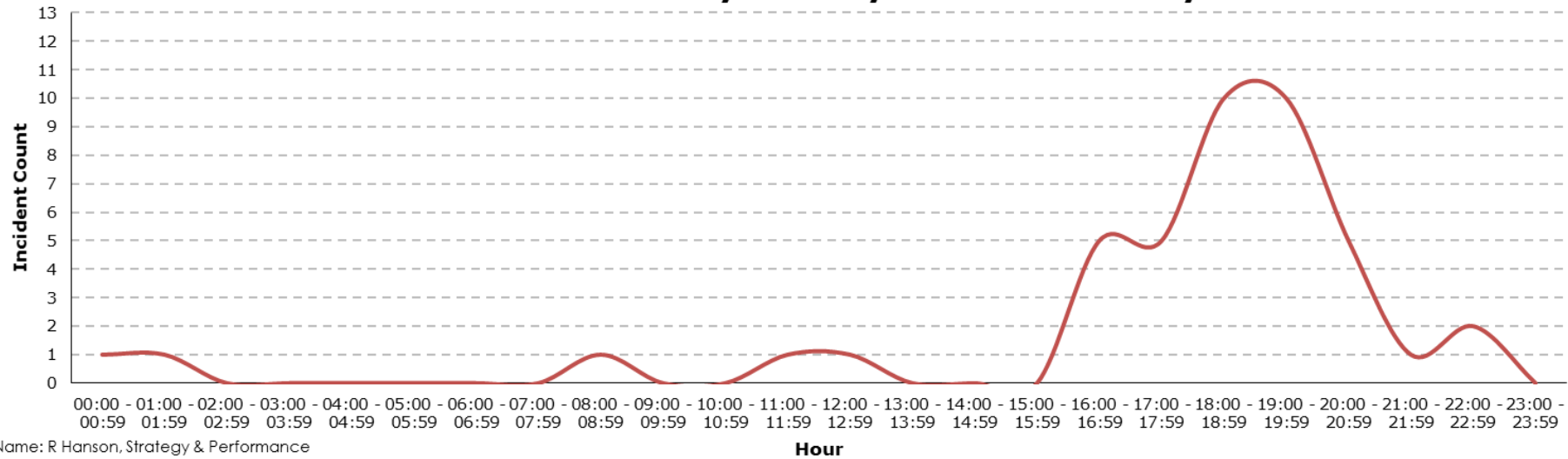


Chart 5: Temporal Breakdown of Incidents in Knowsley

Deliberate Secondary Fires by Date in Knowsley

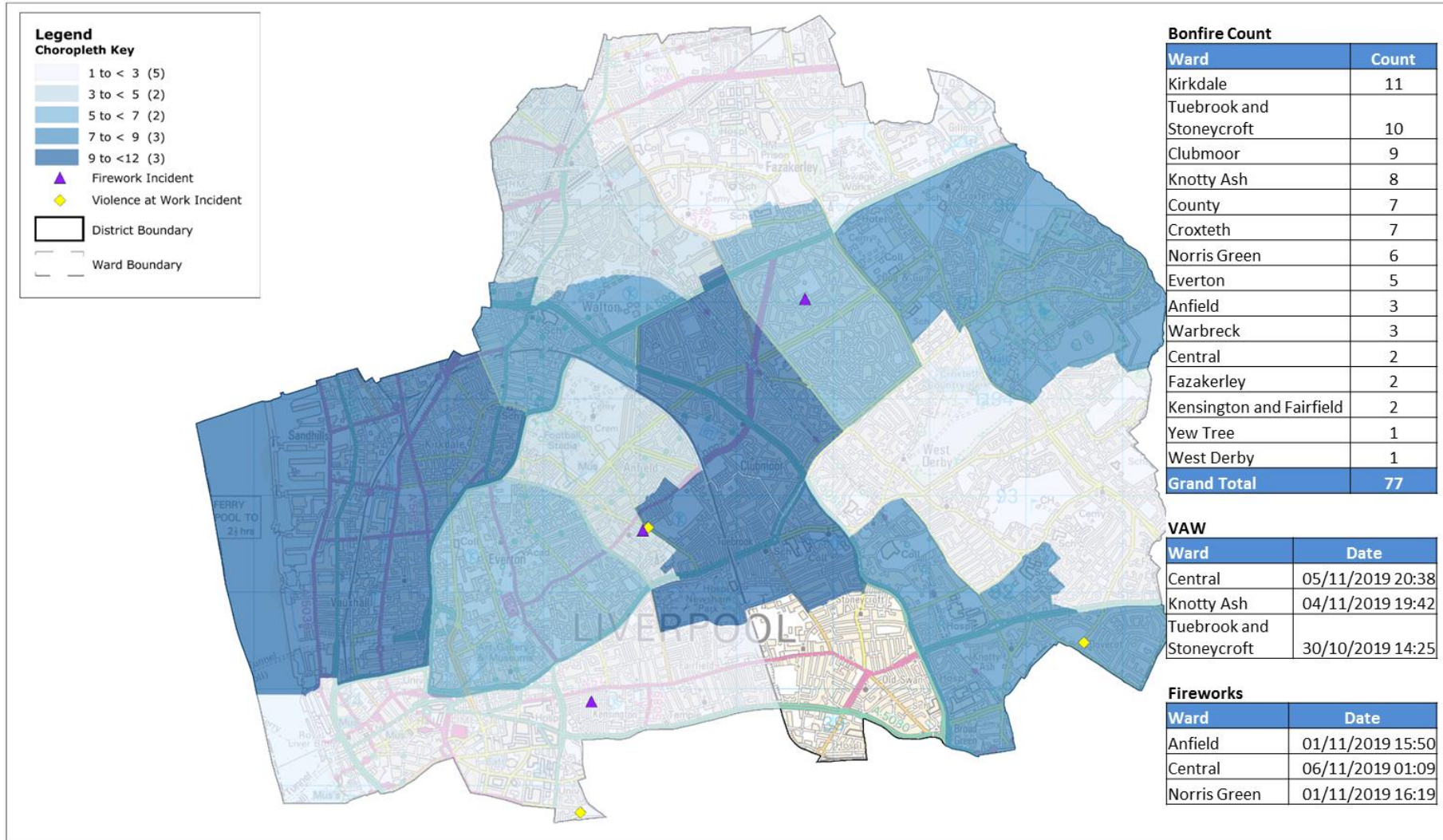


Deliberate Secondary Fires by Hour in Knowsley



Name: R Hanson, Strategy & Performance
Date: November 2019

Map 2: Geographical Breakdown of Incidents in Liverpool North



Author: R Hanson
 Date: 12/11/2019
 Produced using MapInfo
 Strategy & Performance

