

Final DRAFT – v3.0

Cardiff Council

Highway Asset Management Plan

2012 - 2015



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Document Control

Version Number/Date	Approved by Council
3.0 – February 2012	Executive Business Meeting – 16 th February 2012
Next Update Due	February 2015

Executive Summary

Context

This highway asset management plan (HAMP) is Cardiff Council's 2nd and covers the period 2012-2015. HAMP progress was last reported to the Council's Executive in December 2008. The government is encouraging councils to formalise their approach to highway asset management. This plan confirms the council's commitment to doing so.

Purpose

The HAMP will develop and formalise strategies for investment in highway assets over the plan period. It will develop affordable service standards and set out how improvements to how the highway asset is managed can be achieved, all with the aim of enabling a better value for money service to be delivered. It should be noted that the asset management plan alone will not deliver the benefits possible from improved highway asset management. **To realise these benefits a combination of data, processes, skills, resources, finance and information systems are required.** Consequently, an improvement action plan has been developed (see appendix D) which describes the activities being undertaken in order to further develop asset management planning within Cardiff.

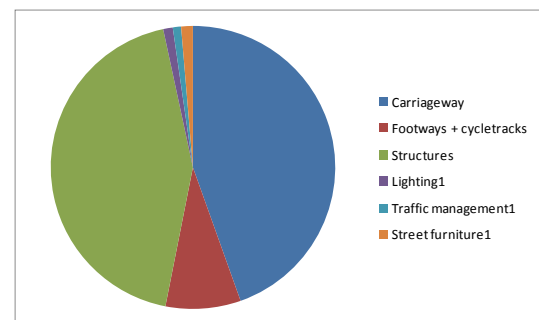
The Asset

Our highways are used by most people, most days providing critical access to services. An efficient highway asset, in an appropriate condition is the backbone of the local economy.

The asset comprises of:

- 1088km of carriageway
- 1,900km of footway
- 359 bridges
- 37,045 street lights

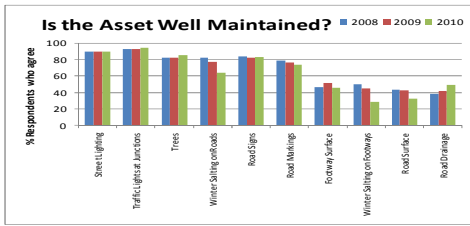
Plus various items of street furniture. It has a replacement cost valuation of £ 2.7bn



Demands

Demands on the highways continue to grow and include traffic growth that means that many roads carry levels of traffic they were not designed for and approximately 11,000 road openings each year causing disruption to travel and disturbance to the road structure. Recent harsh winters have also resulted in an increase in the number of defects and repairs and increased level of surface water ponding has been caused by more frequent and more extreme storm events.

Community Expectations



Customer surveys over the last 3 years indicate that footway and road surfaces are not felt to be as well maintained as other highway assets and that the level of satisfaction with these assets has also fallen over the last 3 years.

This information has been used together with day to day customer contact data to influence the strategies contained in this plan and in particular have led to the commitment to increase the funding allocated to carriageways and footways.

Demands

Increasing demands on the highway asset include:

- Traffic growth; many roads carry levels of traffic they were not designed to carry
- Utility activity; >11,000 road openings per year disrupting the structure of the road
- Recent harsh winters; causing a surge of defects that needed repair
- More frequent storms; causing an increased potential for surface water ponding/flooding/erosion.

Investment Strategy

****/**Subject to Approval of Budget setting in February 2012 Council and WG Highways Funding Terms and Conditions 2012-2015 for Cardiff***

The plan is based on the following investment strategy for carriageways and footways which:

- Current baseline funding of approx £4.6 m continues through and beyond the 2012 to 2015 investment period
- A Welsh Government prudential borrowing strategy totalling £14m* will be spent on the highway network over the investment period of 2012 to 2015.
- To achieve a steady state maintenance regime additional revenue of £2.3 m** will be built between 2012-2016 to achieve a base budget of £6.9M in parallel to the 3 year investment period is deemed essential to capture the medium to long term benefit of the capital injection.
- All future budget figures are subject to rises in inflation and annual budget reports to Council. In addition, material costs (i.e. Asphalt) are sensitive to fluctuations in oil prices which must be considered.

Introduction and Asset Description

1.1 Overview

Asset management is recognised as an appropriate way of managing highway assets. The Welsh Government actively encourages councils to develop asset management plans for their highway assets. The principle is also promoted by the 2005 Code of Practice for Highway Maintenance Management “Well Maintained Highways”.

This HAMP covers 2012 – 2015 and has been prepared by updating the first HAMP to take into account:

- Current financial constraints
- Recent national and regional developments in asset management
- Changes in local practice since Cardiff's first HAMP was published
- On-going CSS Wales work to develop highway asset management in Wales

1.2 Purpose

The purpose of the HAMP is to:

- Define working practices to embed asset management planning into the highway service
- Formalise strategies for investment in highway assets
- Define affordable service standards
- Improve how the highway asset is managed,
- To enable a better value for money service to be delivered

1.3 Links to Other Plans

The linkage between the HAMP and other Council plans/ strategy documents is shown below:

