

Transport Asset Management Plan

Data Refresh - June 2016

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Transport Asset Management Plan – Data Refresh June 2016

Executive Summary

The Transport Asset Management Plan 2015-2030 (TAMP) was approved by the Cabinet Member for Highways and Transport on 10 June 2014 and identifies the key strategic priorities of the County Council, as the highway authority for Lancashire, during the period 2015/16 to 2029/30.

This document provides an update of the changes that have occurred both nationally within the highway sector since the original TAMP was approved and locally within Lancashire. This document also provides us with an opportunity to report the latest condition of our assets so that our performance over the past 12 months can be measured and scrutinised.

This data refresh is intended to supplement both the original TAMP and previous years refresh documents rather than replace them, so that when these documents are read together they provide an up to date and ongoing analysis of the current condition of our transport assets and detailed information of any new pressures we are facing.

In addition, the annual data process enables the County Council to include information about those transport assets that were not included in the TAMP but for which further information is now

available or highlight any changes that are proposed for data capture as a result of using new technology etc.

Since the last data refresh in June 2015 the Department for Transport (DfT) clarified and confirmed details of the 22 questions against which that the County Council assessed its performance and then placed itself in one of three bands. As a result of the self-assessment exercise that took place in January 2016, the County Council placed itself in Band 2. The DfT confirmed that only authorities in Bands 2 & 3 would receive their full Incentive Fund allocation in 2016/17. However from 1st April 2017 only authorities in Band 3 will receive 100% of their Incentive Fund allocation.

Good progress is now being made to address a number of key areas which should enable the County Council to move to Band 3 next year. Further details are contained within this refresh document.

The good progress made in 2014 provided a firm foundation on which to build and has enabled the overall condition of our highway and transport assets to improve again from 2.35 to 2.57 which categorises the condition as being ACCEPTABLE.

The table below sets out the TAMP Service Standards, the 2013 baseline condition data and the actual 2014 and 2015 condition data.

Asset Category	Measure	Service Standard					Asset Condition		
		POOR	ACCEPTABLE	FAIR	GOOD	EXCELLENT	2013	2014	2015
A Roads	% RED & AMBER	>25%	25%	15%	10%	5%	22.1%	30.37	23.72
B Roads		>40%	40%	20%	15%	5%	42.3%	36.01	28.10
C Roads		>50%	50%	30%	20%	10%	48.7%	38.59	30.62
Residential Unclassified Roads	% RED & AMBER	>50%	50%	30%	20%	10%	48.7%	38.59	30.62
Rural Unclassified Roads	% RED & AMBER	>50%	50%	30%	20%	10%	48.7%	38.59	30.62
Footways	Number of defects	>50,000	50,000-40,000	40,000-15,000	15,000-10,000	<10,000	51,395**	22,171**	13,533**
	Number of claims	>600	500-400	400-250	250-150	<150	359	298	259
Bridges and Similar Structures	Bridge Condition Index (Ave.)	<40	40-60	60-79	80-90	>90	89.3	89.99	90.19
Street Lighting	% of high risk installations	>35%	25-35%	20-25%	10-20%	5-10%	23.15%	17.72%***	19.99%***
Traffic Signals	% of units beyond design life	>40%	30-40%	20-30	10-20	<10%	33.11%	33.11	30.31

* - Interim measure until engineering condition data is available. Condition in subsequent years will be % RED & AMBER,

** - Changes in defect reporting systems in 2014 mean that 2013 data not comparable to 2014 and 2015 data,

*** - Data cleansing has resulted in some erection dates being adjusted so that service life in line with actual age. Therefore 2013 and 2014 data not comparable with 2015 data,

From this it can be seen that:

- Between 2014 and 2016 the average % of RED or AMBER on A roads reduced by 20% (50.33km), B roads reduced by 41.51% (91.84km) and C roads reduced by 38.54% (276.57km). Overall the condition of our A, B & C roads can be regarded as ACCEPTABLE.
- The overall condition of Footways improved from ACCEPTABLE to GOOD,
- The overall condition of Bridges and Similar Structures improved from GOOD to EXCELLENT,
- The overall condition of Street Lighting improved from FAIR to GOOD,

1) Introduction

The Transport Asset Management Plan (TAMP) was approved by the Cabinet Member for Highways and Transport on 10 June 2014 and sets out how the County Council intends to manage its transport assets over the 15 year period from 2015/16 to 2029/30.

In order that the TAMP can remain a live and current document it is intended to provide annual updates which contain additional information to supplement the TAMP. It is intended that these updates will provide a summary of external pressures within the highway sector and internal initiatives that will impact of the County Councils highway and transport asset network. This update includes information relating to:-

- DfT Self-Assessment Questionnaire,
- Changes to Codes of Practice Guidance,
- Actions to address weakness in the TAMP,
- Revised asset condition data,

2) DfT Self-Assessment Questionnaire

In order to encourage local authorities to adopt good asset management practices across England, the DfT have introduced changes to the highway maintenance formula funding mechanism. As a result each authority will now be required to undertake a self-assessment against a set of criteria aimed at assessing performance in relation to asset management, resilience, customer, benchmarking and efficiency and operational delivery.

Our assessment was validated by the County Council's s151 officer and submitted to the DfT in January 2016. As a result of this exercise, the County Council assessed itself to be a Band 2 authority.

Details of the 'incentive bands' and funding % for future years are shown below:-

Year	Band 1	Band 2	Band 3
2015/16	100%	100%	100%
2016/17	90%	100%	100%
2017/18	60%	90%	100%
2018/19	30%	70%	100%
2019/20	10%	50%	100%
2020/21	10%	30%	100%

Should the County Council not consider itself to a Band 3 authority by the time it next self-assesses itself in January 2017 it will only receive 90% of its Incentive Fund allocation in 2017/18, which will reduce our funding by approximately £65,000.

Given the reductions in highway funding over the past few years it is imperative that the authority seeks to achieve a 'Band 3' rating as soon as possible. From the DfT guidance it is vital that local authorities have the support of members, senior officers and a good quality TAMP in place that is refreshed and updated on a regular basis.

A summary of self-assessment questions, areas covered and our scores are shown below:-

	Area Assessed	Score
1	Asset Management Policy and Strategy	3
2	Communications	2
3	Performance Management Framework	2
4	Asset Data Management	2
5	Lifecycle Planning	2
6	Leadership and Commitment	2
7	Competencies and Training	1
8	Risk Management	2
	Resilience	
9	Resilient Network	2
10	Implemented Potholes Review	2
11	Implemented the Drainage Guidance	2
	Customer	
12	Satisfaction	2
13	Feedback	2
14	Information	2
	Benchmarking and Efficiency	
15	Benchmarking	2
16	Efficiency Monitoring	2
	Operational Service Delivery	
17	Periodic Review of Operational Service Delivery	2
18	Supply Chain Collaboration	2
19	Lean Reviews	2
20	Works Programming	2
21	Collaborative Working	2
22	Procuring External Highway Maintenance Services	2

The final band is calculated according to the following guidelines:-

Band 1	Does not reach Level 2 or Level 3 in at least 15 of the 22 questions
Band 2	Must reach Level 2 or Level 3 in at least 15 of the 22 questions.
Band 3	Must reach Level 3 in at least 18 of the 22 questions

In addition if an authority scores 1 in any or all of questions 1, 2 and 5, they will automatically be placed in Band 1 overall, regardless of their other scores

A summary of LCC's 22 scores is provided below:-

Level 1	1
Level 2	20
Level 3	1
Overall Band	2

As a result the above scores and guidelines the County Council assessed itself to be a Band 2 authority

In order that the County Council can consider itself to be a Band 3 authority it needs to be able to demonstrate improvement in a number of key areas, one of which is that asset management principles have been embedded across the whole organisation.

In order to achieve this a number of activities have already taken place. The Highways Asset Manager has for example briefed members of the Scrutiny Committee on two previous occasions in

the past 12 months, once to provide an update on our performance in respect of maintaining our Transport Assets as part of the TAMP data refresh process and once to advise on the changes and pressures affecting highway maintenance in Lancashire. The Highways Asset Manager has given presentations to various key individuals and teams in order to inform them of the changes that the County Council needs to make in order that it can improve its performance.

In addition, the Highways Asset Manager has established the Highways Infrastructure Asset Management Strategy Board (HIAMSB) whose membership comprises of Directors and Heads of Service from Corporate Commissioning, Community Services, Programmes and Project Management, Highways, Design and Construction and Highways Asset Management.

The HIAMSB promotes an interpretation of asset management for highway infrastructure as:

"A systematic approach to meeting the strategic need for the management and maintenance of highway infrastructure assets through long term planning and optimal allocation of resources in order to manage risk and meet the performance requirements of the authority in the most efficient and sustainable manner".

