

CHESHIRE FIRE AUTHORITY

MEETING OF: CHESHIRE FIRE AUTHORITY
DATE: 14TH FEBRUARY 2018
REPORT OF: CHIEF FIRE OFFICER AND CHIEF EXECUTIVE
AUTHOR: ALEX WALLER

SUBJECT: **REVIEW OF THE AUTHORITY'S PLANS TO CHANGE THE DUTY SYSTEM FROM WHOLETIME TO ON-CALL FOR THE SECOND FIRE ENGINES AT CREWE AND ELLESMERE PORT FIRE STATIONS**

Purpose of Report

1. To present the findings of the review into the Authority's plans to change the duty system from wholetime to on-call for the second fire engines at Crewe and Ellesmere Port Fire Stations; to determine the future duty systems for these fire engines; and to agree a timescale for any changes to be implemented.

Recommended: That

- [1] Members' consider the findings of the review; determine the future duty system for the second fire engine at Crewe Fire Station and agree a timescale for the implementation of any change.
- [2] Members' consider the findings of the review; determine the future duty system for the second fire engine at Ellesmere Port Fire Station and agree a timescale for the implementation of any change.

Background

2. After a comprehensive public consultation, Members agreed at the meeting of Cheshire Fire Authority on 13 February 2013 to embark upon a programme of change (Emergency Response Programme) to improve the efficiency of Cheshire Fire and Rescue Service and to deliver required savings to reflect reductions in central government grant.
3. Proposals to change the duty system for the second fire engines at Crewe and Ellesmere Port from the wholetime duty system to an on-call duty system were two specific elements of the Emergency Response Programme.
4. Other elements of change within the Emergency Response Programme – with most elements delivered by April 2017 - included the construction of four new fire stations to improve emergency cover and response times across Cheshire; reviewing working patterns across the organisation; furthering collaboration

with local partner agencies and the introduction of a response standard to life-risk incidents of ten minutes on 80% of occasions.

5. At the February 2013 meeting, when agreeing proposed elements of the Emergency Response Programme (2013/14 to 2016/17), Members agreed the following provisions relating to the second fire engines at Crewe and Ellesmere Port:
 - 2015/16 – Start recruiting for on-call staff at Crewe and Ellesmere Port, and
 - 2016/17 – Introduce new crewing arrangements for the second fire engine at Ellesmere Port and,
 - 2016/17 – Introduce new crewing arrangements for the second fire engine at Crewe

6. Following consultation on the draft Integrated Risk Management Plan (IRMP) for 2017-18, at the meeting of Cheshire Fire Authority on 14 February 2017 Members agreed to review the plans to change the duty system from wholetime to on-call for the second fire engines at Crewe and Ellesmere Port to determine whether they were still appropriate to reflect the local risk and demand. Members then resolved to add the following amendment to the approved IRMP for 2017/18:

“No change to the current arrangements in Crewe and Ellesmere Port in 2017-18 pending a review, the outcome of which is to be considered by Members”

7. The scope of the review was agreed by Members at the Fire Authority meeting on 26 April 2017, where it was resolved that the review would focus on the following areas:
 - a. An assessment of the current and emerging risks;
 - b. An analysis of current and anticipated activity levels (broken down into day and night) and set against current performance against the ten-minute response standard for life-risk incidents; and
 - c. An analysis of the types of incident dealt with.

8. The report also noted that when the review was to be considered, Members would need to understand the up-to-date position in relation to on-call firefighter recruitment and training, with an assessment of the likely ongoing situation.

9. As the review was developing, it became apparent that other issues of concern were being raised by various parties, e.g. the extent and impact of surrounding resources.

10. Members also asked that the report concerned with the review included commentary about other duty system options.
11. Members agreed at the April 2017 meeting that the review should be subject to independent external validation. This validation has been provided by Greenstreet Berman, an independent company specialising in risk analysis which has experience of dealing with various clients within the fire and rescue sector.

INFORMATION

12. The report contains/appends a significant amount of information. It is organised into the following sections.

SECTION A – Crewe

- Assessment of Current and Emerging Risks
- Analysis of Current and Anticipated Activity Levels
- Analysis of Types of incidents
- On-Call Context – Crewe
- Conclusion
- Alternative Options
- Third Party Submissions
- External Validation

SECTION B - Ellesmere Port

- Assessment of Current and Emerging Risks
- Analysis of Current and Anticipated Activity Levels
- Analysis of Types of incidents
- On-Call Context – Ellesmere Port
- Conclusion
- Alternative Options
- Third Party Submissions
- External Validation

SECTION C External Validation – Other issues

13. The report will reference information within the appendices where necessary. The appendices are listed below:

Appendix 1: Crewe - Review of second fire engine

Appendix 2: Ellesmere Port - Review of second fire engine

Appendix 3: Independent Assessment of ERP1 Review: Crewe and Ellesmere Port, Michael S. Wright (Greenstreet Berman)

