Shetland Islands Council

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Leisel Malcolmson
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Date: 25 September 2018

Dear Sir/Madam

You are invited to the following meeting:

Environment and Transport Committee
Council Chamber, Town Hall, Lerwick
Tuesday 2 October 2018 at 10am

Apologies for absence should be notified to Leisel Malcolmson, at the above number.

Yours faithfully

Executive Manager – Governance and Law

Chair: R Thomson
Vice Chair: R McGregor

AGENDA

(a) Hold circular calling the meeting as read.

(b) Apologies for absence, if any.

(c) Petition - Whalsay Ferry Service

(c) Declarations of Interest - Members are asked to consider whether they have an interest to declare in relation to any item on the agenda for this meeting. Any Member making a declaration of interest should indicate whether it is a financial or non-financial interest and include some information on the nature of the interest. Advice may be sought from Officers prior to the meeting taking place.

d) Confirm the minutes of the meeting held on 27 August 2018 (enclosed).

1. Addendum to School Transport Policy 2018
CS-33

2. Winter Service Review 2018/19: Interim Measures
RD-05

3. Carriageway Condition of Shetland Roads
RD-06

4. Road Safety Inspection & Defect Categorisation Policy
RD-04

Reinstate Our Lifeline Weekend Ferry Service

To: Shetland Islands Council, Head of Infrastructure, John Smith

After years of chaos, Whalsay residents have had enough of the poor service. We have faced unprecedented levels of disruption since Shetland Islands Council removed the Hendra from service at the weekend in 2013. The unreliability of this service has become particularly acute in the last 3 months, causing severe disruption to commuters, the local community in general and to tourists.

Whalsay residents cannot wait any longer for improvements and believe Shetland Islands Council should act now to restore this lifeline ferry link. The best option for improving such a vital service in the short term would be to ensure that the Hendra is returned to public operation at the weekend for summer season.

Why is this important?

Reducing this service has changed our way of life due to only one ferry running and limited spaces, leaving residents left feeling trapped and isolated at the weekend. The only time most people can get off the island is at the weekend due to working, bairns at school, etc so it's the busiest time of the week, yet this is when ferries are reduced. It's taken away the freedom to take family to events out of the isle with so many residents involved in sports, music, etc, going shopping and visiting friends and family.

Signed by 494 people:

Shetland
Islands Council

MINUTE A&B - PUBLIC

Environment and Transport Committee
Council Chamber, Town Hall, Lerwick
Monday 27 August 2018 at 2.00pm

Present:

P Campbell	S Coutts
C Hughson	S Leask
A Manson	R McGregor
A Priest	D Sandison
C Smith	G Smith
R Thomson	

Apologies:
None

In Attendance (Officers):
J Smith, Director of Infrastructure Services
N Grant, Director of Development Services
D Coupe, Executive Manager – Roads
W Spence, Executive Manager – Environmental Services
C Symons, Executive Manager - Estate Operations
A Inkster, Team Leader – Port Engineering
H Tait, Team Leader – Accountancy
J McLeod, Performance & Improvement Adviser
P Sutherland, Solicitor
C Anderson, Communications Officer
L Malcolmson, Committee Officer

Also:
J Fraser

Chair:
Mr Thomson, Chair of the Committee, presided.

Circular:
The circular calling the meeting was held as read.

Declarations of Interests
None

Minutes
The Committee approved the minutes of the meeting held on 14 June 2018 on the motion of Mr Campbell seconded by Mr Sandison.

21/18 **Infrastructure Directorate Performance Report - Quarter 1 2018/19**

The Committee noted a report by the Director of Infrastructure Services (ISD-09-18-F) that summarised the activity and performance of the Infrastructure Directorate in 2018/19 Quarter 1, up to the 30 June 2018.

The Director of Infrastructure Services presented the main terms of the report, and commented that consideration would be given to the Infrastructure Services management structure in light of two Executive Manager's imminent departures at the end of this month. He advised that he would report to committee in due course.

In response to a question the Director of Development Services provided an update on the target dates for ferry replacements at Fair Isle and Whalsay advising that work was progressing on the development of the outline business cases with Transport Scotland. The Director of Infrastructure Services added that once the project initiation document is implemented next week an updated set of dates and activities will be confirmed and reported on at the next planning and performance management framework meeting.

During discussion the Executive Manager – Environmental Services advised that the rate of recycling had been good since its introduction and it was agreed that an update report on recyclates collected in blue and grey lidded bins would be presented to the Environment and Transport Committee meeting on 2 October 2018.

Reference was made to SP176 and concern was expressed that the winter service review would not now take place before this winter. The Executive Manager – Roads confirmed that Community Councils views would be sought on how the current service works. It was acknowledged that there had been lessons learned from the unusual weather conditions last winter around gritting on public holidays and changes in public expectations. He advised however that some lessons could be taken on board under delegated authority however, a change in policy around gritting on public holidays would require a decision of the Committee.

During further discussions Officers provided more clarity around the energy consumption figures and sickness absences. It was also agreed that Mr Campbell would be provided with the number of helicopter landings at Tingwall Airport that are for the transfer of patients to the Gilbert Bain Hospital.

Decision:
The Environment and Transport Committee discussed the contents of the report and made relevant comments on progress against priorities to inform activity within the remainder of this year, and the planning process for next and future years.

22/18 **Development Services Directorate Performance Report - 3 Month/1st Quarter 2018/19**

The Committee noted a report by the Director of Development Services (DV-27-18-F) that summarised the activity and performance of the Development Directorate for the first quarter 2018/19.

The Director of Development Services presented the main terms of the report in regard to the Transport Planning function that falls within the remit of the Committee.

The Chair commented on the workload at this time for Officers and advised on the efforts of the Executive Manager – Transport Planning and the Executive Manager – Finance, and on the political involvement in making sure that there are successful outcomes achieved.

During discussions it was agreed that Officers would follow up on the dates that Ministers will visit Shetland in September and advise Members of the Committee.

Decision:

The Environment and Transport Committee discussed the contents of the report and made relevant comments on progress against priorities to inform activity within the remainder of this year, and the planning process for next and future years.

23/18 **Management Accounts for Environment and Transport Committee - 2018/19 - Projected Outturn at Quarter 1**

The Committee considered a report by the Executive Manager – Finance (F-059-18-F) presenting the projected outturn position for 2018/19 as at the end of the first quarter for revenue and capital.

The Team Leader - Accountancy introduced the report and drew attention to the Revenue and Capital positions described in the key issues paragraph of the report.

The Director of Infrastructure Services advised on measures in place to address slippages in the budget and commented that Officers were working closely with the management team and Finance Services to address matters where possible.

In terms of ferry fuel costs, the Team Leader – Accountancy advised that the Council holds a central contingency which is sufficient to cover these costs but advised that discussion were being held with managers to find ways to mitigate these additional costs.

The Director of Infrastructure Services responded to comments regarding the assisted uplift of recycling and the securing of bins and advised that waste operatives were providing assistance as far as possible but it as an area that was being monitored.

Decision:

The Environment & Transport Committee NOTED the Management Accounts showing the projected outturn position at Quarter 1

24/18 **Environment and Transport Committee - Business Programme 2018/19**

The Committee considered a report by the Director of Infrastructure Services (ISD-08-18-F), which detailed the planned business to be presented to the Committee to 31 March 2019.

The Director of Infrastructure Services introduced the report and advised that the business programme would be kept under review.

During discussion it was noted that a report had already been presented on the Excavator within the Roads Service and that this would be removed from the October list of reports. It was also noted that an update on the winter gritting review would be presented to Committee on 2 October 2018.

