

Wiltshire Council

Cabinet

23 May 2017

Subject: Procurement of an Integrated Highway Asset Management System

Cabinet Member: To be appointed by the Leader of Council following his or her election by Annual Council on 16 May

Key Decision: Yes

Executive Summary

The highway network and associated infrastructure in Wiltshire has a replacement value of over £5 billion, and represents a significant asset and liability for Wiltshire Council. It is proposed to improve the management of this asset through the procurement of an improved, modern IT system to replace a number of existing older and limited systems currently being used.

From recent soft market testing it is clear that an improved asset management system could be procured within existing budgets, which would deliver longer term improvements in asset conditions in future years, and improve a number of safety critical operations.

Oxfordshire County Council operates very similar systems and is progressing procurement of a replacement. There is the opportunity for joint procurement, which will speed up the process and potentially provide cost savings. Other authorities in the south west have recently undergone similar procurement exercises and information has been obtained from them to inform development of the current proposals.

Proposal

That a procurement exercise should be undertaken for Highway Asset Management Software that best meets the Council's requirements, and offers the best value and functionality. It is recommended that the system should be in place for 1 April 2018.

Reasons for Proposal

Wiltshire Council is responsible for 4,500km of roads, 1500 bridges and over 40,000 street lights with an estimated replacement value of £5 billion. The local highway network is vital to providing connectivity for businesses and communities. Effective maintenance to ensure its availability is essential to the economic development of an

area.

Procurement of a modern Integrated Asset Management System will provide Wiltshire Council with the tools to improve the efficiency of key and statutory services such as major maintenance, highway safety inspections, street lighting repairs, traffic management and road space booking. It will enable the Council to achieve long term improvements in asset condition through improved investment decisions and to deliver an efficient and modern highways service.

There is the opportunity for joint procurement with Oxfordshire County Council which will speed up the process and potentially provide cost savings. The local authorities involved in the procurement process will operate separate contracts after contract award.

The experience of other Authorities who have procured new systems recently has delivered an improved understanding of their assets, improved maintenance decisions and increased efficiency through mobile working and streamlined, user friendly system interfaces.

Dr Carlton Brand
Corporate Director

Wiltshire Council

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Purpose of Report

1. To seek approval to proceed with a procurement exercise for replacing three current Highway Management Systems with a single Integrated Highway Asset Management System.

Relevance to the Council's Business Plan

2. The Council's highways service helps meet the priorities of the Council's Business Plan, including:
 - Outcome 1 – Wiltshire has a thriving and growing economy
 - Outcome 3 – Everyone in Wiltshire lives in a high quality environment
 - Outcome 6 – People are as protected from harm as possible and feel safe

Background

3. The Council is responsible for the maintenance of roads in Wiltshire, with the exception of motorways, trunk roads and those in private ownership. The highway network represents the Council's biggest asset, and is possibly its most significant potential liability. Maintaining a fit for purpose highway network is crucial to support economic development and to ease the movement of goods and people.
4. The highway network in Wiltshire comprises 4,500 kilometres of road, 3.9 million square metres of footway, 1,500 bridges and over 40,000 street lights with a replacement value of over £5 billion. It would cost over £330 million to resurface all of the roads, with additional costs to repair structural damage.
5. The condition of the county's roads is important to the public. This is demonstrated by the results of the Council's People's Voice and the National Highways and Transportation (NHT) surveys, which indicate low levels of public satisfaction with road conditions. In the Council's consultations on budget setting, expenditure on roads is the service area where the public consistently wish to see more spent.

