Officer Car Replacement Review

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Officer Car Replacement Review 2021

Executive Summary

1. This document aims to provide a clear and transparent rationale for how the appropriate vehicle for all responding officers is selected. The Service has assessed the appropriate procurement routes, the appropriate available vehicles and the relevant costs of those vehicles.

2. Within the Fleet Strategy 2016, last reviewed 2021, all vehicles used by the Service are included in an ongoing planned replacement programme. In July 2018, the Fleet Strategy initially identified that 24 of the 36 officer response cars required replacing, however it was later agreed that all 36 cars would be replaced over a twelve-month period. A full and thorough review process was carried out in 2016/17 and after various processes and comparisons were completed the current Volvo XC60 cars were identified as the most suitable vehicles for the response role. All previous Land Rover cars were returned to the lease supplier, sold internally or at auction between May 2018 and July 2019 during which time the new Volvo cars were phased into the fleet.

3. Running alongside the service fleet strategy is the Capital replacement programme, which identifies the replacement date and budget allowance for every vehicle in the service fleet. These two documents provide the necessary information required to enable a pre-planned replacement schedule to be followed and allow for timescales for vehicle delivery and conversion to be carried out within the required time frames, sometimes over twelve months prior to the actual replacement date. Both documents are reviewed annually to ensure that budget figures are kept in line with inflation and technological cost increases, whilst also accounting for service reviews and possible fleet change requirements.

4. Crown Commercial Services (CCS) provides for a wide range of vehicles from nearly all commercially available manufacturers at competitive discounted (for the public sector) prices. It also provides direct access to specialist manufacturers and suppliers.

5. The 31 potential vehicles on the CCS framework (Appendix 2) that broadly met the user specification were examined and compared against a set of criteria. This subsequently identified three vehicles as being the most appropriate. These final three vehicles then underwent an in-depth analysis to identify the most appropriate vehicle.

6. From the final three vehicles, which are; the Volvo XC60, the Hyundai Santa Fe and the Toyota Rav4, further investigation showed good dealer networks and self-charging hybrid technology. All three cars met all of the criteria although the Hyundai's costing was slightly higher than the budget set it was deemed close enough for the vehicle to remain in the evaluation.

7. All three vehicles have a high independently assessed safety rating of 5 star; however, the Volvo XC60 scored the highest overall score at 89%, with the Toyota Rav 4 at 85.5% and the Hyundai Santa Fe at 81.25%.

8. The Toyota Rav 4 performed well out scoring the Santa Fe in all criteria other than the driver evaluation. However, it was the Volvo XC60 that scored highest overall against the identified criteria.

9. Following this extensive review it has been established that the Volvo XC60 is the preferred vehicle to replace the existing fleet of officers' response cars.

10. It is proposed that the Volvo XC60 will be procured at the same specification for all officers (Station Commander to Principal Officer) and that the entire fleet will be replaced within the financial year 2022/23. This includes the six 2019 Volvo cars purchased one year after the initial batch of 30 in 2018 and will be the last to be replaced in this process. The rationale for the decision to replace these vehicles earlier than anticipated is to achieve a good resale value and to be able to purchase all 36 cars to the same specification and cost. This approach is permissible and in accordance with the provisions of the approved Fleet Strategy.

Replacement Officer Car Review

Procurement Route

11. Crown Commercial Services (CCS), a national public sector procurement framework, is the preferred route to market as it offers a wide range of options and suppliers with heavily discounted public sector specific products. This framework also significantly reduces the costs and capacity otherwise required to undertake a full procurement (tender) process. This framework complies with all appropriate and relevant legal requirements.

User Specification and Initial Sift

12. The user specification (Appendix 1) was reviewed and agreed by service officer car users which includes representative bodies (FBU and FOA) and with the Shropshire Fire and Rescue Service Transport Manager. The specification provides some key user and technical criteria which has enabled an initial sift of the vehicles available in order to reduce the number and type of vehicles that could be considered to a manageable level. The key headline criteria are listed below:

- Must have an all-wheel drive capability & suitable wading depth,
- Must have self-hybrid technology, to reduce emissions and improve MPG,
- Must have adequate boot space below the provided load cover, no less than 500L, which has proved suitable,
- Must have a good local dealer network offering an SLA to our satisfaction,
- Must have a minimum engine power of 190bhp, "*this can be a Diesel or Petrol power unit*",
- Must have a five-star safety rating, with good individual scores, no less than 80% overall, and
- Must offer automatic transmission as the drive train or as an option.

Using basic required criteria as a starting point and the style of vehicle that could meet these criteria, "*which is a large SUV*", all vehicles in the Framework were checked and a list of 31 suitable cars was made to take forward into the second stage criteria checks.

13. The 31 potential vehicles, detailed in Appendix 2, that broadly met the user specification on the CCS procurement framework, were examined and compared against a further set of defined criteria. This included hybrid technology, boot size, transmission and drive type and wading depth. Subsequently 15 vehicles were identified as being broadly suitable against further specification requirements. These moved forward into the third stage of the process which included a more in-depth examination of the hybrid technology, adequate and suitable dealer support and pricing. This reduced the list to 5 cars. The final stage of the process examined the remaining cars in more detail utilising the manufacture websites, brochures and trade information to gain the required information to base further decision making on.

14. The final five cars were;

- Toyota Rav 4
- Hyundai Santa Fe
- Volvo XC60
- Volvo XC40
- Range Rover Evoque

Further evaluation of the five vehicles listed above led to the Range Rover Evoque being eliminated due to cost including required options, aluminium body, "*unable to use*

magnetic roof beacons" and also their low reliability rating. It was also noted that Range Rover is a renowned premium brand that is not accepted by HWFRS or SFRS.

The Volvo XC40 initially looked to be a suitable vehicle, but following more depth investigation the wheel size was found to be too small, "*off road clearance*", and although larger wheels were available on other models in the range this increased the pricing and specification. It was also found the boot size was not a clear space and therefore could not meet the requirement for stowage. Based on these factors the Volvo XC40 was also discounted.

