

TRANSPORT ASSET MANAGEMENT PLAN & PROGRAMME 2014/15 – 2015/16

Introduction

1. Oxfordshire County Council's Transport Asset Management Plan (TAMP) was approved by Cabinet in March 2008. Officers have been working closely with a working group from the Transport Advisory Panel to refresh the TAMP with a view to it being more reflective of the current needs of the asset and ensuring that prioritisation of schemes enables the authority to derive the greatest value from its investment.
2. The Council has also recently been the subject of a peer review as part of the Highway Maintenance Efficiency Programme set up by the Department for Transport and the Local Government Association. This has enabled the authority to be recognised for the good work it is doing whilst providing challenge, and examples of good practice, on where it can improve. An action plan has been developed to address these improvements and will be implemented over the coming year.
3. This report provides the 2-year rolling programme for all highway maintenance activities and all types of highway infrastructure including roads, footways, bridges, street lighting and drainage in accordance with the current TAMP. The 2014/15 schemes (in Annex B) were presented in draft at the locality meetings held in autumn 2013, as part of the visualised two year programme (2014-16). Comments were taken from the meetings and the schemes were developed in accordance with feedback and condition assessments.
4. Appendix A provides the Structural Maintenance Annual Programmes funding allocation for the medium term and the funding for major schemes and other activity. The detailed 2-year Structural Maintenance Programme is provided in Appendix B.

Asset consideration and prioritisation

5. Each asset type has differing levels of deterioration and requires specific assessments to ensure that condition is maintained and risk is not increased which might lead to claims or the need for major investment. Each is discussed in turn below:

Carriageways & Footways

6. Carriageway structural maintenance activities include carriageway resurfacing and reconstruction, structural patching, surface dressing and specialist safety surfacing treatments.

7. The last few years have seen a significant deterioration of the carriageway network with highway defects needing to be addressed rising from 27,958 in 2011 to 52,296 in 2013. This has put significant pressure on revenue budgets with costs increasing from £1.662m to £3.943m in the same period and has put pressure on budgets in place for more proactive activities.
8. Further pressure has been put on maintenance budgets by finding the presence of coal tar in roads recently identified for surfacing. This is classed as a hazardous substance and therefore requires controlled and costly disposal which has significantly increased costs for schemes. To mitigate this issue the service has sought to focus efforts on appropriate recycling of this material to ensure that the impact on capital budgets is kept to a minimum.
9. Significant work has been undertaken in the last few years in developing more advanced forward programmes of work to ensure that more informed decisions can be taken on linking schemes for recycling or commercial reasons to ensure that the programme in its entirety can be delivered as cost effectively as possible.
10. Schemes are currently assessed through relative need factors that effectively score roads and footways according to the level of deterioration present to provide an initial prioritisation. Other factors are then considered such as the ability to recycle schemes, coordination with other works and programmes, links to other strategic priorities and impact of revenue budgets etc. to ensure that the greatest benefits can be derived to determine each year's annual programme of work.
11. Programme appraisals also include assessments of the importance of the route in the network hierarchy and the effects on traffic and localities to ensure that travel on the highway network and the impact on individual communities is not adversely affected by competing road works.
12. The above approach does not detract from the Council's duty to maintain the network in a safe condition. Defects identified through highway inspections or reported by the public on all roads in the County will continue to be investigated and repaired if there is an implication for safety.
13. The County's highway network has proven to be particularly susceptible to the effects of the external environment with significant impact on the highway condition being effected by harsh winters, high temperatures and flooding.
14. The above factors have caused significant break-up of the carriageway surface across much of the network, some road surfaces to melt and the undermining of the foundations of some carriageways and footways (i.e. the embankment slip at Bagley Wood last year). Water entering cracks in the road construction, and the subsequent freezing and thawing process are the main factors that cause widespread damage. Timely and cost effective sealing and drainage treatments before the road deteriorates is therefore imperative to ensure that the road does not deteriorate significantly with the resulting prospect of expensive repair costs and increased claims.

15. To help address this, the Department of Transport made additional funds available for 2013/14 and 2014/15 and these have been directed to ensuring that surfaces are effectively sealed and that water can more effectively run off of the carriageway.

