

# **Transport Asset Management Plan**

## **2012 - 2016**

## **Contents**

<b>1. Introduction.....</b>	<b>1</b>
<b>2. Asset Description .....</b>	<b>2</b>
<b>3. Community Requirements .....</b>	<b>4</b>
<b>4. Future Demands.....</b>	<b>7</b>
<b>5. Asset Investment Strategies .....</b>	<b>10</b>
<b>6. Service Standards.....</b>	<b>13</b>
<b>7. Financial Summary .....</b>	<b>18</b>
<b>8. Risk Management .....</b>	<b>21</b>
<b>9. Asset Management Planning Practice.....</b>	<b>23</b>
<b>10. Improvement Plan.....</b>	<b>24</b>
<b>11. Management of the Plan.....</b>	<b>27</b>
<b>Associated Documents &amp; References.....</b>	<b>28</b>

## 1. Introduction

### 1.1 Overview

The Government encourages councils to develop asset management plans for their infrastructure assets. This Transport Asset Management Plan (TAMP) is the Council's 2<sup>nd</sup> and replaces the Highways Asset Management Plan (HAMP) produced in 2006. It covers the period 2012 – 2016 and has been created using elements of the original HAMP document and updated to reflect;

- Current financial constraints
- Recent national and regional developments in asset management
- Changes in local practice since the first HAMP was published.

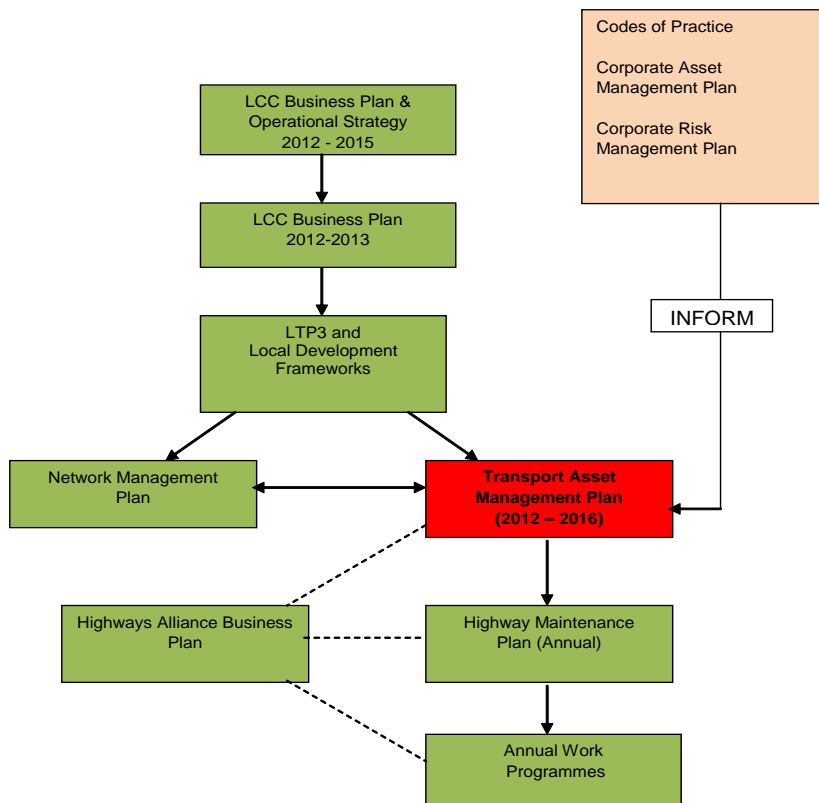
### 1.2 Purpose

The purpose of the TAMP is to:

- Formalise strategies for investment in key highway asset groups
- Define affordable service standards
- Improve how the highway asset is managed
- Enable more effective and efficient Value for Money (VfM) highways services to be delivered.

### 1.3 Links to Other Plans

The TAMP relates to other council plans as illustrated below:



## 2. Asset Description

### 2.1 Highway Assets Covered by the TAMP

The major highway assets covered by this plan are:

Asset Group	Element	Quantity
Carriageway	including lay-bys, bus lanes etc.	8,960 km.
	Fords and causeways	35 no.
	Traffic calming features – including Tables, Humps, Chicanes etc.	1,277 no.
Footways and cycletracks	Footway - adjacent to the carriageway	3,834 km.
	Footpaths – remote from the carriageway	225 km.
	Cycleways - on carriageways (included in carriageways above)	23 km.
	Cycleways remote from the carriageway	241 km.
Public Rights of Way (PRoW)	Remote from the carriageway – total length of recorded PRoW	4,008km.
Structures	Bridges	1,533 no.
	Footbridges	121 no.
	Culvert >0.6m diameter	2,502 no.
	Retaining Walls	134 no.
	Subways (including submersible pumps)	10 no.
	Gantries	9 no.
Street Lighting	Lighting columns	62,930 no.
	Illuminated Signs and Posts	8,040 no.
	Illuminated Bollards	2,720 no.
	Feeder Pillars	600 no.
	Vehicle Activated Signs	220 no.
	Subway Lights	180 no.
	Zebra crossings	222 no.
	Cables (estimated 14,166 lengths at 30m each)	424.98 km.

Asset Group	Element	Quantity
Traffic Management Systems	Signals at junctions	150 no.
	Signals at pedestrian crossings	128 no.
	Signals at pedestrian and cycle crossings /horse crossing	22 no./1 no.
	CCTV Cameras (Traffic Control)	26 no.
	Traffic Signal In-station equipment (SCOOT/UTC)/( Remote monitoring)	1 no./1no.
	Traffic signal matrix (CCTV)/ Tidal flow system (Canwick Rd Lincoln)	1 no./1no.
	Bus priority equipment	5 no.
	Fire service priority equipment	3 no.
Drainage	Gullies	129,792 no.
	Sustainable Urban Drainage Systems (SUDS)	0 no.
Street Furniture	Vehicle safety fences	70 km.
	Non illuminated signs (Warning, Regulatory and local direction/info signs)	106,024 no.
	Grit Bins	1,700 no.
	Trees - PRN	2,000 no.
	Automatic Traffic Counters (c'way and cycleway)	59 no.
	Weather Stations (Ice prediction equipment managed by Vaisala)	11 no.
	Bus Shelters	1,812 no.
	Safety Cameras	53 no.

## 2.2 Data Collection

A programme of inventory surveys is developed each year based on priorities and available budgets. Inventory data is only collected and maintained where there are demonstrable benefits when compared to the cost of collecting the data.

## 2.3 Assets Not Covered by this Plan

Some highway related assets are not the responsibility of the County Council Highway and Transportation department. The assets not covered in this TAMP are:

- Car parks (multi-storey and street level managed by either private or district councils)
- Street name plates (owned and managed by the district councils)
- Picnic Sites.