6. The Council applies the principles of asset management to the maintenance of the highway network. This involves developing lifecycle plans to demonstrate how funding and performance requirements are achieved through appropriate intervention and investment strategies, with the objective of minimising expenditure while providing the required performance.
7. Asset Management has been widely accepted by Central and Local Government as a means to deliver a more efficient and effective approach to the management of highway infrastructure assets through longer term planning, ensuring that standards are defined and achievable for available budgets.
8. Wiltshire Council recognises the importance of adopting such an approach for its most valuable asset, and has developed and published a Highway Asset Management Strategy. This demonstrates Wiltshire Council's commitment to ensuring the public can safely use the highway and contributes to the achievement of its corporate goals.
9. A vital part of implementing and maintaining an asset management approach is through the use of Asset Management Systems to provide information on the location, type and performance of highway infrastructure assets. They can support decision making and the operational and strategic parts of the service (see **Appendix 1** for more information). Knowledge of the asset, its condition and its performance is vital for making the right investment decisions, as well as for demonstrating to senior decision makers and stakeholders the overall investment requirements.
10. The use of Wiltshire's Asset Management Systems and the analysis of Wiltshire's asset data were used to make the case for the 'Local Highways Investment Fund 2014 – 2020' to address the backlog of maintenance required on the network. This initiative has increased the annual road maintenance funding in Wiltshire to £21,000,000 for six years.
11. In 2014 the Council received £3,010,025 funding from the DfT as part of the weather repair fund after the severe weather and flooding in early 2014. Wiltshire Council also secured £3,063,000 through a bidding process where local highway authorities had to demonstrate a number of practices, including the use of asset management principles and innovation. The use of asset management data was vital in achieving this additional funding.
12. The Department for Transport (DfT) has set aside £578 million nationally between 2015/16 – 2020/21 as an incentive fund scheme to reward local councils who demonstrate they are delivering value for money in carrying out cost-effective improvements. Local councils in England submit an annual self assessment questionnaire in order to be awarded a share of the incentive fund. The questionnaire consists of 22 questions covering topics relating to asset management and maintenance operations, and authorities must score themselves out of 3 levels. In order to achieve Band 3 the Local Authority needs a robust Asset Management Policy and line of business system in place.

13. Wiltshire Council has submitted its questionnaire for 2017/18 placing itself in Band 3, which if approved ensures that Wiltshire receives its full allocation from the incentive fund. By 2020/21 the difference between achieving Band 1 and Band 3 for Wiltshire Council would be £2,782,000 so it is important that Wiltshire maintains its Band 3 status.
14. Asset Management and the use of Asset Management Systems have become increasingly important for highways departments across the UK, especially in view of the DfT Incentive Fund and the need to ensure value for money. Highway Asset Management involves using long term planning and understanding of roads, bridges and drainage assets and their condition to help deliver a more efficient and cost-effective maintenance service. It is important to have appropriate systems to enable effective asset management.

Main Considerations for the Council

15. The highway network and infrastructure in Wiltshire has a replacement value of over £5 billion, and represents a significant asset and liability for Wiltshire Council. The Council currently uses several systems for Highways Asset Management (see **Appendix 1** for further details of these systems). The systems enable the Council to carry out all of its duties, both operational and strategic, across all of its highways and related assets, including major maintenance, routine maintenance, reactive maintenance, street works, traffic management, street lighting, structures management and works ordering.
16. All information passing through the systems is stored and builds up a history of the assets and works completed. This is valuable for improving the way the assets are managed, maintenance decisions are made and for insurance purposes.
17. A comprehensive review of the existing systems has not been undertaken for some years. Soft market testing has been carried out, and considerable progress and innovation has been made, particularly with regard to mobile working and data analysis.
18. Other authorities in the south west have undertaken similar procurement exercises and are seeing the benefits of improved efficiencies as a result. Oxfordshire County Council operates very similar systems to Wiltshire Council and is progressing procurement of a replacement system. There is the opportunity for joint procurement, which will speed up the process and potentially provide cost reductions and a strong collaborative relationship.
19. The DfT is promoting asset management and the need for authorities to get smarter with their operational processes and maintenance decisions. This is evident in the incentive funding process, the new risk based *Well Managed Highways Infrastructure* Code of Practice and the Highways Maintenance Efficiency Programme (HMEP) *Highway Infrastructure Asset Management* guidance that have been released over the last few years.

20. The Council's emerging *Digital Strategy* is laying out Wiltshire Council's digital response to the Council's Business Plan priorities. It will aim to ensure the Council has a clear vision for moving to a digital, app based platform that is more accessible to our customers, maximises the potential of our workforce and allows us to work more collaboratively. The project aligns very closely to the aims of Wiltshire Council's Digital Strategy.
21. The procurement of an Integrated Highways Asset Management System provides the perfect opportunity for Wiltshire Council Highways to become more efficient in its operations and to improve its maintenance decisions and the overall asset condition. The project will see the Council move from three systems to one, with stronger mobile capabilities, user friendly interfaces and powerful asset analysis tools.

Overview and Scrutiny Engagement

22. The outcome from the use of the Highways Asset Management System is reported annually to the Environment Select Committee when the Council reports on existing road conditions. The results of the procurement exercise will be reported to the Environment Select Committee later this year.

