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LOSRA BRIEFING NOTE

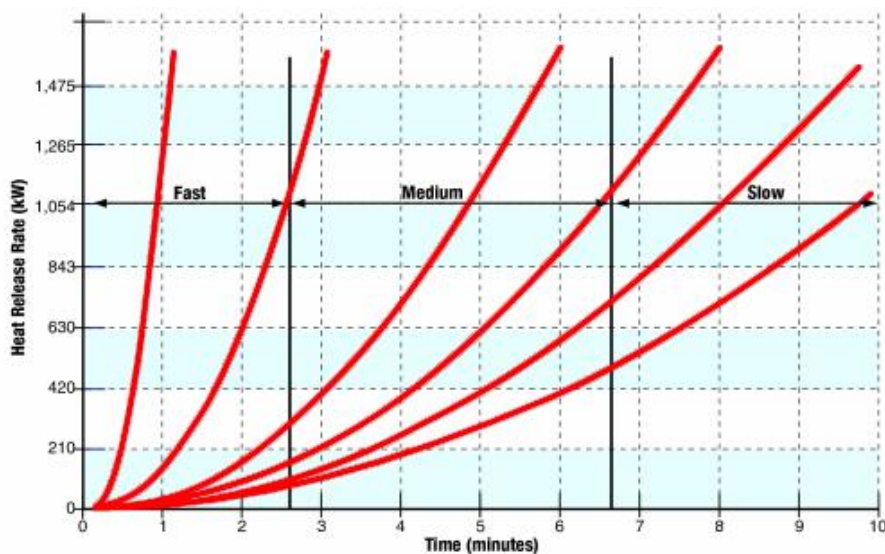
11 September 2013

Proposed changes to Surrey Fire and Rescue Service deployments in Spelthorne

Summary

- The proposed change to only one 24/7 whole-time-crewed fire engine in Spelthorne will make response times longer.
- Longer response times put people and property at unnecessarily increased risk.
- The proposed change is a step too far. It would leave Spelthorne with inadequate fire and emergency cover. It should not be implemented.

Fire growth rates



Consultation documents

A number of documents have been published by Surrey County Council on their website, as part of the public consultation process regarding the proposed changes to the Surrey Fire and Rescue Service (SFRS) deployments in Spelthorne.¹

Included amongst them are a number of reports and appendices containing the results of computer modelling intended to give a guide as to the effect of the various planned SFRS changes in Surrey on the time it would take for a fire engine to reach an incident in various areas of Surrey.

In one particular document, the Spelthorne Consultation Factsheet 2013² a table is included which shows the **Predicted response standard for Spelthorne**.

However, the response times shown in that table appear in none of the model results which were available on that part of the Surrey County Council website at the time this briefing note was published. In fact, none of those modelled results available on the Surrey County Council website even contains the particular configuration of SFRS resources being proposed for Spelthorne – one 24/7 whole-time-crewed fire engine based at a new fire station situated between the two existing fire stations, both of which would be closed.

As the result of an FOI request by LOSRA to Surrey County Council we have obtained some of the results of the modelling conducted by ORH Limited, dated 6 September 2013, and received by LOSRA on 10 September³. This is the same company who conducted the research presented in all the other reports and appendices.

Included in those modelling results is a map (included below as Appendix B). As is clear, the areas further away from the proposed new fire station (marked as Optimal Location on the map) are not even shown. These are the areas which our own analysis shows would be most adversely affected by the proposed changes. Also, the large orange area in the middle - classified as having a very good impact on performance – is mostly taken up by the Ashford Manor Golf Course, and the Queen Mary Reservoir.

We have submitted another FOI request for a more comprehensive version of this map.

We do not know why this underlying data, particular to the changes proposed for Spelthorne, was not made available by Surrey County Council at the start of the Consultation period.

¹ See <http://www.surreycc.gov.uk/council-services/customers-and-communities-directorate/surrey-fire-and-rescue-service/surrey-fire-and-rescues-aims,-priorities-and-plans/surrey-fire-and-rescue-authoritys-public-safety-plan-2011-2020>

² See http://www.surreycc.gov.uk/__data/assets/pdf_file/0003/654114/Spelthorne-Brief-FINAL-2-8-13.pdf

³ See http://www.losra.org/docs/Surrey_Fire_Brigade-LOSRA_Briefing_Note-AppendicesB_and_C.pdf

NB. The **Predicted response standard for Spelthorne table** shown on the Spelthorne Consultation Factsheet 2013 relates to the period from when a fire engine is alerted to when it arrives at the scene – Response Time as shown in Figure 1 below. Those Response Times on the Factsheet therefore do not include the time taken between when the 999 call is made and the fire engine being alerted by SFRS Control in Reigate.

Those Call Answering and Call Handling times (see Figure 1) need to be added to the Response Time to come up with a Total Response Time which would be comparable with the Total Response Times used to draw up the maps included in this Briefing Note.

A discussion of these model results is included on p 18.

The proposed changes

Currently, there are two fire stations in Spelthorne: one (Staines Fire Station) near Ashford Hospital, and another (Sunbury Fire Station) near Sunbury Cross.

Staines Fire Station has one 24/7 whole-time-crewed fire engine, while Sunbury Fire Station has one 24/7 whole-time crewed fire engine, plus water rescue equipment in the form of a semi-rigid boat and an inflatable – the former requiring a slipway for launching.