15. From the final three vehicles, which are; the Volvo XC60, the Hyundai Santa Fe and the Toyota Rav4, further investigation showed good dealer networks and self-charging hybrid technology, "*to reduce harmful exhaust emissions and increase MPG*". All three final cars met all of the criteria. Although the Hyundai's costing was slightly higher than £30,000, it was deemed close enough for the vehicle to remain in the evaluation.

16. All three vehicles have a high independently assessed safety rating of 5 star; however, the Volvo XC60 scored the highest overall average score at 89%, with the Toyota Rav 4 at 85.5% and the Hyundai Santa Fe at 81.25% (Appendix 3).

Evaluation Results

17. The evaluation returns were marked by the Transport Manager and Procurement Manager, according to the agreed marking procedure as detailed to the suppliers. The marks were given against four key criteria as compiled by the Transport Manager and agreed by the Procurement manager as appropriate.

18. **Technical and Quality ability to meet the Specification:** The completed specification document was returned by all three suppliers and this was marked in accordance with service essentials and their responses, as the cars must meet the specification requirements to be suitable for the role. This was given the highest percentage of points at 40%.

19. **Driver Evaluation:** It is important that our current drivers have the opportunity to drive and give feedback on any proposed new response car. Demonstrator cars were sought and made available to any and all current response car drivers. A form created by the Transport manager, which listed 15 areas of importance and allowed for marking between 1 and 5 points, whilst also allowing for additional comments was completed. This was deemed an important part of the process and was therefore given 25% of the marking points.

20. **Cost:** As there is a Capital budget for the car replacement it is essential that all associated costs are covered by it and if possible, savings considered. Therefore, the suppliers were asked to supply a quote for their car which had to include all items listed in the criteria document, whether they be standard fit or additional cost options. The cost criteria was given a percentage mark of 25%.

21. **Delivery:** Currently there is a shortage of semi-conductor computer chips, which is affecting the production of vehicles and indeed many more products. As the service replaces vehicles according to our capital programme it is important to know when we could expect delivery of ordered cars. Whilst it is not overly important that the cars come within a certain time period it is a preference that the replacement of all cars takes place within the 2022/23 budget year. The inclusion of a small percentage mark on delivery time has prompted the suppliers into giving their best estimate, a mark of 10% has been given.

22. **Vehicle Servicing:** We currently have a service level agreement with four Volvo dealerships which are the closest to us, these agreements guarantee discounted labour

rates and parts discount, it also gives a cost for the two grades of service. All three suppliers were asked if they would sign a service level agreement with HWFRS for the same or better terms and all three agreed, all three also offered a four-year service contract if this was preferred.

23. **Residual Values:** A residual value is an estimate price that a vehicle will be worth at a certain time in the future and with an expected mileage and condition, with other items such a service records also considered. A cars residual value is given a percentage of its original cost when purchased new and tends to be a snapshot in time, which can change for various reasons. These include; the introduction of a newer model being between purchase and sale dates, the market for second hand cars being good or poor, shortage of new cars on the market, and the type of power train. The residual values should not be viewed as a definite value of a car in the future, in our case in four years' time, but only used to give a guide of its expected value. The estimated residual values based on 3 years and 36,000 miles are; Volvo XC60 45.13%, Toyota Rav 4 57.82%, and the Hyundai Santa Fe 49.86% (figures determined by the motor trade as at November 2021). Note: that the Volvo XC60 residual value percentage is lower, possibly due to the diesel vs. petrol engine specification (as per HWFRS user requirements).

24. **Evaluation Outcome**: results of the marking are shown in the table below.

Criteria	Area	TOTAL SCORE AVAILABLE	Volvo	Toyota GB	Hyundai Motor UK
1	Technical and Quality ability to meet the Specification	40%	34.50%	34%	20.50%
2	Driver Evaluation	25%	22.41%	16.85%	18.15%
3	Delivery	10%	6%	6%	6%
4	Cost	25%	21.53%	25%	20.64%
5	Basket of Goods	For Information Only	For Information Only	For Information Only	For Information Only
Total		**100%**	**84.44%**	**81.85%**	**65.29%**

Further Background Marking Information

25. These points were noted in the marking process:

- Some essential additional items required, such as mud flaps, floor mats, fog lights etc were all included in the specification document sent out to the manufacturers and included in the quoted price whether an additional option or standard fitting on the car.

- Customer Support for our current Volvo cars has been excellent and this has been considered in this current process by ensuring that suitable high-quality dealer support is available within our two county borders. All three final manufacturers have this available.

- All vehicles have been specified with automatic transmission and all-wheel drive as recommended by both driver training and the users, this was noted as a highly desirable in the previous vehicle process but has been made essential in this one following positive feedback from users.

- Blue Light response equipment supply and fitting was not included in this process, however all three manufacturers were required to nominate their preferred installer to ensure that any work carried out on the cars would not affect the vehicles warranty. A blue light response equipment specification has been drawn up and will be reviewed with the preferred installer. However, HWFRS has reserved the option to use another installer if the nominated one does not prove acceptable to us, if this does happen warranty will be discussed with the manufacturer before anything is agreed.

- A four-year minimum full vehicle warranty has been added to the basic specification to give full cover for the cars planned lifespan.

Supporting Information

26. The Hyundai Santa-Fe is a comfortable car with a lot of interior space for stowage of PPE and equipment and give good passenger access and space when wearing PPE. Although the car drove and handled well it did lack performance in comparison to both other cars. In addition, the lower wading depth and higher purchase price impacted on the scoring process to give a lower score which put the car into third place.

27. The Toyota RAV4 proved to be a very good car with good all-round performance, interior space and wading depth. The price was also extremely competitive being the lowest of the three cars and helped to provide a good mark in the scoring process, where the car came a close second place. The main area of points lost were in relation to the demonstrator driver assessments where the design of the front bodywork preventing good forward visibility was mentioned by several drivers. Also, the switch and controls not being as accessible as the other two cars. This car is only available with a Petrol engine, there is no diesel option and where this does not impact on any part of the marking process it was a consideration to the Service operations and business continuity arrangements.

28. The Volvo XC60 was the third car evaluated and is basically a similar specification to the current cars, but with the Hybrid technology as fitted to our six 2019 models. The car scored well across all areas. It was not the cheapest of the three, but was a close second and falls within the Capital and project price range.

