INTEGRATED RISK MANAGEMENT PLAN 2015-19

RESPONSE EVIDENCE FOR SERVICE REDESIGN CONSULTATION 2016

ROYAL BERKSHIRE
FIRE AND RESCUE SERVICE
Enabling people to lead safe and fulfilling lives

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Endnotes can be found on page 116

Introduction

Royal Berkshire Fire and Rescue Service's (RBFRS) Integrated Risk Management Plan (IRMP) 2015-19 contains four key projects. This document forms the evidence base for Project one.

Project One looks at our response standards, station locations and crewing arrangements. The Royal Berkshire Fire Authority introduced new response standards following a public consultation in August 2016, details of which can be found in Appendix E. This document provides information on a range of different scenarios detailing how our response resources can be managed in different ways and the impact this would have on to our current community risk management arrangements. The financial savings from the scenarios are also detailed. Together with the Service Redesign Consultation document, the information contained in this document will enable Royal Berkshire Fire Authority members, to evaluate the various scenarios and decide which options should be taken forward to public consultation. The evidence contained in this document will also support all other consultation documentation to give all stakeholders the necessary information to allow intelligent consideration of the options that are proposed and their impact on the service and the public.

Risk Modelling Methodology

Our risk modelling is based on our current response standard which states that we will respond to all emergency incidents in 10 minutes on 75% of occasions (see appendix E).

As decision makers, the Fire Authority needs a clear methodology and rationale to enable them to develop potential options which they will include in the public consultation. The methodology also importantly enables them to decide which other potential options are excluded from the consultation. This methodology and rationale is provided by risk modelling, which shows a predicted impact on service provision and a predicted effect on the risk to the public for each of the scenarios.

As our decision making body, the Fire Authority needs a clear methodology and rationale to enable them to develop potential options which they will include in the public consultation. The methodology also importantly assists them to decide which other potential options are excluded from the consultation. This methodology and rationale is provided by risk modelling, which shows a predicted impact on service provision and a predicted effect on the risk to the public for each of the scenarios.

This methodology is also applicable to some of the proposed shift changes and alternative crewing arrangements.

Further detailed information on our current risk mapping and modelling methodology can be found by following this link to a supporting document: Risk mapping and modelling methodology.

This report is set into two sections:

- **Fire Engine Removal**
- **Crewing Arrangements**

Fire Engine Removal

This section provides details of how, and from where, our fire engine assets could be removed. As well as the impact this may have on service provision and the risk to the public.

Currently, our fire stations either have one or more fire engines. If a fire engine were removed from a station with one fire engine, this would mean closure of that station. For a station with two or more fire engines, the station would continue to operate but with one of the fire engines removed. There is a third scenario which is the removal of the fire engine on any station for part of a twenty-four hour period.

Crewing Arrangements

This section provides examples of other possible shift systems and crewing arrangements that could be introduced, many of which are currently in place in other fire and rescue services around the country. Some offer cost savings, others offer more flexible and efficient ways of working. Each is evaluated showing the potential impacts, if any, on the risk to the public and also the potential savings that could be realised. The evidence is also condensed into a table in appendix H which shows the various impacts of implementation in terms of a range of criteria such as cost, representative body and workforce opposition, and timescales to implement. It uses a simple red, amber, green representation to denote the potential scale of the impacts.

Royal Berkshire Fire and Rescue Service currently operate four types of shift pattern and crewing arrangement

1. The Wholetime Duty System (WDS) is where firefighters are available on station for 24-hours a day, 7 days a week for 365 days a year. Working in four shifts or watches of two days on, two nights on and four days off. This is commonly referred to as 2:2:4.
2. The Retained Duty System (RDS) is where firefighters are ‘on-call’ via a pager from their work or home locations. Each firefighter is contracted to give a certain number of hours per week to ensure that the fire engine is available. The terms ‘RDS’ and ‘on-call’ are interchangeable.
3. The Retained Support Unit (RSU) where a group of eight Wholetime Duty System firefighters (one watch manager and seven crew managers) support shortfalls in retained fire engine availability across the county, when and where it is needed.
4. ‘Nine-Day Fortnight’ where staff work a five day week followed by a four day week.

The alternative shift types and crewing arrangements included are:

- Shift split times
- Staff Pool
- Three Eights
- Three Watch
- Grey Watch
- Day Crewing Plus
- Day Crewing
- Remote Managed Stations
- Crewing fire engines with fewer staff
- Retained Support Unit

Financial calculations based on salary figures can be referenced at Appendix A.

Out of scope of the project

Any scenarios looking at special appliances and the number of operational officers are not within the scope of this report but instead will form part of IRMP year 2 projects for 2017/18.

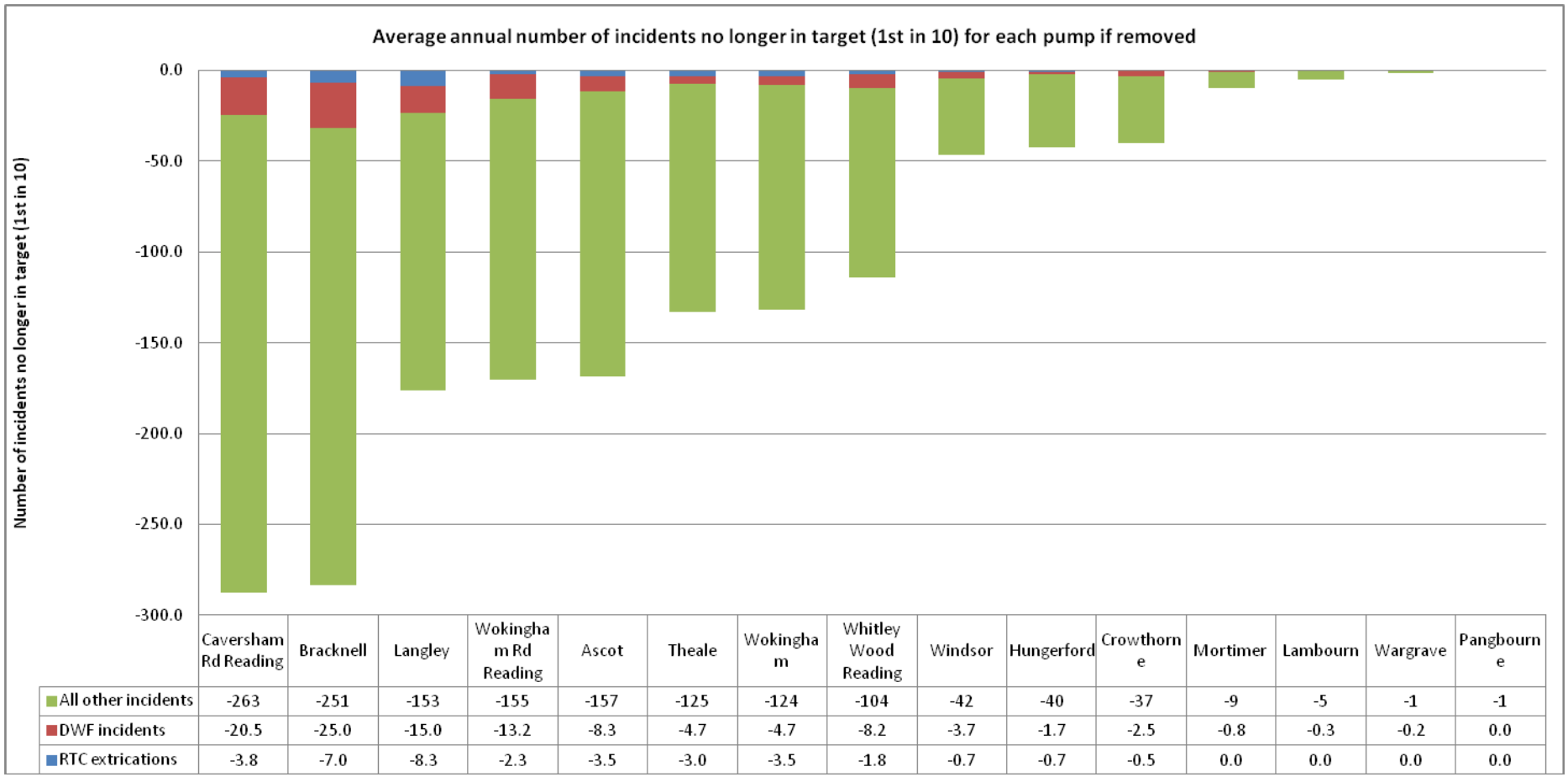
Section 1 - Fire Engine Removal

Scenario 1 – Remove a fire engine on a station with one fire engine (resulting in station closure). All fire stations with one fire engine are included in the table below and the impact that the removal of the fire engine would have on our current response standard is shown in percentage terms.

Fire engine removed	Percentage drop in target of 1st fire engine in 10 mins	Percentage of incidents in target of 1st fire engine in 10 mins
None (Base model)	0%	77.60%
Caversham Road	-4.16%	73.44%
Bracknell	-4.06%	73.54%
Langley	-2.55%	75.05%
Wokingham Road	-2.46%	75.14%
Ascot	-2.44%	75.16%
Theale	-1.88%	75.72%
Wokingham	-1.87%	75.73%
Whitley Wood	-1.61%	75.99%
Windsor	-0.67%	76.90%
Hungerford	-0.57%	77.03%
Crowthorne	-0.54%	77.06%
Mortimer	-0.11%	77.49%
Lambourn	-0.03%	77.57%
Wargrave	-0.02%	77.58%
Pangbourne	-0.01%	77.59%

The graph below illustrates the results of the table on page 7 showing the number of incidents in an average year that would fall outside of our response standard of arriving with the first fire engine in 10 minutes to all incidents. This is further broken down into Dwelling Fires (DWF), Road Traffic Collisions (RTC) (as these are the two incident types with the highest risk), and all 'other' incidents.

A value of 0.0 in the table indicates the expected drop that incident type for the associated pump removal, i.e. removing Pangbourne will have no effect on the average number of dwelling fires. It does not mean that dwelling fires may not occur.



	Caversham Rd Reading	Bracknell	Langley	Wokingham Rd Reading	Ascot	Theale	Wokingham	Whitley Wood Reading	Windsor	Hungerford	Crowthorne	Mortimer	Lambourn	Wargrave	Pangbourne
All other incidents	-263	-251	-153	-155	-157	-125	-124	-104	-42	-40	-37	-9	-5	-1	-1
DWF incidents	-20.5	-25.0	-15.0	-13.2	-8.3	-4.7	-4.7	-8.2	-3.7	-1.7	-2.5	-0.8	-0.3	-0.2	0.0
RTC extrications	-3.8	-7.0	-8.3	-2.3	-3.5	-3.0	-3.5	-1.8	-0.7	-0.7	-0.5	0.0	0.0	0.0	0.0

SWOT – Remove a fire engine on a station with one fire engine

Strength	Weakness	Opportunity	Threat
• Cost saving up to a maximum of £1.07M	• Increases response times • Provides lesser service to public • Reduces the number of staff available in spate conditions (such a severe weather events) • Contrary to Vision 2019 (stations at the heart of the community)		• Challenge by local community • Challenge by Fire Brigades Union • Adverse media coverage

The savings shown are based on the budget for salaries in 2016; average station running costs per annum, plus a cost of £30k has been added for the saving associated with the annual running costs of an appliance.

Budget Implications

Scenario 1 (i)

Closure of a wholetime duty system station saves approx £1.07M per annum

16 x Firefighter = £588,800 4 x Crew manager = £164,000 4 x Watch Manager £184,000

Salary £936,800 Maintenance £101,320 Vehicle £30,000

Scenario 1 (ii)

Closure of a remotely managed station (see pages 35/36) saves £823,800 per annum

16 x Firefighter = £588,800 4 x Crew manager = £164,000

Salary £752,800 Maintenance £41,000 Vehicle £30,000

Scenario 1 (iii)

Closure of a retained duty system station saves £168k

Salary £117,000 Maintenance £21,166 Vehicle £30,000

Risk to Public: There would be an increased risk to the public if a fire station is closed. This is shown in the change in performance against target (shown in the table above) and ranges from -0.01% to -4.16%.

Scenario 2 - Removal of fire engine from stations with two or more fire engines

- A table of current RBFRS fire engine disposition is at Appendix D.
- Due to the fact that we currently only have 3 fire stations with two fire engines, these stations are named in this scenario.

We currently have two or more fire engines operating from the following stations:

1. Newbury (Two Wholetime Duty System fire engines)
2. Slough (Two Wholetime Duty System fire engines, plus a third which operates as a remotely managed station at Windsor)
3. Maidenhead (One Wholetime Duty System and one on-call fire engine)

If the second fire engines were to be removed it is possible to make the following estimated savings:

At Slough fire station: Reduction of 16 staff[1] = 4 Crew Manager x £41k + 12 Firefighter x £36,800 + £30k per vehicle = £635,600

At Newbury fire station: Reduction of 20 staff per station = 4 CM x 41k + 16 FF x 36800k + £30k per vehicle[2] = £783,200

At Maidenhead fire station: The same level of savings as Newbury and Slough cannot be made as the 2nd appliance is crewed by on-call staff. It is anticipated that savings from the removal of the on-call fire engine at Maidenhead will be approximately £147K. However, the on-call crew have a multi function and are used to crew special appliances from this station e.g. Incident Control Unit (ICU).

The following analysis includes all stations with 2nd fire engines at Newbury, Maidenhead and Slough.

Fire engine removed	Percentage drop in target of 1st fire engine in 10 mins	Percentage of incidents still in target of 1st fire engine in 10 mins
None (Base model)	0%	77.60%
Slough 2nd fire engine	-0.51%	77.09%
Newbury 2nd fire engine	-0.47%	77.13%
Maidenhead 2nd fire engine	-0.09%	77.51%

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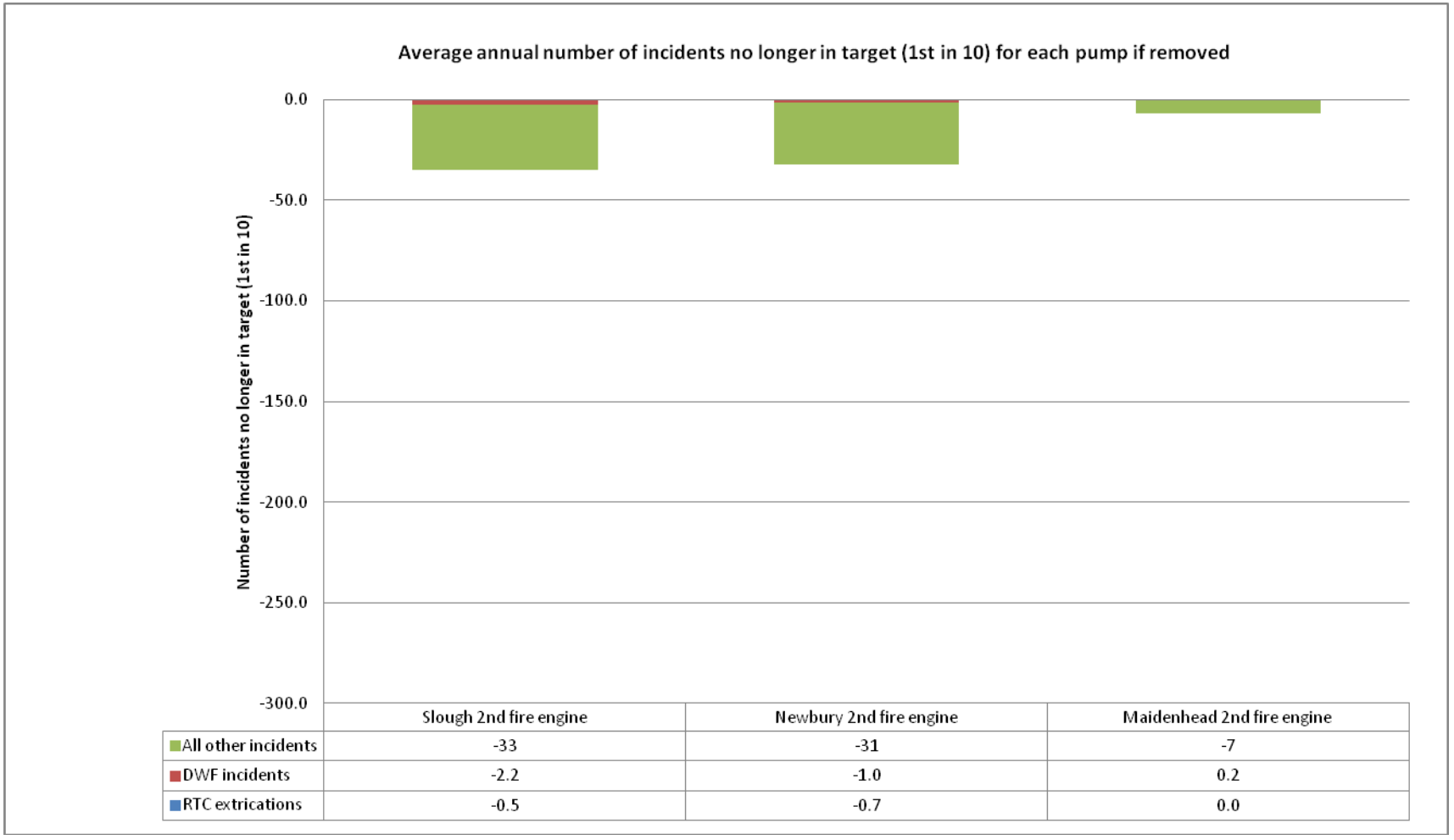
The graph below illustrates the results of the table on page 10 showing the number of incidents in an average year that would fall outside of our response standard of arriving with the first fire engine in 10 minutes to all incidents. This is further broken down into Dwelling Fires (DWF), Road Traffic Collisions (RTC) (as these are the two incident types with the highest risk), and all 'other' incidents.

A value of 0.0 in the table indicates the expected drop that incident type for the associated pump removal, i.e. removing Pangbourne will have no effect on the average number of dwelling fires. It does not mean that dwelling fires may not occur.



	Slough 2nd fire engine	Newbury 2nd fire engine	Maidenhead 2nd fire engine
All other incidents	-33	-31	-7
DWF incidents	-2.2	-1.0	0.2
RTC extrications	-0.5	-0.7	0.0

SWOT – Removal of the 2nd fire engine

Strength	Weakness	Opportunity	Threat
• Makes savings • Minor impact on 1st pump response times • Fire engines identified as amongst least utilised • Minimal impact on our service to the public	• Increases response times for second appliance in those station grounds	• Reduce fleet based on falling incident numbers • Matching resource to any revised response standards.	• Local community challenge • Fire Brigades Union challenge • Adverse media coverage

Budget Implications

Scenario 2(i)

Remove the second fire engine at Slough:

Cost £0
– saving £635,600 year on year

Scenario 2(ii)

Remove the second fire engine at Newbury:

Cost £0
– saving £783,200 year on year

Scenario 2(iii)

Remove the second on-call fire engine at Maidenhead:

Cost £0

– saving up to £147k year on year

Risk to Public: There would be an increased risk to the public based on the tables above, quantified by the modelling scenarios. All the scenarios proposed here impact on response times by less than -1% (A range -0.51 - -0.09)

Scenario 3– Implement Peak Demand Stations (Wholetime Duty System Stations only)

Some Fire and Rescue Services have introduced crewing arrangements that have an appliance crewed during the day but not at night. This type of 'Peak Demand Crewing' (PDC) is a system whereby stations are staffed only during daytime hours, for example 0800-2000. Stations are not crewed at night when there are generally fewer calls (see graphs on page 16 which shows call volumes peak at 1800 and decline throughout the night,) and staff work a shift pattern that covers 48 hours in 8 days (42 hours a week). The night time cover would be picked up by the nearest wholetime or on-call station.

A simple example of a peak demand shift is represented as DDDDRRRR (D = Day & R = Rota/day off) although a recent change in Warwickshire FRS[3] sees staff on Peak Demand Pumps working a seven-day fortnight: DDRRDDDRRDDRRR.

Staff numbers can be reduced considerably, from four watches of six firefighters (giving 24 staff on a single fire engine station) to two watches of 6 firefighters (giving 12 staff). By reducing staff numbers to 12, the potential salary saving is £468,400 per one fire engine station (2 WM + 2 CM + 8FF).

The Peak Demand System was previously in place at Windsor fire station. Two new watches were created (Orange and Black) and they worked 0800 – 2000. Six firefighters were on each watch and this system was in place for approximately two years until the system was replaced by a remotely managed station[4], working from Slough.

Staff were offered a payment of £1000 when they initially joined the new Peak Demand shift system and a further £1000 after two years. For the purposes of this exercise, a cost of £1,000 has been included for each member of staff on the system (£1k x 12 staff - £12k per annum) giving savings in the first two years of £456,000, after this revenue savings would increase to £468,000 year on year.

Cheshire FRS[5] operate peak demand crewing and pay a shift premium of 7.5% to staff on the system, which would reduce savings still further, but this is currently under review. Cheshire work a 12-hour shift system, and staff on Peak Demand stations can also be recalled to cover shortfalls in 2:2:4 crewing as all other WDS staff also work 12-hour shifts.

This system could be applied to an existing remotely managed station. For illustrative purposes see the calculation below for Windsor fire station [current crewing is shown for Slough as the Windsor crew comes from there]:

Current crewing	**Staff required for Slough**	**Staff required for Windsor**	**Post reduction**
4 x WM	4 x WM	2 X WM*	0
12 X CM	8 x CM	2 x CM	2 x CM
44 x FF	32 x FF	8 x FF	4 x FF
Total **60**	Total **44**	Total **12**	Total **6**

*****Two Watch Manager posts required to operate a peak demand system; in order to calculate savings from the six post reduction it is necessary to account for the addition of the WM posts. To do this the difference between a firefighter post and WM post (to account for people being promoted into these positions) will be subtracted from the savings.

Savings from 6 posts - 2x CM (£82,000) + 4x FF (£147,000) = £229,000

Difference between FF and WM x2 = (£9,200 x 2) = £18,400

Total savings = (£229,000 - £18,400) = £210,600

Such a system as this, whilst potentially making savings, has a slight impact on resilience (fewer crew available in spate conditions,) although appliances can always be mobilised across county borders with the existing support arrangements that are in place with neighbouring services. There would be an impact on the level of service provided and therefore the risk to the public, as appliances from further afield would have to attend incidents in these areas for the periods when the fire engine was not available.

SWOT – Implement Peak Demand Pumps

Strength	Weakness	Opportunity	Threat
• Public receive same service during day time hours • Resources better matched to demand • Saves up to £468k per station • No night shifts	• Longer response times at night in some areas. • Reduces staff for resilience in spate conditions • Possible need for local negotiation outside of Grey Book • May require volunteers and/or financial incentive	• Matching resources to need (rather than have same level of resources 24/7) • Change shift times • New contracts of employment • Use on-call for night time cover (day crewing) • Good reason to have a staff pool for spate conditions	• Challenge by community locally • Challenge by Fire Brigades Union • Adverse media coverage

Budget Implications

Scenario 3(i)

Implement peak demand station at a WDS station with one fire engine

Cost £12k for the first two years

– Saving in first two years £456,000 then £468,000 year on year (less if a shift allowance was paid).

Scenario 3(ii)

Implement peak demand pump at a WDS remotely managed station

Cost £12k for the first two years

– Saving in first two years £210,000 then £222,000 year on year (less if a shift allowance was paid).

Risk to Public:

Appendix F, pages 62-72, shows tables for each fire station that illustrate the risk of implementing a peak demand station. This is expressed as a reduction in performance against the response standard of first fire engine to all incidents in 10 minutes. It is shown for a day shift of either 9 hours or 12 hours.

Section 2 Crewing Arrangements

Crewing Arrangements Scenarios

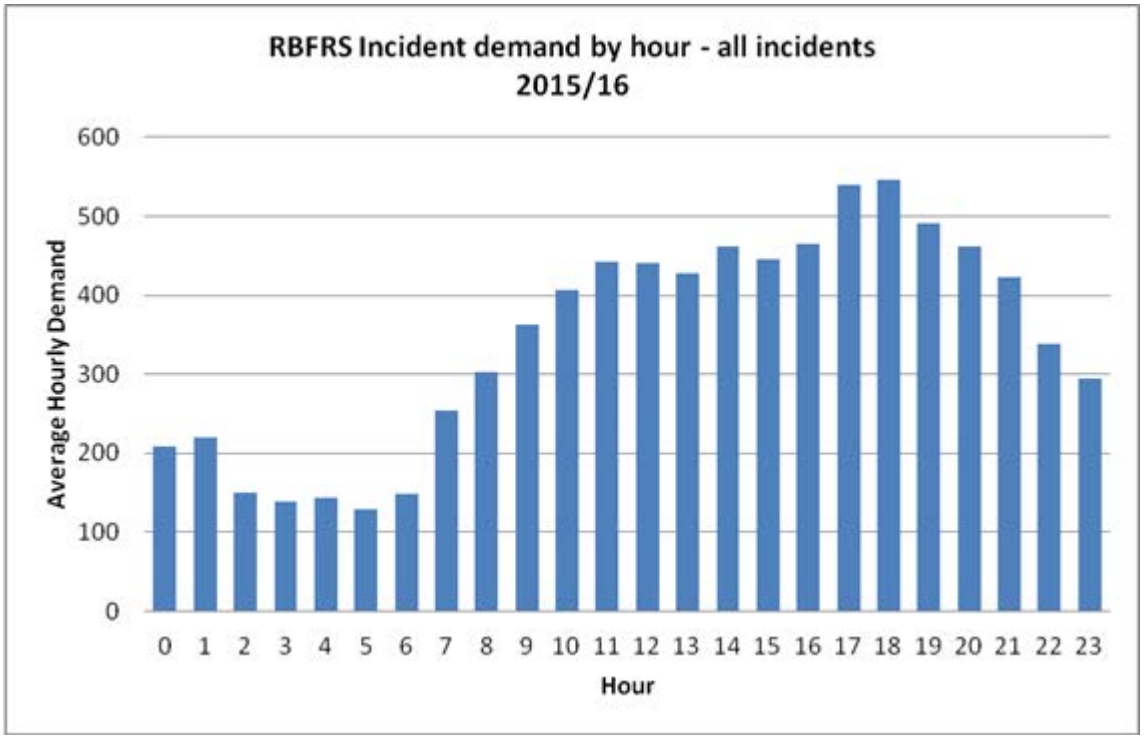
Alternative crewing arrangements have been the subject of several reports in the last three years and these were consulted when compiling this research. The relevant sections of these reports, where not reproduced in the main body of this document, are referenced in the appendices.

Across the UK, many other Fire and Rescue Services (FRS) have researched and implemented a number of different crewing systems that have moved away from the traditional two days, two nights and four days off system (2:2:4). Others have kept this system, but changed the shift start and finish times to seek improvements productivity and to meet the varying levels of risk identified over a 24 hour period.

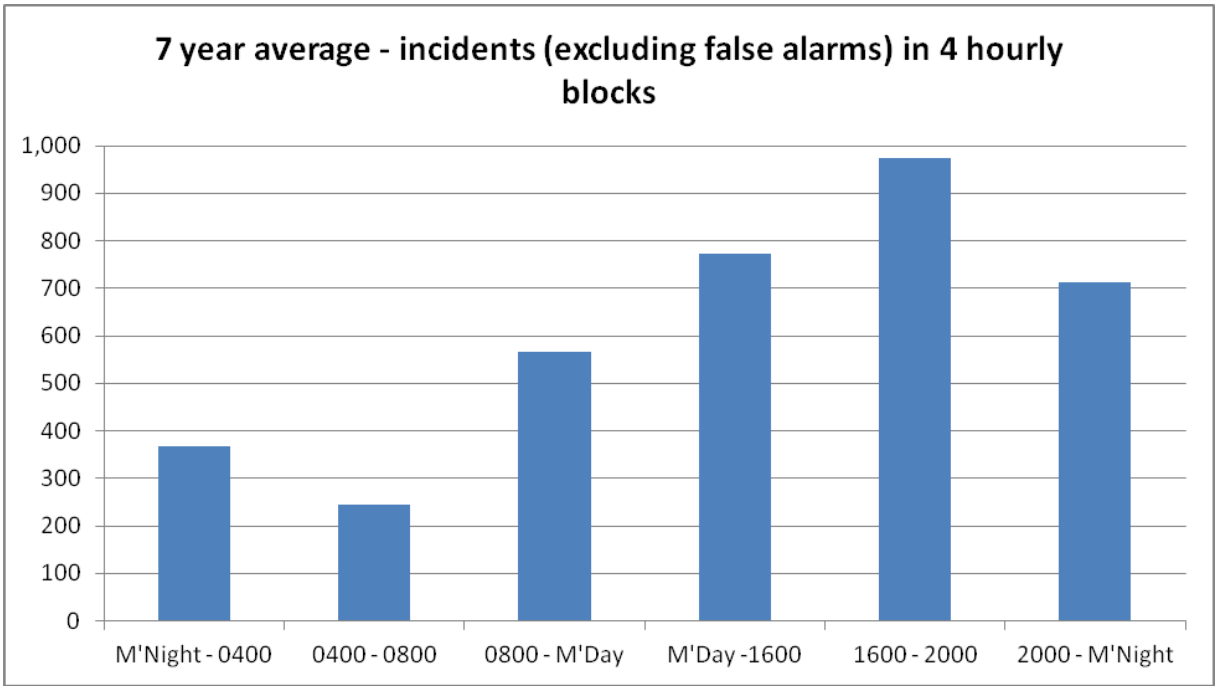
It should be noted that changes to shift systems in other FRS have given rise to challenge from the Fire Brigades Union (FBU). We are working closely with our FBU colleagues and other representative bodies locally to try and develop agreement on options wherever possible.