The HIAMSB will provide a governance role, monitor performance and ensure progress in the strategic direction outlined within the

TAMP and the Highways Management Plan (HMP). The Board will oversee the annual completion of the Department for Transport (DfT) self-assessment questionnaire which determines the incentive element of funding for all English highway authorities dependent upon their banding. The banding is achieved by answering 22 questions and providing evidence to substantiate the banding assumption made by the highway authority

The HIAMSB meet on a regular basis to review various aspects of highway asset management and performance to ensure that the principles contained in the HMP are implemented consistently throughout the organisation.

In addition the Highways Infrastructure Asset Management Implementation Group (HIAMIG) has also been formed and includes the Highway Asset Manager, Head of Highways, Countywide Highway Manager, Countywide Network Manager, Countywide Services Manager, Highway Managers, Information, Intelligence, Quality and Performance Manager, Street Works, Signals, Parking Countywide Manager, Procurement Manager and Group Manager (Design and Construction).

The HIAMIG will support the HIAMSB to implement the policies in relation to asset management and be responsible for embedding and endorsing asset management within their teams and service area. The HIAMIG will provide progress reports to the HIAMSB on the progress of implementation of asset management

principles within their teams and service area as directed by the HIAMSB.

The membership of the HIAMIG monthly meetings will be broken down into sub groups in accordance with one of the following sections; Asset Management; Resilience; Customer; Benchmarking and Efficiency and Operational Delivery. The outcome of these monthly meetings will be reported into the Highways Infrastructure Asset Management Strategy Board (HIAMSB) which has been formed and who will be responsible for monitoring progress.

In April 2016 a number of meetings were held with senior members to discuss the outcome of the self-assessment questionnaire and to explain why the HIAMSB and HIAMIG had been established and what was expected of them going forward.

Senior managers were asked to include a standing agenda item entitled 'Asset management and the self-assessment questionnaire' or similar on the agenda of management team meetings help us to demonstrate that asset management principles are embedded throughout the organisation.

They were also advised that it is imperative that an 'activities register' is maintained which demonstrates our journey to implement the HMEP recommended asset management practices as well as a 'lessons learnt' register to demonstrate how we have

considered and learnt from our practices. An activity log should be completed for each of the 22 questions in the self-assessment.

3) Changes to Codes of Practice Guidance

Last year it was anticipated that the new Code of Practice 'Well Managed Highways' which incorporates and replaces the UK Roads Liaison Group national codes of practice entitled 'Well Maintained Highways', 'Well-lit Highways' and 'Management of Highway Structures' would be published in autumn 2015.

As the new Code moves away from a prescriptive approach in favour of one that is more risk based the draft documents are currently being considered further by DfT solicitors before they are issued as final documents. Once issued, the County council will have two years to fully implement them.

4) Actions to address weakness in the TAMP

The TAMP sets out in a clear and objective way how the County Council intends to manage its transport assets over the next 15 years. The TAMP also contains our initial assessments of the condition of all the transport assets which need to be updated at regular intervals during its 15 year life so that we can monitor our progress in achieving the targets set out in the TAMP.

The following explains what we are doing to increase our knowledge of the highway and transport asset and improve the way we manage these assets.

a) Asset Condition Data

When the TAMP was approved in 2014 up-to-date objective condition was not available for a number of asset types. As a consequence, alternative data sources, such as defect data, has been used on an interim basis in order that we could determine service standards and monitor performance.

• Highway Video Surveys

In order to improve our knowledge of our highways the County Council secured the services of Gaist Systems on a three year contract to carry out video surveys of the whole highway network.

During the past 12 months the whole of the adopted highway network has been subjected to a Gaist video survey which has recorded forward, backward, footpath and carriageway facing images every 0.5m.

This information has been used to place all parts of the highway network into one 5 categories;

- Grade 1 – Free from defects,
- Grade 2 – Signs of surface wear,
- Grade 3 – Mid-life,
- Grade 4 – Functionality impaired,
- Grade 5 – Structurally impaired.

The Highways Asset Group are currently examining the survey results and will be using this condition data to determine

appropriate service standards for the rural unclassified and urban unclassified road networks. Once proposals have been developed these will be shared with the HIAMSB prior to gaining approval from the Cabinet Member for Highways and Transport.

Over the next few months the Highways Asset Group will be working very closely with Gaist on lifecycle planning activities. As Gaist software enables condition data to be imported into their data modelling software, this can be used to predict and optimise maintenance requirements for Lancashire's carriageways. The system also enables dynamic modelling of the lifecycle of the individual core 'parts' of a highway such as surface course, binder course and road base and their interactions.

It is anticipated that these modelling and lifecycle tools will enable the County Council to evaluate, using graphical outputs and reports, the long term effects of a particular funding scenarios. The Gaist system will also enable the County Council to produce long-term maintenance scenarios which detail the optimal treatment and associated cost to support whole of life management of the highways asset.

The software will also enable the County Council for the first time to fully evaluate the maintenance backlog across the whole of Lancashire's highway network using objective condition data.

- **Footway Surveys**

Over the past 12 months the County Council has been collecting objective condition data relating to all the footways in Lancashire using a modified version of the Footway Network Survey (FNS) methodology which was developed by the Transport Research Laboratory to be a cost effective method of condition data capture that could be applied to the whole footway network and be repeated frequently enough to support good asset management.

The FNS will result in individual sections of the footway network being placed into one of the four categories below,

- Condition Level 1 – As New
- Condition Level 2 – Aesthetically Impaired
- Condition Level 3 – Functionally Impaired
- Condition Level 4 – Structurally Unsound

The rating can change as often as necessary on a particular stretch of footway, reflecting variations along its length. This information is then summarised for the whole footway as the percentage of the footway in each condition level.

In addition to identifying condition, the FNS will also identify the types of defects are typically present on the footway which will help guide subsequent maintenance choices.

It is anticipated that the FNS will be completed by the end of May, following which the Highways Asset Group will examine the survey

results and use this condition data to determine appropriate service standards for the whole of the countywide footway network. Once proposals have been developed these will be shared with the HIAMSB prior to gaining approval from the Cabinet Member for Highways and Transport.

It is anticipated that the County Council will continue to collect defect data and use this to measure performance within the revised HMP which is in the process of being revised and updated.

b) Core Systems Review

In order to drive efficiencies through all parts of our operations we intend to make full use of modern technology including the latest software programmes and mobile technology. In order to achieve this the County Council has undertaken a review of all its core systems, including those used to maintain its highway assets.

As a consequence we are now working towards replacing several different legacy ICT systems with one integrated highway asset management system which is scheduled to go live in 2016.

It is anticipated that this will drive efficiencies across the County Council through the use of an integrated, customer focused solution that supports mobile working and end to end business processes, which will help boost the on-going, major business transformation programme being carried out by the County Council. The shift to digital services and self-service by members

of the general public is a key strategy of the County Council and lead to back office efficiencies through:

- increased automation for both staff and customer interactions,
- eliminate double handling and input of data to multiple systems,
- freeing up staff time and other resources,
- maximise responsiveness and work on the ground through the use of mobile technology,
- the removal of duplication and our reliance on outdated paper based systems

The new Highways Asset Management System is an integrated solution for the management of infrastructure, including land, highways, structures, public lighting, and distribution networks. It will allow relevant users to:

- record and map information related to schemes
- register and maintain assets and manage any defects
- provide real time information to both internal staff and members of the public and drive prioritised asset management,

The system also provides a specific solution for the management of bridges, retaining walls, culverts, gantries and other similar structures. It will handle cyclic inspections and maintenance, including the seasonal variations in activities, through to condition

projection and strategic asset planning. It will also make the best use of the latest mobile technology for working on site.

The Highways Asset Group in conjunction with others are continuing the process of cleansing and rationalising the asset inventory to ensure that data currently stored in several different legacy systems can be extracted and migrated in a timely manner .

c) Moss Roads

It was reported in the previous TAMP refresh document that the County Council has in region of 100km of roads that are built on moss land, which for a variety of reasons present us with unique maintenance challenges.

In order to try and understand the extent the problems that the moss roads cause to the residents, businesses and visitors to Lancashire we carried out a review of the moss roads in the West Lancashire District area and developed a hierarchy with individual moss roads being allocated to one of four 'classes' in the hierarchy, depending on the function they serve.

This hierarchy would subsequently be used to define maintenance standards and maintenance priorities. Whilst this methodology has only been applied to the West Lancashire district, it will be applied to other district areas that have moss roads. Due to the complexity of this matter, copies of the draft proposals are currently being considered by legal colleagues following which they will be shared with Parish Councils.

5) Revised Asset Condition Data

Much of the condition data contained in the Transport Asset Management Plan was compiled in the 18 month period prior to Cabinet Member for Highways and Transport approving the TAMP in 2004 and was used to calculate the overall service standard that the transport assets were providing users at that time.

The condition data in the original TAMP is now updated and reported to members of the Scrutiny Committee on an annual basis. Comparing our latest condition data to the 2014 baseline data enables our current performance will be measured.

The following pages provide a brief summary of the condition of each of the asset groups covered by the TAMP together with a summary of the main points arising out of our analysis of each group.