### Actions: during the plan period

- Footway condition data will be collected
- Accurate street lighting electrical supply cable information will be collected
- A strategy for collection of drainage asset data will be developed and implemented
- Structures data will be improved to provide full inventory and condition data

A detailed plan for how asset data will be improved during the plan period is included in the Highways Maintenance Plan.

### 3. Community Requirements

This section describes information about the community's requirements for the transport/highways asset. It outlines how this information is obtained and what it says in relation to community preferences.

#### 3.1 Customer Consultation

In order to obtain information on the customer view of the Highways and Transportation services the Council participates in the National Highway and Transport (NHT) Public Satisfaction Survey. The survey covers all aspects of Highways and Transport service delivery. Full results are available at [www.nhtsurvey.org](http://www.nhtsurvey.org). The Council has participated in the survey since 2008. The survey enables us to understand the view and preferences of a sample of resident and to compare these against other similar councils.

The survey is based on a representative sample of residents. The sample is designed to represent a spread of customers views across the county, geographically by gender and by age. The sample surveyed was 6,500 (responses were received from 1,263). Lincolnshire's population is around 703,000 at 2011.

07. HIGHWAY MAINTENANCE/ ENFORCEMENT KBI				
QUESTION	2008 JUL	2009 SEP	2010 SEP	2011 SEP
KBI 23 - Condition of highways	43.37	45.00	35.32	30.23
KBI 24 - Highway maintenance	50.61	53.83	48.64	49.69
KBI 25 - Street lighting	66.22	67.95	66.49	67.92
KBI 26 - Highway enforcement/obstructions	45.24	48.98	47.60	52.20

Figure 3.1a: NHT Public Satisfaction Survey Results for Highway Maintenance from 2008 to 2011

The results from the 2011 survey indicated that fourteen out of the sixteen highway maintenance satisfaction indicators improved. However the two that declined showed decreasing satisfaction with the condition of highways and highway maintenance between 2008 and 2011. This result coincides with the deterioration experienced as a result of a series of abnormally harsh winters.

#### MOST IMPORTANT TO ME

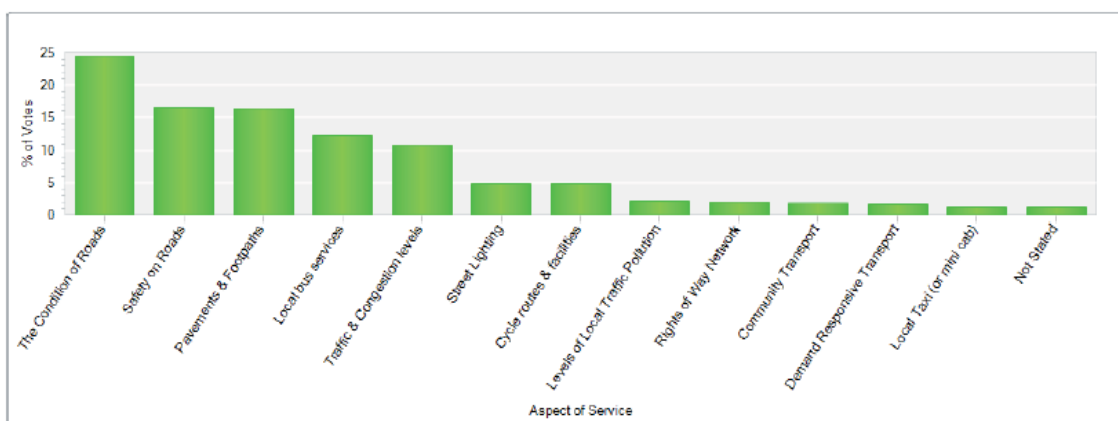


Figure 3.1b: NHT Public Satisfaction Survey Results for 'Most Important to Me'

Condition of roads was the most important issue for 24% of those who responded followed by safety on roads and footpaths and pavements.

**MOST IN NEED OF IMPROVEMENT**

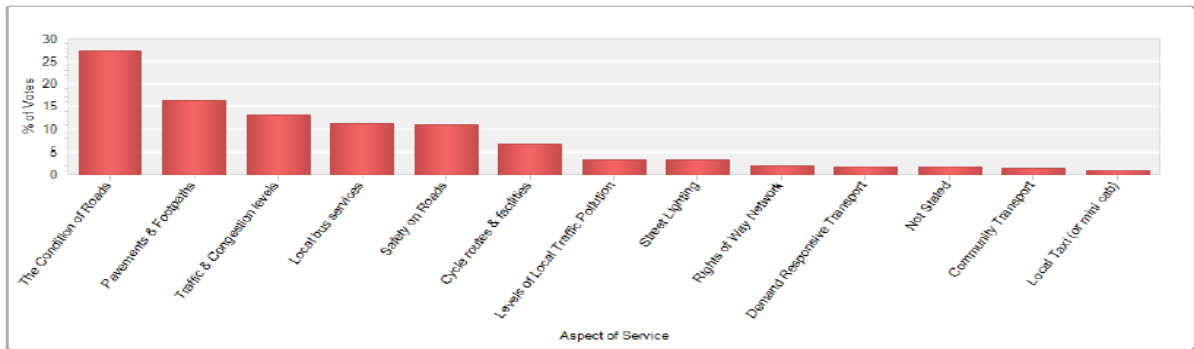


Figure 3.1c: NHT Public Satisfaction Survey Results for 'Most in Need of Improvement'

The condition of roads was the aspect most in need of improvement for 26% of respondents followed by footpaths and pavements.

The NHT survey indicates a preference for improvement in the condition of roads and pavements in comparison to other aspects of the transport/highways service. The preference for improvement in carriageways has influenced the strategies developed and included in section 7 of this plan.

The level of satisfaction with the service varies across the county as shown. There is no correlation between the measured condition and the level of satisfaction reported.

