

Public Private Partnerships: Airwave



REPORT BY THE COMPTROLLER AND AUDITOR GENERAL
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executive summary

- 1 Effective mobile communications are crucial to modern police work. For many years, each police force was responsible for the procurement and maintenance of its own radio communications systems. Many of the systems are based on what is now obsolete technology that does not meet current operational requirements and prevents each police force communicating easily with the other emergency services in its area or with its neighbours. In 1993, following a major review of radio communications in the Police and Fire Services, the Home Office concluded that a new system was required and that it should be procured on a national basis. Furthermore, the new system should be shared by the Police and Fire Services, along with other public safety organisations, if their requirements were met and it was cost effective to do so. An outline business case was produced and bids were sought from the private sector. Subsequently, the Fire Service had reservations about the project and opted in 1996 to be included only as a potential future sharer.



- 2 In 1998, the part of the Home Office responsible for the project was transferred to the Police Information Technology Organisation (PITO), a Non-Departmental Public Body established to provide a procurement, contract management and advisory service for communications and information technology used by police forces. One of PITO's key objectives in its early years was to take the project forward.
- 3 In February 2000, PITO signed a framework arrangement with British Telecommunications plc (referred to as O2 in this report^a) for a new radio service (now called Airwave) across police forces in England, Wales and Scotland by 2004-5. PITO negotiated the contract under the PFI, whereby O2 will design, build, finance and operate the fixed assets used to transmit and receive voice and data signals. The total cost of Airwave during the 19 years in which the framework arrangement will be in place is expected to be some £1,470 million, made up of the first two of the three key services below:

- a) **£1,180 million for the Core Service:** all police forces will receive, and PITO will pay for, a guaranteed level of radio coverage and other key services;

^a In November 2001 British Telecommunications plc demerged its mobile communications businesses, including the Airwave contract, into a separate company, O2 plc.

- b) **£290 million for "Menu Exclusive" Services:** police forces will need to purchase services over and above those provided under the Core Service to maintain or enhance their existing capabilities. As a number of these services, such as extra radio coverage and capacity, are integral to the network to be built under the Core Service, O2 will offer them to police forces at standard national prices negotiated with PITO; and
 - c) O2 and other potential suppliers will be invited to tender for the provision of **"Menu Competitive" Services**, including items such as handheld terminals and control room equipment. Each police force will determine the quantity of equipment and the prices paid will depend on the outcome of locally organised competitions. Estimated expenditure will be £280 million.
- 4 In this report we examine the prospects for achieving value for money from the negotiation and early implementation of the Core Service, including the pricing of Menu Exclusive Services. The report does not cover operational decisions by each police force on the use of Menu Exclusive Services or the arrangements to conduct local competitions for Menu Competitive items. These decisions will be taken by each police force in consultation with its police authority and are outside the remit of the National Audit Office.

Negotiating a deal was difficult

- 5 Some 70 companies expressed an initial interest in the project and a number of these joined together to create three potential bidding consortia. These consortia passed a pre-tender assessment, but two decided to merge to produce a stronger bid. Later on, this merged consortium dropped out, following the withdrawal of one of its key technical partners. This left the consortium led by O2 as the sole bidder. As existing radio systems were not meeting operational requirements, there was no do-nothing option and the preferred solution had to avoid delaying implementation of a new radio service. After wide consultation, PITO concluded that continuing with O2 as a single bidder offered the least risk of delay.
- 6 In the absence of competition and acting on a suggestion by O2, PITO sought to strengthen its negotiating position with the use of a should-cost model. Such a model was expected to provide an understanding of the costs of delivering the service and permit direct comparisons with, and challenges to, O2's estimated costs. To estimate O2's costs, specific information over the duration of the contract was required but difficulties were encountered. For instance, reliable cost information for equipment proved not to be readily available because the technology was new. Nevertheless, the should-cost model was used to challenge O2's costs and both PITO and O2 consider that prices were reduced as a result of these discussions.
- 7 The cost of Airwave was also compared to a public sector comparator. The comparator estimated the cost that would have been incurred if the public sector were to design, build, finance and operate a new police radio service to the same specification as Airwave. Our examination of the public sector comparator indicated that its value was limited by a number of factors. Concerns as to whether the public sector had the necessary skills and resources to successfully procure such a risky project meant that a public sector comparator was not prepared until 1999 when negotiations with O2 were at an advanced stage. PITO considers that the comparator helped with the assessment of value for money but added nothing to the decision on whether or not the PFI was the most appropriate procurement route. Although a sensitivity analysis was undertaken, the principal output from the comparator was a single number. PITO's financial adviser issued a positive verdict on value for money based on the comparator showing that Airwave, at £1,470, million was cheaper than the estimated £1,610 million cost of a conventional procurement.