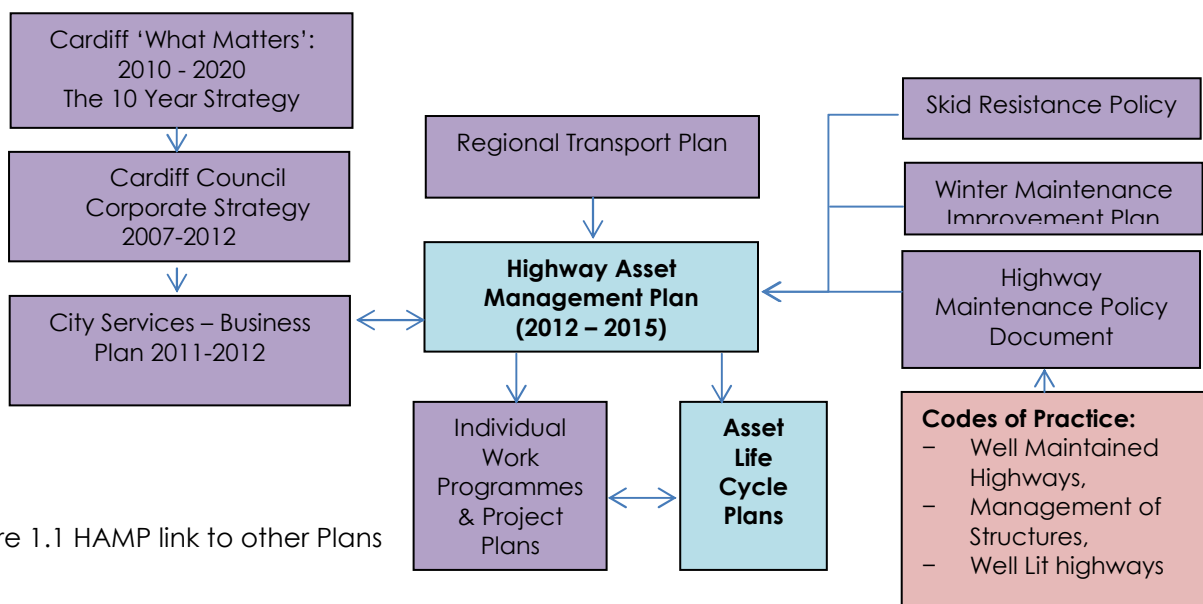


Figure 1.1 HAMP link to other Plans

1.4 Development of Life Cycle Plans

A lifecycle plan (LCP) will be created for each major asset group documenting how the asset group is managed. It provides a definition of the standards that are applied to the asset group in question and details the processes that are used to ensure that the standards are delivered. Production and updating of the lifecycle plans also captures local knowledge of key staff. Life cycle plans will be developed for major asset groups in 2012/13

1.5 Asset Description

A comprehensive asset data collection exercise has been undertaken in order to understand the composition of the highway asset, results of which can be seen below. This information will be used to inform the lifecycle planning process discussed above.

Asset Group	Element	Quantity	Data Confidence	To be Included in;
Carriageway	Including lay-bys, bus lanes etc.	1,088 km	Medium	C/way LCP
Footway	Adjacent to carriageway	1,900 km	Low	F/way LCP
Footpath	Remote from c/way (surfaced ROWs)	200 km	Low	
Cycleway	On c/ways; shared with f/ways; remote from c/ways	103 km	Medium	
Structures	Bridge	359 No	Medium	Structures LCP
	Footbridge	23 No	Medium	
	Culvert > 0.9m < 1.5m	1,604 m	High	
	Retaining Wall	5122m	Low	
	Underpass / Subway	1,028m	High	
Street Lighting	Lighting columns	37,045	Medium	Lighting LCP
	Illuminated Signs and Posts	5,083 No	Medium	
	Illuminated Bollards	437	Medium	
Traffic Signals	Signalised junctions – <i>under City Management control</i>	196	High	Traffic Signal LCP
	Signalised pedestrian crossings – <i>under City Management control</i>	115	High	
Safety Fences	Vehicle safety fences	68,000 m	Medium	Street Furniture LCP
Non illuminated Signs	Warning, Regulatory and local direction/information signs/posts	23,000 No	Medium	Signs & Road Markings LCP
Drainage	Gullies, piped drains, watercourses, roadside ditches, swales, etc.	Gullies TBA - Remainder unknown	Low	Drainage LCP
Traffic Calming	Including Tables, Humps, Chicanes etc.	TBA	TBA	TBA
Road Marking	All road markings	900 km	Medium	Signs & Road Markings LCP
Verges and Planted Areas	Verges, soft landscaped areas – <i>under Parks Services control</i>	TBA	TBA	TBA
Rights of Way	Public Rights of Way	180km	Medium	Rights of

Asset Group	Element	Quantity	Data Confidence	To be Included in;
				Way LCP
Street Furniture	Bollards	22,000 No	Medium	Street Furniture LCP
	Pedestrian Guardrail	20,000 m	Medium	
	Street Name Plates	8,815 No	Medium	
	Bins – <i>under Waste Management control</i>	3,000 No	Low	
	Trees – <i>under Parks Services control</i>	12,000 No	Medium	
	Grit bins	400	Medium	
	Cattle grids	3	Medium	
	Seating	411 No	Low	
	Weather Stations	7 No	High	
	Bus Shelters – <i>under City Management control</i>	1,419 No	Medium	

The level of data confidence represents a combination of 'extent', the amount of data available and the 'accuracy' of that data. Appendix D show the actions planned to improve asset data

1.6 Assets Not Covered by this Plan

Highway related assets that the Highways Maintenance Service does not maintain and are the responsibility of other council departments and are not covered in this HAMP are as follows:

- Council Car parks
- Footways and footpaths in council housing estates

1.7 Asset Management Responsibilities

The table below illustrates how the ongoing development and implementation of this plan (HAMP) is the responsibility of a number of individuals within the Council. It is important to remember that the integration of Asset Management principles into the day to day running of service will be a key measure of success. As discussed earlier a significant factor in achieving this will be the development of lifecycle planning in all asset groups.

HAMP Area	Main Council Position(s) Responsible
HAMP Document Approval	<ul style="list-style-type: none"> - Council's Executive - Elected Member (portfolio holder) responsible for Highways - Chief Officer City Services
HAMP implementation and practice improvements	<ul style="list-style-type: none"> - Chief Officer City Services - Asset Manager (Highways)

	- Operational Managers (Highways)
HAMP document updating and reporting	- Asset Manager (Highways)
Finance and Valuation	- Asset Manager (Highways) - Council Finance Section - Asset Owners (all)
HAMP Data	- Asset Manager (Highways) - Asset Owners (all) - Highways UKPMS / data section - Council GIS section
HAMP Risk	- Asset Manager (Highways) - Asset Owners (all) - Councils Corp Risk section
Carriageway lifecycle plan	- Asset Owner – Carriageways
Footway lifecycle plan	- Asset Owner – Footways
Street lighting lifecycle plan	- Asset Owner – Street Lighting
Structures lifecycle plan	- Asset Owner – Highway Structures
Traffic signals lifecycle plan	- Asset Owner – Traffic Signals
Street furniture lifecycle plan	- Asset Owner – Street Furniture
Signs & Road Markings lifecycle plan	- Asset Owner - Signs & Road Markings
Drainage lifecycle plan	- Asset Owner - Drainage
Rights of Way lifecycle plan	- Asset Owner – Rights of Way

1.8 Council Strategic and HAMP Objectives:

The Council's current objectives for the highway asset as outlined in the corporate plans noted above have been summarised in the figure below:

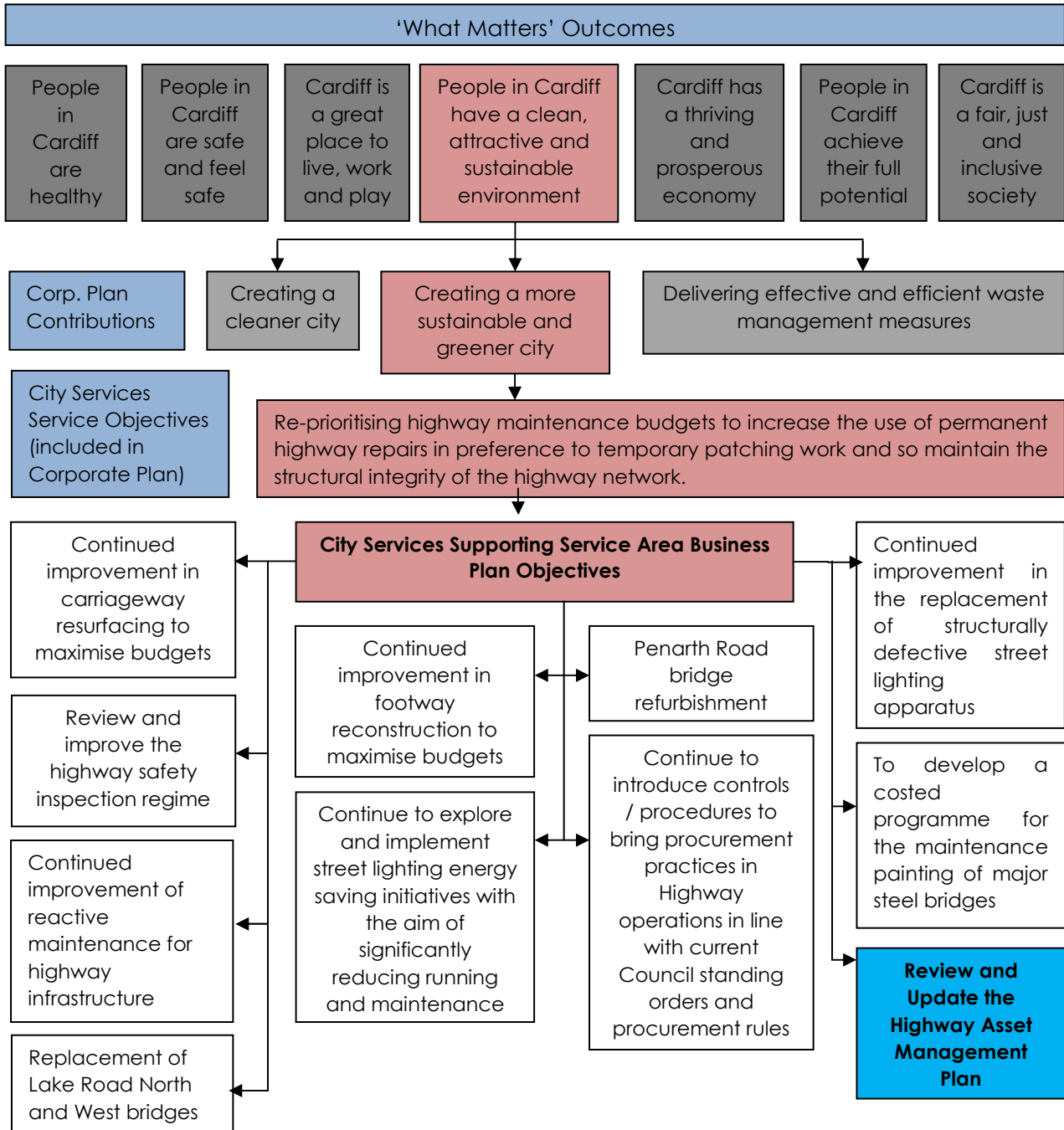


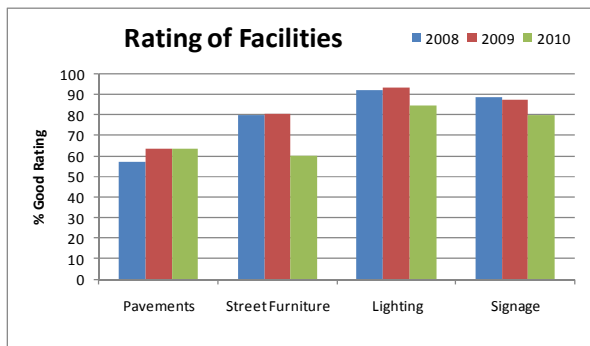
Figure 1.2 Council Objectives for the Highway Asset

2. Community Requirements

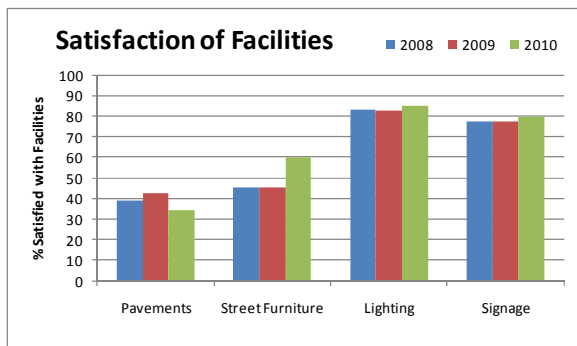
A range of information is used to identify community requirements for the highway asset including customer surveys, member feedback and data from customer contacts.

2.1 Customer Consultation

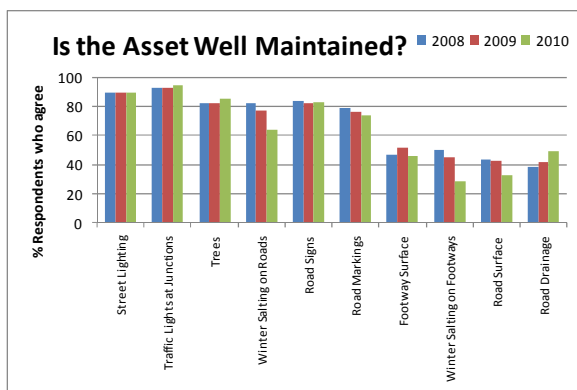
An annual customer consultation, The 'Ask Cardiff' survey, is used to obtain information on the level of satisfaction with highway assets. The survey uses a large and representative sample of residents with the results then extrapolated to represent the whole population. The survey has been completed annually since 2008. The questions are the same each year which allows comparisons to be made over time. Relevant results for 2008 to 2010 are shown below.



Rating given to pavement lags behind the other asset types.



Satisfaction with pavements is comparatively low and has decreased over the least 3 years.



Opinion on if the asset is well maintained shows a comparatively low level of satisfaction with footway and road surfaces.