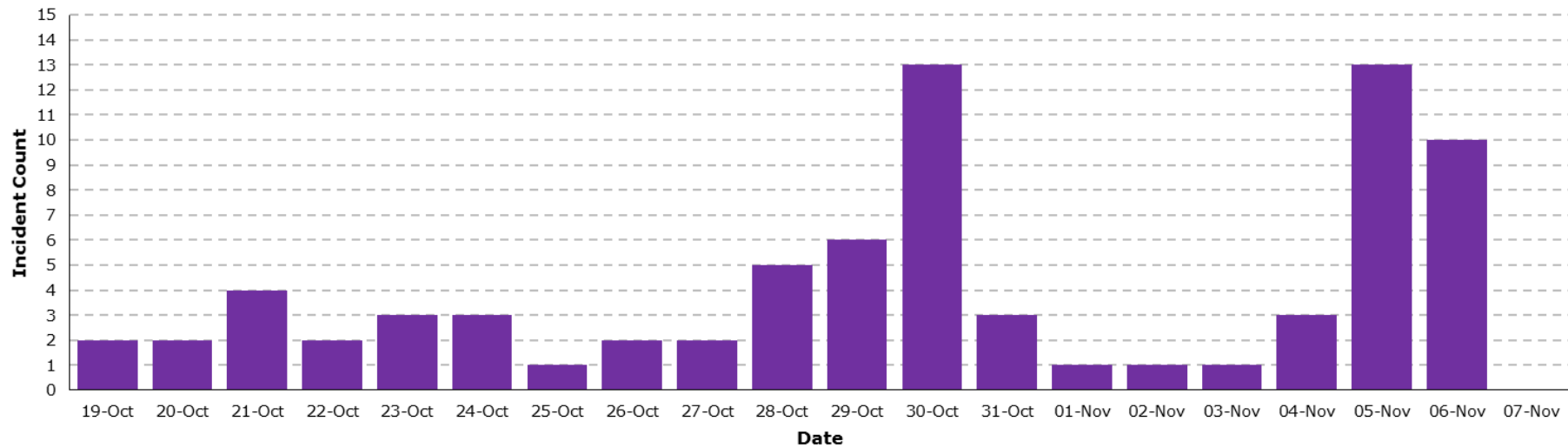
Deliberate Secondary Fires in Liverpool North during 2019 Bonfire Period between 19th October - 7th November 2019

