

Power BI with web mapping

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Introduction

County Durham and Darlington Fire Authority is responsible for the fire and rescue service across the two unitary authority areas of County Durham and the borough of Darlington, serving a population of over 620,000 people spread over almost 2,460 square kilometres.

The operational provision consists of 15 fire stations, 26 pumping appliances, 2 ALP's, 5 TRV's and various other special appliances.

We have 2 fully wholetime stations, 6 fully retained stations and 7 stations with a mixed of staffing patterns.

<https://www.ddfire.gov.uk/>



Introduction

We currently use the following software from Cadcorp:

- SIS Desktop (9)
- SIS Webmap 8 – in transition to SIS Webmap 9 (carrying out UAT)
- Workload Modeller
- Addressloader
- IRS mapping – on premise running webmap express 9



Introduction

Our PowerBI tenant looks like this:

- PowerBI Premium (org)
- PowerBI Embedded
- Moving towards a single dataset for IRS reports
- Microsoft Teams used to distribute reports to end users
- High level performance published to our website
- Partner organisations able to access select PowerBI reports



How CDDFRS departmental functions use PowerBI with maps



During Covid-19 pandemic

- Automatic production of reports for NFCC and LRF
- Historic performance analysis to monitor unexpected trends during the pandemic e.g. reduction in RTC increase in controlled burning



Arson reduction team

- This team is the most frequent consumer of PowerBI reports
- Daily usage to monitor trends in targeted locations
- Monthly meetings with Area Action Partnerships
- Periodic usage during targeted interventions with firesetters



Workload Modeller

- More insight from the model outputs
- Allowed us to answer questions which we received from customers
- Comparison of scenarios
- Now we have created the PowerBI model we can load a different set of scenarios
- Customers are able to interrogate without our team involvement



Demonstration





County Durham and Darlington
Fire and Rescue Service

Year

2020

Month Name

All

Days Since Inci...