Overall the results indicate that the pavements are a source of dissatisfaction for many users.

2.2 Customer Contact

A summary of contacts received by the Council in relation to its highways is shown below:

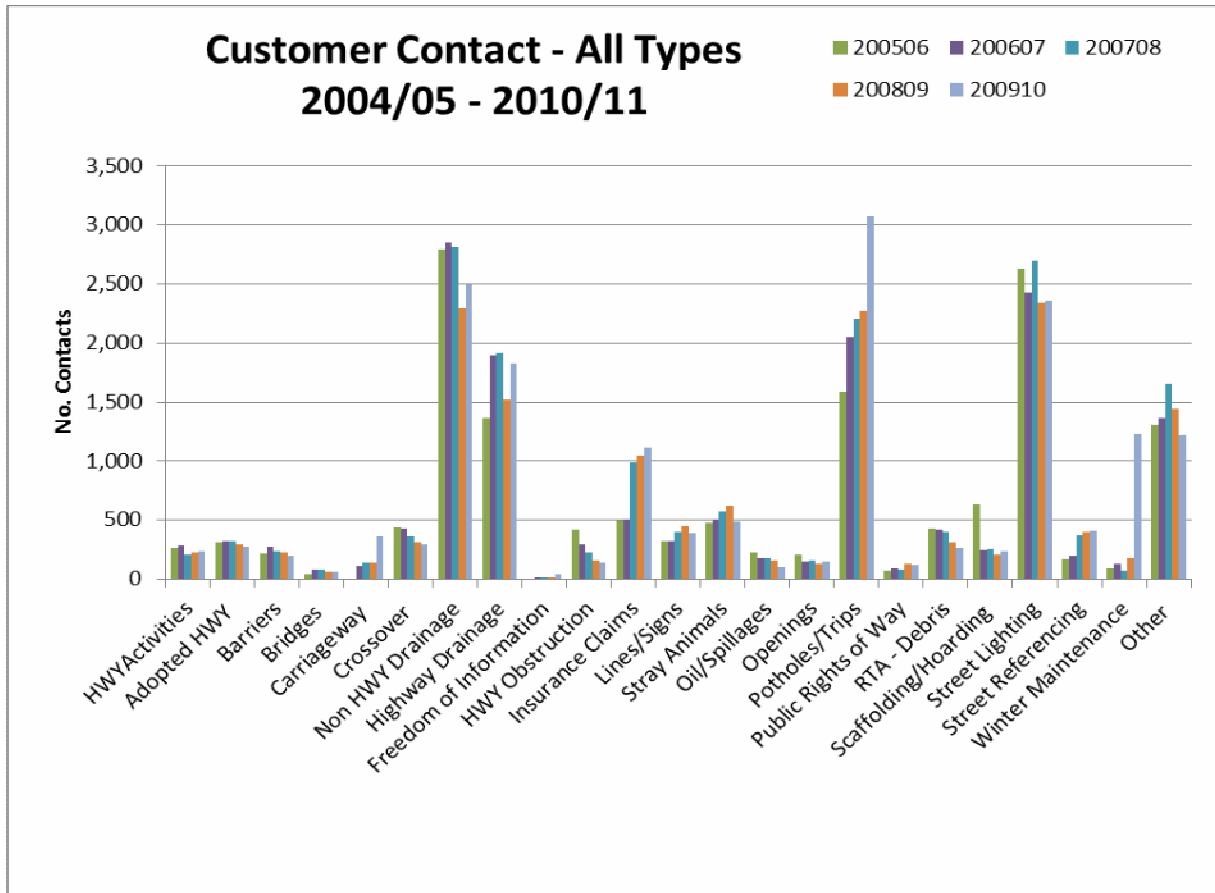


Figure 3.4: C2C Output for Highway Service

“Other” includes community alarms, weather warnings, general correspondence, and out of hour’s calls passed onto other service areas.

A significant amount of customer contact is generated in respect of drainage, potholes and trips and street lighting. The number of contacts regarding potholes and trips has increased markedly over the last 4 years.

In addition to the figures illustrated above, the Council processes over 10,000 RASWA notices per annum (notices for organisation wishing to undertake works on the highway) and more than 5,000 applications for skips and containers.

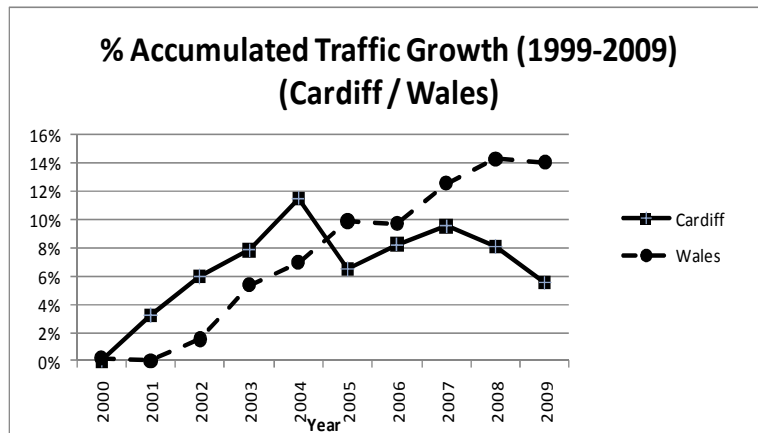
3. Future Demands

3.1 Asset Growth

New assets continue to be added 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 the development of traffic safety schemes and bus lanes etc. Over the last 6 years the asset has grown by 2.1km (0.2%).

3.2 Traffic Growth and Composition



Traffic on the network has grown over the last 10 years as illustrated here.

Traffic growth has meant that a number of roads are now carrying levels of traffic that they were not designed to carry. This creates an increasing need for maintenance.

Figure 4.1: % Accumulated Traffic Growth (1999-2009)

<http://www.dft.gov.uk/pgr/statistics/datatablespublications/roads/traffic/annual-volm/tra8903.xls>

In addition to growth in traffic volumes some specific routes, for example Rover Way, have experienced very significant growth in use by heavy vehicles accelerating the rate of deterioration. It is proposed that future updates of this plan will illustrate these routes separately and identify the plans that should be made to ensure that they can be maintained in a serviceable state.

3.3 Utility Activity

The network experiences a high level of statutory undertaker /utility company activity. Over the last three years approx. 40,000 utility sites have been opened across the authority. The openings typically involve trenching underground services under the carriageway, footway or verge and can have an adverse effect on the structural and surface condition of the assets affected, even when the utility has reinstated the surface to the required standard.