© Crown copyright and database rights 2019 Ordnance Survey 100026956

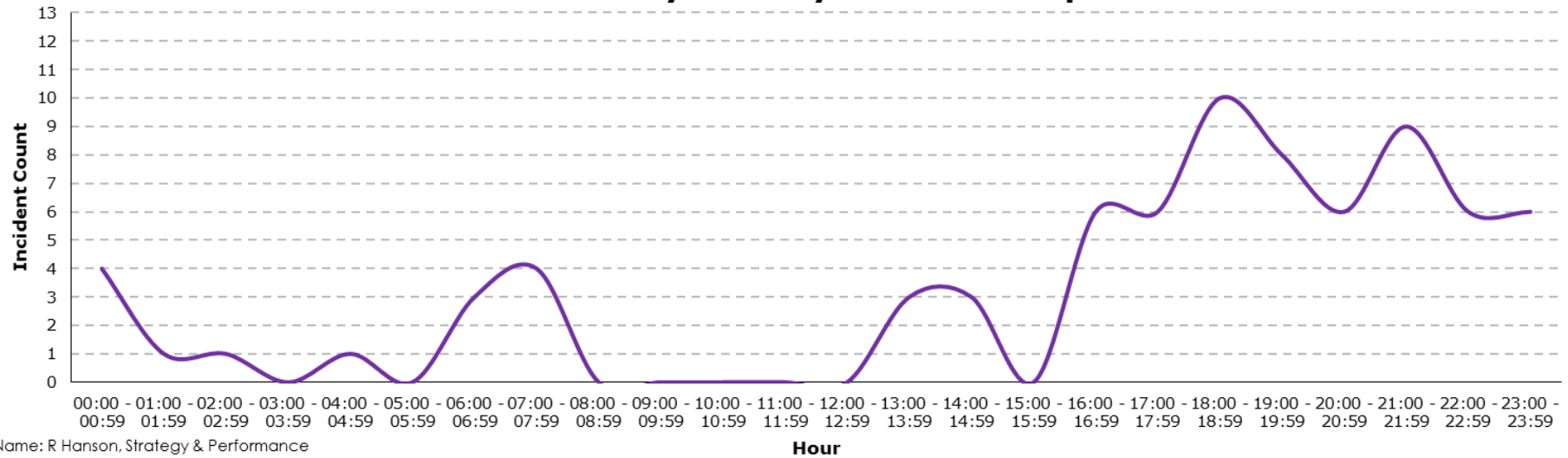


Chart 6: Temporal Breakdown of Incidents in Liverpool North

Deliberate Secondary Fires by Date in Liverpool North

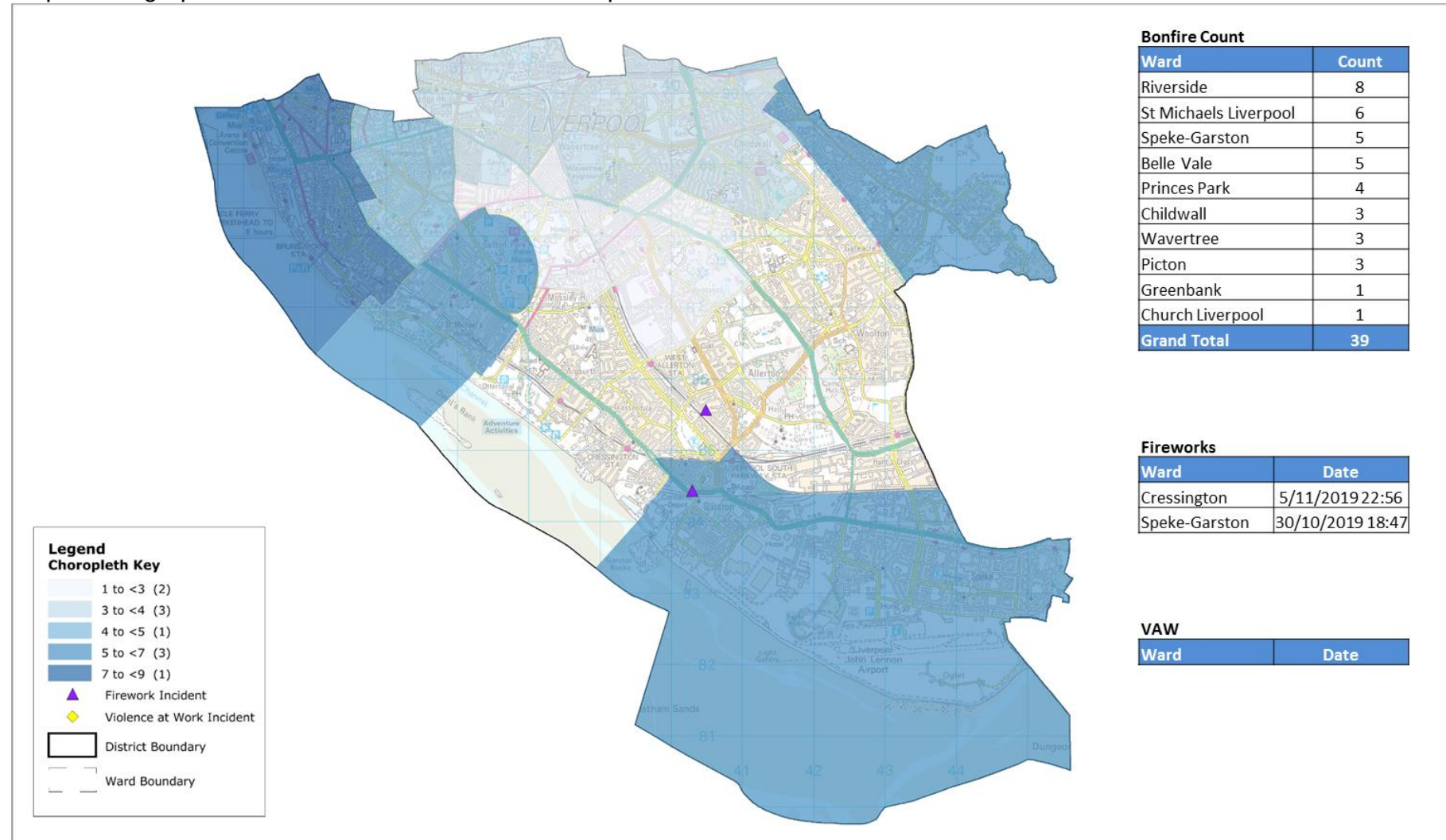


Deliberate Secondary Fires by Hour in Liverpool North



Name: R Hanson, Strategy & Performance
Date: November 2019

Map 3: Geographical Breakdown of Incidents in Liverpool South



Author: R Hanson
Date: 12/11/2019
Produced using MapInfo
Strategy & Performance

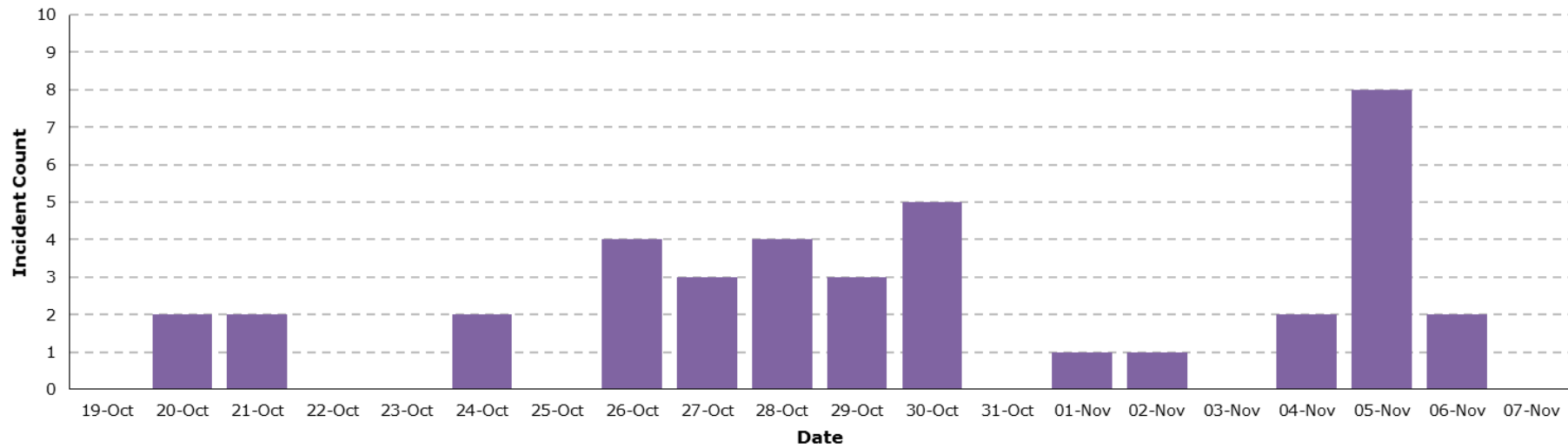
Deliberate Secondary Fires in Liverpool South during 2019 Bonfire Period between 19th October - 7th November 2019