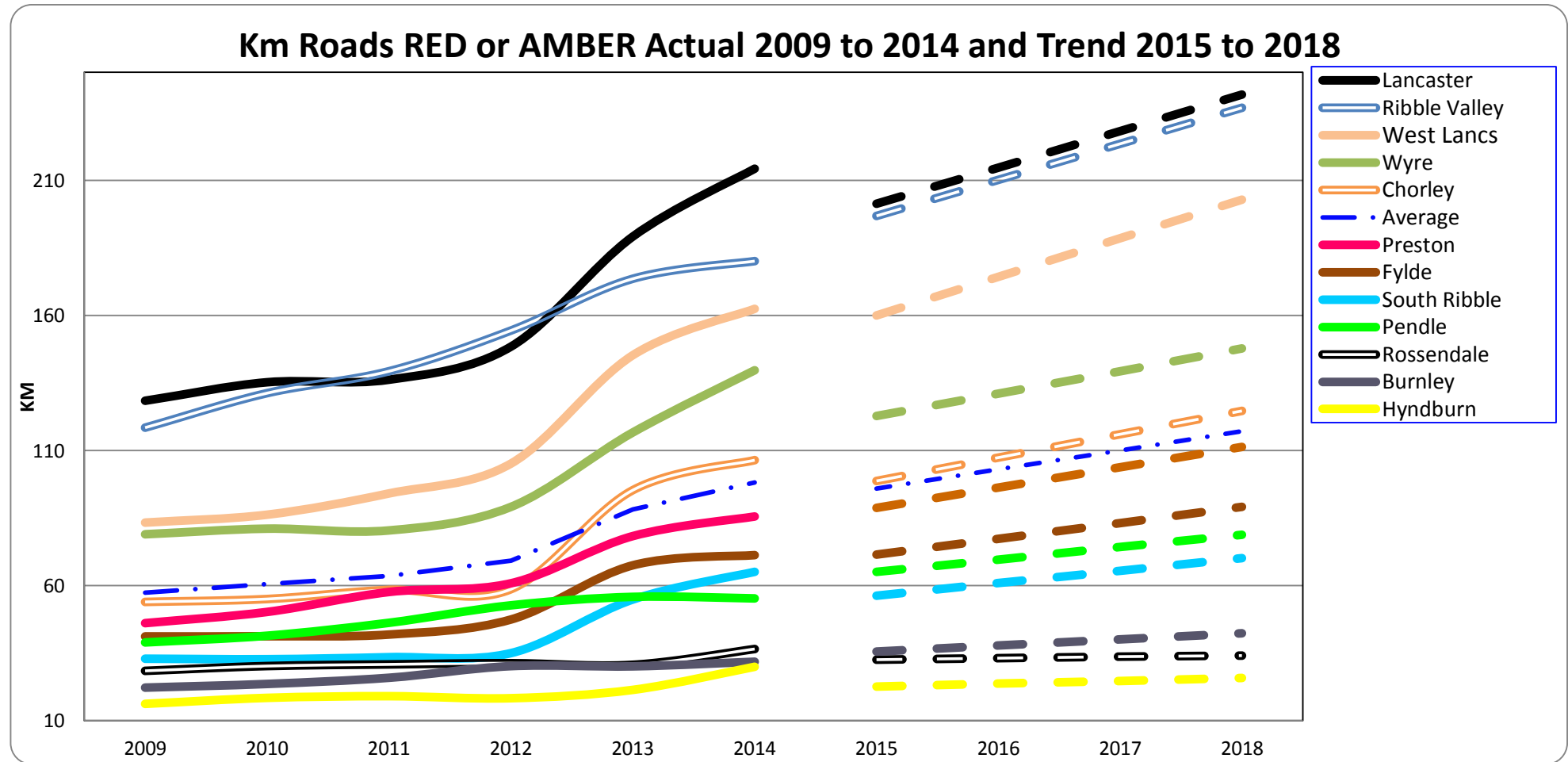
Each section follows a similar basic structure. Where possible graphs will show simultaneously 2014 and 2015 data. Where this isn't possible, two separate graphs will be provided to show the relative condition of the asset on a district by district basis for both 2014 and 2015 so that year on year comparisons can be made.

A summary provides key bullet points which seek to outline briefly the key facts relating to the category of the asset. The information presented includes:

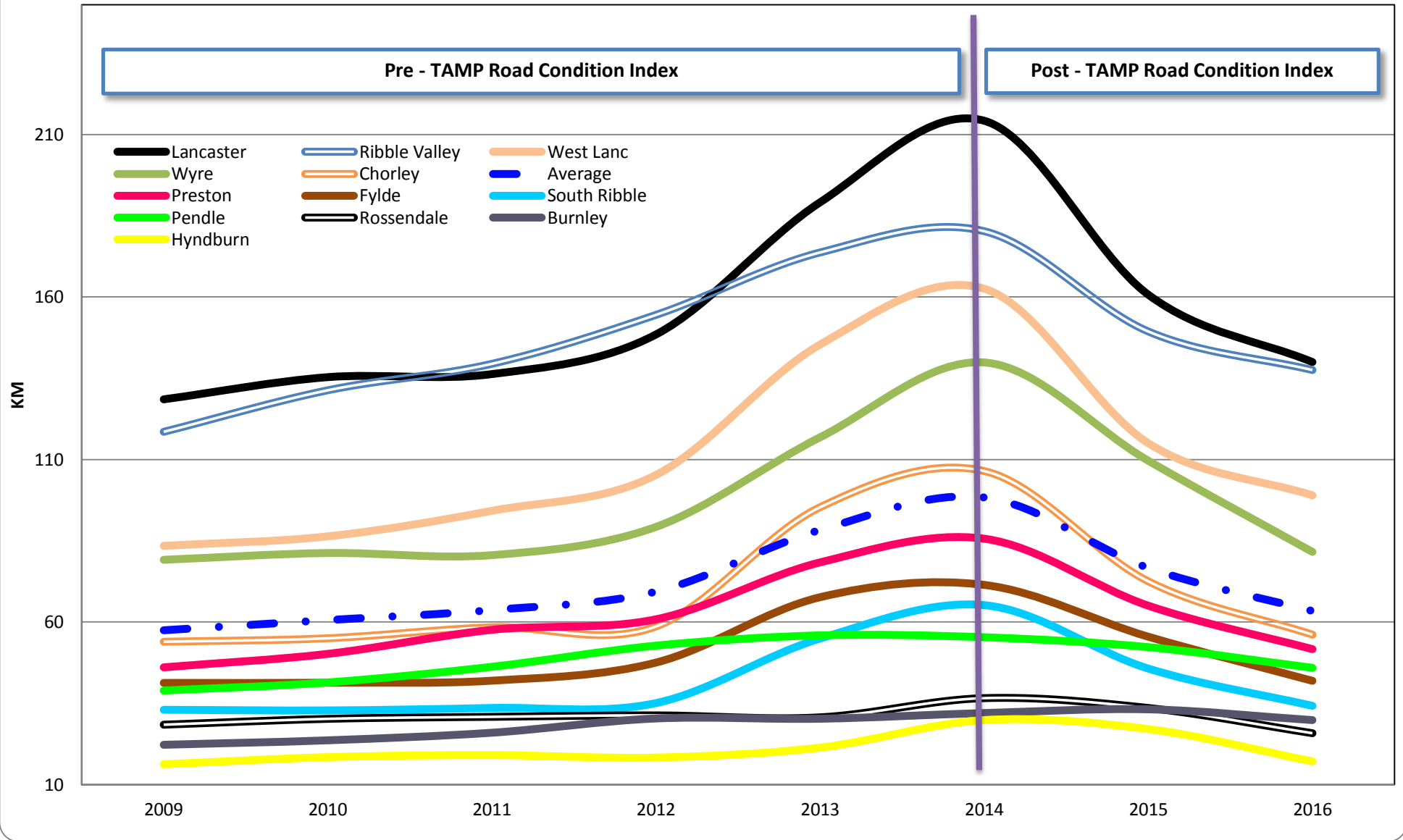
- How much of the asset we responsible for,
- How the condition of the asset is assessed,
- If there any gaps in the information we currently hold,
- The average condition of the asset in 2014 and 2016,
- How much financial resource has, on average, been available in recent years;