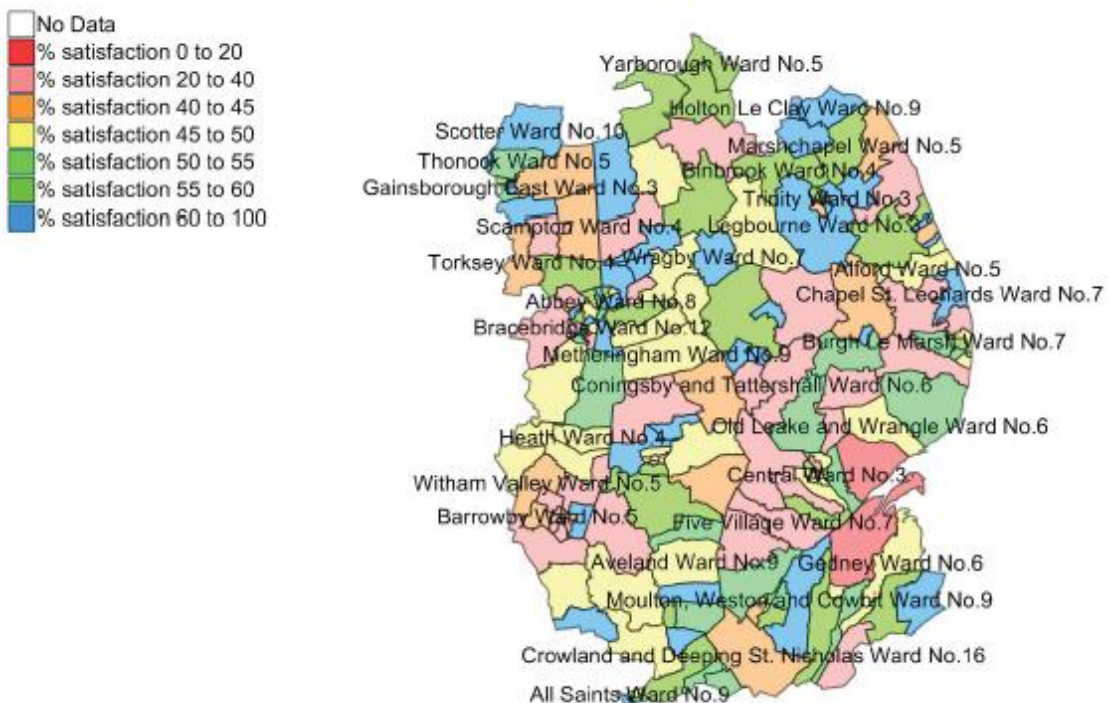
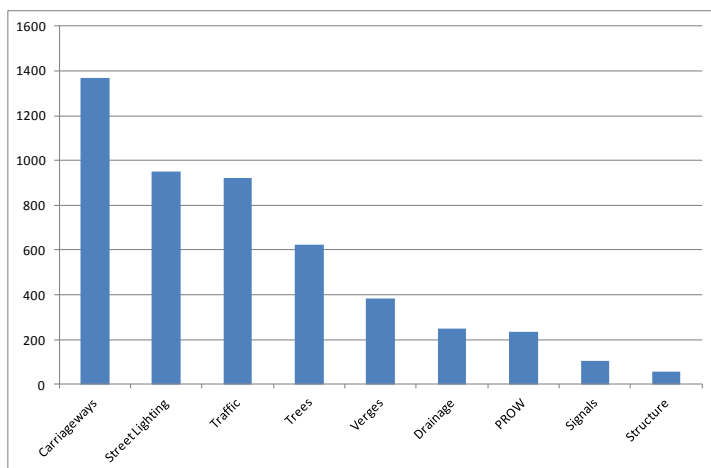


Figure 3.1d: NHT Public Satisfaction Survey Results by Ward

### 3.2 Customer Care

Customer contacts with the Council regarding highways are recorded and managed using a Customer Relationship Management (CRM) system. The system is used to record and categorise contacts made by customers. The actions taken in response to the queries and issues are then monitored and reported. A summary of the contacts received by asset type is shown below.



This graph is a snap shot based on the latest available data.

It will be updated in the future as subsequent year's data are recorded and trends and exceptions can be identified.

Figure 3.2: Customer Contact Summary (April 2010 – April 2012)

NB. Graph excludes the category "New Road and Street Works Act (NRSWA) Notices", which numbered 32,170 in the year 2011/12.

#### **Actions:** during the plan period

- Additional customer contact data will be recorded and monitored to determine if trends or exceptions arise that may warrant adjustments to the plan.
- The NHT survey results will be reviewed after each years results are received and appropriate actions developed to address any issues identified



## 4. Future Demands

This section outlines the anticipated demands that will be placed on the asset over the duration of the plan. These have been considered when formulating the plan and presenting the risks associated with it.

### 4.1 Asset Growth

New assets are continuing to be added thereby creating an additional need for maintenance and management. The asset is growing marginally year on year due to the adoption of additional roads into the network and through improvement activities such as traffic safety schemes and construction of new road links. Over the last 10 years the asset has grown as shown below:

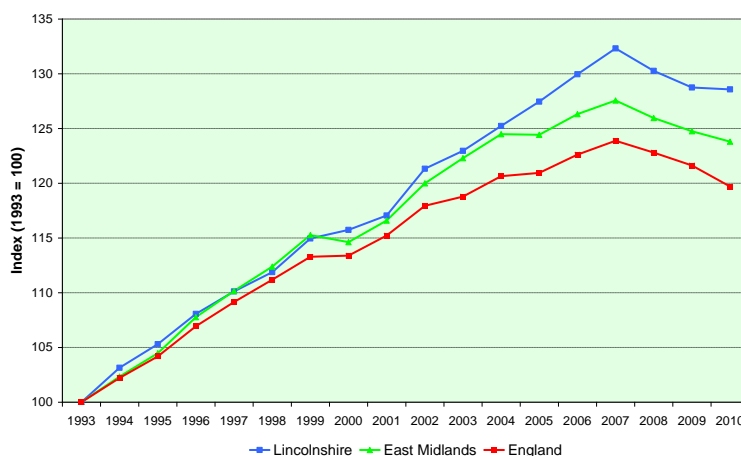
Financial Year	Carriageway (km)	Footway (km)	Street Lighting Columns	Signals Installations
2002/2003	11.26	21.10	2308	N/A
2003/2004	23.80	40.30	3208	N/A
2004/2005	22.00	26.10	2024	N/A
2005/2006	18.00	28.30	2381	7
2006/2007	19.40	27.30	1328	7
2007/2008	9.10	14.20	1076	3
2008/2009	17.20	27.70	871	6
2009/2010	16.20	19.40	771	0
2010/2011	27.10	49.70	502	5
2011/2012	41.20	26.20	886	8

Table 4.1: Asset Growth

### 4.2 Traffic Growth

Traffic growth is monitored regularly. Full details of growth are given in the Council document Transport Monitoring Report 2010. Key elements identified in this report are:

- The number of vehicle kilometres travelled in Lincolnshire (as estimated by Department for Transport) has risen by 28.7% between 1993 and 2009, an average of some 1.7% per annum.
- However, since 2009, traffic levels have fallen at the local, national and regional levels as shown below.



Traffic growth in the county is above the regional and national figures.

