Highway Infrastructure Asset

Management Plan

2016

Calderdale Council

Ver 3 Jan 2019

Record of Amendments

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Author	Richard Mills Highway Asset Manager Regeneration and Strategy
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Amendments			
Number	Date	By	Amendment
1	8/01/2018	R. Mills	Job Titles, Performance Measures updated, Programmes of work removed
2	11/01/2019	R Mills	Appendix 2 Performance measures updated Table 4 , data refresh comment removed incentive fund level included Table 3, Capital Investment updated to March 2018 Performance measure for gully cleansing changed to "% of road gullies cleaned on 6 and 12 monthly rota on time" Appendix 2 Service Level targets highlighted in purple

Foreword

I am pleased to be able to present Calderdale Metropolitan Borough Council's first Highway Infrastructure Asset Management Plan (HIAMP). This records the strategies and practices that we have adopted in order to ensure that we maintain an efficient and effective highway network.

If you live, work, or simply pass through Calderdale, you will use the highway network. This is the single most valuable asset for which we are responsible. However we travel, whether on foot, by bike, via public and /or personal transport we all use the highway network.

This document demonstrates how Calderdale Metropolitan Borough Council will prioritise and maintain the improvement and maintenance of highway asset in order to deliver the most cost effective management of the network whilst working within strict financial limits. It also details the framework within which Highway Maintenance is carried out and as such is intended be a living document through which Elected Members, officers of the Council and other interested parties including the road using public can monitor our progress.

Calderdale Council's HIAMP will become the key driver for the delivery of an efficient and sustainable highway service. It will support the development of a smarter and more flexible working approach that acknowledges the need to do more for less and it aim to maximise inward investment and the regeneration of the Borough as a whole.

As the Portfolio Holder for Regeneration and Economic Development I fully support this document and its approach.

Councillor Barry Collins

Cabinet Member for Regeneration and Strategy

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Section 1 – Background and Context

Responsibility for the Highway Network

1.1. The responsibility for managing and maintaining the Public Highway in a safe and commodious manner is a duty imposed upon Calderdale Metropolitan Borough Council by Parliament. Within Calderdale that duty is delegated to the Director for Regeneration & Strategy who exercises his responsibility through the Highways & Transportation Team. The Cabinet Member for Regeneration and Strategy oversees the effective use of resources.

What are highway assets?

1.2. Key assets covered by this plan include:

- Roads
- Footways
- Highway structures, such as bridges, retaining walls
- Street lighting
- Public rights of way
- Highway drainage
- Traffic signs and signals

What is Highway Asset Management?

1.3. Highway asset management is used to ensure strategic and cost effective management of the Public Highway. It involves the gathering of condition data to enable monies to be targeted at those areas of most need and it also ensures that best value is achieved through the combination of capital improvements, planned maintenance and reactive and responsive maintenance.

1.4. As well as enabling the most effective and efficient use of resources it also ensures that the network:

- Fulfils all our legal obligations,
- Delivers the best outcomes for our stakeholders, and
- Is safe and fit for purpose.

The Value of Calderdale's Highway Asset

1.5. The highway network is the Council's largest and most valuable asset with a current gross replacement cost of £2·682 billion (2015 value) excluding land costs. The breakdown of these costs are shown in Table 1 below:

Asset	Length, Km	Number	Outstanding Works Costs (£ million)	Gross Replacement Cost, Whole of Government Accounts (£ billion)
PRoW	1,150		2	Not Valued for Whole of Government Accounts
Bridleways	200		0.5	
PRoW Bridges		111	6	
A Roads	149		3.5	1·174
B Roads	36		1.5	
C Roads	84		3.5	
Uncl Roads	861		56	
Gullies		38,904		
Footways	1,093		6.5	0·143
Highway Bridges		283	22	1·243
Culverts		60	7	
Walls	730		330	
Street Lights		30,861	22	0·51
Street Signs		20,000	2	
Crash Barrier		33	0.5	0·66
Traffic Signal Installations		107		0·05
		Total value	**£463 million**	**£2·682 billion**

Table 1. The Value of The Highway Asset Within Calderdale.