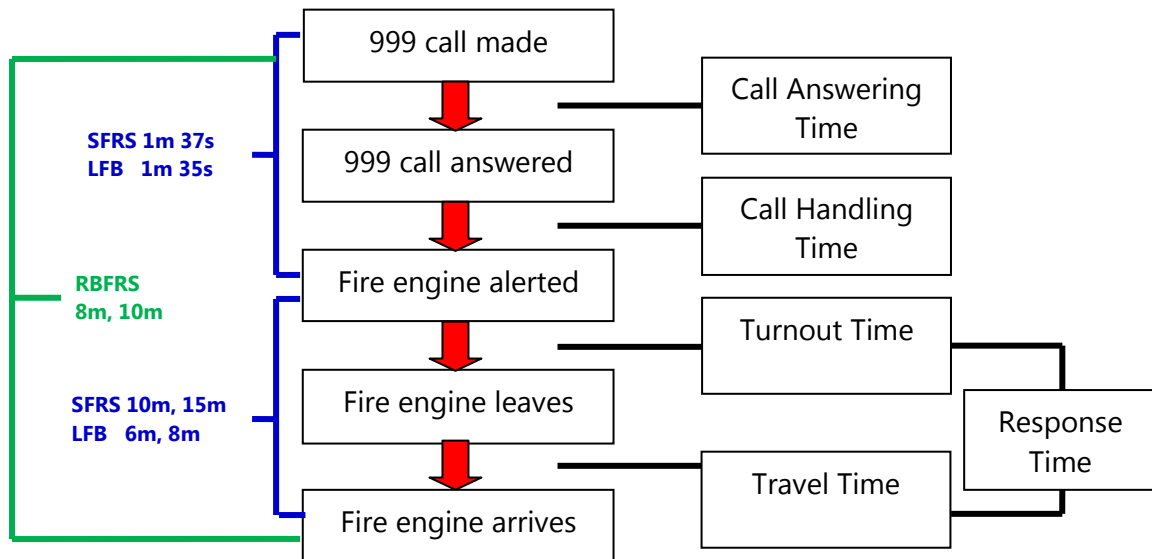
Changes to the deployment of the SFRS have been in train in all parts of Surrey for some time. Under the initial proposals, the preferred option was one titled 15WT-2. Under that option, in Spelthorne, there would be one 24/7 whole-time-crewed fire engine plus water rescue equipment at Sunbury, and one fire engine, whole-time-crewed during the daytime at Staines.

This has now changed. The latest plan is for both Sunbury and Staines Fire Stations to be closed, and for a new Fire Station to be built. It is proposed that this new station will have one 24/7 whole-time-crewed fire engine, plus the water rescue equipment. The exact location of this proposed new station has not been disclosed, but it seems likely that it would be in the vicinity of the Fordbridge Roundabout on Staines Road West.

The emergency response process

It is important to understand the response process, and what the various response times mean. As the consultation documents state, there are several components in the process between the 999 call being received and the fire engine arriving at its destination. See Figure 1 below:

Figure 1: Emergency response process



On each of the maps which follow (in Figures 4, 5, 6 and 7 below) we have used zones marked as in the key immediately below:



The zones on the maps – in 2 minute intervals from 6 minutes onwards – cover the whole of the response process in Figure 1 above - from the 999 call being made to the arrival of the fire engine at the scene of the incident. The zones have been calculated on the following basis:

The time actually taken on average in Surrey between the 999 call being answered and a fire engine being assigned to deal with an incident (the Call Answering Time plus the Call Handling Times in the graphic above) was 1 minute 57 seconds⁴ over the period Apr 2009 to Mar 2010. This measurement is part of basis for the computer modelling undertaken by

⁴ See Surrey Fire and Rescue Service STUDY OF EMERGENCY COVER Final Report Version 2, ORH Limited, Figure 4 (AVERAGE CALL COMPONENTS) opposite p7, available at: http://www.surreycc.gov.uk/__data/assets/pdf_file/0006/175164/SuF4-FR-Text-and-Figs-V2Report.pdf

ORH Limited for SFRS which underlies the proposals for changes to the Fire Service in Surrey.

More recent data indicates that, in 85% of incidents, the Call Handling Time was less than 90 seconds.⁵ We are trying, but have so far not been able to obtain data for the average Call Handling Time.

The Turnout Time as measured by ORH (the time from the fire crew receiving the assignment to the fire engine leaving the fire station) takes, on average in Surrey, 1 minute 43 seconds. This includes checking the details of the emergency and the address, kitting up, and being sat - seat belts on - on the fire engine.⁶

More recent measurements show this turnout time for whole-time-crews was, on average, 1 minute 20 seconds.⁷ Again, we have so far not been able to obtain data for the average turnout time.

Therefore, according to the ORH measurement, it took 3 minutes 40 seconds in 2009/10, on average in Surrey (Call Answering Time plus Call Handling Time plus Turnout Time), from the 999 call being made to when the fire engine leaves the fire station.

According to the latest measurements in 2012/13, the total of the Call Handling Time plus the Turnout Time was 2 minutes 50 seconds. Adding in 7 seconds for the Call Answering Time, the total time from the 999 call being made to the fire engine leaving the fire station is just under 3 minutes.

From that point onwards, we have assumed the fire engine travels at an average speed of 30 mph, or two minutes per mile. The two minute intervals in the key thus also equate to one mile intervals. This speed may be slower in heavy traffic, during the day, and on narrower roads, or faster at night, and on wider roads.

So, for the first six minute interval on the maps, 3 minutes were taken up before the fire engine leaves the station. The second 3 minutes would allow the fire engine to travel approximately 1.5 miles. From then on, each successive zone shows an extra mile travelled, in an extra two minutes.

The time intervals in this key were chosen to indicate the time taken for fire engines from various fire stations to reach the different areas of Spelthorne from the receipt by Surrey Control of the 999 call. They are intended to compare the difference between response coverage in Spelthorne under the current deployment compared with the proposed deployment.

⁵ SFRS data July 2012 to June 2013

⁶ see the same document as in note 1 above.

⁷ SFRS data July 2012 to June 2013

The time intervals we have chosen are not related to the response targets as set out by SFRS.

Nevertheless, for purposes of comparison, Figure 1 and Table 1 show the target response times set by SFRS, and those set by the two other Fire Services which border Spelthorne – Royal Berkshire and the London Fire Brigade. These three services all set their headline targets in different ways and for different types of incidents.

For example, Surrey's targets are for the first fire engine to arrive within 10 minutes, and the second within 15 minutes - 80 per cent of the time for both⁸. But these Surrey target times run from the moment the crew begins their Turnout, and do not take into account the Call Answering Time plus the Call Handling Times before that point. (see Figure 1 above) The Surrey targets for those Call components are 7 seconds and 90 seconds respectively.⁹

So the Surrey targets for the whole process are, in fact, 11 m 37s and 16m 37s (10 minutes plus 90 seconds plus 7 seconds).