Drainage

16. Poor drainage is a major cause of early carriageway failure and localised highway flooding. In conjunction with the additional capital investment from DfT, more revenue funds have been directed to addressing local drainage issues such as run off channels and ditch clearing in an effort to keep road surfaces drier. Formal drainage investigations are now included in early feasibility work for schemes in the carriageways forward programme with costs built into the annual site investigation and works allocations.
17. The Flood and Water Management Act 2010 places a Duty on the Lead Flood Authority (Oxfordshire County Council) to manage and record all surface water flooding within the County. The Council is developing a strategy on how it intends to manage this and it will go out to public consultation early this year.

Bridges

18. The overall condition of OCC's bridge stock both on the public highway and on the public rights of way network is declining following a reduction in capital funding as resources and funding have been diverted to support other priority assets like carriageways. Therefore, the bridge stock is currently being managed in a reactive rather than proactive way. This has increased the number of bridges on which weight limit measures are being imposed.
19. Recent extreme winters require higher volumes of salt to be spread on the highway which is detrimental to the durability of steel and reinforced concrete bridges. The County has also recently experienced more frequent extreme flood events, hotter summers and colder winters which only serve to increase the stresses on bridge structures and accelerate the rate of deterioration of OCC's bridge stock.
20. The fast running waters of the significant flood events such as those experienced in July 2007 and the more recent events in 2012 have been found to have significantly eroded away parts of the foundations and surrounding supporting soil structure of many bridges in the County. On some public rights of way footbridges have been damaged so significantly they have needed to be closed completely.
21. The service is reviewing the Bridges Maintenance Programme to ensure that future bridge maintenance schemes still provide value for money in terms of whole life costs, and has invested one off money to survey key structures to support this activity.

22. However, this increased knowledge of the condition of the Councils bridge stock is likely to identify urgent works that will need to be undertaken in the coming years.

Street Lighting and Traffic Signals

23. A simple system is used to assess the structural safety of lighting columns that provides an indication of the lighting column condition, which then forms the basis of a series of road lighting condition indicators. The interim report published in June 2002 proposed that the road lighting condition indicator should initially be based on the age of the lighting columns and any indicators of residual life that can be determined, whilst also considering environmental factors and other elements, such as luminaires and cable networks.
24. With an average life expectancy of 30 years it would be necessary to renew an average of 1460 lighting columns per year in order to keep pace with natural deterioration in the condition of Oxfordshire's lighting stock. However, the current budget allocation allows a programme of work to replace approximately 900 columns a year which have reached the end of their expected life. There are over 58,000 lighting columns in the county.
25. In the 1970's and 1980's the Council implemented a large majority of the traffic signal sites across the County. As with the street lighting stock many of these sites have reached their average life expectancy of 30 years and in many cases are beginning to show signs of deterioration. This will put pressure on capital budgets in coming years.

Structural Maintenance Programme 2014/15 & 2015/16

26. Annex B contains the programmes for structural maintenance for 2014/15 and 2015/16. They are presented in Asset type and schemes for each have been identified and the locality identified for further communication and clarity.
27. The main carriageway and footway schemes have been developed in advance where possible by allocating funding for advanced design and coring. This process allows for specific and appropriate treatments to be chosen, risk of coal tar to be identified and costed, and better cost estimates to be provided, enabling more effective use of available budgets and certainty of programme delivery. Specific allocations of funding have been set aside within each year to ensure that this advanced work continues into future years so that delivery can be assured and that the supply chain and market forces can be exploited for economy of scale, effective programming and associated efficiencies.
28. Routine surface dressing sites can only be presented for the first year of the programme as they are subject to pre-patching work a year in advance. All work is carried out within the summer months due to temperature sensitivities.