Figure 4.2a: Traffic Growth

Of particular note are the following points:

- Traffic flows on 27 A and B class rural roads have risen by some 82% since monitoring started in 1985. However, in the last 5 years, traffic levels have remained static.
- In Lincoln, traffic flows have risen by some 98% since monitoring began in 1985. In particular, flows on the A46 Lincoln Bypass have risen from some 11,800 in 1986 to over 31,000 in 2011. Similarly, flows on Brayford Way have doubled since its opening in 1997, up from 11,700 in 1997 to nearly 23,400 in 2011. However, flows as a whole have remained reasonably steady since 2003.
- Cordon surveys in Boston and Grantham show little growth between 2007 (when monitoring started) and 2011.
- The number of vehicles licensed in the county has risen from 375,400 in 2001 to 455,600 in 2011, an increase of 21.4%. This is higher than the growth seen regionally and nationally.
- Across the country, the number of Heavy Goods Vehicles (HGVs) on the roads has not changed dramatically in the last 10 years, but the proportion of the very largest HGVs has increased noticeably.

**Population Projections 2010 to 2035**

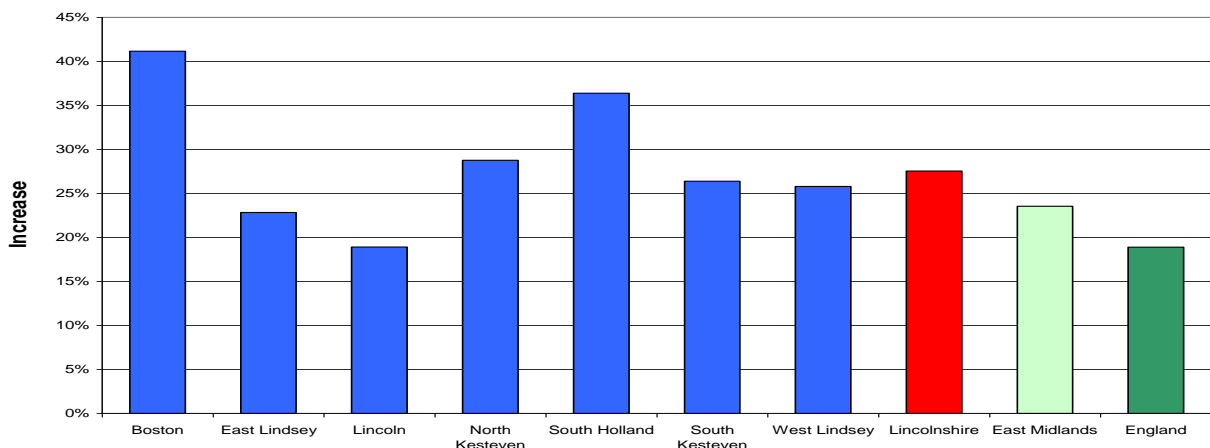


Figure 4.2b: Population Projections 2010 to 2035

Population growth in Lincolnshire is higher than the national average as shown.

### 4.3 Traffic Composition

Traffic composition is a major factor affecting the rate of deterioration of our highway infrastructure. In particular concentrations of heavy good vehicles on roads that were never designed to cope with such loadings can cause accelerated deterioration of carriageway pavements. This may be of significance in areas in the south of the county where there are a number of distribution warehouses with very significant levels of heavy goods vehicle traffic.

### 4.4 Environmental Conditions

In addition to the need to consider climate change and carbon emissions there is the real issue of impact on the carriageway infrastructure of long periods of very dry conditions. These have a particular impact on the road network in Lincolnshire as many of the roads in the fenland areas are constructed on moisture susceptible soils which, on drying, shrinks significantly and unevenly. This has the effect of significantly reducing the carrying capacity of the road construction and in creating surface alignments that are not consistent with high or medium speed traffic requirements. It is to be noted that 2011 was exceptionally dry and the impact on the road infrastructure is now apparent.

The following map shows in green the areas of the County which are at higher risk of “drought damage” to the road network.

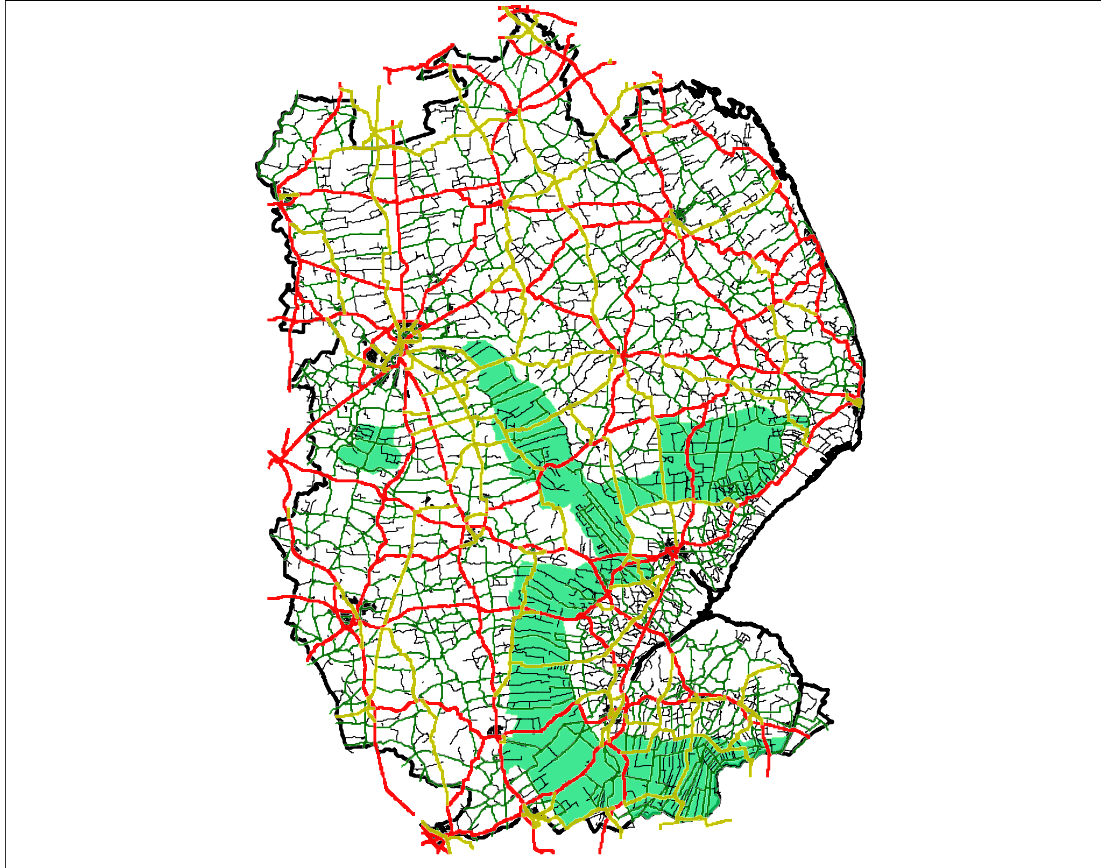


Figure 4.4a: Drought Damage Risk

Class of Road	Susceptible Roads by Class (km)	Susceptible Roads by Class (%)	% of total road class affected
A	89	7	8
B	141	11	18
C	485	38	17
UC	568	44	14
<b>Total</b>	<b>1283</b>	<b>100</b>	<b>15</b>

**Actions:** during the plan period

- Specific analysis will be carried out to quantify and determine an appropriate response to the accelerated deterioration of carriageways caused by:
  - o high levels of HGV traffic on specific routes
  - o areas at risk of structural damage during periods of exceptional weather e.g. drought

## **5. Asset Investment Strategies**

Long Term Cost Prediction (LTCP) modelling enables the Council to understand the relationship between future funding needs and resulting condition/performance levels. The level of complexity of each asset model is dependent on the asset data available and the deterioration mechanism used.

