1. Introduction

This report presents a summary of Flintshire County Council's road assets as at March 2014. It

- Describes the current condition of the asset
- Details the service that the asset and current budgets are able to provide
- Presents the options available for the future

This report provides information to assist with budget setting for roads and footways.

Status

The status of each asset group is provided in terms of current condition, the output that is delivered, the standards being achieved and, where possible, an indication of customer satisfaction.

Options

- The report considers the following options:
- Option 1 A continuance of current funding levels (which includes LGBI funding)
- Option 2 Predicted effect of using the 2013/14 budget and incorporating the calculated steady state percentage split between corrective and preventative maintenance.
- Option 3 Effect of the predicted reduced Planned Maintenance budget for 2015/16 using the Preventative Strategy. (80% Preventative Maintenance and 20% Corrective Maintenance)

Long Term Forecasts

The impact of a level of investment cannot be shown by looking at the next couple of years. The report includes 20 yr forecasts to enable decisions to be taken with an understanding of their long term implications.

Impacts Risk

To reflect continuing budgetary pressures the report contains an assessment of the impact for each option presented. In some instances however the level of detail of assessment is currently hindered by an absence of data.

2. Carriageways

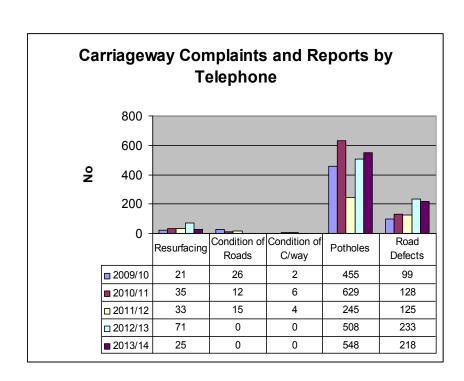
2.1 Status Report

Asset Group: Carriageway						
	Statistics				Commentary	
	Road Class	Urban Length (km)	Rural Length (km)	Total Length (km)	The carriageway Inventory is held and updated in our Development Control	
	A Road	62.6	89.2	151.8	Section.	
Set	B Road	42.5	35.6	78.1	An Improvement Action is	
As	C Road	68.4	194.1	262.5	to start utilising the WDM	
The Asset	Unclassified Road	414.7	254.7	669.4	Asset Management System including adding the	
	Total Length (km)	588.2	573.6	1161.8	inventory data. 0The carriageway asset has	
					grown by 62.9km (5%) in the last 5 years.	

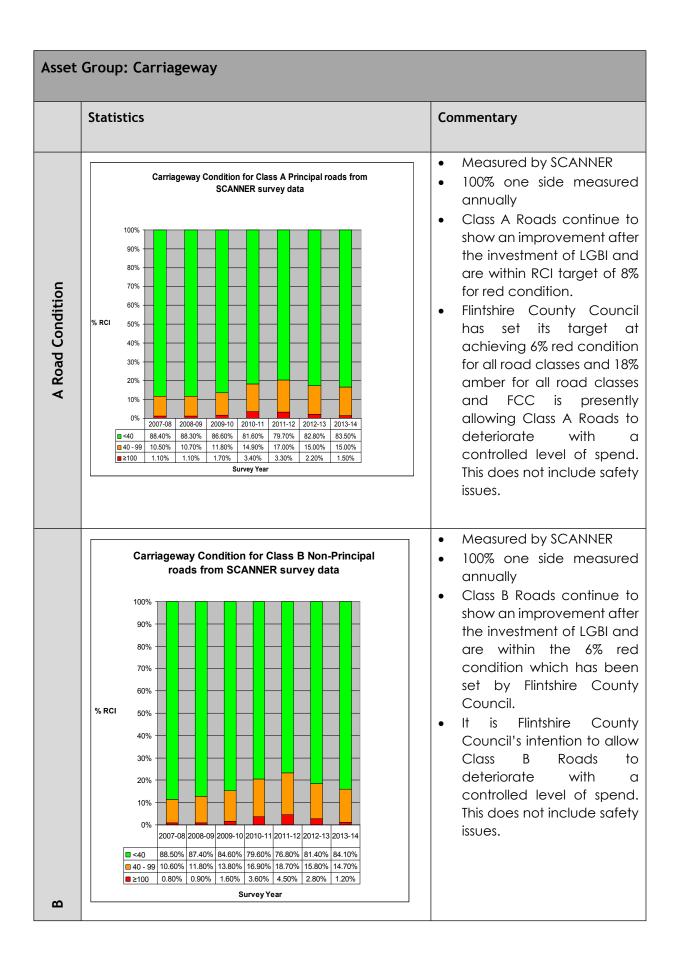
Asset Group: Carriageway Statistics Commentary