29. It is proposed that the Volvo XC60 will be procured at the same specification for all officers (Station Commander to Principal Officer) and that the entire fleet will be replaced within the financial year 2022/23. This includes the six 2019 Volvo cars purchased one year after the initial batch of 30 in 2018 and will be the last to be replaced in this process. The rationale for the decision to replace these vehicles earlier than anticipated is to achieve a good resale value and to be able to purchase all 36 cars to the same specification and cost. This approach is permissible and in accordance with the provisions of the approved Fleet Strategy.

30. Following this extensive review it has been established that the Volvo XC60 is the preferred vehicle to replace the existing fleet of officers' response cars.

Provision of Officer Vehicles

31. HWFRS has a provided car scheme for all flexible duty system officers, Area Commanders, and Principal Officers, to carry out their roles. Other optional provisions could include a lease scheme, vehicle allowance, or essential user scheme, but we do not currently use any of these. Officers provide an immediate operational response from work locations across both counties and from their home addresses, in excess of 70 hours per week on average, over seven days a week.

32. In accordance with the Fleet Strategy 2016/21, all operational vehicles should be resilient and consider the need for usage in adverse weather conditions. The decision (since 2009) to have on-call officer vehicles with a limited traction (4x4) capability has greatly enhanced the Service's capabilities during adverse weather conditions and now forms a key part of the Service Business Continuity Plan. With this type of vehicle, Duty Commanders have the capability and flexibility to deploy officers safely and in adverse conditions which greatly enhances the efficiency and delivery of core duties, both operational and managerial. As officers predominantly travel and work alone, it is deemed essential that they can access and travel in both counties, on all road types, 24hrs a day and 365 days a year.

33. Additionally, for responding officers this capability has significantly improved their safety when responding to incidents and provides an ability to access a wider range of incidents or park safely off roadways where necessary. Since the provision of all wheel drive vehicles there have been no reported occurrences of an inability to mobilise or attend incidents, and no serious collisions or loss of control of a vehicle in inclement weather or poor road conditions, to date.

34. Every principal and flexible duty officer (FDS) is provided with a Service vehicle. All officers receive appropriate training in how to drive these vehicles in limited traction conditions (for adverse weather and poor road conditions); as well as adverse weather training, all officers are assessed and qualified to drive under blue light conditions in accordance with legislation and notable practice.

35. The Director of Finance has evaluated the provision of a lease scheme and does not deem that it offers value for money against the current scheme. With a lease scheme, there is also a significant loss of control over the vehicle that is purchased by individuals and how the vehicle is maintained and managed, which would not be acceptable to the Service in terms of assurance, capability, and professionalism.

36. The provision of an allocated vehicle to each officer is considered the most cost effective, practical and efficient option based upon the requirements of the role and the need for officers to work flexibly and be available at various times, even when off duty. At any time officers may be requested to "*recall to duty*" or to provide essential cover or skills, which is a requirement of their role.

37. The use of pool cars rather than a dedicated provision to every officer has been considered and has been rejected based upon it not meeting the operational need and efficiency considerations (costs and capacity). To exchange pool cars or collect vehicles from fixed FRS locations would primarily create a barrier to the flexibility required from the role, along with the flexible and intermittent working hours, and flexible provision of operational cover. Furthermore, with regard to pool vehicles, officers are a limited resource with finite capacity, therefore it would be undesirable to consume valuable working hours changing, returning and picking up vehicles from a pool stock. For the above reasons, the use of pool cars is rejected.

Costs

38. Officer vehicles are usually retained for up to 4 years by the Service in accordance with the Fleet Strategy (2016/21) and are financed accordingly by the Director of Finance. The timescales for replacement may be altered accordingly and vehicles may be changed earlier or later depending on economic considerations as detailed in the approved Fleet Strategy 2016/21.

39. The current Volvo XC60 cars will be 4 years old when due to be replaced on 2022, the cost of the current cars in 2018 was £25,580 plus vat each.

40. The quoted price for a new Volvo XC60 to our specification is £26,134.99 showing a minimal rise considering the additional Hybrid technology. This cost is based on the Volvo XC60 Momentum Core Authority Specification which includes; 19" wheels, upgraded brakes, and available in five different colours (black, silver, red, white, or blue).

41. The current Capital budget per car is £37,000, therefore allowing for additional costs (e.g. Blue light fitout by Volvo approved installer) it is still expected that the purchase of the vehicle will be under the budget allowance.

42. The current cars have a range of mileages at this time of between 18,000 and 62,000 miles, the majority being between 25,000 and 40,000 miles and all cars are in good condition.

43. Volvo have offered a buy back option for our current cars, which may be desirable to us if mutually agreeable terms can be agreed, but it is expected that the resale value of the cars could be between £15,000 and £20,000, actual costs to be determined.

Responding Officer Role and Vehicle Usage

44. HWFRS provide responding officers for incidents through a core of 30 substantive operational officers for levels 2 – 4 command roles. To enable these officers to perform both their operational and managerial roles, the Service provides them with an appropriate vehicle. The vehicle provided is a response vehicle and is used to transport responding officers to emergency incidents along with Personal Protective Equipment (PPE) and specialist role equipment in a suitable and safe manner. Additionally, the vehicle must be able to provide transport to carry out their managerial duties and with the permission of the Chief Fire Officer, officers may also use these vehicles for private use at a cost to the individual, alongside appropriate taxation. Within this role and function, the Service also considers how it can provide a high degree of safety for officers who predominantly work and travel alone, as well as underpinning business continuity arrangements.

Additional Costs

45. Annual running costs are estimated based on known service costs as agreed with four local dealerships and Volvo UK within a service level agreement that includes discounted labour rates and parts prices.

46. The fleet department hold a budget specifically to cover the dealership annual service and maintenance costs for all 36 cars currently this is £20,000 per year, which is reviewed annually.

47. Tyres, MOT testing, taxation and accident repairs are covered from separate fleet budgets, which again are reviewed annually.

48. From initial launch of the Volvo fleet in 2018 the cars have proved to be efficient and cost effective with budgets covering all servicing and running repairs and the four-year warranty covering other repairs.