How the Highway Asset Contributes to Calderdale's Corporate Priorities

1.6. As shown above, the highway network is the Council's largest and most valuable asset. It provides access to jobs, services, schools and healthcare. It enables the delivery of materials and goods throughout the borough and allows us to access leisure facilities and our unique countryside and heritage. Our local roads are the heart of the transport network and as such they are inextricably linked to the Borough's corporate vision and ambition.

Figure 1. Corporate Priorities Within Calderdale.

1.7. Effective highway asset management will actively support the delivery of the Council's corporate priorities in the following ways:

Growing The Economy

1.8. The highway asset will be maintained in such a way so as to ensure that journeys to, from and within Calderdale are "safe and commodious". We recognise the vital role that transport has to play in Calderdale's economic vibrancy and vitality and will endeavour to maintain access to education, employment, healthcare and rural services, as well as widen travel choice through public transport, supported by reliable and safe journeys on our highway network. The network itself will be maintained to the highest possible standards in order to ensure that economic investment is not dissuaded.

Reducing Inequalities

1.9. Each Highway Asset will meet both stakeholder expectation and need. Customer feedback and satisfaction surveys will be at the heart of any future decision making processes. Calderdale Council will use the customer feedback surveys from its own "e-panel", the West Yorkshire Combined Authority "Tracker Survey" and the National Highways & Transport (NHT) "customer feedback survey" to create a better understanding of the aspirations and needs of all our stakeholders.

1.10. Our first priority will be to provide a safe, well managed and more resilient highway network for all who use it. We will work closely with our stakeholders to understand the current and future requirements for the highway infrastructure.

Building a Sustainable Future

1.11. We will reduce our environmental impact by reducing our carbon footprint, increasing recycling by reusing materials wherever possible, and reducing our street lighting energy consumption.

Excellence in Performance and Value for Money.

1.12. Our investment in the highway will be governed through effective asset management. This will ensure greater value for money and provide a long term view on today's investment decisions. This will ensure that the right investment decisions are made to support both the wider economy and the residents of Calderdale.

Overall Hierarchy of Asset Management within West Yorkshire

1.13. The constituent councils of the West Yorkshire Combined Authority (WYCA) – Kirklees

Council, Leeds City Council, Bradford Metropolitan District Council, Calderdale Council, Wakefield Council with the inclusion of City of York Council, have developed a single asset management framework as the basis for working together. This collaboration will be used to drive best practice through shared knowledge, experience and resources. The strategic hierarchy of our overall highway plans and policies are shown below in figure 2:

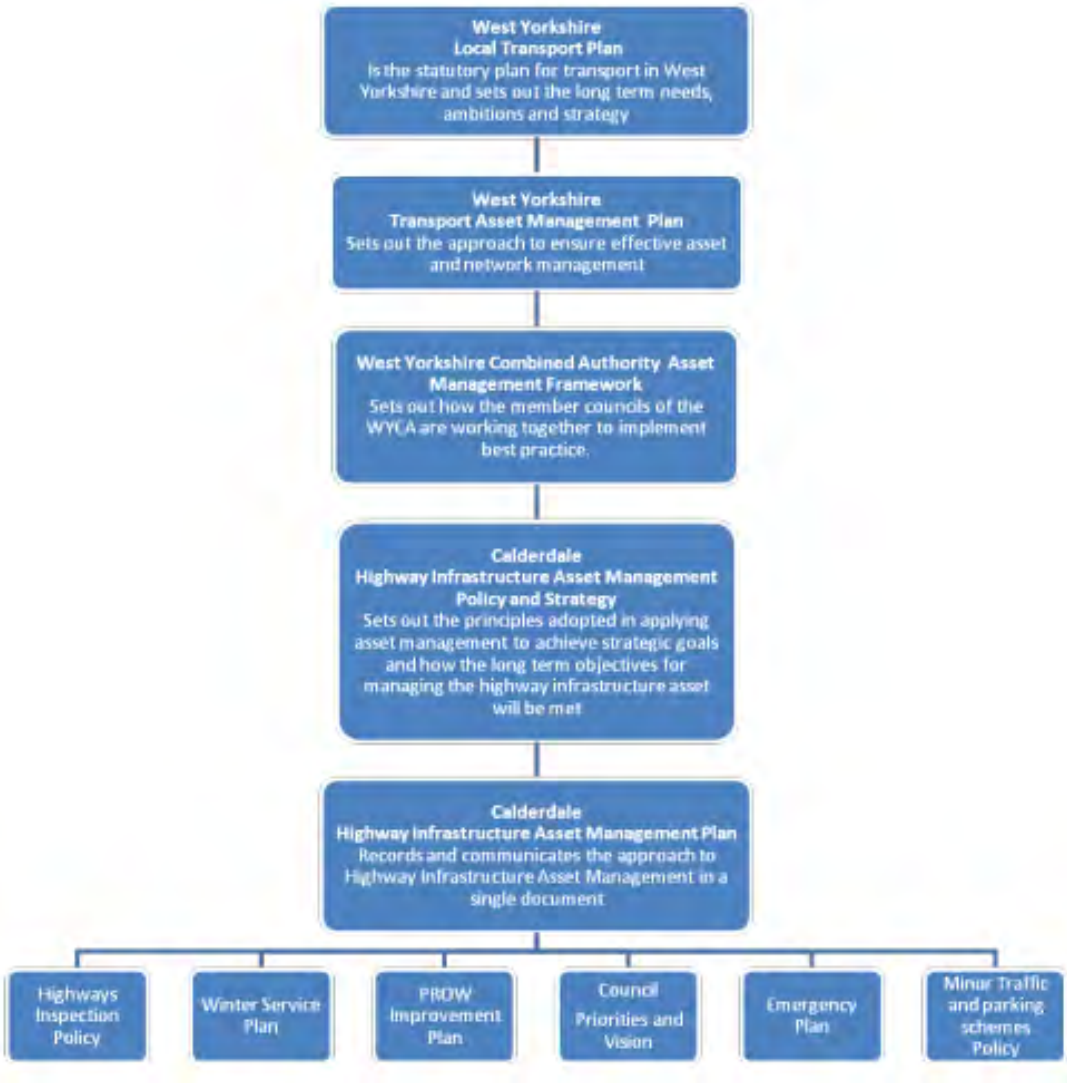


Figure 2. The Hierarchy of Plans and Policies Governing The Highway in Calderdale

Section 2 - The Current Condition of The Network

Performance Measures

2.1. A variety of performance measures have already been adopted to gauge the existing condition of the highway network within Calderdale. These will now continue to be used to monitor the impact of our management of the highway asset strategy and the results of our interventions will regularly reported on the Council's website. These performance measures include both nationally recognised indicators and local performance indicators which are designed to deliver set targets and overall improvement. They link to both levels of service and the corporate vision and objectives.

2.2. Some examples of the way that we will utilise data to monitor our impact on the highway network are shown below:

- A full Asset Inventory will be compiled and regularly maintained. This will record details of the location, size, type, and age of each asset.
- Physical testing and visual inspections will be regularly carried out in order to rate the relative condition of each asset with respect to one another.
- Survey data will also be regularly gathered to gauge overall structural condition, skid resistance, volume and mix of traffic etc etc.

2.3. As noted above, this will allow us to:

- accurately predict likely future need, allowing us to better co-ordinated cost effective programs of work,
- meet current government requirements for asset valuation as required for the Whole of Government Accounts,
- understand the current risk levels associated with the on going maintenance of the road network and consequently make more informed decisions about where investment is needed,
- better respond to customer needs and service requests, and
- accurately report our service improvements to central government through both National and local Performance Indicators.