Appendix 4: Crewe and Ellesmere Port Review: Third Party Submissions

SECTION A - CREWE

Assessment of Current and Emerging Risks

14. The assessment of risks primarily focuses on the issues of population, dwellings, non-domestic premises (businesses), traffic volumes, houses in multiple occupation (HIMO) and associated response activity within the Crewe station area compared with the whole of Cheshire. Data relating to this section is contained within Appendix 1, Section 1.
15. As referenced in the first section (1.1), since 2012 both the population and number of dwellings in Crewe have increased by 0.89% and 0.65% respectively (App 1 Fig.2, p.8; Fig 4, p.9). Despite this increase there has been an overall reduction in dwelling fires (App 1, Fig 6, p10). This is consistent with the picture across Cheshire. (App 1, Fig 1, 3 & 5).
16. Business units have also increased across Cheshire during the last decade. In Crewe, they have increased by 22% since 2012 (App 1, Fig 8, p11). During the same period, fires in business premises in Crewe have reduced from an average of 17 to 14 per year (App 1, Fig 10, p.12).
17. The volume of road traffic in relation to both Cheshire and Crewe has increased (App 1 Fig.11 & 12 p.13). In spite of this increase, the average number of road traffic collisions in Crewe has remained static with a slight downward trend overall (App 1, Fig 14, p.14).
18. In addition to the risk from population, dwellings, business growth and traffic, Members were also concerned about houses in multiple occupation (HiMO). Accordingly, work was undertaken to identify the HiMO in Crewe and to determine if there had been any fires in the properties by cross mapping the information with the Service's Incident Recording System.
19. The project team obtained 440 addresses for HiMO in Crewe from Cheshire East Council (Housing Standards and Adaptations Team), 415 of these were unlicensed (App 1, p15).
20. Incident analyses confirmed that during the last 8 years the Service attended 25 incidents at these addresses, an average of 3 incidents per year (App 1, p15). Whilst Officers are unable to confirm if the properties were HiMOs at the time of the fires i.e. they may not have been HiMOs 8 years ago - they can confirm that 25% of the fires required no action and none of them resulted in an injury or death (App 1, p15).
21. All of the data and analyses outlined above and included within Appendix 1, Section 1, shows that the risk profile of Crewe has changed since 2012. However, over the same period the overall downward trend in dwelling fires, fires in business premises and road traffic collisions (requiring the Service's involvement) has continued.

22. The next section in Appendix 1 (Sec 1.2, p16) provides an outline of emerging risks. These potential risks have emerged since Members' decision in 2013 and relate in particular to the Cheshire East Local Plan regarding housing and economic development, the planned redevelopment of Crewe town centre and the designation of Crewe as a hub station for HS2. The plans are ambitious and the assumptions within them forecast significant growth in population, dwellings, businesses and road traffic volumes in Crewe and the surrounding area. Paragraph 41 provides some further commentary on the impact of these risks.

Analysis of Current and Anticipated Activity Levels

23. The analysis of current and anticipated activity levels are provided within Appendix 1, Section 2. This section focuses on the number and type of incidents attended and performance standards, including response times for the first, second and third fire engines to arrive at incidents in Crewe.
24. As referred to in section 2.1.1. (Fig 15, p.20) and section 2.1.2 (Fig 16 & 17 p.20), the overall number of incidents across Cheshire and within the Crewe station area has decreased. Specifically within Crewe, the average number of incidents attended per year has reduced by 29%; from 850 in the five years (2007-2011) preceding Members decision to approve the Emergency Response Programme to 603 in the five years following the original decision (2012-2016); this equates to an average of 1.7 incidents per day in Crewe.
25. The majority of incidents attended within the station area (69%) required one fire engine (App1, Fig 18, p.21). A further 23% of incidents required two fire engines and 8% required three or more fire engines.
26. Specifically referring to life-risk incidents (App 1, Fig 19 & 20, p22), the average number of dwelling fires attended during the last 5 years has reduced from 49 to 43 per year. Over the same period, the average number of road traffic collisions has reduced from 23 to 21 per year (App 1, Fig 21 & 22, p23).
27. In summary, the number of incidents attended within Crewe has continued to fall during the last decade and based on analyses of historic data and trends it is not expected that the number of incidents will increase in the future.
28. The following paragraphs consider response times and the performance standard. The current and predicted average response times for the first, second and third fire engines to incidents in Crewe are shown in (App 1, Table 4, p24) as well as a comparison with actual response times for the whole of Cheshire. It can be seen that currently the first, second and third fire engine response times into Crewe are better than the Service averages (Row A vs D).
29. If the plan to move to an on-call duty system for the second fire engine is confirmed, then the response times for the first and third fire engines will not change. The response time for the second fire engine will see an increase of 2 min 31 sec (Row A vs C) but this will still be in line with the Service average.

30. Moving on to the performance standard for life risk incidents, it is predicted that the Cheshire Standard will be achieved on 98.4% of occasions in Crewe compared to 88% for the whole of Cheshire (Row C, p24).
31. In conclusion, the above demonstrates that if the second fire engine at Crewe is changed from a wholetime to an on-call duty system, the response times to incidents in Crewe will still be better than the Service average and performance against the Cheshire Standard will also be better than the Service average.
32. Another matter for consideration relates to the operational workload of the second fire engine at Crewe if it operated the on-call duty system. It is predicted that Crewe's on-call fire engine would be mobilised on an average of 213 occasions per year (App1, Fig 23, p27). This prediction is based on the Phoenix software modelling tool and assumes an 85% availability for the second fire engine. The predicted mobilisation volume fits with the on-call model and would place an on-call fire engine in Crewe as the second busiest on-call fire engine in the Service after Nantwich, which has 246 mobilisations per year. As a comparison, the least busy wholetime fire engine (Penketh) is expected to respond to 467 mobilisations per year and the busiest wholetime fire engine (Warrington) to 1046 mobilisations per year (App 1, Fig 23, p27).
33. It is appropriate to consider the potential impact on prevention activities in Crewe as a result of reduced capacity due to the second fire engine moving from a wholetime to an on-call duty system (App1, Table 6 & 7, p28). Officers have assessed the prevention workload demand and compared it with the existing wholetime stations with one fire engine to determine the extent to which the current performance outputs at Crewe will be maintained. It can be seen that the number of visits to high-risk homes will not change, neither will the number of school visits, road safety initiatives, safety campaigns and thematic inspections of business premises. However, the number of visits to lower risk homes would be expected to reduce by 1344 per year.