© Crown copyright and database rights 2019 Ordnance Survey 100026956

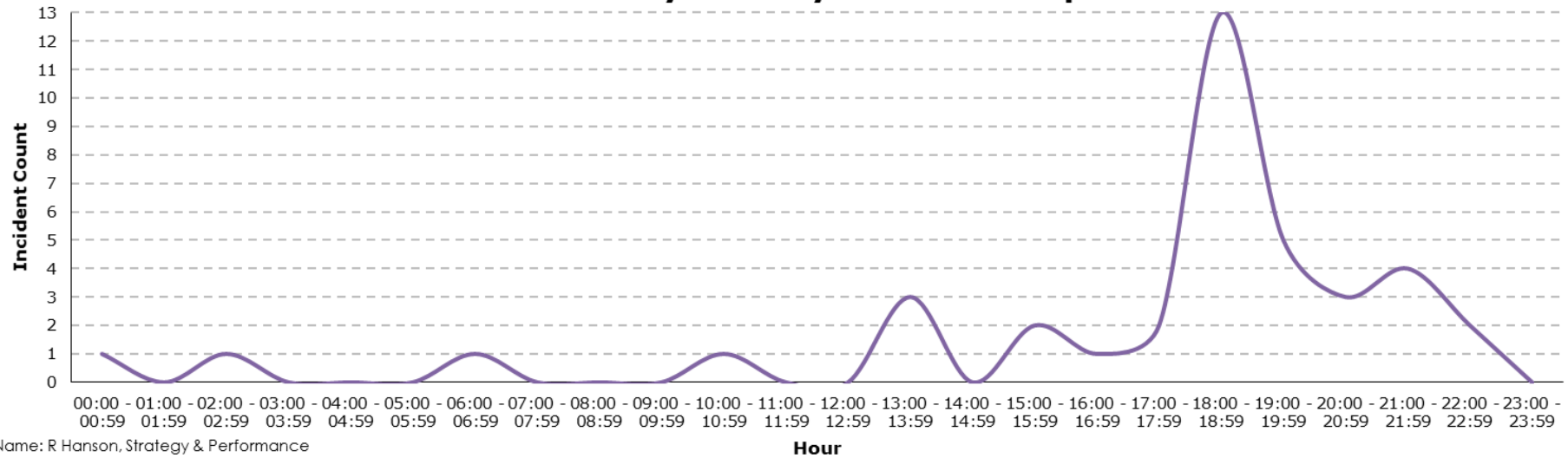


Chart 7: Temporal Breakdown of Incidents in Liverpool South

Deliberate Secondary Fires by Date in Liverpool South

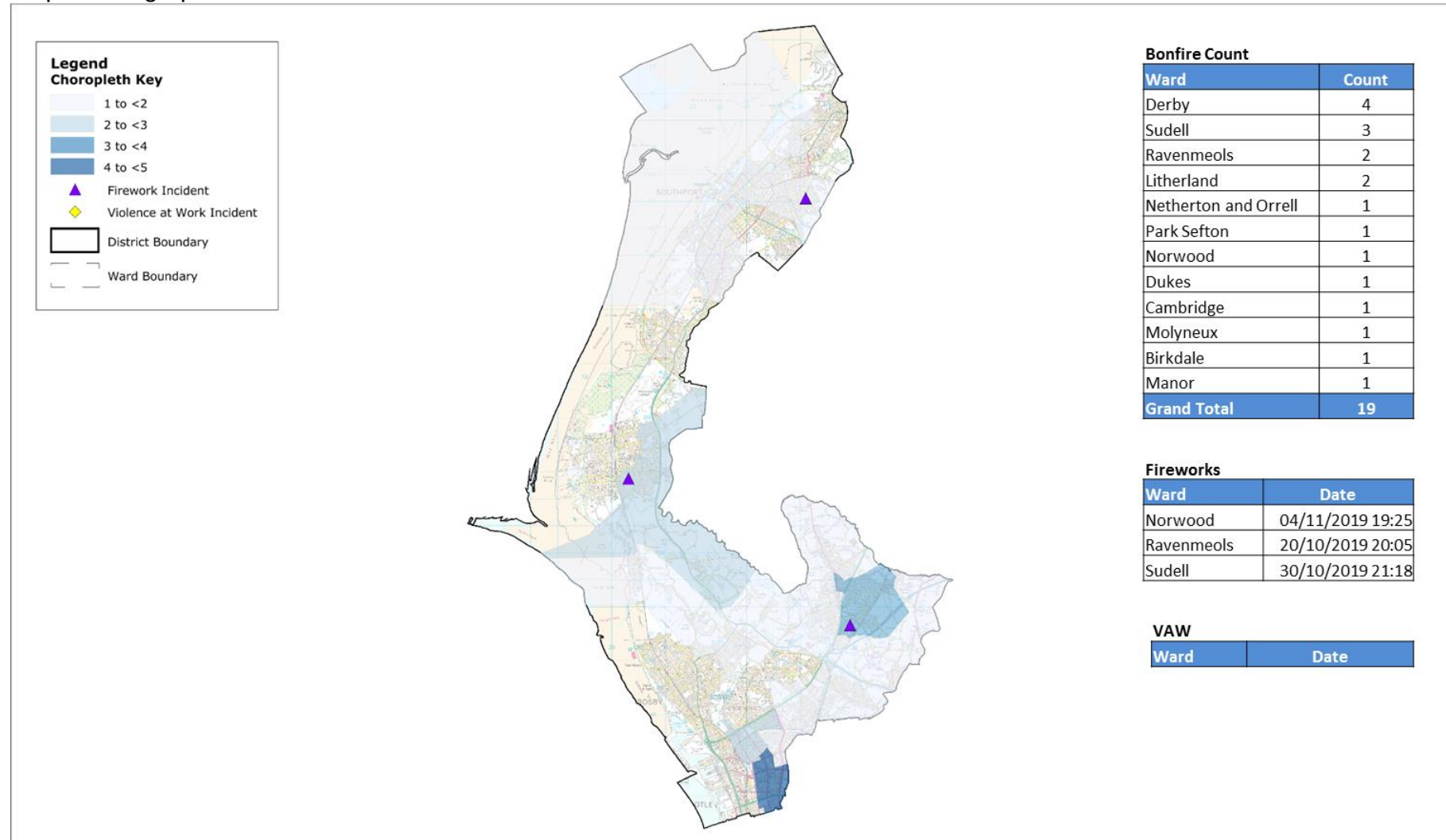


Deliberate Secondary Fires by Hour in Liverpool South



Name: R Hanson, Strategy & Performance
Date: November 2019

Map 4: Geographical Breakdown of Incidents in Sefton



Author: R Hanson
Date: 12/11/2019
Produced using MapInfo
Strategy & Performance

Map Reference:

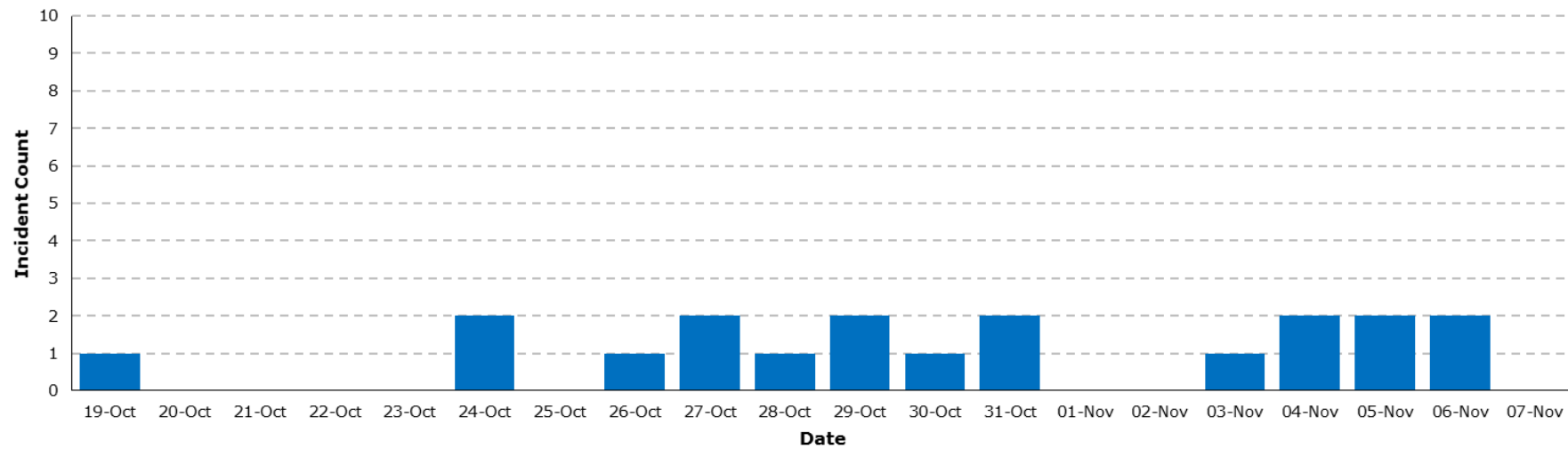
Deliberate Secondary Fires in Sefton during 2019 Bonfire Period between 19th October - 7th November 2019