We have standardised the targets from the three Fire Services so that all three sets are comparable with each other. Table 1 shows targets for the whole process - from the 999 call to arriving at the incident – for incidents requiring a response from 2+fire engines. See also Appendix A below.

Table 1: Target response times¹⁰

Surrey		Royal Berkshire		London Fire Brigade	
1st fire engine	2nd fire engine	1st fire engine	2nd fire engine	1st fire engine	2nd fire engine
11mins 37secs	16mins 37secs	8mins	10mins	7mins 35secs	9mins 35secs

Emphasising incidents requiring a response from 2+fire engines is particularly important in **this current context of Spelthorne being reduced from two 24/7 whole-time-crewed fire engines (plus water rescue equipment) to one 24/7 whole-time-crewed fire engine (plus water rescue equipment).**

⁸ See Surrey Fire and Rescue Authority Public Safety Plan 2011-2020, para 7.48 available at http://www.surreycc.gov.uk/__data/assets/pdf_file/0006/177414/Public-Safety-Plan-2011-20-Final-web-version-4-wo-forward-cover.pdf

⁹ See Surrey Fire and Rescue Authority Public Safety Plan 2011-2020, para 7.43 available at http://www.surreycc.gov.uk/__data/assets/pdf_file/0006/177414/Public-Safety-Plan-2011-20-Final-web-version-4-wo-forward-cover.pdf

¹⁰ See Appendix A below for an explanatory table showing how these total response times have been calculated.

Why response times are important

Can a minute or two's delay really make a difference?

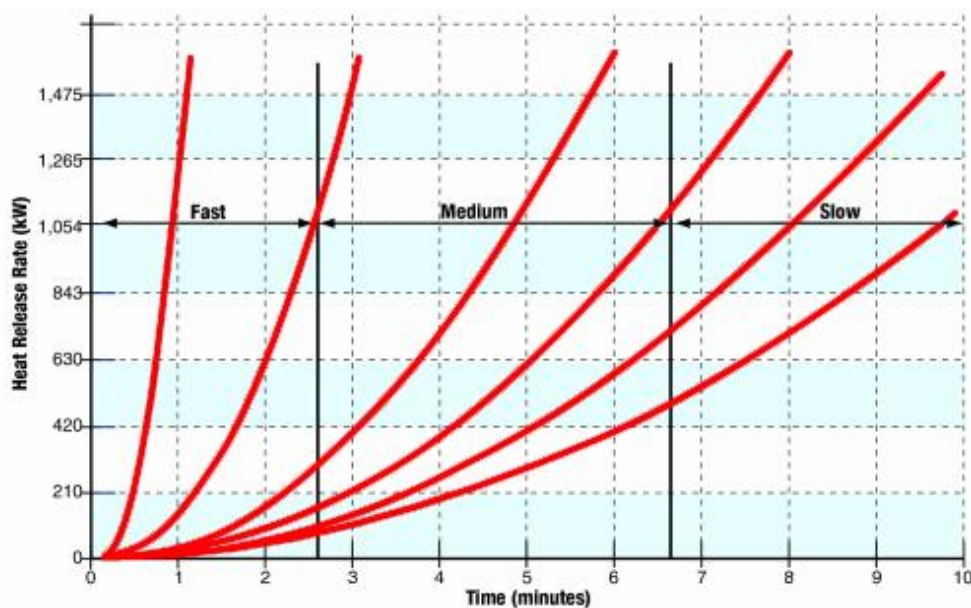
It would be easy to get bogged down in the technical detail.¹¹

So, put simply, how fires burn can be summed up in a single phrase:

They longer they burn, the faster they get bigger.

Figure 2 below shows how fires develop in their initial stages. The different curves relate to a selection of different combustible materials, ranging from thin plywood in the Fast area, down through stacked wooden pallets, upholstered furniture, innerspring mattresses, to solid wood furniture in the Slow area. Of course, modern homes and businesses are full of all sorts of other materials – particularly plastic in the form of TVs, CDs and DVDs – all of which bring their own dangers and combustion curves when there is a fire.

Figure 2: Fire growth curves¹²



The vertical scale of the graph is measured in kW. This shows the amount of heat energy being released, per second, by the burning of various substances. So, for example, for the Fast curve furthest to the left (thin plywood), after about 30 seconds from starting the fire will be releasing approximately 210 kW. This means 210 units of heat energy are being released per second. 30 seconds later, the energy being released in the form of heat will have risen to just over 1000 kW – almost a five-fold increase in double the time.

¹¹ See "Response time fatality rate relationships for dwelling fires", Entec UK Ltd available at <http://www.nationalarchives.gov.uk/ERORrecords/HO/421/2/P2/FEPD/DWELFIRE.PDF>

¹² From SFPE (US) Handbook of Fire Protection Engineering, 2nd Edition.

Eventually, if the fire has not burnt out or been put out, a point will be reached where the amount of heat being released every second will make all surrounding combustible materials ignite, in what is known as a ‘flashover’. People – fire-fighters in their protective suits included - who get caught in a flashover would be in extreme peril.

And the bigger a fire gets, the more fire engines and crews are required to put it out.

It goes without saying that response times are obviously also vitally important for the other emergencies to which the crews respond. Fire-fighters don’t only deal with fires

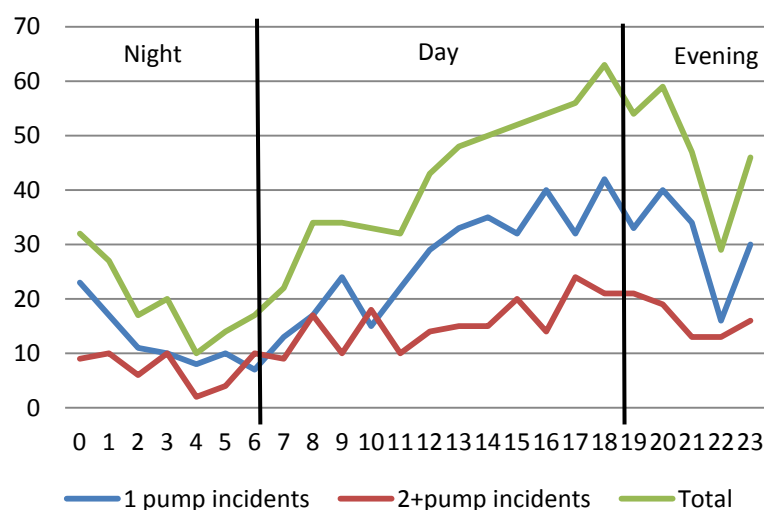
Early response is crucial.