All

Station Ground

All

Area of interest

Shotton Colliery

Ward

All

Incident Category

All

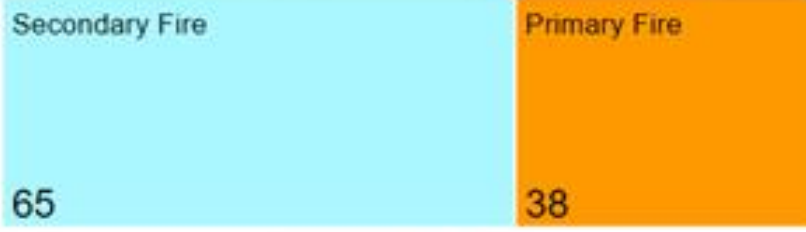
Property Category

All

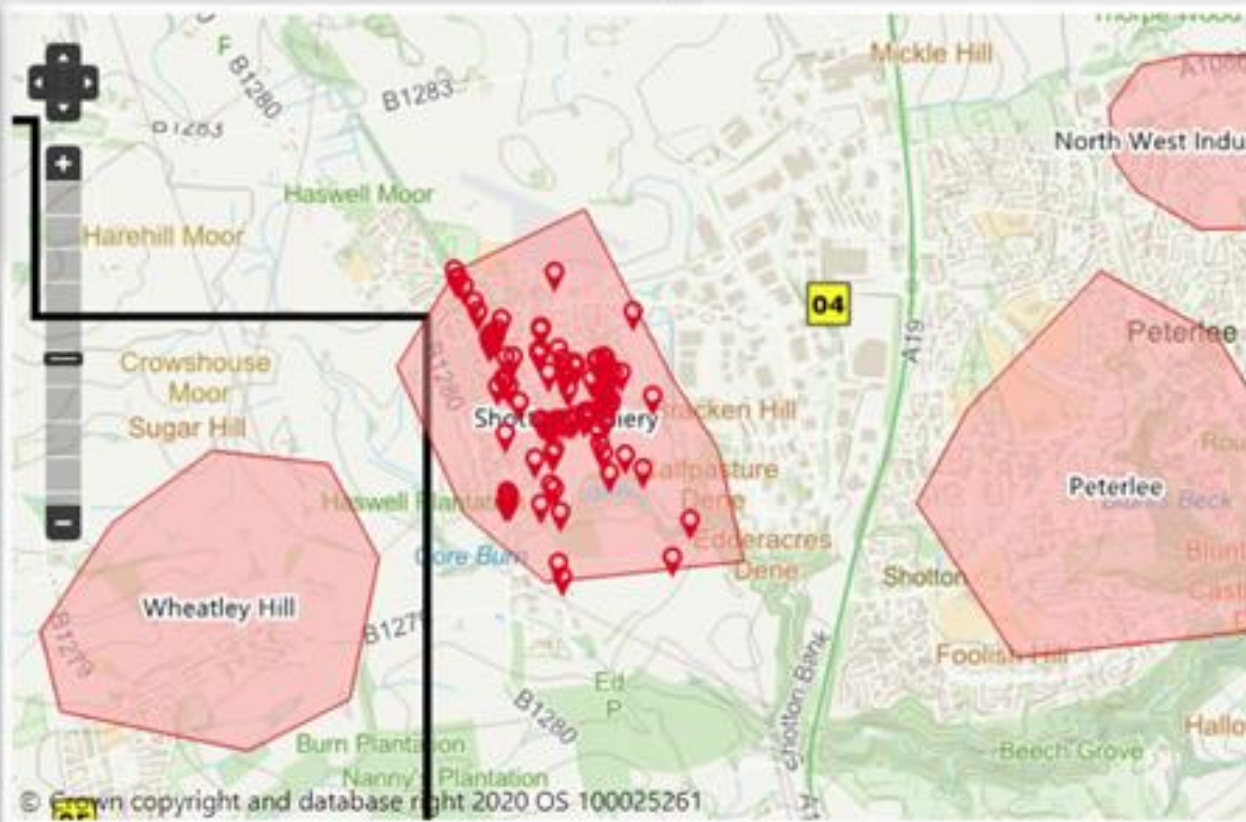
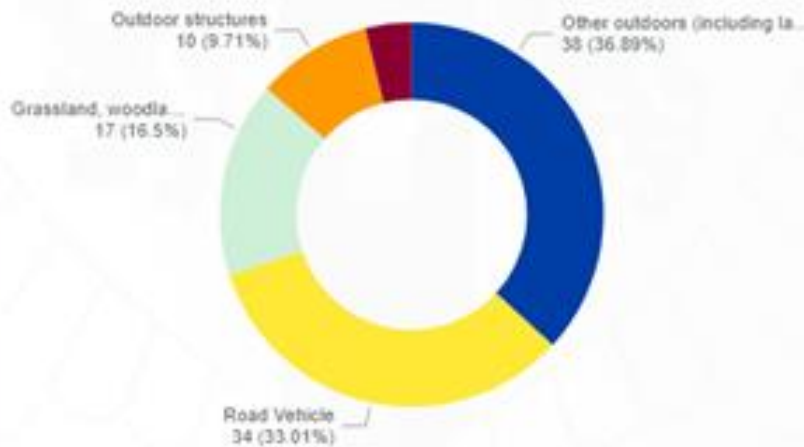
Property Type

All

Weekly incidents compared to previous 5 years averages



Incidents by Property





County Durham and Darlington
Fire and Rescue Service

Reporting year

All

Month

All

Response Category

Non-Domestic Proper...