© Crown copyright and database rights 2019 Ordnance Survey 100026956

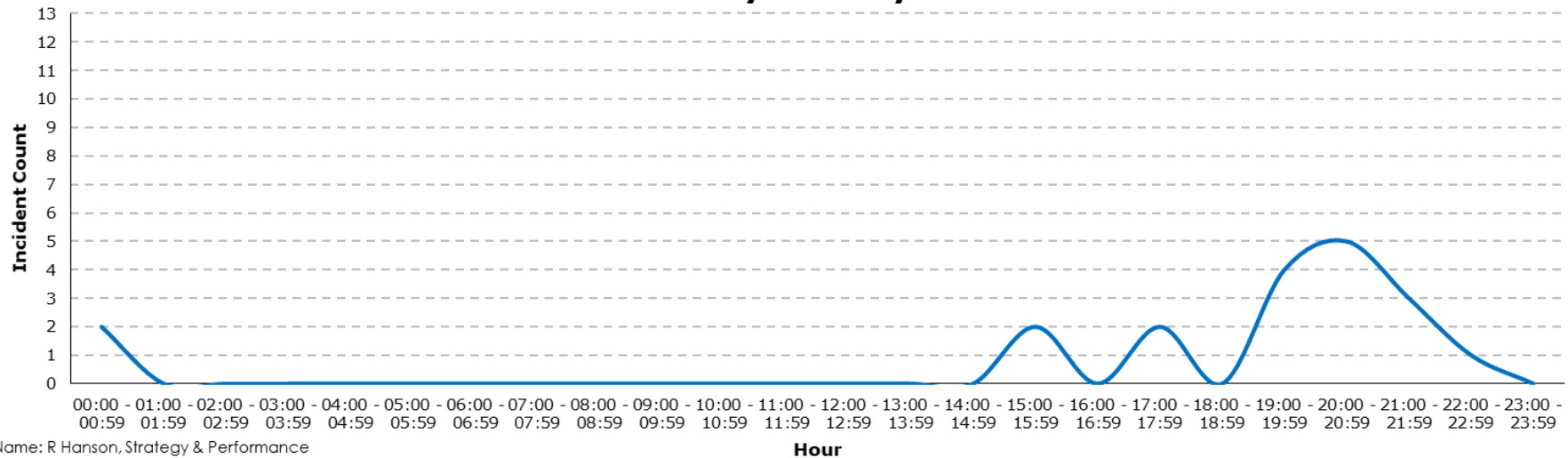


Chart 8: Temporal Breakdown of Incidents in Sefton

Deliberate Secondary Fires by Date in Sefton

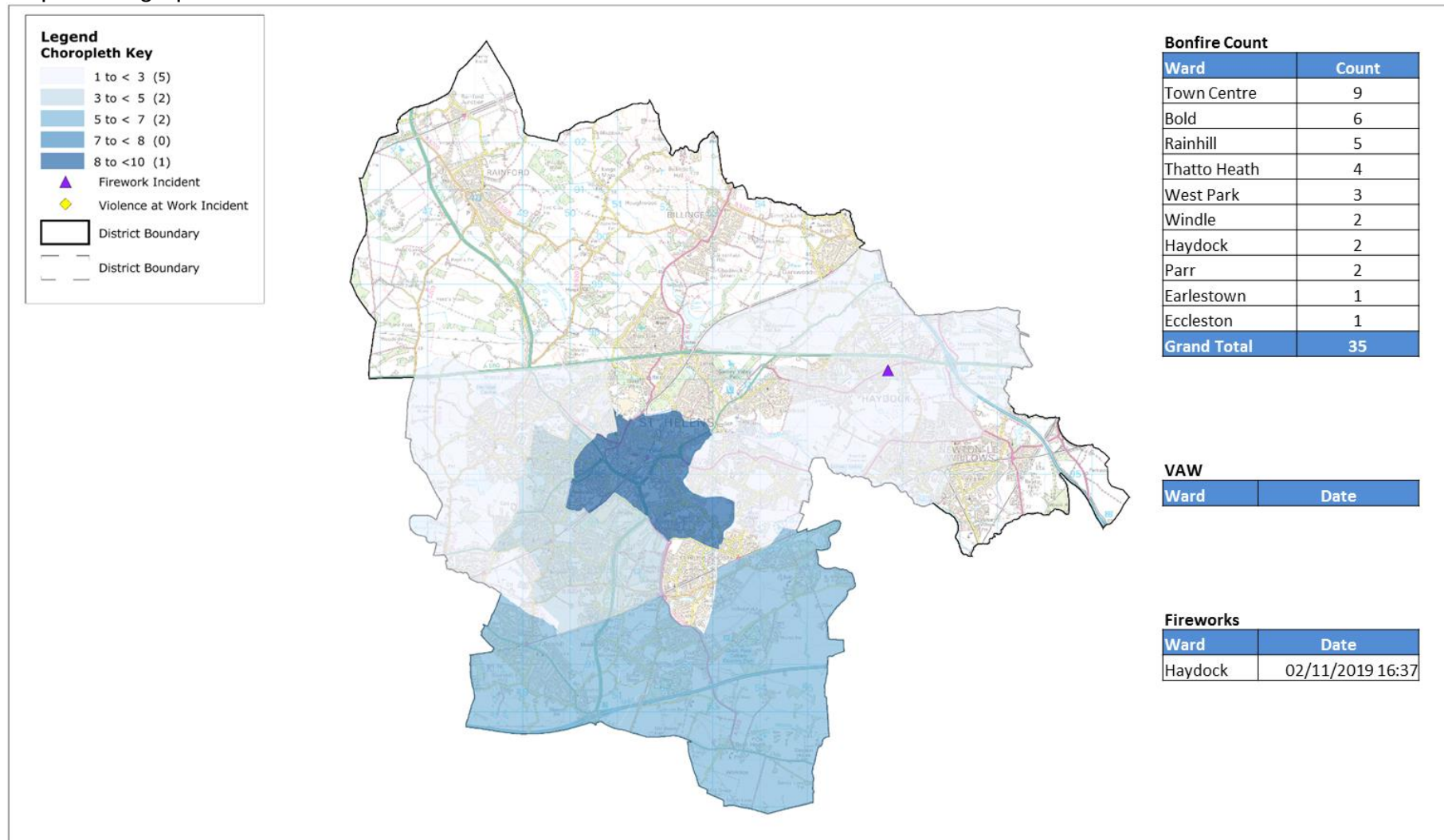


Deliberate Secondary Fires by Hour in Sefton



Name: R Hanson, Strategy & Performance
Date: November 2019

Map 5: Geographical Breakdown of Incidents in St Helens



Author: R Hanson
Date: 12/11/2019
Produced using MapInfo
Strategy & Performance

Deliberate Secondary Fires in St Helens during 2019 Bonfire Period between 19th October - 7th November 2019