Scenario 4A - Shift Split Times

Shift changeover times in RBFRS are currently 0900 and 1800, providing a dayshift of nine hours and a night shift of 15 hours. The graph below shows that there is a greater demand of response between 0900 and 2200, with the spike in the numbers between 1600 and 2000. An earlier IRMP report showed that there were potential savings of up to £19,000 if the evening shift change over time was changed. The drop in the number of incidents since that report means the savings from a reduction in overtime could currently be approximately £10k - £15k every year if this change occurred.



Further evidence is provided by breaking down incidents into four hour blocks:



Data for 2009/10 – 2015/16 (Extracted from Scorecard 30/06/16)

As an example of a different shift split time, Cheshire Fire and Rescue Service (FRS)[6] have changed to 12-hour shifts (0800 – 2000). Surrey FRS[7] are in consultation regarding changing to a 12 hour system (0700/1900 – 1900/0700), and Greater Manchester FRS have announced plans to introduce 12-hour shifts for all station based staff. Health and Safety Executive (HSE) guidance (HSG 265 pages 20-21) suggests that the ideal shift is eight hours long but should be no more than twelve hours long. This supports a move away from the 15 hour night shift.

The move to a 12-hour shift would also provide flexibility across different working patterns. For example, should other crewing arrangements be implemented, such as peak demand appliances, 12-hour shifts for all staff would be more efficient and provide flexibility for covering crewing deficiencies on peak demand stations should they be introduced. The exact nature of the start and finish times would be subject to consultation with staff to determine preferred scenarios.

SWOT – Change Shift Spilt Times (to 12/12)

Strength	Weakness	Opportunity	Threat
• Improvement in productivity through shorter night shifts • Crews not changing over at peak incident time has overtime saving of up to £15k • No change to shift pattern • Meets HSE guidance on maximum shift length • Provides flexibility with other work patterns • In use in other FRSs	• Longer day shift – possible effect on stamina and fatigue	• Align shift change over times to avoid peak incident times • Allows flexibility for pool systems (equal hrs day and night) • Enables 12/12 peak demand pumps (see scenario 3)	• Resistance by Fire Brigades Union • Resistance by staff

Budget Implications

Scenario 4A

Consider changing current shift changeover times and equalise shift lengths to 12 hours for increased flexibility and increased productivity.
Cost £0
Savings - between £10,000 - £15,000

Risk to Public

No change to service provision means there would be no impact on risk to the public. An increase in risk would occur if peak demand pumps were introduced (See Appendix F for details).

Scenario 4B – Implement a Staff Pool

A staff pool could be implemented regardless of the actual shift system. A previous report from 2013 discussed pool systems in some detail and the extract can be found at Appendix J.

This 2013 report led to the following recommendation being made:

6	Negotiate a staff bank pool arrangement to include RDS and WDS that must include consideration of flat rate of pay.	A pool arrangement at flat rate of pay is the most cost effective method of paying for additional shifts. The use of RDS is more likely to enable flat rate but, in any event, a staff bank would be a positive system offering increased resilience and reward.

Overtime is one form of pool system that allows people to work additional shifts when there are staff shortages due to sickness, leave etc. The Grey Book (detailing the terms and conditions of firefighters) stipulates that overtime is paid at either 'time and a half' or 'double time', and is an expensive way of covering crew shortfalls. However, Pre-Arranged Over Time (PAOT) is currently used regularly in RBFRS to support crewing shortages.

To explain pool systems in more detail, a number of Fire and Rescue Services (FRS), including Kent, Merseyside, Buckinghamshire and Hampshire operate a system whereby volunteers are included in the 'pool' and they are offered additional shifts at a either a flat rate or a reduced enhanced rate e.g. time and an eighth or time and a quarter. Whilst this eliminates the need for overtime payments at time and a half and double time, ultimately pool systems still cost additional salary.

The introduction of a pool system should also allow the flexibility to ensure that the correct number of staff are on duty at any one time. This gives the ability to bring extra staff in and allow staff to stay at home when not required.

Included in this pool are on-call staff and this will give them the opportunity to train and work alongside Wholetime Duty System colleagues.

Merseyside FRS have chosen not to formally negotiate new staff contracts, which leaves them vulnerable should staff refuse to work additional hours. The main group of potential 'pool' members are staff who are on their days off and they could be used to fill gaps in cover. The Grey Book (detailing the terms and conditions of firefighters) does put limits on the amount of overtime that can be earned and the 'Working Time Directive' stipulates limits on the additional hours worked.

To ensure this system is robust, local negotiation would need to take place to provide the necessary contractual arrangements so that staff will be available to work the additional hours RBFRS could cut down on overtime payments by reaching a local agreement with the representative body.

If we assume all payments are currently at time and a half (some are paid at double time), and in the event that a flat rate is negotiated, it would be possible to reduce the payments to:

Overtime costs for 2015/16 (excluding Bank Holidays) £828,774[8]

If we assume all payments are currently at time and a half (some are paid at double time), and in the event that a flat rate is negotiated, it would be possible to reduce the level of payments

An example of the principles and rules regarding a pool system that could work within RBFRS is included at Appendix I. There are savings that could be made by managing crewing at a predetermined level across the county in order to flatten out any peaks and troughs due to unplanned absence, aiming to maintain an optimum establishment. This needs central control and management (at additional cost if capacity could not be found) but would save on some of the overtime costs currently incurred.

SWOT – Pool Systems

Strength	Weakness	Opportunity	Threats
• Savings in overtime payments • Provides flexibility • Maintains minimum crewing • Can book staff off duty when too many booked on • Voluntary system • No change in service to public • Reduces/eliminates standbys • Uses existing staff who are off duty • Readily understood by staff • No need to change shift system • System in place elsewhere in UK	• Volunteers can opt out • Need to negotiate locally outside of Grey Book • Dependent on pay rate for extra hours • May not be suitable for all staff • Managed centrally requiring a defined resource • Cost of managing system	• Staff can earn more money • Enables on-call/Wholetime Duty Sysytem 'shared cover'	• Fire Brigades Union challenge to negotiating pay rates and/or contractual hours • Insufficient volunteers

Budget Implications

Implement a negotiated pool system to cover staff shortfalls and thereby reduce costs (The negotiation will include the overtime rate of pay and may consider a minimum number of hours monthly/annually through a revised contract of employment and pay accordingly.) The running of this system would necessitate resources at a cost of approximately 1 post (at Grade 4).

Scenario 4B

Cost up to £36k per annum in running costs
Saving –up to a maximum of £207,193 per annum.
Net approx £170,000

Risk to public

No change to service provision means therefore, no impact on risk to the public

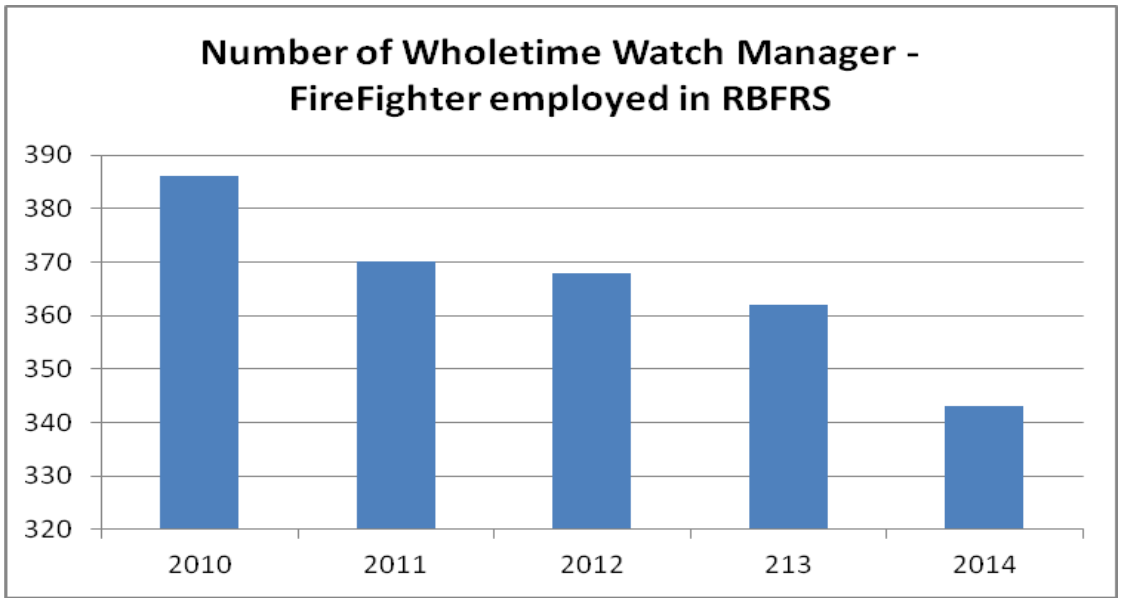
Scenario 5 – Introduce an Alternative Wholetime Shift System

In her speech on 24 May 2016, the Prime Minister, the Rt Hon Theresa May MP, then Home Secretary, directly commented on the need for reform within the fire and rescue service:

> "But there is one resource, which comprises the majority of fire and rescue budgets, where there is still work to do. The fire and rescue workforce. In the last ten years, the overall size of the fire workforce has not changed significantly despite the number of incidents attended falling by 42 per cent."

(Wholetime Duty System personnel only[9])

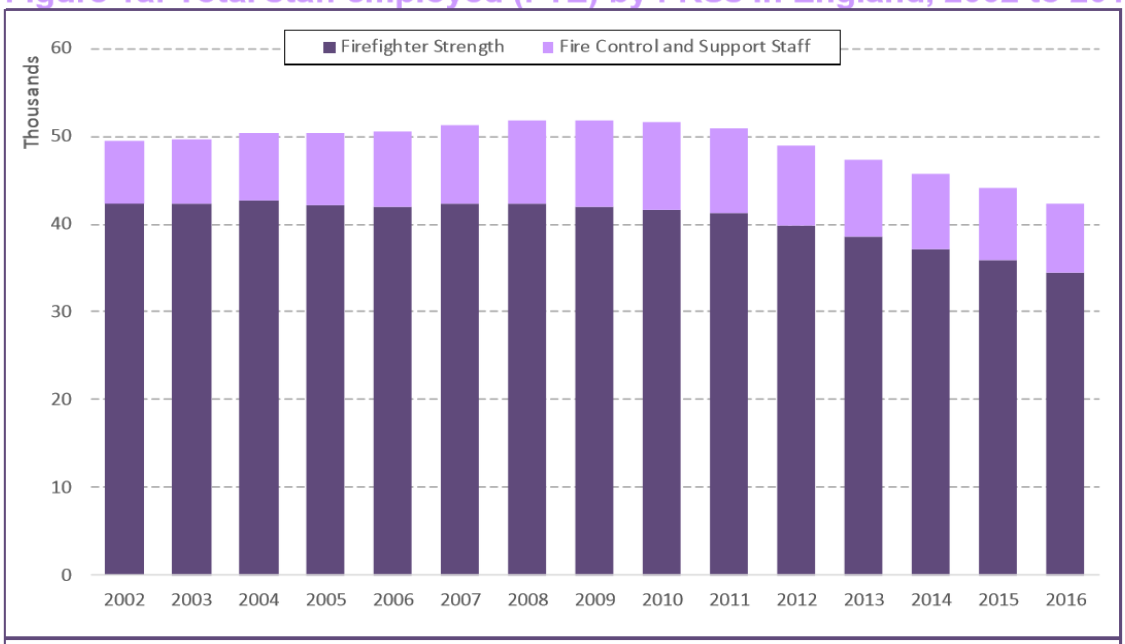
The table above includes all roles within the wholetime uniformed establishment i.e Chief Fire Officer to Firefighter. The following table illustrates the figures for wholetime Watch Manager to Firefighter only.



Firewatch report 2015

The following graph is taken from the Fire and Rescue Authorities operational statistics bulletin for England 2015-16 produced by the Home Office.

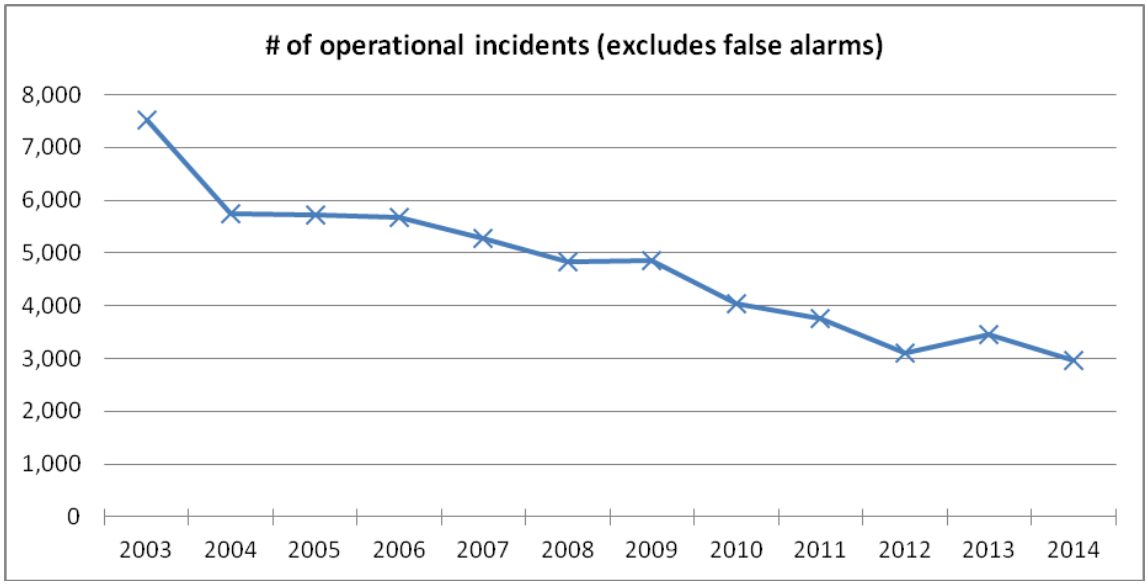
Figure 1a: Total staff employed (FTE) by FRSs in England, 2002 to 2016



Source: FIRE STATISTICS TABLE 1101

This broadly reflects RBFRS Firewatch data which does show a decline in firefighter numbers. Total firefighter strength was about 34,400 Full Time Equivalent (FTE). This figure is four percent lower than the previous year and 16 percent lower than five years ago.

The numbers of FTE wholetime firefighters, retained duty system firefighters, fire control staff and support staff were all lower compared with one-year previously. The greatest decrease was in the number of wholetime firefighters, which had decreased by five percent.



Data taken from RBFRS Scorecard (Extracted July 2016)

Scenario 5A - Three Eights (3x8)

A staff crewing survey carried out in 2016 showed that the majority of respondents (91.88%) would not be willing to work this type of shift system. Health & Safety Executive advice regarding managing shift work in HSG 256 (HSG256, page 20 - 21) states, amongst other things:

- *8-hour shifts are considered to be the optimum length for sustained and consistent work. They allow more time for rest and completion of daily activities, but are generally less popular as there are fewer work-free days per week than with12-hour shifts.*
- *Any advantages of 12-hour shifts in terms of health and well-being are likely to be lost if workers take on overtime or second jobs during their free time.*
- *Shifts should not be planned to be longer than 12 hours. Avoid overrun and discourage overtime. Monitor and control shift swapping. Make adequate arrangements to cover absentees. Discourage workers from taking second jobs. If this is a particular problem you could set this as a condition of employment in contracts of work. For shifts longer than 12 hours, alertness and performance can significantly deteriorate over long shifts, which may increase the risk of errors and accidents.*

The current shift arrangements (2:2:4) are the preferred working shift of our WDS staff. This shift system is outside the HSE advice and the Working Time Directive (WTD) but was in place prior to the implementation of the Working Time Directive and had a collective agreement with the Fire Brigades Union. Results from the crewing survey showed that staff preferred the 2:2:4 shift for the following reasons:

- The majority of respondents (44%) said it was important to their work/life balance
- Nearly 30% said it was important because of childcare or carer responsibilities
- Nearly 9% said it was important for secondary employment
- Many respondents reported through open questioning that it was a combination of these factors that made the current shift system preferable

However, the 3x8 hour shift systems comply with the Grey Book, with the Working Time Directive and with the guidance from the Health and Safety Executive regarding shift lengths.

A further advantage of this shift system is that it is used by Thames Valley Police and, therefore, may offer synergies with them, especially if the Police and Crime Commissioner takes responsibility for the fire and rescue services in the Thames Valley as the single employer. They operate a 3 x 8 hour shift system, based on the following type of arrangement:

Day = 06:00 – 14:00

Late = 14:00 – 22:00

Night = 22:00 – 06:00

Previous research on the three eights system can be found at Appendix K

SWOT – Three Eights Shift System

Strength	Weakness	Opportunity	Threat
• Shift type in place elsewhere in UK outside of the Fire Service e.g. Used by Thames Valley Police • Minimal impact on service to public • Change over outside of known busy times (1800) • No additional costs need to be	• Not in use in other FRSs • Needs Technical Advisory Panel Approval • Decreased 'recall' resilience • Increased cost of travelling to & from work (2Early,2Late,2Nights,2 R)	• Increase in Prevention Activities • Only shift to comply with all requirements including H&S	• Likely Fire Brigades Union resistance leading to delay • Likely staff resistance leading to delay • Possible industrial action • Staff leaving Service

negotiated • Working Time Regs Compliant, no opt outs required • Grey Book compliant (subject to Technical Advisory Panel) • More productive time per member of staff • Increase in Prevention activities • Increase in staff health, safety and welfare due to shorter shifts	• IT systems upgrade required		

Budget Implications

Scenario 5A

Implement a three eights system across all WDS operational stations

Cost £0 Savings - £0 per station

Risk to Public

No change to service provision therefore no impact on risk to the public.

Scenario 5B - Three Watch

In the three watch system, the current four watches are converted to three[10]. This requires that each watch covers 33% more of the time and, in return, receive an increase in total salary by the payment of an 'allowance' for the extra time. This leads to a reduction of 25% in staff numbers, by the complete removal of one of the current watches. Further reading can be found at Appendix L.

The 2 days, 2 nights, 2 days off example of the three watch duty system is shown below:

Day	Shift Start	Shift Finish	Duration
Day 1	09:00	17:00	8 hours
Day 2	09:00	17:00	8 hours
Day 3	17:00	09:00	16 hours
Day 4	17:00	09:00	16 hours
Day 5	Rota from 09:00		
Day 6	Rota		

Rota pattern - Three Watch System

This system would allow RBFRS to maintain the same level of immediate response, if the system was applied across all WDS stations in Royal Berkshire.

Any potential savings would be entirely dependent upon the salary uplift for working 56 hours instead of 42. The system is outside of the Grey Book and it requires an opt out from working time regs and agreement with the FBU.

Using a station with one fire engine, with a 25% salary uplift, as an example:

Station salary:

Existing	Salary	Proposed	Salary	% uplift	Saving per one pump station
4 x WM	£184,000	3 x WM	£138,000	25	
4 x CM	£164, 000	3 x CM	£123,000	25	
16 x FF	£588,800	12 x FF	£441,600	25	
Total	£936,800		£702,600	(£878,250)	£58,550

SWOT – Three Watch shift system

Strength	Weakness	Opportunity	Threat
• Significant savings (based on 25% allowance)	• Increased hours on duty affecting welfare and creating	• Staff to earn more and not need secondary	• Likely Fire Brigades Union resistance leading to delayed

• Minimal change to current practices.(days and nights) • No impact on service to the public • May suit some	fatigue •	employment	implementation • Staff resistance • Not Grey Book compliant • Not Working Time Regs compliant (Opt out needed over 48 hours per week) • Possible industrial action • Decreased 'recall' resilience

Scenario 5B

Budget Implications

Scenario 5B

Implement a three watch system across all stations

Cost £0 Saving £790,000 per annum

Risk to Public

No change to service provision therefore no impact on risk to the public.

Scenario 5C - Grey Watch

The Grey Watch system is an annualised hours scheme where efficiency is provided by flexibility. If staffing were to fall short on any one shift, it is possible to draw in staff who still 'owe' hours on their annualised hours contract and are allocated as being 'off roster reserve'. This enabled fewer staff on the establishment and an ability to plan for 'optimum crewing'. However, in the event that the optimum number of firefighters are on duty, staff on either roster reserve shifts will not be required to attend. The reasoning for the term 'Grey' means that on any one shift there will be a number of WDS staff that are 'off roster reserve'. That is, they may or may not be called into duty and are, therefore, in a 'grey area'. The number of staff that are 'off roster reserve' at any one time will be about 20% of the workforce. Therefore, at any one time, there is effectively a grey watch available if needed. The staff are contacted in advance and either told to stay at home if 'on roster reserve' or attend work if

'off roster reserve'. All WDS staff are both 'on' and 'off' roster reserve on a rolling basis, with the planned on and off rota shifts shared equally.

The Grey Watch system is a prescriptive type of pool system. The principle behind the system is to introduce flexibility through the programming of staff outside of their normal tours of duty. In theory, it should allow RBFRS to flatten the peaks and troughs of crewing numbers to ensure the correct number of staff are on duty at all times. Thereby reducing the need for additional overtime shifts, which will result in a saving within the overtime bill. Although, some FRS have found that the roster pool can be depleted due to unforeseen circumstances and any crewing shortfall has to be made up by paying overtime.

This system is currently in use by Greater Manchester Fire and Rescue Service, but they are changing shift split times (12 hours) and the Grey Watch system is under review[11].

Regardless of the system implemented, there will be a cost of centrally managing and running the system. This is likely to require an additional post at Grade 4 level or equivalent costing approximately £36k each year.

SWOT – Grey Watch shift system

Strength	Weakness	Opportunity	Threat
• No change to annual leave arrangements required • Introduces flexibility into rosters (right number of staff on duty) • Retain the current 2,2,4 system • No impact on the service to the public. • Complies with legislation (uses existing Collective agreements)	• Not Grey Book compliant • Perception that not family friendly due to uncertainty over additional rostered days/nights • Increased need for resources to manage crewing levels. • No increase in salary for flexible working	• Annualised Hours Contract • If any unused 'off rota days' at year end staff can take as leave	• Significant negotiation /implementation time span (estimated as up to two years) • Likely Fire Brigades Union challenge leading to further delay • Possible industrial action

Budget Implications

Scenario 5C

Implement Grey Watch based on existing watch strength

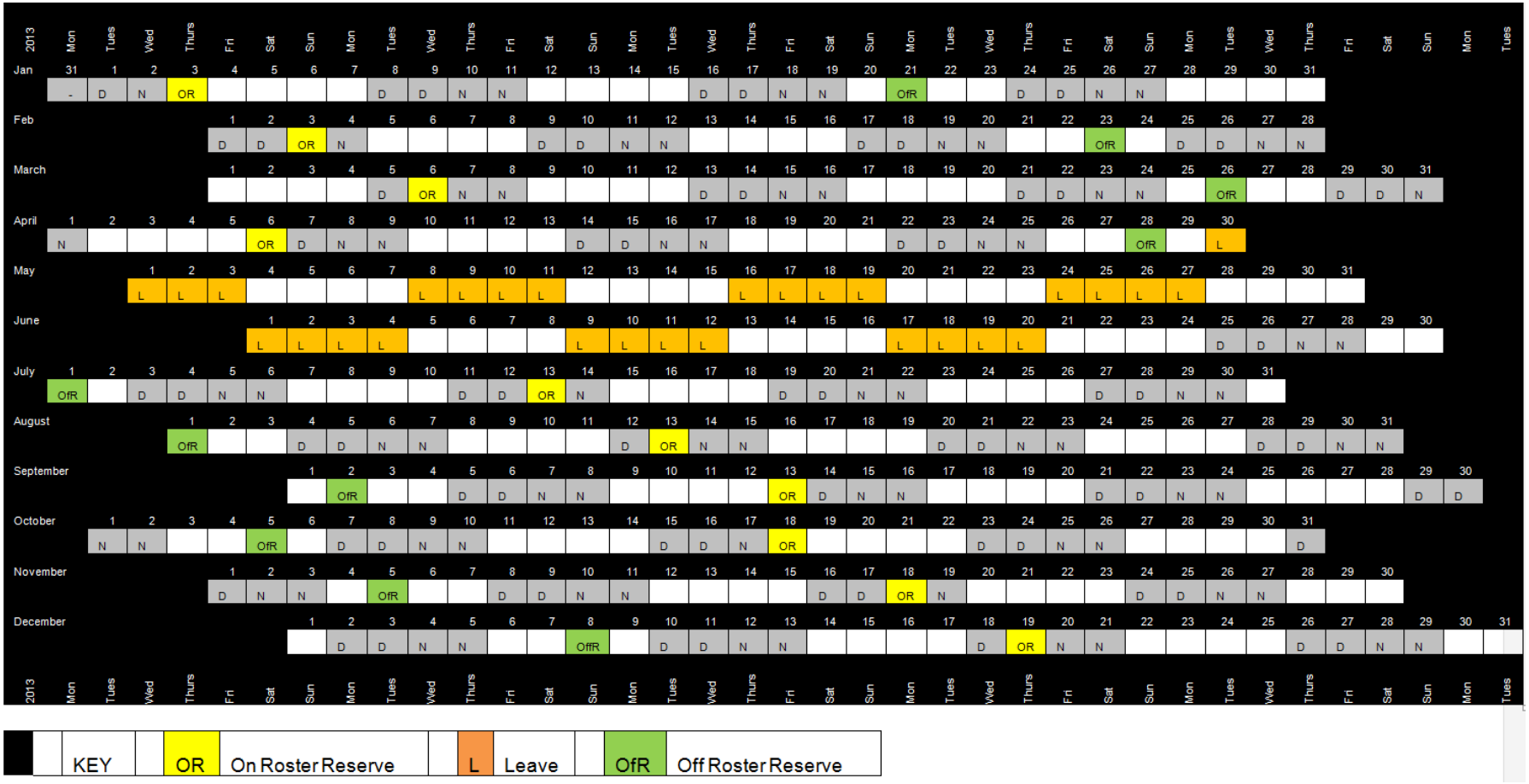
Cost £36k Savings - potential reduction in current overtime (currently £828,774 p.a.)

Risk to public

No change to service provision therefore no impact on risk to the public.

(See next page for example Grey Watch shift pattern).

SERVICE REDESIGN 2016



Scenario 5D – Day Crewing Plus

The Day Crewing Plus[12] (DCP) are shift based type systems, where firefighters volunteer for a shift system where they are on duty for 24 hours, divided between 12 hours carrying out normal duties with the remaining 12 hours on standby, where firefighters are ready to respond to emergencies. Stand by time is spent at the station in detached accommodation rather than in a dormitory. This type of crewing system is a self-rostering system with a watch manager organising the roster. Each individual works a 96-hour shift, averaging an 84-hour working week. For working the additional hours, the firefighters are paid an additional allowance which has to be negotiated and range between 17% and 32% of their salary. This additional salary is also pensionable.

DCP effectively allows the service to deliver the same 24-hour service and make financial savings.

There are a number of advantages and disadvantages associated with the introduction of DCP and these are contained in the SWOT analysis below.

There has been guidance from the HSE, in a letter to the Chief Fire Officer of Hereford & Worcester (the then Chief Fire Officers Association Health & Safety Strategic lead) dated 24/09/15, that stated:

'These shift patterns [DCP, CPC (Close Proximity Crewing) etc] are in breach of regulation 6 of the Working Time Regulations (WTR)'

This is a clear breach of the legislation. However, the HSE further stated they 'will not take enforcement action at this time' as DCP replaces an already non compliant system (the 2:2:4). Enforcement action against the implementation of DPC would leave the status quo in place which is in itself non-compliant.

At first sight this frees an authority to implement DCP, but it should be noted that:

- The Health and Safety Executive leave room for future enforcement action
- It would need a collective agreement with the Fire Brigades Union
- Another party may challenge
- The individual opt outs required can be also be reversed at short notice

There have been employment tribunal rulings on this area. For example; a case was heard regarding South Wales and, more particularly and recently, South Yorkshire Fire & Rescue Service (SYFRS) (link below).

http://www.southwestfbu.com/sites/default/files/documents/1800412.15%20&%2039%20others%20judgment%20and%20reasons%2016%20Dec%202015.pdf

In the South Yorkshire case, reference is made to the HSE position but the judgment also refers to many relevant sections of the WTRs. The thrust of the ruling was that South Yorkshire FRS, by forcing the transfer of those staff that did not volunteer for DCP from a station being converted to the Day Crewing Plus (DCP) shift system, had caused them detriment. Following the ruling, the Fire and Rescue Service still went ahead with its plans to introduce the system.

Financial Implications of DCP

As stated previously, a court case decided that the DCP allowance would be pensionable.

Various allowances have been found for DCP type systems and are in a range from 17% - 32%. Any decided allowance would be subject to negotiation but for the purposes of calculation 25% has been used.

On a station with one fire engine the salary line is made up as follows:

Existing		Proposed		Saving
4 WM x £46k	= £184k	1 WM x £46k	= £46k	£138k
4 CM x £41k	= £164k	2 CM x £41k	= £82k	£82k
16 FF x £36.8k	= £588,800	11 FF x £36.8k	= £404,800	£184,000
Total Salary	= £936,800	Total Salary	= £532,800	£404,000

Assuming a salary allowance is paid at 25%, this is added to the salary for 14 staff:

£532,800 + 25% = £666,000

The original staff salary was £937k less £666k, which results in a net salary saving of £271k per station.

However, these savings could only be taken once volunteers have been identified and suitable accommodation is in place.