Deployed from

All

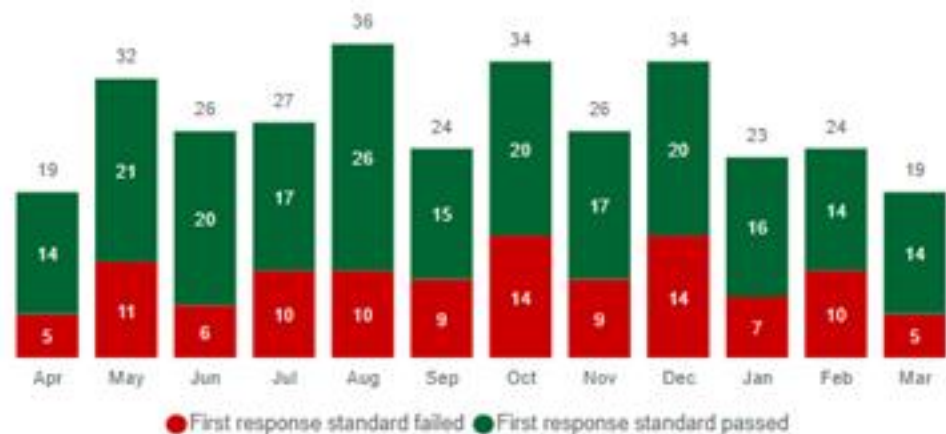
Appliance type

All

Cumulative first response standards passed by reporting year

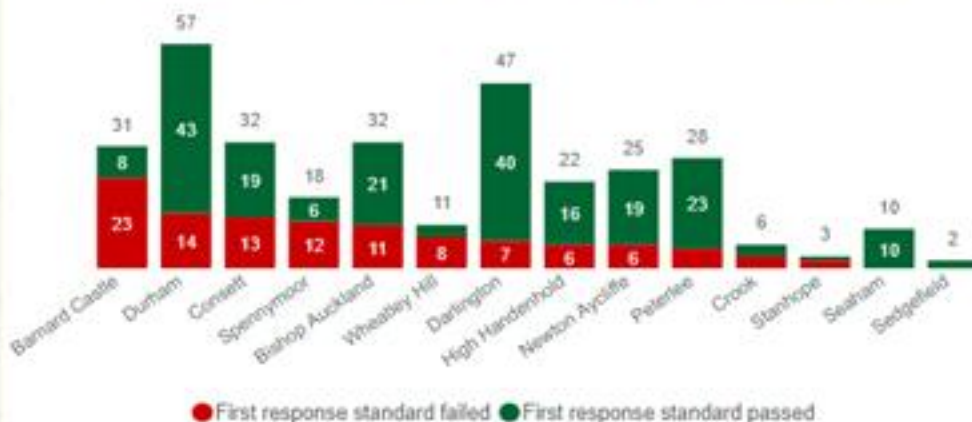


Number of incidents which have passed or failed the first response standard by month