49. To ensure officer safety and operational efficiency, each officer car is fitted with the following full operational response capabilities: blue and white flashing grille mounted lights, front corner mounted blue lights, windscreen top blue lights, underside mirror blue lights, magnetic roof mounted blue light, rear and side window blue/red lights, tailgate mounted blue/red lights, tailgate downlight, sirens, airwave radio (cradle, speaker and handsfree), satnav, blue tooth hands-free for mobile phone, torch, and fire-ground radio charger, as well as fire extinguisher, first aid kit and winter tyre socks.

Training

50. HWFRS provides driver training to all officers required to drive for their role. Every 3 years each officer attends a Responding Officer Course (ROC) refresher (1 day). This qualification enables them to respond to incidents under blue light conditions.

51. Each officer also attends a limited traction/adverse weather training course. These courses are of a 1 day duration.

Private mileage

52. With the permission of the Chief Fire Officer, all officers issued with a service vehicle can apply to use the car for private journeys. Each officer pays a set rate per mile and this is deducted monthly from their salary. This facility is fully taxable and the individual officer is liable for the income tax.

Vehicle Fuel Type

53. Currently all officer response vehicles utilise a diesel engine to the latest environmental standards for the age of the vehicle. The Service fuel resilience arrangements are focused on the provision of diesel therefore currently it is more appropriate to remain with a diesel powered vehicle. This will be reviewed regularly and the options of other fuels, including electric in the future, will not be discounted. Each officer car is provided with a fuel card the same as every other service vehicle. The officer can choose the most convenient location to fuel the vehicle (fire station or filling station).

Appendix 1

Hereford and Worcester Fire and Rescue Service

Officer Car User Specification revised July 2017 reviewed 2021

Vehicle Use

HWFRS provides level 2 & 3 Command at incidents through Station and Group Commanders and level 3 & 4 for Area Commanders and Principal Officers. To enable these officers to perform their roles the Service provides them with an appropriate vehicle with which they can respond to incidents.

The vehicle is used to transport responding officers to emergency incidents along with PPE and specialist roles (multiple specialist roles in some cases), transport equipment in a suitable and safe manner, to provide transport for officers in order to carry out their managerial duties and with permission of the CFO for private use which is charged to the individual and taxable.

These vehicles must also provide a high degree of safety for responding officers as well as play a key role in business continuity resilience. All such vehicles for responding officers will therefore need to have to be all wheel drive or suitable all-weather capability. This must enable the responder to respond in adverse weather conditions, roadway flooding and occasionally over difficult/soft terrain and unmade roads and tracks.

This specification aims to provide vehicles for responding officers that will be procured appropriately and must meet the user needs.

Features are marked Essential (E) or Desirable (D)

The Service requires officer vehicles:

To be able to safely attain and maintain speeds in excess of posted speed limits in accordance with Service policy. The vehicle must have ample performance to enable safe blue light driving, overtaking, and manoeuvring at higher than normal speeds. (E)

The vehicle is a response vehicle and as such the driver is able to take advantage of an exemption to the speed limits whilst driving under blue light conditions.

To have a driving position to enable safe operation as a response vehicle (E). Preferably an elevated driving position (D).

As a response vehicle it is essential that the driver is in a good position to be able to operate the vehicle and to assess traffic and other hazards.

To have 4x4 and/or limited all wheel traction capability. It is essential that the vehicle can operate safely in limited traction conditions i.e. mud, ice and water on normal roadways and in limited other off-road applications (E). The vehicle should not solely have an all-wheel drive capability but must also be fitted with appropriate and suitable electronic driver assist technology to improve driver safety and enable electronic stability, skid and traction control of all wheels, or similar.

The vehicle must be able to be used on road and off road to access fires, RTCs and other emergency incidents and must be able to do so in poor weather/ground conditions (snow, ice, flood, mud). (E)

To have the ability to adequately and safely control vehicle descent in adverse conditions, on and off road. (E)

To have the ability to drive through standing water in flooded roadways (primarily), to an acceptable degree, Minimum 400mm". Manufacturers MUST supply a wading depth based on design specifications provided for the proposed vehicle. (E)

To have the ability to be driven safely across uneven terrain (the vehicle must have good ground clearance, entry/departure angles). The vehicle must have adequate ground clearance to provide for this functionality and be fitted with a suitable size and type of tyre for on road emergency response usage as well as additional traction and grip in adverse conditions. (E). Wheel size should be no less than 18 inches to enable improved traction, grip and handling and preferably larger. (E)

In addition, the Service needs to provide appropriate cost effective, practical and theoretical training for officers required to use responding vehicles in both normal conditions and limited traction conditions. This must therefore be a consideration when procuring replacement vehicles. (D) It is intended that this specification will identify the appropriate vehicle based on this document for all officers, but will aim for standardisation across the fleet in this vehicle type. (D)

Vehicle Derivative

Officer cars should be of an 'estate' type to provide sufficient boot space and have 5 seats. (E) Preferably, the vehicle should continue to be of a large 'SUV' style in order to effectively provide the best value and functionality. (D)

Officers are required to transport PPE and other specialist equipment (FI, Hazmat, ILO etc) to the scene of an incident, and on occasion, additional equipment. In addition, they are required to transport personnel at incidents and during adverse conditions to support business continuity arrangements.

Engine

The vehicle engine should be based on a min 2.0lt diesel type engine with adequate power and torque, no less than 190bhp (E) and have an appropriate automatic style of gearbox. (E)

This is to give sufficient response for the vehicle to attain and maintain safely the speeds permitted in responding to incidents, whilst keeping both hands on the wheel.

Colour

Dark interior to match existing provision is preferable. (D) Interior colours, materials and treatments should provide an ability to be easily cleaned and maintained without the need for seat covers etc. (E) The exterior colour does not need any enhancement or additional features and should be a suitable colour as agreed by SMB.

Safety Features

As these vehicles fulfil multiple roles including emergency response, all reasonably equivalent safety features across manufacturers would be deemed essential, with optional features that improve the safety of the vehicle being deemed highly desirable, such as lane deviation warning and safety assist devices.