A, B and C Roads

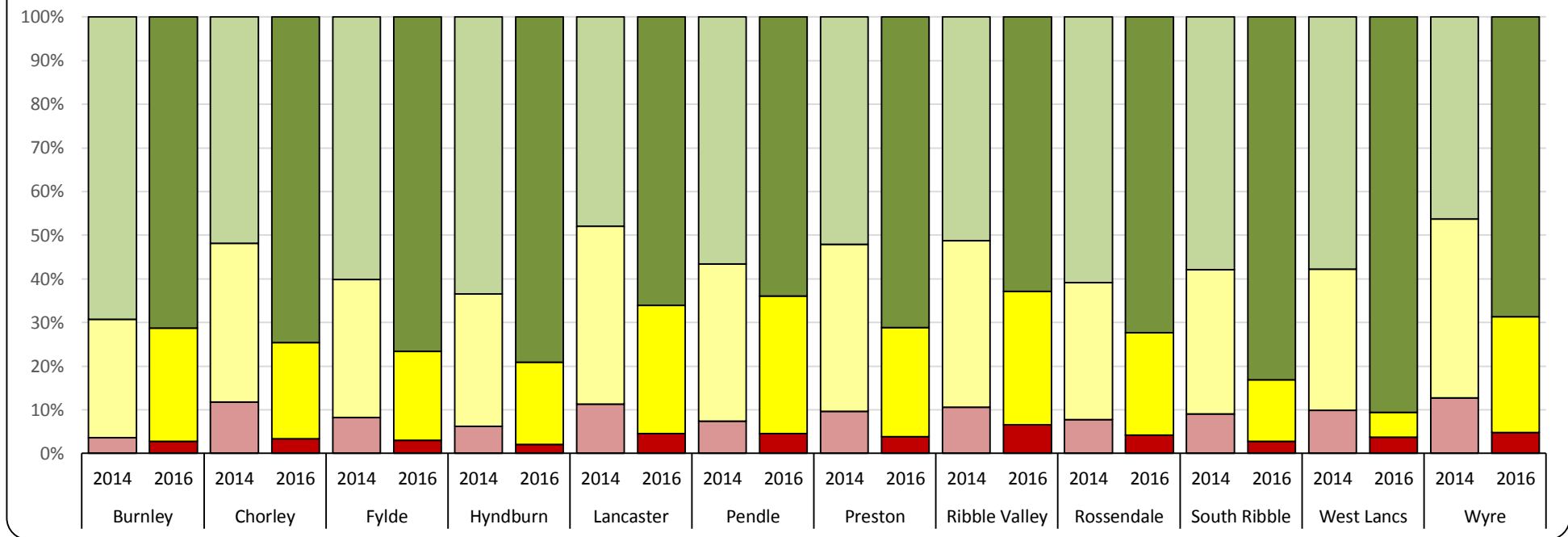
Most Cost Effective Strategy: Investment in preventative maintenance using appropriate surface treatments determined through deterioration modelling.



Km of A, B and C Roads RED or AMBER - Actual from 2009 to 2016



A,B & C Roads - % Red, Amber or Green 2014 v 2016



Summary

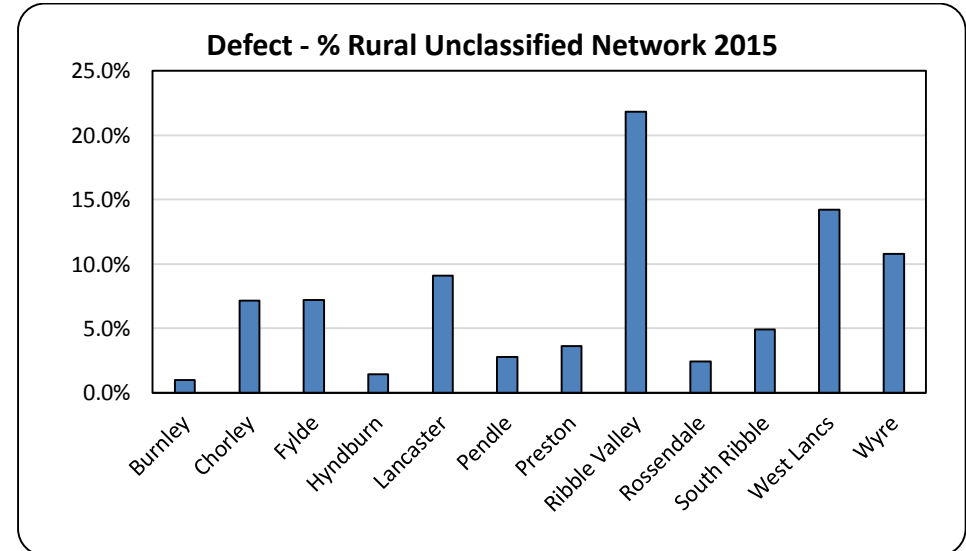
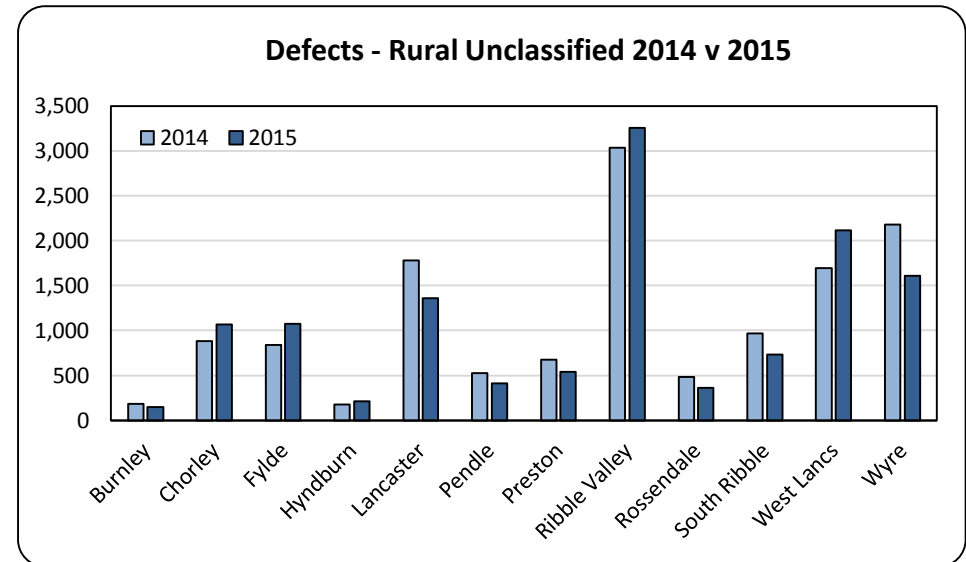
- The asset consists of a total of 2,567km of highway,
- The length of A, B and C roads classified as RED or AMBER in 2014 was in the region of 1,180 km. According to the May 2016 SCANNER survey the quantity of RED or AMBER has reduced from 1176km down to 760km, a reduction of 416 km (35%),
- The general improvement in the B & C road network has returned many in a number of district to their 2009 condition,
- All districts have seen an overall improvement in the condition of the A,B & C road network,
- The proportion of RED or AMBER A, B and C roads varies across the district areas and is shown in the graph above
- Between 2014 and 2016 the average % of RED or AMBER on :-
 - A roads reduced by 20% (50.33km)
 - B roads reduced by 41.51% (91.84km)
 - C roads reduced by 38.54% (276.57km)
- Overall the A, B & C road network is regarded as being ACCEPTABLE

Rural Unclassified Roads

Most Cost Effective Strategy: Investment in preventative maintenance which is based on appropriate surface treatment in preference to more costly resurfacing of roads.

Summary

- The asset consists of approximately 1,065km.
- A full video survey of this asset grouping was completed in 2015-16 the results of which are now being analysed.
- The current condition is indicated by the number of defects identified by highways inspections, as recorded in the Highway Defect Sort System (HDSS).
- Due to a change from EXOR to HDSS the defects in the original TAMP are not comparable to the latest figures.
- Overall there has been a 4% fall (539 no.) in safety critical defects on rural roads between 2014/15 and 2015/16, with increases in defect numbers in Chorley (185), Fylde (235), Hyndburn (38), Ribble Valley (220) and West Lancashire (422).
- The current condition of the asset is assessed as being ACCEPTABLE.
- Investment is based firstly on maintaining the current condition of the network as far as is practical, and secondly, if investment levels are sufficient, to bring all district areas up to the same county standard.
- The asset is important to the rural economy and to rural communities.