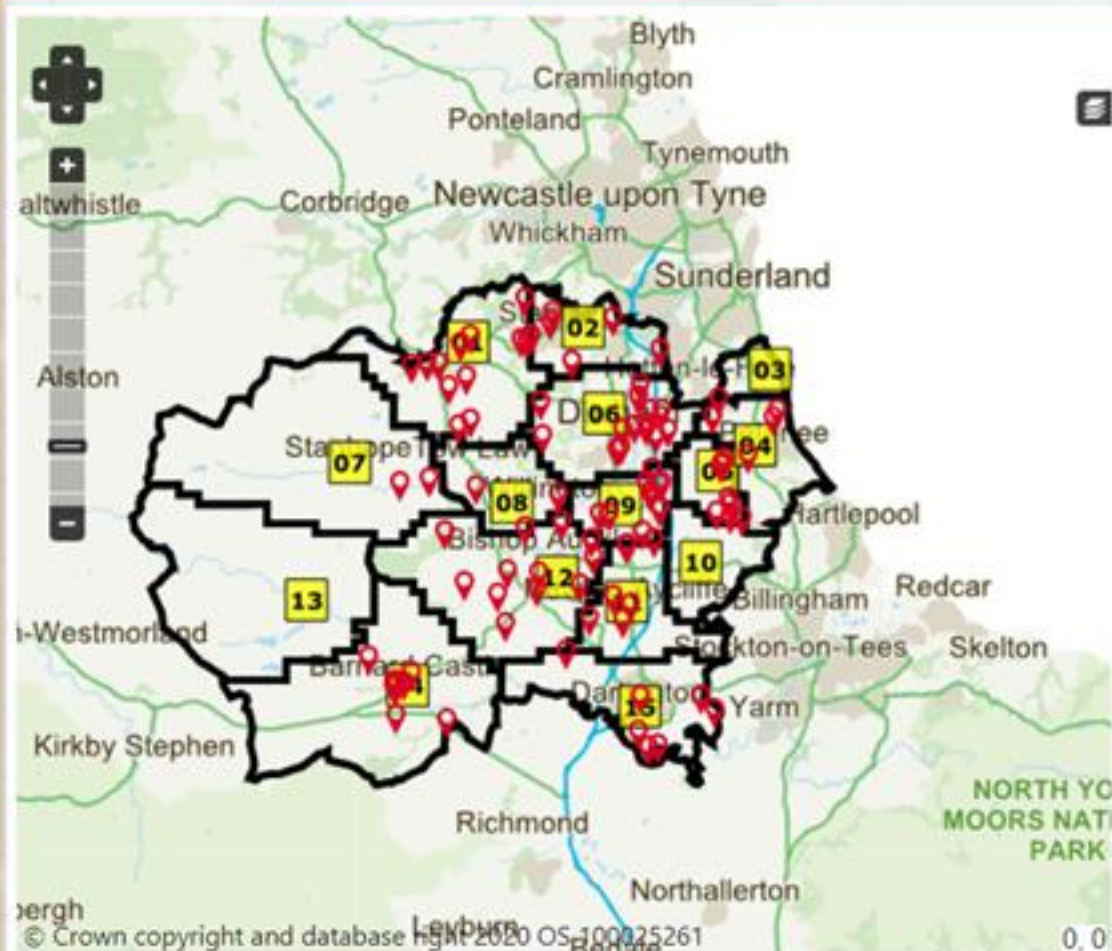


● First response standard failed ● First response standard passed

Number of times a station passed or failed first response standard



● First response standard failed ● First response standard passed



Incident Number	Date	IRS Link	Station Area	Resource Drive Time	Resource Mobilising Time	Resource Call Sign
47010683	08/08/2019 00:00:00	Link	Bishop Auckland	00:00:13.000	00:00:07.000	FAD12P1
45008249	26/05/2017 00:00:00	Link	Barnard Castle	00:01:17.000	00:07:18.000	FAD14P1
46012616	20/09/2018 00:00:00	Link	Crook	00:01:58.000	00:08:40.000	FAD08P1
44016049	30/10/2016 00:00:00	Link	Wheatley Hill	00:02:22.000	00:05:40.000	FAD05P1
44006764	12/05/2016 00:00:00	Link	Consett	00:02:50.000	00:06:29.000	FAD01P2
47015244	17/11/2019 00:00:00	Link	Wheatley Hill	00:03:03.000	00:06:56.000	FAD05P1
45005286	14/04/2017 00:00:00	Link	Barnard Castle	00:03:16.000	00:04:48.000	FAD14P1
47015051	13/11/2019 00:00:00	Link	Newton Aycliffe	00:03:22.000	00:09:37.000	FAD11P1
47001144	27/01/2019 00:00:00	Link	Bishop Auckland	00:03:24.000	00:07:59.000	FAD12P2
46017001	28/12/2018 00:00:00	Link	Barnard Castle	00:03:35.000	00:07:37.000	FAD14P1