The following outlines the asset investment strategies being developed for each of the main asset groups as part of the TAMP.

### **5.1 Carriageways**

It is estimated that to maintain the carriageway asset in its current condition an average investment of approximately £22m is required in planned maintenance works (resurfacing and surface treatment). The budgets available for highways, in the short term, are insufficient to deliver a steady state.

This plan is based on taking the opportunities for making the available funding deliver best possible value. The strategy for carriageways is to obtain the best possible condition for the available budget using a “prevention is cheaper than cure” approach by:

- Increased investment in preventative maintenance, predominantly surface dressing
- Reduction in the number of reactive gangs engaged in repair of lower priority cosmetic defects
- Reviewing reactive maintenance works to determine if greater efficiency can be achieved
- Acceptance of minor managed deterioration in the condition of some roads.

Specifically the strategy will involve the following commitments

- Investment in preventative treatments i.e. surface dressing will be increased by £2m per year.
- Approximately £1.2m required to fund the increase in the preventative maintenance budget will be obtained by a reduction in spending on footways (see strategies below) with the remainder coming from a reduction in the reactive and routine repair budgets.
- Aim to maintain condition within the bands outlined in section 6 below.
- The standards applied to the repair of priority defects (category 1) both in terms of what constitute a category 1 defect and the response times will remain unchanged but will be reviewed over the lifetime of this plan

## **5.2 Footways:**

Detailed condition information on the footway network is currently being gathered, however it is estimated from safety inspections and local knowledge that the footway network is generally in good condition. Analysis of the current footway budget indicates that a steady state condition can be maintained with a reducing budget from £4.8m to £3.6m over a 5 year period by moving to a preventative maintenance strategy.

Specifically the strategy will involve the following commitments

- Complete the surveys to obtain detailed condition information across the whole network
- Aim to maintain condition at a steady state
- Reduce the budget over a 5 year period and transfer this into carriageway preventative maintenance

## **5.3 Street Lighting:**

The condition of the street lighting stock is good and the current budget for renewals and replacements (£750,000 per year) is sufficient to maintain a steady state in the short to medium term.

Various “invest to save” options are being investigated to determine whether a business case exists for reducing our overall street lighting energy consumption by the upgrading/addition of new equipment

In the longer term (from 2025 onwards) considerable additional funding will be required (up to £3m per year) to maintain the condition of the street lighting stock as it reaches the end of it's anticipated service life.

Specifically the strategy will involve the following commitments

- Aim to maintain the condition of the lighting stock at a steady state
- Investigate “invest to save” opportunities to reduce energy consumption

## **5.4 Structures:**

Recent investment in the structures asset has ensured that the Lincolnshire bridge stock is generally in good condition and the budget was reduced from £4.3m to £2.1m in 2010/11. There are a number of larger structures where the critical elements are a cause of concern. Repairs to these structures will be expensive and distort the budget in the year repaired.

Specifically the strategy will involve the following commitments

- Aim to maintain the condition of the structures stock at a steady state
- To monitor the condition of those structures giving cause for concern and to highlight the associated budget pressures at the point when repair is required.

### 5.5 Traffic Signals:

The traffic signal asset is generally in good condition, however continuance of current funding levels will result in a deteriorating condition with the associated problems of equipment failure and customer satisfaction. Analysis shows an increase in budget from £600,000 to £950,000 is required by 2016 to maintain the asset in the current condition. In addition there are a number of other pressures on the signals budget that will require funding over the medium term. These are:

- Tidal Flow System (estimated cost £175,000 in 2016)
- Replacement of Urban Traffic Control (UTC)/Scoot System (£500,000 in 2017)
- Replacement of the CCTV camera system (estimated cost £390,000 in 2020)

Specifically the strategy will involve the following commitments

- Aim to maintain the condition of the traffic signals stock at a steady state

Further detail and analysis on the above is contained in the Transport Asset Management Plan Annual Status & Investment Strategy Options Report (2012).

### 5.6 Street Furniture:

This covers a wide range of assets including non illuminated signs, safety fencing, vehicle activated signs, bus shelters etc. These assets will be replaced as the need occurs and budgets will be reviewed annually to reflect this.

**Actions:** during the plan period

- The Highway Maintenance Plan will be reviewed to align with the Transport Asset Management Plan
- An annual status and options report for key asset groups will be developed

## 6. Service Standards

This section defines standards that users can expect from the County's transport assets. It records how these are measured and presents the targets that have been set for the duration of the plan.

### 6.1 Purpose

This plan is based upon delivery of the service standards specified below. The standards described are predicted to be affordable based upon the funding levels shown in section 7. Publishing these standards enables users (customers) to understand what they can expect from the counties transport assets.

### 6.2 Service Standard Targets

This plan is based upon targeting the delivery of specified service standards as shown below. Details of how the specific measures shown below have been calculated are included in the Highway Maintenance Plan.

Service	Measured By	Target Standard	
		2012	2016
<b>Carriageways</b>			
Response to incidents	Percentage of emergency incidents answered within response times	100%	100%
Repair of high priority defects	Percentage of Cat 1# defects made safe within response times. <ul style="list-style-type: none"> <li>- A Roads 24 hours</li> <li>- B &amp; C Roads 24 hours</li> <li>- U Roads 24 hours</li> </ul>	85% 85% 85%	Under Review
Repair of other defects	Percentage of Cat 2# defects repaired within response times: <ul style="list-style-type: none"> <li>- A Roads 28 days</li> <li>- B &amp; C Roads 28 days</li> <li>- U Roads 3 months</li> </ul>	80% 80% 80%	Under Review
Maintain road surface condition	Percentage by network length of Principal Roads where maintenance should be considered (A Roads)	4%	5%
	Percentage by network length of Non-principal roads where maintenance should be considered (B Roads)	8%	9%
	Percentage by network length of Non-principal roads where maintenance should be considered (classified C)	9%	11%
	Percentage by network length of Non-principal roads where maintenance should be considered (un-classified)	28%	32%



Service	Measured By	Target Standard	
		2012	2016
Maintain skid resistance of road surfaces	Percentage of the Principal Road Network at or below the Skidding Investigatory level (3 year average value)	< 10% =	< 10% =
Maintain the structural condition of the carriageways	Percentage of the PRN network with a "zero residual life" as measured by deflectograph surveys	5%	5%

# It has been assumed that these targets can be achieved from the budgets shown in the following section provided that weather conditions are not unseasonably harsh and the number of defects does not escalate from current levels of Cat 1 defects pa.