During 2012/13 Street Scene Services developed a new Customer Contact Centre which became operational during 2012/13 and the categories Condition of Roads and Condition of Carriageway have been incorporated into Potholes and Road Defects respectively.

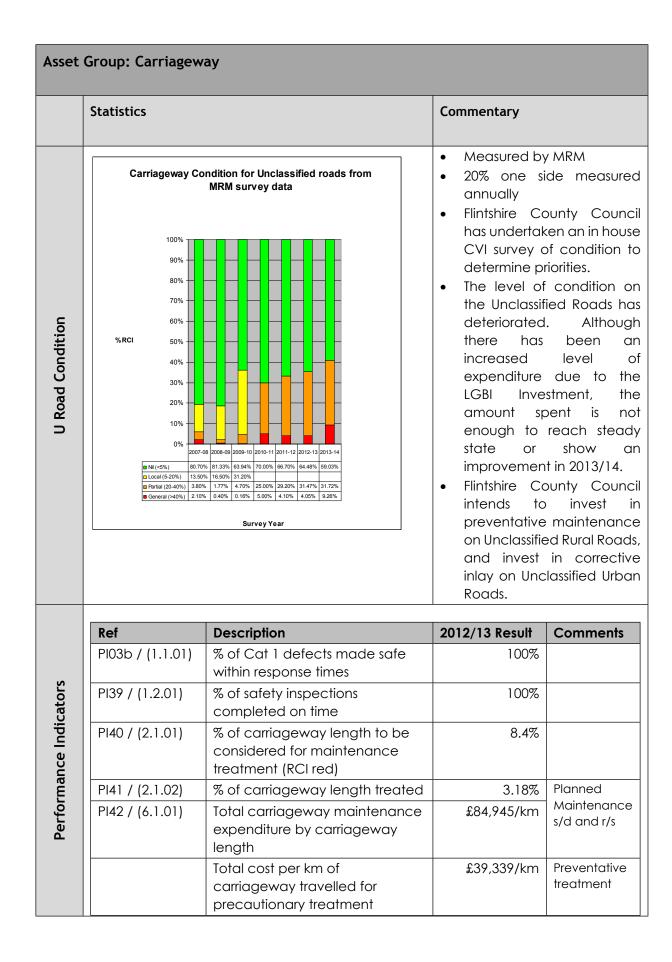
Carriageway Complaints and Reports by Telephone								
Topic	Topic 2009/1 2010/11 2011/12 2012/13 2013/14							
Resurfacing / Surface Dressing / Patching	21	35	33	71	25			
Condition of Roads	26	12	15	0	0			
Condition of Carriageway	2	6	4	0	0			
Potholes	455	629	245	508	548			
Road Defects	99	128	125	233	218			
Total	603	810	422	812	791			

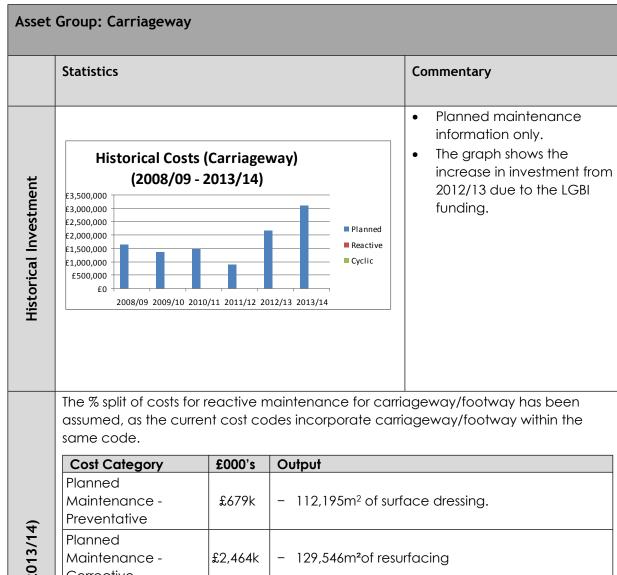


The total number of complaints/reports decreased however, potholes are the most common category that leads Customers to complain to the Contact Centre.