The Spelthorne workload

Relatively minor incidents - fires in wheelie bins and suchlike - are generally assigned to one fire engine. As a matter of general practice, two fire engines are automatically assigned to more serious incidents at residential or commercial properties, and to persons trapped in cars in road traffic collisions. On arrival, the incident commander can change the number of fire engines required if necessary.

Over the one year period shown in Figure 3 (below), there were 893 incidents in total (an average of 2.5 per day) in Spelthorne. 320 of them were 2+fire engine incidents. 2+fire engine incidents thus make up more than a third (35.8%) of the workload of the current two fire engines currently deployed in Spelthorne. This was a slightly higher percentage than the average for Surrey (32.0%).

Figure 3: Spelthorne: hourly incidents
(one year sample Apr 2009 – Mar 2010)¹³



¹³ See Surrey Fire and Rescue Service STUDY OF EMERGENCY COVER Appendix B5a available at:
http://www.surreycc.gov.uk/__data/assets/pdf_file/0007/175165/SuF4-FR-Appendices-V2-AppendixA-B.pdf

More recent data for Surrey as a whole show a similar percentage (31.9%) of all incidents required the presence of 2+ fire engines.¹⁴

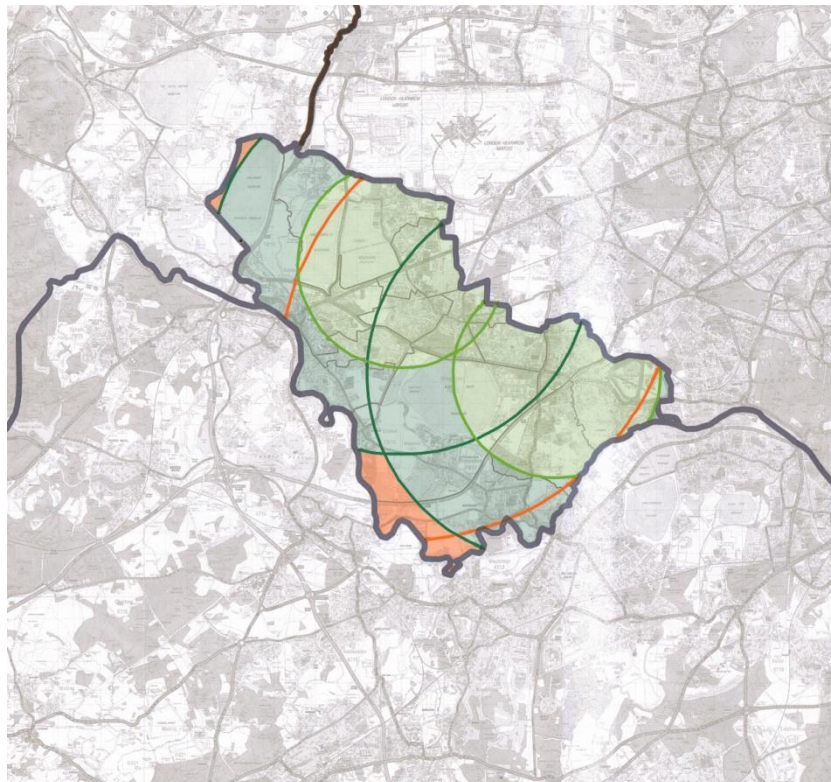
As Figure 3 shows, and as one might expect, incidents of all types rise from a low point early in the morning to a peak in early evening. This peak then declines suddenly in late evening, before slowing less rapidly after midnight to the low before dawn the next morning.

Current deployment: First- and second-response coverage

The response coverage for first and second fire engines in Spelthorne under the current deployment of two 24/7 whole-time-crewed fire engines is shown in Figure 4 below.

As can be clearly seen, almost the whole of Spelthorne can be reached within 8 minutes by the first-response fire engine. The orange areas to the south and north west could be reached between 8 minutes and 10 minutes from the 999 call.

**Figure 4: Current deployment
2 whole-time-crewed fire engines: 1st & 2nd fire engine response coverage**



It is currently the practice that the immediate area on the Spelthorne side of Chertsey bridge, and a small area in the north west of Spelthorne, (in the region of the orange areas

¹⁴ SFRS data July 2012 to June 2013

in Figure 4) are covered for 1-fire engine incidents by the Chertsey Fire Station (the southern area) and the Egham Fire Station (the north western area). This is because they are closer to those areas than either of the current two Spelthorne Fire Stations.