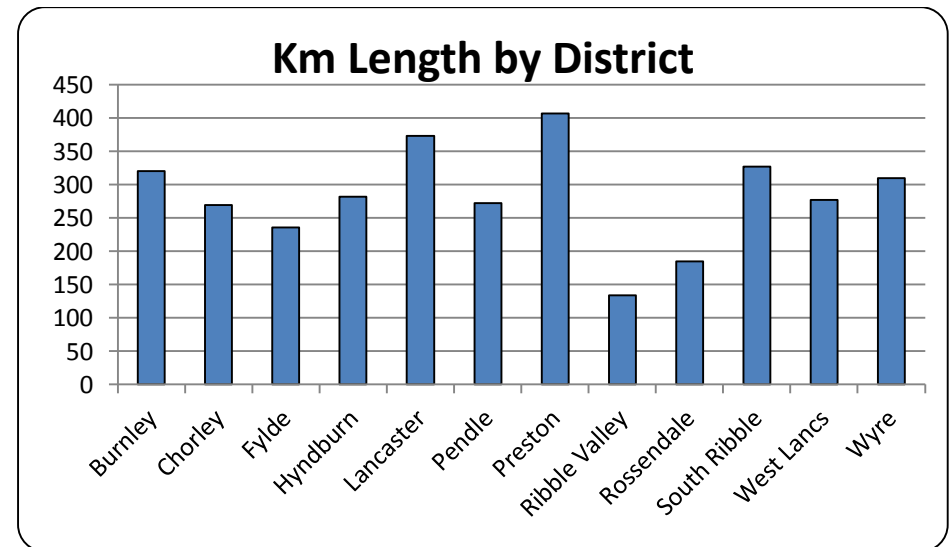
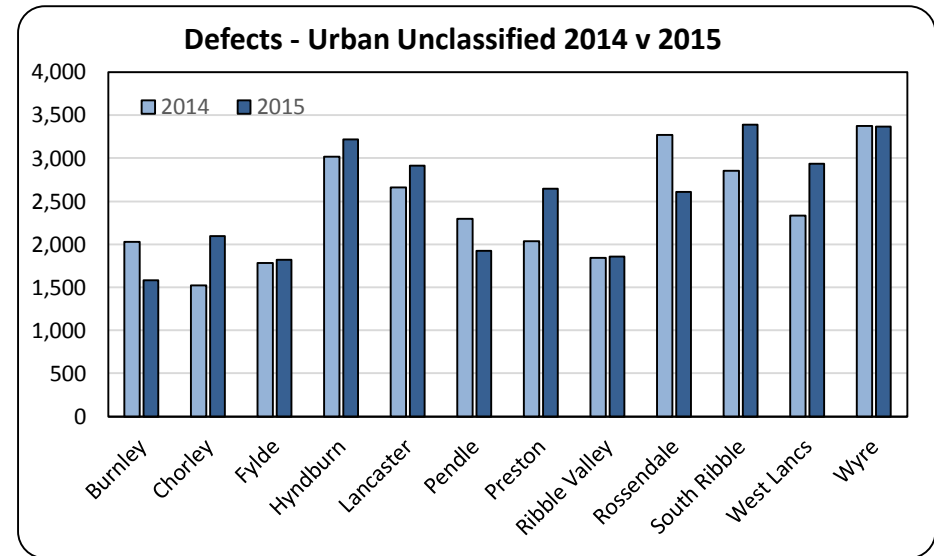


Residential Roads

Most Cost Effective Strategy: Investment in preventative maintenance which is based on appropriate surface treatment in preference to more costly resurfacing of roads.

Summary

- The asset includes approximately 3,400 km of residential roads.
- A full video survey of this asset grouping was completed in 2015-16 the results of which are now being analysed.
- The current condition is indicated by the numbers of defects identified by highways inspections as recorded in the Highway Defect Sort System (HDSS),
- Due to a change from EXOR to HDSS the defects in the original TAMP are not comparable to the latest figures.
- Overall there has been a 5% increase (1,314 no.) in defects on residential roads between 2014/15 and 2015/16. Defect numbers fell in the district areas of Burnley, Pendle, Rossendale and Wyre. .
- The current condition of the asset is assessed as being ACCEPTABLE.
- The estimated investment required to maintain the current rate of deterioration would be £5m per annum.
- Investment is based firstly on maintaining the current condition of the network as far as is practical.
- Secondly, if resources allow, investment will be based on bringing all districts to the county standard.

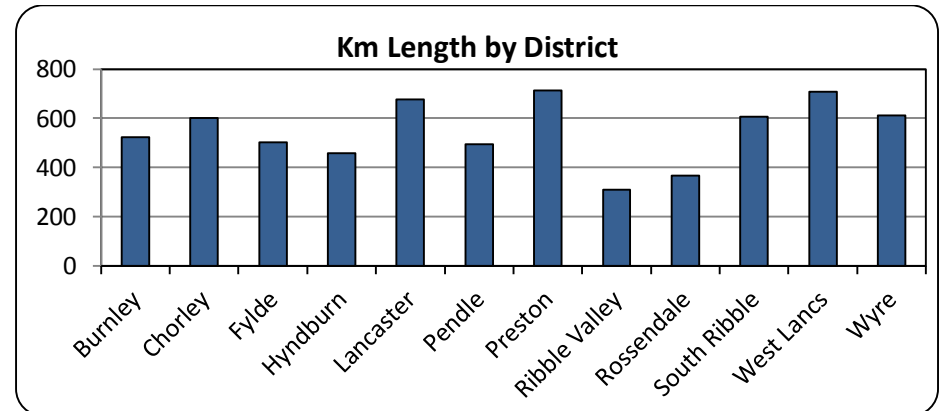
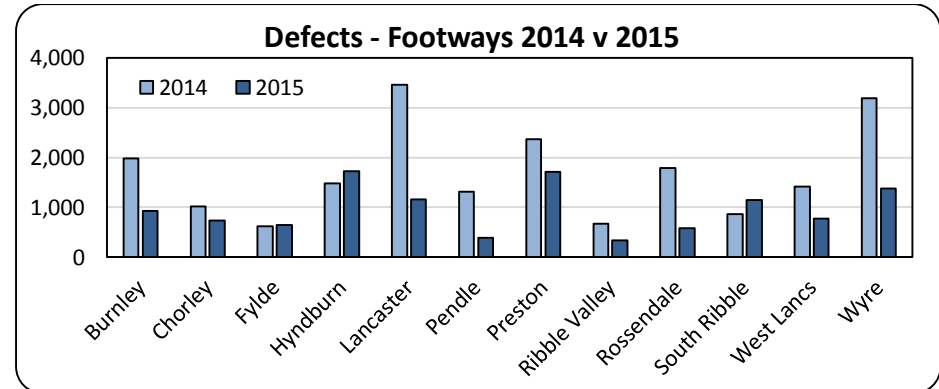
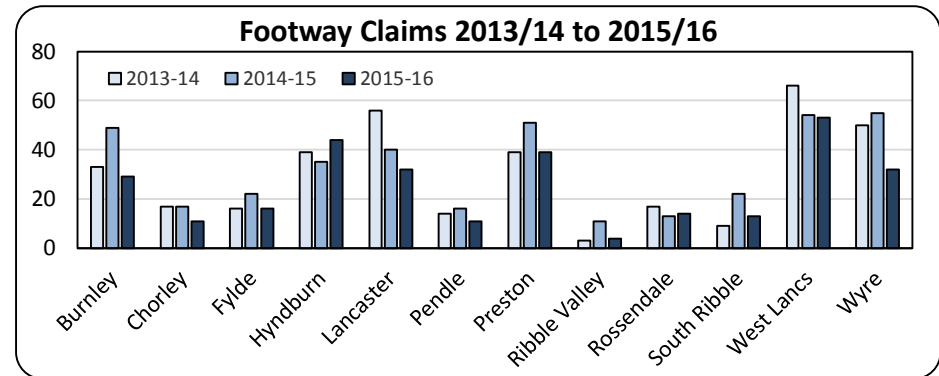


Footways

Most Cost Effective Strategy: Investment in preventative maintenance which is based on appropriate surface treatment in preference to more costly resurfacing of footways.

Summary

- There are over 8,500km of footways in Lancashire.
- A full survey of this asset grouping was started in 2015-16 and is due to be completed shortly.
- The current condition is indicated by the numbers of defects identified by highways inspections, as recorded in the Highway Defect Sort System (HDSS) and the number of claims received.
- Due to a change from EXOR to HDSS the defects stated in the original TAMP are not comparable to the latest figures.
- Overall there has been a fall of 39% (8,639 no) in footway defects and a 23% fall (87 no.) in claims between 2014-15 and 2015-16.
- Small increase in Hyndburn (1) and Rossendale (9) (claims) and Fylde (20), Hyndburn (230) and South Ribble (289) (defects).
- The current condition of the asset is assessed as being GOOD.
- The estimated capital investment required to maintain the current rate of deterioration would be £2.5m per annum.
- Investment is based firstly on maintaining the current condition of the network as far as is practical and secondly, if resources allow, on bringing all district areas to the same county standard.