Whilst data is held on the openings it is not in a format currently that allows ready identification of the number and size of openings on each section of the asset. It is thus difficult to confirm whether asset condition has deteriorated significantly due to the extent of openings and whether consideration of this affect should influence future programming and investment strategies. It is believed from observation, reinstatement concerns that the level of utility activity is an influence upon the condition of the road network and in particular upon customer perception.

3.4 Climate Change

Recent years has seen an increased number of more extreme weather events. The result has been an increased incidence and severity of surface water ponding and flooding. Drainage related customer contacts as shown in section 3 are significant (> 1,500 pa) and are increasing. Future updates of this plan will provide detail on how these risks are being addressed and what actions are required in terms of the maintenance of highway drainage assets in particular.

As a result of the Flood & Water Management Act 2010, Cardiff Council is identified as a Lead Local Flood Authority. This means the Council must produce a Local Flood Management Strategy in 2012/13. The outcomes of this strategy will input into the preparation of the life Cycle Plans which will be prepared for this HAMP.

4. Investment Strategies

The production of Lifecycle Plans for each major asset groups will provide management information that is necessary to develop investment strategies for each group. An outline investment strategy for the carriageway and footway assets is enclosed in Appendices C and D respectively. Additional Appendices will be added to this HAMP (Appendices E onwards) as the various Life Cycle Plans and associated investment strategies are prepared.

5. Levels of Service

The production of Lifecycle Plans for each major asset groups will provide management information that is necessary to develop levels of service for each group. This information will be included in the relevant Life Cycle Plan for each asset group.

6. Financial Summary

6.1 Asset Valuation

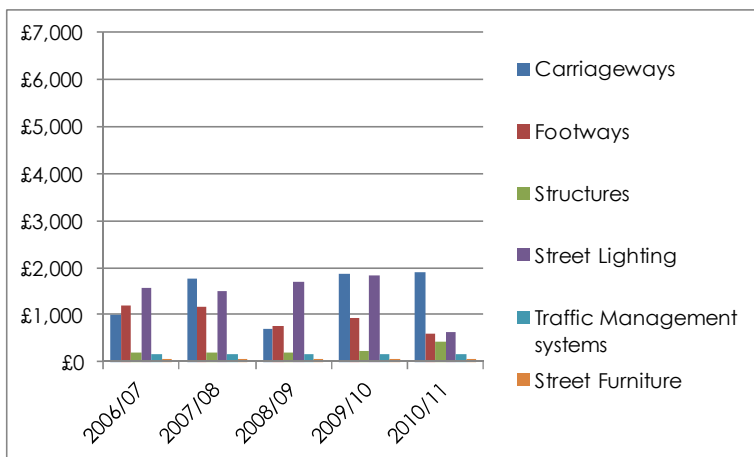
As at September 2011 the highway asset in Cardiff Council is valued as follows:

Cardiff Council Highway Asset Valuation (Estimated) as at: September 2011			
Asset Type	Gross Replacement Cost (GRC) (£000's)	Depreciated Replacement Cost (DRC) (£000's)	Annualised Depreciation (AD)
Carriageways	£1,201,898	£1,108,080	Not currently available*
Footways & Cycleways	£230,530	£135,975	
Structures	£1,173,983	Not currently available*	
Street Lighting	£42,404	£23,253	
Traffic Signals	£25,000	Not currently available*	
Street Furniture	£36,184	£17,684	
Total	£2,709,999	£ 1,284,992	

(*NB full highway asset valuation (first dry-run) not required until 2011/12 financial year)

Future updates of this plan will include a prediction of the affect on the value of the asset of the investment planned.

6.2 Historical Expenditure



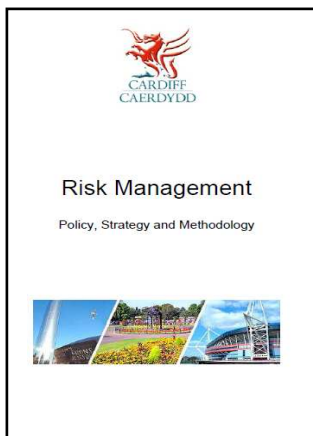
Costs shown in £000's

The historical expenditure invested in the highway asset over the last five years is shown by asset type.

7. Risk Management

7.1 Corporate Risk Management Strategy

Managing risk is an integral part of the management of the highway asset. All activities from the identification and repair of defects to the prioritisation of maintenance and the establishment of budgets have risks associated with them.



The application of risk management to all of the council's activities is an objective of the council, documented in "Cardiff Council's Risk Management - Policy, Strategy and Methodology".

The general risk management process adopted by CC in this document is based on the risk management cycle of:

- Risk Identification
- Risk Analysis
- Risk Control
- Risk Monitoring

7.2 Highway Asset Risk Management (HARMM)

To implement the council's risk management methodology across its highway asset, the Highways Maintenance Service is developing a set of procedures contained in a highway asset risk management manual (HARMM). Hazard identification and control is a key procedure included in the HARMM. This led to the creation of a set of asset specific hazard registers, which are still in a draft development stage and require further review and eventually adoption by the council.

8. Asset Management Planning

Asset management planning for highways in Cardiff will comprise the following:

8.1 Lifecycle Plans

As discussed earlier, a Lifecycle Plan (LCP) will be created for each major asset group documenting how the asset group is managed. Appendix A shows the contents required for each LCP. As identified earlier, LCP's for each of the major highway assets will be developed in 2012/13. It should be noted that this approach is followed in order to embed asset management principles into the day to day management of the service.

8.2 Annual Status Reports

In order to document progress and understand HAMP developments an annual status report will be prepared for each asset group. The report will detail what has been spent on the asset in the preceding year and what it has achieved. Where targets have been set statistics will be provided detailing actual performance against the targets for the year. The reports will include a suite of performance indicators developed by the County Surveyors Society (Wales) (CSS).

8.3 Investment Options Report

The status reports, together with other relevant data, will be used to update predictions of long term condition. They will be used to present the options available for the future to inform decisions on how much should be invested should be made in each asset type and what service standards can be afforded. The investment options report will be available to assist with the annual budget setting process.

8.4 Investment Strategies and Annual Programmes of Works

When the Council approves each annual budget for the year, the investment strategies in the HAMP will be updated. Programmes of works are developed to support the strategies and subsequently delivered.

8.5 Improving Value for Money

An improvement action programme will be compiled each year identifying where improvements to practices could enable better value to be delivered. Each will be supported with a business case.