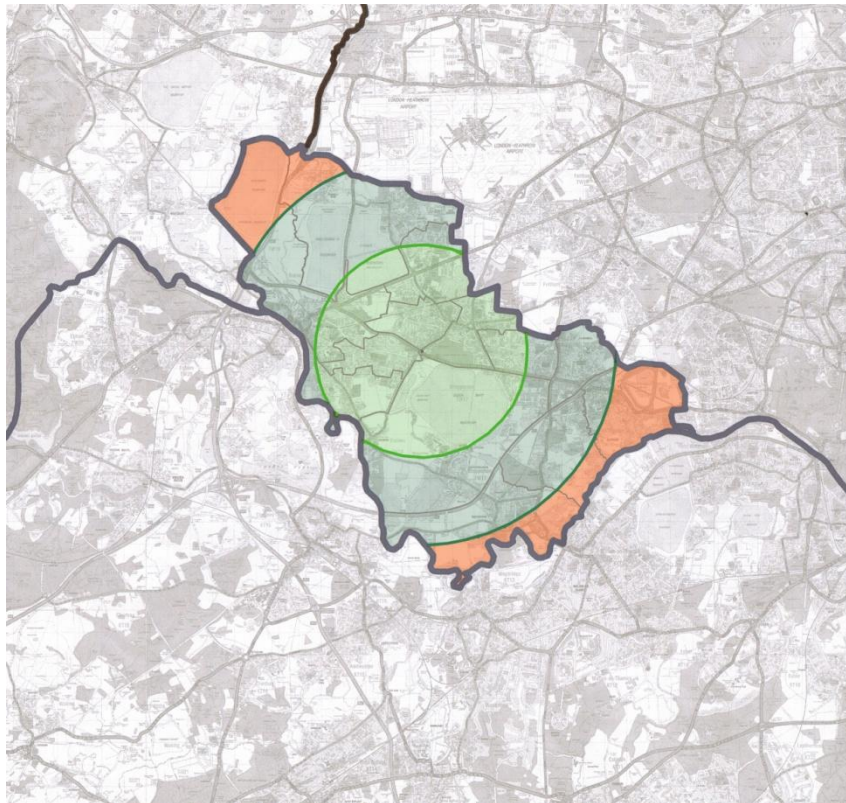
The response coverage for the second Spelthorne fire engine can also be clearly seen from Figure 4. When the Staines fire engine is the first-response fire engine to a multi-fire engine incident, the second fire engine will generally come from Sunbury, and vice versa.

Proposed deployment: First-response coverage

The situation for the first-response fire engine under the proposed move to a single (new) station in Spelthorne with one 24/7 whole-time-crewed fire engine, plus water rescue equipment, is shown in Figure 5 below.

As is clear, the areas (in orange) now only reachable between 8 and 10 minutes after the 999 call are much greater in size. This would put pressure on the single (first-response) fire engine proposed for Spelthorne, but also on fire engines from other parts of Surrey. Fire engines from Chertsey and Egham would now be closer than the single Spelthorne fire engine to an increased area of the borough.

**Figure 5: Proposed deployment
1 whole-time-crewed fire engine: 1st fire engine response coverage**



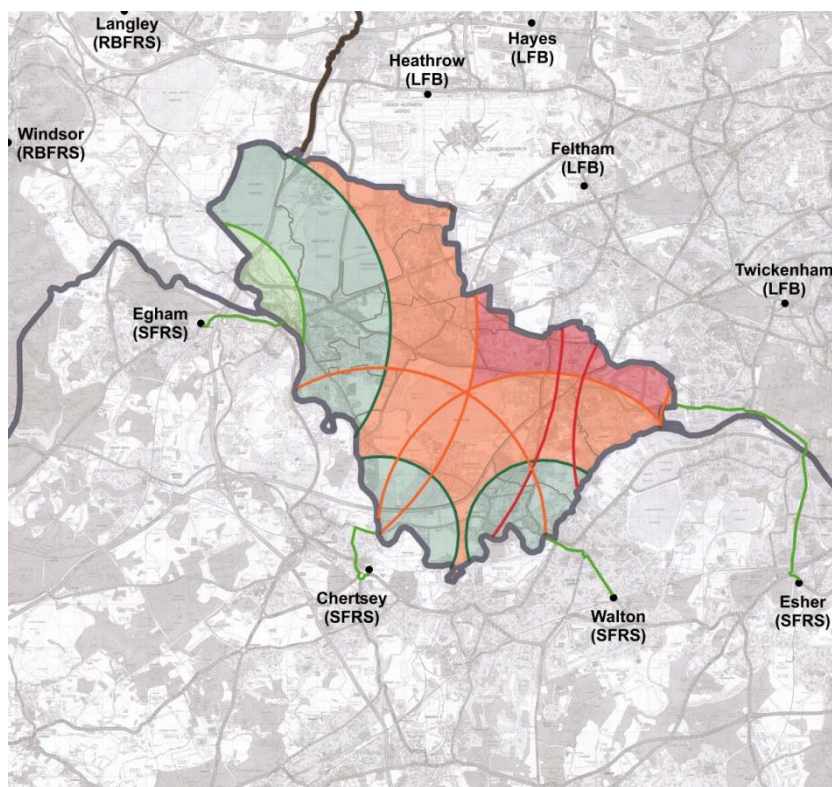
Proposed deployment: Daytime second-response coverage

The big difference, however, is the response of second fire engines to multi-fire engine incidents. Since there would be only one fire engine in Spelthorne, the second-response fire engine would have to come from other parts of Surrey. For some of these other fire engines – from Esher, Walton and Chertsey in particular – their journey to Spelthorne will be extended due to the restricted number of bridges available. This would be the case regardless of whether there is traffic congestion at the bridges themselves.

The coverage of second-response fire engines – during the day - under the proposed changes to the Spelthorne deployment is shown in Figure 6.

As is clear, the majority of the area of Spelthorne (and the majority of its population) would be beyond the 8 minute second-response fire engine coverage (the orange area) from the nearest SFRS stations – Egham, Chertsey, Walton and Esher. And there would be an area on the north east border of Spelthorne (the light red area) which would be between 10 and 12 minutes away from the second-response stations.

Figure 6: Proposed deployment
1 whole-time-crewed fire engine: 2nd fire engine response daytime coverage



There are, of course, other fire stations to the west, north, and east of Spelthorne. Two of these (Windsor and Langley) are part of the Royal Berkshire Fire and Rescue Service. Heathrow, Hayes, Feltham and Twickenham stations are part of the London Fire Brigade,

although they come from three different borough divisions – Heathrow and Hayes from Hillingdon, Feltham from Hounslow, and Twickenham from Richmond-on-Thames.

The leaflet published as part of this consultation makes much of the existence of these stations in other Fire Service areas.¹⁵

Of course, there would almost certainly be a contributing response to a major incident in Surrey from neighbouring Fire Services, were such an incident to occur, just as there would be a response from Surrey to other Fire Service areas in the other direction should such an event occur there.

However, it would be impractical to rely on fire engines from neighbouring Fire Services as standard second-response units for Surrey, unless specific agreements with neighbouring boroughs have been entered into.