Decision:

The Committee approved its planned business for financial year 2018/19, and noted the report.

The meeting concluded at 2.50pm.

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Chair

Shetland Islands Council

Agenda Item **1**

Meeting(s):	**Environment and Transport Committee Education and Families Committee Policy and Resources Committee Shetland Islands Council**	**02 October 2018 04 October 2018 08 October2018 31 October 2018**
Report Title:	**Addendum to School Transport Policy 2018**	
Reference Number:	**CS-33-18-F**	
Author / Job Title:	**Shona Thompson, Executive Manager - Schools**	

1.0 Decisions / Action required:

1.1 That the Environment and Transport Committee and the Education and Families Committee RECOMMENDS that the Policy and Resources Committee RECOMMENDS that the Council approve the proposed addendum to the School Transport Policy 2018.

2.0 High Level Summary:

2.1 The purpose of this report is to present an addendum to the recently approved School Transport Policy 2018.

3.0 Corporate Priorities and Joint Working:

3.1 The addendum to the School Transport Policy 2018 will assist in delivering the priorities set out in the updated Corporate Plan - Our Plan 2016-2020 – by making Shetland the best place for children and young people to grow up in and, by having transport arrangements in place that meet people's needs and which we can afford to maintain in the medium term.

4.0 Key Issues:

4.1 The Council has failed to make any policy commitment to those pupils who live on our most remote isles and who require transport by air to attend secondary school. Previous policies have been silent on this matter; therefore although quite recently reviewed, it is important that an addendum to the School Transport Policy 2018 is considered by the relevant committees.

4.2 Where at all possible, scheduled air services will be utilised to transport pupils to and from school. Daylight hours dictate the timings of these to large extent. However, in the summer months, and where those scheduled services don't accord with the start of the school day, charter flights will have to be used to minimise the amount of school time lost.

4.3	Custom and practice over many years now is that those pupils from the remote isles travel home every third weekend during term time. No change to that pattern is proposed.
5.0 Exempt and/or confidential information:	
5.1	None.
6.0 Implications:	
6.1 Service Users, Patients and Communities:	The parents of those pupils from the remote isles have been clear in their correspondence with both officers and Members of the Council that they do not wish their children to miss any more time in school than is absolutely necessary.
6.2 Human Resources and Organisational Development:	Not applicable as services contracted out.
6.3 Equality, Diversity and Human Rights:	Considerable effort has gone into amending service bus timetables to ensure that school pupils who access service buses to get to school do so in time for the start of the school day. Pupils from the remote isles should be afforded the same consideration.
6.4 Legal:	The Education (Scotland) Act 1980 places a legal responsibility on Local Education Authorities to enable the attendance at school of children living beyond specified walking distance(s) from their school. The School Transport Policy, as agreed by the Council at its meeting on 27 June 2018, meets the Council's statutory obligations to provide school transport in this regard. It does not, however, currently take cognisance of those who require the use of air services, and any legislation relating to school transport is silent on this point.
6.5 Finance:	The cost of tickets for pupils to access scheduled air services is currently budgeted for by the Transport Planning Service. The cost of charter flights is not currently budgeted for and has, up until now, been covered by the Children's Services Department. It is anticipated that a total of seven charters will be required during the summer months – i.e. from the start of the summer term until the October break. Scheduled services can be used for the Friday afternoon flights both summer and winter. The cost of a charter flight is currently just over £1,000, excluding VAT. Therefore, the Transport Planning Service should make budget provision in their 2019/20 estimates for £7,000 per annum to cover the cost of charter flights. This will be funded by a corresponding reduction in Children's Services 2019/20 budget estimates.
6.6 Assets and Property:	There are no asset and property implications arising from this report.

6.7 ICT and new technologies:	There are no ICT implications arising from this report.	
6.8 Environmental:	There are no environmental implications arising from this report.	
6.9 Risk Management:	There are no risk management implications arising from this report.	
6.10 Policy and Delegated Authority:	In accordance with Section 2.3.1 of Shetland Islands Council's Scheme of Administration and Delegations: the Education and Families Committee has responsibility and delegated authority for functional areas relating to the provision of children and families, schools and pre-school services, including school transport; and the Environment and Transport Committee has responsibility and delegated authority for functional areas relating to the provision of transport services and road safety. Functional Committees also have the responsibility of advising the Policy and Resources Committee in the development of service polices and plans concerned with service delivery. The Policy and Resources Committee has referred authority to advise the Council in the development of its strategic objectives, policies, and priorities. The Committee also has delegated authority to secure the co-ordination, control and proper management of the Council's finances. The Council has reserved authority for the determination of new or variations to existing policy.	
6.11 Previously considered by:	None	N/A

Contact Details:

Shona Thompson, Executive Manager - Schools
01595 743965

Report Finalised: 17 September 2018

Appendices:
Appendix 1 – Addendum to School Transport Policy 2018

Background Document: School Transport Policy 2018
http://www.shetland.gov.uk/education/documents/SchoolTransportPolicy2018.pdf

END

ADDENDUM TO SCHOOL TRANSPORT POLICY 2018

Provision of Air Services

1. Secondary aged pupils who commute to the Anderson High School from the remote isles of Fair Isle and Foula are entitled to travel by plane. Flights will be booked and managed by the Shetland Islands Council.
2. Transport (usually a taxi) will be provided to/from Tingwall Airport to take pupils to/from the Anderson High School Halls of Residence. Taxi transport will be booked by Shetland Islands Council.
3. Scheduled flights will be utilised wherever practicable to transport pupils to and from school. Daylight hours will largely dictate the timings of these.
4. During the first and last terms of the academic year i.e. the summer months, the Council will provide charter flights, where it is not possible to use scheduled flights, to enable pupils to get to school for the start of the school day and thus minimise the amount of school time lost. Those charter flights will be booked and managed by Shetland Islands Council.
5. Pupils are entitled to a weekend trip home every third weekend. Flights will be booked and managed by Shetland Islands Council.
6. The Council will take no responsibility for any flight which is booked by a parent for their child, nor will they reimburse the cost.

Shetland Islands Council

Agenda Item

2

Meeting(s):	Environment & Transport Committee	2 October 2018
Report Title:	Winter Service Review 2018/19: Interim Measures	
Reference Number:	RD-05-18-F2	
Author / Job Title:	Neil Hutcheson/ Team Leader – Asset and Network	

1.0 Decisions / Action required:

1.1 That the Environment and Transport Committee APPROVES the interim measures detailed in sections 4.6.3, 4.7.3 and 4.8.2 for the winter season 2018/19.

2.0 High Level Summary:

2.1 Current Policy

2.1.1 The current winter service arrangements have developed over many years to meet the needs of road users, primarily as they go to and from their place of work. This is reflected in the reduced service provided at weekends and the fact that there is no service on Christmas and New Year's days. Concerns have been expressed that there is an increasing number of road users who choose to travel in the evening and on public holidays outwith the treatment times of the current policy. Thereafter a Winter Services Review will then be undertaken and a report will be provided to the relevant decision making committees of the Council.

2.2 Winter Service Code of Practice

2.2.1 The National Winter Service Research Group (NWSRG) are currently developing new national guidance for winter service practitioners but this will not be published before the start of this year's gritting operations. Thereafter a Winter Services Review will then be undertaken and a report will be provided to the relevant decision making committees of the Council.