8.6 Developing Asset Management Capability

The asset management plan alone will not deliver the benefits possible from improved highway asset management. To realise these benefits a combination of data, processes, skills, resources, finance and information systems are required. Collectively these are the Council's capability in the application of highway asset management as a practice. As discussed in 8.1 above, the development of Life Cycle Plans will provide a key component that will embed Asset Management Principles as business as usual within the service.

As part of a national project organised by CSS Wales, to aid councils to develop and improve their asset management planning capabilities a practice assessment was undertaken (in early 2011). The results show that the Council has strong practices and capabilities in some areas but there is a need to improve asset data, utilisation of asset management systems, ICT data management systems, mobile technology and financial cost recording, analysis and reporting.

The practice assessment results have been used to inform the specific improvement actions included in the improvement action plan included in the appendices. The delivery of these actions is an essential component of this plan.

9. Management & Control of the Plan

9.1 Review and Update

It is anticipated that the review and updating cycles for each part of the plan will be as follows:

- a. This HAMP will cover the period 2012 – 2015. The initial plan will be updated annually for the first 3 years after which the plans will be developed to an extent that the updating frequency may be reviewed and potential extended to a 3 year cycle.
- b. The Appendices which will hold the major asset lifecycle plans will be “living” documents. They will be updated as their contents demand them to be changed. This will typically be annually, quarterly or monthly. Updating will be linked to the management processes introduced to manage the implementation of the plan.
- c. Improvement Action / Implementation Plan: it is anticipated that the implementation plan will have a duration that mirrors the implementation plan i.e. it will contain proposals that will target the embedding of highway asset management practice within Cardiff Council. The requirements of the Improvement Plan are set out in Appendix B.

Appendix A: Lifecycle Plan Contents

Lifecycle plans are living documents, updated as information is gathered and analysed for each asset group. A fully populated LCP will contain the following information:

Section	Answers	Contains
The Asset	What assets do the council own?	<ul style="list-style-type: none"> • Inventory details (type size, etc.) • Asset growth statistics
Service Expectations	What is each asset group required to do?	<ul style="list-style-type: none"> • Customer expectations • Council objectives • Safety considerations, • Specific user requirements • Environmental, Network availability and Amenity considerations
Management Practices	How is this asset group managed?	<ul style="list-style-type: none"> • Policies • Inspection / Condition Assessment • Standards for Reactive; Routine; Cyclic and Planned Maintenance • Details for Asset Acquisition / Disposal
Investment	How much should be and is spent on this asset group?	<ul style="list-style-type: none"> • Historical Investment and output • Forecast Financial Needs • Valuation: GRC, DRC & ADC
Works Programme	How are works programmed for this asset group?	<ul style="list-style-type: none"> • Existing forward works programmes (FWP) and coordination • Option appraisal / treatment selection at a project and budget cat level
Risk	What are the risks associated with this asset group?	<ul style="list-style-type: none"> • Risk identification, assessment, recording and reporting • Summary of Major asset risks
Works and Service Delivery	How are works delivered or procured on this asset group?	
Performance Measurement	How is the performance of this asset group measured and managed?	<ul style="list-style-type: none"> • Performance indicators • Current performance figures • Target performance figures
Strategies	What strategies are there for the future management of this asset group?	
Service Improvement actions	What would improve the council's management of this asset group?	<ul style="list-style-type: none"> • Asset specific improvement actions

Appendix B: - Improvement Action Plan

An Improvement Action Plan (IAP) has been created to support this plan and is summarised below:

HAMP Section	IAP Ref	Improvement Action	Target Date	Responsibility
Future Demands	1.0	Better recording of utility openings requested, specifically; location (geo ref); asset affected and extent of works	Ongoing	City Management SA
	1.1	Inspection and Enforcement of utility and contracted works opening reinstatements for all works to improve control and standards reducing demand long term	April 2012	Asset Owner
AM Planning	2.1	Data; Collection of footway condition, (& other supporting) data and confirmation of surface type. Asset owners must utilise and develop recent "Yotta" asset survey data	April 2013	AG & Asset Owners
	2.2	People: Asset Owners and teams to embrace asset management principles through the lifecycle planning process	Ongoing complete by April 2013	Asset Owners
	2.3	Process; Current weakness are financial management: <ul style="list-style-type: none"> - Funding allocation between asset groups - Financial option appraisal - Prediction of long term funding needs 	Start April 2012 & Complete by April 2013	AG/NB & Asset Owners
	2.4	Information Systems: Under-utilisation of the council's AM systems for works prioritisation and financial reporting. Some current limitations in Mayrise software which must be addressed and developed	Start April 2012 & Complete by April 2013	AG/NB & Asset Owners
	2.5	Financial Practices: <ul style="list-style-type: none"> - Cost recording/reporting at an asset level - Analysis undertaken of historical cost by work categories/types - Unit costs being benchmarked against peer authorities 	Start April 2012 & Complete by April 2013	AG/NB & Asset Owners
Levels of Service	3	Review and update asset performance indicator list and define service standards and targets for all main asset groups	Start April 2012 & Complete by April 2013	AG/NB & Asset Owners

Finance	4	Complete full DRC asset valuation for key highway assets during 2011/12	April 2013	AG & Asset Owners
Risk	5	Review, update and adopt asset hazard registers through HARMM. Highlight and report on key asset risks	Follows completion of Life Cycle Plans	AG
Asset Investment Options Report	6	Improve the recording and analysis of highway defects and reactive maintenance costs, specifically in regard to location (geo ref) and asset(s) affected. Similarly for 3 rd party claims and cost data	Start April 2012 & Complete by April 2013	AG/NB & Asset Owners
C/way LCP	7.1	Development of the carriageway LCP	Ongoing Complete by April 2013	Asset Owners
F/way LCP	7.2	Development of the footway LCP	Ongoing Complete by April 2013	Asset Owners
Lighting LCP	7.3	Development of the street lighting LCP	Ongoing Complete by April 2013	Asset Owners
Structures LCP	7.4	Development of the structures LCP	Ongoing Complete by April 2013	Asset Owners
Street Furniture LCP	7.5	Development of the street furniture LCP	Ongoing Complete by April 2013	Asset Owners
Traffic Signs and Road Markings LCP	7.6	Development of the street traffic signs and road markings LCP	Ongoing Complete by April 2013	Asset Owners
Drainage LCP	7.7	Development of the drainage LCP	Ongoing Complete by April 2013	Asset Owners
Rights of Way LCP	7.8	Update and integration of the rights of way LCP into the HAMP	Ongoing Complete by April 2013	Asset Owners