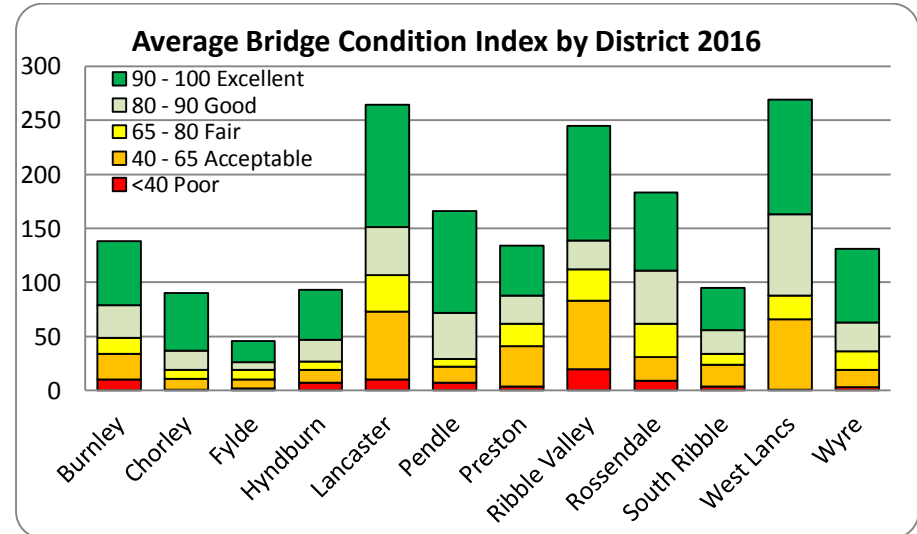
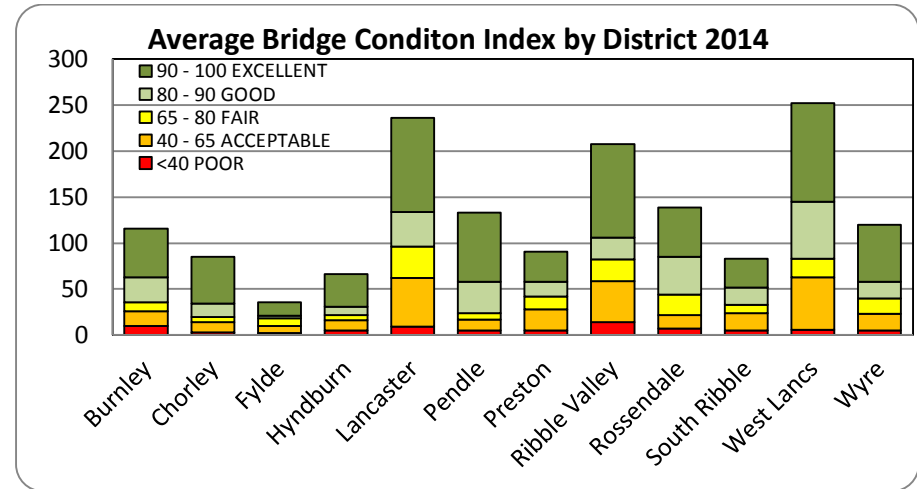
Bridges and Similar Structures

Most Cost Effective Strategy: Investment in preventative maintenance which is not based on reconstruction of bridges but is based on appropriate

Summary

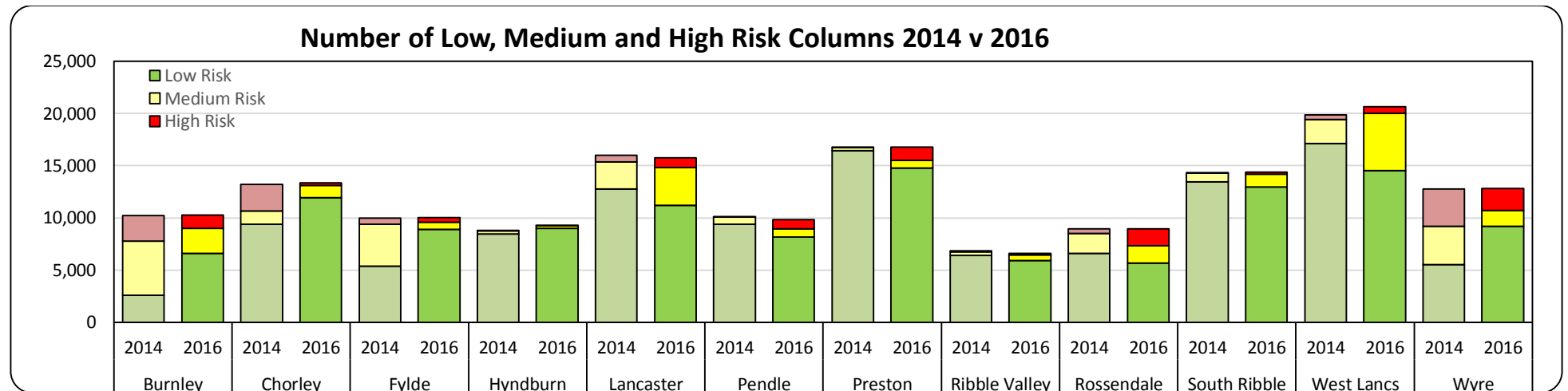
- We are responsible for approximately 2,000 bridges and similar structures*,
- We have good condition information relating to the condition of the asset.
- The average bridge condition index has improved from 89.3 in 2014 to 90.19 in April 2016, which is regarded as EXCELLENT,
- The average bridge condition index has improved in all district areas over the past 12 months apart from Burnley, Pendle and Rossendale which have shown slight reductions of 0.06, 0.15 and 0.11 respectively. The average bridge condition index in these three areas however is still regarded as EXCELLENT.
- The investment strategy is based upon identifying bridges and similar structures which have a bridge condition index (critical or adjusted) of < 40**, and producing action plans for each such structure.
- On the basis of the bridge condition data, resources are allocated on the basis of need as individual projects are unlikely to be included in any district based allocation.

*Excludes maintenance of Network Rail bridges, major new projects or major refurbishments. **A bridge in poor condition does not necessarily require urgent remedial action and is not automatically at risk of failure or subject to load restrictions.



Street Lighting

Most Cost Effective Strategy: The risk to the public from a column falling over is generally low; however, half of our columns exceed the age when they should be regularly tested or considered for replacement or removal. The best strategy is to reduce the likelihood of columns falling over by either replacing or removing the highest risk columns or removal of columns without replacement.

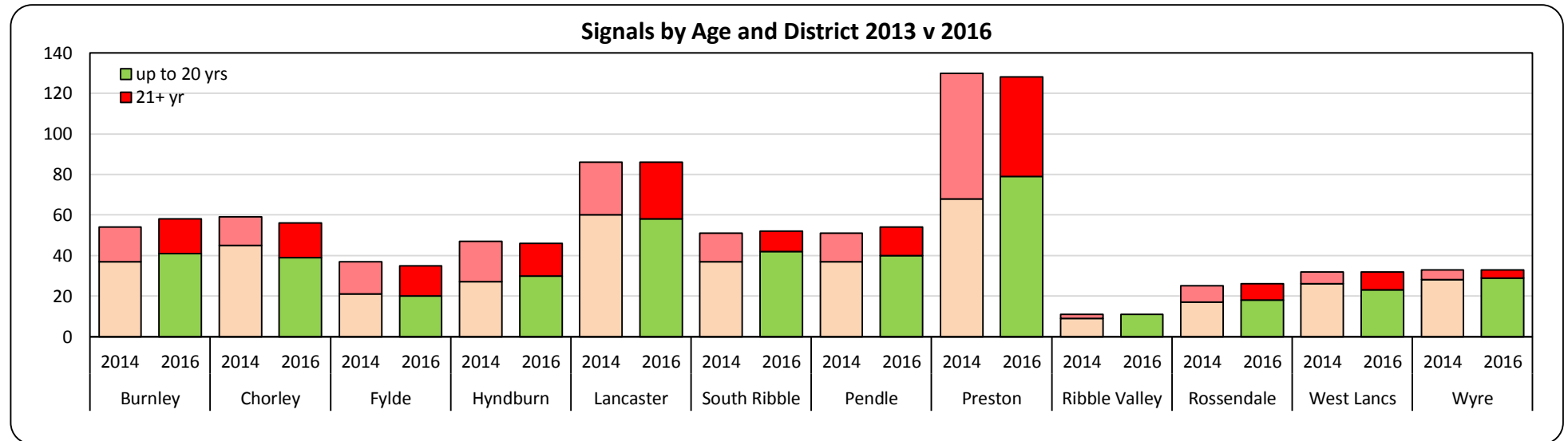


Summary

- We are responsible for approximately 148,450 street lights and 17,600 illuminated signs, bollards and similar installations.
- Our electricity bill for these items is in the region of £6m per annum,
- According to the risk assessment contained in the Institute of Lighting Professionals Technical Report 22 'Managing a Vital Asset' 48% of lighting columns have now exceeded their 'Action Age', a reduction of 2.71% equivalent to 1,986 columns from 2014,
- 18,610 medium risk columns (in yellow) will score highly enough in the next five years to be included in the high priority bracket, currently having a score >51,
- 11,947 columns (in red) are the highest risk now having a score >150.
- The current condition of the stock is considered to be GOOD.
- In order to maintain the current rate of deterioration of the stock, it is estimated that a capital investment of the order of £6m per annum would be required. The likely capital investment available for 2016/17 is £1m.
- Data cleansing has resulted in the ages of some columns being adjusted meaning that 2014 & 2015 data not strictly comparable

Traffic Signals

Most Cost Effective Strategy: Investment in preventative maintenance which is based on replacement of obsolete units at key junctions which will not be covered by Highways and Transport Masterplan activities.