2.3 Interim Measures

2.3.1 It would be advisable to wait until the new guidance is in place before preparing new policy. Therefore, the following interim measures are recommended for the winter of 2018/19 to address the concerns raised following the past winter:

- Concern – No treatment after 5pm; Measure – Formalise the procedure for responding to "blue light" emergencies and Police "call-outs" with a gritter crew on standby in each area when considered necessary during the winter season to respond then treat Priority 1 roads in that area;
- Concern – Reduced level of service at weekends and public holidays; Measure – Extend weekday level of service to weekends;

- Concern – No treatment on Christmas and New Year's days: Measure – A gritter crew in each area to be on standby when considered necessary to respond to "blue light" emergencies and Police "call-outs" after which Priority 1 roads in that area may be treated.

3.0 Corporate Priorities and Joint Working:

3.1 The local outcomes from Shetland's Single outcome agreement include "Shetland stays a safe place to live, and we have strong, resilient and supportive communities." Winter service provision has direct implications for road safety.

3.2 A further local outcome that is particularly relevant to the winter service is "Shetland has sustainable economic growth with good employment opportunities and our people have the skills to match, good places to stay and the transport people and businesses need." Maintaining availability and reliability of the road network and public transport is a key objective for Winter Service. Roads that are impassable due to winter conditions are costly to the local economy due to lost working time and disruption to the delivery of goods.

3.3 Development of a sustainable public road network contributes to the "Stronger" section of the Community Plan and also the Corporate aim to use resources sustainably. Low temperatures and ice can cause serious damage to carriageways. An effective winter service can contribute to a reduction in whole life costs

3.4 Shetland Islands Council Improvement Plan 12/13
Area 6.5 – To deliver the agreed savings reviews within the timescales agreed by Council.
Area 11.3 – The development of long term maintenance strategies based on sustainable use of physical resources and whole life costing.

4.0 Key Issues:

4.1 Current Policy

4.1.1 The Council's Winter Service was reviewed in 2012 resulting in the number of gritting routes, and the number of gritting vehicles, being reduced by six. There are now 19 routes with three gritters in each of the West, North and Central Mainland. There are 2 gritters in the South Mainland and Yell with 1 in Unst, Fetlar, Bressay, Whalsay, Lerwick and Burra-Scalloway. Lerwick also has a smaller pick-up gritter that is shared between narrower residential roads and NHS Shetland premises. These resources are sufficient to treat 65% of Shetland's road network (priority 1 and 2 routes) for any incidence of frost. This increases to the entire network for severe conditions when priority 3 routes are treated.

4.1.2 The need for further review of the winter service became evident through the course of the 2017/18 winter. The current arrangements have developed over many years to meet the needs of road users, including hauliers and other businesses, as they go to and from their place of work. This is reflected in the reduced service provided at weekends and the fact that there is no service on Christmas and New Year's days. The hours of operation were originally between 6am and 6pm, now curtailed to 4pm at the end of the day due to drivers hours regulations, so again an indication that the main consideration when developing the service was the economy and the working day.

4.2 Winter Service Code of Practice

4.2.1 The national code of practice for roads has recently been updated with roads authorities expected to implement the new recommendations by October 2018 (see "Road Safety Inspection and Defect Categorisation Policy" report on this agenda). Detailed guidance regarding the delivery of a winter service was formerly provided in Appendix H of "Well Maintained Highways." However, the new code, "Well-managed Highway Infrastructure" no longer provides this information. The National Winter Service Research Group (NWSRG) has been tasked with taking over responsibility for national winter service guidance through its Practical Guide. They are expected to publish much of the updated guidance by the end of the calendar year. The intention is that it will be less complex and more user friendly than Appendix H.

4.2.2 It would be advisable to wait until this new guidance is in place before drafting a new policy for the Council's winter service. Unfortunately, this means that the policy will not be in place before the onset of the 2018/19 winter season.

4.3 Winter 2017/18

4.3.1 During the past winter there were prolonged periods of frost and numerous days with very low temperatures. The gritters were called-out on 58 mornings compared to the average number of call-outs of between 30 to 35 mornings per season. This in part was due to a number of freezing rain events where rain falls on a road surface with a temperature significantly below 0^{o}C and instantly turns to ice. The road surface temperature also fell below minus 5^{o}C on 4 occasions during the past season. The most occasions below this temperature in the previous 5 seasons was 2 in 2013/14.

4.4 Winter Service Concerns

4.4.1 The current winter service was developed, within the resources available, to maximise benefit for the economy of Shetland. However, concerns have been expressed that there is an increasing number of road users who choose to travel in the evening and on public holidays whether that be for work or social reasons. This has included representations from Police Scotland on a number of evenings requesting gritting of the road to treat hazardous carriageway conditions.

4.4.2 These concerns are likely to have been more prevalent due to the harsh nature of the 2017/18 winter. However, it was considered appropriate to undertake a further review of the winter service at this time to investigate what can be done to address these concerns. Since it will be some time before the new national guidance is published this report details a number of measures that could be implemented in the meantime.

4.5 Customer Satisfaction Survey

4.5.1 A Roads Service customer satisfaction survey consisting of 1,000 questionnaires, sent to random addresses (proportionately by Community Council area) throughout Shetland, was undertaken in July 2018. There were 203 responses so a return rate of just over 20%. This survey was recommended by the new code of practice for road maintenance and management as being essential when setting levels of service. The questionnaire included several questions on the current winter service.

4.5.2 The results from questions on customer satisfaction with the operation of the current winter service are shown in Appendix 1. The most notable are that 61% of those that expressed an opinion were satisfied.

4.5.3 The results from questions on the treatment times specified in the current winter service policy are shown in Appendix 2. These directly relate to the concerns that have been expressed. Considering "the level of gritting/ploughing provided after 5pm" only 11% of those that responded were very dissatisfied with this arrangement and 22% fairly dissatisfied. This compares with 13% who were very satisfied, 35% who were fairly satisfied and 19% who were neither satisfied or dissatisfied. The results for "the level of gritting provided at the weekend" were very similar with again 11% very dissatisfied, 23% fairly dissatisfied, 22% who were neither, 33% fairly satisfied and 11% very satisfied. There was less dissatisfaction with "the level of gritting provided at Christmas and New Year" with again 11% very dissatisfied, 17% fairly dissatisfied, 29% neither, 31% fairly satisfied and 12% very satisfied. Therefore, approximately a third of the respondents being dissatisfied with the former two questions and only slightly over a quarter being dissatisfied with the latter.

4.6 Concern: The Level of Gritting/Ploughing Provided after 5pm

4.6.1 Current Arrangements

Current policy is that gritting operations cease at 6pm until 6am the following morning, except in severe conditions where they are extended to 9pm. In practice this has now been curtailed at 4pm due to driver's hours regulations. This has been considered sufficient as it allows the "pre-salt" of carriageways in preparation for wintry conditions should they be forecast for the evening. The concern expressed is that this period should be extended into the evening to allow the later onset of freezing conditions or snow to be treated as and when they occur. The "pre-salt" is intended to prevent the formation of ice or frost, usually done prior to the evening rush hour but only on priority 1 routes. The disadvantage of being restricted to 4pm is that there may be showers of rain in the early evening that wash the salt from the road before freezing as the temperatures drop in the late evening or early morning.