Analysis of Types of Incidents

34. An analysis of incident types is contained within Appendix 1, Section 3. The data is split between the five years preceding the original decision by Members to approve the Emergency Response Programme (2007–11) and the five years post the decision (2012-16).
35. The most frequent types of incident attended are false alarms, which make up 46% of incidents, followed by secondary fires (17%) (App 1, Table 8 & 9, Fig 24 p.30). While the number of false alarms has reduced slightly, the number of secondary fires has decreased by over 50% when comparing averages between 2007-11 and 2012-16.
36. Specifically in relation to life risk incidents - dwelling fires and road traffic collisions – in the five years since the original decision to approve the Emergency Response Programme there have been fewer incidents with an

average of 43 dwelling fires and 21 road traffic collisions per year in the Crewe station area. (App 1, Fig 20,22, p22,23)

37. Of the dwelling fires 84% were confined to the room of origin and 39% were 'out on arrival' or required no firefighting intervention. In the five years since 2012 these incidents have involved 1 fatality, 1 severe injury and 32 slight injuries (App 1, Sec 3.2, p31).
38. Regarding road traffic collisions, 30% (6 per year) of the incidents attended involved the extrication of a casualty. In the five years since 2012 there have been 3 fatalities, 16 severe injuries and 46 slight injuries resulting from road traffic collisions in the Crewe station area (App1, Sec 3.3, p31).
39. Section 3.4 (p32) outlines the number of larger incidents within the Crewe station area between 2012 - 2016 and also the predicted response time to provide ten fire engines in the event of a large-scale incident in Crewe. The table shows that the number of incidents requiring an immediate response of 5 fire engines or more is very low, amounting to 1 or 2 occasions per year (Table 10, p32).
40. The prediction shown in App 1, Table 11 & 12 (p.32) shows that if 10 fire engines were required at an incident in the centre of Crewe, they are expected to attend within 21 mins; this assumes that all of the on-call fire engines are available. If no on-call fire engines are available, then the response time would increase to 35 minutes. To draw a comparison, eight fire engines arrived at the explosion at Bosley Wood Flour Mill within 47 minutes of the request from the Incident Commander. Note: the above estimates were provided by North West Fire Control (mobilising system) and assume that all attending fire engines were available at the time of call.
41. While it is the case that population, dwellings, business premises and traffic volumes have all increased during the last five years without an associated increased demand on the Service, it is somewhat more challenging to make an accurate prediction about the future. The Local Plan for Crewe is ambitious and far reaching and will likely lead to significant further growth (App 1, Sec 1.2, p16 and 17), but on balance, there is nothing within the data to suggest that this will result in a future increase in demand to such an extent that more operational resources would be required in Crewe.

On-call Context - Crewe

42. Appendix 1, Section 4 provides an assessment of the current situation regarding on-call recruitment at Crewe.
43. The graphic in section 4.1. (p35) outlines the current position regarding on-call recruitment achieved prior to the on-call recruitment activity being put on hold following the approval for the review. A total of seven on-call firefighters have been recruited to date, with a further two awaiting transfer to the station. Officers have travelled the routes to the station under non-blue light conditions

to check that the five minute turnout standard is achievable for the existing on-call firefighters.

44. It is predicted that the on-call fire engine will be mobilised on 213 occasions per year, one mobilisation in every 41 hours on average. It is acknowledged that the time taken for on-call fire engines to turnout to incidents varies. For example, mobilisation is likely to be slower during the daytime (especially during rush hour) than at night time. However, overall the fire engine should achieve an average turnout time of 5 minutes (the current average turnout time for on-call fire engines is 4 mins 53 secs). On the occasions when the turnout is slower, it is likely that the on-call fire engine will still arrive at the incident before a neighbouring fire engine due to the travel distances involved.
45. Further recruitment will target specific households that meet the typical profile for an on-call firefighter. Overall the Service employs 266 on-call firefighters out of a potential 209k people that live within 5 minutes of the current on-call stations. In order to better evaluate the Service's prospects of recruiting on-call staff at Crewe some additional profiling has been carried out. Existing on-call staff were assessed against the Mosaic groups (a tool used for socio-demographic analysis). This allowed the Service to establish the types of households that are most likely (based on past recruitment campaigns) to include individuals that would be likely to be recruited into on-call roles. The analysis (Table 14, p37) indicates that 3,812 of the 16,129 households within five minutes travel time of Crewe fire station fall within the top six priority groups for on-call recruitment. This provides a large pool of potential applicants, which is similar to the number of priority households within the on-call catchment area for Nantwich Fire Station. This has given officers confidence that recruitment should be achievable with the right targeted activity.
46. Whilst the above is positive, Members should be mindful of the timeline for implementing an on-call duty system for the second fire engine (App 1, Table 13, p.36). A successful recruitment campaign is likely to take up to 8 months, followed by an 18-month training programme before the on-call firefighters achieve operational competence. This means that should Members decide to continue with the plan to introduce an on-call duty system for the second fire engine, this would not come into effect until April 2020 at the earliest. An additional (shadow) fire engine would be provided during the training period to expose the on-call firefighters to incidents. It will also provide an opportunity to validate fire engine availability and turnout and response times before finalising the move to the on-call duty system for the second fire engine.
47. Members of the Performance and Overview Committee receive quarterly reports on on-call availability and are aware of the challenges associated with the availability of on-call fire engines, particularly during the day. Officers have indicated that an on-call fire engine at Crewe would need to achieve the 85% Service target for on-call availability before the move from a wholetime to an on-call duty system could be implemented. In order to achieve and maintain

this target similar arrangements to those that operate at Wilmslow would be used. The current availability of the Wilmslow fire engine is 94.1%