Safeguarding Implications

23. Does not apply.

Public Health Implications

24. Improved understanding of asset condition and targeting investment in road maintenance will have benefits for public health. The improved road surfaces, better skid resistance and associated safety improvements would help reduce the numbers killed and injured on the road network. These improvements would complement the other measures to improve road safety, such as traffic calming and speed limits, being introduced through the Local Transport Plan funding and the Community Area Traffic Groups.
25. The improved road surfaces, particularly on the minor urban roads, would be of benefit to cyclists and pedestrians, and with suitable publicity campaigns could be used to encourage these healthier means of transport. At present the condition of some of the urban roads may discourage cycling as cyclists are adversely affected by poor road conditions and uneven or damaged surfaces.
26. Roads in poor condition in urban areas can result in disturbance and noise for residents, especially on busier routes carrying heavy goods vehicles at night. Better road surfaces could result in reduced background noise in residential areas, with potential mental and physical health benefits. The new Asset Management system will help improve the maintenance of the highway network.

Procurement Implications

27. As there are a limited number of suppliers, it is recommended that there should be a full open tender without a Pre Qualification Questionnaire. Consideration has been given to existing framework contracts but it has not been possible to find an appropriate one for this specialised area that fully meets the requirements.
28. The intention of this procurement exercise is to go out to the market with the aim of procuring remote hosted software that best meets our requirements and offers a competitive process that will evidence best value for the functionality.
29. Oxfordshire County Council operates very similar systems and is progressing procurement of a replacement. Swindon Borough Council is also considering a procurement exercise. There is the opportunity for joint procurement which will speed up the process and potentially provide cost reductions. It is anticipated that local authorities involved in the procurement process will operate separate contracts after the award.

Environmental and Climate Change Considerations

30. The road network is particularly vulnerable to the effects of climate change. In recent years we have seen the effects of a series of severe winters which have resulted in damage to the roads and an increase in the number of potholes. In long periods of hot weather the surfaces can be damaged by melting, resulting in roads becoming slippery or deforming under traffic loads. By building up a greater understanding of network condition and improving the efficiency of our operations through the use of a modern integrated asset management system it is possible to make more informed maintenance decisions to arrest deterioration and minimise the effects of climate change.
31. The highways service is making large strides in improving efficiency through the use of mobile technology, and the development of the My Wiltshire platform has been leading the way. By allowing staff to carry out inspections and contractors to record repairs in the field we are reducing the use of paper and double handling of information, which has a positive impact on the environment. The procurement of an Asset Management System will enable a more mobile workforce by moving street works inspections, street lighting and major maintenance onto mobile platforms, further reducing the use of paper and double handling, and ensuring all data is held in one system, easily accessible to staff.
32. In the longer term a more robust highway network, with roads in better condition, would require less reactive maintenance and reduced travelling to respond to potholes and localised defects. A modern, highly mobile Asset Management System providing the tools to develop a well informed preventative maintenance programme will enable traffic disruption to be kept to a minimum. With unplanned maintenance the delays to traffic and associated fuel consumption can be considerable.

Equalities Impact of the Proposal

33. The improvements in road condition and safety anticipated with the improvement in maintenance decisions would be expected to benefit all road users, but especially the more vulnerable, including pedestrians, cyclists and other non vehicle users.
34. The highway network is important to local businesses, and to public transport operators. The delays due to un-programmed maintenance and road repairs have been identified as concerns by local businesses. Improving maintenance decisions and the authority's ability to manage road space booking with a modern software solution will help demonstrate that transport is important in Wiltshire.

Risk Assessment

35. There are serious risks in connection with road maintenance. These include the safety and reputational aspects of those killed and seriously injured on the highway network. In order to reduce these risks the Council has approved highway inspection and skid resistance procedures in place, but in order to keep the network in safe condition it is important that Wiltshire Council has the right tools to manage and improve its operations and analyse its assets to provide the best treatment options in the right places at the right time, and reduce the associated risks.

Risks that may arise if the proposed decision and related work is not taken

36. If a procurement exercise to modernise the Council's Highway Asset Management Systems is not undertaken, it is likely that the planned work on the network will not deliver maximum benefits. Road conditions could deteriorate, accidents increase, and public satisfaction would decline further.
37. By not taking the opportunities to use the latest software technology in the highways industry, Wiltshire Council could be at risk of failing to improve the efficiency and effectiveness of its operations, which includes major and reactive maintenance, improving road safety, improving road condition and improving traffic congestion. Embracing the latest technology would enable Wiltshire Council to better manage and understand its highway assets which would help reduce the risks of damage, injury or death to Wiltshire's road users.