For RBFRS, the build costs are based on estimates from the Strategic Property Manager[13] that between £200k and £300k would be required to build suitable accommodation. The above costs relate to retro fitting a station with separate accommodation and the additional costs from building this type of accommodation in a new build would be reduced.

A number of other FRSs were found to be using a DCP type system and these included: Durham and Darlington; Hertfordshire; Lancashire; Leicestershire, South Yorkshire, South Wales, Warwickshire and Hereford and Worcester[14].

It is known that the Fire Brigades Union in Berkshire oppose Day Crewing Plus. Having said this, a number of FRSs are continuing to implement the system at time of writing and have the numbers of willing staff to run the system.

The 2016, RBFRS crewing survey showed that a small but sufficient number of personnel were willing to take up this shift system, in total 20 stated that they may volunteer[15].

However, asking for volunteers from the existing workforce, either in the chosen station, or from across the workforce is insufficient and leaves the service open to legal challenge due to the absence of a collective agreement with representative bodies.

There has also been discussion regarding the potential impact on response times, caused by the location of accommodation provided for Day Crewing Plus (DCP) systems. Three services (Lancashire, South Yorks and Warwickshire) were asked to comment and none reported adverse impact on response times:

"No impact on our 10-minute response times with DCP. Our accommodation is within the station footprint so no different than before". Warwickshire Fire and Rescue Service.

Further reference can be found at appendix M.

SWOT - Day Crewing Plus

Strength	Weakness	Opportunity	Threat
• Savings (in order of £271k per fire engine converted p.a.) • No impact on the service delivered to the public (by maintaining existing response times) • More productive time per member of staff • Fewer journeys between home & work • Can accommodate 'out of county' staff • Shift type in place elsewhere in UK • Maintains Fire Brigades Unions favoured shift 2:2:4 for majority of their members	• Allowance negotiation required for extra hours (savings assume 25%) • Pensionable • Not Grey Book compliant • Not Working Time Regs compliant • Added hours on standby affecting health, safety & welfare • Decreased resilience • Potentially long time frame for delivery • Substantial capital cost (£200-300k per unit for accommodation)	• Staff have choice to participate (voluntary system) • Different rostering systems to suit station and/or staff (self rostering) • Accommodation as part of new station builds	• Fire Brigades Union Challenge and delay • Possible industrial action • Potential for planning delay or refusal. • Not able to attract volunteers • Or volunteers decide they don't want to continue and reverse their opt out

Budget Implications of DCP

Scenario 5D

Consider implementing DCP on a single fire station with one fire engine

Revenue Cost: Compensation to staff being transferred from the station (figure unknown)
Savings £271,025 per annum

Capital Cost £200k-£300k per station

Risk to Public

No change to service provision therefore no impact on risk to the public.

Scenario 5E – Implement Day Crew Stations

Day Crewing is a system that is recognised within the Grey Book, whereby staff provide cover over a 24 hour period using dual contracts. Staff work during the day and provide cover (from home) similar to Retained Duty System (RDS) staff, for the remainder of the hours. RBFRS do not currently operate this system. Day Crewing uses dual contract and RDS staff and covers Monday – Friday day time hours (e.g.08:00 – 18:00) with RDS staff covering nights and weekends.

This system has operated in Berkshire in the past. The last station to have this type of system was in Wokingham, before it converted to a Wholetime Duty System (WDS) in 2009. The cost and availability of housing in the Berkshire area has tended to prohibit the use of the traditional concept of Day Crewing.

Whilst the current difficulties with RDS recruitment and retention staff are well documented, it may be possible to attract part time firefighters from urban areas. This could provide a wider recruitment base than smaller rural areas where RDS stations are typically located.

There are also a number of other scenarios available as an alternative to the use of RDS staff at night, such as using reduced crewing levels at night (peak demand) or increasing the turn out time thereby having a 'delayed' turnout (as operated in Merseyside, 30 minutes) creating resilience for larger or more protracted incidents.

The advantage with Day Crewing is that the cost of providing night time cover is significantly less using RDS staff than WDS. The public will still be given 24 hour cover, but in a different way. Cheshire[16] use this system on a station with two fire engines. One fire engine is crewed by wholetime staff during the day and the same staff provide the same on call cover, and the second fire engine is crewed by RDS staff. Housing is significantly cheaper in parts of Cheshire and the service still owns a number of houses.

The main disadvantage is the time taken to attract, recruit and train RDS staff.

The savings are similar to scenario 3 for both a WDS one pump station and a WDS remotely managed station. However, there are additional costs from the RDS giving night cover, including the salary cost for the RDS staff.

Basic salary for RDS staff

Role	Rate per Annum	No Required	Total Salary
WM	£6229	1	£6,229
CM	£5571	3	£16,713
FF	£5025	9	£45,225
			£68,167

Although not shown as a scenario here, consideration could be given to using Maidenhead, as a pilot for this scheme, as there is already a Retained Duty System (RDS) section in existence.

SWOT – Implement Day Crewing

Strength	Weakness	Opportunity	Threat
• Public receive the same service during daytime hours • On-call resource at night • Resources better matched to demand • Saves up to £469k per station (less £106k RDS costs) • Provides 24/7 cover • Supports the use of RDS firefighters • Accepted as a shift system in Grey Book	• Longer response times at night in some areas. • Reduces staff for resilience in spate conditions • Time taken to attract, recruit and train RDS staff	• Matching resources to need (rather than have same level of resources 24/7) • Change shift times • Recruit on-call staff from urban areas rather than traditional rural areas	• Challenged by local community. • Challenge by Fire Brigades Union • Adverse media coverage

Budget Implications

Scenario 5E

5E (i) Implement Day Crewing at a station with one fire engine

Costs £0 Saving £363k per annum

5E (ii) Implement at a Remotely Managed Station

Costs £0 Saving £271k per annum

Risk to Public

There is an increased risk to the public during the night in the area where day crewing was implemented based on the increased response times for RDS staff. The impacts are shown in Appendix F.

Scenario 6 – Implement Remotely Managed Stations

The Remotely Managed Station (formerly known as Satellite Station) concept is one that has already been adopted and is currently being operated at the following stations:

- Bracknell as the host station for its remotely managed station at Ascot
- Slough as the host station for its remotely managed station at Windsor

Every wholetime station could be managed remotely but there are a number of factors that need to be considered such as; the location and distance of the nearest station.

The table below can be used to evaluate the factors considered above, before deciding what stations could be considered as remotely managed stations.

For the purposes of this exercise, Ascot and Windsor are not included in this table as they are already remotely managed stations, therefore the number of stations exclude these two stations.

Station	Appliances	Nearest Station	Distance**
Caversham Road	1 Fire Engine 1 Boat	Wokingham Road	2.6miles
Wokingham Road	1 Fire Engine	Caversham Rd	2.6miles
Theale	1 Fire Engine 1 Heavy Rescue Unit	Caversham Rd	6.1miles
Newbury	2 Fire Engines	Theale	12.5miles
Wokingham	1 Fire Engine	Bracknell	3.5miles
Bracknell*	1 Fire Engine	Ascot	4.1miles
Slough*	2 Fire engines	Langley	2.6miles
Langley	1 Fire Engine	Slough	2.6miles
Maidenhead	2 Fire Engines 2 specials	Slough	6.2miles
Whitley Wood	1 Fire Engine 4 Specials	Wokingham Road	3.0miles

*Bracknell and Slough are already host stations to Ascot and Windsor respectively

**The distance was calculated using station postcodes in AA Route Finder

The remotely managed station is crewed as normal but managed from the host station therefore, sharing a station commander for the two stations and a single watch manager for each watch at both stations. The remotely managed station operates as a station at the heart of the community and has the same facilities and operates in the same way as the host station.

For illustrative purposes and to show the projected savings, two one fire engine stations have been used as host and remotely managed station:

For example, two stations each with one fire engine require 48 staff and two station managers.

A remotely managed station and host station requires 44 staff and one station manager, saving £247,700 (4 x £46k + 1 x £63,700 = £247,700)

This demonstrates the maximum saving that could be made, however this report does not include any review of officer numbers. Therefore, the net saving of a remotely managed station would be £184k. Any additional officer savings would depend on the outcome of the year 2 IRMP project relating to officer numbers and cover.

The use of this model allows the same number of fire engines to be available, thereby maintaining resilience, whilst making significant savings.

Previous modelling for the Slough/Windsor project found no impact on response times when remotely managed stations are implemented. This was demonstrated by ORH (our previous risk modelling consultants) who reported:

> "…it is clear that the impact upon response times is negligible".

Although, future arrangements could mean the station is permanently crewed and the fire engine no longer needs to travel to the host station at change of shift which guarantees no change in current response times.

SWOT – Implement Additional Remotely Managed Stations

Strength	Weakness	Opportunity	Threats
• Saves circa £184k per pump (not inc. station manager reductions) • Already in use in RBFRS • Provides same service to public	• Reduces numbers of level one incident commanders (WM)		

Budget Implications

Scenario 6

Implement one remote managed station at a fire station with one engine

Cost £0 Savings £184,000 year on year

Risk to Public

No change to service provision therefore no impact on risk to the public.

Scenario 7 – Crewing a fire engine with less staff

Scenario 7A – Introduce reduced crewing on an RDS station

On-call station availability varies from station to station. Overall, it is given as:

The % of time Retained Duty System fire engines are available for emergency calls (average of all stations)

2013/14	66.40%
2014/15	53.80%
2015/16	44.70%

For 2015/16, the following availability by station is:

Station	% Available
Crowthorne	73
Maidenhead	71.9
Hungerford	65.6
Mortimer	51.1
Pangbourne	33.6
Lambourn	15.2
Wargrave	2.4

Collated from Scorecard May 2016 (RDS and WDS Availability Analysis1516 GC26-5-16.xlsx)

RBFRS currently crews its fire engines with a minimum crew of four personnel.

Other Fire and Rescue Services (FRS) have introduced smaller vehicles (often using smaller or lightweight pumps e.g. Hampshire FRS[17]) that can respond to incidents with fewer crew, down to a minimum of two firefighters. Dorset FRS[18] also trialled crewing with a reduced crew at their station in Bere Regis and also sent fire engines crewed by three personnel to Road Traffic Collisions (RTCs). This trial has now reverted to crewing with a minimum of four.

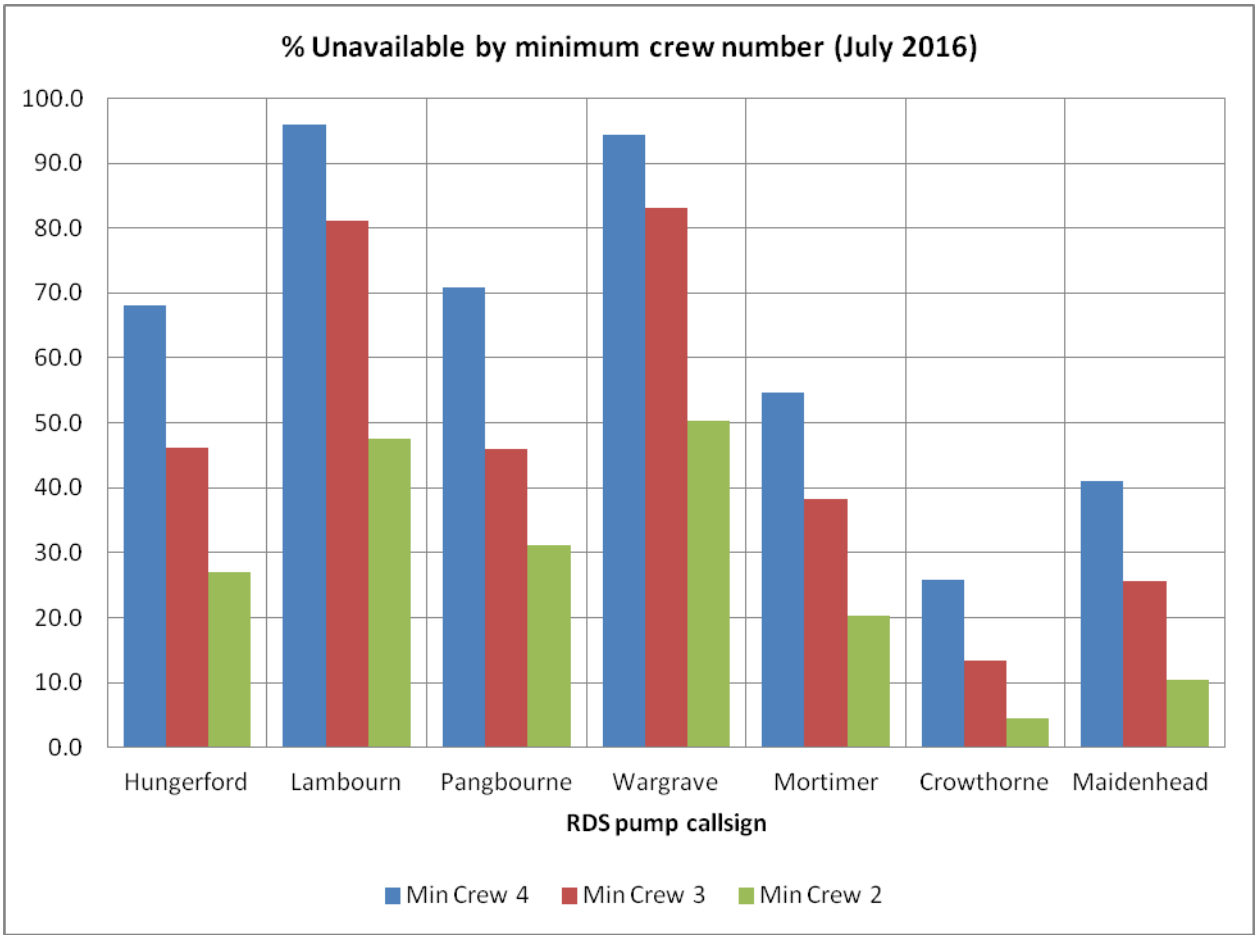
In principle, a crew could respond to certain types of incident in the existing fire engine but only on the understanding that the systems of work were safe .This would need further research into the type of work and equipment that can be safely carried out with fewer staff.

The intention of deploying Retained Duty System appliances with less staff is not to save money but to improve availability and provide a community asset available to attend certain incidents to make an initial intervention until backed up by other resources.

The following chart shows the station establishment and actual numbers of staff[19]:

Station	Firefighter	Crew Manager	Watch Manager	Establishment	Actuals at 04/07/16
Hungerford	10	2	1	13	11
Lambourn	10	2	1	13	4
Pangbourne	10	2	1	13	9
Wargrave	10	2	1	13	9
Mortimer	10	2	1	13	9
Crowthorne	10	2	1	13	10
Maidenhead	10	2	1	13	14
Total	70	14	7	91	66

The table below shows how Retained Duty System (RDS) fire engines would be available more often with reduced crew numbers.



Extracted from FireWatch (email 5/8/16) and collated (retavl1607 RDS availability by crew number GC-05-08-16.xlsx)

Based on the information above, there will be no financial savings associated with the use of reduced crews in RDS stations, but there would be a benefit in improved availability.

SWOT based on smaller On-call crewing

Strength	Weakness	Opportunity	Threat
• Keeps RDS fire engines delivering a service even if very few staff available • Increase on-call availability	• Separate project required to analyse activities (H&S) • Not able to attend all incident types • Slight reduction in service to public • Lack of maintenance of competence in some areas • Based on existing strengths at RDS stations, probably no change in recruitment levels	• Service based on risk (not 'one size fits all')	• Challenge by local community • Challenge by Fire Brigades Union • Adverse media coverage

Budget Implications

Scenario 7A

Mobilise a fire engine with reduced Retained Duty System crew at any one station

Cost £0 Savings £ negligible

Risk to Public

Dependent on the outcome of project research, it is unlikely that reduce crewed appliances will be deemed suitable to attend all incidents. Therefore, there would be a change in service provision. However, by reducing the number of crew, the availability will increase. The risk of not attending all incident types with reduced crew numbers is offset by the increased availability.

Scenario 7B – Introduce reduced crewing Wholetime Duty System (WDS) fire engines

In contrast to the Retained Duty System (RDS) scenario detailed above, the introduction of smaller crews to WDS pumps makes substantial financial savings, whilst keeping the same number of appliances available. The fire engines with smaller crews could be used to deal with less serious incidents (such as bin fires or small undergrowth fires) and would be located at stations that are most readily backed up by fully crewed fire engine. Any implementation would be subject to additional research.

Cheshire Fire and Rescue Service have a policy where they plan to crew with four firefighters, but on the occasions that they are unable to crew four, the fire engine can be crewed with three but the type of incidents they attend is limited. They operate an availability system called Gartan, which enables them to update fire engine availability and incident type. So if they do crew with three firefighters, the fire engine could attend Road Traffic Collisions and secondary fires.

Using the concept of Remotely Managed Stations, and the known risk, it may be possible to reduce wholetime crews.

Savings are based on crewing with two.

For example, by reducing the watch strength to 36 firefighters (from 44 on a remote managed station), which would allow for crewing the main fire engine with four, and the satellite appliance at two, a saving of eight staff on the existing satellite stations could be achieved:

A total saving of 8 x £36,800 = £294,400

SWOT based on smaller WDS crewing

Strength	Weakness	Opportunity	Threat
• Saves up to £294,400 per satellite model	• Separate project required to analyse activities (H&S) • Fewer incident types attended, leading to: • Slight reduction in service to public • Public perception of only two on large pump • Lack of maintenance of competence in some areas	• Service based on risk (not 'one size fits all') • Change fleet to smaller vehicles (over time)	• Challenge by local community • Challenge by Fire Brigades Union • Adverse media coverage

Budget Implications

Scenario 7B

Reduce WDS crew at any WDS station with a one fire engine

Cost £0 Savings up to £294,400 year on year

Risk to Public

Dependent on the outcome of project research, it is unlikely that reduced crewed appliances will be deemed suitable to attend all incidents. Therefore, there would be a change in service provision. This risk could be quantified through modelling the various scenarios to understand how this would affect the relevant communities. For the purposes of this report, it should be accepted that this scenario does present some risk to the public

Scenario 8 - Disestablishment of the Retained Support Unit

In 2010, RBFRS published an extensive report into the Retained Duty System (RDS) and one recommendation was that a Retained Support Unit (RSU) be established. The RSU was set up in RBFRS around April 2012.

The 2010 report recommended 12 WDS posts (predominantly, the Retained Support Officers are graded at Crew Manager level)

The number of RSU staff over time, measured at 31 March each year, is as follows[20]:

	2013	2014	2015	2016
RSU WM	2	1	1	1
RSU CM	9	7	7	7
Total	11	8	8	8

The staff salaries shown in Appendix A are not applicable to the Retained Support Unit (RSU), as the Retained Support Officers (RSO) are in receipt of an additional training allowance, which enhances their salary for their extra work.

The latest figures from the Finance Dept[21] show the following:

RSU Watch Manager £57,402

RSU Crew Manager £52,176

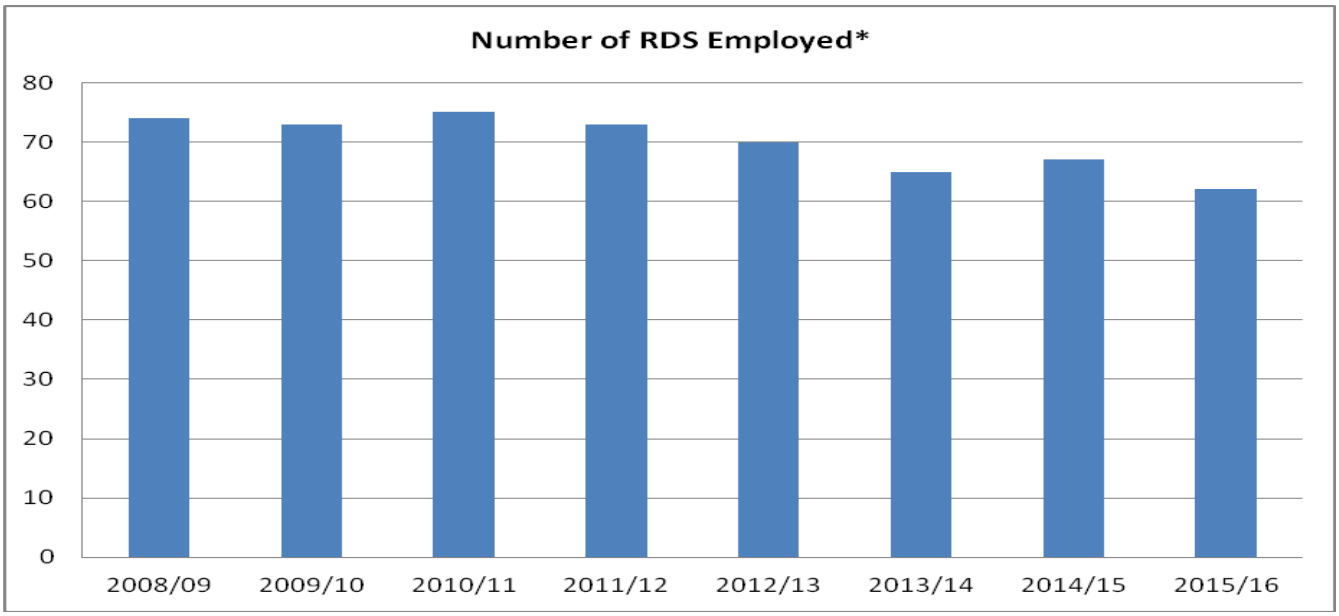
Therefore, based on the existing establishment of eight posts (1 x WM, 7 x CM) the RSU has a round figure cost of £423,000 per year in salaries.

The RSU has a remit for three main areas, recruitment, crew availability and training and competence. An RSU Review 2016 has supporting quantitative information around these three key areas and summaries are included below. See Appendix O for full review.

Recruitment

The primary function of the RSU was intended to be the recruitment of Retained Duty System (RDS) staff, thereby over time reducing the need for the RSU to zero.

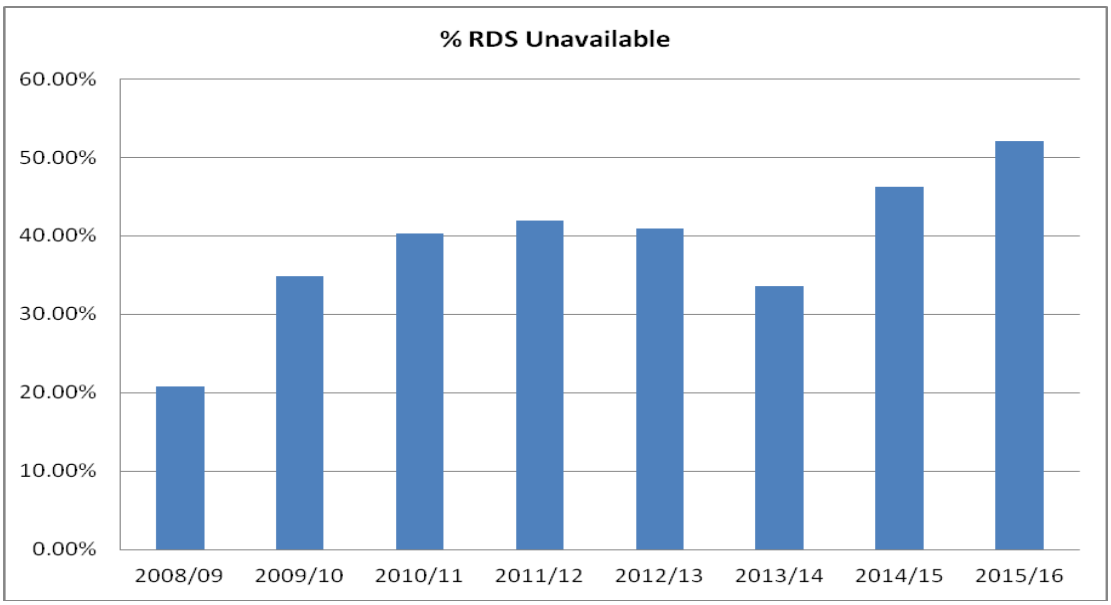
The number of RDS staff employed over years is given below[22]. There has been an overall decline since 2012.



*Unless otherwise stated, RDS data used here will not include historically disbanded RDS (e.g. Ascot and Bracknell were disbanded in April 2012). Therefore, the data will be for the current Retained Duty System (RDS) stations only (stations 5, 6, 7, 9, 11, 15 and 19.)

Unavailability

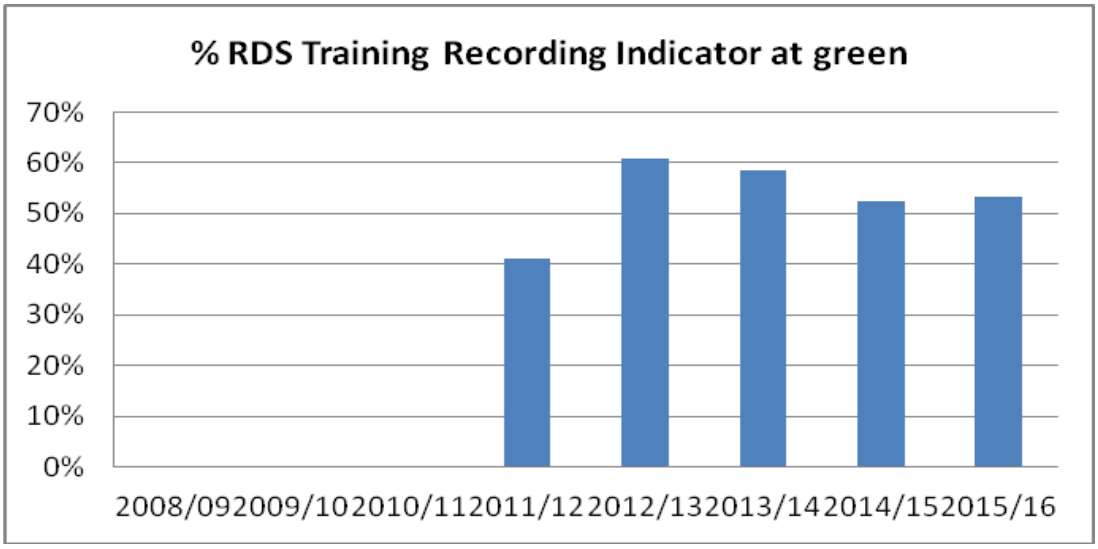
There is a measure for overall Retained Duty System (RDS) unavailability. It should be noted that there is a data discontinuity The RDS availability data from 2008-2012 in the graph was based on the database in control and includes Ascot and Bracknell. But the data for 2013-2015 is from Firewatch and does not include Bracknell and Ascot. Nevertheless, this provides a reasonable indicator as the Bracknell and Ascot RDS units were disestablished during the same period that the RSU was formed.



The graph shows that whilst there was an initial improvement in 2013/14, allowing time for the RSU to become functional and have an effect, this has since deteriorated resulting in a demonstrable increase in RDS unavailability.

Training and Competence

RBFRS has a training recording system called the Training Requirements Indicator. It contains a number of training modules and utilises a RAG (Red, Amber, Green) status to indicate if training in a particular area is required. This system was introduced for RDS staff after the 2010 RDS report, with data starting to come through in 2011. Following an initial increase in the percentage of green modules in 2012/13, the data has declined and then stabilised at lower levels in recent years. An increase after initial introduction would be expected as users became familiar with the system and this would have been supported by the RSU, however this has not been maintained, as shown by numbers falling off from 2012/13 but with a marginal improvement again in 2015/16.



Since the establishment of the Retained Support Unit (RSU), the intended improvements in terms of recruitment and availability have not been achieved. The RSU has given good support to training and competence however the initial success has not been improved upon or maintained.

SWOT – Remove the Retained Support Unit

Strength	Weakness	Opportunity	Threat
• Cost saving in the region of £423k	• Removes RSU support from RDS recruitment • Worsening RDS availability • Reduced training support for RDS	• To review work undertaken and how it can be done in other ways • Enable RDS to become RSOs	• RDS morale is impacted • Reduced RDS recruitment

RBFRS periodically reviews its Retained Duty System (RDS) provision to ensure it is effective, efficient, provides value for money and contributes to public safety. A review is currently being conducted during this IRMP period to look at new ways of working and seeks to build on innovative ideas from other FRS's about recruitment, retention and how the RDS workforce is utilised in the future.

Budget Implications

Scenario 8

Disestablishment of the RSU

Cost £0 Saving £423K per annum

Risk to Public

The risk to the public of any of the above scenarios is contained in Appendix G. The intended benefits to service provision have not materialised despite the RSU. The control measure for any perceived decrease in RDS provision should be provided through the outcomes of the IRMP RDS project which could stabilise, offset or potentially increase service provision. Therefore, the impact on risk to the public is low.