Conclusion

48. During the last 5 years the population, housing, business premises and traffic volumes in Crewe have all increased, yet during the same period the number of incidents has reduced by 29%. All of these community profile factors are predicted to continue to grow in the future but there is no evidence within the data to suggest incidents in Crewe will increase as a consequence of this predicted growth.
49. In relation to on-call recruitment, there are 16,129 target households within 5 minutes of the station which provides adequate opportunities to increase the current establishment of 9 firefighters up to 15 within 8 months. Achieving this timescale would result in an expected 'go live' date for the on-call fire engine of April 2020 at the earliest. To alleviate concerns about on-call availability, principally during the day time, officers have committed to ensuring that the on-call fire engine will achieve 85% availability at 'go live', even if it means using supplementary arrangements.
50. This level of fire engine availability, combined with the response model for the Crewe area, will mean that response times of the second fire engine will increase. However, actual response times for first, second and third fire engines to incidents in Crewe should be better than the Service average, and the Cheshire Standard will be achieved in Crewe more often than the Service average.
51. It is expected that the on-call fire engine will be the second busiest on-call fire engine after Nantwich. It is anticipated that the high incident volume would support on-call recruitment and retention meaning the on-call duty system is likely to be achievable and sustainable in the longer term.
52. In conclusion, the extensive review commissioned by Members and externally validated by the independent consultant has confirmed that the plan to change from a wholetime to an on-call duty system for the second fire engine at Crewe is appropriate for the risks and demands.

Alternative Options

53. Whilst not included in the scope of the review, Members asked officers to provide details of alternative duty system options for consideration. Table 1 (p11) and Table 2 (p12) outlines the alternative options. Each option is shown with a predicted impact against current response times for the second fire engine along with the associated annual costs, predicted mobilisations per year etc.
54. Table 1 shows that the cost of maintaining the wholetime duty system for the second fire engine is £865k per year compared to the £162k for the planned

on-call duty system; a difference of £703k (the saving). Maintaining the wholetime duty system for the second fire engine would also create a potential redundancy risk for the on-call firefighters that have already been employed by the Authority.

55. The Nucleus option sits between the wholetime and on-call duty systems and would be relatively easy to implement as it is already an agreed duty system that operates at three of the Authority's fire stations (Wilmslow, Birchwood and Macclesfield). On-call firefighters are only required during the evenings (7pm-7am) when it is easier to achieve on-call cover and the favourable road conditions make it easier for on-call staff to get to the fire station within the 5 minutes. The Nucleus model would maintain the current response time for the second fire engine in Crewe during the 12-hour wholetime duty day shift, along with the current number of safe and well visits and current capacity to support cover area moves to accommodate training. However, the Nucleus system costs £515k more than the planned on-call duty system for the second fire engine (£677k-£162k).
56. The Day Crewing System does not require on-call firefighters but it would require the Authority to purchase or build 10 houses adjacent to the fire station, which would take a number of years to achieve.
57. Table 2 (p12) shows two potential new duty systems (day duty and 8hr shifts) that do not currently operate within the Service but are achievable. They would however require a period of consultation and a negotiated agreement with the representative bodies.
58. When considering the alternative options Members will need to understand the impact that any change to the original plan (on-call duty system for the second fire engine) will have on the Authority's medium term financial plan (MTFP). The Authority may also need to consult on any proposed changes.

Table 1 – Alternative Options: Costs and Performance of Second Fire Engine at Crewe (Existing Service Duty Systems)

Duty System Type	On-Call	Day Crewing	Nucleus	Wholetime (Current System)
Overview	Station is crewed by on-call firefighters who live or work within 5 minutes of the station.	Station is crewed by wholetime firefighters who work 24hr shifts, which include time on station and time on call from home.	Station is crewed by wholetime firefighters for 12hr day shift with 12hr on-call cover during the night.	Station is crewed by wholetime firefighters 24/7; work pattern is two 12hr days, two 12hr nights, 4 days off.
Annual Cost	£162k	£459k	£677k	£865k
Cheshire Standard	98.4%	(A*)	(A*)	98.7%
Average response times	10m 09sec (Predicted)	(B*)	(B*)	7min 38sec (Actual)
Predicted mobilisations (per year)	213 (B*)	269	256	281
Implementation Timescale	2 years	4 years	2 years	Immediate

(A) Cheshire Standard will range between the on-call and the wholetime performance i.e. between 98.4% and 98.7%*

(B) 2nd fire engine response time will range between the wholetime and the on-call performance i.e. between 7min 38sec and 10min 09sec.*

Table 2 – Alternative Options: Costs and Performance of Second Fire Engine at Crewe (new duty systems)

Duty System Type	Day Duty	Wholetime (8 Hour Shifts)
Overview	<p>This duty system does not currently exist and would need to be negotiated with the rep bodies.</p> <p>Station would be crewed by wholetime firefighters working 8hr shifts, Monday to Friday.</p> <p>The second fire engine would not be available during the evening/night and the weekend.</p>	<p>This duty system does not currently exist and would need to be negotiated with the rep bodies.</p> <p>7 teams of 5 wholetime firefighters working 8hr shifts crewing two fire engines. One fire engine would be crewed 24/7, the other would be crewed for 16hrs per day 8am to midnight.</p> <p>The second fire engine would not be available during the period from midnight to 8am</p>
Annual Cost	£202k	£574k (16 hours per day)
Cheshire Standard	(A*)	(A*)
Average response times	<p>7m 38sec – for the 8hr day duty period</p> <p>10m 09sec – for the evening/night and weekend periods (Predicted)</p>	<p>7m 38sec – for the 16hr duty period</p> <p>10m 09sec – for the midnight to 8am period (Predicted)</p>
Predicted mobilisations (per year)	240	228
Implementation Timescale	2 years	2 years