Current Levels of Service

2.4. Levels of service are the key drivers that will influence our investment decisions. Their use will also allow our stakeholders to be more aware of the overall highway performance and are designed to provide transparency within future investment programmes. They have been chosen following the interrogation of the stakeholder comments from the Calderdale Council e-panel and West Yorkshire My Travel survey. Stakeholder engagement will continue to play a large role in the development of our highway network and our on-going commitments to our stakeholders are detailed in appendix 1.

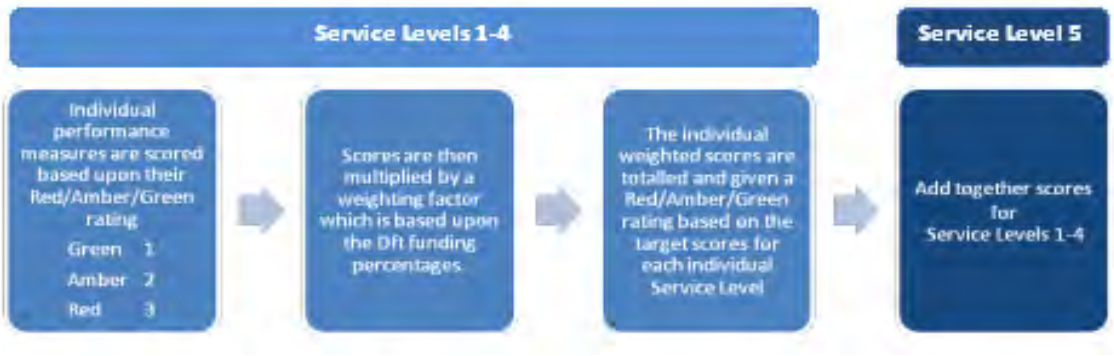
2.5. The five levels of service are:

- Providing a safe Highway Network (SL1),
- Maintaining access to Calderdale (SL2),
- Each Highway asset meets stakeholder expectations (SL3),
- Reducing the impact on the environment (SL4) and
- Delivering value for money (SL5).

2.6. Each level of service will be monitored through an underlying framework of performance measures which will allow both the individual elements of the highway network to be measured, as well the quantum. A full breakdown of our service levels and the underling performance indicators are given in appendix 2.

Calculation of Service Level Performance

2.7. Overall service level performance is calculated using the process is given in figure 3.



>700	350 – 700	<350
Poor Performance	Average Performance	Good Performance

Figure 3. How The Overall Level of Performance of The Highway Network is Calculated

2.8. The overall service level value (SL5) for the highway asset within Calderdale is currently 545. This suggests that we are currently achieving average performance. However, many of the lower scores relate to the street lighting condition, which is soon to be the subject of a major £22M service investment. Consequently the overall value for money of the highway asset may be anticipated to increase over the next few years. By similarly targeting our future investment to those other areas which currently score towards the lower end of the spectrum further value will also be ensured.

2.9. Our aim is to improve our overall performance score to less than 350 within the next five years, taking us into the “good performance”, demonstrating good value for money. Across this period we will also aim to ensure that all our service level scores perform well enough to put us into the high achievers bracket on an individual basis.

2.10. Appendix 2 gives further details of the existing service level provision along with further detail on the individual targets and weightings.

Section 3 – Future Programming

Future Work Programmes and Active Asset Management

3.1. Following the principles above, the development of the highways work programme will become a 4 stage process as shown in figure 4.

Figure 4. Development of the Highway Work Programme

Stage 1 Scheme Selection

3.2. Candidate schemes for each asset group will be identified from studies of the condition data as follows:

Highway	Detailed Visual Inspection
Footway	Footway Network Survey
Wall	Special Inspection
Bridges	Bridge Condition Indicator
Street Lighting	Column Condition

Stage 2 Prioritising the Works Programme

3.3. Programs of work for each asset group will be prioritised using the factors shown in table 2. For simplicity these have been grouped together under the mnemonic CASSEM which stands for - congestion, accessibility, stakeholder, safety, environment and maintenance. Appendix 3 provides further detail of the individual weighting factors used to prioritise schemes for inclusion in the forward work programme.