Appendix A

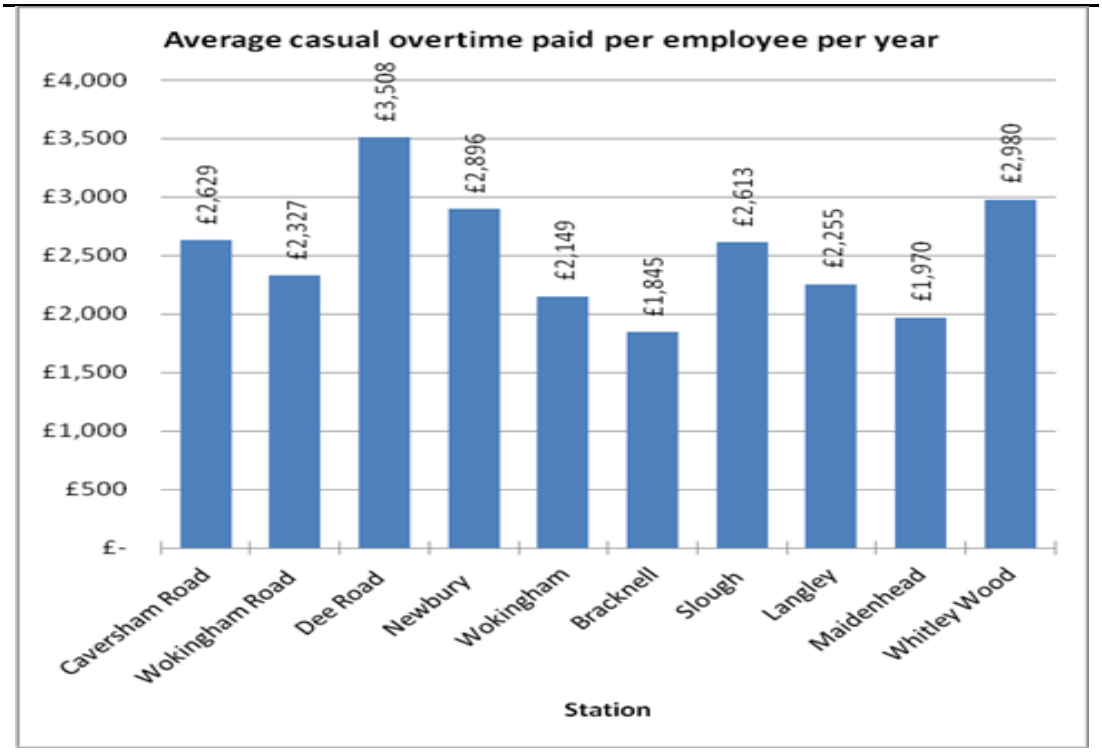
Within this report RBFRS salaries are calculated using ‘on costs’ which includes overheads such as the employer’s pension contributions. There are two schemes that currently operate and based on advice from the RBFRS finance department this report uses the salary figures which includes pension contributions for the New Pension Scheme. For the purposes of this document the following “rounded out” figures from the table below are used:

Role	Rounded figures
Station Manager	£63,700
Watch Manager	£46,000
Crew Manager	£41,000
Firefighter	£36,800

Appendix B

Overtime breakdown by Wholetime Duty System station excluding Bank Holiday payments

Uniformed overtime by station (not including PH Overtime)	Total Paid	Number of WDS Staff on station	Av £ per employee
Caversham Road	£63,089	24	£2,629
Wokingham Road	£55,854	24	£2,327
Dee Road	£84,181	24	£3,508
Newbury	£127,442	44	£2,896
Wokingham	£51,571	24	£2,149
Bracknell	£81,187	44	£1,845
Slough	£156,766	60	£2,613
Langley	£54,122	24	£2,255
Maidenhead	£47,271	24	£1,970
Whitley Wood	£107,292	36	£2,980



Appendix C
Berkshire Roster Reserve (Voluntary) System

Principles

Those who volunteer are first in line for O/T (once hours they owe paid back)

Introduce flexibility.

This applies to station based staff on the 2, 2, 4 WDS.

To achieve agreed optimum crewing level as far as is possible.

To smooth the number of FF (including CM and WM) on duty.

There will be an ability to inform staff to ‘stay at home’ or to ‘come in for duty’

A day shift equals a night shift.

Casual overtime will be paid as existing arrangements.

Standby arrangements as exist continue.

The roster reserve arrangements will consider competence.

An individual may work at their level or, one level above or one level below their current role.

There must be an administrative function to ensure fairness and oversee management.

Normally, if RBFRS is owed hours, pre-overtime will not be paid.

Staff must attend at normal shift start and finish times, being ready to commence work.

Rules

WM not included

There will be a minimum 24hrs notice for shift changes.

Staff must be contactable.

Staff must have a primary contact and secondary contact.

The preferred communication is telephone.

Staff must respond to text within 1 hour for positive confirmation of changes.

Staff may be asked to ‘stay at home’ when, 48hrs in advance, the projected number of staff is two over the agreed optimum.

Staff may be asked to ‘come in for duty’ when, 48hrs in advance, the projected number of staff is two over the agreed minimum.

Staff who owe the most hours will be asked first to ‘come in for duty’.

Staff who ‘owe’ hours will be given ‘three goes’ to pay it back.

A maximum of three shifts will be ‘owed’ to RBFRS.

Normally, only the 2nd and 3rd rota day can be used for roster reserve ‘pay back’.

Staff can be asked to attend any station.

Staff will be paid overtime for additional hours worked at the end of every month.

Berkshire Roster Reserve (Mandatory) System

Principles

Introduce flexibility.

To achieve agreed optimum crewing level as far as is possible.

To smooth the number of FF (including CM and WM) on duty.

There will be an ability to inform staff to ‘stay at home’ or to ‘come in for duty’

A day shift equals a night shift.

Casual overtime will be paid as existing arrangements.

Standby arrangements as exist continue.

The roster reserve arrangements will consider competence.

There must be an administrative function to ensure fairness and oversee management.

Normally, if RBFRS is owed hours, pre-overtime will not be paid.

Rules

WM not included

There will be a minimum 24hrs notice for shift changes.

Staff must be contactable.

Staff must have a primary contact and secondary contact.

The preferred communication is telephone.

Staff must respond to text within 1 hour for positive confirmation of changes.

Staff may be asked to ‘stay at home’ when, 48hrs in advance, the projected number of staff is two over the agreed optimum.

Staff may be asked to ‘come in for duty’ when, 48hrs in advance, the projected number of staff is two over the agreed minimum.

Staff who owe the most hours will be asked first to ‘come in for duty’.

Staff who ‘owe’ hours will be given ‘three goes’ to pay it back.

A maximum of three shifts will be ‘owed’ to RBFRS.

Normally, only the 2nd and 3rd rota day can be used for roster reserve ‘pay back’.

Staff can be asked to attend any station.

Staff must attend at normal shift start and finish times. Staff will be paid overtime for additional hours worked at the end of every month.

Appendix D – Current RBFRS pump disposition and activity

Station	Pump/s and system	Comment
1 (Caversham Rd)	1WDS	
2 (Wokingham Rd)	1WDS	
3 (Dee Rd)	1WDS	To be at Theale
4 (Newbury)	2WDS	
5 (Hungerford)	1RDS	
6 (Lambourn)	1RDS	
7 (Pangbourne)	1RDS	
9 (Wargrave)	1RDS	
10 (Wokingham)	1WDS	
11 (Mortimer)	1RDS	
14 (Ascot)	1WDS	Satellite from 16
15 (Crowthorne)	1RDS	
16 (Bracknell)	1WDS	
17 (Slough)	2WDS	
18 (Langley)	1WDS	
19 (Maidenhead)	1WDS and 1RDS	
20 (Whitley Wood)	1WDS	
21 (Windsor)	1WDS	Satellite from 17
Total of pumps =	21 (14WDS & 7RDS)	

Table 1: Number of station turnouts[23]

# of IRS 6.07- Incident requiring IRS report (Collated from Scorecard 24/1016)

STN	2009	2010	2011	2012	2013	2014	2015	Average
Slough	1,635	1,697	1,223	1,299	1,267	1239	1,533	1,464
Wokingham Rd.	1,109	1,114	1,006	923	888	835	1,072	992
Newbury	1011	978	915	852	929	948	1105	963
Caversham Rd.	1,047	1,056	952	829	840	849	1,009	940
Bracknell	1,033	1,078	1,068	816	716	737	730	883
Dee Rd.	998	1,029	901	781	783	682	941	874
Maidenhead	890	889	859	791	638	621	840	790
Whitley Wood	741	791	783	705	595	528	709	693
Langley	677	673	610	487	541	482	705	596
Wokingham	313	337	452	561	525	492	1,217	557
Windsor	439	366	354	343	379	149	685	388
Hungerford	208	210	228	215	203	142	159	195
Crowthorne	288	249	197	114	110	99	181	177
Mortimer	148	153	124	111	112	72	106	118
Ascot	142	113	36	38	18	4	410	109
Lambourn	84	51	34	27	46	28	59	47
Wargrave	92	85	56	34	41	9	8	46

Appendix E – Our Response Standard

Each fire and rescue authority is responsible for setting its response standard. This is the measure and/or target of how quickly it expects its frontline resources to arrive at incidents. Across the country these standards differ by which type of incidents are measured, how the time is measured, which times are used and the targets that are set.

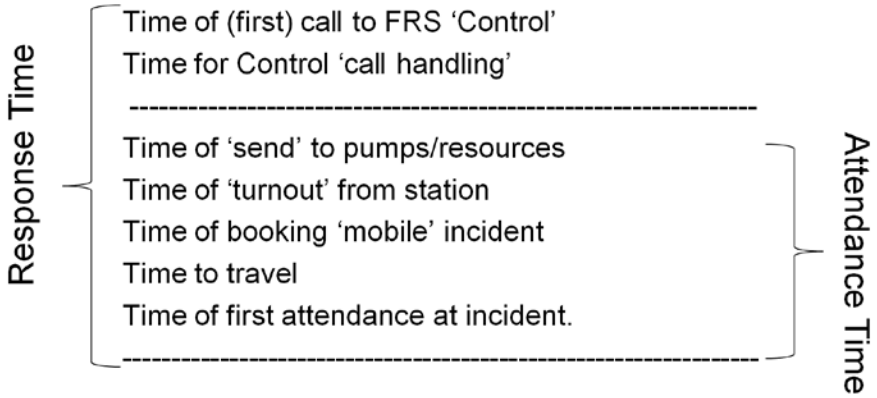
RBFA seek to ensure the safety and wellbeing of communities by targeting our prevention and protection activities at individuals or communities at risk

Its approach to emergency response is to ensure the right numbers of firefighters, fire engines and specialist appliances are at the right place, at the right time, delivering the right standard of response.

In August 2016, the Fire authority agreed the introduction of the following set of standards:

We will target our operational response activities to arrive at all emergency incidents within 10 minutes, measured from time of call to our control room, on 75% of occasions.

This means a response time is measured, that is the time from when the call is received in our control room to when the first fire engine arrives. This is shown in the following diagram:



The response time is measured to all emergency incidents such as dwelling fires, road traffic collisions, water rescues, car fires and fires in commercial premises.

The target percentage is a measure for the whole of Royal Berkshire, it means that wherever people live or work in the county the aim is to have a fire engine at an emergency within 10 minutes and this should be achieved this on 75% of occasions. It is important to understand that when a fire engine is needed one will always be sent. It might mean that on some occasions this takes longer than 10 minutes however the objective is always to arrive as quickly as possible.

Appendix F – Response and risk – modelling and analysis

Response modelling and risk analysis methodology

RBFRS have adopted a risk mapping methodology that looks at risk across Royal Berkshire in a number of ways. Firstly, historic incident data is used from the previous six years. This data provides a calculation of relative risk based on the number of fatalities, casualties and rescues in a given area. The given area used corresponds to a Lower layer Super Output Area (LSOA).

Geography	Minimum population	Maximum population	Minimum number of households	Maximum number of households
LSOA	1,000	3,000	400	1,200

This makes up 50% of the risk calculation.

Next societal risk is examined in those LSOA areas. This data is derived from government statistics called the Indices of Multiple Deprivation (IMD) which look at a wide number of factors relating to socio economic well being. Furthermore arson data and building risk are also factored in. All these factors make up the other 50% of the risk calculation.

This gives a measure of relative risk categorised as either, very high, high, medium, low and very low. Relative risk describes the risk in each LSOA when compared to all the others and is not an indicator of absolute risk. For example, this means a high risk LSOA is not necessarily an inherently high risk area but has more risk than a medium area.

This data can then be compared to each other to determine where to best focus Prevention, Protection and Response activities. This is called risk mapping.

A software system called Cadcorp Workload Modeller (CWM) is used to compare changes and options, one against the other. Using this we can model our incident response based against our Response Standard (see appendix E). Within CWM we plot all the incidents we have attended in the last six years and the locations of our fire stations and then the program will give us a modelled figure on how many of those incidents we would be able to attend within our Response Standard of first fire engine to arrive at all incidents in 10 minutes. This is called the base case and for 2015/16 is 77.6%.

Next we are able to model various scenarios, such as removing a fire station, to understand the impact this would have on our Response Standard and how this would affect the risk to the public. This is expressed as a percentage reduction in performance against the base case. For example if we remove Caversham road fire station (in CWM) this shows a drop in performance of -4.16% which would mean we would now get a fire engine to all incidents in 10 minutes on 73.44% of occasions (instead of 77.6%, see table on page 6.) Therefore this would represent an apparent increased risk to the public due to extended response times. This is called response modelling.

At this point it is important to note two things; firstly, that whatever percentage figures the model presents, whether the base case or modelled reduction of assets, is based on a response within 10

minutes. A fire engine often arrives much quicker than 10 minutes and anything outside that percentage i.e. above 77.6% means a fire engine will still be sent and will still arrive at the incident; it will just take longer than 10 minutes. Secondly, the figures presented are only a model. RBFRS gathers lots of data on its performance and we monitor these statistics to ensure the model is as accurate as possible but the model is ultimately a prediction.

Lastly, the model uses the proposed fire station at Theale instead of the current Dee road. Site. This is due to a number of factors. The move to a location in Theale has been planned since 2012 and it is likely that the move from Dee rd will take place in 2018. Due to the complexities and time required to produce the modelling work and to ensure we can predict more accurately into the future it was decided to use an approximate location in Theale for the model.

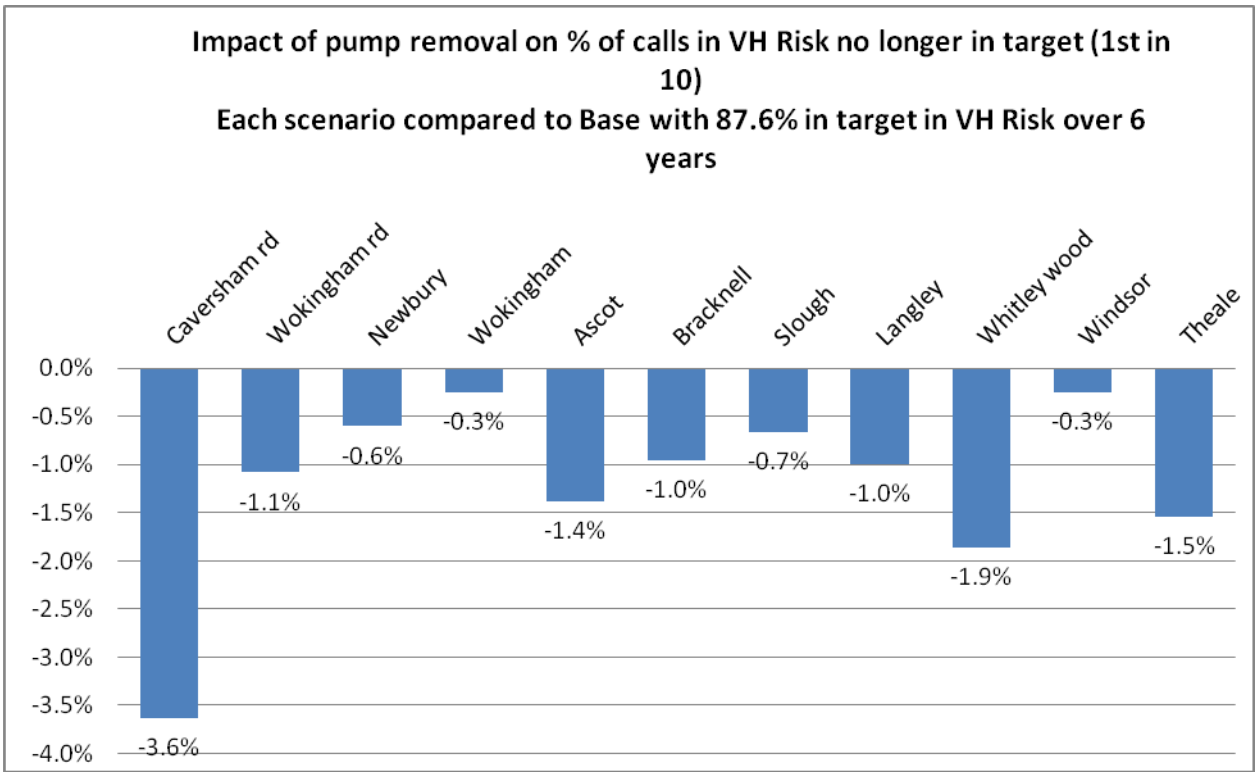
Table 1 below details all the modelling parameters used in CWM, for example the availability of our on call (Retained Duty System) firefigthers

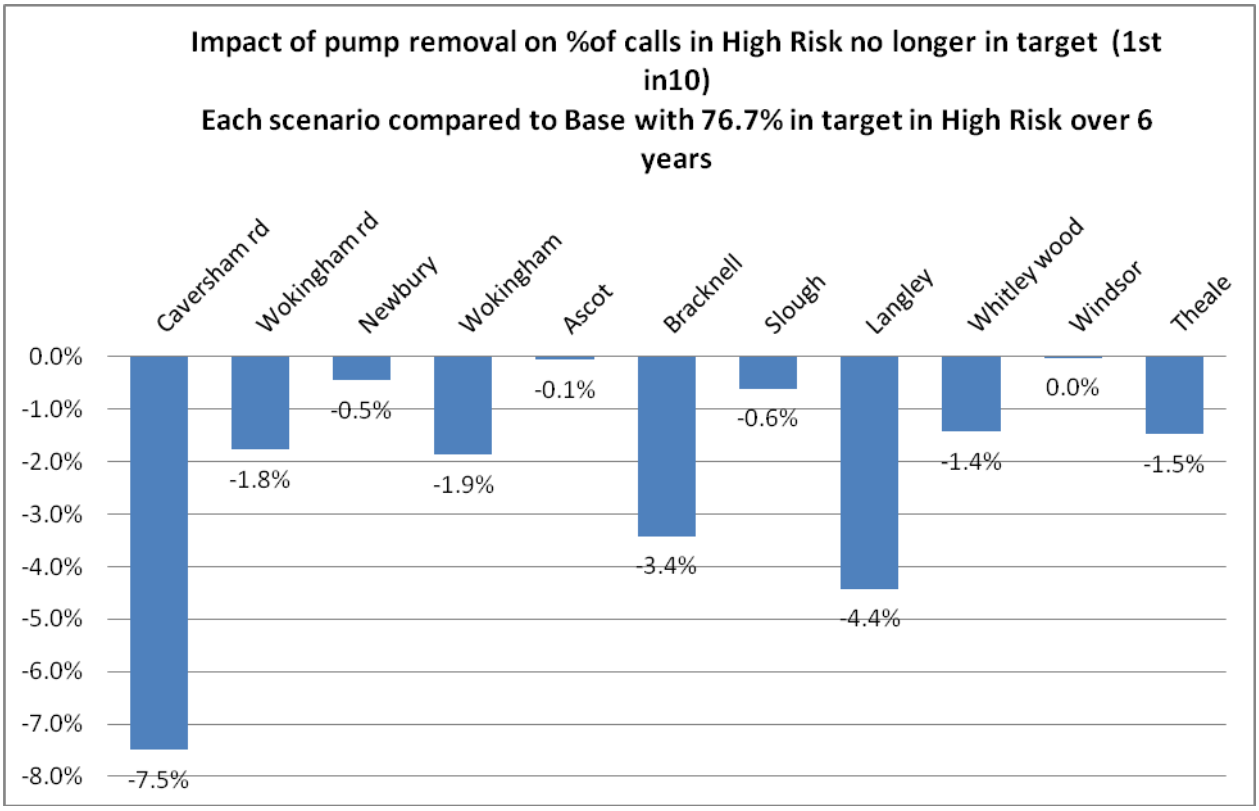
TABLE 1 - Modelling parameters:

Model Parameters		Pump	Reaction Time(mins)	
Base = all existing pumps 'as is' (except Stn3 at Theale)		01P1	2.8	
All incident types are listed within the service wide results tab.		02P1	2.8	Shifts Modelled
OTB incidents are included only where RBFRS made an attendance in the last 6 years.		03P1 (& 22P1)	2.9	**Base** = 'as is'
WDS 'reaction time' is based upon 2015/16 performance + call handling (see to right)		04P1	2.9	**No xxP1** = no crew on that pump
RDS 'reaction time' is based upon 2015/16 performance + call handling (see right)		04P2	3	
Call handling is added to 'reaction time' to give true response standard (TV - 1.5mins; Non TV - 3.5mins)		05P1	6.5	**Day 09hr** = 7 days a week of 09.00 – 18.00
RDS availability based on actual data from previous year and then modelled randomly.		06P1	6.5	**Day 12hr** = 7 days a week of 08.00 – 20.00
OTB RDS availability is set as 100%		07P1	7.5	
OTB reaction times set as below:		09P1	6.5	
	OTB Day Crewing - 3 and 7.5mins	10P1	3	**Day Crew** = 5 days a week of 09.00 – 18.00 (RDS at night and weekend)
	OTB Not Day Crewing - 5 & 9 mins	11P1	5.5	
	OTB Not TV RDS - 9.5mins	14P1	3	
	OTB Not TV WDS - 5mins	15P1	5.5	**DCP** = 7 days a week of WDS
	OTB TV RDS - 7.5mins	16P1	3	
	OTB TV WDS - 3mins	17P1	3	
12 hour day = 0800 - 2000	Day Crew uses RDS reaction time at night of 6.5min	17P2	3	
Analysis draws upon 6 years data from 2010/11 - 2015/16		18P1	2.8	
		19P1	2.8	
• Number of call outs in Base =41532		19P2	6.5	
• Number calls in 10 minute target in base =32220		20P1	2.8	
• Reported % impacts are across all RBFRS		21P1	3.2	

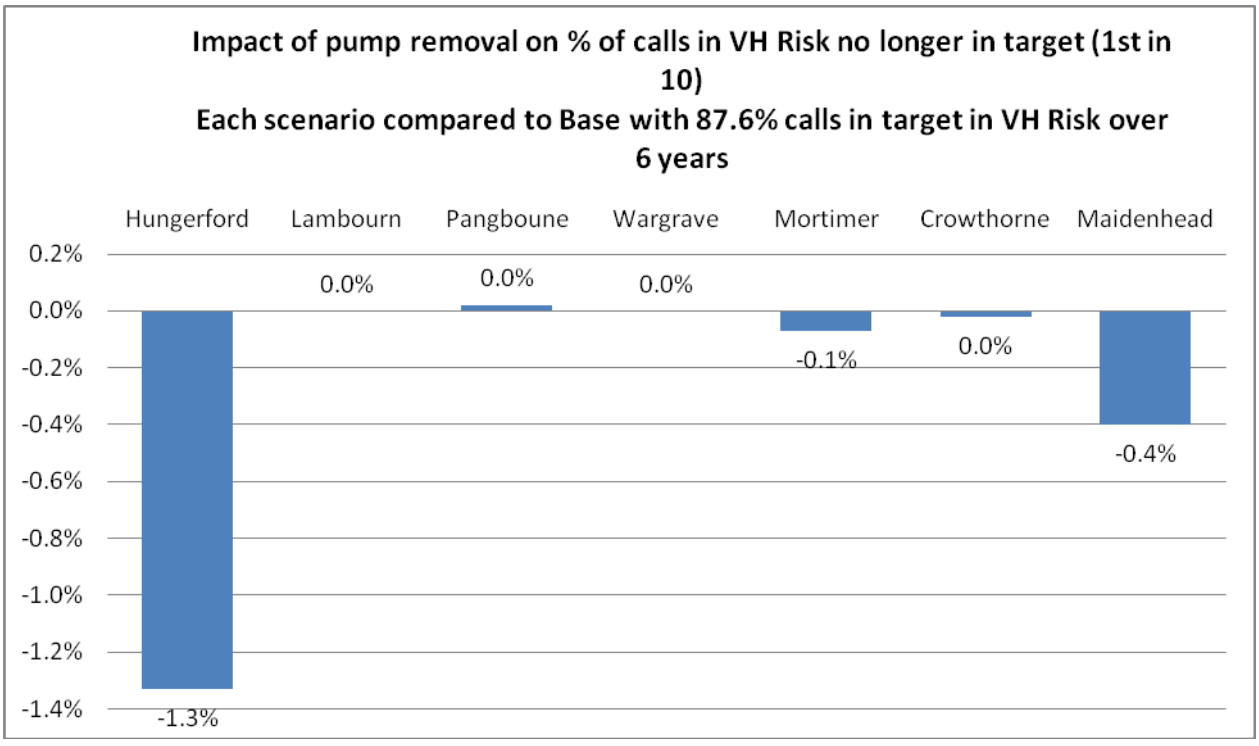
We are also able to analyse the model in different ways. We can use the response modelling to look at the impact on the risk mapping. For example, if we remove a fire station (in CWM) and we see the effect on response times we can also work out the effect this would have on those areas of risk (LSOAs). The graphs below also show this impact as a percentage drop. In terms of risk, we are only presenting the impact on Very high and high areas. For these calculations, the base figure varies for each category and is shown in the graph.

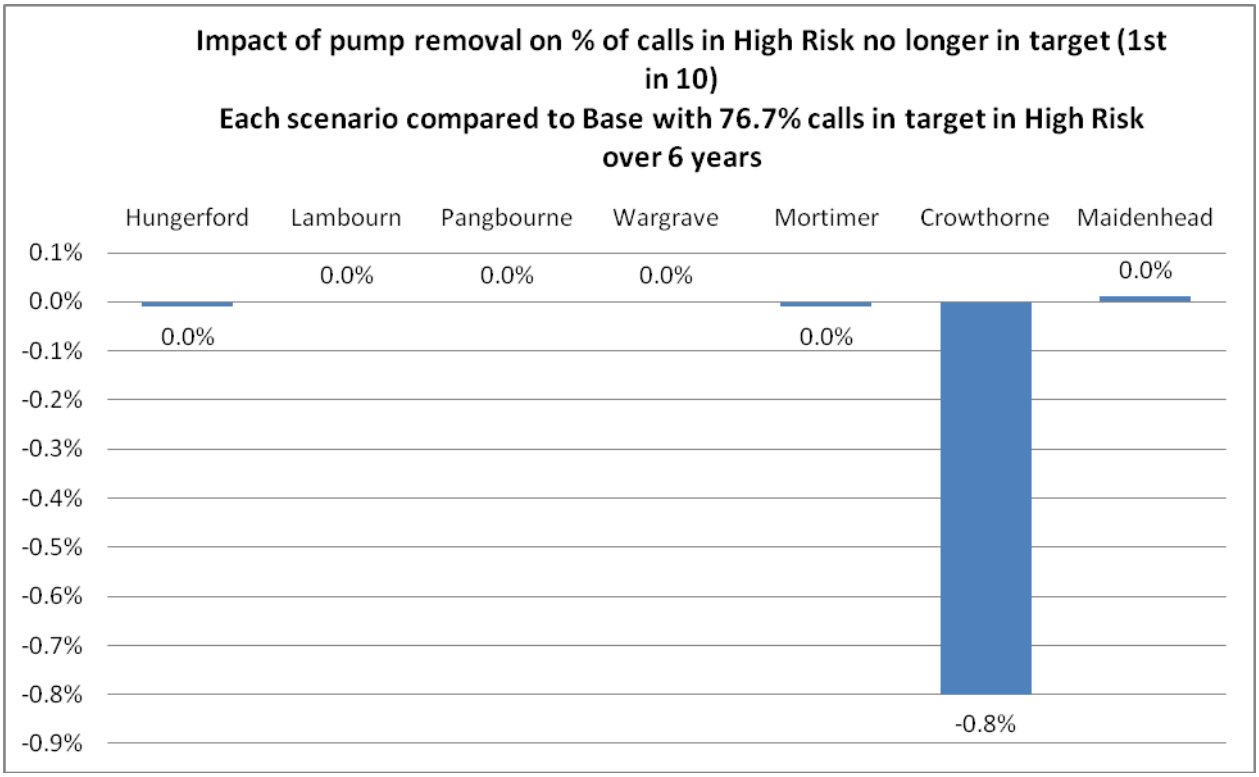
The following graphs are for wholetime fire stations:





The following graphs are for on call (Retained Duty system) stations:




Impact of pump removal on % of calls in High Risk no longer in target (1st in 10)
Each scenario compared to Base with 76.7% calls in target in High Risk over 6 years
Hungerford
Lambourn
Pangbourne
Wargrave
Mortimer
Crowthorne
Maidenhead
0.1%
0.0%
-0.1%
-0.2%
-0.3%
-0.4%
-0.5%
-0.6%
-0.7%
-0.8%
-0.9%
0.0%
0.0%
0.0%
0.0%
0.0%
0.0%
-0.8%