(A) Cheshire Standard will range between the on-call and the wholetime performance i.e. between 98.4% and 98.7%*

Third Party Submissions

59. A number of submissions have been made by third parties during the course of the review. These submissions have included formal responses by Cheshire East Council (Scrutiny Committee), Crewe Town Council, Alsager Town Council and also comment from other groups and individuals. The submissions are contained in Appendix 4 to this report.
60. In addition to the above, some of the feedback received during the Authority's consultation on its draft Integrated Risk Management Plan for 2018-19 included specific references to the review of the duty system for the second fire engine at Crewe. Where possible, these have been extracted and included in Appendix 4.

External Validation

61. As outlined earlier in the report, officers contracted the services of independent risk management analysts Greenstreet Berman to undertake external validation of the data used within the review. Appendix 3 details the outcomes of the external validation.

SECTION B - ELLESMERE PORT

Assessment of Current and Emerging Risks

62. The assessment of risks primarily focuses on the issues of population, dwellings, non-domestic premises (businesses), traffic volume and associated response activity within the Ellesmere Port station area compared with the whole of Cheshire. Data relating to this section is contained within Appendix 2, Section 1.
63. As referenced in the first section (1.1), since 2012 both the population and number of dwellings in Ellesmere Port have increased by 0.37% and 1.49% respectively (App 2 Fig.2, p.8; Fig 4, p.9). Despite this increase there has been an overall reduction in dwelling fires (App 2, Fig 6, p10). This is consistent with the picture across Cheshire (App 2, Fig 1, 3 & 5).
64. Business units have also increased across Cheshire during the last decade. In Ellesmere Port, they have increased by 23% since 2012. (App 2, Fig 8, p11) During the same period, fires in business premises in Ellesmere Port have reduced from an average of 20 to 13 per year (App 2, Fig 10, p.12).
65. The volume of road traffic in relation to both Cheshire and Ellesmere Port has increased (App 2 Fig.11 & 12 p.13). In spite of this increase, the average number of road traffic collisions in Ellesmere Port has remained static with a slight downward trend overall (App 2, Fig 14, p.14).
66. In addition to the risk from population, dwellings, business growth and traffic, Members were also concerned about deliberate fire setting (arson) in Ellesmere Port. Accordingly, work was undertaken to review the activity in this area. The outcomes are detailed in Appendix 2 (Fig 15, p15) and show a significant downward trend in deliberate fires (arson).
67. All of the data and analyses discussed above and included within Appendix 2, Section 1, shows that the risk profile of Ellesmere Port has changed since 2012. However, over the same period the overall downward trend in dwelling fires, fires in business premises and road traffic collisions (requiring the Service's involvement) has continued.
68. The next section in Appendix 2 (Sec 1.2, p16) provides an outline of emerging risks. These potential risks have emerged since Members' decision in 2013 and relate in particular to the Cheshire West and Chester Local Plan regarding housing and economic development. The plan indicates future growth in population, dwellings, business and road traffic volumes in Ellesmere Port and the surrounding area. Paragraph 89 provides some further commentary on the impact of these risks.

Analysis of Current and Anticipated Activity Levels

69. The analysis of current and anticipated activity levels are provided within Appendix 2, Section 2. This section focuses on the number and type of incidents attended and performance standards, including response times for the first, second and third fire engines to arrive at incidents in Ellesmere Port.
70. As referred to in section 2.1.1. (Fig 16, p.19) and section 2.1.2 (Fig 17 & 18 p.19), the overall number of incidents across Cheshire and within the Ellesmere Port station area has decreased. Specifically within Ellesmere Port, the average number of incidents attended per year has reduced by 28%; from 813 in the five years (2007-2011) preceding Members original decision to approve the Emergency Response Programme, to 588 in the five years following the original decision (2012-2016); this equates to an average of 1.6 incidents per day in Ellesmere Port.
71. The majority of incidents attended within the station area (77%) required one fire engine (App2, Fig 19, p.20). A further 20% of incidents required two fire engines and 3% required three or more fire engines.
72. Specifically referring to life-risk incidents (App 2, Fig 20 & 21, p21), the average number of dwelling fires attended during the last 5 years has reduced from 43 to 40 per year. Over the same period, the average number of road traffic collisions has reduced from 14 to 11 per year (App 2, Fig 22 & 23, p22).
73. In summary, the number of incidents attended within Ellesmere Port has continued to fall during the last decade and based on analyses of historic data and trends it is not expected that the number of incidents will increase in the future.
74. The following paragraphs consider response times and the performance standard. The current and predicted average response times for the first, second and third fire engines to incidents in Ellesmere Port are shown in App 2 (Table 3, p23) as well as a comparison with actual response times for the whole of Cheshire. It can be seen that currently the first, second and third fire engines response into Ellesmere Port are better than the Service averages (Row A vs E).
75. If the plan to move to an on-call duty system for the second fire engine is confirmed, then the response times for the first and third fire engines will not change. The response time for the second fire engine will see an increase of 45 secs (Row A vs D) but this will still be better than the Service average.
76. The main reason why a change to the second fire engine at Ellesmere Port has not affected response times is because of the new fire station at Powey Lane which provides coverage into the area. The value of Powey Lane is emphasised further within App 2, Table 3, Row C. This shows that if the on-call fire engine is removed completely from Ellesmere Port it would have a negligible impact on the first and second fire engine response times (Row B vs