4.6.2 Evening Extension

An extension of the operating time for "full" gritting provision into the evening would be a major change of policy which at the very least would have significant financial implications. This change could not currently be resourced from within the Council and it is unlikely that it could be resourced from within Shetland due to a lack of sufficiently experienced HGV drivers/contractors who are interested in this work. Driver's hours regulations would require the driving to be done in two shifts meaning that drivers who worked on the evening to morning shift would be unavailable the following day. The level of disruption to the "every day" work undertaken by contractors has meant that they have not been interested in providing drivers for the Council's winter service operations. Were they to express an interest they would expect to be recompensed for this disruption resulting in a significant increase in labour costs. A further issue for consideration is that these drivers could be retained permanently or employed on a seasonal basis. This applies whether they are "in-house" or contracted. It is more difficult to source seasonal drivers so it is likely that additional funding would have to be found for additional work at which these drivers could be employed for the rest of the year. This would, of course, require additional budget. Further considerations are the duration of this evening shift and the extents of the road network that it will cover. Since roads are busier on the weekend evenings it would be unjustifiable to extend the duration of the service on weekdays only. However, the arrangements of rural Council's on the mainland, such as Aberdeenshire and Highland (see Appendix 3), see their operations end at 9pm. Moray is an exception with gritters on "24 hour standby for priority 1 routes only." Nightshift gritting for rural Council's, unlike the urban Council's, is not the norm.

4.6.3 Proposed Solution

The proposed solution would be to formalise arrangements for responding to "blue light" emergencies, other Police "call-outs" and adverse conditions resulting from incorrect weather forecasting. A gritter crew in each area could be placed on additional standby as deemed necessary by the Roads Service during the winter season (mid-October to end of March, 23 weeks). This would ensure a quicker response and enable more roads to be treated if considered necessary. The "call-out" would be relayed to the Duty Inspectors, generally the Foreman in each area, via the Transport Foreman. The Duty Inspector would then be required to respond either themselves or by contacting a gritter crew from their area. Where this treatment would exceed the permitted driver's hours the Executive Manager – Roads would have to confirm that an exemption from the regulations was warranted before it could proceed. When a crew has attended the "call-out" they may treat the priority 1 roads in their area before returning to base if there is an identifiable need. The Transport Foreman, having consulted the Executive Manager – Roads, would also have the option to call-out the crews on standby in other areas to treat further priority 1 roads should he consider it necessary.

4.6.4 Cost Estimates

The total costs for a "typical" winter service season is generally in the region of £1 million. This includes £400,000 on labour, £200,000 on materials/salt and £300,000 on plant/equipment. A "24 hour" gritting service, if achievable, is likely to more than double labour costs when the increased rates for contracted drivers and the recompense for disruption to their normal working schedule are considered. The expenditure on salt and other materials would increase but due to an increase in residual salt on the carriageways this would be almost but not quite doubled. The plant and equipment would be used for both shifts so it is reasonable to estimate a doubling of plant maintenance costs from £140,000 to £280,000. Fuel costs would also double from £12,000 to £24,000 and depreciation of the plant/equipment would increase although this is more difficult to quantify. Therefore, a "24 hour" gritting regime during a "typical winter" would increase costs by at least £750,000 if the required additional drivers could be sourced.

The increased costs of the proposed solution would largely consist of the increased standby for the five Duty Inspectors and their driver's assistant. There would be no additional "call-out" costs. Also given that the most "call-outs" of this type in any of the past five winter seasons has been three in number then additional overtime, materials and plant/equipment costs would be minimal. The total cost of the standby for the 23 week season would be £19,621. However, the standby in a typical year for these five crews, as required by current policy, would be £10,240. Therefore, the additional costs would be less than **£15,000** per year.

4.6.5 Conclusion

The traffic volumes during the evening periods when the roads are not being treated are in the region of 20 to 25 percent of the total traffic volume for the day. The figures for the past 5 years show this to be consistent year to year and across the different road priorities. Police records show that the number of injury accidents on our roads that may have been attributable to winter conditions totalled six over the past 3 years. One of these occurred during the operating times of our gritters with 5, less than 2 per year, happening outwith the 6am to 4pm period. The other Island Councils have a policy where a gritting route cannot be commenced after 6pm. The norm for rural authorities appears to be a policy where after 6pm only priority 1 routes are treated up to 9pm. Therefore, having considered traffic volumes, road accidents and the policies of other authorities the proposed solution in section 4.6.3 would appear "reasonable" as required by legislation (see paragraph 6.4 below).

4.7 Concern: The Level of Gritting/Ploughing Provided at the Weekends and Public Holidays

4.7.1 Current Arrangements

Current policy is that gritting operations are reduced at the weekends with a 7am start until 5pm on priority 1 and 2 roads only. This policy was adopted following the review of the service in 2012 on the grounds that the roads were not as busy and that there was less essential travel for work etc. at the weekends. The concern is that more people are now using the road network on a Saturday and Sunday whether that is for travelling to work, delivering goods or for recreational or social purposes. These activities are all effected by the later start and the policy not to treat priority 3 roads at weekends even when conditions are severe.

4.7.2 Weekend Extension

An amendment of the start time by one hour to match weekdays would not be a significant change to current policy and is achievable with current resources. We would also to Priority 3 roads in severe conditions as per weekdays.

4.7.3 Proposed Solutions

The proposed solution to this concern is to match the weekend and weekday regimes. This would avoid any confusion that the public may have regarding gritting times.

4.7.4 Cost Estimates

The proposed solution would not increase standby and call-out costs. It would increase overtime costs for all crew by one hour on each Saturday and Sunday that they are gritting. It would also result in increased overtime costs on the occasions when gritting of priority 3 roads begins at the weekend rather than extending into the weekend from a period of severe weather on a Thursday/Friday. There are 45 crew of various pay grades involved in gritting operations giving a total cost for one hour of overtime of £920. In the past three years there have been an average of 12 “call-outs” on a Saturday or Sunday. This would give a cost of £11,040 per year for the additional hour worked in the morning. The number of occasions on which Priority 3 roads were treated on a Saturday or Sunday has averaged five over the past three years. Therefore, on average there is a maximum of seven further days when Priority 3 roads could have been treated. The cost for these seven days would be £16,100. There would also be additional salt, fuel and depreciation costs giving a maximum cost for this option of less than **£30,000** per year.

4.7.5 Conclusion

Traffic volumes on a Saturday are approximately 85% of those on a weekday and volumes on a Sunday are a little less at 77%. There were no injury accidents recorded on our roads at the weekends, in the past three years, that may have been attributable to winter conditions. Comhairle Eilean Siar have a policy where Saturdays are treated as per weekdays but on Sundays only priority 1 and 2 roads are gritted commencing two hours later than a weekday at 8am. Orkney Islands Council has the same operating times but treat only priority 1 and 2 roads at the weekends. The norm for rural authorities on the mainland appears to be Saturdays treated the same as weekdays with a service that has reduced operating times and network coverage on a Sunday. Therefore, having considered traffic volumes, road accidents and the policies of other authorities the proposed solution in section 4.7.3 would appear “reasonable.”

4.8 Concern: The Level of Gritting/Ploughing Provided on Christmas, New Year's Days

4.8.1 Current Arrangements

Current policy is that there are no gritting operations on Christmas and New Year's days apart from responding to "blue light" emergencies. The reasoning behind this was again that there was considered to be little if any essential travel on these days. The drivers and second men were also a consideration with the thinking being that no matter how busy they had been with the provision of winter maintenance they were at least guaranteed a break and family time on these two holidays. The concern expressed is again that more people are now using the road network on these two public holidays than was the case previously. There is undoubtedly less business or work related travel on these days than at weekends with the majority of businesses on holiday. However, people employed in the service sector and providing essential services will still be using the roads on these days.