29. Pre-patching sites cannot be practically identified as a programme as these are iterative from condition assessments carried out within the same year. It is possible that some sites can be identified but they are subject to change dependent on the findings from the inspections. This work will determine the surface dressing programme for the 15/16 programme as highlighted above.
30. Footways are identified for both 2014/15 & 2015/16 and all 2014/15 schemes have been advanced designed to eliminate risk, confirm the treatment and obtain accurate budget estimates as per carriageway schemes.
31. Drainage schemes are identified for 2014/15 & 2015/16. Some advanced design and investigation has similarly been undertaken for the 2014/15 programme to eliminate risk, confirm the design/intervention works and obtain accurate budget estimates as per carriageway schemes. It is not practicable to undertake advance design of the full programme as the investigations required are such that the cost and the impact on the highway network is prohibitive (i.e. the need to excavate along lengths of drainage systems to determine exact requirements where CCTV surveys are not possible) and it is far more cost effective to the authority to build in greater contingencies into subsequent years to be able to react to findings found on site. In addition, a third of the budget has been assigned to a “reactive works fund”. This is due to the nature of the works as they are not readily visible and due to the flooding issues in recent years, flexibility to react must be maintained to manage the asset and the impact of flooding on communities. There is also an allocation made for lining and contributions to schemes which is based on previous years’ experience of reactive need.
32. A further £50k has been made available in each year’s budgets to enable the authority to contribute to schemes of other authorities (including the Environment Agency) where parts of those proposed schemes cross over with the responsibilities of the County Council.
33. Bridges schemes are identified for 2014/15 & 2015/16. It is not practicable to have advanced design in the majority of cases as similarly the impact on full cost budgets and the highway network are prohibitive. The costs for traffic management and destructive material testing in these cases would not provide value for money in all cases and therefore the schemes are presented with a higher contingency within the budget figure. In addition, a reactive works fund is established based on experience of retaining walls works required within year and to deal with problems arising from underwater scour inspections.
34. Network Rail Electrification – A budget for the betterment associated with bridge decks being replaced or renewed has been assigned. This budget ensures that opportunities to make improvements to the highway network during works to several Network Rail bridges are taken which otherwise could prove extremely costly for the council to implement.
35. The constraints on Network Rails programme have been such that it has not been possible to influence the works as much as had been hoped and therefore £2.3m has been released back into the capital programme.

36. Street Lighting column replacements and essential pole bracket replacements are identified for 2014/15 and for the first time a second year programme has been identified for 2015/16.
37. Oxford City's Section 42 allocation is based on a combination of capital and revenue maintenance activities. The City's qualifying capital schemes for carriageways and footways are included within the programme and the budget allocation is made to the city council for the delivery of these schemes. The City's surface dressing allocation is based on a proportional split of the County's surface dressing budget (capital). The City also receives a revenue allocation which is based on a proportion (relevant to the network length) of the County's allocations for relevant routine maintenance activities.

Systems & Inventory

38. The Council's highway network comprises over one million individual items of apparatus. A detailed knowledge of the location, type and condition of the highway inventory is vital to the establishment of appropriate service standards and efficient maintenance regimes. The Council has also a statutory duty in accordance with the new Flood & Water Management Act to publish a register of flood structures for interrogation by the public during 2011.
39. The Council has a framework of inventory and attributes visible on GIS that can be easily updated. It is a main requirement of the current Highway Services Contract to update the inventory as part of the routine day to day business to ensure data is current and easily able to be interrogated. There is also a pressing business need to digitise our large stock of highway records and plans. The service is therefore reviewing its systems for inventory management across all of the relevant asset categories.

Additional Pressures

40. The Asset Management team are continuing to assess the implications of new guidance relating to the exposure, treatment and disposal of coal tar and derivatives. These substances are found in many existing road constructions and are classified as hazardous waste. It is now known that coal tar will be identified at many locations on our network, however, the financial implications of dealing with the problem will only become clearer after further site investigation work and research has been carried out on each location. Where its presence is detected we may have to recycle material on site, or remove it to special treatment facilities or to the approved disposal sites. As a result of this there are several "donor" schemes identified within the forward programme that have "treated" ex-situ recycled material used to avoid costly hazardous waste disposal costs.
41. In the absence of further advice from government agencies, our approach to dealing with this problem is to undertake early site coring and testing and to design maintenance treatments to limit disturbance of the coal tar as far as possible or, where feasible, to utilise suitable on-site recycling methods that

should help reduce disposal costs. Consequently, dealing with the coal tar will add significant costs in addition to the extra cost of increased coring and testing if recycling options and donor schemes cannot be found and the resultant material has to be disposed of as hazardous waste.

42. Embankment Stabilisation – The service continues to monitor the sites where embankment stabilisation was identified as being potentially problematic last year. There are 7 sites of strategic network importance that are currently being monitored which would need to be addressed without delay if slippage is imminent, a provisional budget allocation has been included within the earmarked reserves of the capital programme for this purpose. Whilst there continues to be some movement at these sites there has been no indication of an imminent slippage similar to that which occurred at Oxford Road in Bagley Wood in December 2012.
43. Works to restore the carriageway at Bagley Wood has recently been completed and the road was reopened before Christmas as programmed.

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