Other emergency services have not as yet joined Airwave

- 8 Although the Home Office saw the Fire Service as part of the procurement from an early stage, the Fire Service itself considered that features of Airwave, such as encryption and roaming, were not needed to meet the operational requirements of fire brigades and were likely to add significantly to the cost. This was a key consideration in 1996, when a decision was taken in consultation with the Home Office, that the Fire Service should not be part of the initial procurement but should be included, with other emergency services, as a potential future sharer. In 2001, a review of Fire Service needs concluded that a regional rather than a national approach to procurement would be pursued. In conducting a series of regional procurements, it was also recognised that open competitions should be held to comply with procurement rules.
- 9 The review noted the need to specify a requirement for interoperability with other emergency services regardless of which radio systems are procured at a regional level. Individual fire services formed consortia, based on geographical proximity, to determine local radio communications needs and to procure suitable systems. In March 2001, a consortium comprising Devon, Cornwall, Avon, Dorset Gloucestershire Wiltshire and Somerset fire brigades requested tenders for the provision of wide area radio communications and mobile equipment. Although O2/Airwave was one of the bidders, the consortium has since entered preferred bidder negotiations with a supplier of an alternative technology. The decision of the Fire Service not to be part of the initial procurement of Airwave represents a lost opportunity for joined-up working by the emergency services and a loss of economies of scale. Quantification of the loss is problematic, although O2 has told us that it considers any figure would be substantial.
- 10 Current radio systems used by ambulance services are old and frequently of poor quality. As a result, the Department of Health is planning a national procurement for a new national radio network for ambulance services and other NHS radio users. Unlike the Fire Service, the Department of Health rejected a local or regional approach to procurement because it would not ensure a common standard of communications across all Ambulance Trusts and would necessitate up to 32 separate competitions. Interoperability with the local police forces and fire brigades will be a key requirement of the new ambulance radio system. The procurement will be an open competition and it is anticipated that Airwave will be one of the bidders.
- 11 The Fire and Ambulance Services are not, however, the only potential sharers of Airwave. The licence for Airwave allows others to join the service provided they are predominantly public safety organisations whose primary function is to respond to emergencies. In negotiating a deal, O2 assumed that sharers would join Airwave and estimated that additional revenues of between £1.8 million and £5.5 million a year might result. These estimates assumed between 3,500 and 12,500 extra radios on the system. As the number of potential users ranges up to 50,000, the additional revenues estimated by O2 appear low. PITO did not succeed in securing a provision for the police to share in the benefits from the take-up of Airwave by sharers. O2 considers that, as no sharers were delivered up-front, it is in effect taking all the risk on this aspect of the deal and should reap all the benefits, if it is successful.





A sound implementation plan is in place but the risks remain

- 12 A pilot stage was used to test Airwave over a six-month period in Lancashire and other police forces will join the new service through a phased roll-out with thorough testing and validation at each stage. Problems were encountered during the pilot in demonstrating that the required level of coverage had been achieved, particularly on major roads. PITO considered that the deficiencies were significant while O2 believed that there was a problem in measuring coverage and that, in operational terms, any deficiency would not be noticed. The problems led to an extension of the pilot period but were not fully resolved before Airwave was accepted, albeit on a conditional basis. This will allow a substantial portion of the income stream to begin flowing to O2, potentially reducing the incentive to take action to meet outstanding contractual conditions. Nevertheless, the service has been running successfully in Lancashire and PITO has been particularly careful to seek financial recompense for any failure to deliver, as well as retaining an option to step back to pilot status if key elements of the contractual requirements are not resolved within an agreed time frame.

PITO and police forces are working together to realise the benefits expected from Airwave

- 13 A review on behalf of the Association of Chief Police Officers concluded that, for the English and Welsh forces only, Airwave will involve additional expenditure of some £300 million over the contract period when compared against a series of less ambitious, locally procured systems. During the procurement, many police authorities considered that Airwave was prohibitively expensive, with some claiming they might need to reduce officer numbers in order to pay for the new service. The extra cost has been justified on the grounds that Airwave has the potential to enhance the efficiency and effectiveness of the police. Prior to the development of a full business case, police forces were asked to examine the potential impact of a new radio service on their efficiency. The results indicated that around 37 per cent of uniformed officers' time is spent in the police station. By reducing the need to return to the station for activities such as data checks and telephone calls, Airwave is expected to bring about at least a 10 per cent saving in time spent in the police station.
- 14 This early research might have been built on sooner. Although there was a clear intention to seek additional benefits, further work was not progressed until after contract signature as there were insufficient staff available to PITO at the time. In 2001, PITO established a Business Benefits Steering Group to develop a learning package that will allow police forces to implement Airwave in such a way that benefits will be achieved. But disentangling the effects on police performance due solely to Airwave will be difficult, as numerous other initiatives aimed at improving the efficiency and effectiveness of the police are also being implemented by PITO at the same time.