Anti-lock brakes

The vehicle is a response vehicle and as such the driver is able to take advantage of an exemption to the speed limits whilst driving under blue light conditions (as per HWFRS policy). For the safety of the driver and other road users it is essential that commercially available features are incorporated as control measures to the identified hazards of response driving. (E)

Enhanced Stability Programme

The vehicle is a response vehicle and as such the driver is able to take advantage of an exemption to the speed limits whilst driving under blue light conditions (as per HWFRS policy). For the safety of the driver and other road users it is essential that commercially available features are incorporated as control measures to the identified hazards of response driving. (E)

Traction control

The vehicle is a response vehicle and as such the driver is able to take advantage of an exemption to the speed limits whilst driving under blue light conditions (as per HWFRS policy). The vehicle must be able to be used on road and off road to access fires, RTCs and other emergency incidents and must be able to do so in poor weather/ground conditions (snow, ice, flood, mud). (E)

Hill descent control or similar

The vehicle must be able to be used on road and off road to access fires, RTCs and other emergency incidents and must be able to do so in poor weather/ground conditions (snow, ice, flood, mud). The vehicle must be able to descend hills/slopes safely and under control in poor road, weather and ground conditions. (E)

Airbags

The vehicle is a response vehicle and as such the driver is able to take advantage of an exemption to the speed limits whilst driving under blue light conditions (as per HWFRS policy). For the safety of the driver and other road users it is essential that commercially available features are incorporated as control measures to the identified hazards of response driving. (E)

Front & Rear fog lamps

The vehicle must be used in poor weather conditions and fog lamps provide a control measure for the identified hazard of fog/mist. (E)

Load Space

The vehicle must be able to provide an adequate load space for equipment in its overall height, width and depth, with the height being measured up to the fitted load cover. This is to enable all officer equipment and PPE to be stowed safely and out of sight in the rear load space, with some allowance for additional capacity spare, minimum acceptable size is 500 litres with seats up and up to height of parcel cover. (E)

The vehicle is used to transport responding officers to emergency incidents along with PPE and specialist role equipment in a suitable and safe manner. Equipment must be stowed out

of sight of casual observers and items prevented from shifting from the load space and entering the passenger compartment in the event of a collision.

Down lights on inside of tailgate and inner boot area

Officers don their PPE at the rear of the vehicle. These lights provide illumination of the area to permit ease of dressing and provide an additional control measure to the identified hazard posed by other road users. These lights are to activate when the tailgate is opened and deactivate when closed. Warning lights must also be visible when the boot is open. (E)

Windscreen

Heated front screen or rapid defrost facility, including, where appropriate, automatic defrosting of external water wash nozzles. (E)

The vehicles will often be kept outside and must be capable of responding promptly in all weather conditions.

Heated or rapid defrost of rear view mirrors

The vehicle will be kept outside and must be capable of responding promptly in all weather conditions. The heated mirrors are a control measure against the identified hazard of frost. (E)

Head lamp washers (D)

On rural roads in winter, lights can often be quickly obscured due to mud and other contaminants on the roadways. Head lamp washers provide a control measure to the identified hazard of mud/dirt build up on headlamps whilst responding to incidents. (E)

Integral Satellite Navigation system

Preferably the satnav function should be able to accept voice activation. (D) Also, other ICT/application type devices that improve functionality for mapping, communications and data are desirable. (D)

Officer response vehicles are single crewed but can respond to all parts of the Service and on occasions can be deployed nationally. Provision of satellite navigation is a measure that officers can arrive and return safely from incidents without having to stop and refer to maps. (E)

Hands free solution for mobile telephone, with wireless linkage to vehicle

Officer response vehicles are single crewed and the officer must be able to respond to cell phone for communications with Fire Control and other officers/crews as a support to the airwave radio provision. (E)

Usability

Rear and front parking sensors

Officer response vehicles are single crewed and as such cannot be provided with a ‘banksman’. Parking sensors provide a control measure to the identified hazards of manoeuvring a vehicle in poor conditions and in limited space areas. (E)

Air Conditioning

To ensure the vehicle is comfortable and usable all year round and for prolonged periods in hot weather conditions air conditioning is deemed to be important. The vehicle can often be used as a mobile workspace for officers and therefore must be usable in warm weather conditions. (E)

Front and rear fitted mats, and load mat for rear boot (can be aftermarket versions)

To prevent mud/dirt build up on the carpets, ease vehicle cleaning and to prevent loads shifting and moving in the rear compartment. (E)

Front and rear mud flaps

The vehicle must be able to be used on road and off road to access fires, RTCs and other emergency incidents and must be able to do so in poor weather/ground conditions (snow, ice, flood, mud). Mud flaps are a measure to control the build-up of mud on wheels, brakes and lights. (D)

Load space cover and mesh guard

Where possible the load space cover should be rated to prevent the load shifting on any impact, additional to a fixed barrier guard between the load space and passengers. (E)

Tyre repair/replacement solution

Spare tyre or space saver wheel and tyre are highly preferably to an inflation and temporary repair system.

Passenger cabin storage for maps, surcoat, log book. (E)

Operational

12 volt Power points in boot and front of vehicle. (E)

Stowage compartments for, camera, mobile telephone etc. (D)

Fire ground radio charger in boot space. (E)

Fire extinguisher. (E)

Emergency Response, 360 degree compliant blue and red light system

Blue light/siren single switch (E) conveniently located for use, with the ability to be hidden from sight.

Roof mounted/removable magnetic 360 blue light. (E)

Secured in place by magnets but with the ability to remove. (E) The vehicle is used to transport responding officers to emergency incidents along with PPE and specialist role equipment in a suitable and safe manner. Blue lights must be visible from 360 degrees around the vehicle and this light must be an option on the roof in order to be seen from distance.

Front grille min. 2 blue and white alternating flashing lamps. (E)

It has been identified that this is a further control measure to enable other road users to see the vehicle when operating under blue light conditions and approaching traffic as flashing headlamps cannot be operated on this car.

Front wing/bumper corner blue lights. (E)

It has been identified that this is a further control measure to enable other road users to see the vehicle when operating under blue light conditions and emerging from road junctions.

Rear mounted tail gate blue/red lights. (E)

It has been identified that this is a further control measure to enable other road users to see the vehicle when stationary at an incident and the officer is donning PPE at the rear of the vehicle. They are located for visibility with tailgate open.