Asset Group: Carriageway						
	Statistics	Commentary				
C Road Condition	Carriageway Condition for Class C Non-Principal roads from SCANNER survey data 100% 90% 80% 70% 2002 2010 2010 2011 2012 2013 30% 20% 2007 2008 80 90 10 11 12 13 14 4 20 4 9 9 22 20% 27.10% 27.00% 26.70% 26.10% 25.30% 25.70% 2100 2.20% 4.40% 63.30% 11.30% 12.90% 8.00% 6.90% Survey Year	Measured by SCANNER 100% one side measured annually. The level of condition has improved from 2012/13, after the investment of LGBI funding which has been targeted at C Roads and has resulted with the red condition improving and is within 8% which is also approaching the target of 6% set by Flintshire County Council. Flintshire County Council intend to reduce investment on C (Urban) Roads as they are already within target, and invest in preventative maintenance on Class C (Rural) Roads.				





Investment and Output (2013/14)

Cost Category	£000's	Output		
Planned Maintenance - Preventative	£679k	- 112,195m ² of surface dressing.		
Planned Maintenance - Corrective	£2,464k	- 129,546m²of resurfacing		
Routine Cyclic Maintenance £2,541k		 Drainage – Jetting/Gully Emptying (£213k) Grass Cutting – Amenity Grass – 988,456m² - Highway Verges – 333,284m² (£1,115k) Cleansing/Sweeping (£1,213k) 		
Routine - Reactive Repairs (emergency)		_		
Routine - Reactive Repairs (non- emergency) £1,612k		 Highways Reactive Maintenance (£545k) Highways Land Drainage (£165k) Highways General (£227k) Clean Teams (£62k) Highways Night Team (£47k) Highways ATM (£80k) Road Markings (£94k) Carriageway Patching (£392k) 		

Asset	Group: Carriageway					
	Statistics			Commentary		
	Cost Category	£000's	Output			
	Routine - Inspection & Survey	£40k	- Condition surve	eys (£40k)		
	Operating Costs Overhead *	£891k N/A	- winter maintend	ance		
	Improvements	£390k	Drainage WorkSubsidence Sc			
	Loss#	£18k	- 3 rd party claims	associated with carriageways		
	TOTAL = £8,635k			T		
<u>_</u>	Gross Replacement Cost £1,258,025,000			The annualised depreciation (AD) was £4,112,970 which represents the average		
Valuation	Depreciated Replace			amount by which the asset will depreciate in one year if there		
Va	Annualised Depreciat	is no investment in renewal of the asset.				
	 Increased fuel charges for Street Scene Services Vehicles. Above inflation increases in the cost of construction materials. Lack of forward works programme to cover three to five years. Lack of detail within the Finance cost codes makes it difficult to breakdown 					
	the Reactive NLoss of LGBI fu		•	icted reducing budgets.		
	Central Gover	nment Cu	uts to Local Governn	nent Funding.		
	There are currently 5 no. subsidence schemes that are currently being investigated at the following locations:-					
	B5101 Ffrith					
	B5101 Llanfynydd					
	A5026 Boot Hill	I, Holywell	I			
	A550 Tinkersdale					
X e	Kelsterton Lane, Connah's Quay					

Asset Group: Carriageway						
	Statistics	Commentary				
S	Flintshire County Council has set its target at achieving 6% (RCI) red condition for all road classes. This will lead to investment being reduced on A, B and C (urban) roads which are already within target and increased investment on C Roads (rural) and U Roads.					
Current Strategies	 The strategy for carriageways is to invest in preventative maintenance on Class C (rural) roads in order to reduce the rate of deterioration of the asset and corrective inlay on U (urban) Roads. However other classes of road will be considered after risk assessments and be incorporated into this strategy. 					
Curre	•	A SCRIM survey is undertaken annually on Class A and B Roads and selected C Roads. Sites are investigated and prioritized in accordance with Flintshire County Council's skid resistance policy.				
	 C Roads and Unclassified Roads have been to LGBI funding. 	C Roads and Unclassified Roads have been targeted using the additional LGBI funding.				
	Maximise budget by producing a scheduled to	ender for planned works.				
Current Status	As at 31 March 2014 - ↘ annual budget decreasing over time. (not including LGBI) - ↗ Target funding has improved the condition of C Roads. - ↗ increase in 3 rd party claims - ↗ increase in customer complaints relating to					
	potholes.					