Summary

- There are 321 sites in Lancashire which are controlled by a total of approximately 1,000 traffic signal / pelican crossing installations.
- The condition of the stock is measured in terms of the age of installations which normally have a service life of 20 years before they reach a point where they are no longer supported by the manufacturer.
- We currently have a total of 187 installations (30% of the stock) more than 20 years old – which is reduction of 17 installations (3%) from 2014.
- It is estimated that a replacement programme at a value of £0.5m per year would be required to replace the stock that is no longer supported by the manufacturer.
- A breakdown of traffic signal and pedestrian crossing equipment up to 20 years old (green) and age 21 years and over (red) and no longer supported is shown in the graph above.
- The traffic signal asset group is considered to be in an ACCEPTABLE condition.

6) Service Standards

The Service Standards in the TAMP were derived wherever possible from condition data collected by engineering analysis and used to:-

- Monitor the overall condition of assets,
- Monitor our year on year performance, and
- Compare overall progress against the targets contained in the main TAMP document.

As more condition data becomes available for more asset groupings the performance targets contained in the main TAMP will be updated as appropriate and included in a future data refresh document so that they offer a more refined and accurate way of assessing the condition of the asset. Where it is necessary to change the indicators we will clearly explain why such changes are necessary.

The main TAMP document identifies 5 service standards of POOR, ACCEPTABLE, FAIR, GOOD and EXCELLENT, against which the benefits to the users of the asset can be measured. Details of the generic levels of service that each of the transport asset groups are likely to provide to users at each service standard are shown in Appendix 1.

The condition data contained in this data refresh document enables us to compare our performance against the baseline figure contained in the TAMP.

The TAMP set an overall indicative service standard target of GOOD to be achieved at the end of period 2020/21-2024/25. In setting an overall indicative service standard target of GOOD it is recognised that it is not possible or affordable to maintain all asset groups to the same level. The targets for individual asset groups have, therefore, been set according to county council priorities, risk and affordability.

The following table details those assets covered in the TAMP and shows the service standards currently being provided by the transport assets.

Given the range of assets covered by this TAMP, there will inevitably be differences in the condition of each asset grouping. To some extent this is determined not only by the intervention intervals but also treatment and remediation options.

The 5 year, 10 year and 15 year target for each asset type is shown in the table below:-

Asset Category	Condition Now	5 Year Target	10 Year Target	15 Year Target
A, B and C Roads (% RED & AMBER)	A = 25%	A = 10%	A = 10%	A = 10%
	B = 40%	B = 15%	B = 15%	B = 15%
	C = 50%	C = 20%	C = 20%	C = 20%
Residential Unclassified Roads (% RED & AMBER)	28-40%	28-40%	14-18%	14-18%
Rural Unclassified Roads (% RED & AMBER)	28-40%	28-40%	14-18%	14-18%
Footways (Number of defects)	50,000- 60,000	<15,000	<15,000	<15,000
Bridges and Similar Structures Bridge Condition Index (Ave.)	80-90	80-90	80-90	80-90
Street Lighting (% of high risk installations)	20-25%	25-35%	25-35%	25-35%
Traffic Signals (% of units beyond design life)	15-20%	30-40%	20-30%	<10%

The overall condition of the transport infrastructure asset has been determined by assigning scores to each service standard. A weighted score has been produced by multiplying each score by the asset valuation. A weighted average is calculated by dividing the total weighted scoring by the total value of the asset, as detailed below

Scores per Service Standard				
POOR	ACCEPTABLE	FAIR	GOOD	EXCELLENT
1	2	3	4	5

Asset Condition Summary June 2016

Asset Group	Valuation £ Million 2014-15	Service Standard	Score	Weighted Score
A Roads	859	ACCEPTABLE	2	1,718
B Roads	510	ACCEPTABLE	2	1,020
C Roads	1,444	ACCEPTABLE	2	2,888
Residential Unclassified Roads	3,718	ACCEPTABLE	2	7,436
Rural Unclassified Roads	1,166	ACCEPTABLE	2	2,332
Footway & Cycleways	831	GOOD	4	3,324
Bridges & Similar Structures	1,201	EXCELLENT	5	6,005
Street Lighting	206	GOOD	4	824
Traffic Signals	62	ACCEPTABLE	2	124
Total	9,997			25,671
Weighted Average Score			=	2.57

Overall grade boundaries have been determined as follows:-

Overall Service Standard – Grade Boundaries				
POOR	ACCEPTABLE	FAIR	GOOD	EXCELLENT
1 to 1.9	2 to 2.9	3 to 3.9	4 to 4.9	5

The initial TAMP assessed the service standard to be 2.26 which determined the transport asset to be in an ACCEPTABLE condition. As a result of this latest data refresh the condition of the service standard has been calculated at 2.57 which represents a 9% improvement from last year and a 13% improvement from June 2014. According to the grade boundaries table above, our overall service standard should still be regarded as being ACCEPTABLE.

According to the general service standards in Appendix 1, our highway and transport asset network should be regarded as being generally free from critical safety defects, although considerable maintenance backlogs do exist which have accumulated, in general, due to insufficient resources being made available over a period of time to maintain the whole asset base.

7) Conclusion

From the above it can be seen that a change in approach from 'worst first' to a preventative maintenance regime has already had a big impact particularly on the A, B and C road network which has seen the condition of many roads in a number of district areas improve to at least those enjoyed in 2009, as measured by the % or RED or AMBER roads across this network.

This approach has also seen a reduction both in the number of defects across the network and the number of footway claims received.

A change in approach from allocating funds on a district basis purely according to asset numbers/lengths in favour of a countywide approach where funding is based on 'need', as determined by the relevant condition data, is starting to have the desired effect of 'normalising' the condition of each asset grouping across Lancashire. This approach needs to be continued so that all our residents and service users are able to benefit from the same service standard regardless of district area.

Due to continued pressures from the DfT the County Council cannot afford to stand still. It needs to continue to adapt and evolve if it is to secure the same level of funding as it does now. Failure to attract sufficient funding will threaten the County Council's ability to apply the TAMP principles in future years.

Employing Gaist Ltd will significantly enhance the County Council's knowledge of the condition of all highway and footway assets and will enable us for the first time to carryout 'scenario planning' so that we are able to assess future maintenance costs etc. using different material choices and different intervention levels.

The results of the video survey data may require us to revisit the service standards contained in the main TAMP document as we will for the first time in many years have engineering data for the whole of footway and unclassified road networks.

Generic Service Standards

Service Standard	Description of Level of Service
POOR	<p data-bbox="425 453 577 480">Definition</p> <p data-bbox="425 493 2074 608">Service delivery that is considered to fall below the minimum standard deemed necessary to maintain the asset in a safe manner. As a result only those essential and critical repairs that are affordable are undertaken. The risks and consequences associated with providing this service level are summarised below:</p> <p data-bbox="425 655 562 683">a) Legal</p> <ul data-bbox="425 695 2074 991" style="list-style-type: none"> <li data-bbox="425 695 2074 767">• Unable to ensure that we carry out all those duties that are incumbent on the authority through law, statutory duties or mandatory requirements; <li data-bbox="425 783 2074 855">• Insufficient allocation to carry out works to recommendations contained in relevant codes of practice for which there is no approved derogation; <li data-bbox="425 871 2074 898">• Authority is more exposed to legal action up to and including corporate manslaughter; <li data-bbox="425 914 2074 991">• Degree of risk may be mitigated by a robust risk assessment which describes the reasons for deviation from the code of practice. <p data-bbox="425 1038 573 1066">b) Safety</p> <ul data-bbox="425 1078 2074 1286" style="list-style-type: none"> <li data-bbox="425 1078 2074 1150">• In all cases except where the asset condition was formerly GOOD or EXCELLENT it is likely to result in a significant increase in the risks associated with safety or legal deficits; <li data-bbox="425 1166 2074 1193">• Risks associated with the asset may be increased with attendant risks of legal exposure; <li data-bbox="425 1209 2074 1236">• Likely to result in a significant increase in third party claims against LCC for personal injury and third party damage; <li data-bbox="425 1252 2074 1286">• Heavy reliance on Safety Inspection regime to identify defects. <p data-bbox="425 1334 645 1361">c) Availability</p> <ul data-bbox="425 1374 1200 1401" style="list-style-type: none"> <li data-bbox="425 1374 1200 1401">• Availability of entire network cannot be guaranteed;