First, because it can take several extra minutes for the mobilisation of a fire engine from a station in a different Fire Service area. This is due primarily to the longer route of the call handling (999 to Surrey Control to Neighbouring Fire Service Control to Neighbouring Fire Service station, as opposed to 999 to Surrey Control to Surrey Fire Service station). There are also on-board computer system incompatibilities amongst different Fire Services which make the process longer and more difficult.

Second, fire engines in neighbouring areas are funded through their own Councils and thus they owe their primary responsibility to their own areas. It cannot be right for Surrey to rely on responses from other Fire Services who will have their own plans and priorities for deploying their equipment.

Third, fire engines from neighbouring Fire Services may not necessarily always be available for other operational reasons.

For example, the consultation leaflet describes Windsor as a 24/7 fire station.

Well, yes and no.

Windsor, is not a 24/7 station in the sense that Sunbury is currently a 24/7 station. Windsor has a whole-time crew from 8:00am to 8:00pm, but is crewed by four fire-fighters seconded from other Royal Berkshire stations at night. Those seconded fire-fighters (two from Slough, two from other stations) would not be able to be at Windsor if required at their own stations.

Similarly, the fire engines at the Heathrow LFB station are often called to back-up the fire engines of the BAA Fire service based at the same station.

¹⁵ See Consultation On Changes To Fire Engine Deployment In The Borough Of Spelthorne available at: http://www.surreycc.gov.uk/__data/assets/pdf_file/0003/654114/Spelthorne-Brief-FINAL-2-8-13.pdf

Table 2 below illustrates how unwise it would be to rely on London Fire Brigade fire engines being available on call. The table shows how occupied they all are dealing with their own incidents.

**Table 2: Neighbouring LFB boroughs
Mobilisations into and out of the borough as % of total mobilisations 2011/2012**

	Hillingdon ¹⁶ (incl. Hayes)	Hounslow ¹⁷ (incl. Feltham)	Richmond ¹⁸ (incl. Twickenham)
To incidents within the borough	90%	69%	74%
To incidents outside the borough	10%	31%	26%
From outside stations into the borough	28%	22%	78%

Also, please compare the data for Richmond in Table 2 with the data for Richmond in Table 3. Richmond has the highest ratio of people per fire engine (87,155 to 1) of the neighbouring LFB boroughs, and also the highest ratio of area to fire engines (11.1 to 1).

To make the point more directly, Richmond has a people per fire engine ratio approaching (but nevertheless still below) that which would apply were there to be only one fire station and one fire engine in Spelthorne (95,598 to 1). It also has an area per fire engine to cover just over half the size of Spelthorne (11.1 sq. miles to 1 compared with 19.8 to 1).

It has two fire engines deployed at two stations to deal with this. Even so, it also has the highest percentage (78%) of incidents in the three neighbouring LFB boroughs to Spelthorne where fire engines from outside Richmond have had to be called in.

In summary, therefore, the standard second-fire engine response will have to come from within SFRS. The daytime response coverage would be as shown in Figure 6 above.

Proposed deployment: Nights and weekends second-response coverage

Walton Fire Station has one fire engine. It is crewed during weekdays by a whole-time-crew. At nights and weekends its is crewed by retained fire-fighters, who must travel from home to Walton Fire Station before beginning to mobilise the fire engine. This can add between four and five minutes to the response time.¹⁹ On occasion, not enough retained fire-fighters are available to mobilise a fire engine at all.

¹⁶ See LFB Statistics Pack for Hillingdon available at

<http://www.london-fire.gov.uk/Documents/statistics-pack-hillingdon.pdf>

¹⁷ See LFB Statistics Pack for Hounslow available at

<http://www.london-fire.gov.uk/Documents/statistics-pack-hounslow.pdf>

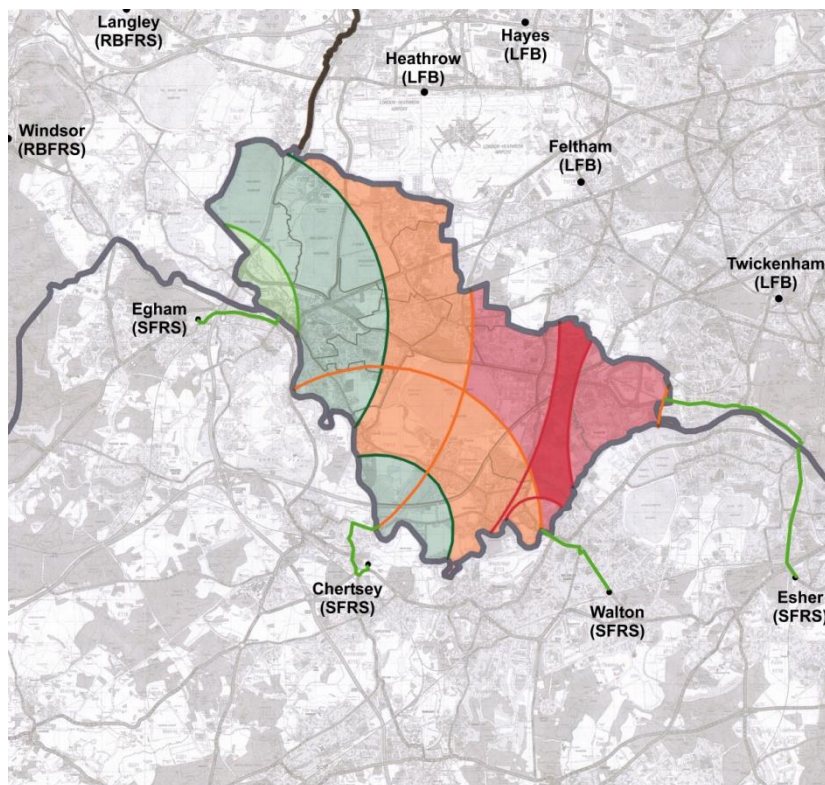
¹⁸ See LFB Statistics Pack for Richmond Upon Thames available at <http://www.london-fire.gov.uk/Documents/statistics-pack-richmonduponthames.pdf>

¹⁹ SFRS data July 2012 to June 2013

We have found it difficult to find out what the latest plans for Esher Fire Station are. The initial plan was to close it between 7:00 pm and 7:00 am. There was then a preferred proposal to close Esher and Walton Fire Stations and build a new station elsewhere. It has not been possible to ascertain whether this new Fire Station would have two 24/7 whole-time-crewed fire engine plus a retained appliance or one 24/7 whole-time-crewed fire engine plus one retained.