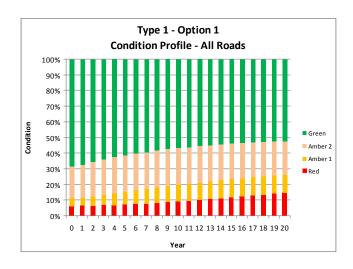
2.2 Carriageway Options

2.2.1. Option C1: This option comprises of a continuance of the 2013/14 budget which includes the LGBI funding

Budget

This option is included to demonstrate that if the annual budget of 2013/14 (which includes the additional LGBI funding) was utilised over a 20 year period the carriageways would still show deterioration.

HAMP Cost Category	Expenditure (£000's) (2013/14 actual)	%
Routine - Reactive Repairs (emergency)	£k	0
Routine - Reactive Repairs (non-emergency)	£1,612k	19%
Routine Cyclic Maintenance	£2,541k	29%
Planned Maintenance - Preventative	£679k	8%
Planned Maintenance - Corrective	£2,464k	28%
Inspections and survey (not covered under staff costs)	£40k	0.5%
Operating Costs (winter service)	£891k	10%
Improvements	£390k	5%
TOTAL	£8,617k	
Loss (3 rd Party Claims associated with (c/ways)	£18k	0.5%
TOTAL (including claims costs)	£8,635k	



This shows a continuing deterioration of the carriageways over time resulting in the percentage of carriageway in need of maintenance (red + amber condition) increasing from 32% to 48% in 20 years.

Predicted Impacts

Reactive Maintenance

Continuance of this budget is likely to result in the increase of the level of reactive repairs over time.

3rd Party Claims

3rd party claims are expected to rise. A proportion of the pay out is funded from Operational budgets.

Customer Satisfaction

Customer satisfaction is expected to decrease with the worsening condition of the carriageways.

Future Costs

It is estimated that the cost of reactive maintenance will increase annually over the 20 year period.

Option Summary

The option of a continuance of current budget levels is predicted to result in:

- a. 7 annual budget requirement growing over time to accommodate increasing reactive repairs
- b. \mathbf{v} reduction (deterioration) of measured condition
- c. 7 increasing quantities of minor defects (pot holes and the like)
- d. 7 potential for increase in 3rd party claims

e. $\mbox{\ensuremath{\mbox{$\vee$}}}$ likelihood of decreased customer satisfaction as a result of increasing repairs Total cost (over 20 years) estimated at £172.7m. Annual cost £8,635k initially, growing over time to accommodate growing reactive repair needs. (No allowance has been made for construction inflation currently running at approximately 5% per annum)

2.2.2.

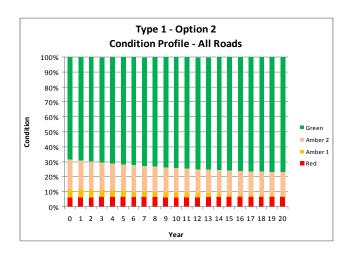
2.2 Option C2: Predicted effect of using the 2013/14 budget and incorporating the calculated steady state percentage split between corrective and preventative maintenance.

Budget

2.3 The second option is included to demonstrate that if the 2013/14 budget which includes the additional LGBI funding was utilised over a 20 year period using the calculated steady state percentages, which increases the percentage of the budget into preventative maintenance funding and reduces the percentage of the budget into corrective maintenance the carriageways would then reach steady state and the condition would then start to show an improvement.

HAMP Cost Category	Expenditure (£000's) (2013/14)	%
Routine - Reactive Repairs (emergency)	O£	0%
Routine - Reactive Repairs (non-emergency)	£1,612k	19%
Routine Cyclic Maintenance	£2,541k	29%
Planned Maintenance - Preventative	£2,659k	31%
Planned Maintenance - Corrective	£484k	5%
Inspections and survey (not covered under staff costs)	£40k	0.5%
Operating Costs (winter service)	£891k	10%
Improvements	390k	5%
TOTAL	£8,617k	
Loss (3 rd Party Claims associated with (c/ways)	£18k	0.5%
TOTAL (including claims costs)	£8635k	

Predicted Condition



This shows an improvement of the carriageways over time resulting in the percentage of carriageway in need of maintenance (red + amber condition) decreasing from 32% to 23% in 20 years.