Service	Measured By	Target Standard	
		2012	2016
<b>Footways</b>			
Response to incidents	Percentage of emergency incidents answered within response times	100%	100%
Repair of high priority defects	Percentage of Cat 1# defects made safe within response times. <ul style="list-style-type: none"> <li>- 1, 1a &amp; 2      24 hours</li> <li>- B &amp; C Roads    24 hours</li> </ul>	85% 85%	Under review
Repair of other defects	Percentage of Cat 2# defects repaired within response times: <ul style="list-style-type: none"> <li>- 1, 1a &amp; 2      28 days</li> <li>- 3 &amp; 4            28 days</li> </ul>	80% 80%	Under review
Maintain footway surface condition	Percentage of Hierarchy Cat 1 and 2 footway in Condition Category 3 &4	tbc	tbc
	Percentage of Hierarchy Cat 3 and 4 footway in Condition Category 3 & 4	tbc	tbc

# It has been assumed that these targets can be achieved from the budgets shown in the following section provided that weather conditions are not unseasonably harsh and the number of footway defects does not escalate from current levels of Cat 1 defects pa.



Service	Measured By	Target Standard	
		2012	2016
<b>Street Lighting</b>			
Repair street lights that go out	Percentage of street lights not working as planned on any one evening.	> 0.8%	> 0.8%
	Percentage of repairs completed within 5 working days	> 75.0%	>75.0%
Maintain street lighting column condition	Percentage of columns exceeding their average expected service life	6.0%	7.0%
Maintain street lighting lanterns condition	Percentage of lanterns that have exceeded their Expected Service Life.	28.0%	32.0%
Maintain illuminated sign post condition	Percentage of sign posts exceeding their average expected service life	22.0%	27.0%
Maintain illuminated sign unit condition	Percentage of sign units that have exceeded their average expected service life	33.0%	38.0%
Maintain illuminated bollard condition	Percentage of illuminated bollards exceeding their average expected service life	33.0%	38.0%

Service	Measured By	Target Standard	
		2012	2016
<b>Structures</b>			
Repair of damage to structures	% of reactive repairs made safe repaired within specified response times	80%	80%
Maintain structure/bridge condition	Bridge Stock Condition Indicator (BCIav)	88	90
	% of bridges in very poor condition (BCIcrit <39)	0%	0%
	% of bridges in severe poor (BCIcrit <60)	12%	10%
	% of retaining walls in very poor condition (BCIcrit < 39)	0%	0%
	% of retaining walls in poor condition (BCIcrit <60)	12%	10%
Maintain the load carrying capacity of the bridge stock	Number of structures requiring strengthening	2 no	Zero

Targets for structures are based upon structure inspection results at the time of the plan being produced. It is likely that during the plan period inspections will identify additional structures that have deteriorated to the point of requiring attention. Priorities may need to be adjusted to accommodate this. Long term predictions take into account the ongoing deterioration of the structures

Service	Measured By	Target Standard	
		2012	2016
<b>Traffic Signals</b>			
Repair of high priority defects	% of Cat 1# defects made safe within response times.	100%	100%
Repair of other defects	Percentage compliance with fault repair response times	100%	100%
Maintain condition of traffic signals	Percentage of traffic signal installation exceeding average expected service life (20 years)	11%	15%

Service	Measured By	Target Standard	
		2012	2016
<b>Winter Service</b>			
Keep roads open during snow and ice	Percentage of the network treated by salting during periods of snow and ice	33%	33%
	Percentage of precautionary road salting completed on time	>85%	> 85%

Service	Measured By	Target Standard	
		2012	2016
<b>Verge Maintenance</b>			
Keep verges cut to provide safe visibility	No cuts of grass verges and visibility splays (at junctions etc) per annum	3	3
<b>Drainage</b>			
Keep highway drainage working	Full cycle of gully cleansing per year on the full network (rural and urban)	1	Under review
	Second cycle of gully cleansing per year on the urban network	1	Under review
<b>Safety Fences</b>			
Maintain integrity of safety fencing	Percentage of safety fencing 7 day repair orders closed within time	80%	100%

**Actions:** during the plan period

- Data will be collected about gully cleansing operations including which gullies actually needed cleaning when visited, the data will be used to devise more cost effective and efficient gully cleansing regime, visiting higher need gullies more frequently and those that are routinely found to not need cleaning less frequently.
- Footway condition data to be collected and targets developed.
- The balance between reactive and planned maintenance within street lighting will be reviewed

## 7. Financial Summary

### 7.1 Asset Valuation

As at July 2012 the transport asset is valued as follows:

Asset Type	Gross Replacement Cost (GRC) £m	Depreciated Replacement Cost (DRC) £m	Annualised Depreciation Cost (ADC) £m	Comment
Carriageways	6,533.06	6,220.0	29.7	
Footways & Cycleways	429.0	n/a	4.9 <sup>1</sup>	
Structures	709.8	n/a	2.2 <sup>1</sup>	
Street Lighting	86.3	43.4	2.2	Assume average 40 year life
Traffic Management	15.7	9.0	0.8	Assume average 20 year life
Street Furniture	69.2	35.2	2.8	Assume average 25 year life
<b>Total</b>	<b>£7,843.1</b>	<b>£6,307.6<sup>2</sup></b>	<b>£42.6</b>	

<sup>1</sup>Estimated based on current budget

<sup>2</sup>Excludes footways and structures

### 7.2 Historical Expenditure

The following table summarises the historical expenditure invested in works on the transport asset:

Asset	Works	Historical Expenditure £ 000						
		05/06	06/07	07/08	08/09	09/10	10/11	11/12
Carriageways	Reactive	3,122	2,756	2,931	3,452	3,318	3,116	4,128
	Planned	20,179	17,124	23,596	18,784	21,242	18,427	16,745
Footways	Reactive	Included in Carriageways						
	Planned	4,073	4,720	4,371	4,076	4,413	4,306	4,898
Structures (Incl. Safety Barriers)	Routine & Reactive	1,049	1,134	1,384	1,436	1,492	1,572	1,173
	Planned	3,138	3,210	3,386	3,685	4,309	2,075	2,175
Street Lighting	Energy Costs	1,360	1,559	1,602	1,883	2,038	2,261	2,510
	Routine & Reactive	1,390	1,559	1,767	1,920	2,664	2,416	2,134
	Planned	614	650	864	907	953	750	750
Drainage	Routine & Reactive	747	811	876	1,442	1,545	1,659	1,571
	Planned	Included in Carriageways						