4.8.2 Proposed Solution

The proposed solution would be to formalise the provision of a gritter crew on standby in each area should it be deemed necessary by the Roads Service. These crews would be supported by the Transport Foreman who would co-ordinate the Council's response to these "blue light" emergencies and other Police "call-outs." Similarly to the proposed solution for evening cover, when a crew has attended the "call-out" they could then treat the priority 1 roads in their area before returning to base. The Transport Foreman would also have the option to call-out the crews on standby in other areas to treat further priority 1 roads should he consider it necessary. In the past five years there has only been one response to a "blue light" request on these holidays. However, the rate of Police "call-outs" throughout the season to roads that they are concerned about has increased in recent years. The salt spread rate for the gritting on these days would be increased to 30 grams per square metre, rather than the usual 20 grams per square metre, as there is less traffic to "activate" the salt and begin the thawing process.

4.8.3 Cost Estimates

The labour costs for the overtime on Christmas or New Year's day would be £1,003 per day if all 5 crews were gritting. The cost of a "call-out" on one of these days would be £136.20 for all 5 crews. The crews would already be on standby if the solution in 4.6.3 is approved. There would also be additional salt at £1,700 per day, fuel and depreciation costs giving a maximum cost for this option of less than **£7,000** per year if all crews were out on both days.

4.8.4 Conclusion

Traffic counts from 2014/15 show that the traffic volumes on Christmas and New Year's days are 20% and 22.5% of normal weekday traffic. There were no injury accidents recorded on our roads on either of these days, in the past five years, that may have been attributable to winter conditions. Comhairle Eilean Siar have a policy where only priority 1 and 2 roads are gritted commencing at 8am. Orkney Islands Council has a "limited service." The norm for rural authorities on the mainland appears to be a 7am start on Primary routes only. The customer survey showed that only 28% of respondents were dissatisfied with the current Christmas and New Year's day arrangement. Therefore, having considered traffic volumes, road accidents, the policies of other authorities and public opinion the proposed solution in section 4.8.3 would appear "reasonable."

5.0 Exempt and/or confidential information:	
5.1 None.	
6.0 Implications :	
6.1 Service Users, Patients and Communities:	The level of winter service provision will affect the availability of the public road network which in turn will impact on stakeholders and the community. The contribution of the road network to communities is recognised by the Audit Commission in their report Going the Distance, 2011. The report states "Councils must use their road maintenance to support the economic competitiveness of their area. Roads play a critical role in public service delivery and economic growth – both through the increased mobility of citizens, goods and services, and through building and maintaining infrastructure."
6.2 Human Resources and Organisational Development:	In order to facilitate additional gritting/ploughing employees would be required to work additional hours outwith the normal working day. Employees and unions are being consulted on these proposed alterations.
6.3 Equality, Diversity and Human Rights:	No implications.
6.4 Legal:	The Council in its role as roads authority has a statutory duty, under Section 34 of the Roads (Scotland) Act, to *"take such steps as they consider reasonable to prevent snow and ice endangering the safe passage of pedestrians and vehicles over public roads."* Breach of that duty might expose the Council to potential claims.
6.5 Finance:	The maximum estimated costs of the proposals for a typical year are as follows: Proposal 4.6.3: Gritter crew in each area on standby for the entire winter season to respond to "blue light" emergencies, Police "call-outs" and incorrect forecasts followed by treatment of Priority 1 roads in that area £15,000; Proposal 4.7.3: Weekday gritting/ploughing regime extended to weekends £30,000; Proposal 4.8.2: Gritter crew in each area on standby on Christmas and New Year's Days to respond to "blue light" emergencies, Police "call-outs" and incorrect forecasts followed by treatment of Priority 1 roads in that area £7,000. Therefore, the maximum total costs would be an increase budget requirement of up to **£52,000** but this figure will depend on the severity of the winter. As described in paragraph 2.3.1 above these interim measures are proposed for 2018/19 only prior to the full Winter Service

	review to take place once the updated national guidance is published. Therefore, the cost of the proposed measures for 2018/19 only, can be met from anticipated underspend on vacant posts across Infrastructure Services staffing budgets due to the ongoing management restructure within the current year.
6.7 ICT and new technologies:	None.
6.8 Environmental:	No implications.
6.9 Risk Management:	Failure to manage and maintain the road network and the net ongoing running costs of the Council carries a significant risk of the Council's financial policies not being adhered to and will require a further draw on Reserves. J. E. Thornes, University of Birmingham (2000) showed that for every £1 spent on winter maintenance in the UK approximately £8 are saved in the reduction of winter related traffic accidents and delays.
6.10 Policy and Delegated Authority:	In accordance with Section 2.3.1 of the Council's Scheme of Delegations the Environment and Transport Committee has responsibility for the Roads Service. The Council's Constitution – Part C - Scheme of Administration and Delegations provides in its terms of reference for Functional Committees (2.3.1 (2)) that they; "Monitor and review achievement of key outcomes in the Service Plans within their functional area by ensuring – (a) Appropriate performance measures are in place, and to monitor the relevant Planning and Performance Management Framework. (b) Best value in the use of resources to achieve these key outcomes is met within a performance culture of continuous improvement and customer focus."
6.11 Previously considered by:	None.

Contact Details:
Neil Hutcheson, Team Leader – Asset & Network neil.hutcheson@shetland.gov.uk
Tel: 01595 744882
14 October 2018

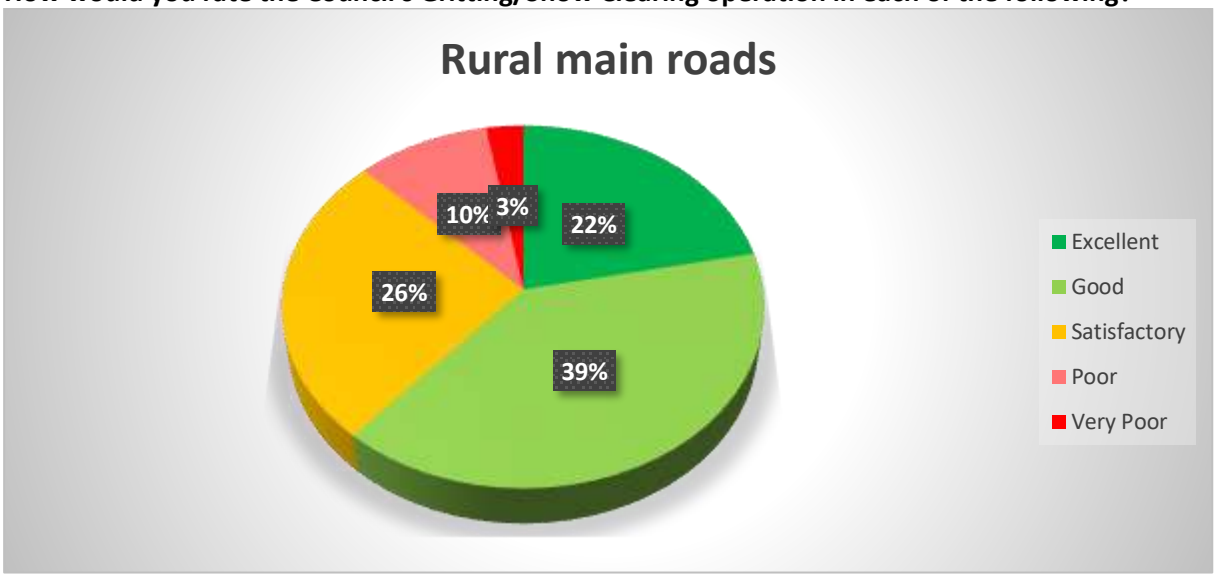
Appendices:
Appendix 1: Customer Satisfaction Survey Results for Winter Service Operations
Appendix 2: Customer Satisfaction Survey Results for Treatment Time Questions
Appendix 3: Mainland Council Gritting Regimes
Appendix 4: Island Council Gritting Regimes