- C). It would however have an impact on the third fire engine response time, which would increase by 1 min 43 sec but would still be 2 min 16 sec better than the Service average (Row B vs C). These findings accord with the views of officers in that the proposed on-call fire engine at Ellesmere Port would operate as a resilience fire engine (for reliefs and standby/area cover moves) rather than as primary response resource. Its inclusion in the overall plan for Cheshire would maintain the same number of fire engines (35) in line with the strategic direction provided by Members previously.
77. In light of the above findings and ongoing budget constraints, Members may even wish to consider the removal of the second fire engine or relocating it to an alternative location where it will be better utilised. The options relating to this change are not covered within this report because they fall outside of the scope of the review.
78. Moving on to the performance standard, it is predicted that the Cheshire Standard will be achieved on 98.4% of occasions in Ellesmere Port compared to 88% for the whole of Cheshire (App 2, Table 3, p23).
79. In conclusion, the above demonstrates that if the second fire engine at Ellesmere Port is changed from wholetime to on-call, the response times to incidents in Ellesmere Port will be better than the Service average and performance against the Cheshire Standard will also be better than the Service average.
80. Another matter for consideration relates to the operational workload of the second fire engine at Ellesmere Port if it operated the on-call duty system. It is predicted that Ellesmere Port's on-call fire engine would be mobilised on an average of 46 occasions per year (App 2, Fig 24, p26). This prediction is based on the Phoenix software modelling tool and assumes that the availability for the fire engine is the same as the average availability for the on-call fire engines at Runcorn and Penketh. The predicted mobilisation volume fits with the on-call duty system model and would place an on-call fire engine in Ellesmere Port as one of the least busy in the Service with only 46 mobilisations per year. As a comparison, the busiest on-call fire engine is Nantwich, which will respond to 246 mobilisations per year (App 2, Fig 24, p26).
81. It is appropriate to consider the potential impact on prevention activities in Ellesmere Port as a result of reduced capacity due to the second fire engine moving from a wholetime to an on-call duty system (App 2, Table 5 & 6, p27). Officers have assessed the prevention workload demand and compared it with existing wholetime stations with one fire engine to determine the extent to which the current performance outputs at Ellesmere Port will be maintained. It can be seen that the number of visits to high-risk homes will not change, neither will the number of school visits, road safety initiatives, safety campaigns and thematic inspections of business premises. However, the number of visits to lower risk homes would be expected to reduce by 1344 per year.

Analysis of Types of Incidents

82. An analysis of types of incident is contained within Appendix 2, Section 3. The data is split between the five years preceding the original decision by Members approving the Emergency Response Programme (2007-11) and the five years post the decision (2012-16).
83. The most frequent types of incidents attended are secondary fires and false alarms, which make up 68% of the incidents (34% + 34%) (App 2, Table 7, 8 & Fig 25, p29). As can be seen when comparing the five years 2007 – 11 with 2012 – 16, the number of secondary fires has reduced by 41% from an average of 339 to 199 per year.
84. Specifically in relation to life risk incidents - dwelling fires and road traffic collisions – in the five years since the original decision to approve the Emergency Response Programme there have been fewer incidents with an average of 40 dwelling fires and 11 road traffic collisions per year in the Ellesmere Port station area (App 2, Fig 21,23, p21, p22).
85. Of the dwelling fires 88% were confined to the room of origin and 32% were 'out on arrival' or required no firefighting intervention. In the five years since 2012, these incidents have involved 2 fatalities, 3 severe injuries and 12 slight injuries (App 2, Sec 3.2, p30).
86. Regarding road traffic collisions, 31% (3 per year) of the incidents attended involved the extrication of a casualty. In the five years since 2012, there have been 1 fatality, 6 severe injuries and 25 slight injuries resulting from road traffic collisions in the Ellesmere Port station area (App 2, Sec 3.3, p30).
87. Section 3.4 (p31) outlines the number of larger incidents within the Ellesmere Port station area between 2012 - 2016 and the predicted response time to provide ten fire engines in the event of a large-scale incident in Ellesmere Port. The table shows that the number of incidents requiring an immediate response of 5 fire engines or more is very low, amounting to 2 occasions per year (Table 9, p31).
88. The prediction shown in App 2, Table 10 & 11 (p.31) shows that if 10 fire engines were required at an incident in the centre of Ellesmere Port, they are expected to attend within 22 mins; this assumes that all of the on-call fire engines are available. If no on-call fire engines are available then the response time would increase to 29 minutes. To draw a comparison, eight fire engines responded to the explosion at Bosley Wood Flour Mill within 47 minutes of the request from the Incident Commander. Note: the above estimates were provided by North West Fire Control (mobilising system) and assume that all attending fire engines were available at the time of call.
89. While it is the case that population, dwellings, business premises and traffic volumes have all increased during the last five years without an associated

increased in demand on the Service, it is somewhat more challenging to make an accurate prediction about the future. The Local Plan (App 2, Sec 1.2, p16) for Ellesmere Port indicates further growth, but on balance, there is nothing within the data to suggest that this will result in a future increase in demand to such an extent that more operational resources would be required in Ellesmere Port.