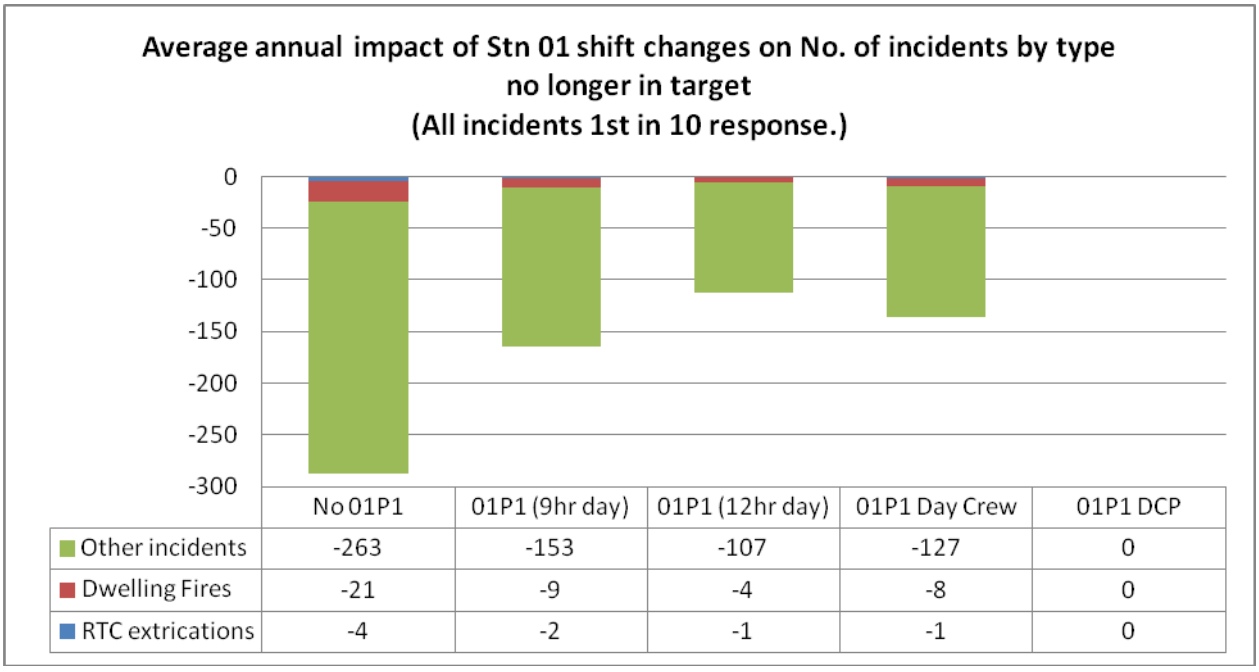
The following table shows results for all stations, combining very high and high risk areas:

Fire engine Removed	Summed change in performance to 'Very High' and 'High' Life Risk LSOAs against target (1st in 10 all incidents) compared to base (excludes OTB)
Caversham Road	-11.12%
Langley	-5.42%
Bracknell	-4.37%
Whitley Wood	-3.29%
Theale	-3.02%
Wokingham Rd	-2.85%
Wokingham	-2.12%
Ascot	-1.44%
Hungerford	-1.34%
Slough 2nd engine	-1.27%
Newbury 2nd engine	-1.05%
Windsor	-0.26%
Mortimer	-0.08%
Pangbourne	-0.02%
Crowthorne	-0.01%
Maidenhead 2nd engine	0.00%
Lambourn	0%
Wargrave	0%

The following pages show the response modelling for fire engine removal, peak demand with a nine-hour day (15-hour night with no fire engine), 12-hour day (12-hour night with no fire engine), Day Crew where night cover is via on-call firefighters and Day Crewing Plus:

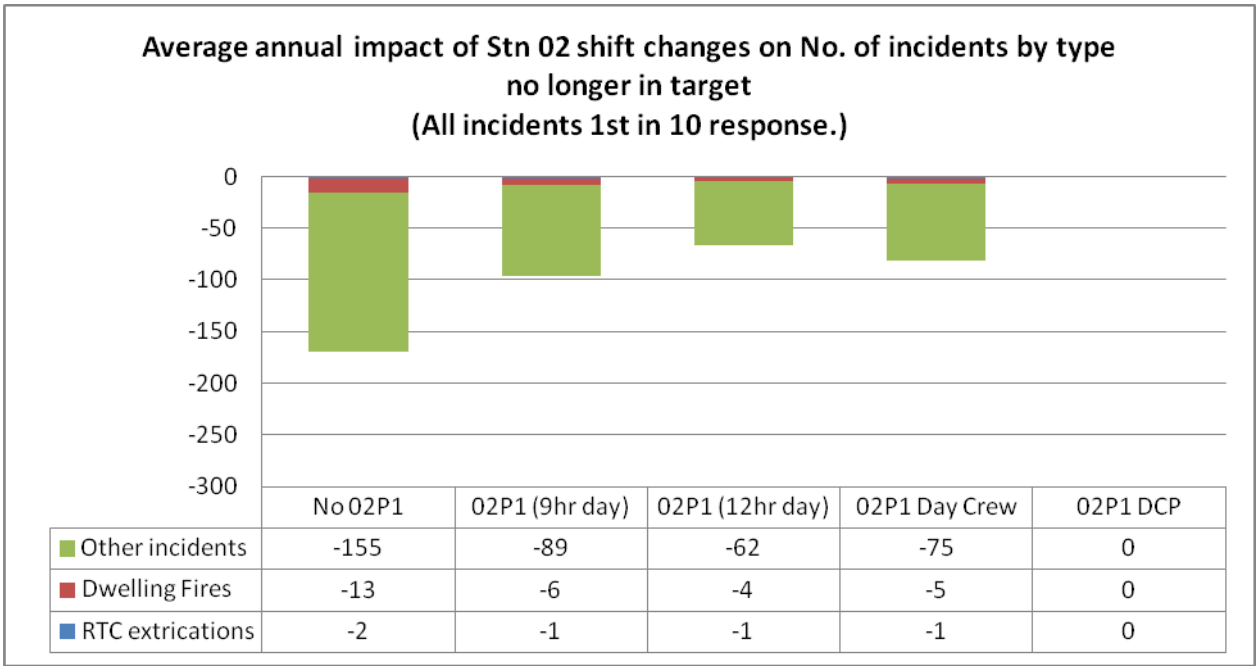
Station 1, Caversham Road, Reading

Scenario Description	Number of incidents no longer in target (1 in 10)	%incidents in target	% drop in target
Base	0	77.6%	0
No fire engine	-1726	73.4%	-4.16%
No fire engine at night (15 hours)	-986	75.2%	-2.34%
No fire engine at night (12 hours)	-675	76.0%	-1.59%
Day Crew, on-call cover at night	-819	75.6%	-1.93%
If Day Crewing Plus	0	77.6%	0.00%



Station 2, Wokingham Road, Reading

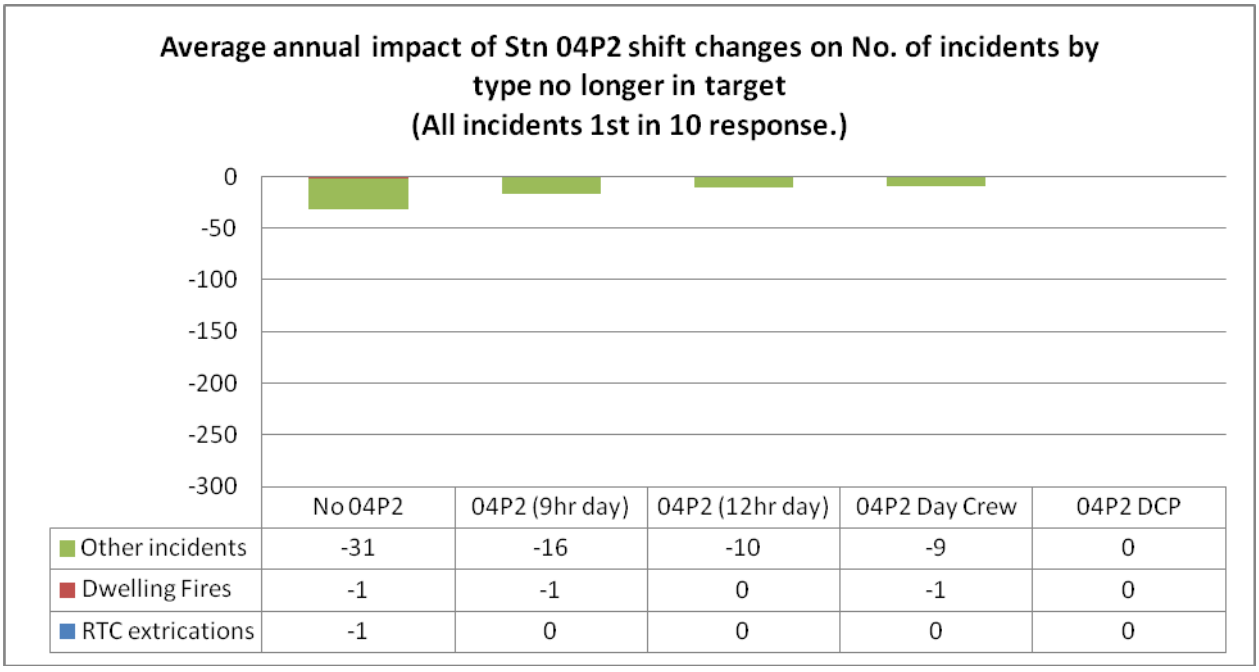
Scenario Description	Number of incidents no longer in target (1 in 10)	%incidents in target	% drop in target
Base	0	77.6%	0
No fire engine	-1021	75.1%	-2.46%
No fire engine at night (15 hours)	-578	76.2%	-1.39%
No fire engine at night (12 hours)	-402	76.6%	-0.97%
Day Crew, on-call cover at night	-489	76.4%	-1.18%
If Day Crewing Plus	0	77.6%	0.00%



	No 02P1	02P1 (9hr day)	02P1 (12hr day)	02P1 Day Crew	02P1 DCP
Other incidents	-155	-89	-62	-75	0
Dwelling Fires	-13	-6	-4	-5	0
RTC extrications	-2	-1	-1	-1	0

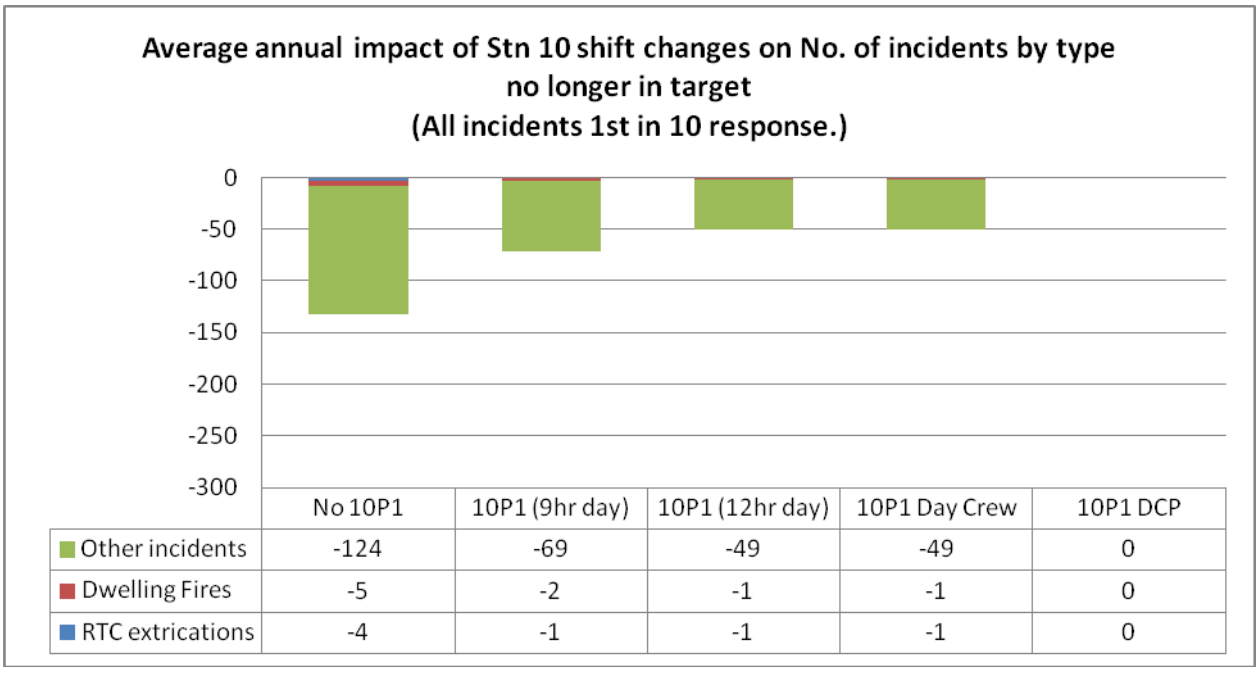
Station 4, Newbury, 2nd fire engine

Scenario Description	Number of incidents no longer in target (1 in 10)	%incidents in target	% drop in target
Base	0	77.6%	0
No fire engine	-194	77.1%	-0.47%
No fire engine at night (15 hours)	-102	77.4%	-0.21%
No fire engine at night (12 hours)	-63	77.5%	-0.11%
Day Crew, on-call cover at night	-59	77.5%	-0.10%
If Day Crewing Plus	0	77.6%	0.00%



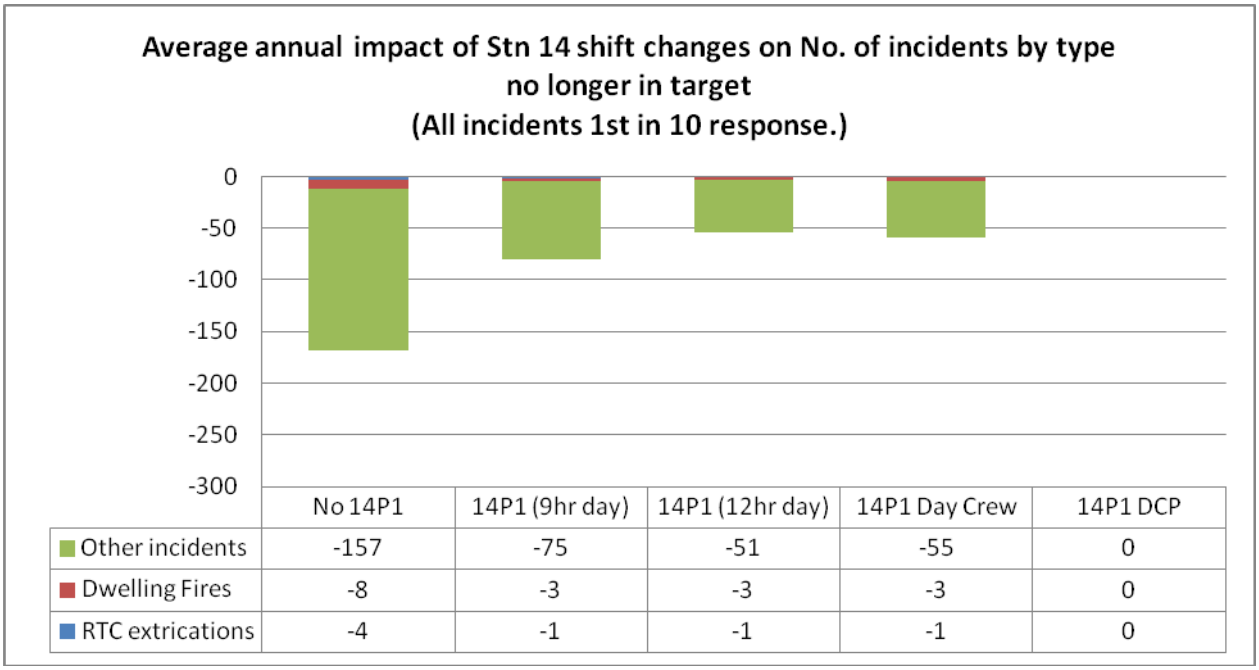
Station 10, Wokingham

Scenario Description	Number of incidents no longer in target (1 in 10)	%incidents in target	% drop in target
Base	0	77.6%	0
No fire engine	-792	75.7%	-1.87%
No fire engine at night (15 hours)	-432	76.6%	-1.00%
No fire engine at night (12 hours)	-304	76.9%	-0.69%
Day Crew, on-call cover at night	-304	76.9%	-0.69%
If Day Crewing Plus	0	77.6%	0.00%



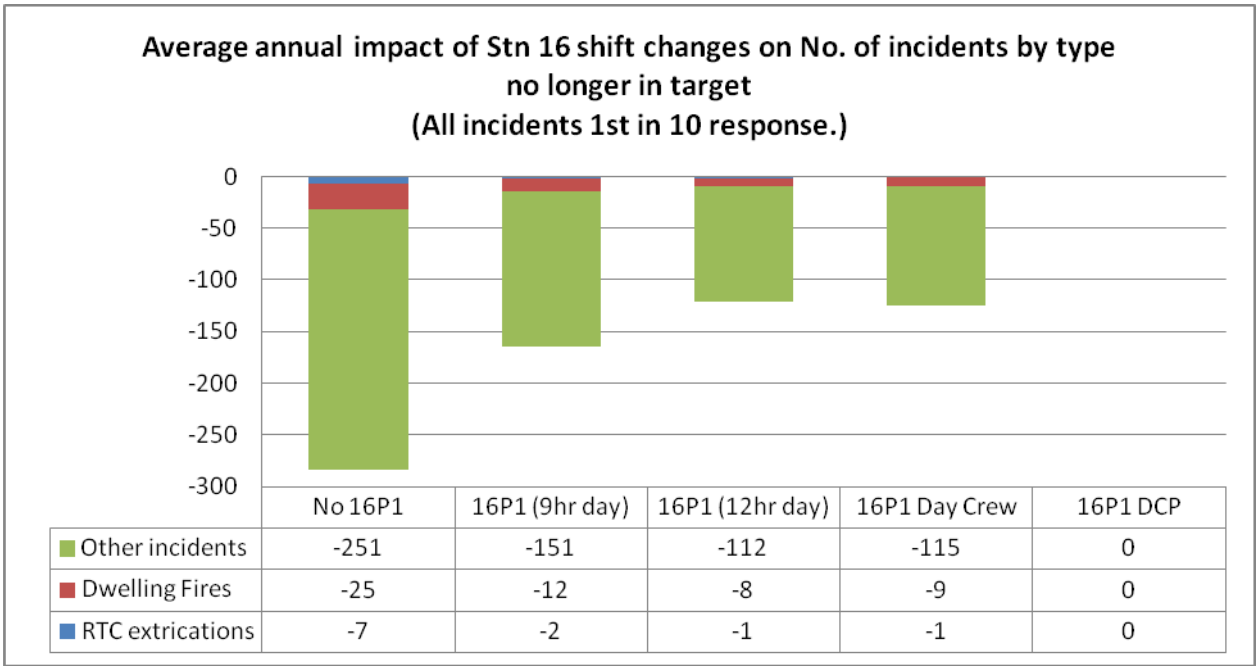
Station 14, Ascot

Scenario Description	Number of incidents no longer in target (1 in 10)	%incidents in target	% drop in target
Base	0	77.6%	0
No fire engine	-1013	75.1%	-2.44%
No fire engine at night (15 hours)	-479	76.4%	-1.15%
No fire engine at night (12 hours)	-325	76.8%	-0.78%
Day Crew, on-call cover at night	-357	76.7%	-0.86%
If Day Crewing Plus	0	77.6%	0.00%



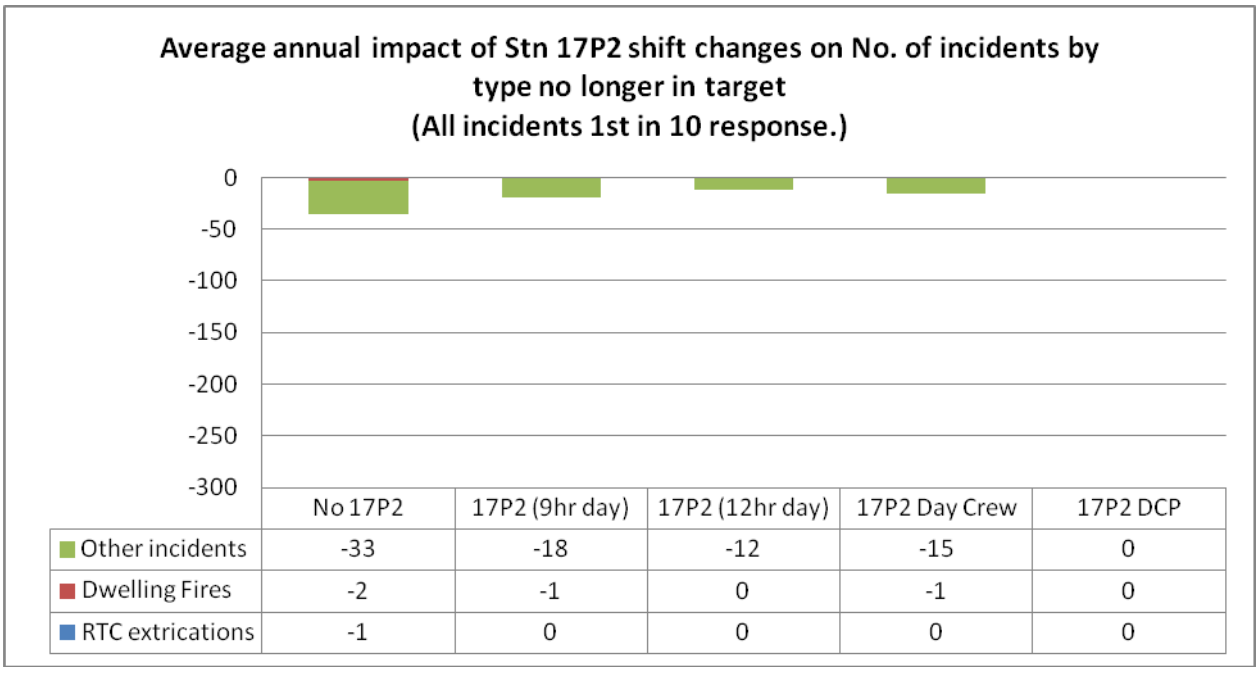
Station 16, Bracknell

Scenario Description	Number of incidents no longer in target (1 in 10)	%incidents in target	% drop in target
Base	0	77.6%	0
No fire engine	-1700	73.5%	-4.06%
No fire engine at night (15 hours)	-989	75.2%	-2.34%
No fire engine at night (12 hours)	-725	75.9%	-1.71%
Day Crew, on-call cover at night	-748	75.8%	-1.76%
If Day Crewing Plus	0	77.6%	0.00%



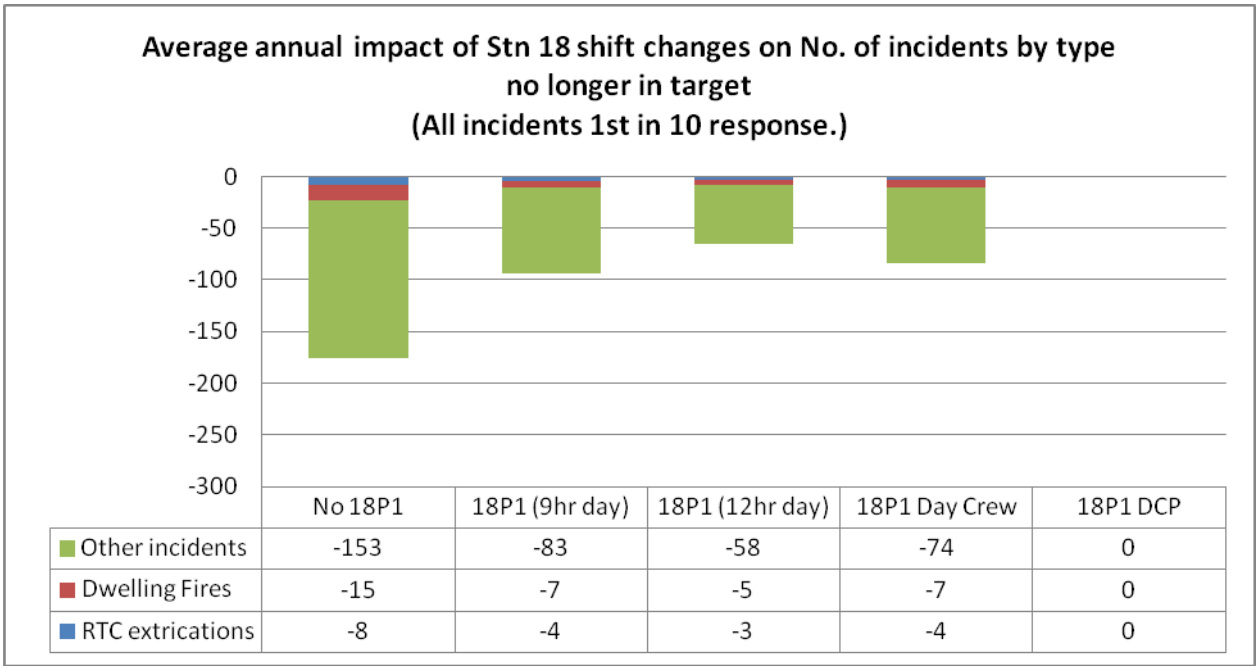
Station 17, Slough, 2nd fire engine

Scenario Description	Number of incidents no longer in target (1 in 10)	%incidents in target	% drop in target
Base	0	77.6%	0
No fire engine	-211	77.1%	-0.51%
No fire engine at night (15 hours)	-113	77.3%	-0.23%
No fire engine at night (12 hours)	-71	77.4%	-0.13%
Day Crew, on-call cover at night	-95	77.4%	-0.19%
If Day Crewing Plus	0	77.6%	0.00%



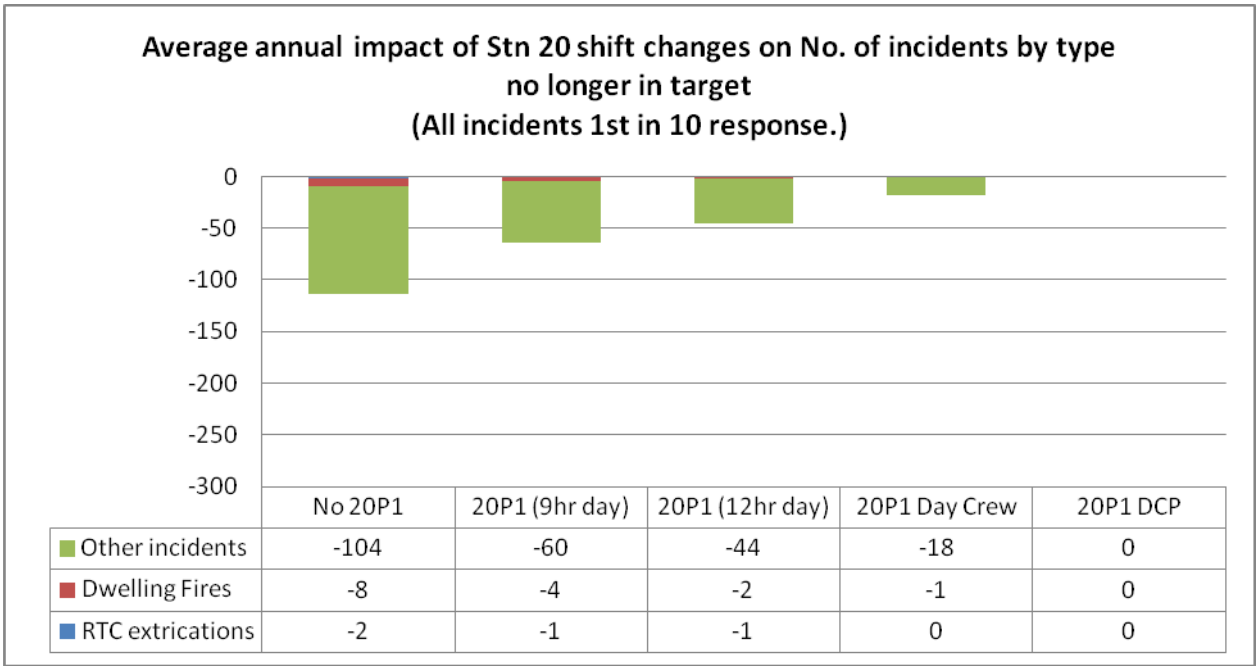
Station 18, Langley

Scenario Description	Number of incidents no longer in target (1 in 10)	%incidents in target	% drop in target
Base	0	77.6%	0
No fire engine	-1057	75.0%	-2.55%
No fire engine at night (15 hours)	-561	76.2%	-1.35%
No fire engine at night (12 hours)	-392	76.6%	-0.94%
Day Crew, on-call cover at night	-505	76.4%	-1.22%
If Day Crewing Plus	-136	77.3%	-0.33%



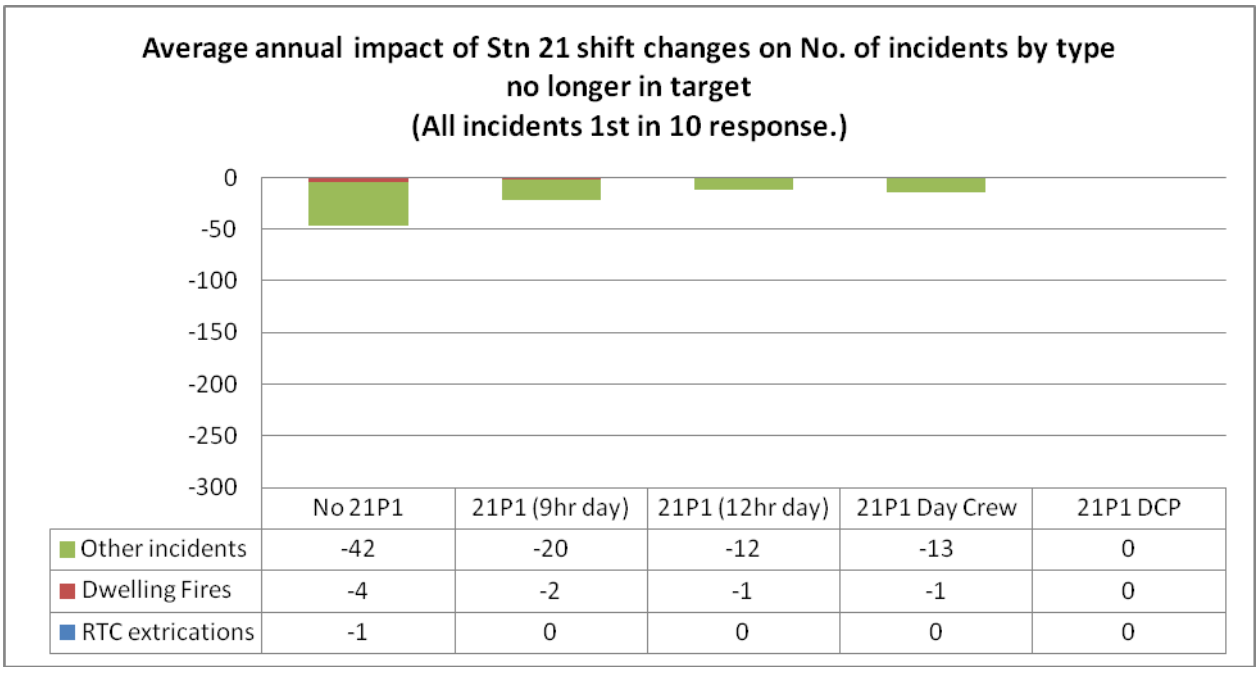
Station 20, Whitley Wood, Reading

Scenario Description	Number of incidents no longer in target (1 in 10)	%incidents in target	% drop in target
Base	0	77.6%	0
No fire engine	-685	76.0%	-1.61%
No fire engine at night (15 hours)	-387	76.7%	-0.89%
No fire engine at night (12 hours)	-276	77.0%	-0.63%
Day Crew, on-call cover at night	-111	77.4%	-0.23%
If Day Crewing Plus	0	77.6%	0.00%