Stage 3 Selecting Schemes for the Forward Programme

3.4. The task of the Highway Asset Plan is to allow the development of the most cost effective three year rolling programme of highway improvements / maintenance. The prime driver for this will be to extend the life of the highway asset by targeting investment towards those areas where the life of the asset can be extended by modest investment, rather than allowing the reach the end of their effective life before intervening. Asset data will therefore

be used to lead this forward programme, which will be revisited each year, once the quantum of the overall annual highways budgets become known.

	Factor	Highways	Footpaths	Walls	Bridges	Street Lighting	PROW
Congestion	Existing traffic management in place	X	X	X	X	X	X
	Co-Ordination with other works	X	X	X	X	X	X
Accessibility	Road Category	X	X	X	X	X	
	Single Access To Properties			X	X		
	Road Closed	X		X	X		
Stakeholder	Stakeholder complaints	X	X	X	X	X	X
Safety	No of Accidents (KSI)	X	X				
	Claims History	X	X	X	X	X	X
Environment	Vehicle Usage	X		X	X	X	
	Property Adjacent To Wall			X			
	Land Below Wall			X			
Maintenance	DVI/CVI Ranking	X					
	FNS Condition Indicator		X				
	No of defects Identified by Highways Inspectors	X	X				
	Drainage	X	X				
	Bridge Condition Indicator				X		
	Wall Condition			X			
	Road Layout adj to wall			X			
	Wall Height			X			
	PROW Condition						X
	Column Condition					X	
	Age Of Column					X	
	Type of column					X	
	Height of column					X	
	Number of faults repaired					X	

Table 2. Individual Factors that will be used to Influence the Annual Programme.

Stage 4 Selecting Schemes for the Annual Programme

3.5. The overall forward programme will then be used to identify those schemes with the highest priority by matching them against the available budgets to create the annual programme.

3.6. Appendix 4 shows the schemes which are currently within the forward programme and are being prioritised for possible inclusion in the 2017/18 programme of works.

Highway Investment Levels

Calderdale Council Capital Funding (Capital Grant plus additional funding)								
Year	A	B&C	U	Footways	Walls	Bridges	Street Lighting	Total
2009-2010	1,522,459	424,047	878,616	458,432	1,891,783	1,560,430	181,068	6,916,835
2010-2011	680,905	759,039	906,185	330,274	1,670,460	2,033,127	383,479	6,763,469
2011-2012	820,005	679,174	1,477,478	253,221	430,177	772,041	220,526	4,652,622
2012-2013	1,187,476	91,653	1,167,974	457,366	360,301	699,555	259,226	4,223,551
2013-2014	426,108	327,004	1,065,754	548,629	473,826	806,329	581,479	4,229,130
2014-2015	1,244,125	737,520	1,287,613	670,324	550,499	304,501	1,085,643	5,880,225
2015-2016	1,119,700	588,750	818,147	606,223	306,750	442,250	1,046,583	4,928,403
2016-2017*	2,832,166	798,605	1,344,424	2,000	483,397	623,571	1,248,584	7,332,747
2017-2018	1,519,263	540,045	1,408,739	110,683	324,297	222,737	894,936	5,020,700
Total	11,352,207	4,945,837	10,354,930	3,437,152	6,491,490	7,464,541	5,901,524	49,947,681
% of funding	0.23	0.10	0.21	0.07	0.13	0.15	0.12	
km	149	120	861	1093				
spend per km	76,189	41,215	12,027	3,135				

*2016-17 Funding includes additional flood recovery money for damage to highways.

Table 3. Capital Investment in the Maintenance of the Highway over the period 2009 – 2018.