2 flashing red lamps - rear light clusters. (E)

It has been identified that this is a further control measure to enable other road users to see the vehicle when proceeding to an incident or stationary at an incident and the officer is donning PPE at the rear of the vehicle. They are located for visibility in the rear light clusters so they are not obscured by the officer donning PPE.

Mirror mounted flashing blue lights. (E)

To assist in proving 360-degree visibility especially in built up areas.

4 x Flashing blue lights mounted at the top of the windscreen interior. (E)

It has been identified that this is a further control measure to enable other road users to see the vehicle when overtaking under blue light conditions and in stationary traffic, approaching traffic, emerging from junctions and approaching incidents.

Audible siren warning device operation via car horn. (E)

This is a control measure to the hazard created by other road users not hearing the approach of an emergency vehicle. It should have different, changeable tones to allow for all traffic conditions and should be controllable from the road horn to allow for operation without removing hands from the steering wheel.

Siren speaker should be of sufficient output for sirens to be heard (E). Minimum 100-watt output or equivalent. (E)

Battery protection system. (E)

It has been identified that there can be a minor power draw for additional electrical systems and components, which can over a period of time drain the battery, rendering the car unusable. A battery protection system will prevent power draining risks and ensure the cars availability at all times, even when it has been parked for a number of days or weeks.

Cradle and hands-free kit for airwave radio. (E)

Cradle for Airwave SAN J Radio and push to talk button mounted near to steering wheel for airwave radio to allow operation without removing hands from steering wheel.

<u>Service, Warranty and Maintenance</u>

The vehicle should have options for maintenance and warranty no less than four years in term (E), alongside service option prepaid packages (D), as well as ready access to local dealerships for support and maintenance. (D)

Appendix 2

Stage 1- Initial Car Compliance Check

OFFICER RESPONSE CAR INITIAL COMPLIANCE CHECK SHEET			CO = COMPLIES	NC = NON COMPLIANT	NS = NOT STATED		Jul-21		
Car Make	Model	Cost of cheapest base model discount if over £30,000 budget	min 400mm wading depth	Minimum 500 litres boot size some minor larger size is preferred	Four doors/Seats	4X4 Drive system	Non chargeable Hybrid option engine fuel type CO2 output	Group 5 safety rating	Comments
Alfa Romeo	Stelvio	£ 28,749.00	480	525	CO	CO	NC BOTH 192	CO	
Audi	Q3 Estate	£ 19,888.42	482	530	CO	CO	NC BOTH 186	CO	
Audi	Q5 Estate	£ 29,886.50	500	520	CO	CO	NC BOTH 205	CO	
BMW	X1	£ 17,766.00	250	505	CO	CO	NC BOTH 195	CO	wading depth too low
BMW	X3	£ 18,370.00	500	470	CO	CO	NC BOTH 195	CO	boot to small
BMW	X4	£ 28,082.00	500	525	CO	CO	NC DIESEL 185	CO	
DS	DS7	£ 33,862.00	NS	555	CO	CO	ENGINE TOO SMALL	CO	wading depth not available
Ford	Kuga	£ 22,936.38	450	612	CO	CO	NC DIE 199	CO	
Honda	CRV	£ 27,575.00	700	497	CO	CO	CO BOTH 188	CO	boot size too small
Hyundai	Tucson	£ 25,794.00	NS	558	CO	CO	NC 1.6 PET ENG 31	CO	wading depth not available
Hyundai	Santa Fe	£ 26,106.00	500	634	CO	CO	CO 1.6 PET 152	CO	
Jaguar	F Pace estate	£ 38,561.00	525	538	CO	CO	NC PET 222	CO	price too high
Jeep	Compass	£ 22,755.00	482	714	CO	CO	NC DIE 191	CO	
Kia	Sportage	£ 18,384.00	500	491	CO	CO	NC Die 1.6 173	CO	boot size too small
Kia	Sorento	£26,079 or £27,487	250	616	CO	CO	CO Pet1.6/158 or NC 2.2d/176	CO	wading depth too low
Land Rover	Evoqua	£ 25,988.00	600	798	CO	CO	NC BOTH 201	CO	
Land Rover	Discovery Sport	£ 29,777.00	600	963	CO	CO	NC BOTH 175	CO	
Mazda	CX5 boot a bit small	£ 30,195.00	NS	494	CO	CO	NC DIE 297	CO	wading depth not available
Mercedes	GLB Estate	£ 28,218.00	500	570	CO	CO	NC DIE 154	CO	
Mercedes	GLC Estate	£ 26,997.00	300	550	CO	CO	NC DIE 166	NS	wading depth too low
Nissan	X Trail check boot size	£ 26,087.00	350	NS	CO	CO	NC 1.7D 239	CO	wading depth too low
Skoda	Kodiaq	£ 21,988.00	300	835	CO	CO	NC DIE 198	NS	wading depth too low
Skoda	Karoq	£ 21,843.00	300	588	CO	CO	NC DIE 197	CO	wading depth too low
Subaru	Outback Estate	£ 26,662.00	457	561	CO	CO	NC 2.5 PET NS	CO	
Toyota	Rav 4	£ 22,122.00	500	580	CO	CO	CO 2.5 PET 137	CO	
Toyota	Land Cruiser	£ 27,372.00	698	640	CO	CO	NC 2.8 D 302	NC 4.8	safety rating under 5 & too big
Toyota	Highlander	£ 32,650.00	400	631	CO	CO	CO 2.2P 164	NS	price too high
Volkswagen	Tiguan	£ 24,286.00	200	977	CO	CO	NC 2.0 DIE 193	CO	wading depth too low
Volkswagen	Toureg	£ 26,582.00	570	810	CO	CO	NC 3.0DIE 314	CO	
Volkswagen	Arteon	£ 31,503.00	300	563	CO	CO	NC 2.0 PET NS	CO	wading depth too low
Volvo	XC40	£ 23,683.00	450	578	CO	CO	NC 2.0PET NS	CO	
Volvo	XC60	£ 23,578.00	400	613	CO	CO	CO 2.0 DIE NS	CO	

NOTE Cars marked in yellow are considered non compliant and will not be taken forward to stage two consideration