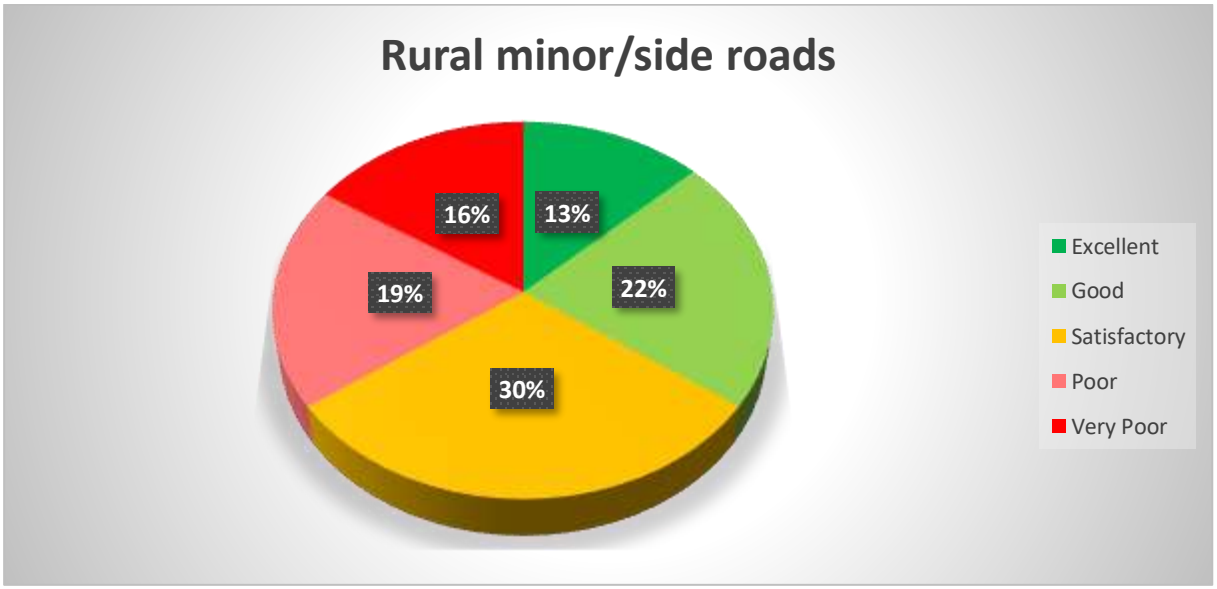
Background Documents:

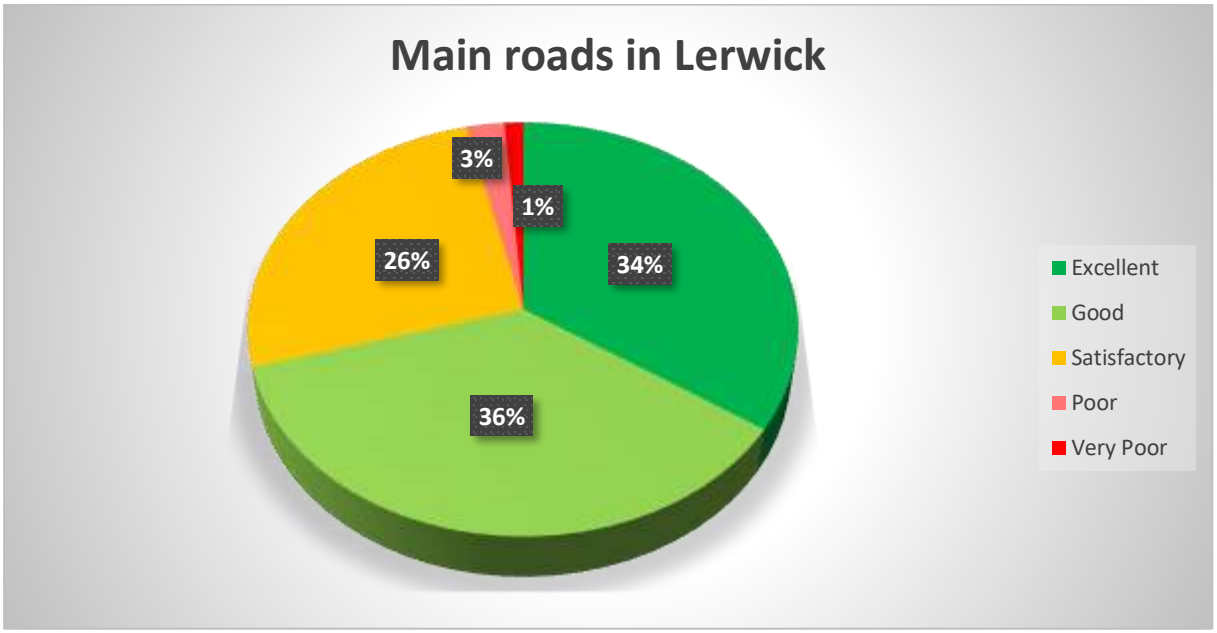
None

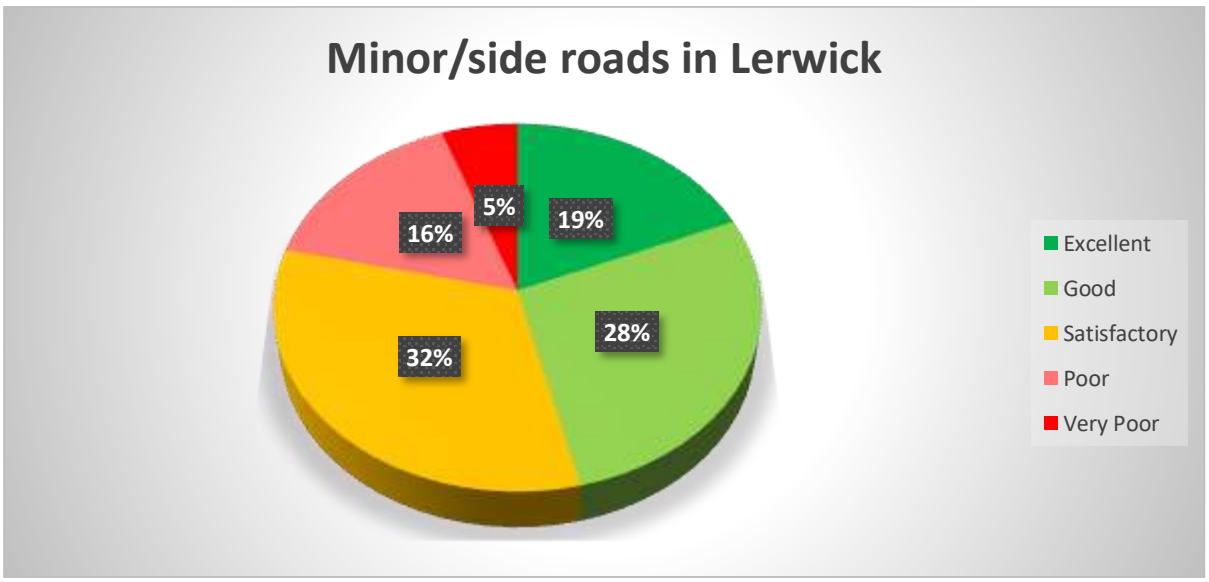
APPENDIX 1:
CUSTOMER SATISFACTION SURVEY RESULTS FOR GRITTING OPERATIONS

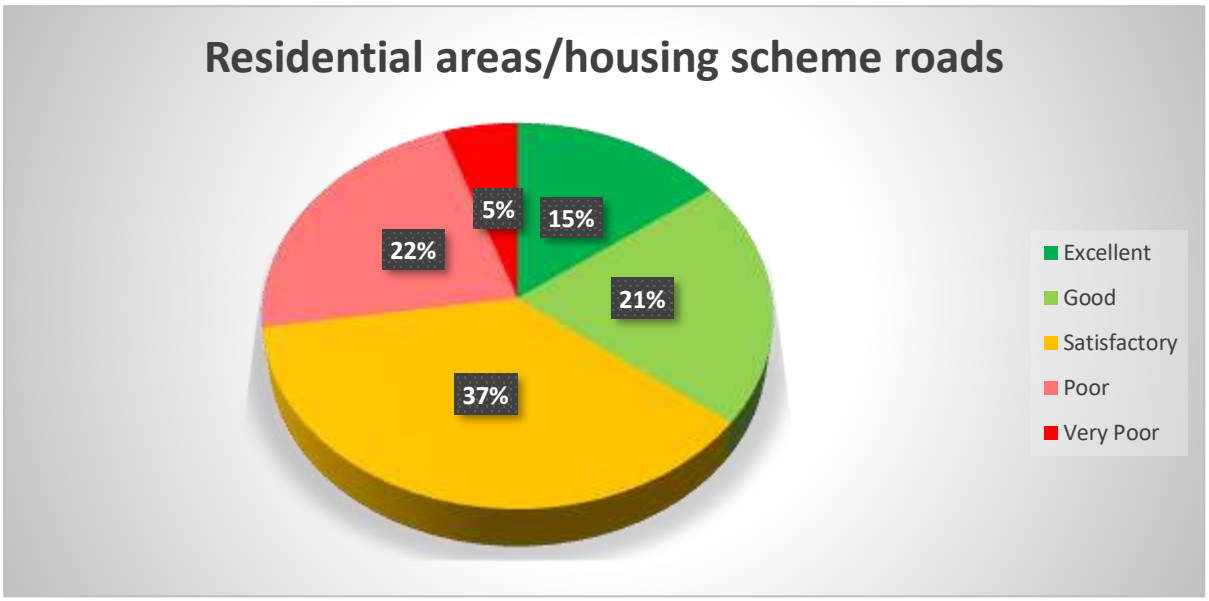
How would you rate the Council's Gritting/Snow Clearing operation in each of the following?



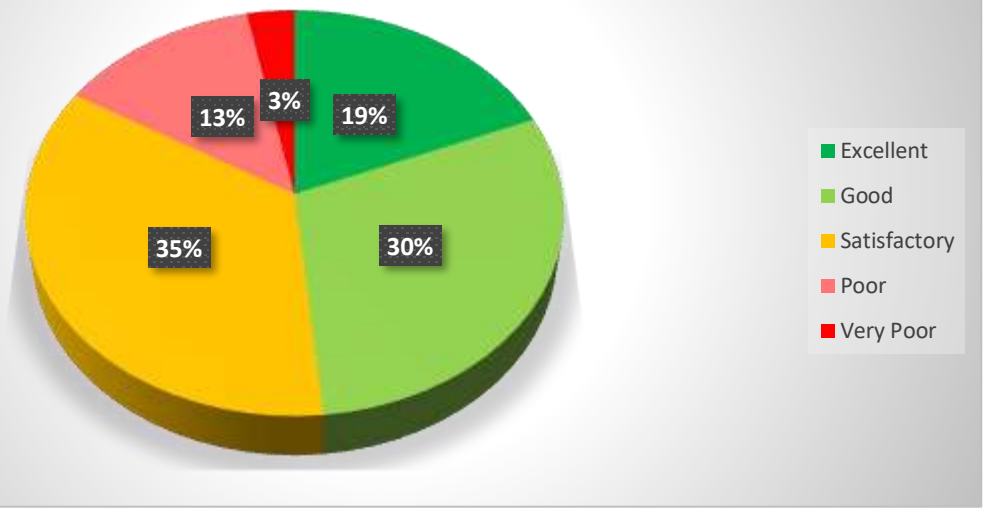



Main roads in Lerwick
3%
1%
26%
34%
36%
Excellent
Good
Satisfactory
Poor
Very Poor

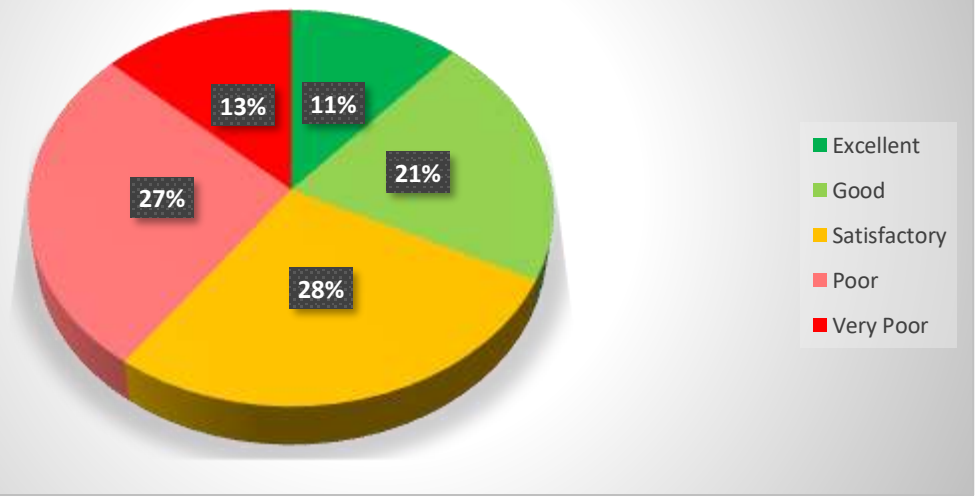

Minor/side roads in Lerwick
5%
19%
16%
28%
32%
Excellent
Good
Satisfactory
Poor
Very Poor


Residential areas/housing scheme roads
5%
15%
22%
21%
37%
Excellent
Good
Satisfactory
Poor
Very Poor