Appendix C: - Carriageway Proposals (to be replaced with Carriageway Lifecycle Plan in future)

A revised approach to the identification of priority carriageway schemes for investment has been developed for the 2012/13 carriageway reconstruction programme. It has been based on the following principles:

The Survey Process

The selection of areas of carriageway to be included in the capital reconstruction programme for 2012-13 is based on the following survey methods:

- Annual Engineering Inspection (AEI)
- Detailed Visual Inspection (DVI)
- SCANNER survey

Generating a Priority List

As discussed above the survey data from both DVI and SCANNER are input into the MARCHpms system and the resulting processed data forms the basis of the capital reconstruction priority list. However, other considerations are taken into account in the final preparation of the list, these include:

- Observations from the Council's safety inspectors
- Public considerations including complaints and requests
- Member considerations – it is anticipated that members will be asked to put forward 5 streets that they or their constituents consider to be in poor repair and should be included in the DVI survey annually. These streets will be surveyed and inform the decision making process. However, inclusion in the priority list will still be based on overall rank order of condition.
- Skid resistance information (with consideration of accident data)
- Cycle network considerations

The above further inform the selection process which will generate the priority list. However, before completion, the areas identified for reconstruction will undergo an inspection by maintenance engineers to ensure the list is consistent and robust.

Carriageway and Footway Total Investment Options

Carriageway & Footway Combined Model (16.02.12)

The model is predicated on WG delivering funding to deliver short-term highways gains

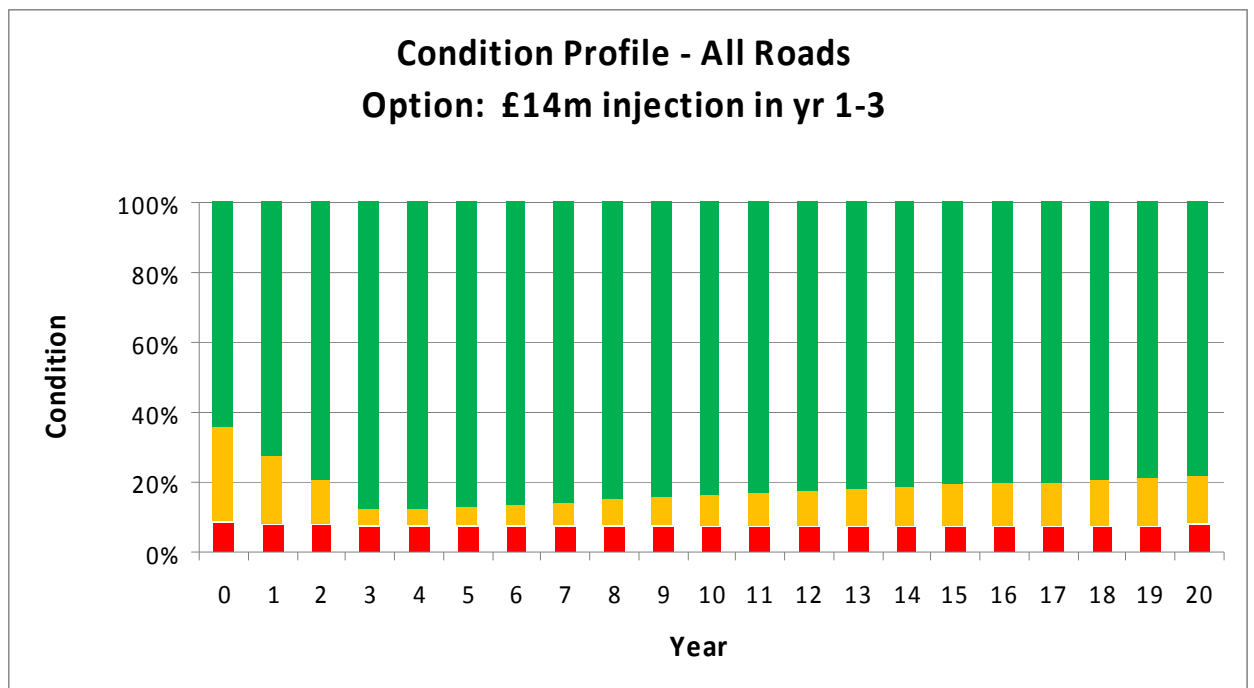
	2012/13	2013/14	2014/15	2015/16	2016/17
	£000	£000	£000	£000	£000
revenue base	2990	2990	2990	2990	2990
1 insurance assumed	250	250	250	250	250
2 environmental improvements	100	100	100	100	100
2 capital base	1260	1260	1260	1260	1260
Total base	4600	4600	4600	4600	4600
highways steady state	1200	1200	1200	1200	1200
footways steady state	1100	1100	1100	1100	1100
3 steady state target	6900	6900	6900	6900	6900
4 additional capital				750	750
5 extra revenue 12/13	400	400	400	400	400
5 extra revenue 13/14		450	450	450	450
5 extra revenue 14/15			400	400	400
5 extra revenue 15/16				200	200
5 extra revenue 16/17					100
investment	400	850	1250	2200	2300
resources available (total base + investment)	5000	5450	5850	6800	6900
6 WG Supported borrowing	4000	5000	5000		
7 Total Investment	9000	10450	10850	6800	6900

(Draft Subject
to approval)

(Draft
Subject
to approval)

Predicted Carriageway Condition

The graph below illustrates how the condition of the carriageway is predicted to change following the investment strategy identified above **without** the additional funding required to achieve a 'steady state' condition. The red areas indicate the estimated percentage of highways in worst condition with yellow showing the estimated percentage of highways requiring some maintenance. However, **with** the additional funding (£662k) provided to maintain a steady state from year 4 onwards, instead of the amount of carriageway requiring maintenance rising (i.e. the areas of red and yellow), it is predicted the levels as shown for year 3 will be maintained.



Carriageway Levels of Service

This information will be fully populated in future revisions following the development of the lifecycle plans in 2012/13.

Carriageways		Actual 2010/11	Target 2011/12
Completion of Cat 1 defects within specified response time: - A Roads : 24 hours - B & C Roads : 24 hours - U Roads : 24 hours		95.36%	95%
Completion of Cat 2 defects within specified response time of 21 days:		48.13%	75%
Measured Condition			
Principal - A Class Roads	Red	9.18%	TBA
	Amber	TBA	TBA
Non Principal B Class Roads	Red	14.98%	TBA
	Amber	TBA	TBA
Non Principal C Class Roads	Red	14.98%	TBA
	Amber	TBA	TBA
Unclassified Roads	Red	NA	TBA
	Amber	NA	TBA

Appendix D: -Footway Proposals (to be replaced with Footway Lifecycle Plan in future)

It is proposed that a revised approach to the identification of priority footway schemes for investment, will be developed during 2012/13 in order to inform the 2013/14 footway reconstruction programme. It will be based on the principles already adopted for the generation of the carriageway programme. i.e. a coarse evaluation of condition will be undertaken on the entire footway network in order to identify those areas in the poorest condition that will receive a more time consuming detailed inspection from which a investment priority list can be generated.