Additionally, it appears that there have been difficulties in recruiting the required number of retained fire-fighters to ensure that the retained-crewed fire engines at Walton are available for mobilisation (even with a delayed response time) at all times. If Esher and Walton were to be closed and a new station constructed elsewhere, a number of the existing retained fire-fighters would be lost (due to the requirement they must be able to get from home to the station within five minutes).²⁰

Figure 7: Proposed deployment
1 whole-time-crewed fire engine: 2nd-fire engine response night and weekend coverage



The coverage of second-response fire engines – at night and over weekends - under the proposed changes to the Spelthorne deployment is shown in Figure 7 above.

Due to the unavailability of a whole-time-crewed response from Walton at night and over weekends, the areas of Spelthorne reachable by a second-response fire engine within 8

²⁰ Conversations with SFRS fire-fighters

minutes (the light and dark green areas) would shrink, compared with the daytime coverage as shown in Figure 6. The orange areas (between 8 and 10 minutes response) remain roughly the same size as during the day, although the areas covered would be different.

The north east third of the borough would now be entirely between 10 and 12 minutes away from the second-response stations (the light red areas). And there would be a strip of the borough stretching from north to south (the dark red area) which would be more than 12 minutes away from any second-response fire engine.

All this, of course, supposes that the proposed single Spelthorne fire engine is at its proposed new fire station waiting to respond immediately the call comes through from Surrey Control.

However, during the day the fire engine could be anywhere else in the borough. As well as responding to emergency calls, the fire engines and their crews undertake a number of other tasks, some of which are:

- Operational risk assessment visits to commercial premises. These allow the Station to familiarise itself with the hazards the crews will encounter should they be called to these premises. It is essential work to reduce risk to the fire crews.
- Safety visits to schools and the general public, fitting smoke detectors, and giving advice on fire-reduction measures. These visits are part of the programme to reduce the long-term number of emergency callouts.
- Ongoing crew training exercises.

These duties remain at the same level no matter how many fire engines are deployed at a station. All these duties are essential. Response times would be affected accordingly.

Also, if the crew has been called away with one or other of the boats, then they cannot man the fire engine. Not only does Spelthorne have a border along the river, there are also significant areas covered by reservoirs which are the responsibility of the Spelthorne crew. The boat, which could be anywhere in Surrey, would have to be returned to the station before the process of mobilising the fire engine could begin.

Comparison with other boroughs

Spelthorne is, second only to Epsom and Ewell, the most densely populated borough in Surrey. If account were taken of the areas of Spelthorne covered by water (which Epsom and Ewell does not have) then Spelthorne would be the most densely populated Surrey borough by far. In terms of the density of its population, it is more comparable to a London borough than it is to many other boroughs in Surrey.

Table 3: Spelthorne and neighbouring boroughs

	Area sq. miles	Population	People/sq. mile	Current fire engines	Planned fire engines	Sq mile/ Fire engine #	People/ Fire engine #	Planned stations
Spelthorne	19.8	95,598	4,840	2	1	19.8	95,598	1
Runnymede	30.1	80,510	2,675	2	2	15.0	40,255	2
Elmbridge	37.2	130,875	3,518	3*	3*	12.4	43,625	2
LFB boroughs adjacent								
Hounslow	21.6	254,927	11,802	5 (+1)	5 (+1)	4.3	50,985	3
Hillingdon	44.7	275,499	6,163	6 (+3)	6 (+3)	7.5	45,917	4
Richmond	22.2	174,311	7,851	2 (+2)	2 (+2)	11.1	87,155	2
Surrey	644.7	1,132,390	1,757	35	34	19.0	33,306	
Surrey (excl Spelthorne)	624.9	1,036,792	1,659	33	33	18.9	31,418	

* 2 fire engines whole-time-crewed, 1 fire engine whole-time crewed during weekdays, retained-crewed at nights and weekends

Sq miles and People per planned fire engine

For the LFB boroughs, the number of fire engines in brackets are specialist appliances

Spelthorne contains one of the highest levels of people at risk in Surrey. It is ranked second in terms of people whose day-to-day activities are limited a lot by long-term illness or disability (6.4% of the population), and first in terms of people whose day-to-day activities are limited to any extent (14.9%). It is ranked first in terms of the percentage of the population whose health is bad or very bad (3.2%). 10% of the population provide unpaid care – the second highest level in Surrey.

Spelthorne is also the only Surrey borough on what in other contexts is known as the Middlesex bank of the Thames. This brings with it other difficulties in providing a comprehensive fire and rescue service in the borough, because the limited number of bridges increases the response time of fire engines from SFRS Stations on the “Surrey” bank.

The changes to the deployment of SFRS resources over recent years have been driven primarily by the imperative of saving money. However, there has also been a shift in emphasis: away from covering the more densely populated areas to a more equal coverage in terms of area covered i.e. allowing those who live in more remote areas of Surrey to benefit from a quicker and more equal response time than they previously did.

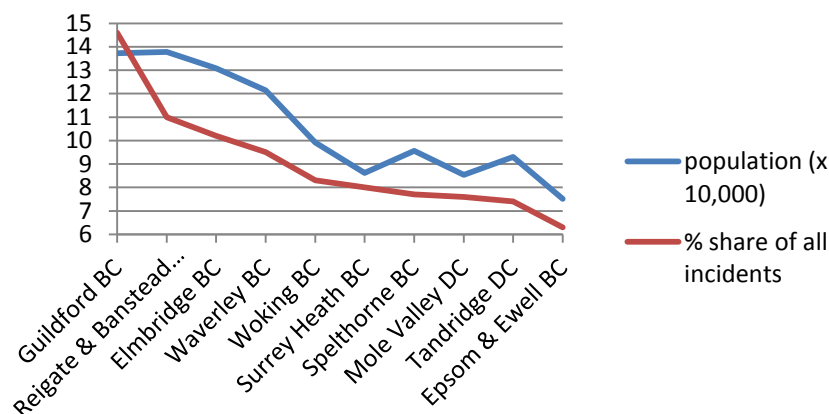
However, this could also be categorised as not taking proper account of the risks. Fires and other emergency incidents occur where people are, by and large, and although there are also other factors, incidents are going to occur more frequently in more densely populated areas. See Figure 8 below.