© Crown copyright and database rights 2019 Ordnance Survey 100026956

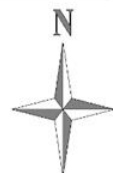
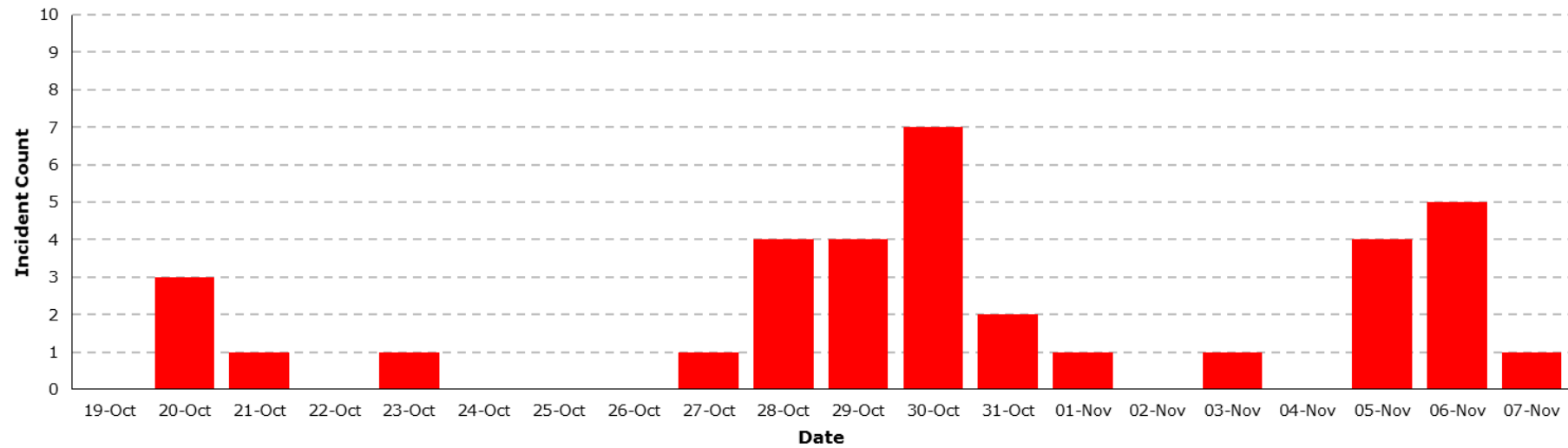
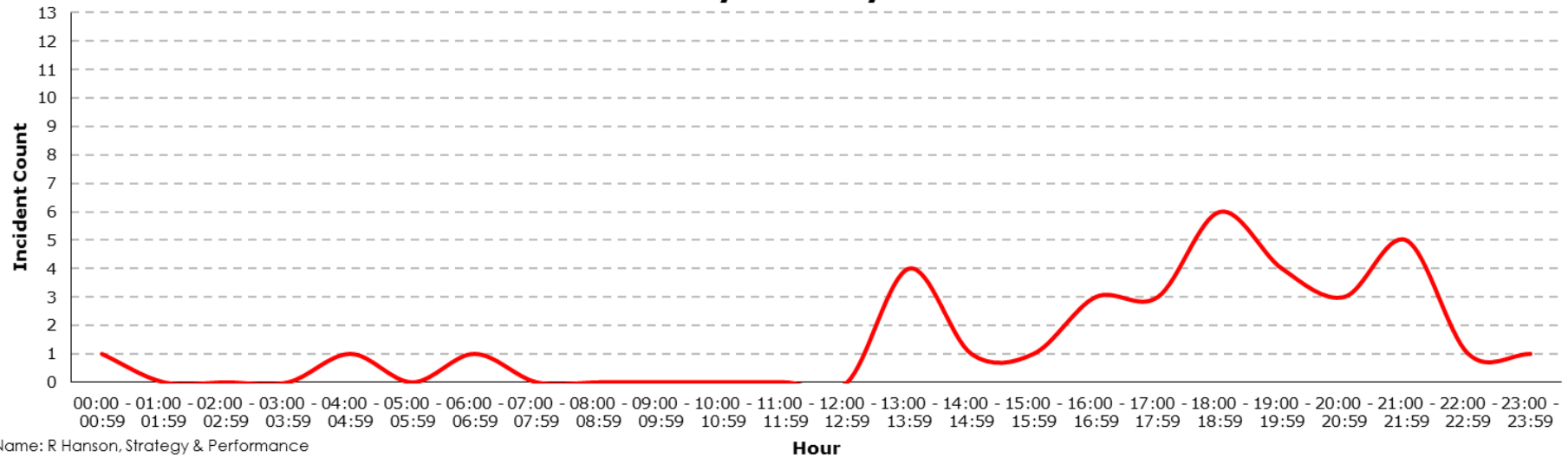