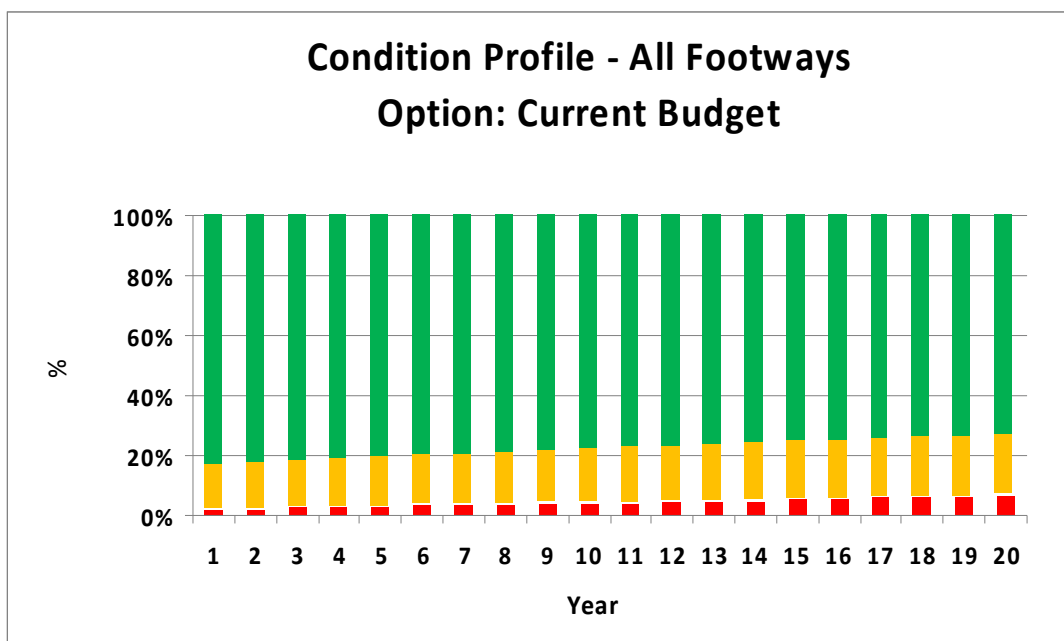
The current process of scheme identification relies on local knowledge, engineering judgement and records from footway safety inspections and the associated repair work.

Proposed Footway Investment

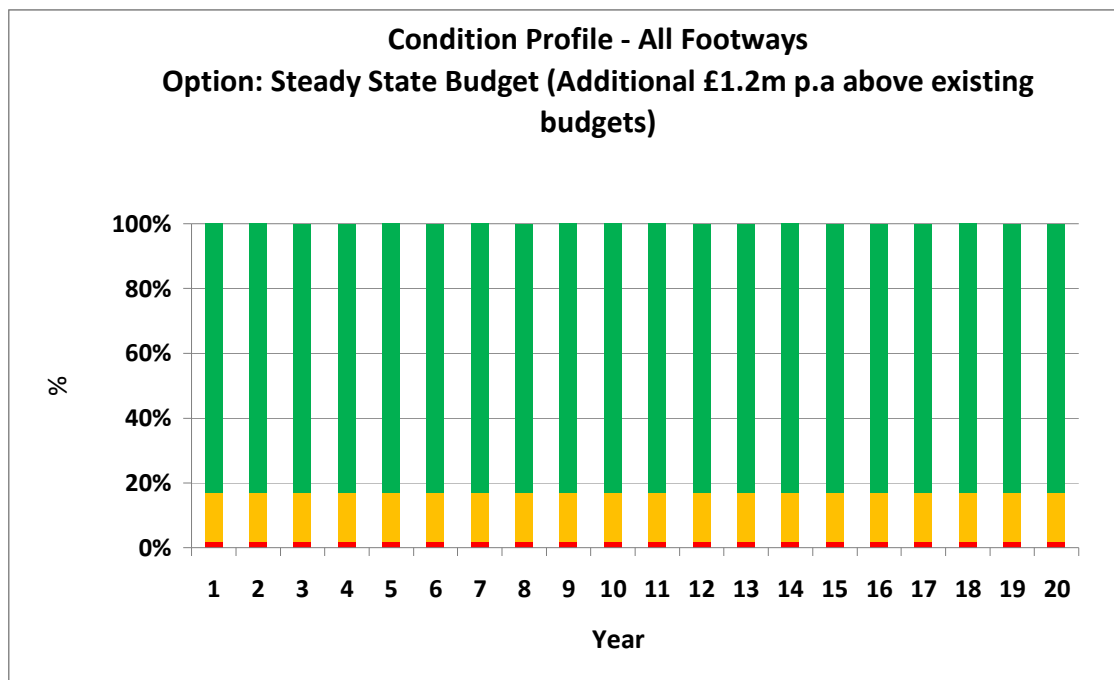
The funding for investment in the footway is included within Appendix C. The apportionment between highway and footway investment needs to be confirmed.

Predicted Footway Condition

The graph below illustrates how the condition of the Footway will steadily deteriorate if existing funding levels are maintained. The red areas indicate the estimated percentage of highways in worst condition with yellow showing the estimated percentage of highways requiring some maintenance.



The graph below illustrates how the condition of the carriageway will react to a steady state maintenance regime. It can be seen, as expected, the condition of all 3 bands remains the same neither improving nor deteriorating. The value of this additional investment is estimated at £1.2m .



Footway Levels of Service

This information will be fully populated in future revisions following the development of the lifecycle plans in 2012/13.

Footways		Actual 2010/11	Target 2011/12
Completion of Cat 1 defects within specified response time:		97.27%	95%
Completion of Cat 2 defects within specified response time of 21 days		48.13%	75%
Footway Measured Condition	Red	NA	NA
	Amber	NA	NA

Appendix E onwards: -

(To contain Lifecycle Plans for all major asset groups that will be developed in 2012/13)

These asset groups include:

- Street lighting
- Highway Structures
- Street Furniture
- Traffic Signs and Road markings
- Drainage
- Public Rights of Way