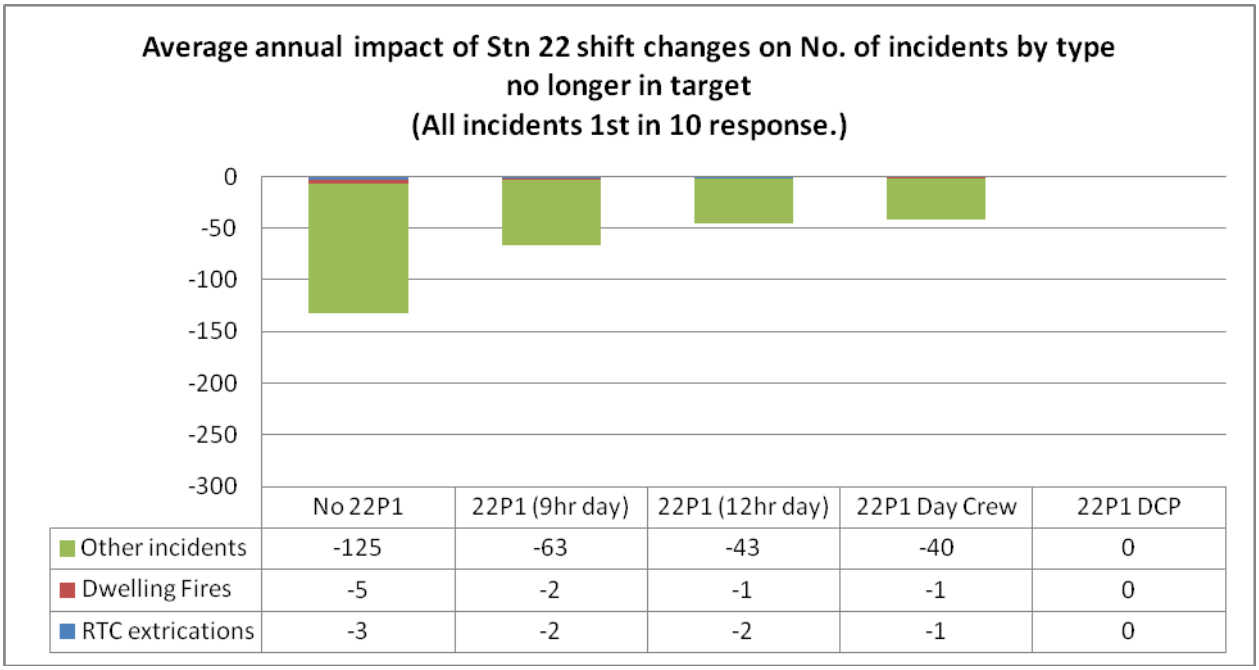
Station 21, Windsor

Scenario Description	Number of incidents no longer in target (1 in 10)	%incidents in target	% drop in target
Base	0	77.6%	0
No fire engine	-280	76.9%	-0.67%
No fire engine at night (15 hours)	-129	77.3%	-0.31%
No fire engine at night (12 hours)	-74	77.4%	-0.18%
Day Crew, on-call cover at night	-83	77.4%	-0.20%
If Day Crewing Plus	0	77.6%	0.00%



Station 22 Theale

Scenario Description	Number of incidents no longer in target (1 in 10)	%incidents in target	% drop in target
Base	0	77.6%	0
No fire engine	-792	75.7%	-1.91%
No fire engine at night (15 hours)	-396	76.6%	-0.95%
No fire engine at night (12 hours)	-270	76.9%	-0.65%
Day Crew, on-call cover at night	-253	77.0%	-0.61%
If Day Crewing Plus	0	77.6%	0.00%

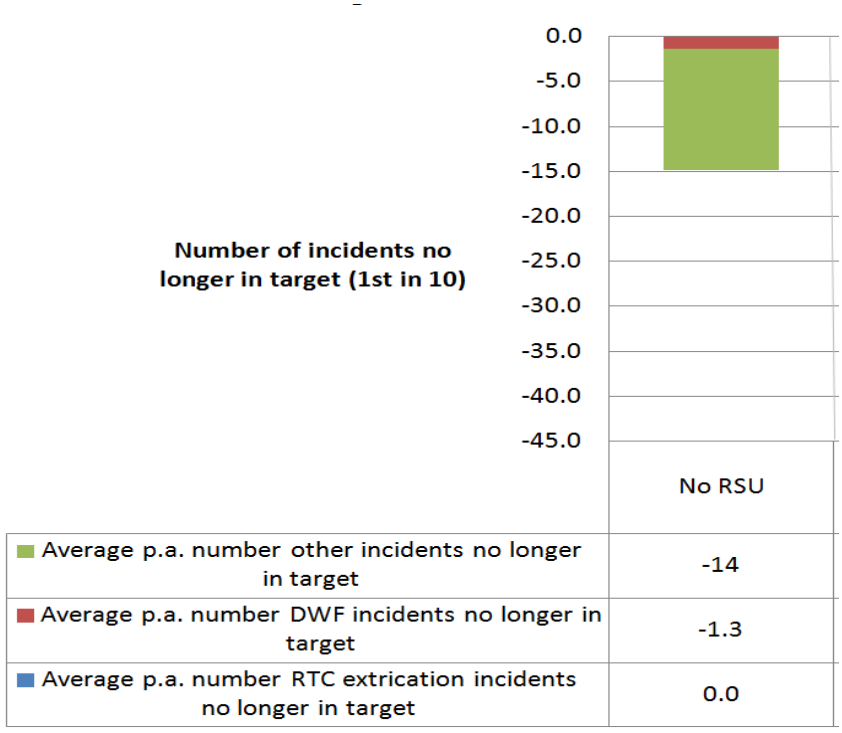


Appendix G – Retained Support Unit modelling data

The section which starts on page 42 details how the Retained Support Unit (RSU) has not achieved some of its primary objectives. However, the RSU do support retained crewing during the hours they work (9-5, Monday – Friday). By removing this crewing method we need to understand the risk this may present. This was done using the response modelling methodology outlined in appendix F and used a subtracted calculation (by Retained Duty System station) of impact of increased availability given by RSU in 2015/16. This subtraction reduces the randomised availability by hour of each RDS station.

Annual impact of removing the RSU

	Average p.a. number of incidents no longer in target (1in10)	%incidents in target	% drop in target	Average p.a. number RTC extrication incidents no longer in target	Average p.a. number DWF incidents no longer in target	Average p.a. number other incidents no longer in target
Base	0	77.6%	0.0%	0.0	0.0	0
No RSU	-15	77.4%	-0.2%	0.0	-1.3	-14



A value of 0.0 in the table indicates that in the six year data period used in the model (2009-2015), there were no incidents of that type recorded. It does not suggest that there would not ever be any incidents of this type in that area.

Appendix H - Crewing scenario suitability factors

The following table can be used to assess the crewing scenarios against factors that may provide an indication of suitability for selection for further consideration.

Each factor has been assigned a red, amber or green status which indicates the potential level of impact or effect. In this case Red would indicate the highest level of impact and Green the least. The reverse of this is true for the savings factor (see description below).

The assessment of the suitability factors in this way provides an appraisal of the potential risks and benefits and does not automatically include or exclude any scenarios for further consideration.

Crewing option	Risk to public	Impact on service	Cost	Time to implement	Challenge	Savings	Other
Do Nothing							
Reduced Crewing WDS							
Reduced Crewing RDS							
DCP+							
Three eights							
12 hour							
Grey watch							
Day crewing							
Three watch							
Pool system							
RSU							
Remotely managed							

- Risk to the public –red = high risk, amber = some risk, green = No risk. Determined by risk modelling
- Impact on service – red = high impact, amber = some impact, green = little or no impact
- Cost – red = £100ks, amber = £10ks, green = no cost
- Time to implementation - red = 2 years or longer, amber = 1 to 2 years, green = 1 year or less
- Challenge – red = high likelihood of challenge, amber = some challenge, green= little or no challenge (Rep bodies, Public, other stakeholders, Govt)
- Savings – red = no savings , amber = £10ks, green = £100ks

Appendix I - Fire engine removal scenario suitability factors

The following table can be used to assess the fire engine removal scenarios against factors that may provide an indication of suitability for selection for further consideration.

Each factor has been assigned a red, amber or green status which indicates the potential level of impact or effect. In this case red would indicate the highest level of impact and green the least. The reverse of this is true for the savings factor (see description below).

The assessment of the suitability factors in this way provides an appraisal of the potential risks and benefits and does not automatically include or exclude any scenarios for further consideration.

Fire engine removal option	Risk to public	Impact on service	Cost	Time to implement	Cost	Savings	Other
Do Nothing							
Station closure							
2nd engine removal							
Peak demand							

Please note that station closure shows a high risk to the public however this should be cross referenced with the table on page 7. There is a wide variance of risk between stations, Red is shown here as it presumes a worst case scenario i.e. closure of a wholetime station.

The values for the RAG factors is the as used at appendix H

Appendix J - Pool Systems

Pool Systems Discussion

Although a few of the identified pool systems make use of on duty contracted staff (for example, training staff when used to cover spate conditions) the main difference between the 'Pool' and 'Rostering' groups is that pool type systems tend to be voluntary and also tend to cost extra money.

RBFRS has an existing pool arrangement that calls on staff in the event of spate conditions or major incidents. The staff in this pool volunteer for recall and, if used, are paid an overtime rate. Graph 4 shows there are a number of WDS staff employed in other areas of RBFRS. Often these are staff working days such as trainers, the central team and RDS support staff (although they are often also contracted to work some weekends and evenings.)

Clearly, these staff (who should maintain their role competence) could be available to cover gaps in crewing appliances and have been used in the past to cover spate conditions and major incidents. Equally clearly, if this became the rule rather than the exception, the day to day work of these staff will suffer. For example, trainers could not train at the training centre if they're crewing an appliance in, say, Slough.

Another example of deploying staff flexibly is in the use of 'standbys' – effectively drawing on the pool of firefighters on duty for any particular shift and moving them around RBFRS to ensure best cover within resource for that day. Even with this system there are extra costs (paid for via an overtime system within the standby policy).

Another possible pool of contracted staff are the RDS firefighters who may be available day by day. It is possible to see how they could be requested to perform duties with WDS crews if the WDS crews were short staffed. There are problems noted with this approach but they are not deemed insurmountable at first sight. Amongst the possible issues are:

- Availability – RDS staff are already difficult to recruit and retain (RDS report 2010, pp40 – 48) and to use the few available to keep WDS on the run may be counter-productive (especially in the light of the work of the Retained Support Units). However, given suitable parameters for when and how to use RDS staff to support WDS, no over-riding availability issue to prevent this is seen.
- Accessibility – RDS staff may need to be contactable at short notice on a personal basis to see if they are available. It should be possible to achieve a fair system to enable this.
- Competence – There is doubt that the RDS are as competent as WDS (RDS report 2010, page 27). Whilst this may be the case the problems found were related to lack of training time and using RDS staff with WDS watches must improve the time for training and therefore the competence of RDS staff. It should be seen as a key driver for implementing this approach.
- Teamwork – The stable watch structure is very important to the WDS staff as they believe that it builds trust in your team mates for those rare occasions when, perhaps, ultimate trust is required in your work colleagues. However, WDS readily accept standbys of WDS staff from other stations. Therefore no over-riding reason to not use RDS in the same way is seen by the project team.

The project team found an example of an agreement for a staff bank from Hampshire FRS (Appendix J) and shows that this type of pool system can work and incorporate both WDS and RDS staff. This 'staff bank' system also introduces the concept of using a rate of pay different from the overtime rate. Clearly, it would be cheaper if staff were paid at 'flat rate' for any additional shifts (and this could be more likely for RDS staff who may not have worked the 2191 contracted hours that are due from a WDS firefighter, in any one year).

So, off duty staff are an obvious pool to draw upon to cover gaps in crews. But it is noted by the project team that the Grey Book has a 'no pre-arranged overtime' section:

> Pre-arranged overtime will not be used to make up any planned shortfall in the overall staffing levels set out in the fire and rescue authority's Integrated Risk Management Plan (Grey Book page 17).

This seems unnecessarily restrictive of the possible use of overtime for flexibility of staff as, almost whatever the pool system, extra payments are used. And it might be said that the restriction prevents individuals from taking advantage should they wish (as noted earlier, pool systems tend to be voluntary.) Consequently, RBFRS has put in place a pre-arranged overtime policy (Employee Handbook) and guidance (Service Delivery Manual) that seeks to ensure the specialist crews (with their added skills) are always available at Stations 1 and 3 (to cover special appliances at those stations) and that minimum crewing is always maintained.

However, there seems to be confusion in the documents in that the definition of pre-arranged overtime is overtime arranged more than 72 hours in advance:

> Pre-arranged overtime may be used to offset unplanned deficiencies in wholetime crewing levels […]. Pre-arranged means arranged a minimum of 72 hours before the period of overtime working commences.
>
> In accordance with the provisions of the Fire Service Pay and Conditions Agreement 2003 pre-planned overtime will not be used to make up any planned shortfall in the overall staffing levels set out in the Royal Berkshire Fire Authority's risk management plan. In addition, the participation of retained staff will be contingent upon there being no adverse impact on retained appliance availability. (Employee Handbook)

But the Service Delivery Guidance uses the words 'pre-arranged overtime' for short term (sometimes very short term such as 'emergency leave') arrangements:

> Pre-arranged overtime will only be granted when all other avenues for stand-by moves including exploring leave changes and cancelling any detachments for courses are exhausted. pre-arranged overtime will only be granted to keep an appliance at minimum crewing levels or to provide specialist qualifications to keep switch crewed appliances available for operational mobilisation e.g. Water Rescue Unit and Boat at Station 1 and Heavy Rescue Unit at Station 3 pre-arranged overtime can be used to provide a crewed appliance for attendance at exercises, training, public events etc.

> Pre-arranged overtime will not be granted to allow additional personnel to be on annual leave, compensatory rota's, bank holiday leave and long service leave. It may be granted to allow for other leave only in exceptional circumstances, such as, emergency leave and compassionate leave in line with RBFRS policy
> (Service Delivery Manual)

It seems to be the case that the wording is so in order to attempt to circumvent the Conditions of Service restriction and it would seem sensible that greater clarity should be negotiated. For example, it could be just 'overtime' that is offered to staff (regardless of time period) that could be accepted or refused by the individual.

There is, perhaps, a fundamental problem with pool systems in that whatever pool arrangement is put in place it does not really deal with those shifts when there are 'too many' staff on duty. For example, referring to graph 7 above, it is possible to see that on the nights of 6 and 14 January 2013 RBFRS were six firefighters 'over-staffed'. This is not to say that the firefighters were not being productive but it does show that there is inadequate flexibility to move staff across days and shifts when required to 'flatten the line'.

Figure 2 below illustrates the problem in that pool systems can flatten the line up to a level but are less useful for bringing the line down.

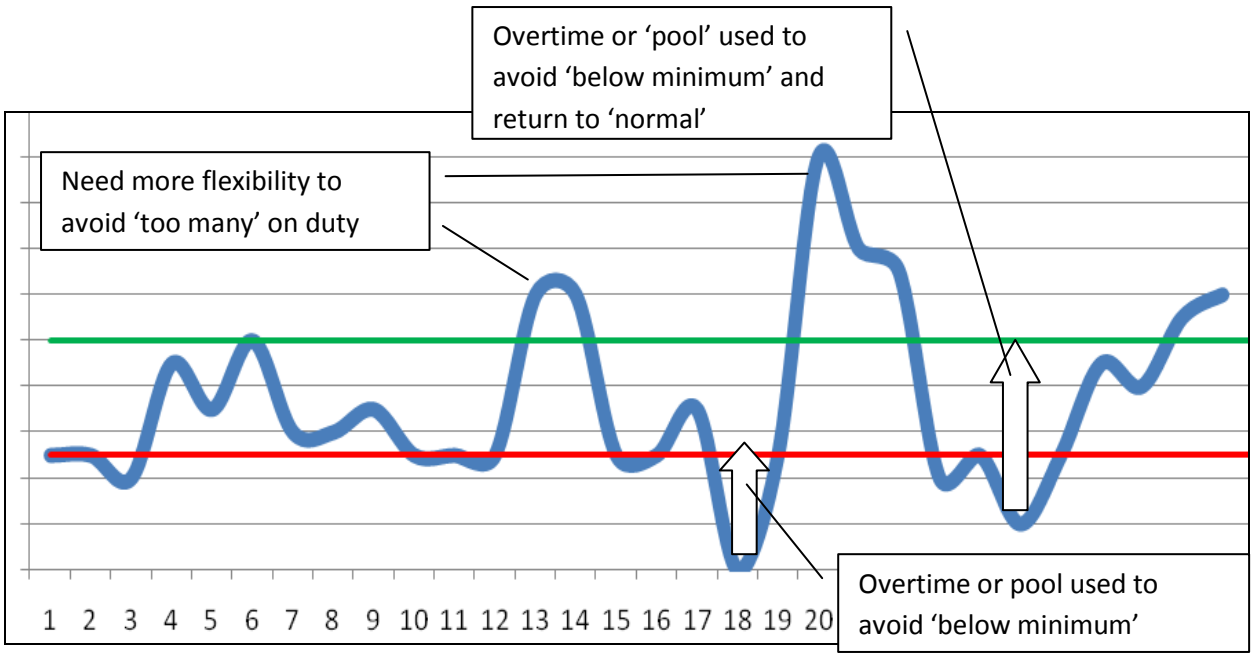


Figure 2a – Pool systems flatten the line 'up' but not 'down'.

However, despite this relative inflexibility of pool systems recent actual crewing graphs of Appendix D (examples copied below) show that RBFRS must continue with existing pool systems and, indeed, negotiate extra arrangements, because RBFRS is at risk of going below minimum crewing and, perhaps more importantly for later discussion, is in the position where there are very few occasions with 'too many' which would give hours to 'bank'.

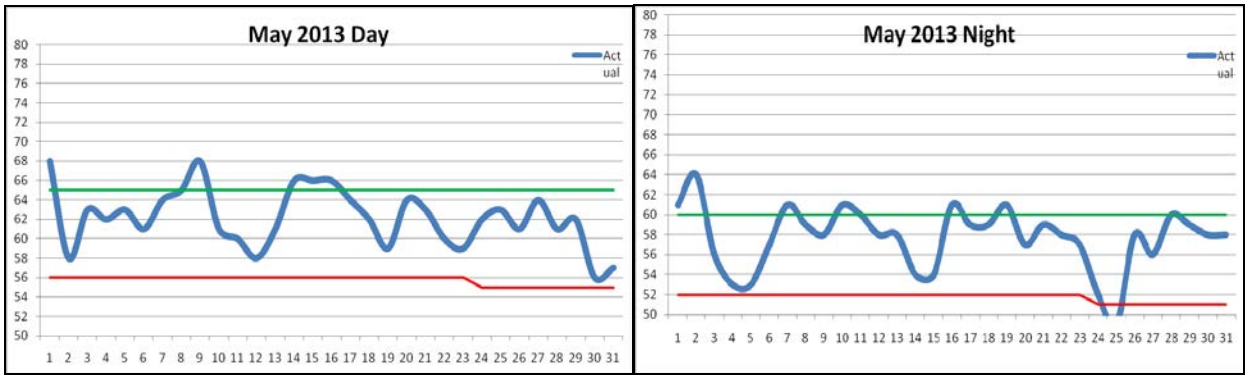


Figure 2b – Recent crewing levels showing drop in numbers.

Should there be greater use of overtime, it should be noted that there will be costs, perhaps significant, associated with overtime payment arrangements. Overtime paid per station is identified below:

Overtime	2010/11(£)	2011/12(£)	2012/13(£) To date (11/2/13)
Caversham Road	24,370.40	17,373.05	17,469.31
Wokingham Road	16,406.28	13,684.90	8,150.64
Dee Road	12,154.85	9,095.01	27,336.61
Newbury	12,828.29	16,494.70	8,182.55
Wokingham Road	6,482.97	7,634.71	10,268.01
Windsor	11,510.26	7,374.20	1,180.67
Bracknell	6,476.88	7,462.27	10,659.47
Slough	15,284.62	12,796.06	12,425.82
Langley	13,586.24	10,743.37	7,825.42
Maidenhead	7,725.88	7,062.45	6,239.22
Whitley Wood	11,606.86	9,653.07	11,261.73

Total Costs	138,433.53	119,373.79	120,999.45

Table 1 – Overtime costs 2010 – 2013 (Jones M, 2013)

The two stations where specialist overtime is paid are Caversham Road and Dee Road. An enquiry of their overtime costs, via another route (Watson N, 2013), is revealed below:

- Caversham Rd (Oct 2012 – June 2013) = £2,903
- Dee Rd* (Oct 2012 – June 2013) = £14,462

*Station 03, Dee Road has been managing arranged overtime since October 2012.

On the whole, for this period of time, Caversham Road had the normal crewing level (ridership 1.4), Dee Road had a reduced crewing level (ridership 1.2) and the difference is illustrated by the overtime bill - being about £12k. An even greater difference is shown (at table 1) over years at Dee Road, being some £18k increase in the latest year. As a rough calculation, if the number of WDS appliances is multiplied by these overtime costs it is found that the total overtime bill could be up to £216k per year, if gaps in crewing are met by only increased overtime payments.

The cost effectiveness of any pool system arrangement is determined by the rate of pay for the pool. Referring to the illustrative figure below (figure 2c), it can be seen that, should every shift bring in the correct number of staff over and above the blue line (actual number of staff available through the usual shift arrangement) to meet the planned crewing level (the green line), the cost would be the same as budgeted but only if the extra time is paid at 'flat rate'.

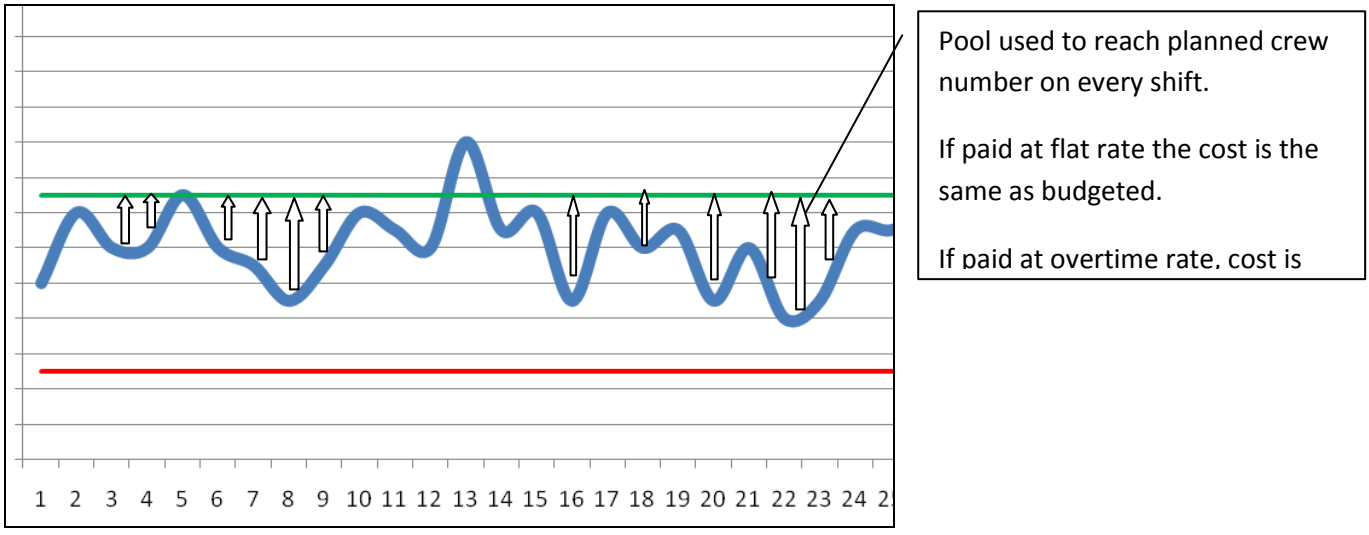


Figure 2c – Cost effectiveness of pool systems

Therefore, at the current level of crewing within RBFRS, pool systems could be relatively cost effective compared with historical levels of crewing, dependent entirely upon the negotiated rate of overtime.

Pool Systems Conclusion

It is the case that pool systems will generally cost money, for example due to overtime costs or additional shifts at ‘flat rate’, or they will interrupt the normal work of the ‘contract’ staff. The cost effectiveness is entirely controlled by the rate of pay for the ‘extra hours’.

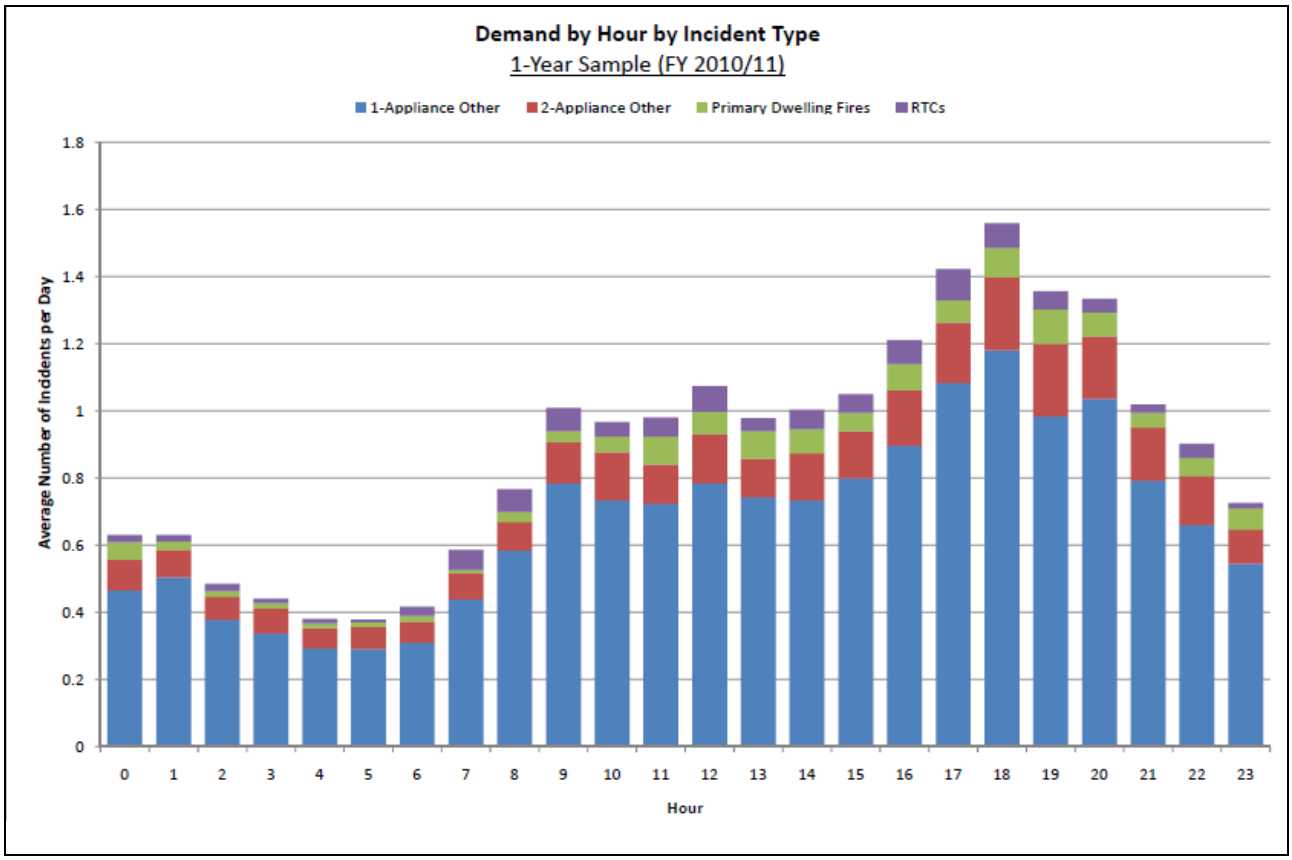
There is also a need to analyse for resilience, more of which later, but whether or not a pool system is in place there is still a need to consider the relative inflexibilities of rostering systems because any pool system may be used alongside any rostering system and, further, pools provide only a partial answer, at a possible cost.