Chart 9: Temporal Breakdown of Incidents in St Helens

Deliberate Secondary Fires by Date in St Helens

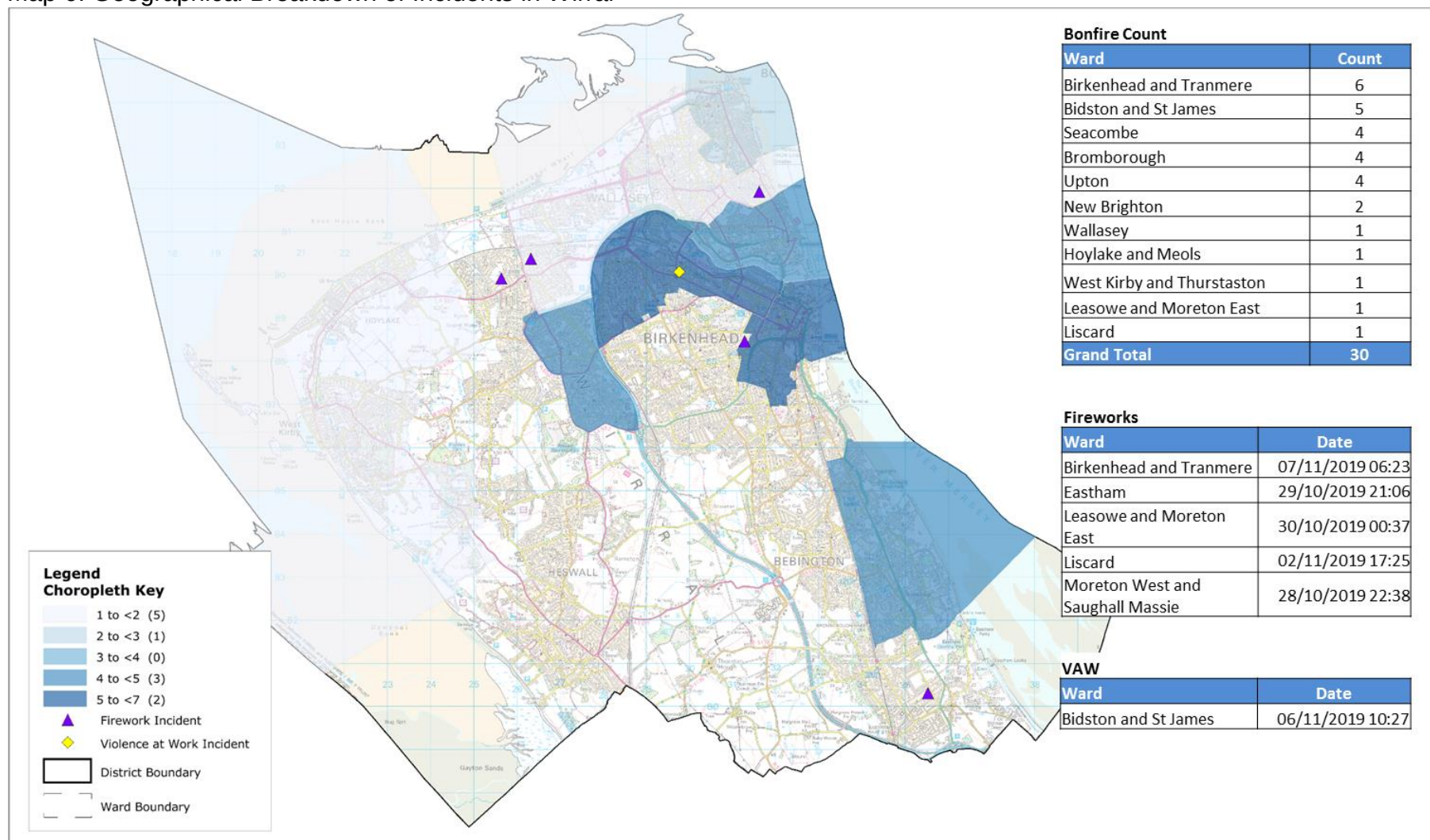


Deliberate Secondary Fires by Hour in St Helens



Name: R Hanson, Strategy & Performance
Date: November 2019

Map 6: Geographical Breakdown of Incidents in Wirral



Author: R Hanson
Date: 12/11/2019
Produced using MapInfo
Strategy & Performance

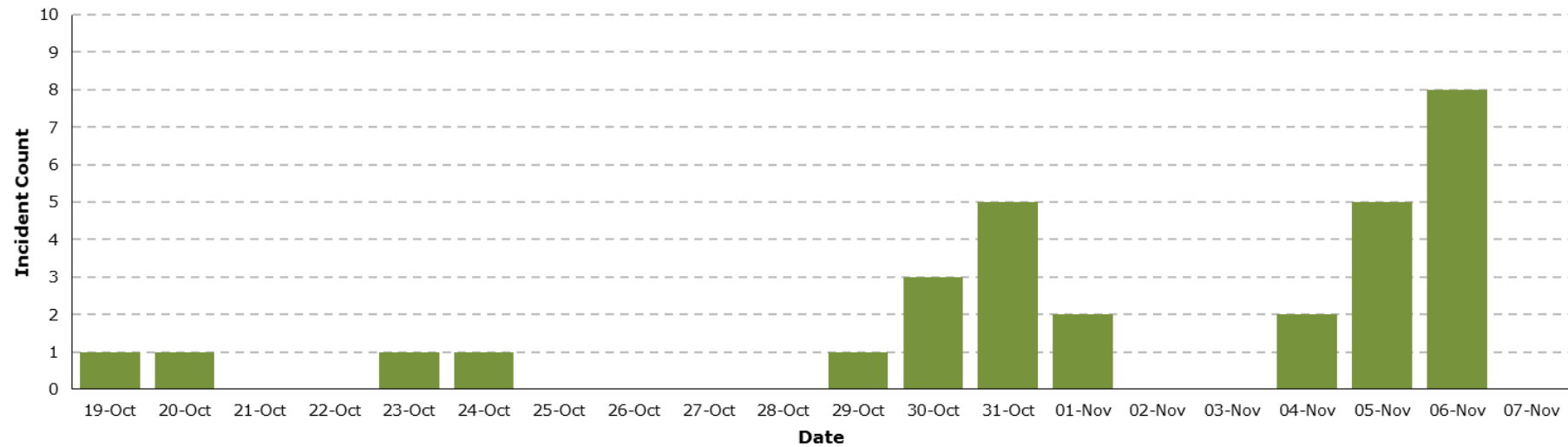
Deliberate Secondary Fires in Wirral during 2019 Bonfire Period between 19th October - 7th November 2019

© Crown copyright and database rights 2019 Ordnance Survey 100026956

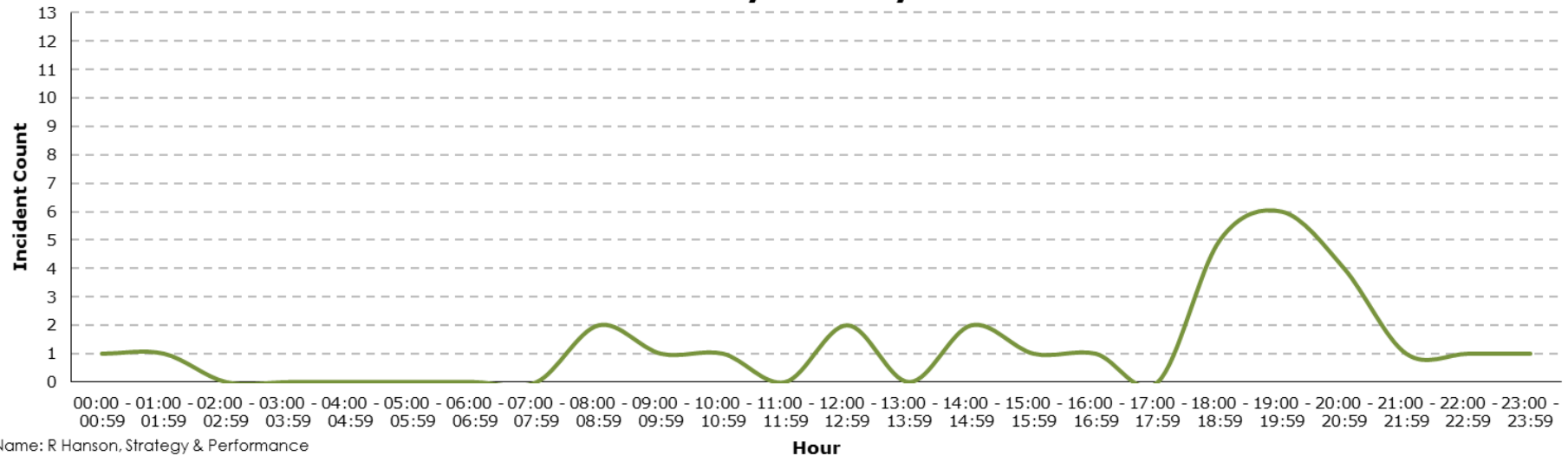


Chart 10: Temporal Breakdown of Incidents in Wirral

Deliberate Secondary Fires by Date in Wirral



Deliberate Secondary Fires by Hour in Wirral



Name: R Hanson, Strategy & Performance
Date: November 2019