Asset	Works	Historical Expenditure £ 000						
		05/06	06/07	07/08	08/09	09/10	10/11	11/12
Traffic Signals	Energy Costs	Energy Costs included in Street Lighting						
	Routine & Reactive	587	724	784	834	638	895	795
	Planned	298	310	650	578	606	600	600
Street Furniture/Signs and Markings	Routine & Reactive	1,773	1,952	2,003	2,219	2,299	2,301	1,601
	Planned	0	0	0	0	0	0	50
Winter Maintenance	Winter Maintenance	3,327	3,427	4,181	4,182	4,382	4,364	4,437
Environmental	Routine & Reactive	1,977	2,157	2,322	3,169	3,385	3,343	3,134
Other	Surveys, Inspections, Fees and Contributions	1,662	1,947	1,881	2,223	2,414	2,544	2,727
<b>Totals:</b>		<b>45,296</b>	<b>44,040</b>	<b>52,598</b>	<b>50,790</b>	<b>55,698</b>	<b>50,629</b>	<b>49,428</b>

Funding excludes one off grants for specific maintenance issues e.g. drought, winter damage.

### 7.3 Planned Funding

The service standard targets shown in section 5 are based upon the following predicted funding levels. All figures below in £000's

Asset	Works	Budget	Anticipated Funding (excluding inflation)		Long Term Funding Assumed
		12/13	13/14	14/15	Y3-Y20*
Carriageways	Reactive	3,911	3,911	3,911	3,911
	Planned	16,259	15,855	14,654	14,854
Footways	Reactive	Included in carriageways			
	Planned	4,304	4,000	3,800	3,600
Structures	Routine & Reactive	1,232	1,232	1,232	1,232
	Planned	2,075	2,075	2,075	2,075
Street Lighting	Energy Costs	2,462	2,460	2,478	2,478
	Routine & Reactive	2,236	2,246	2,256	2,256
	Planned	750	750	750	750
Drainage	Routine & Reactive	1,837	1,837	1,837	1,837
	Planned	Included in carriageways			
Traffic Signals	Energy Costs	138	140	142	142
	Routine & Reactive	828	833	848	848
	Planned	600	600	600	600
Street Furniture/Signs and Markings	Routine & Reactive	1,665	1,665	1,665	1,665
	Planned	50	50	50	50
Winter Maintenance	Winter Maintenance	4,568	4,568	4,568	4,568

Asset	Works	Budget	Anticipated Funding (excluding inflation)		Long Term Funding Assumed
Environmental	Routine & Reactive	3,305	3,305	3,305	3,305
Other	Surveys, Inspections, Fees and Contributions	2,463	2,463	2,463	2,463
Additional funding to be allocated		0	4,205	2,246	0
<b>Totals:</b>		<b>48,683</b>	<b>52,195</b>	<b>48,880</b>	<b>46,634</b>
<b>Made up of:</b>	<b>Capital</b>	<b>24, 038</b>	<b>27,535</b>	<b>24,175</b>	<b>21,929</b>
	<b>Revenue</b>	<b>24,645</b>	<b>24,660</b>	<b>24,705</b>	<b>24,705</b>

Transport assets deteriorate slowly. The effect of changes in funding levels is not always immediately evident. To ensure that the Council's decisions about funding acknowledge predicted future conditions the strategies in this plan have been compiled using 20 year predictions of condition.

The 20 year period is designed to cover a reasonable number of replacement cycles for most of the assets. The predictions enable strategies to be created to look at the whole life cost of maintaining the asset.

Using long term predictions means that decisions about funding levels can be taken with due consideration of the future maintenance funding liabilities that are being created. The funding levels shown above are those estimated to be required to deliver the service standards shown in section 6 using the strategies set out below for each asset group.

## 8. Risk Management

This section describes how the risks associated with the asset are managed. It identifies the risks that could prevent this plan being delivered with how these risks are to be controlled.

### 8.1 Corporate Risk Management Strategy

The Risk Management Strategy sets out how the Council manages risk corporately and this strategy has been applied to managing the Council's transport assets. The highest rated risks that were considered when compiling this plan were:

- The condition of unclassified roads is relatively poor and is deteriorating
- There is no data currently available to monitor footway condition
- Failure of a critical element of a large structure
- Adverse weather events

### 8.2 Risks to This Plan

The risks that could prevent the achievement of the standards specified in this plan (section 6) are:

Plan Assumption	Risk	Action If Risk Occurs
The plan is based upon winters being normal	Adverse weather will create higher levels of defects and deterioration than have been allowed for.	Budgets and predictions will be revised and this plan updated if abnormally harsh winters occur.
The plan is based on the assumption of no further drought events affecting the network	Drought events create higher levels of defects and deterioration.	Budgets and predictions will be revised and this plan updated if drought events occur.
The plan is based on the assumption of no significant flood damage occurring.	Flood damage will create higher levels of defects and deterioration. Significant events could result in failure of key structures.	Budgets and predictions will be revised and this plan updated if flood damage occurs.
Available budgets have been assumed as shown in section 7	External pressures mean that government further reduce the funding available for highways.	Target service standards will be revised to affordable levels

<b>Plan Assumption</b>	<b>Risk</b>	<b>Action If Risk Occurs</b>
Construction inflation will remain at level similar to the last 5 years.	Construction inflation will increase the cost of works (particularly oil costs as they affect the cost of road surfacing materials)	Target service standards will be revised to affordable levels.
Levels of defect and deterioration are based on current data which is limited for some assets (e.g. footways)	Assets deteriorate more rapidly than predicted and the investment required to meet targets is insufficient.	Split between planned and reactive maintenance budgets will be revised.
Resources are available to deliver the improvement actions	Pressures on resources mean that staff are not allocated to service improvement tasks such that the predicted benefits cannot be fully achieved	Target dates will be revised and reported.
Any increase in assets will be matched by sufficient additional maintenance funding	New requirements e.g. Floods and Water Management Act and developments result in increased assets to maintain	Budgets and predictions will be revised and this plan updated



## **9. Asset Management Planning Practice**

This section defines the asset management planning practices that the Council uses. The application of these practices is essential to the achievement of this plan.

### **9.1 Asset Management Plan**

*Details to be added following approval of plan*

### **9.2 Highway Maintenance Plan**

The systems used to manage the County's transport assets are set out in the Highway Maintenance Plan. The plan defines how and when we:

1. Inspect
2. Categorise and prioritise reactive repairs
3. Assess condition
4. Identify and prioritise sites for resurfacing (or strengthening/replacement)
5. Choose the materials used
6. Prepare works programmes
7. Procure and manage works
8. Record and report costs
9. Records and respond to customer contacts

### **9.3 Asset Investment Strategies**

Specific investment strategies will be compiled for the major asset groups of carriageways, footways, structures, street lighting and traffic signals as part of the budget setting process. Each strategy will define how the target service standards are to be delivered. In particular they will address the types of works to be planned and state where a "prevention is better than cure" approach will be adopted.