Lessons Learned

15 It is too early to reach a conclusion on whether Airwave will bring about all of the benefits envisaged. The three emergency services currently have radio systems which do not allow full interoperability between them. Following the implementation of Airwave, this will still be the case. Police forces will all be on the same national system; ambulance services will be on a national system, which may or may not be Airwave; and the fire brigades may be operating a number of local systems, some of which may be Airwave, some not. It is unfortunate that the potential economies of scale of a single procurement were not realised but, more importantly, the events in the United States on 11 September 2001 make it all the more important that all our emergency services have the best communications and information sharing capability.

16 Nevertheless, it is apparent from our examination that, in difficult circumstances, a range of complex issues had to be addressed and that PITO handled the negotiations with O2 on behalf of more than 50 police forces and their respective authorities in a competent manner. There are a number of important lessons to be borne in mind for future public-private partnerships.

- 1** **Decisions on whether or not to go ahead with a single bidder must take full account of whether it will be possible to gain adequate assurance of good value**

Full competitive tension in any procurement will usually ensure that the deal on offer is the best available in the market at the time. In the absence of competition, PITO put in place a should-cost model and started to prepare a fallback option to put pressure on O2 during negotiations. The use of a should-cost model was successful and should be followed by other departments when faced with a single bidder situation. For such a strategy to work effectively, it is essential to get the full co-operation of the bidder and to allocate adequate resources to analyse and interpret what will be complex calculations.

- 2** **A public sector comparator can play a part in judging value, but a single-figure comparison with the price offered by a bidder cannot be relied upon**

PITO used a public sector comparator as an element of a toolkit of methods to justify going ahead with Airwave on the basis that it would cost less than a publicly funded and managed procurement which delivered the same benefits. Because of the inherent uncertainty of forecasting 19 years into the future, it was very unlikely that a single figure output from the comparator would have been sufficiently robust to provide assurance on value for money.

- 3** **To remove uncertainty in the pricing of a PFI deal, the number of sharers for a service should be settled as early as possible**

The cost of building the fixed assets for Airwave will be borne by the police. If large numbers of additional emergency service and public safety sharers decide to join Airwave, O2 stands to make substantial gains but the police will get nothing in return. PITO attempted to negotiate a clawback of part of any additional income earned by O2 but were unsuccessful as no sharers for the service could be guaranteed. O2 argued that it had assumed Airwave would be used by customers other than the police and had priced this into the deal. As it was taking all the risk on this assumption, O2 refused to share any future income that would result from the use of the system by other customers. However, the number of additional customers for Airwave was, and remains, uncertain and there is little clear evidence of the effect, if any, on the pricing of the contract.

- 4** **In most cases a pilot project should not be accepted if further work is needed to demonstrate that the service will be delivered in full compliance with the contract**

If a pilot project is necessary to demonstrate that a PFI project will deliver, it is crucial that what is required can be measured accurately and, when measured, that delivery has been fully demonstrated before a green light is given to proceed. PITO faced difficult problems with Airwave in that it was based on new technology for which satisfactory measurements of coverage had not been fully developed before the pilot got underway. When O2 appeared to fail against one of the key measures, PITO could not be sure whether the results pointed to an acceptable or unacceptable level of service. Under time pressure, PITO gave an amber light to O2. In doing so, PITO saw the key issue as whether an improved service was being provided which could soon be brought to the contractual levels required. To encourage this to happen, PITO ensured that O2 would suffer financial penalties if certain conditions were not satisfied within an agreed timescale. In addition, other police forces are unlikely to take Airwave if it does not pass their acceptance testing and O2 would lose more of its revenue stream. Although PITO retains the right to terminate the contract, this seems unlikely as increasing numbers of forces take up the service.

5 The benefits expected from a PFI project go wider than cost savings in delivering a service and need to be understood fully

Value for money depends on more than just price. Business cases often make use of anticipated benefits to justify a deal, but more often than not, make little effort to quantify them as far as possible or set out a clear methodology to ensure they are achieved. When procuring a step change in technology, such as Airwave, it must make sense to develop mechanisms to ensure that the maximum possible benefits are obtained for what will be a considerable investment of public money. This requires the allocation of resources up front to analyse performance before the service is introduced. In this deal, such investment was not undertaken either early enough or in sufficient depth during the procurement. PITO chose instead to focus resources on ensuring that the new network would meet police requirements and on encouraging police forces to use Airwave as a platform for changes in working practices. In PITO's view, this should, along with other IT projects underway, maximise future operational benefits for the police. Since contract signature and following the establishment of the Business Benefits Steering Group, PITO is now taking this work forward.