Stage 2; Compliance Check

OFFICER RESPONSE CAR SECOND STAGE COMPLIANCE CHECK SHEET			CO = COMPLIES	NC = NON COMPLIANT	NS = NOT STATED	Aug-21	
Car Make	Model	Non plug in Hybrid available	Details of Hybrid option	Number of Dealerships within H&W boundaries or close by	Car listed on MET police list	Comments	Reasons for fail
Alfa Romeo	Stelvio	None available as yet	None	One in Pershore, part of multi franchise not a genuine dealer		Car and dealership classed as racing vehicle remapper etc, not suitable	No dealer ship and no non plug in Hybrid available
Audi	Q3 Estate	Only offers a Petrol plug in Hybrid	No hybrid option at all with 4x4 drive	One dealer in Hereford and one dealer in Worcester		Dealerships look good, no Hybrid option available	Plug in Hybrid not suitable
Audi	Q5 Estate	Only offers a Petrol plug in Hybrid	Hybrid available in 4x4 drive, but cost over £35,000	One dealer in Hereford and one dealer in Worcester		Dealerships look good, Hybrid option not suitable and too expensive	Plug in Hybrid not suitable
BMW	X4	No Hybrid option available	Cost close to maximum for budget, Hybrid would be too expensive	One dealer in Hereford and one dealer in Worcester		Dealerships look good, no Hybrid option available, cost inhibitive	No Hybrid option
Ford	Kuga	Only offers a Petrol plug in Hybrid	Hybrid not available in 4x4 drive option	Seven Dealerships within boundaries		Dealerships very good, Hybrid not suitable and only available in 4x2 drive option	Plug in Hybrid not suitable
Hyundai	Santa Fe	Self charging Petrol Hybrid available	Hybrid is available in 4x4 drive option	Three dealers within boundaries, cost £27,395		Dealerships are good, self charging 4x4 Hybrid available, looks a good option	
Jeep	Compass	Hybrid not available in the Compas model		No Dealers within our boundaries, nearest is in Gloucester		No Hybrids available and no dealershis within our boundaries	No Hybrid option
Land Rover	Evoque	LR offer a mild Hybrid that does not require plug in charging	Details don't appear on CCS framework, need to check cost	Four dealers in our bundaries		A good mild hybrid and good dealerships, but need to confirm cost	
Land Rover	Discovery Sport	Only available as a plug in Hybrid	Cost of plug in Hybrid over £36,000	Four dealers in our bundaries		Good dealerships, plug in Hybrid not suitable and too expensive	Plug in Hybrid not suitable
Mercedes	GLB Estate	No Hybrid option available		One dealer in Worcester		Limited dealership and no Hybrid options at all yet	No Hybrid option
Subaru	Outback Estate	Petrol engine only and no Hybrid option		No dealers in our boundaries		No dealerships, no Hybrid option, limited engine specification	No Hybrid option
Toyota	Rav 4	Self charging Hybrid with 2.5 petrol engine	No plug in required, 4x4 on this model	Two dealers in our boundaries		Two dealers are fine, Hybrid is self charging, cost is within budget	
Volkswagen	Toureg	Hybrid is plug in petrol only	Cost of Hybrid is over £60,000	Three dealers in our boundaries		Plug in Hybrid no good, cost very expensive, two dealerships are fine	Plug in Hybrid not suitable
Volvo	XC40	Mild Hybrid is available which does not require plug in	Mild Hybrid is available which does not require plug in	One dealer in our boundaries, three just outside		Mild non plug in Hybrid available, one dealer in boundary, three just outside, cost to check	
Volvo	XC60	Mild Hybrid is available which does not require plug in	Mild Hybrid is available which does not require plug in	One dealer in our boundaries, three just outside		Mild non plug in Hybrid available, one dealer in boundary, three just outside, cost to check	

NOTE Cars marked in yellow are considered non compliant and willnot be taken forward for consideration

Appendix 3

Review of Final Five Vehicles
Replacement of Officer Response cars 2022: Costs & Comments

Currently there are five cars that meet our criteria, however the self-charging Hybrid versions of these cars will be more expensive than the standard petrol or diesel versions and the plug in Hybrids are even more expensive.

To take our service forward with regard to cleaner emission vehicles at this time self-charging Hybrids appear to be the best option as the service locations and on-call officers may not have charging facilities at their private homes and work places for plug in Hybrids.

Diesel engine cars are gradually being phased out by car manufacturers so most Hybrids are petrol driven and usually with smaller engines. However, both petrol and diesel powered cars are available at this time. It is noted that our bulk fuel sites can still be utilised by cars if they are diesel powered.

NOTE; The models and prices are based on the basic version of each car that meets our requirements. Detailed specifications may need to be checked, however at the time of evaluation all vehicles met the requirements.

Hyundai Santa Fe

Premium model 1.6 TGDI AT6 4WD Hybrid	Price excluding vat £27,881.70 Price including vat £33,458.04

Delivery six months from order

Toyota Rav4

Basic Design 4x4 Hybrid model	Price excluding vat £23,126.85
Including on the road costs	Price including vat £27,977.22

Delivery around five to six months from order

Range Rover Evoque

R Dynamic S model 1.5 P300	Price excluding vat £35,338.33 Price including vat £42,405.99

Delivery 12 months from order

Volvo XC40

R-Design B4 197 HP (P) engine AWD Automatic
R-Design Pro B4 197 HP (P) engine AWD Automatic

Volvo XC60

B4 mild Hybrid diesel AWD Momentum auto	Price excluding vat £26,134.99
Including on the road costs	Price including vat £32,776.36

Additional Comments

Hyundai Santa Fe

This car appears to meet most specification requirements, with the engine being only a 1.6, but is a diesel this would have to be physically tested to ensure it is powerful enough for our needs. The safety and driving features are particularly good on this car, but we have requested a contact to firmly check that the CCS framework figures are correct. The price of £27,881.70 is within our capital budget figure, but the specification at this cost would need to be checked further against our requirements. The higher specification model is just over our capital budget figure and I would accept this cost if the car was deemed the best option, but the priced model was not available by the supplier at the time of this evaluation.