- Poor asset condition means parts of the asset may be withdrawn on a temporary or permanent basis to reduce the safety and legal exposure of the authority;
 - As no programmed maintenance work is undertaken assets may be withdrawn from service for some time.
- d) Condition**
- Condition of the asset will quickly deteriorate as investment is not keeping pace with the maintenance requirements. This standard is not sustainable over the long term;
 - It is assumed that the rate of deterioration exceeds the under investment required to maintain condition by a factor of at least 50% i.e. investment £10m less than required means a depreciation of £15m in asset value.
- e) Asset Value**
- Asset value is likely to be depreciating more rapidly as a result of minimal investment;
 - Maintenance heavily reliant on reactive activities which result in unpredictable financial management and highest whole life costs;
 - The cost of investment needed to return the stock to the minimum standard is growing rapidly and exceeds the resources available.
- f) Public Perception**
- Likely to be well aware that the asset is deteriorating and is becoming less available, safe or fit for purpose;
 - Members in particular will be facing pressure for improvement and will seek to react to local pressures potentially diluting the impact on overall asset condition;
 - Complaints and claims would be expected to be high.
- g) Service Delivery**
- The principle focus is likely to be reactive maintenance with minimum or no preventative maintenance intervention to prevent asset deterioration;
 - It will not be possible to address all issues rapidly and a prioritisation of service demands will be required;

	<ul style="list-style-type: none"> • It is likely that increasing portions of the asset are removed from service and that the trend accelerates with time as the asset ages; • An increasing backlog of maintenance issues will exacerbate the service problems and lead to a further chain reaction of deterioration; • Depreciation in the asset value would be expected to exceed the under investment required to achieve a FAIR standard. It would be expected that initially deterioration would outstrip underinvestment by 50% with that proportion tending to increase year on year.
ACCEPTABLE	<p>Definition</p> <p>The minimum level of service to meet most statutory requirements and compliance with minimum requirements detailed in national codes of practice. The risks and consequences associated with providing this service level are summarised below :</p> <p>a) Legal</p> <ul style="list-style-type: none"> • The authority complies with the requirements of the relevant codes of practice in all key respects; any derogation is documented and supported by a robust risk assessment; • We know what is required and how we deliver the requirements. <p>b) Safety</p> <ul style="list-style-type: none"> • High reliance on Safety Inspection regime to identify defects; • In all cases except where the asset condition was formerly GOOD or EXCELLENT it is likely to result in an increase in the risks associated with safety or legal deficits; • Safety defects are well defined with performance standards for rectification of those defects. Systems are in place to ensure proper assessment prioritisation and rectification of defects or temporary arrangements to mitigate risk until a permanent repair is possible; • We have relevant information to support our delivery to required performance standards. <p>c) Availability</p> <ul style="list-style-type: none"> • The majority of the asset is available for normal reasonable use.

d) Condition

- The condition of the asset is deteriorating but at a reduced rate compared to POOR standard;
- It is assumed that the rate of deterioration over under investment is of the order of 30% i.e. £10m underinvestment results in £13m of deterioration.

e) Asset Value

- The asset value is likely to be depreciating as a result of minimum investment.

f) Public Perception

- Likely to be well aware that the asset is deteriorating and is becoming less available, safe or fit for purpose;
- Members in particular will be facing pressure for improvement and will seek to react to local pressures potentially diluting the impact on overall asset condition;
- Complaints and claims would be expected to be high. It is highly likely that members or the public would easily distinguish between POOR and ACCEPTABLE standards in their localities.

g) Service Delivery

- The principle focus is likely to be reactive maintenance rather than preventative works undertaken at the optimal time;
- It will not be possible to address all issues rapidly and a prioritisation of service demands will be required;
- An increasing backlog of maintenance needs will exacerbate the service problems and lead to a further chain reaction of deterioration;
- Depreciation in the asset value would be expected to exceed the under investment required to achieve a FAIR standard;
- It would be expected that initially deterioration would outstrip underinvestment by 30% with that proportion tending to increase year on year.

FAIR**Definition**

A level of service that generally meets statutory needs and the requirements detailed in national codes of practice. The risks and consequences associated with providing this service level are summarised below:

a) Legal

- The authority complies with the requirements of the relevant codes of practice in all respects and a robust risk assessment exists, except where it chooses not to carry one out. In all such instances any derogation is documented and supported by a robust risk assessment;
- We know what is required and how we deliver the requirements;
- The legal exposure of the authority is reasonably controlled and robust systems are in place to provide supporting evidence of compliance with the code of practice.

b) Safety

- Safety defects are well defined with performance standards for rectification of those defects;
- Systems are in place to ensure proper assessment prioritisation and rectification of defects or temporary arrangements to mitigate risk until a permanent repair is possible;
- We have relevant information to support our delivery to required performance standards. We are proactive in the identification and rectification of those defects;
- In all cases **except** where the asset condition was formerly GOOD or EXCELLENT it is unlikely to result in an increase in the risks associated with safety or legal deficits.

c) Availability

- The majority of the asset is available for normal reasonable use;
- Restrictions of the asset are largely planned maintenance activities rather than emergency repairs with the exception of emergency utility repairs.

d) Condition

- The condition of the asset is stabilised or with minor deterioration;

	<ul style="list-style-type: none"> • It is assumed that the rate of deterioration is under 10%. <p>e) Asset Value</p> <ul style="list-style-type: none"> • The asset value is likely to be depreciating as a result of other external factors rather than under investment. <p>f) Public Perception</p> <ul style="list-style-type: none"> • It is likely that public opinion does not reflect the condition of the asset and the presence of any defects at all would be considered by members of the public to indicate that the asset was in poor condition. <p>g) Service Delivery</p> <ul style="list-style-type: none"> • A mixture of preventative maintenance undertaken at the optimal time and reactive maintenance will be delivered although it is possible that outside pressure focuses some investment in areas which do not serve to improve the condition of the asset; • The backlog of maintenance needs will probably be growing but at a reduced rate, due to any severe weather events and the reduction of our ability to focus on technically driven programmes.
GOOD	<p>Definition</p> <p>A level of service that is above statutory needs and the requirements detailed in national codes of practice. The risks and consequences associated with providing this service level are summarised below:</p> <p>a) Legal</p> <ul style="list-style-type: none"> • The authority generally exceeds the requirements of the relevant codes of practice in key respects; any derogation is minor and defensible, documented, and supported by a robust risk assessment; • We know what is required and how we deliver the requirements; • We are able to defend legal claims robustly and develop a strong due diligence defence. <p>b) Safety</p> <ul style="list-style-type: none"> • Safety defects are well defined with performance standards for rectification of those defects;

- Systems are in place to ensure proper assessment prioritisation and rectification of defects or temporary arrangements to mitigate risk until a permanent repair is possible;
 - We have supporting information to ensure our delivery to required performance standards;
 - Should see a reduction in numbers of third party claims against LCC for personal injury and third party damage.
- c) Availability**
- The vast majority of the asset is available for normal reasonable use.
- d) Condition**
- The condition of the asset has been stabilised but significant improvements will take time It is assumed that the rate of deterioration is minimal.
- e) Asset Value**
- The asset value is maintained as far as is reasonably practical;
 - Relatively high costs in the short term as intervention measures are used to improve asset condition – results in lower whole life costs.
- f) Public Perception**
- It is likely that public perception is still focused on the defects present and that it will take significant time before any improvement in perception of the asset is noted.
- g) Service Delivery**
- A mixture of preventative and reactive service delivery models will be used as the backlog of maintenance issues will only be reduced slowly if at all;
 - Increased capital budget enables preventative maintenance to be carried out. Such works are directed at intervening at the right point to restore the asset to an appropriate condition at minimum cost.

EXCELLENT**Definition**

A level of service that is well above statutory needs and the requirements detailed in national codes of practice. Service delivery aimed at maintaining the asset to a high standard. The risks and consequences associated with providing this service level are summarised below:

a) Legal

- The authority complies with the requirements of the relevant codes of practice in all respects; any minor local derogations are documented and supported by a robust risk assessment;
- We know what is required and how we deliver the requirements;
- We further understand future needs and pressures and have a well developed strategic plan for the next five years.

b) Safety

- Significant reduction in claims against LCC for personal injury and third party damage;
- Safety defects are well defined with performance standards for rectification of those defects;
- Systems are in place to ensure proper assessment prioritisation and rectification of defects or temporary arrangements to mitigate risk until a permanent repair is possible;
- We have relevant information to support our delivery to required performance standards;
- Performance standards are challenging and reviewed regularly.

c) Availability

- The asset is available for normal reasonable use.

d) Condition

- The condition of the asset is improving strongly with asset value increasing;
- It is increasingly possible to flexibly assign resources to selected programmes each year as the relative deterioration is marginal year on year.

e) Asset Value

- The investment required to bring the asset to an as new condition is reducing;

- High costs in the short term as intervention measures are used to improve asset condition – results in lowest whole life costs.
- f) Public Perception**
- Generally public perception of the condition of the strategic and residential road network would be expected to be positive however the response to the few defects remaining will be disproportionate as expectations will steadily increase;
 - The majority of the asset improvements will be less visible and the general public and members would not be expected to notice improved drainage, improving lighting column condition or improving bridge condition.
- g) Service Delivery**
- The principle service delivery is focused on preventative maintenance at the optimal time in an assets life cycle which will effectively reduce the average cost per scheme, particularly in respect of roads, and in turn fuel more rapidly improving condition;
 - Operating at a sustainable level using sustainable methods.