Calderdale Indicative Highway Maintenance Funding 2015 – 2021 Including Incentive Fund Level					
Year	Total Possible Funding (needs/formula + Incentive element)	Needs/formula allocation (£) announced in December 2014	Incentive Element	Incentive Fund Level	% of Incentive Funding Received
2016-17	3,832,000	3,613,000	219,000	2	100%
2017-18	3,832,000	3,504,000	328,000	3	100%
2018-19	3,832,000	3,171,000	661,000	3	100%
2019-20	3,832,000	3,171,000	661,000		
2020-21	3,832,000	3,171,000	661,000		

Table 4. Indicative Capital Funding from Government from 2016-2021

3.7. Although tables 3 and 4 show a decrease in capital grant monies available to Calderdale, this reflects the picture across West Yorkshire as a whole.

Appendices

Appendix 1 - Our Communication Strategy

We will use effective communication in order to:

- Fully involve our stakeholders in the effective development of the highway asset,
- Help build our communities,
- Help protect vulnerable people,
- Make stakeholders aware of our full range of services,
- Ensure that our policies are fully inclusive,
- Support our Members in delivering the best possible service to the residents of Calderdale,
- Work creatively with our partners,
- Deliver our priorities and
- Manage our reputation.

We will aim to ensure that our communications are:

- Relevant – customer focused, clear and understandable,
- Effective – enabling the audience to act on the message as intended,
- Efficient – ensuring that the message is delivered in the least costly way,
- Branded – so that people understand what the council does
- Measured – so that people understand the difference that we are making
- Collaborative – in order to create added value by working with partners to deliver joint improvements.

Our Communication Channels will be tailored to the individual stakeholder audience who include:

- Elected Members – who are responsible for the asset and have a responsibility to the electorate of Calderdale to ensure it is effectively managed within financial resources available.
- Residents and Visitors who expect the highway infrastructure to be maintained safely and cost effectively to meet the needs of this vibrant community.
- Council Officers who have a duty to ensure best value for money and that the community interests are well served.
- Utility Companies who supply customers with essential services and work with CMBC to keep traffic moving and avoid unnecessary congestion/ disruption to the Public Highway.
- Public Transport Companies who need to provide a punctual, reliable and sustainable service for their customers.
- Local Businesses. A well maintained highway is key to local businesses and national companies wishing to trade in Calderdale.
- Schools and Hospitals. A well maintained highway helps to reduce congestion and improve road safety both important to issues for Hospitals and Schools.
- West Yorkshire Combined Authority
- People with reduced mobility and sensory impairment.

Appendix 2 – Current Service Level, Performance Measures and Weightings (Targets in Purple)

Service Level	Performance Measures	Measure of Performance			Weighting	Service Level Performance Target		
		R	A	G		R	A	G
SL1 Safe to Use	% A Roads requiring major maintenance	>10	6 -10	=<5	25	>350	175-350	<175
	% B & C Roads requiring major maintenance	>15	8 - 15	=<7	25			
	% Uncl Roads requiring major maintenance	>20	10 - 20	=<10	25			
	% footways requiring major maintenance	>20	10 - 20	=<10	10			
	% bridges requiring major maintenance	>20	10 - 20	=<10	15			
	% walls requiring major maintenance	>20	10 - 20	=<10	15			
	%street lighting columns requiring replacement	>10	5- 10	=<5	5			
	%PROW requiring major maintenance	>20	10 - 20	=<10	5			
SL2 Maintain Access	no of bridges with temporary width/weight restrictions	>5	3 -5	=<2	15	>100	50 - 100	<50
	no of roads with temporary width restrictions/closures	>5	3 -5	=<2	25			
SL3 Meeting Stakeholder Expectations	Number of outstanding PROW Modification orders	>20	10 -20	<10	5	>225	125-225	<125
	Number of outstanding PROW Diversion orders	>20	10 - 20	<10	5			
	% Cat 1 Pothole repairs completed on time	<80	80 - 95	>95	25			
	% Cat 2 Pothole repairs completed on time	<80	80 - 95	>95	25			
	% of road gullies cleaned on 6 and 12 monthly rota on time	<80	80 - 95	>95	10			
	% Number of Street lights requiring repair	>5	3 -5	=<2	5			
	% of Customer Complaints responded to on time	<80	80 - 95	>95	25			
SL4 Reducing Environmental Impact	% of street lighting columns with LED lantern	<80	80 - 95	>95	5	15	10	5
SL5 Providing Value For Money	Overall Performance					>700	350-700	<350

Current Level of Highway Performance within Calderdale.