Toyota Rav4

This car appears to meet all initial specification requirements and exceeds some of the more important ones such as engine HP at 222, wading depth at 500mm and boot size at 733 litres. The specification level of the base model needs further review, as it may be that a higher specification model is required, but at the stated price of £23,126.85 there should be plenty of scope for this to be considered.

Range Rover Evoque

The total capital budget per car is £37,000 this figure includes not just the purchase cost of the cars but also the blue light installation, road tax, first registration fee, delivery and any other related costs. Allowing for all additional costs it sets the actual car purchase cost at £30,000. This will allow a small movement if this car is found to be the best option.

The price stated for the Evoque is for the cheapest option of four Land Rover quotes for the Hybrid cars without any additional options, and is outside of the available budget figure. Therefore, this car has been discounted on consideration of cost and the secondary consideration of premium brand.

Two other considerations have also caused concern with the Evoque, being the aluminium body making it impossible to use magnetic roof beacons on them, "*part of our blue light specificati*on" and also they have a very low reliability rating. This is obviously an important criteria to be considered, and based on the above information this vehicle was discounted from the evaluation.

Volvo XC40

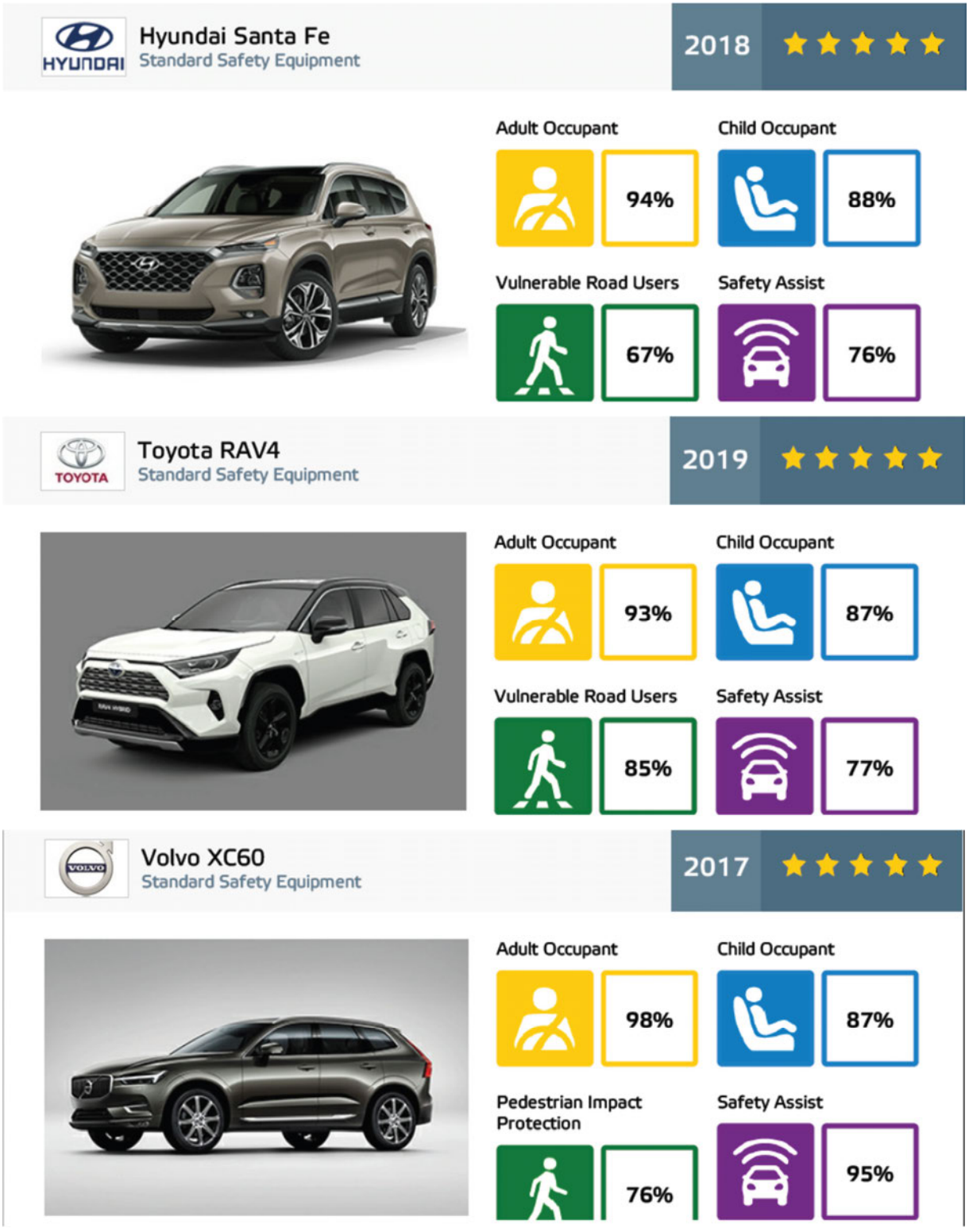
This car is available as a self-charging mild petrol engine Hybrid. Two models were offered to show the cheapest model available, but due to it being a lower specification with only 18" wheels we also included the next model up with the larger 20" wheels. This better suits service requirements as stated in our specification document.

When the car was initially checked in the CCS framework the boot size was listed as 578 litres, however after checking with the Volvo brochure I have found that the Hybrid version is actually 452 litres. Our requirement is minimum 500 litres, therefore this vehicle is discounted based on this information.

Volvo XC60

This car meets all initial specification requirements and is priced within the capital budget figure of £30,000. The car has a good proven track record with HWFRS, and has performed well over the last three years with 36 operating in our fleet. It is also noted that 24 of the same specification vehicle were purchased on the same contract by Shropshire Fire and Rescue Service.

Appendix 4


Hyundai Santa Fe
Standard Safety Equipment
2018
Adult Occupant
94%
Child Occupant
88%
Vulnerable Road Users
67%
Safety Assist
76%
Toyota RAV4
Standard Safety Equipment
2019
Adult Occupant
93%
Child Occupant
87%
Vulnerable Road Users
85%
Safety Assist
77%
Volvo XC60
Standard Safety Equipment
2017
Adult Occupant
98%
Child Occupant
87%
Pedestrian Impact Protection
76%
Safety Assist
95%