Having considered pool systems, recommendations will be made at the end of this report but, first, it is necessary to discuss possible alternative or complementary rostering systems.

Appendix K – Three eights system

Appendix L gives examples from both Ambulance and Police and they show a particular strength in that workforce can match activity. A large part of the National Policing Improvement Agency (NPIA) research document is dedicated to this aspect (NPIA 2008, pp 27-43) and for the Police and Ambulance, with their different working practices (and generally smaller teams), the savings potential is clear. It is less clear for the FRS and any cashable savings would need to rely on a fundamental change in culture – away from providing resources for what they may be called upon to do, towards providing resources for actual activity. This has perhaps been emphasised by a recent document from within RBFRS that refers to an average appliance activity of 2.35% per year (Mancey A 2013b).

The graph below gives an average activity by hour for RBFRS.



Graph 10 – Incident activity levels by time of day

The challenging questions to those who wish to oppose any move to a 3x8hour shift system is, first, why are the same number of staff on duty at 0400hrs as at 1800hrs? And, second, assuming a 3x8hour shift system was introduced allowing greater flexibility and the removal of some resources at night when activity is low, what would it save?

There is no easy answer to the first question and it is related to productivity. This may be resolved at the highest levels should some form of combination with other emergency services occur (Sunday

Times 2013). The project team see no short term political appetite for this scale of change but, if and when it should happen, then a 3x8hr shift system is at least a possibility.

To give some answer to the second question, regarding potential savings from the removal of appliances at night, it is necessary to make some assumptions and, clearly, before any such change was made then extensive risk mapping and modelling, prior to full public consultation would be required.

Assuming the removal of three pumps for a 12-hour night (every night of the year), that would have been crewed by five firefighters, would give the following estimated savings:

Two Watches of seven staff = 2 x 7 x £35,000 = £490,000

On three stations = 3 x £490k = £1.47million

Therefore there are, potentially, huge direct savings. Also, it is possible that productivity could be increased as all 24-hours could be productive (minus meal breaks) compared with the current productive hours, as there would be no need for 'stand down' time that currently occurs on the 15 hour night shift. This would increase the 'non-cashable' savings.

However, the PID is clear in that the same level of service should be maintained and it is not in the project remit to 'close stations' and, that being the case, there are no productivity gains. So there are no savings. Indeed, the 3x8hour system would cost more due to the increased overtime costs at change of shifts.

Although it has been found that a number of 'independent' fire services operate a 3x8's shift, no other 'public' FRS has been found that currently works this system. But evidence has been found of one English FRS looking at a 3x8hrs shift and the example is shown at Appendix M.

[Appendix L] – Police and Ambulance Shift Systems

86	12	12	12	12	13	13	12	
	Mon	Tue	Wed	Thu	Fri	Sat	Sun	HRS
1	1800-0600	1800-0600	1800-0600	1800-0600				46.0
2	0700-1800	0800-1800			1900-0300	1900-0300	1800-0600	46.5
3			0800-1800	0800-1800	0800-1900			29.5
4						0800-1900	0800-1800	20.0

5	0600-1800	0600-1800			1900-0300	1900-0300	1800-0200	45.5
6			0600-1800	0600-1800	0600-1800			34.5
7	1900-0700	1900-0700	1900-0700	1900-0700				46.0
8	0700-1800	0800-1800			1900-0700	1900-0700	1900-0700	54.5
9			0800-1800	0800-1800	0800-1900			29.5
10						0800-1900	0800-1800	20.0
11	0700-1900	0700-1900			1800-0600	1800-0600		46.0
12			0700-1900	0700-1900	0700-1900			34.5
13	1800-0600C	1800-0600C	1800-0600C	1800-0600C				46.0
14					1800-0600C	1800-0600C	1800-0600C	34.5
15				0600-1800C	0600-1800C			23.0
16						0600-1800C	0600-1800C	23.0
17	1000-2200	1000-2200			1900-0700	1900-0300	1800-0200	49.5
18			1000-2200	1000-2200	1000-1900			31.5
19	1800-	1800-	1800-			0800-	1000-	44.5

	0200	0200	0200			1900	2200	
20	1000-2200	1000-2200				0600-1800	0600-1800	46.0
21			1000-2200	1000-2200				23.0
22		1800-0200	1800-0200	1800-0200		0800-1900	1000-2200	44.5
23	1800-0200			1900-0700	1900-0300			26.5
24	0600-1800C	0600-1800C	0600-1800C			0700-1900	0700-1900	57.5
						Total Hours		902.0

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Week 1	Night	Night	Night	Night	Rota	Rota	Rota
Week 2	Late	Late	Late	Rota	Rota	Early	Early
Week 3	Early	Early	Rota	Rota	Night	Night	Night
Week 4	Rota	Rota	Rota	Late	Late	Late	Late
Week 5	Rota	Rota	Early	Early	Early	Rota	Rota

Basic example rota

Night - can start at any time between 1800 and 2400

Early - can start at any time between 0700 and 1000

Late - can start at any time between 1200 and 1800

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Week 1	D8	D8	D8	D8	D8	Rota	Rota
Week 2	N8	N8	N8	Rota	Rota	D8	D8
Week 3	L10	L10	Rota	Rota	D10	D8	D8
Week 4	D10	Rota	Rota	N8	N8	N8	N8
Week 5	Rota	Rota	L10	L10	L10	Rota	Rota
Week 6	L10	L10	L10	L8	L8	Rota	Rota
Week 7	D10	D10	D10	Rota	Rota	L8	L8
Week 8	Rota	Rota	D10	D10	D10	Rota	Rota

Individual roster for eight staff (variable shift lengths)

N - can start at any time between 18:00 and 24:00

D - can start at any time between 07:00 and 10:00

L - can start at any time between 12:00 and 18:00

Number refers to length of shift that day or night

Example shift from 'Shift Pattern Review Toolkit' (National Police Improvement Agency p. 71)

[Appendix M] – Example 3x8hour shift system

Hours of Duty

Whilst start and finish times are not critical to the operation of the three eights shift pattern, it is proposed that the following options are the most practicable from a Service perspective.

- 06:00 - 14:00 14:00 – 22:00 22:00 – 06:00
- 07:00 - 15:00 15:00 – 23:00 23:00 – 07:00
- 08:00 - 16:00 16:00 – 24:00 00:00 – 08:00

Work Routines

In line with the National Joint Council Scheme of Conditions of Service (Sixth Edition 2004) (Sixth Edition), Section 4, Part A, Paragraph 3 which states:

Basic working hours should average forty-two per week (inclusive of three hours of meal breaks in every twenty four hours) for full time employees.

Hours of duty should be pro-rata for part time employees.

It is proposed that the three hours of meal breaks be distributed equally between each of the eight hour duty periods. The need for any additional stand down time would need to take into account the equitable shift lengths and the level of work being undertaken on each of the shifts

Shift Pattern

Whilst there are a number of shift patterns that could be applied using the three eights system, it is proposed that for ease of integration into existing Service processes and policies, one based on the four watch system is employed. An example of an individual's annual rota is attached.

Leave

As per National Joint Council Scheme of Conditions of Service, all Scale A leave will include rota days that fall within the leave period. All leave will be taken in line with the Service Leave Order.

Example shift schedule for an individual (part year)

M (Morning) = 08.00 – 16.00 A (Afternoon) = 16.00 – 24.00 N (night) = 00.00 – 08.00

January																														
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M
M	**M**	**A**	**A**	N	N	**R**	**R**	**M**	**M**	**A**	**A**	N	N	**R**	**R**	**M**	**M**	**A**	**A**	N	N	**R**	**R**	**M**	**M**	**A**	**A**	N	N	**R**
February																														
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28			
T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M			
R	**M**	**M**	**A**	**A**	N	N	**R**	**R**	**M**	**M**	**A**	**A**	N	N	**R**	**R**	**M**	**M**	**A**	**A**	N	N	**R**	**R**	**M**	**M**	**A**			
March																														
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
T	W	T	Fri	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T
A	N	N	**R**	**R**	**M**	**M**	**A**	**A**	N	N	**R**	**R**	**M**	**M**	**A**	**A**	N	N	**R**	**R**	**M**	**M**	**A**	**A**	N	N	**R**	**R**	**M**	**M**
April																														
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	
A	**A**	N	N	**R**	**R**	**M**	**M**	**A**	**A**	N	N	**R**	**R**	**M**	**M**	**A**	**A**	N	N	**R**	**R**	**M**	**M**	**A**	**A**	N	N	**R**	**R**	
May																														
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T
M	**M**	**A**	**A**	N	N	**R**	**R**	**M**	**M**	**A**	**A**	N	N	**R**	**R**	**M**	**M**	**A**	**A**	N	N	**R**	**R**	**M**	**M**	**A**	**A**	N	N	**R**
June																														
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	
R	**M**	**M**	**A**	**A**	N	N	**R**	**R**	**M**	**M**	**A**	**A**	N	N	**R**	**R**	**M**	**M**	**A**	**A**	N	N	**R**	**R**	**M**	**M**	**A**	**A**	N	
July																														
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S
N	**R**	**R**	**M**	**M**	**A**	**A**	N	N	**R**	**R**	**M**	**M**	**A**	**A**	N	N	**R**	**R**	**M**	**M**	**A**	**A**	N	N	**R**	**R**	**M**	**M**	**A**	**A**
August																														
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W
N	N	**R**	**R**	**M**	**M**	**A**	**A**	N	N	**R**	**R**	**M**	**M**	**A**	**A**	N	N	**R**	**R**	**M**	**M**	**A**	**A**	N	N	**R**	**R**	**M**	**M**	**A**
September																														

Appendix L – Three Watch

This duty system (or similar) was embedded within numerous Fire and Rescue Services (FRS) prior to the industrial dispute of 1977 and comprised of three operational watches providing 24-hour emergency cover on a recurring three shift system. Following the industrial dispute of 1977, a significant number of firefighters were recruited into the Fire Service nationally to enable the creation of the fourth Watch (Green). This signalled the improvement in the terms and conditions of firefighters by ending the three shift system and introducing the current four watch duty system.

It would be strongly argued that this system would not afford an adequate 'work / life balance' due to the excessive number of hours required to be worked each week and insufficient rest time between one set of shifts finishing and the commencement of the next set. Indeed, one team member recalls working this shift system and felt he was 'always on duty' as it was a 'two days, two nights, two off' system (compared to the current 2,2,4) and that the first day off was often not that as it only finished at 09.00 on that day.

At an informal meeting with Wiltshire FRS Officers, it was noted that the Three Watch option was forthcoming from operational firefighters as an alternative to the Day Crewing Duty system but that they had not yet implemented any change. Indeed, no FRS in the UK has been found to be operating this duty system. It might be that three Watch systems are seen as 'DCP on the cheap', as despite it being an average 56 hours per week on duty, there are no additional accommodation costs. Welfare could be deemed to suffer and it may be that FRSs that are looking at extended working hours are opting for a Day Crewing Plus type system.

It should be noted that this duty system was in widespread use prior to the introduction of the Working Time Regulations 1998, and would currently not comply with Section 4 - maximum weekly working time limits

This duty system would also not comply with the Scheme of Conditions of Service Sixth Edition 2004 (Updated 2009) Section 4 Part A Hours of Duty and Duty Systems. This framework requires that basic working hours should average 42 hours each week.

The main strength of this duty system is that it would maintain the same level of the immediate operational response as the current arrangements. The immediate response would be maintained by a smaller pool of firefighters throughout the Service. Further, service resilience would remain at the same level as there would be the same number of firefighters on duty at any one time, maintaining an immediate level of operational response and would be expected to have no impact on the risk within our communities. However, the 'recall to duty' element of resilience would be affected as there would be approximately 25% less firefighters available for recall throughout the Service.

The level of saving could be substantial but depends entirely upon the salary uplift to the remaining staff for working 56 hours per week instead of 42. The FBU would strongly oppose this system, as it

is outside the Grey Book and an opt out would be needed. As the suggestion came from their staff, Wiltshire FRS suggested a 10% uplift. It is very unlikely this would be acceptable to RBFRS staff. A 100% uplift would negate any savings. As the system is not in place elsewhere in the UK, it has not been possible to make comparisons but, assuming a 25% allowance for the extra time on duty for those remaining in service, it has been calculated that, a saving of £635,000 p.a. could be estimated.

Appendix M - Day Crewing Plus

This excerpt is taken from a 2016 review of a report on DCP from 2012.

The figures presented here are from an earlier report; please refer to page 32 of this report for the latest figures.

Day Crewing Plus (DCP, sometimes known as Close Proximity Crewing (CPC)) type systems are shift based, where firefighters are on duty 24-hours, 12-hours carrying out normal duties with the remaining 12-hours on standby, where firefighters are ready to respond to emergencies. Stand by time is spent “on or in close proximity to station” in purpose built accommodation. This type of crewing system is normally 24-hour, self-rostering with a watch manager agreeing the roster. And each individual has an 84 hour working week.

DCP is in use in a number of FRS’s and is being used extensively in Lancashire FRS (since before 2012) with some 10 stations and they are declaring savings of £400k per station. There are one off build costs, generally in the region of £350k and the main saving is in the reduction of staff from 28 to 14 on a one pump station.

There are a number of positives and negatives associated with DCP (shown below) and it should be noted that the national stance of the FBU is to oppose any such systems.

There has been guidance from the HSE and their letter (pages 96-97) gives an interesting statement:

“These shift patterns [DCP, CPC etc] are in breach of regulation 6 of the WTRegs”

This is unequivocal but the HSE state they ‘will not take enforcement action at this time’ (emphasis added) as DCP etc replaces an already non compliant system. So enforcement action against the implementation of CPC would leave the status quo (such as 2, 2, 4) in place - which is itself non-compliant.

At first sight this frees an Authority to implement DCP but it should be noted that:

- the HSE leave room for future enforcement action and
- another party (e.g. the FBU) may challenge the legality of this system

There have now been employment tribunal rulings on this area. For example, a case was heard regarding South Wales and, more particularly and recently, South Yorkshire Fire & Rescue Service (SYFRS) (links below).

http://www.southwestfbu.com/sites/default/files/documents/1800412.15%20&%2039%20others%20judgment%20and%20reasons%2016%20Dec%202015.pdf

http://www.southwestfbu.com/sites/default/files/documents/1800412.15%20&%2039%20others%20judgment%20and%20reasons%2016%20Dec%202015.pdf

In the South Yorkshire case reference is made to the HSE position but the judgment also refers to many relevant sections of the WTRs.

For the previous report RBFRS took advice from a Queens Counsel, which, at best, gave a complex legal position. Hence the recommendation at that time ‘to NOT implement and await legal challenge’.

Appendix D summarises the previous reported advice and adds the judgement for the SYFRS tribunal from the link above.

The simplified interpretation of the judgment is that Day Crewing Plus (DCP) breaches regulation 4 but this is overcome by individual opt out. On the face of it, regulation 10 also breaches but was found to be compliant in DCP as it allows the same rest breaks as 2-2-4. DCP breaches regulation 6 and can only be overcome by collective agreement - and this was not done. As DCP entails fewer employees at a particular station it is necessary that some will suffer detriment by the imposition of DCP. It is the transfer to a new shift pattern, not agreed by the FBU, which is unlawful (in the event that an employee who declines to work DCP suffers detriment by forced move to another station.)

It should also be noted that in the original DCP (2012) report referred to earlier, Recommendation 5 stated:

> That the Authority approaches the local Fire Brigades Union to discuss a negotiated collective agreement to achieve a DCP type system (in order to be ready should any decision be made to implement).

It is not known if this was done or even attempted.

The following Advantages/Disadvantages table is taken from the report produced in 2012:

	Advantages	Disadvantages
Day Crewing Plus (Close Proximity Crewing)	Significant savings (in order of £290k per pump converted p.a.). 3 stns identified = £870k p.a. (See below for updated costings) Shift type in place elsewhere in UK Staff have choice to participate Minimal impact on public service More flexible for staff on system – more 'friendly' Family friendly policies regarding accommodation Start of change to watch culture Different rostering systems to suit station and/or staff More productive time per member of staff High quality, purpose built, accommodation Fewer journeys between home and work Can accommodate 'out of county' staff Adequate welfare facilities provided	Likely significant Fire Brigades Union resistance leading to delay Salary enhancement required due to increased standby hours (25%) Pensionable Possible industrial action Outside Grey Book Not Working Time Regs compliant Added hours on standby affecting health, safety and wellbeing Decreased 'recall' resilience Long time frame for delivery Potential for planning refusal Substantial capital cost (£333k per unit). (See below for updated costings) Not getting the right people – system becomes discredited Poor quality accommodation Less opportunity for promotion Different systems across RBFRS

Financial Implications (updated to reflect 2016 costs)

The revenue savings which other Fire and Rescue Services have made are estimated at approximately £300k - £450k p.a. per pump (Appendix D in original report.)

A key parameter for revenue savings is the issue of pensionability. A Court case decided that the DCP allowance would be pensionable. Therefore, the report must recommend that any allowance for staff working DCP will be pensionable. The following from Leicester is illustrative:

> "In accordance with the independent advice provided by Queen's Counsel, it is proposed that the duty system allowance should be regarded as pensionable

> subject to the Policy Committee's endorsement. In revising the policy, the Chief Fire and Rescue Officer proposes that the allowance is re-set to 27% of the annual salary for each role. This is 5% lower than the level that is set out in the agreed policy and procedure and accounts for the additional burdens that will apply in respect of employers' pension contributions that will have to be met by the CFA."
>
> (Extract: Leicester 2012, page 2)

Various allowances have been found for Day Crewing Plus (DCP) type systems and are in a range from 17% - 32%. Any decided allowance would be subject to negotiation but, for the purposes of calculation 25% has been used as indicative of likely costs.

Work carried out by the project team and finance department for the previous report showed that RBFRS could expect to save an estimated £290k per pump converted p.a. This includes:

- An allowance at 25%;
- £30,000 revenue financing costs relating to the building works p.a.
- £25,000 running costs p.a.
- £5000 housekeeping costs p.a.

As a result of reducing the current station strength to 24, the savings on a one pump station are considerably reduced. Reducing to 14 staff is a net reduction of 10 staff (£385,000).

By applying a 25% increase to remaining staff the total wage bill is (14 x £38,500 + 25%) = £673,750.

The existing wage bill for 24 staff is £924,000 therefore the net saving for DCP is £924,000 - £673,750 = £250,250.

However, these savings could only be taken once Close Proximity Crewing is in place, and following significant accommodation build.

Build costs from other Fire and Rescue Services are estimated at between £165k - £450k per station. For RBFRS, the build costs are considerably higher and are based on the latest quotation for a new build at Ascot Fire Station. The price quoted was in the region of £2100/m2 where as previously, the build cost was quoted at £950/m2 + planning approval (about £3k-5k) + fees for design and tender aspects (Depending on value, the latter range between 11% -18%). Allowing for an accommodation block of an estimated 300m^2, planning fee of £5k and fees at 15%, it is found that the accommodation build would cost in the region of £730,250 using the latest figures, where as previously in 2012 the estimate was £333,000.

Working with the revised figures, it would take nearly 3 years to recover the costs and the £30k revenue financing cost would also increase.

As Station 10, Wokingham, is identified as a possible option for DCP, it should be noted that the Authority has the previous Station 10 building available, that may be suitable for conversion. The costs of any conversion may be lower than new build costs but this detailed work has not yet been

completed, as it would require expenditure on survey and design costs to ascertain. However, this station could be suitable for a trial, subject to the usual planning considerations etc.

In conclusion, legal interpretation continues to confirm Day Crewing Plus (DCP) does not comply with the law.

Although the HSE has intimated it will not challenge DCP where it already exists, they cannot (and will not) state this is ‘for ever’ or that they would not challenge newly implemented DCP type systems. And others may challenge anyway, especially in the light of clear legal interpretation. The reason for not enforcing compliance is that DCP has replaced other systems that also do not comply. So, are there other shift systems that would comply?

HSE

Health and Safety Executive

Mr. M. Yates
Chief Fire Officer/Chief Executive
Hereford & Worcester Fire and Rescue Service HQ
2, Kings Court
Charles Hastings Way
Worcester
WR5 1JR

C.c: - Peter Holland (Chief Fire Advisor, England)
- Des Tidbury (Chief Fire Advisor, Wales)
- Steven Torrie (Chief Fire Advisor, Scotland)
- Matt Wrack (FBU)

Public Service Sector
Defence and Public Protec

Mrs Lesley Pascoe

Woodlands
Manton Lane
Bedford
MK41 7LW

Tel: 01234 220579
Fax: 01234 220633
lesley.pascoe@hse.gsi.gov

http://www.hse.gov.uk/

Senior Policy Advisor
Suzanne Denness

Hereford & Worcester
Fire and Rescue Service
02 OCT 2015
RECEIVED

Date 24 September 2015

Reference WT/LP

Dear Mr. Yates,

HSE has been approached by an FBU Branch to give an opinion on whether the 24 hour shift systems commonly known as Close Proximity Crewing (CPC), Day Crewing Plus, etc. are compliant with the Working Time Regulations 1998 - specifically with Regulation 6 which is enforced by HSE.

Examples of these shift patterns have been examined in the relevant FRS, which has already adopted CPC in some of its stations, and based on the information provided it is our opinion that these shift patterns are in breach of Regulation 6 of the Working Time Regulations. This opinion has been reached in consultation with solicitors from the Government Legal Department.

Given the wider application of CPC shift patterns in other FRS, and the absence of immediately available and compliant alternative arrangements, this is a national issue that we feel obliged to bring to your attention. All the parties receiving this letter may need to be involved in finding a sustainable solution.

For your information, we have written to the FBU Branch concerned to express our opinion, and to explain why we would not take direct enforcement action at this time. An extract from that letter is attached as an Annex. This clearly leaves longer term compliance unresolved, however, and you will note that we have informed the FBU Branch that we will be writing to yourselves accordingly.

We would be happy to explain the calculation arrangements within the Working Time Regulations if that would be helpful, and will appreciate being informed of your response in due course.

Yours sincerely,

Mrs Lesley Pascoe
Policy Advisor

ANNEX

'HSE makes enforcement and regulatory decisions in line with the Enforcement Policy Statement (http://www.hse.gov.uk/pubns/hse41.pdf), and Enforcement Management Model (http://www.hse.gov.uk/enforce/emm.pdf). We enforce in a sensible and proportionate way. Applying these factors to this situation, we would not envisage taking any enforcement action for a breach of Regulation 6 because:

- The non-compliant CPC shift patterns have replaced other shift patterns that may themselves also be considered to be non-compliant (for example the traditional 2-2-4 system). Taking enforcement action against the CPC shift system would therefore not achieve compliance

- The FRS' examined had arrangements to manage the risks of fatigue should fire fighters be required to attend an incident during on-call hours. In our view, this caters for the risk factor and the CPC pattern will not significantly increase the risk to fire fighters.

- Our enforcement decisions also take strategic considerations and the wider public interest into account. Here, taking enforcement action when there is no readily available compliant alternative arrangement could cause considerable disruption to the emergency services, and would not be in the public interest.

Despite not taking enforcement action in this specific case we will, however, bring the overall situation to the attention of CFOA and the Government's FRS Advisor, advising them to discuss sustainable longer term arrangements for achieving compliance with the FBU and other stakeholders.'

2

Appendix N – People Impact Assessment title

Equality Impact Assessment form
NB This EIA has been completed regarding the overall project and as Scenarios are selected a further EIA's will need to be completed

EQUALITY Impact Assessment CHECKLIST

Name of activity / change/ project	Service Redesign
Directorate/department	IRMP
Name of department head/policy owner/project lead	AM Jefferies
Name(s) of person(s) completing this assessment	GM Powell
Date of commencement of assessment	13 July 2016

1. What is/are the aims/purpose of the activity or change you are assessing?

The 2015-19 Integrated Risk Management Plan (IRMP) must assess all foreseeable risks in Royal Berkshire and set out how it intends to manage that risk through prevention, protection and response activities. This must be balanced against the current financial landscape and the challenges of reduced funding. A number of Scenarios are being explored and include the following:

Increase the use of Remotely managed Stations
Day Crewing Plus

Removal of 2nd fire engine on stations with two fire engines

Removal of the Retained Support Unit

Creation of a pool System to allow the use of volunteers to work additional hours

Removing fire engines at night

Exploring the use of reduced crews on retained fire engines

Closure of fire Stations

2. Who is/will be affected by the activity/change, and how? Consider members of the public, RBFRS employees, partner organisations etc

The proposed changes may affect members of the public within the station grounds affected. This may be by the removal of a service which could affect the response times to incidents.

Staff may be affected by the removal of services which could displace staff or change their existing shift systems and condition of service.

3. What information is already available that tells you what impact the activity has/will have on people? Consider quantitative and qualitative data, consultation, research, complaints etc. What does this information tell you?

There has already been a significant amount of research which has been published in previous reports. The data is both qualitative and quantitative.

Stations will attract a number of different Scenarios and these will be evaluated as the Scenarios become clearer.

Formal consultation will be conducted when decision makers present the scenarios in a number of options to the public and staff. This will be followed by a period of conscientious consideration by the decision makers and this assessment reviewed in light of the responses to that consultation.

.

4. Does the activity/change have the potential to impact differently on people in different groups?

Assessment of impact on groups in bold is a legal requirement. Assessment of impact on groups in italics is not a legal requirement, but is RBFRS policy and will help to ensure that your activity or change does not have unintended consequences.

	Yes, No, or Not Sure?	If Yes, how?
People of different ages	Yes	A reduction in provision of service delivery will affect response times. Potentially this group of people, particularly older persons may have increased difficulty evacuating premises resulting in greater risk to this group in the event of fire.
Disabled people	Yes	A reduction in provision of service delivery will affect response times. Potentially this group of people may have increased difficulty evacuating premises resulting in greater risk to this group in the event of fire.
People of different ethnic or national backgrounds	No	
People of different faiths or beliefs	No	
Men and women	No	
Pregnant women and new mothers	No	
Straight, gay, lesbian and bisexual people	No	
Transgender people	No	
People living in different family circumstances	No	

People in different social circumstances	Yes	Indices of multiple deprivation indicate potential areas of increased risk due to societal factors. In these areas there may be an increased risk to households whose occupants live more chaotic lifestyles where reduction of service provision increases response times.
Different employee groups	No	
Other	N/A	

6. What further research or consultation is needed to check the impact/potential impact of the activity/change on different groups? If needed, how will you gather additional information, and from whom?

Full public consultation to access these groups (or representatives of these groups) to consider the impact. Consultation and links to Prevention activity also should be considered.

7. Following your research, taking into account all the information that you now have, is there any evidence that the activity or change is impacting/will impact differently or disproportionately on some groups of people?

This stage to be reviewed following public consultation.

8. What amendments will you make/have been made to the activity/change as a result of the information you have? If a negative effect has been identified, how could it be/has it been lessened?

This stage to be reviewed following public consultation.

9. After these amendments (if any) have been made, is/will there still be a negative impact on any group?

Yes		No	x

If No, go to section 11

If Yes, please explain:

10. Can continuing the activity, or implementing the proposed change, without further amendment, be justified legally? If so, how?

The impact of a reduction in Response service provision may be balanced by Prevention strategies in the reduction of accidental dwelling fires and fire fatalities. These strategies will use targeted partner data to maximise positive outcomes in the areas outlined in this assessment. This allows RBFRS to meet its statutory duties and would appear to be proportionate, ethical and, against the current financial landscape, necessary.

11. How can you ensure that any positive or neutral impact is maintained?

Measurement of performance, government statistics, Peer reviews and internal audits

12. How will you monitor the impact of the activity in future?

See previous response

13. When will the activity/change next be reviewed, and by whom?

Following public consultation

All the actions should be transferred to project action plans or documented as appropriate in departmental service plans

Appendix O - Retained Support Unit Review 2016

Introduction

In 2010 as part of the Integrated Risk Management Plan (IRMP), Royal Berkshire Fire & Rescue Service (RBFRS) commissioned a report into the Retained Duty System (RDS). Amongst a number of recommendations, one of which was that a Retained Support Unit (RSU) be established.

The RSU was set up in RBFRS around April 2012.

The RSU was set up with a remit for three functions.

1. Improve recruitment
2. Increase RDS availability
3. Improve Training/Competence

   The intention was that the success in the above areas would mean that the RSU at some point would be disestablished as there would be no need for them.

This report was commissioned as part of evidence collection to support the IRMP Service Redesign public consultation. The evidence will be used by fire authority members to shape options for consultation and the public and other stakeholders to allow consideration of any options within the consultations.

The focus of this report is to review the effectiveness of the RSU by a measurement of the impact the RSU has had upon the three areas outlined above.

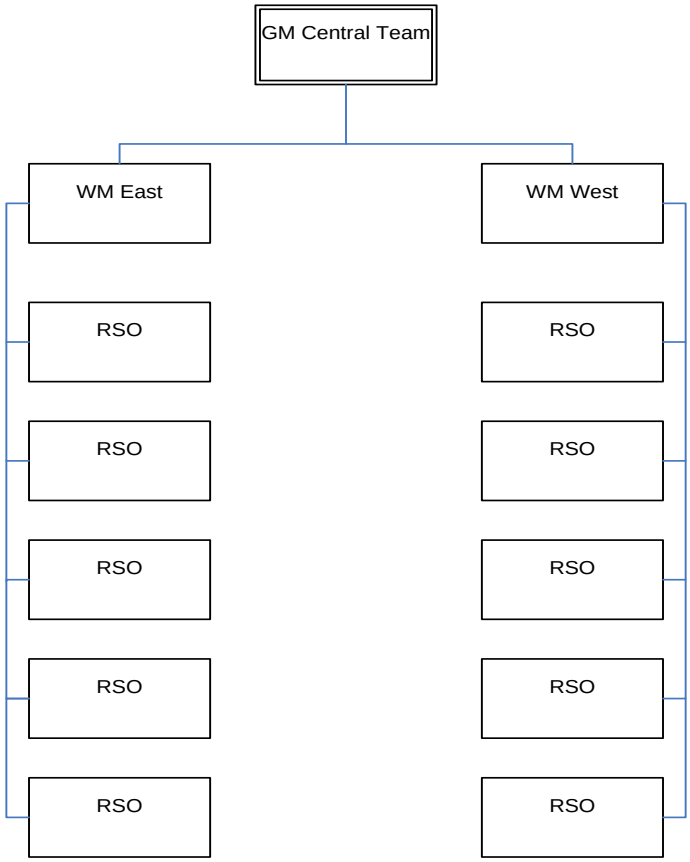
Methodology

A quantitative research methodology is used here, whereby particular measures are used to establish effectiveness.