### **9.4 Annual Status and Options Report**

A report will be compiled annually summarising the status of each asset group. The report will describe the result of the previous year's investment in terms of meeting the target service standards. The report will include long term predictions of levels of defects and condition and will be used to enable the Council to best allocate the following years budgets and to decide whether any of the service standards contained in this plan need to be revised.

## 10. Improvement Plan

This asset management plan has been designed to deliver improvements to the management of the county's assets. Specific benefits have been targeted. This section describes the changes that are planned to ensure that these benefits are achieved.

### 10.1 Improvement Actions

A review of the Council's current transport asset management capability undertaken as part of the development of this plan has identified the following desirable improvements:

Theme	Status	Actions	Completion Date
Strategy	Strategies and options reports need to be developed as part of the budget setting process	Develop strategies and options reports.	
Data (1)	In general asset data is good and is held for most transport assets. The exceptions are footways and drainage for which condition data is held for only a small percentage of the network and retaining wall data for which a limited inventory exists.	<ol style="list-style-type: none"> <li>1. Collect condition data for footways</li> <li>2. Develop strategy for drainage asset data collection and collect higher priority items</li> <li>3. Review structures data</li> </ol>	
Data (2)	Data is required regarding gully cleansing operations. The data will be used to devise a more cost effective and efficient gully cleansing regime, visiting higher need gullies more frequently and those that are routinely found to not need cleaning less frequently.	<ol style="list-style-type: none"> <li>1. Collect gully cleansing data</li> <li>2. Devise improved gully cleansing regime</li> </ol>	

Theme	Status	Actions	Completion Date
Data (3)	Future customer contact data and NHT survey results to be reviewed and analysed	<ol style="list-style-type: none"> <li>1. Customer contact data to be collected and analysed as appropriate.</li> <li>2. NHT survey results to be reviewed and analysed as appropriate.</li> </ol>	
Data (4)	There is accelerated deterioration of carriageways due to high level of HGVs on specific routes and areas at risk of structural damage due to periods of exceptional weather.	<ol style="list-style-type: none"> <li>1. Carry out analysis to quantify and determine a response to this damage.</li> </ol>	
Information systems	The Council has invested in an asset management system CONFIRM, to support asset management. The system has not yet been fully populated for all asset groups.	<ol style="list-style-type: none"> <li>1. Review inventory data collection and storage</li> <li>2. Add required inventory data into CONFIRM</li> <li>3. Agree procedures for maintenance of data and ensuring data remains in date</li> <li>4. Continue updates of asset data.</li> </ol>	
Processes	Prioritisation processes for key asset groups	Budget allocation process between key asset groups requires review and updating.	
Finance Practices	There is a need to review the cost coding structure to enable improved cost control and benchmarking.	Review and implement revised cost coding structure if required.	

<b>Theme</b>	<b>Status</b>	<b>Actions</b>	<b>Completion Date</b>
People	There is a need to provide training to some key field staff to support the implementation of preventative maintenance element of the carriageways strategy.	Arrange appropriate staff training on the carriageways strategy including surface dressing.	
Documents	The Highway Maintenance Plan needs updating, and a format for an annual status and options report needs agreeing.	<ol style="list-style-type: none"> <li>1. Review Highway Maintenance Plan to align with Transport Asset Management Plan strategy.</li> <li>2. Develop the annual status and options reports for key asset groups.</li> </ol>	
Data (5)	Once data is collected on footway condition, footway options will need to be considered.	On completion of the Footway Network Survey re-appraise the forecasting.	
Data (6)	Confidence in Street Lighting data is high – apart from cables for which it is low	Obtain accurate street lighting electrical supply cable information.	
Finance Practices	The cost of street lighting reactive repairs considerably overshadows the cost of planned maintenance.	Review the balance between reactive and planned maintenance within street lighting	

## 11. Management of the Plan

### 11.1 Responsibility for Delivery

The following people are charged with the delivery of this TAMP:

	<b>Main Council Position(s) Responsible</b>
TAMP Document	<ul style="list-style-type: none"> <li>- Highways, Technology and Transportation Scrutiny Committee</li> <li>- Executive Councillor for Highways and Transportation</li> <li>- Assistant Director Highways and Transportation</li> </ul>
TAMP implementation and practice improvements	<ul style="list-style-type: none"> <li>- Head of Highways – Client Services</li> <li>- Highways Asset and Laboratory Manager</li> </ul>
TAMP document updating and reporting	<ul style="list-style-type: none"> <li>- Highways Asset and Laboratory Manager</li> </ul>
Finance and Valuation	<ul style="list-style-type: none"> <li>- Highways Asset and Laboratory Manager</li> <li>- Head of Finance – Communities and Corporate</li> </ul>
TAMP Data	<ul style="list-style-type: none"> <li>- Highways Asset and Laboratory Manager</li> <li>- Highways Asset Management System Manager</li> </ul>
TAMP Risk	<ul style="list-style-type: none"> <li>- Highways Asset and Laboratory Manager</li> <li>- Corporate Audit and Strategic Risk Management</li> </ul>
Carriageway lifecycle plan	<ul style="list-style-type: none"> <li>- Head of Highways – North</li> <li>- Head of Highways – South</li> <li>- Head of Highways – West</li> <li>- Head of Highways – East</li> </ul>
Carriageway annual options report	<ul style="list-style-type: none"> <li>- Principal Engineer – Pavements</li> </ul>
Footway lifecycle plan	<ul style="list-style-type: none"> <li>- Head of Highways – North</li> <li>- Head of Highways – South</li> <li>- Head of Highways – West</li> <li>- Head of Highways – East</li> </ul>
Footway annual options report	<ul style="list-style-type: none"> <li>- Highways Asset and Laboratory Manager</li> </ul>
Street lighting lifecycle plan and annual options report	<ul style="list-style-type: none"> <li>- Principal Engineer – Street Lighting</li> </ul>

Structures lifecycle plan and annual options report	- Principal Engineer – Structures
Traffic signals lifecycle plan and annual options report	- Principal Engineer – Traffic Signals

### **Associated Documents & References**

The following documents are essential components of the Councils approach to transport asset management. They complement and support this plan.

- 1. 3<sup>rd</sup> Local Transport Plan**
- 2. Highway Maintenance Plan (HMP)**  
The HMP documents how the highway asset is managed. It records the policies and procedures used. It is the owner's manual and formalises the practices used to operate the highway network.
- 3. Winter Maintenance Plan (WMP)**  
The Winter Maintenance Plan documents how the winter service operates. It records the policies and procedures used and the sections of the network that will be treated.
- 4. Annual Status and Options Report**