Predicted Impacts

Reactive Maintenance

Continuance of this budget is likely to reduce the level of reactive repairs over time.

3rd Party Claims

3rd party claims are expected to reduce.

Customer Satisfaction

Customer satisfaction is expected to improve with the improvement in the condition of the carriageways.

Future Costs

It is estimated that the cost of reactive maintenance will decrease annually.

Option Summary

The option of a continuance of current LGBI funding levels and to change the percentage of the budget split to the steady state percentages split is predicted to result in

- f. 7 annual budget remaining the same is likely to reduce reactive repairs.
- g. 7 improvement of measured condition
- h. \mathbf{a} a decrease in quantities of minor defects (pot holes and the like)
- i. **2** potential for decrease in 3rd party claims
- i. 7 Increase in customer satisfaction

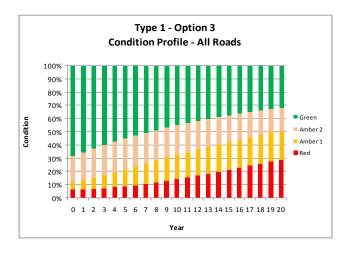
Total cost (over 20 years) estimated at £172.7m. Annual cost £8,635k initially, remaining the same over time. (No allowance has been made for construction inflation currently running at approximately 5% per annum)

2.2.3. Option C3: The effect of the predicted reduced Planned Maintenance budget for 2015/16 using the Preventative Strategy. The enhanced funding over a three year period (LGBI) has now come to an end.

Budget

The third option comprises of investing the annual budget using the Preventative Strategy. (80% Preventative Maintenance and 20% Corrective Maintenance) The predicted reduced budget for 2015/16 has been used. The £520K shown as the Planned Maintenance budget is an estimated figure, as the 2015/16 budget has not been confirmed as yet.

HAMP Cost Category	Expenditure (£000's) (2015/16)	%
Routine - Reactive Repairs (emergency)	£0k	0
Routine - Reactive Repairs (non-emergency)	£1,612k	27%
Routine Cyclic Maintenance	£2,541k	42%
Planned Maintenance - Preventative	£416k	7%
Planned Maintenance - Corrective	£104k	2%
Inspections and survey (not covered under staff costs)	£40k	0.5%
Operating Costs (winter service)	£891k	15%
Improvements	£390k	6%
TOTAL	£5,994k	
Loss (3 rd Party Claims associated with (c/ways)	£18k	0.5%
TOTAL (including claims costs)	£6,012k	



This shows a continuation of deterioration over time resulting in the percentage of carriageway in need of maintenance (red + amber condition) increasing from the current 32% to 68% in 20 years. The annual budget has targeted preventive measures, but the budget is not enough to keep the amber bands in a steady state condition.

Predicted Impacts

Reactive Maintenance

Reactive repairs will increase substantially over time.

3rd Party Claims

3rd party claims are expected to rise.

Customer Satisfaction

Customer satisfaction is expected to decrease with the worsening condition of the carriageways.

Future Costs

It is estimated that the cost of reactive maintenance will increase annually over the 20 year period.

Option Summary

The annual budget needs to be increased to show the benefit of the preventative option.

The option of using preventative maintenance treatments with the limited budget is predicted to result in:

- a. 7 annual budget requirement growing over time to accommodate increasing reactive repairs
- b. \mathbf{a} a reduction (deterioration) of measured condition
- c. 7 an increase in the quantities of minor defects (pot holes and the like)
- d. 7 3rd party claims are expected to rise.

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e. $\ensuremath{\mathbf{u}}$ customer satisfaction is expected to decrease with the worsening condition of

the carriageway.

Total cost (over 20 years) estimated at £120.2m. Annual cost £6,012k initially, growing slightly over time to accommodate growing reactive repair needs. (No allowance has been made for construction inflation currently running at approximately 5% per

annum)

2.2.4. Recommendation

It is recommended that Flintshire County Council adopt a preventative maintenance strategy in order to best utilise the limited monies available.