Risks that may arise if the proposed decision is taken and actions that will be taken to manage these risks

38. There is a risk that the proposed system will not deliver the improvements in maintenance decisions and operational efficiency anticipated. This risk will be managed by focusing heavily on quality in the procurement exercise through carefully considered quality questions and demonstration scenarios to be performed by suppliers in a live system environment.

39. All highways staff will need to be trained in the use of a new software solution. In order to reduce risks it is anticipated that there will be a six month mobilisation period where all staff will receive the training they need to use the new system to its full potential. Teams will be required to have staff trained to 'super user' level with the confidence to liaise with the supplier over queries and problems. 'Super users' will support the development of their teams and maximise their use of the system.
40. There is a very small risk that data could be lost during migration to the new system. This will be mitigated by a detailed data transfer plan, and where possible data will be backed up before transferring it to the new system. No sensitive data is used in this exercise.

Financial Implications

41. The current budget for Highway Management Systems is approximately £160,000 per annum and it is anticipated that a single, considerably improved system, would have a similar cost. The costs associated with the new asset management system would be similar to existing costs, but the benefits would be in more efficient operations and investment decisions.
42. Improved management of the highways asset has potential to save money by improving road safety and reducing claims against the Council for compensation following incidents on the network.
43. The highway network and associated inventory represents an enormous asset and liability to Wiltshire Council. Implementing an improved, mobile asset management system will offer the authority an efficient and flexible way to manage 'day to day' operations, statutory obligations, asset condition modelling and would deliver value for money and cost savings. It would yield time savings through reduced paperwork, removal of double handling and enable users to carry out work on site without the need to return to an office/internet connection.
44. Software with enhanced data analysis and modelling tools will give engineers a greater understanding of asset condition and enable more informed decision making. Using asset management principles and demonstrating innovation also has the potential to enable the authority to secure additional funding when carrying out self assessment for maintenance block allocations from the DfT through the incentive funding process or other bidding processes.
45. The application of treatment strategies would enable efficiency to be gained in utilising software with asset data modelling capabilities. Improving maintenance decisions and delivering optimal treatment strategies will enable the authority to treat more of the road network, improve network condition and drive value for money (see **Appendix 2** for information on asset modelling).
46. The improved asset management could be achieved within existing budgets, and would deliver long term improvements in asset conditions.

Legal Implications

47. The Council has a duty under the Highways Act 1980 to maintain the county's roads. The highway inspection procedures, policies and improvement plans ensure that this duty is fulfilled. An improved Integrated Highway Asset Management System will help the Council improve the way it manages its assets and statutory obligations under this Act.
48. The Council has a duty under the Traffic Management Act 2004 to manage its road network to make sure that traffic can move freely on its roads and on the roads of other traffic authorities. It also designates powers to local authorities to direct when works are carried out or where new apparatus is placed. Greater efficiency and improved decision making can be achieved through the introduction of a modern integrated management system with mobile capabilities.
49. The procurement process will accord with the Council's Policies and procedure contained within its Constitution and any European legislation as applicable.

Options Considered

50. Options for procuring an asset management system have been considered. It would be possible to do nothing and continue using existing software. By not taking the opportunities to use the latest software technology in the highways industry, Wiltshire Council could be at risk of failing to improve the efficiency and effectiveness of its operations, which includes major and reactive maintenance, improving road safety, improving road condition and improving traffic congestion.
51. The preferred option is to carry out a full open tender process to replace Wiltshire Council's three current systems with a single integrated asset management system. There will be a strong emphasis placed on mobile working, ease of use and asset analysis tools. Oxfordshire County Council is in a similar position which is providing the opportunity to carry out a joint procurement exercise with two separate contracts after award.
52. Conducting a joint procurement exercise could result in reduced costs and greater efficiency through collaboration. A strong working relationship has been built with Oxfordshire which could provide further opportunities for collaboration, joint training, knowledge sharing and support after the contracts have been awarded.

Conclusions

53. There would be benefits in proceeding with a full open tender process for the procurement of an Integrated Highway Asset Management System. Utilising an Integrated Highway Asset Management System will enable Wiltshire Council to improve its operational efficiency and the condition and safety of the highway network and associated assets. It links directly to Wiltshire Council's core priorities of protecting the most vulnerable, boosting the local economy and bringing communities together.

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The following unpublished documents have been relied on in the preparation of this Report:

None

Appendices

Appendix 1 – Wiltshire Council's Current Highway Management Systems
Appendix 2 – Highways Asset Management