There is also a greater risk, in more densely populated areas, of fires spreading, which is why rapid response times are so crucial.

Obviously, some balance has to be struck between these two approaches.

However, reducing the number of fire engines in Spelthorne - to one fire engine only - is going too far in one direction.

Figure 8: Surrey boroughs - population vs incidents



Note: Borough of Runnymede excluded due to the anomalous presence, for this particular comparison, of the Royal Holloway campus

While the areas covered by the various stations might be more equal over the county (see the column headed “Sq mile/fire engine” in Table 3 above), the number of people covered – the risk covered, in other words - is left too unequal (see the column headed “People/fire engine” in Table 3 above).

Reducing the number of fire engines in Spelthorne by half does not mean reducing by half the need to undertake the same level of non-emergency work which the fire crews undertake - operational risk assessment visits, and safety visits to the general public. However, if only one fire engine and its crew are available to do this work, then the work will be reduced overall. The result would be that either the fire-fighters would be put at greater risk, or the general public would have reduced access to the safety/incident reduction service. Or both.

If fire engines could be divided into halves, or quarters, or eighths, then an ideal solution could probably be arrived at which would equalise everything for everyone. Since they cannot be so divided, however, a choice must be made between deploying one or two fire engines in Spelthorne.

Two 24/7 whole-time-crewed fire engines – maintaining the status quo - is the overall more equitable solution.

The SFRS modelling

SFRS's modelling results broadly confirm our own analysis.²¹ See the map in Appendix B below.

As mentioned, that map does not include the peripheral areas of Spelthorne, which on our analysis would be worst affected by the proposed changes. We have put in a Freedom of Information request for a version of that map which shows the whole of Spelthorne, but until we receive it, we cannot make any further comparison between our analysis and the SFRS results for those peripheral areas.

On the version which we do have, however, the area which is shown as benefitting very well from the changes (the orange area) is mostly taken up by Ashford Manor Golf Club and the Queen Mary Reservoir.

Table 4 below compares extracts of some data from the modelling results which we received though that FOI request.

Table 4: Comparison of response times and total response times

		1st fire engine – m:s			2nd fire engine m:s	
	Response time	Call answer + handling	Total resp. time	Response time	Call answer + handling	Total resp. time
Surrey						
before	7:28	1:37	9:05	10:27	1:37	12:04
after	7:33	1:37	9:10	10:34	1:37	12:11
difference	0:05	0.00	0.05	0:07	0.00	0.07
Spelthorne						
before	5:44	1:37	7:21	9:13	1:37	10:50
after	6:42	1:37	8:19	10:24	1:37	12:01
difference	0:58	0:00	0:58 (+16.9%)	1:11	0.00	1:11 (+10.9%)

Table 4 takes the headline Response Times which SFRS use in the Consultation documents and publicity literature, adds in the Call Handling Time of 1m 37s (7s Call Answering + 1m 30s Call Handling), to give the Total Response Times.

As shown, the average 1st fire-engine Total Response Time will increase by just under a minute, or almost 17%. The average 2nd fire-engine Total Response Time will increase by well over a minute, or almost 11%.

²¹ http://www.losra.org/docs/Surrey_Fire_Brigade-LOSRA_Briefing_Note-AppendicesB_and_C.pdf

Table 5 below shows the changes to the workload under the proposed changes, compared with the current deployment.

As is clear, the extra burden on the proposed single fire-engine in Spelthorne will increase by 45% - from 532/535 each covered by a single fire-engine under the current deployment to a single engine attending 776 incidents in a year.

Table 5: Changes to workload – annual numbers of incidents attended

	before	after	change
Chertsey	818	898	80 (9.8%)
Egham	630	726	95 (15.2%)
Esher	523	546	23 (4.4%)
Spelthorne #	1067 (533 per crew)	776	(45.0%)
Painshill	729	763	34 (4.7%)
Walton	391	432	41 (10.5%)

two fire-engines attending 535 and 532 incidents respectively – an average of 10.3 a week vs one fire-engine attending 776 incidents – an average of 14.9 per week. The remaining single fire-engines workload will therefore increase from approximately 533 incidents over a year to 776 incidents over a year.

The headline figures, of course, would seem to indicate that the number of incidents attended by the various fire-engines in Runnymede, Elmbridge and Spelthorne would become a little more equal.

But the single fire-engine left in Spelthorne would also have to carry out the operational risk assessments and safety visits that were previously shared between two fire engines, and still find time for crew training exercises. In Runnymede they have two fire-engines to share that work; in Elmbridge they have three.

Appendix A: Average target and actual response times

	Surrey			Royal Berkshire		LFB	
	target	actual (SFRS data)	actual (ORH data)	target	actual	target	actual
Call answered within	7 secs	?	1 min 57 secs	not applicable		5 secs	2 secs
Call handled within	1 min 30 secs	met in 85.1% of incidents (2012/13)		not applicable		1 min 30 secs	1min 50 secs
1st fire engine turnout time	10 mins	7 mins 4 secs	1 min 43 secs	not applicable		6 mins	5 mins 20 secs
1st fire engine travel time			6 mins 41 secs				
2nd fire engine turnout time	15 mins	9 mins 40 secs	1 min 43 secs	not applicable		8 mins	6 mins 29 secs
2nd fire engine travel time			6 mins 41 secs				
1st fire engine total time to arrive	11 mins 37 secs	8 mins 34 secs	10 mins 21 secs	8 mins	met in 58.1% of incidents (2011/12)	7 mins 35 secs	7 mins 12 secs
2nd fire engine total time to arrive	16 mins 37 secs	11 mins 10 secs	10 mins 21 secs	10 mins	met in 58.1% of incidents (2011/12)	9 mins 35 secs	8 mins 21 secs

Spelthorne Optimal Location Site Search