Option 3 shows the predicted 2015/16 budget using the Preventative Strategy which splits the Planned Maintenance as follows:-

Corrective Maintenance (20%) - £104,000

Preventative Maintenance (80%) - £416,000

This will be targeted at the amber bands of each road class in order to meet the 18% target, this could mean an increase in the use of surface dressing materials.

The treatment is quicker as well as less costly then resurfacing and thus will also result in less disruption to traffic whilst the works are being undertaken.

Footways

3.1 Status Report

Asse	t Group: Footways	
	Statistics	Commentary
	Footway Condition results (m²)	

The Asset

Footway Condition results (m²)							
Material Type	Condition 1	Condition 2	Condition 3	Condition 4	Total		
Bituminous	76526	888485	813811	74118	1852940		
PCC Slabs	1370	3626	2583	644	8223		
Stone	0	0	0	0	0		
Concrete	144	936	826	12	1918		
PCC Blocks	1986	6477	4842	5	13310		
Total	80026	899524	822062	74779	1876391		

An Improvement Action is to consider utilising the WDM Asset Management System or the Mayrise database.

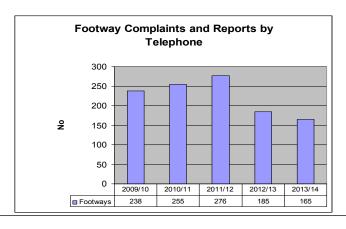
The total number of complaints/reports relating to footways have decreased since 2011/12.

Footway Complaints and Reports by Telephone					
Topic	2009/10	2010/11	2011/12	2012/13	
Footway					