Service Level	Performance Measures	Within Target	Actual Score	Within Target	Service Level Performance
SL1 Providing a safe Highway Network	% A Roads requiring major maintenance	Y	4	Y	240
	% B & C Roads requiring major maintenance	Y	7		
	% Unclassified Roads requiring major maintenance	N	26		
	% footways requiring major maintenance	Y	18		
	% of bridges requiring major maintenance	Y	16		
	% walls requiring major maintenance	N	33		
	% street lighting columns requiring replacement	N	30		
	% PROW requiring major maintenance	Y	5		
SL2 Maintaining access to Calderdale	no of bridges with temporary width/weight restrictions	Y	1	Y	40
	no of roads with temporary width restrictions/closures	Y	0		
SL3 Each Highway asset meets stakeholder expectations	Number of outstanding PROW Modification orders	N	82	Y	155
	Number of outstanding PROW Diversion orders	N	22		
	% Cat 1 Pothole repairs completed on time	Y	98		
	% Cat 2 Pothole repairs completed on time	Y	96		
	% of road gullies cleaned on 6 and 12 monthly rota on time	Y	100		
	% Number of Street lights requiring repair	N	3		
	% of Customer Complaints responded to on time	N	85		
SL4 Reducing the impact on the Environment	% of street lighting columns with LED lantern	N	26	N	15
SL5 Delivers Value For Money	**Overall Performance**			Y	450

Appendix 3 – Weighting Factors for Work Programmes

	Factor	Ranking Criteria	Scrore
Congestion	Traffic management already in place	Barriers and Cones	10
		Temporary Traffic Lights	15
	Co-Ordination with other works	1 scheme	5
		2+ schemes	10
Accessibility	Road Category	Minor Road	2
		Local Access Road	4
		Link Road	6
		Secondary Distributor	8
		Main Distributor	10
		Strategic Route (Resilient Network)	15
	Road Closed		20
	Single Access to Properties		10
Stakeholder	No of Complaints	<5	3
		5 - 10	6
		10+	10
Safety	No of Accidents (KSI)	1	3
		2	6
		2+	10
	Claims History	1	5
		2+	10
Environment	Vehicle Usage	Car Only	1
		Bus Route	3
		HGV Access	5
	Property Adjacent To Wall	Single Property	3
		Multiple Property	5
		School Present	7
	Land Below Wall	Farmland	1
		Canal	3
		River	5
		Occupied Land	5
		Railway	7
		Road	10

	Factor	Ranking Criteria	Scrore
Maintenance	CVI Ranking	CVI Score	actual
	FNS Ranking	FNS Score	actual
	BCI Score	(100- BCI)	actual
	Wall Condition	Deformation Of Carriageway	3
		Deformation Of Wall	5
		Wall Collapsed	10
	Column/PROW Condition	Fair	5
		Poor	10
	No of defects Identified by Highways Inspectors	<5	5
		5 - 20	10
		20+	15
	Drainage	Wet Spot	5
		Property Flooding	10
	Road Layout	Verge	1
		Footp[ath	3
		No verge or footpath	5
	Wall Height	Less Than 1 m	1
		Greater than 1m	5
	Age Of Column	25-30	5
		35-40	10
		over 40	15
	Type	Wood Pole	3
		Concrete	7
		Steel	10
	Height of Column	6m	3
		8m	5
		over 8m	10
	No of Faults reported	<3	3
		3-7	5
		7 +	10