RSU Background

The RSU is formed by a group of Wholetime Duty System (WDS) staff who are Retained Support Officers (RSOs). They work a ‘nine day fortnight’ (Monday to Friday 09.00 -17.00 with every alternative Friday off) and have a commitment to additional hours (for which they are paid a training allowance) and as previously stated have been tasked with improving the RDS service in terms of recruitment, availability and competence.

The 2010 report recommended that 12 WDS posts be established in the following framework.



(The RSO's are all graded at Crew Manager level.)

The number of RSU staff over time, measured at 31 March each year, is as follows:

	2013	2014	2015	2016
RSU CM	9	7	7	7
RSU WM	2	1	1	1
Total	11	8	8	8

Source: Email from HR 25/4/16

The framework was based upon having one RSO per Retained Duty System station overseen by two Watch managers. This planned establishment has reduced over time in line with a reduction in the

number of Retained Stations in the county. The current establishment consists of one Watch manager and seven RSO's.

Finance

The latest figures from the finance department show the following:

The salary budget for each RDS station is approximately £118,000 per annum.

So a rounded total of £830,000 per annum for all RDS stations

The current RSU salaries with training allowance are:

RSU Watch Manager £57,402

RSU Crew Manager £52,176

Therefore, based on the existing establishment of eight posts (1 x WM, 7 x CM) the RSU has a rounded figure cost of £423,000 per year in salaries.

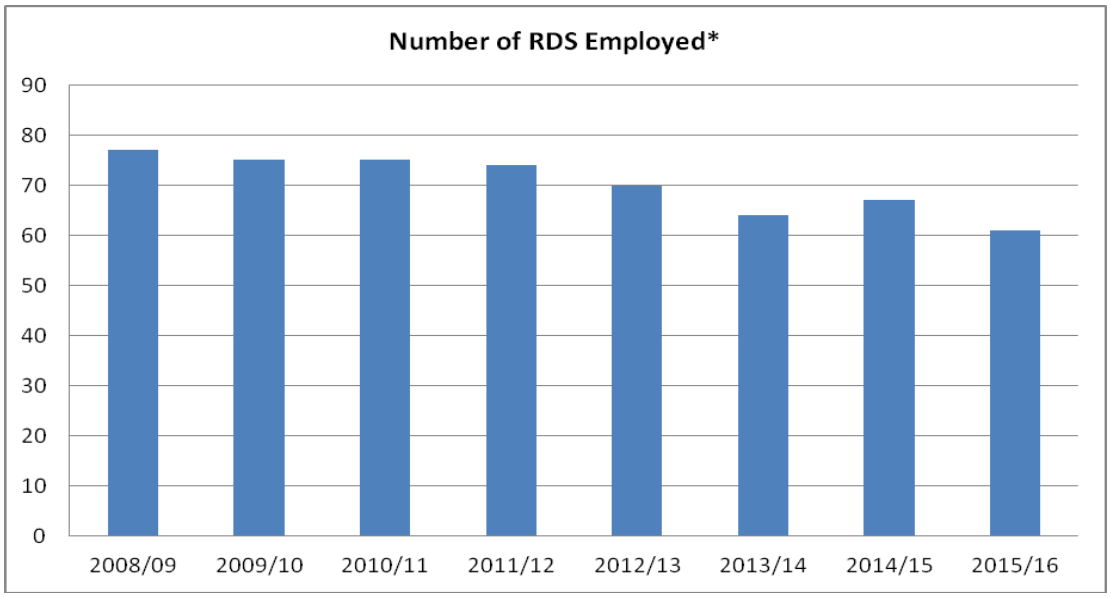
Research Time Frame

Having been established in April 2012, it is reasonable to compare the RSU performance in RBFRS over the four years since their establishment with the four years before their establishment, where appropriate. To measure the performance of the RSU specifically, it is only possible to consider the data for the four years since its inception in 2012. Hence data collection will be from 2008/09 to 2015/16 will be used where appropriate.

Impact on Recruitment

One of the three functions of the RSU was intended to be the recruitment of RDS staff, thereby (over time) reducing the need for an RSU to zero.

The number of RDS staff employed over years is given below. [*The RDS data in this report has been acquired from a number of sources and collated into a spreadsheet "RSU review data…" which is available upon request.]*



Unless otherwise stated, RDS data throughout this report will **not** include historically disbanded RDS (e.g. Ascot and Bracknell were disbanded in April 2012). Therefore the data will be for the current RDS stations only (stations 5, 6, 7, 9, 11, 15 and 19.)

The HR department ran a FireWatch report that gave the following for 31 March 2016:

ROLE	Number
Crew Manager	15
Firefighter	42
Watch Manager	6
Grand Total	63

Source: Email from HR 24/4/16

This figure correlates well with the graph above with data from Scorecard.

Recruits and leavers

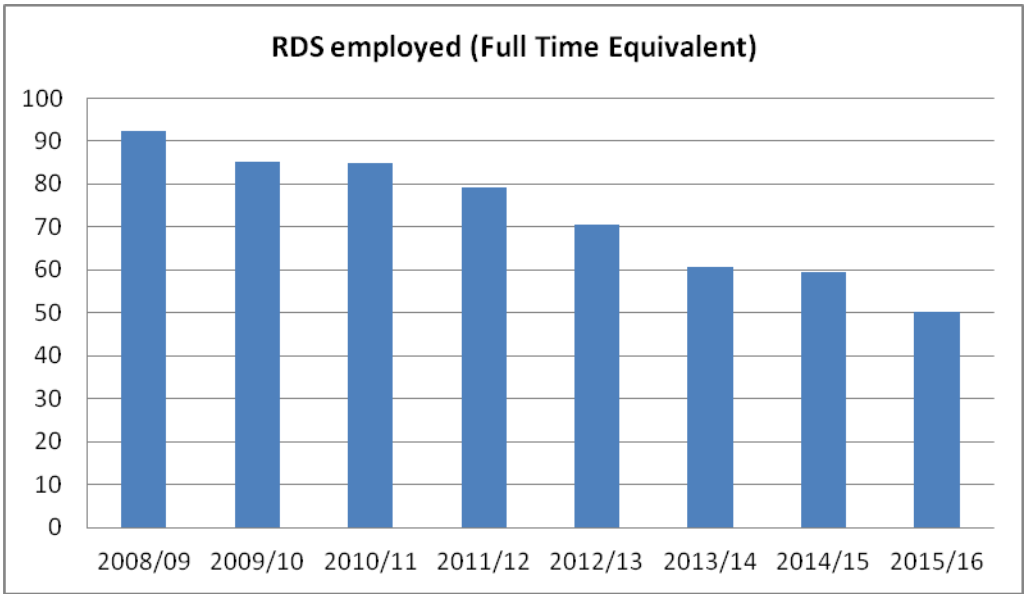
Financial Year	Starters	Leavers
2008/9	3	5
2009/10	12	13
2010/11	12	15
2011/12	9	12
2012/13	4	14
2013/14	7	16
2014/15	8	10
2015/16	9	21
2016/17	6	2
TOTALS	**70**	**108**

The table above provided from HR shows that the RDS Stations have suffered from a greater number of Leavers than Starters. The Leavers includes redundancies of 9 personnel from disbanded RDS stations. Whilst there has been no discernible impact from the RSU in recruitment evidenced in terms of overall numbers, it is not known what the impact would have been without them. Recent changes in the way HR and the RSO's have conducted the testing of prospective joiners in a new way which has resulted in 12 new starters. Having said this, this new way of working does not have to be carried out by the RSO's and could be done by others in the organisation.

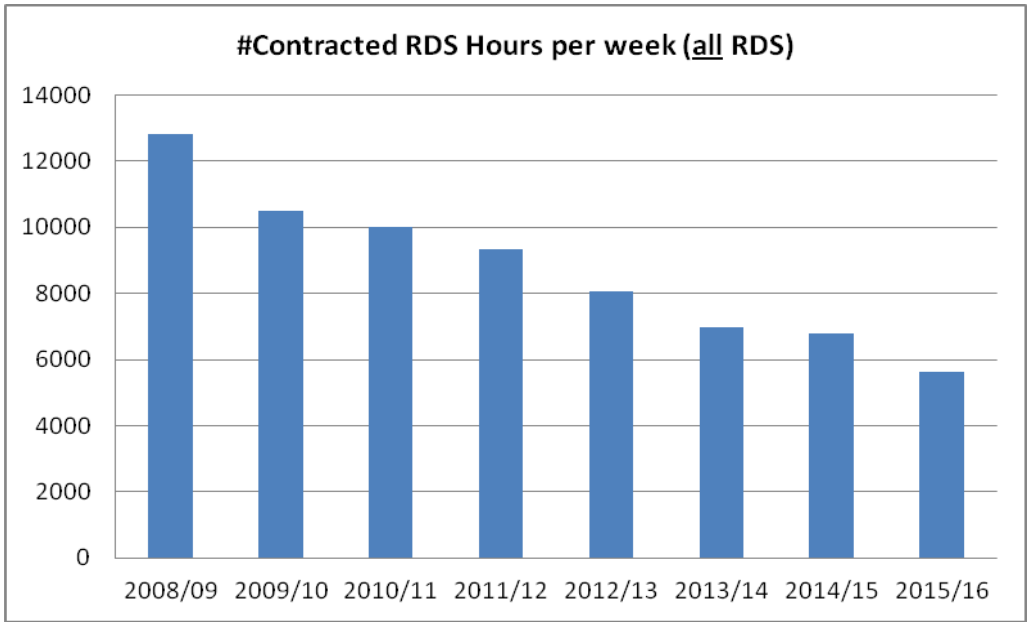
HR also stated 'Since 01/04/16 we have had three new starters but balanced by one leaver'. So the current total (as of 24/4/16) is that there are 65 RDS employed.

It can be seen that the numbers employed have diminished over time, although a recent WDS course at the training centre included two RDS and four new RDS employees in April.

Over time there have been changes to the contractual arrangements and it is useful to examine the Full Time Equivalent (FTE). The graph below illustrates that the number of employees (FTE) has fallen from just over 90 FTE in 2008/09 to 50 FTE in 2015/16.



The table below show the number of contracted hours for all RDS staff. This shows that the number of contracted hours has also fallen from almost 13,000 hours in 2008/09 to less than 6,000 hours in 2015/16.



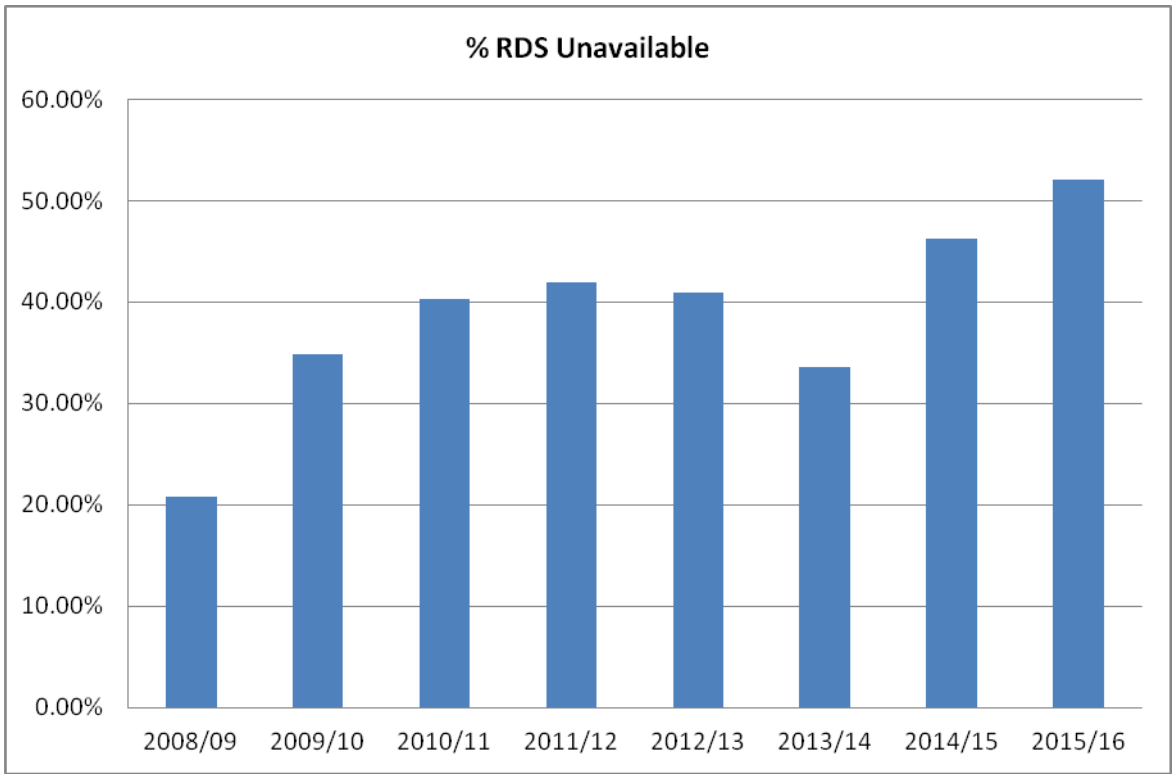
So, by any measure, the trend in the numbers of RDS employed and the number of contracted hours is downward and the RSU has not reversed or stabilised this trend. However, we cannot know what the situation would have been like without the presence of the RSU.

Impact on RDS Availability

The main impact resulting from increased recruitment is increased availability. Additionally, the RSO's are based at their respective RDS station and can therefore improve availability. However, their impact is only made between 09.00 and 17.00 Mon-Thurs and 09.00-17.00 every other Friday. They cannot impact availability outside of these times, although weekday daytime cover has been traditionally difficult to cover.

The table below shows the percentage of unavailability across all stations. Whilst there are variations across different stations, it is clear that unavailability has got worse across the eight years of data and has not improved in the four years since the RSU has been in place (with the exception of 2013/14).

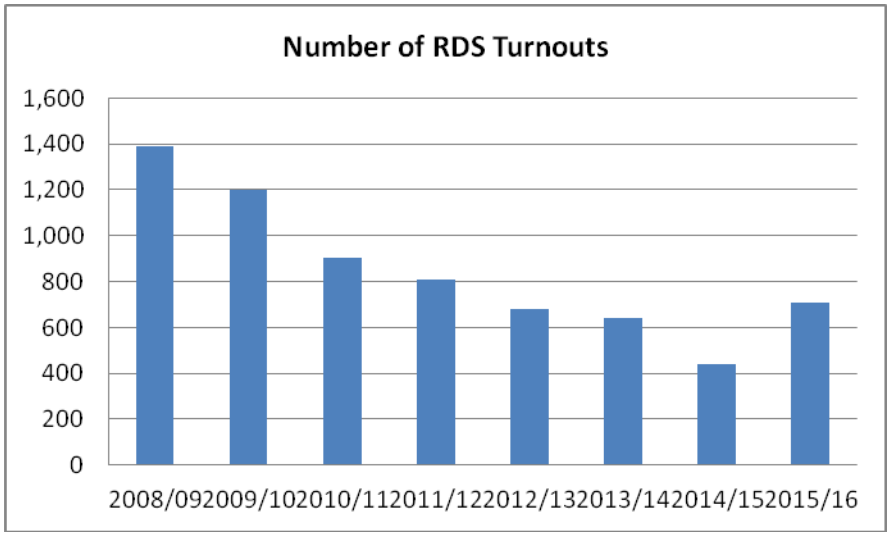
All RDS appliances are unavailable for more than 52% of the time as opposed to 21% in 2008/09 and 41% in 2012/13 when the RSU was installed.



RDS availability from 2008-2012 based on the database in control includes Ascot and Bracknell
2013-2015 from Firewatch does not include Bracknell and Ascot

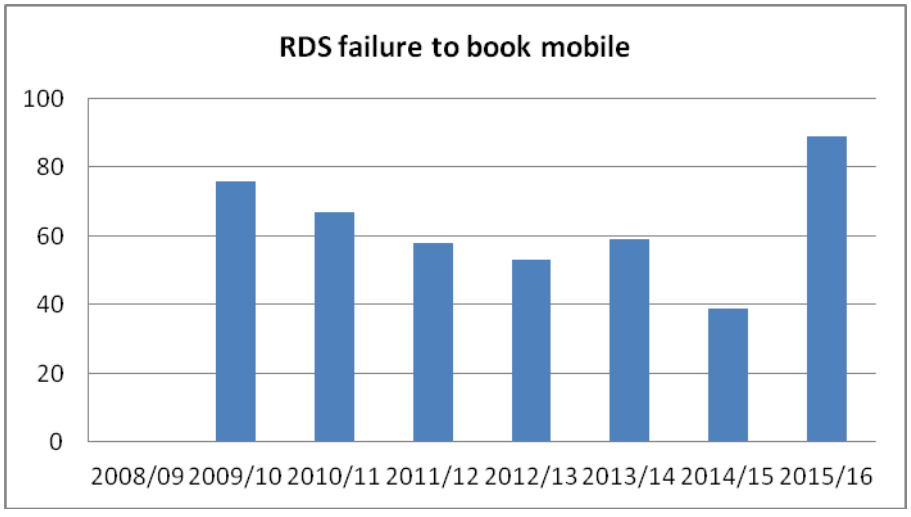
There is a data discontinuity in the table above but even so, as the data is used as a percentage it is useable.

Over time the number of incidents attended by RBFRS has dropped and this is reflected in the turnouts from RDS stations.



The recent rise in the number of turn outs (for 2015/16) is believed to be the result of the cutover to Thames Valley Fire Control Service's new mobilising system which has increased the number of fire engines attached to a pre-determined attendance and increased over the border mobilisations.

One measure of availability arising from turnouts could be seen to be the number of 'failures to mobilise':



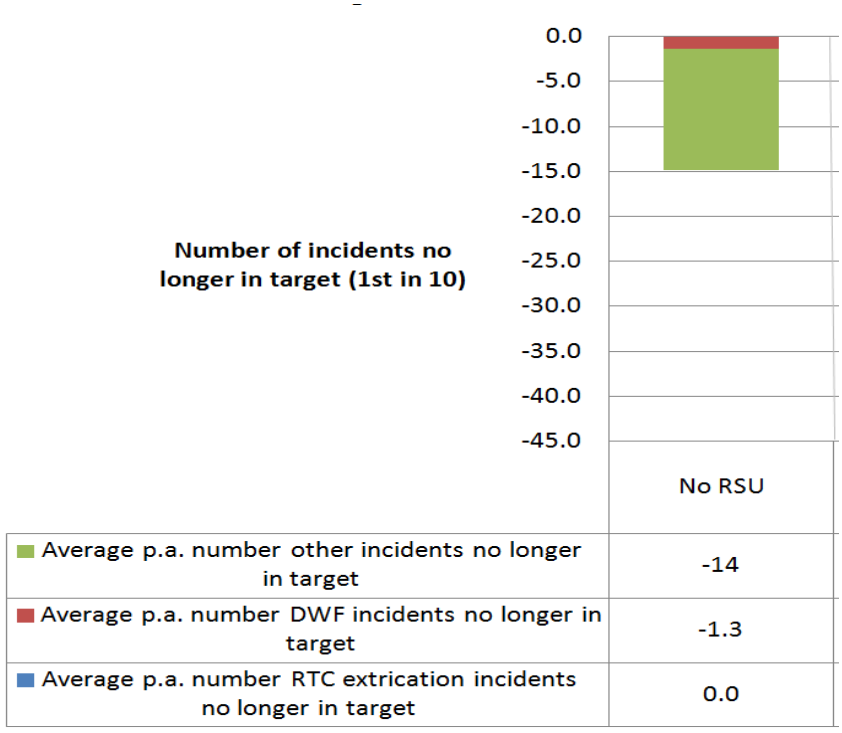
Generally the failure to book mobile rate follows the number of turnouts. The RSU has had no discernible effect in improving this statistic.

Impact of removal of the RSU on risk to the public

The section which starts on page 42 details how the Retained Support Unit (RSU) has not achieved some of its primary objectives. However, the RSU do support retained crewing during the hours they work (9-5, Monday – Friday). By removing this crewing method we need to understand the risk this may present. This was done using the response modelling methodology outlined in appendix F and used a subtracted calculation (by Retained Duty System station) of impact of increased availability given by RSU in 2015/16 This subtraction reduces the randomised availability by hour of each RDS station.

Annual impact of removing the RSU

	Average p.a. number of incidents no longer in target (1in10)	%incidents in target	% drop in target	Average p.a. number RTC extrication incidents no longer in target	Average p.a. number DWF incidents no longer in target	Average p.a. number other incidents no longer in target
Base	0	77.6%	0.0%	0.0	0.0	0
No RSU	-15	77.4%	-0.2%	0.0	-1.3	-14

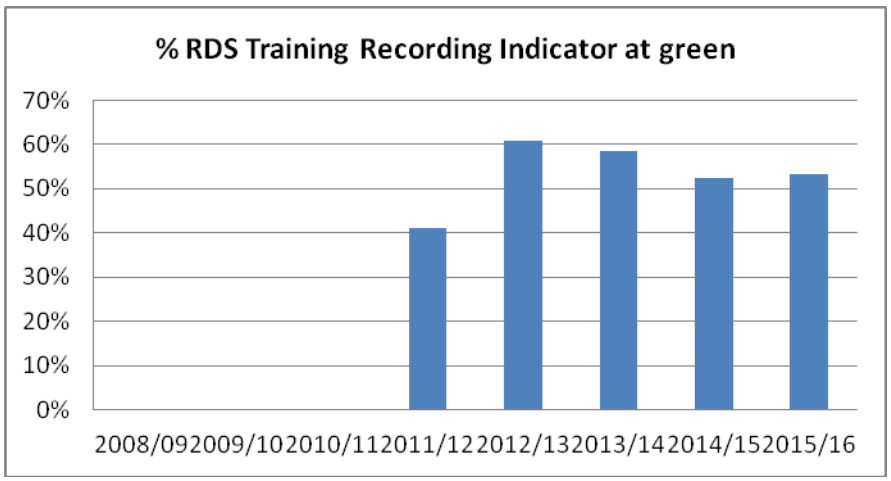


A value of 0.0 in the table indicates that in the six year data period used in the model (2009-2015) there were no incidents of that type recorded. It does not suggest that there would not ever be any incidents of this type in that area.

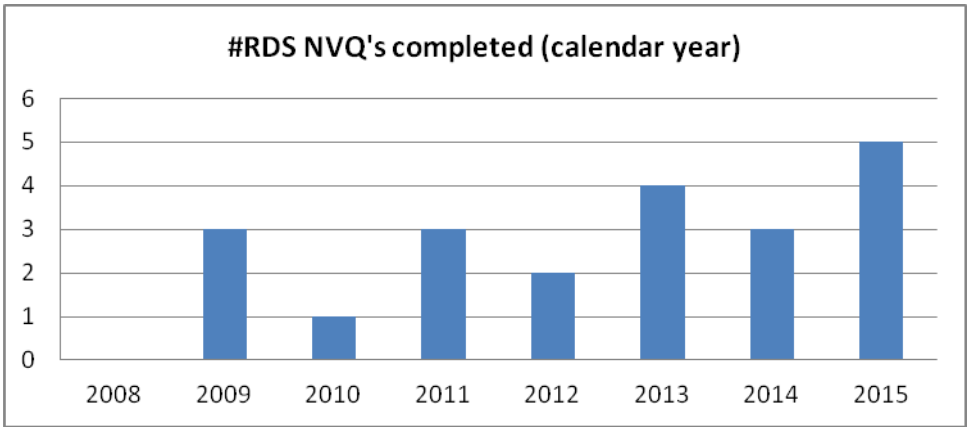
Impact on Training and Competence

RDS firefighters deal with the same risks as their WDS colleagues and need the same level of training, and to acquire and maintain the same set of competences. Finding quantitative data that supports this aspect is more difficult than the other two areas of focus for this report.

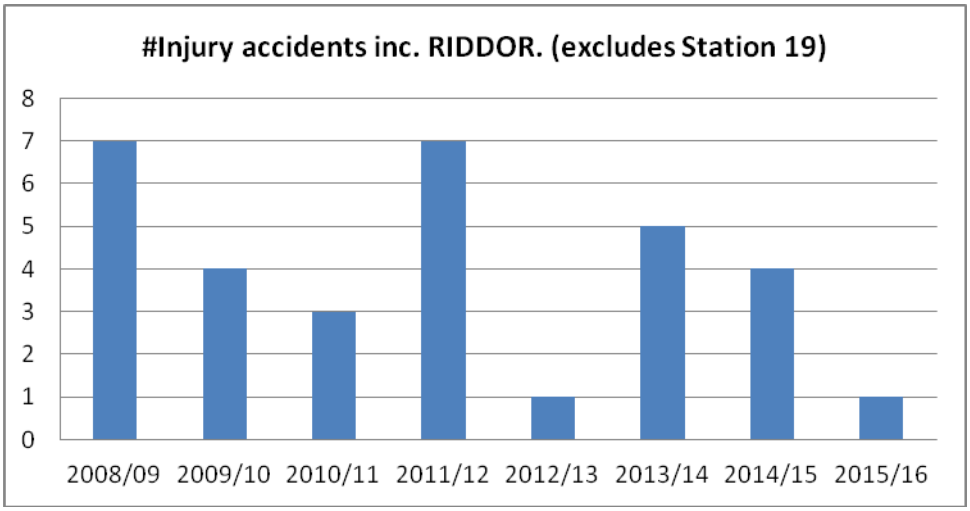
RBFRS has a training recording system within FireWatch that cascades data into Scorecard (our performance reporting software). The Training Requirements Indicator (TRI) system was introduced for RDS after the original RDS report in 2010 with data starting to come through in 2011. After an initial surge in 2012, the data has stabilised, as seen below, with perhaps just a slight upturn recently.



Another good measure of competence is whether or not staff have achieved the relevant NVQ (Emergency Fire Services Operations in the Community (Level 3 NVQ Diploma). The difficulties of achieving the qualification for RDS were noted in previous reports but the following shows that there is a slight improvement over time. It should be recognised that this qualification can take significantly longer for RDS than for WDS.



Another possible measure may be useful in that a competent workforce is a safe workforce, so we could look at accident data.



Although it is difficult to be sure if this is a 'real' interpretation of actuality, or whether it is a function of fewer records being made or just fewer staff, it is not possible to say. But the data is for actual injuries, so doesn't rely on some interpretation (as it does for 'near miss'). The graph shows a downward trend in accident injuries.

Conclusions

The quantitative results demonstrate that the RSU have not made a positive impact on recruitment or availability both of which have got worse. There is evidence that training and competence are better, although more could be achieved.

The value of the RSU appears to have been constant in terms of the efforts and intentions, and the RSOs are viewed positively by RDS staff and Officers responsible.

The solution is likely to be via the project which has been commissioned through the IRMP programme. This will seek to break with traditional ways of working and learn from other FRS and introduce new and innovative ways of working. There have been improvements in systems such as recruitment and testing processes and training and development systems but these do not have to be delivered by RSO's which as shown in the financial section is an expensive way of delivering the increase in availability that they bring.

End notes

[1] 16 staff to enable a compliment of 44 staff (60 – 16) to allow remotely managed station at Windsor to still operate

[2] Annual appliance running costs (figures supplied by Engineering Officer)

[3] Telephone conversation and email from Warwickshire 04/09/16

[4] See Scenario 6 p32 for a definition of a remotely crewed station.

[5] Telephone conversation with Cheshire FRS 06/09/16

[6] Telephone conversation and emails from Cheshire FRS – Shift split times/nucleus crewing/smaller crewing

[7] Telephone conversation and emails with Surrey FRS – shift split times/Pool systems

[8] Figures supplied by Finance Dept 14/07/16

[9] Numbers supplied by HR

[10] There is also a three watch 24hour system (Kelly system, often used in the USA) that is not considered further here as it makes no savings.

[11] GMFRS Emergency Response Hub 07/09/16

[12] The earlier DCP report recommendations are at appendix C

[13] Email received from RBFRS strategic property manager 03/08/16

[14] Other FRS's operating DCP type systems contacted by phone, email and earlier site visits

[15] Survey results available in September 2016

[16] Email and telephone conversation with Cheshire FRS 05/09/16

[17] See HFRS IRMP Consultation Document (copy available on request)

[18] Initial verbal information supplied by RBFRS 30/08/16

[19] Numbers provided by HR

[20] From Human Resources Dept 25/4/16

[21] From Finance Dept14/06/16

[22] The RDS data in this report is contained in the RSU review 2016 report

[23] Includes all fires, special services and false alarms. Excludes standbys and exercises. Does not show the incidents on RDS grounds when they cannot turnout, these will appear in the totals for other pumps. Includes co-responding (Hungerford and Wokingham). 'Turnouts' are what the Merseyside/LLAR work refers to when using the 825 figure.