On-Call Context - Ellesmere Port

90. Appendix 2, Section 4 provides an assessment of the current situation regarding on-call recruitment at Ellesmere Port.
91. The graphic in section 4.1. (p34) outlines the current position regarding on-call recruitment achieved prior to the on-call recruitment programme being put on hold following the approval for the review. A total of seven on-call firefighters have been recruited to date, including 1 Watch Manager, 1 Crew Manager and 5 firefighters. One of the firefighters has recently resigned (January 2018). Officers have travelled the routes to the station under non-blue light conditions to check that the five minute turnout standard is achievable for the existing on-call firefighters
92. It is predicted that the on-call fire engine will be mobilised on 46 occasions per year, one mobilisation in every 15 days on average. It is acknowledged that the time taken for on-call fire engines to turnout to incidents varies. For example, mobilisation is likely to be slower during the daytime (especially during rush hour) than at night time. However, overall the fire engine should achieve an average turnout time of 5 minutes (the current average turnout time for on-call fire engines is 4 mins 53 secs).
93. Further recruitment will target specific households that meet the typical profile for an on-call firefighter. Overall the Service employs 266 on-call firefighters out of a potential 209k people that live within 5 minutes of the current on-call stations. In order to better evaluate the Service's prospects of recruiting on-call staff some additional profiling has been carried out. Existing on-call staff were assessed against the Mosaic groups (a tool used for socio-demographic analysis). This allowed the Service to establish the types of households that are most likely (based on past recruitment campaigns) to include individuals that would be likely to be recruited into on-call roles. The analysis (Table 13, p36) indicates that 3,550 of the 15,133 households within five minutes travel time of Ellesmere Port fire station fall within the top six priority groups for on-call recruitment. This provides a large pool of potential applicants, which is 4 times the number of priority households within the on-call catchment area of Tarporley Fire Station. This has given officers confidence that recruitment should be achievable with the right targeted activity.
94. Whilst the above is positive, Members should be mindful of the timeline for implementing an on-call duty system for the second fire engine (App 2, Table 12, p.35). A successful recruitment campaign is likely to take up to 8 months,

followed by an 18-month training programme before the on-call firefighters achieve operational competence. This means that should Members decide to continue with the plan to introduce an on-call duty system for the second fire engine, this would not come into effect until April 2020 at the earliest. An additional (shadow) fire engine would be provided throughout the training period to expose the on-call firefighters to incidents and provide an opportunity to validate fire engine availability and turnout and response times before finalising the move to the on-call duty system for the second fire engine.

95. Members of the Performance and Overview Committee receive quarterly reports on on-call availability and are aware of the challenges associated with the availability of on-call fire engines, particularly during the day. Officers believe that an on-call fire engine at Ellesmere Port would achieve comparable availability as the on-call fire engines at Penketh and Runcorn. This availability is adequate because the wholetime fire station at Powey Lane is well placed to provide a second fire engine response to incidents in Ellesmere Port on those occasions when the on-call fire engine is not available.

Conclusion

96. During the last 5 years the population, housing, business premises and traffic volumes in Ellesmere Port have all increased, yet during the same period the number of incidents has reduced by 28%. All of these community profile factors are expected to continue to grow in the future but there is no evidence within the data to suggest incidents in Ellesmere Port will increase as a consequence of this continued growth.
97. In relation to on-call recruitment, there are 15,133 target households within five minutes of the fire station which provides adequate opportunities to increase the current establishment of 6 firefighters up to 15 within 8 months. Achieving this timescale would result in an expected 'go live' date for the on-call fire engine of April 2020 at the earliest.
98. This level of fire engine availability, combined with the response model for the Ellesmere Port area, will mean that response times for the second fire engine will increase by 45 seconds. However, actual response times for the first, second and third fire engines to incidents in Ellesmere Port should be better than the Service average, and the Cheshire Standard will be achieved in Ellesmere Port more often than the Service average.
99. As indicated earlier, if the second fire engine at Ellesmere Port moved to an on-call duty system its anticipated that activity levels would make it one of the least busy fire engines in the Service. The low incident volume may not support on-call firefighter recruitment and retention in the future and as such the on-call model may not be sustainable in the longer term.
100. In conclusion, the extensive review, commissioned by Members and externally validated by the independent consultant, has confirmed that the plan to move

from a wholetime to an on-call duty system for the second fire engine at Ellesmere Port is still appropriate for the risks and demands.

101. However, given the predicted low operational workload for the on-call fire engine, combined with its limited impact on response times and the question posed about its sustainability and the value for money challenge, Members may wish to consider its removal or relocation.

Alternative Options

102. Whilst not included in the scope of the review, Members asked officers to provide details of alternative duty system options for consideration. Table 3 (p22) and Table 4 (p23) outlines the alternative options. Each option is shown with a predicted impact against current response times for the second fire engine along with the associated annual costs, predicted mobilisations per year etc.
103. Table 3 shows that the cost of maintaining the wholetime duty system for the second fire engine is £865k per year compared to the £162k for the planned on-call duty system; a difference of £703k (the saving). Maintaining the wholetime duty system for the second fire engine would also create a potential redundancy risk for the on-call firefighters that have already been employed by the Authority.
104. The Nucleus option sits between the wholetime and on-call duty systems and would be relatively easy to implement as it is already an agreed duty system that operates at three of the Authority's fire stations (Wilmslow, Birchwood and Macclesfield). The on-call firefighters are only required during the evenings (7pm-7am) when it is easier to achieve on-call cover and the favourable road conditions make it easier for on-call staff to get to the fire station within the 5 minutes. The Nucleus model would maintain the current response time for the second fire engine in Ellesmere Port during the 12-hour wholetime duty day shift, along with the current number of safe and well visits and capacity to support cover area moves to accommodate training. However, the Nucleus system costs £515k more than the planned on-call duty system for the second fire engine (£677k-£162k).
105. The Day Crewing System does not require on-call firefighters but it would require the Authority to purchase or build 10 houses adjacent to the fire station, which would take a number of years to achieve.
106. Table 4 (p23) shows two potential new duty systems (day duty and 8hr shifts) that do not currently operate within the Service but are achievable. They would however require a period of consultation and a negotiated agreement with the representative bodies.
107. When considering the alternative options Members will need to understand the impact that any change to the original plan (on-call duty system for the second

fire engine) will have on the Authority's medium term financial plan (MTFP). The Authority may also need to consult on any proposed changes.