238

complaints

/reports



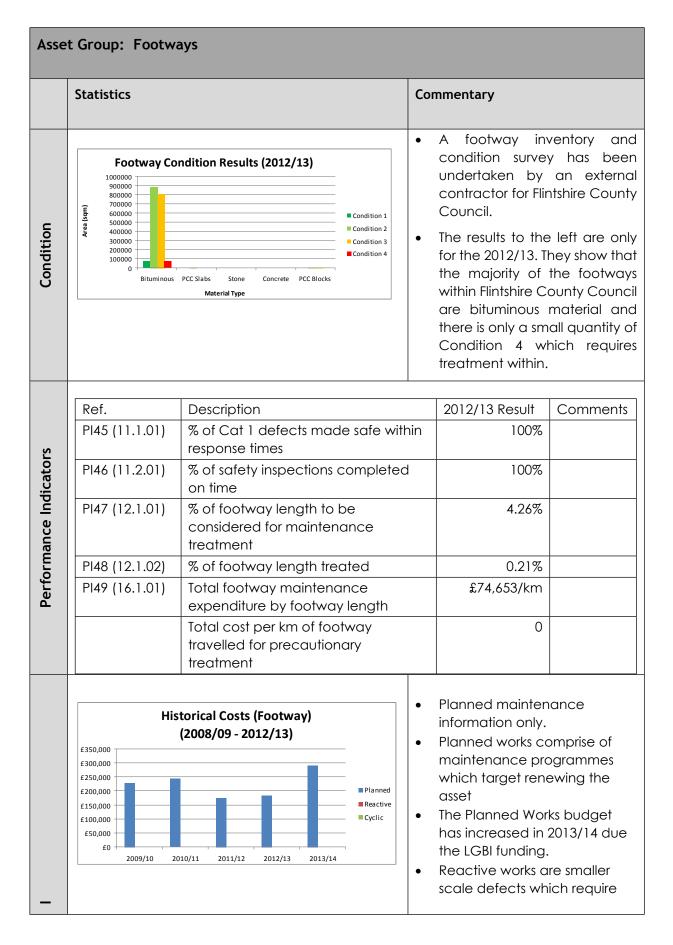
255

276

Customer Expectations

2013/14

165



Asset Group: Footways							
	Statistics			Commentary			
a				repair to reduce safety issues. • Cyclic works are activities which are scheduled on a prescribed time interval.			
	The % split of costs for reactive maintenance for carriageway/footway has been assumed as the current cost codes incorporate carriageway/footway within the same code.						
	Cost Category	£000'k	Output	Output			
13/14)	Planned Maintenance - preventative	£k	-	-			
	Planned Maintenance - Corrective	£291k	- footway works				
(5)	Routine Cyclic Maintenance	£682k	- Cleans	ing/Sweeping			
utput	Routine - Reactive Repairs (emergency)	£0k					
Investment and Output (2013/14)	Routine - Reactive Repairs (non-emergency)		- Highways Reactive Maintenance – (£363k) - Highways General – (£227k) - Clean Teams – (£62k) - Highways Night Team – (£16k)				
est	Routine - Inspection & Survey	£k	_	through staff costs			
<u> </u>	Overhead *	w.r.	3373733	This organization of the state			
	Loss#	£24k	Third Party claims				
	Improvements	£k	- Dropped Crossings				
	Operating Costs	£0k	- Includ	- Included in Carriageway costs			
	TOTAL = £1,665K						
ion			The information is obtained from the Asset Valuation 2013/14				
Valuation	Gross Replacement Cost	£56,736,000					
Val	Depreciated Replacement Cost £35,6		5,653,000				
	Higher car ownership and the resultant lack of available parking in residential areas causes increased occurrences of parking on footways. This significantly reduces the lifespan of the asset.						
	 Increased fuel charges for Street Scene Services Vehicles. 						
	Above inflation increases in the cost of construction materials.						
~	 Lack of forward works programme to cover three to five year. 						

Asset Group: Footways						
	Statistics	Commentary				
	Lack of detail within the Finance cost codes makes it difficult to breakdown the Reactive Maintenance spend.					
s	 Loss of LGBI funding after 2014/15 and prediction 	cted reducing budgets.				
	Flintshire County Council has undertaken a footway inventory and condition survey.					
tegies	Using the LGBI funding Flintshire County Council has undertaken a footway reconstruction programme in 2013/14 and also in 2014/15.					
Current Strategies	Historically the strategy for footways has been to use preventative measures by carrying out an annual footway slurry seal programme which was determined from ad hoc observations and recommendations. Consideration will be given to renewing this strategy.					
0	Maximise budget by producing a scheduled tender	for planned works.				
Current Status	As at 31 March 2014 - 7 continuance of annual budget - □ reduction (deterioration) of measured condition - □ increasing quantities of minor defects (pot holes and the like) - □ decrease in 3 rd party claims					

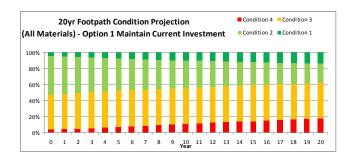
Footways Options 1: Maintain Current Investment

Budget

The first option comprises a continuance of current funding levels (which includes LGBI funding) as shown below:

HAMP Cost Category	Anticipated Budget (£000's)	%
Routine - Reactive Repairs (emergency)	£O	0%
Routine - Reactive Repairs (non-emergency)	£668k	40%
Routine Cyclic Maintenance	£682k	41%
Planned Maintenance - Preventative	£O	0%
Planned Maintenance - Corrective	£291k	18%
Inspections and survey	O£	0%
Operating Costs	O£	0%
TOTAL	£1,641k	0%
Loss (3 rd Party Claims associated with (footways)#	£24k	1%
TOTAL (including claims costs)	£1,665K	

Predicted Condition



This shows the level of condition deteriorating with three and four footway increasing from the current 48% to 62% in 20 years.

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Impacts

Reactive Maintenance

Continuance of this budget is likely to increase the level of reactive repairs substantially over time.

3rd Party Claims

3rd party claims are expected to rise. A proportion of the pay out is funded from Operational budgets.

Customer Satisfaction

Customer satisfaction is expected to decrease with the worsening condition of the footways.

Future Costs

It is estimated that the cost of reactive maintenance will increase annually over the 20 year period.