County Durham and Darlington
Fire and Rescue Service

Response category

Dwelling Fire

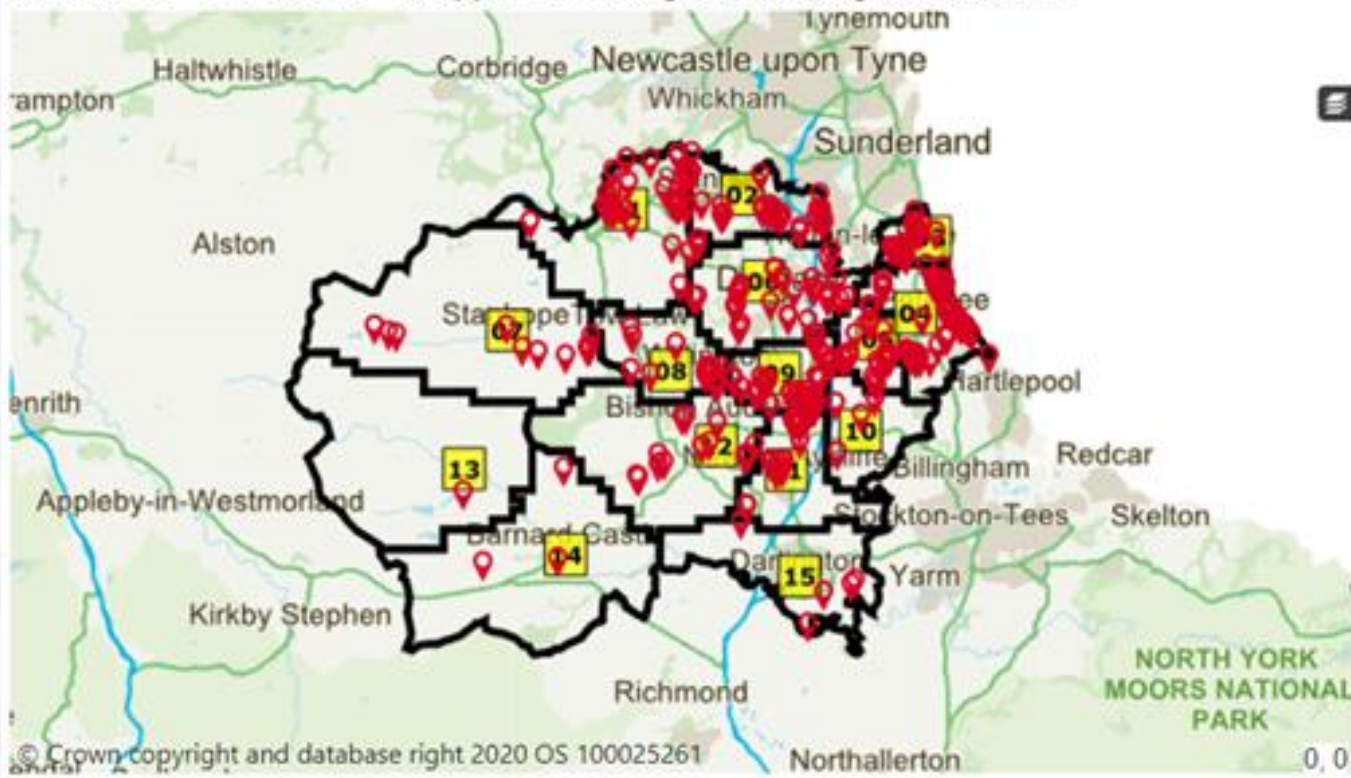
Appliance position

1

Scenario

Scenario A

Scenario A - Location of 1st appliance failing the dwelling fire standard



Difference from basecase



Scenario A - % diff from basecase of 1st appliance for the dwelling fire standard

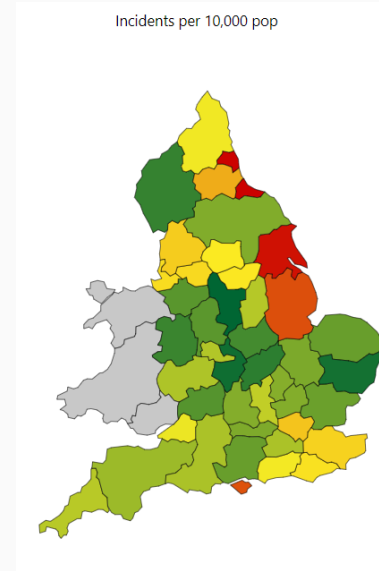
Station Ground of Incident	Midnight to 6am	6am to Midday	Midday to 6pm	6pm to Midnight	Total
Barnard Castle	0.0%	0.0%	0.0%	0.0%	0.0%
Bishop Auckland	7.1%	0.0%	0.0%	-8.0%	-1.6%
Consett	18.2%	0.0%	0.0%	-26.7%	-11.6%
Crook	0.0%	0.0%	0.0%	0.0%	0.0%
Darlington	0.0%	0.0%	0.0%	0.0%	0.0%
Durham	0.0%	0.0%	3.1%	0.0%	1.4%
High Handenhold	0.0%	0.0%	0.0%	-3.0%	-1.2%
Middleton-in-Tees	0.0%		0.0%		0.0%
Newton Aycliffe	16.7%	0.0%	0.0%	-9.1%	5.4%
Peterlee	0.0%	0.0%	0.0%	0.0%	0.0%
Seaham	0.0%	0.0%	0.0%	0.0%	0.0%
Sedgefield	0.0%			0.0%	0.0%
Spennymoor	-50.0%	0.0%	0.0%	-38.5%	-19.7%
Stanhope	0.0%	0.0%		-20.0%	-7.1%
Wheatley Hill	0.0%	0.0%	0.0%	0.0%	0.0%
Total	5.6%	0.0%	0.3%	-8.1%	-3.4%

Scenario A - diff from basecase of 1st appliance for the dwelling fire standard

Station Ground of Incident	Midnight to 6am	6am to Midday	Midday to 6pm	6pm to Midnight	Total
Barnard Castle	0	0	0	0	0
Bishop Auckland	7	0	0	-8	-1
Consett	18	0	0	-27	-10
Crook	0	0	0	0	0
Darlington	0	0	0	0	0
Durham	0	0	3	0	3
High Handenhold	0	0	0	-3	-3
Middleton-in-Tees	0		0		0
Newton Aycliffe	17	0	0	-9	8
Peterlee	0	0	0	0	0
Seaham	0	0	0	0	0
Sedgefield	0			0	0
Spennymoor	-50	0	0	-39	-24
Stanhope	0	0		-20	-20
Wheatley Hill	0	0	0	0	0
Total	6	0	3	-24	-19

Wishlist

- Dynamic theming of polygons



- Clustering of points
- Icon size based on value (graduated)
- Legend (icon colour by category)



Any Questions?