Table 3 – Alternative Options: Costs and Performance of Second Fire Engine at Ellesmere Port (existing duty systems)

Duty System Type	On-Call	Day Crewing	Nucleus	Wholetime (Current System)
Overview	Station is crewed by on-call firefighters who live or work within 5 minutes of the station.	Station is crewed by wholetime firefighters who work 24hr shifts, which include time on station and time on call from home.	Station is crewed by wholetime firefighters for 12hr day shift with 12hr on-call cover during the night.	Station is crewed by wholetime firefighters 24/7; work pattern is two 12hr days, two 12hr nights, 4 days off.
Annual Cost	£162k	£459k	£677k	£865k
Cheshire Standard	98.4%	(A*)	(A*)	98.7%
Average response times	7m 30sec (Predicted)	(B*)	(B*)	6m 45sec (Actual)
Predicted mobilisations (per year)	46	168	163	222
Implementation Timescale	2 years	4 years	2 years	Immediate

(A) Cheshire Standard will range between the on-call and the wholetime performance i.e. between 98.4% and 98.7%*

(B) 2nd fire engine response time will range between the wholetime and the on-call performance i.e. between 6min 45sec and 7min 30sec.*

Table 4 – Alternative Options: Costs and Performance of Second Fire Engine at Ellesmere Port (new duty systems)

Duty System Type	Day Duty	Wholetime (8 Hour Shifts)
Overview	<p>This duty system does not currently exist and would therefore be subject to consultation and negotiated agreement with rep bodies.</p> <p>Station would be crewed by wholetime firefighters working 8.5hr shifts, Monday to Friday.</p> <p>The second fire engine would not be available during the evening/night and weekends.</p>	<p>This duty system does not currently exist and would therefore be subject to consultation and negotiated agreement with rep bodies.</p> <p>7 teams of 5 wholetime firefighters working 8 hour shifts crewing two fire engines. One fire engine would be crewed 24/7, the other would be crewed for 16 hours per day 8am to midnight.</p> <p>The second fire engine would not be available during the period from midnight to 8am.</p>
Annual Cost	£202k	£574k (16 hours per day)
Cheshire Standard	(A*)	(A*)
Average response times	<p>6m 45sec – for the 8hr day duty period</p> <p>7m 30sec – for the evening/night and weekend periods (Predicted)</p>	<p>6m 45sec – for the 16hr duty period</p> <p>7m 30sec – for the midnight to 8am period (Predicted)</p>
Predicted mobilisations (per year)	128	175
Implementation Timescale	2 years	2 years

(A*) Cheshire Standard will range between the on-call and the wholetime performance i.e. between 98.4% and 98.7%.

Third Party Submissions

108. A number of submissions have been made by third parties during the course of the review. These submissions are contained in Appendix 4 to this report.
109. In addition to the above, some of the feedback received during the Authority's consultation on its draft Integrated Risk Management Plan for 2018-19 included specific references to the review of the duty system for the second fire engine at Ellesmere Port. Where possible, these have been extracted and included in Appendix 4.

External validation

110. As outlined earlier in the report, officers contracted the services of independent risk management analysts Greenstreet Berman to undertake external validation of the data used within the review. Appendix 3 details the outcomes of the external validation .

SECTION C

External Validation – Other Issues

111. In addition to the validation work undertaken as part of this review, Greenstreet Berman also conducted validation of data in respect of a number of other issues. Whilst not within the scope of the review, further detail on these issues is provided in Appendix 3 for information and reference purposes.

Financial Implications

112. The Authority's current Medium Term Financial Plan (MTFP) already takes into account savings of approximately £900k from the anticipated introduction of the on-call duty system for the second fire engines at Crewe and Ellesmere Port. This move to the on-call duty system for the second fire engines was expected to have been delivered in the 2016/17 financial year, as per the original timetable from the Authority's Emergency Response Programme. The delay in the delivery of this aspect of the Programme has, thus far, been funded from reserves. Should a decision be made to continue with the change to the on-call duty system for the second fire engines at Crewe and Ellesmere Port the savings would not be achieved until April 2020 at the earliest. Accordingly, the budget and MTFP for 2018/19 assumes that the sum of £900k will again be funded from reserves. Any decision to implement an alternative to the on-call duty system will alter the financial position of the Authority and need to be factored into the MTFP and considered as the budget is developed for 2019/20. There will also be an impact on the Authority's future savings proposals.

Legal Implications

113. None

Equality and Diversity Implications

114. Should Members decide to continue with the plan to introduce the on-call duty system for the second fire engines at Crewe and Ellesmere Port the associated on-call recruitment campaigns will be undertaken with the aim of attracting applicants from diverse backgrounds representative of all parts of the community within Cheshire.

Environmental Implications

115. None

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BACKGROUND PAPERS:

Appendix 1: Crewe - Review of second fire engine

Appendix 2: Ellesmere Port - Review of second fire engine

Appendix 3: Independent Assessment of ERP1 Review: Crewe and Ellesmere Port,
Michael S. Wright (Greenstreet Berman)

Appendix 4: Crewe and Ellesmere Port Review: Third Party Submissions