Summary

The option of continuing current levels of investment is predicted to result in:

- annual budget requirement growing over time to accommodate increasing reactive repairs.
- **u** reduction (deterioration) of measured condition
- 7 increase in quantities of minor defects (pot holes and the like)
- ¬ increase in 3rd party claims

Total cost (over 20 years) estimated at £33.3m. Annual cost £1,665k initially, growing over time to accommodate growing reactive repair needs. (No allowance has been made for construction inflation currently running at approximately 5% per annum)

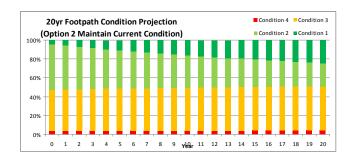
3.1 Footways Options F2: Maintain Current Condition – steady state

Budget

The second option comprises a continuance of current condition levels as shown below:

HAMP Cost Category	Anticipated Budget	%
Routine - Reactive Repairs (emergency)	£0k	0%
Routine - Reactive Repairs (non-emergency)	£668k	39%
Routine Cyclic Maintenance	£682k	40%
Planned Maintenance - Preventative	£238k	14%
Planned Maintenance - Corrective	£86k	5%
Inspections and survey (covered under staff costs)	£0k	0%
Operating Costs	£0k	0%
TOTAL	£1,674k	0%
Loss (3 rd Party Claims associated with (footways)#	£24k	2%
TOTAL (including claims costs)	£1,698k	

Predicted Condition



This shows the condition of the Footways remaining the same over time.

Impacts

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Reactive Maintenance

Continuance of the condition is likely to mean the level of reactive repairs remains similar over time.

3rd Party Claims

3rd party claims are expected to remain the same

Customer Satisfaction

Customer satisfaction is expected to reduce due to the longer time taken to undertake repairs.

Future Costs

The future costs are likely to remain the same as there is no deterioration of the network.

Option Summary

The option of a continuance of current condition levels is predicted to result in:

- a. annual budget remaining the same over time
- b. continuance of measured condition
- c. no increase in quantities of minor defects (pot holes and the like)
- d. no change in 3rd party claims

Total cost (over 20 years) estimated at £33.9m. Annual cost £1,698k initially, remaining the same over time. (No allowance has been made for construction inflation currently running at approximately 5% per annum)

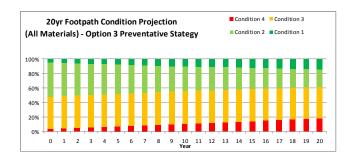
Footways Option 3: Utilise the predicted reduced 2015/16 Budget Using Preventative Strategy

Budget

The third option comprises investing the predicted reduced budget using a preventative treatments regime. The £150K shown as the preventative budget is an estimated figure, as the 2015/16 has not been confirmed as yet.

HAMP Cost Category	Anticipated Budget (£000's)	%
Routine - Reactive Repairs (emergency)	£O	0%
Routine - Reactive Repairs (non-emergency)	£668k	44%
Routine Cyclic Maintenance	£682k	45%
Planned Maintenance - Preventative	£150k	9%
Planned Maintenance - Corrective	£0k	0%
Inspections and survey	£O	0%
Operating Costs	£O	0%
TOTAL	£1,500k	0%
Loss (3 rd Party Claims associated with (footways)#	£24k	2%
TOTAL (including claims costs)	£1,524K	

Predicted Condition



This shows the level of condition deteriorating with Conditions three and four of footway increasing from the current 48% to 62% in 20 years.

Impacts

Reactive Maintenance

Continuance of this budget is likely to increase the level of reactive repairs substantially over time.

3rd Party Claims

3rd party claims are expected to rise. A proportion of the pay out is funded from Operational budgets.

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Customer Satisfaction

Customer satisfaction is expected to decrease with the worsening condition of the footways.

Future Costs

It is estimated that the cost of reactive maintenance will slightly increase annually over the 20 year period.

Summary

The option of continuing current levels of investment is predicted to result in:

- annual budget requirement growing over time to accommodate increasing reactive repairs.
- 🗵 reduction (deterioration) of measured condition
- 7 increase in quantities of minor defects (pot holes and the like)
- ¬ increase in 3rd party claims

Total cost (over 20 years) estimated at £30.4m. Annual cost £1,524k initially, growing over time to accommodate growing reactive repair needs. (No allowance has been made for construction inflation currently running at approximately 5% per annum)

Recommendation

It is recommended that Flintshire County Council adopt a preventative maintenance strategy in order to best utilise the limited monies available.

Flintshire County Council has undertaken footway reconstruction works using the LGBI funding which will clear a backlog of footways which are in a poor condition. This will then allow a return of preventative treatments – footway slurry seal which is quicker and less costly than reconstruction/resurfacing and thus will also result in less disruption to pedestrian traffic whilst the works are being undertaken.