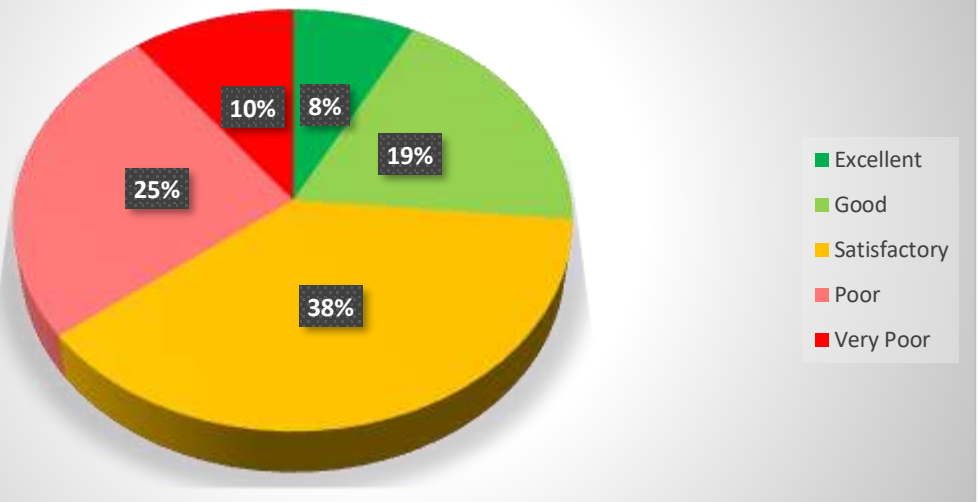
Main footways in Lerwick and Scalloway



Footways in residential areas



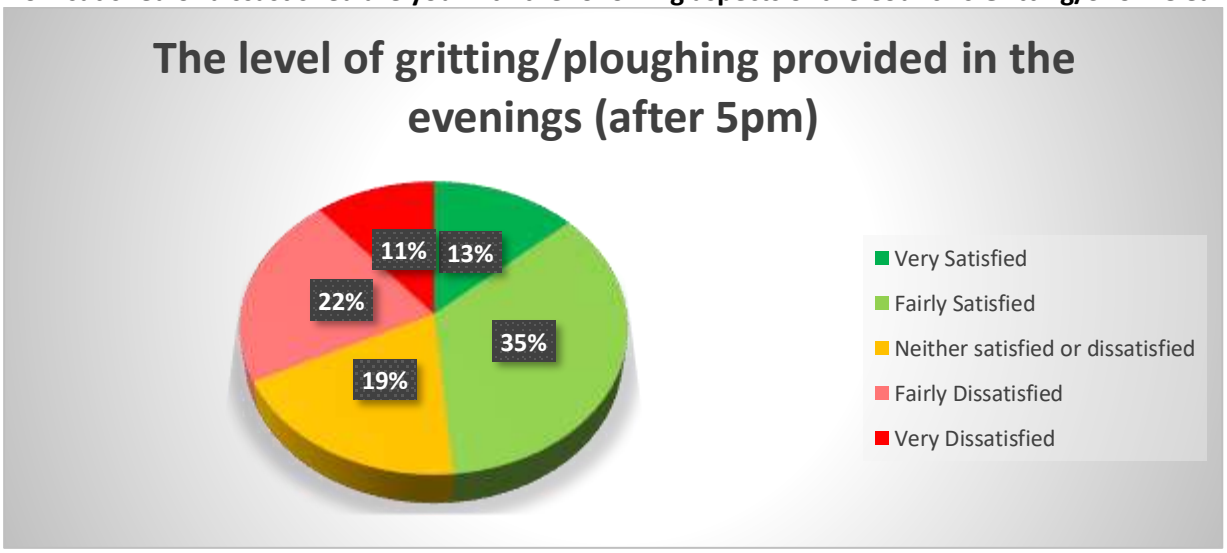
Provision of grit bins

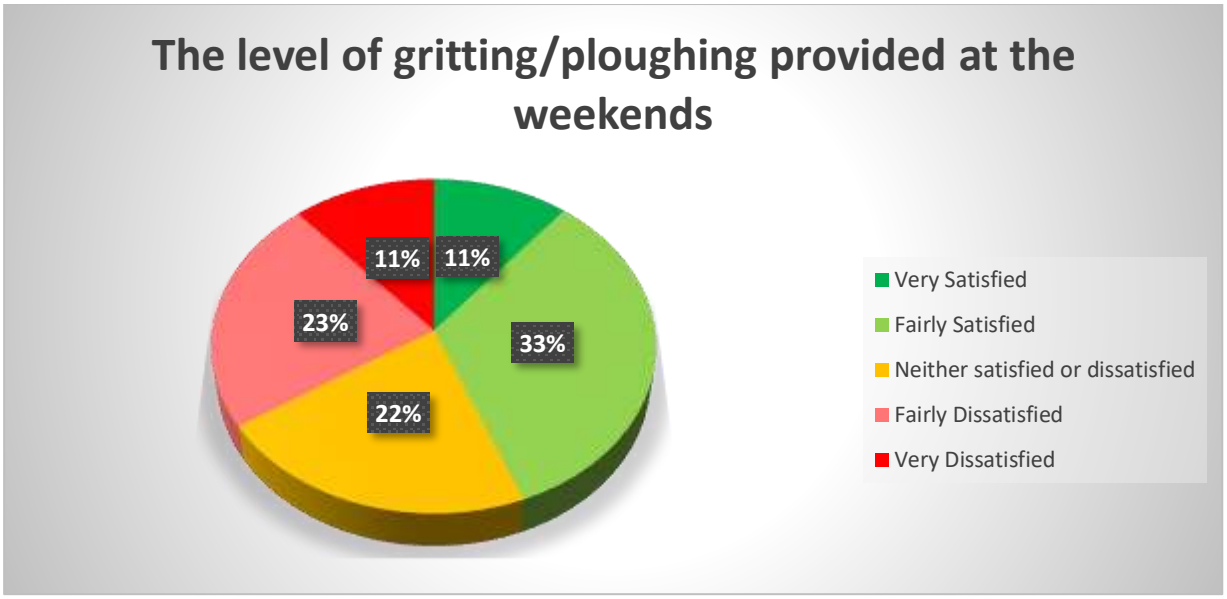


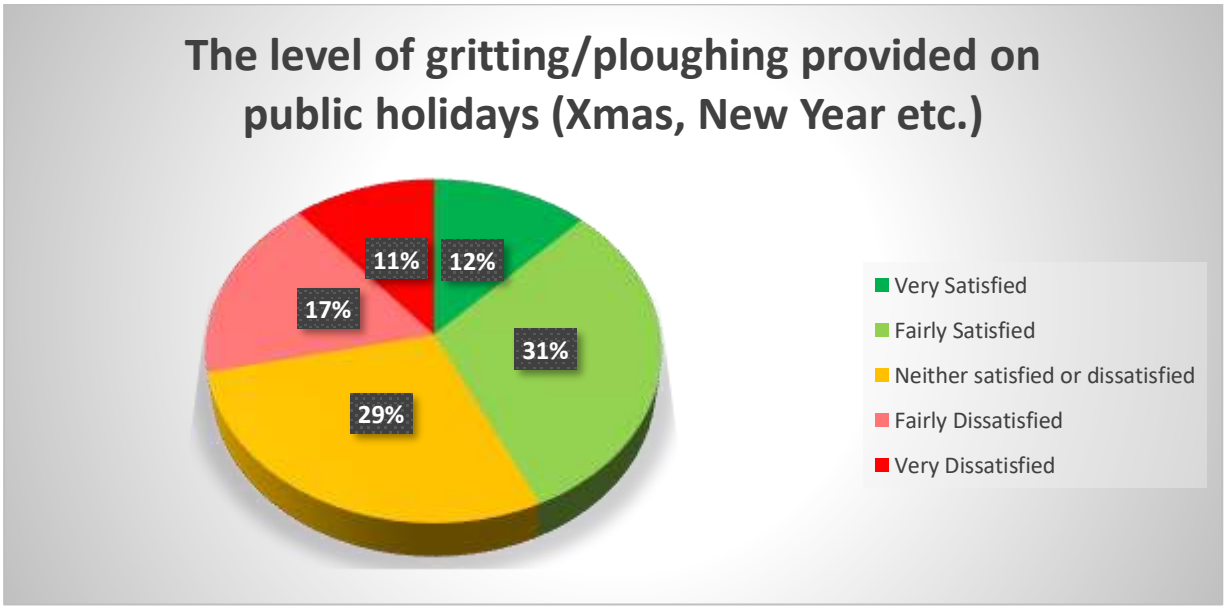
APPENDIX 2:

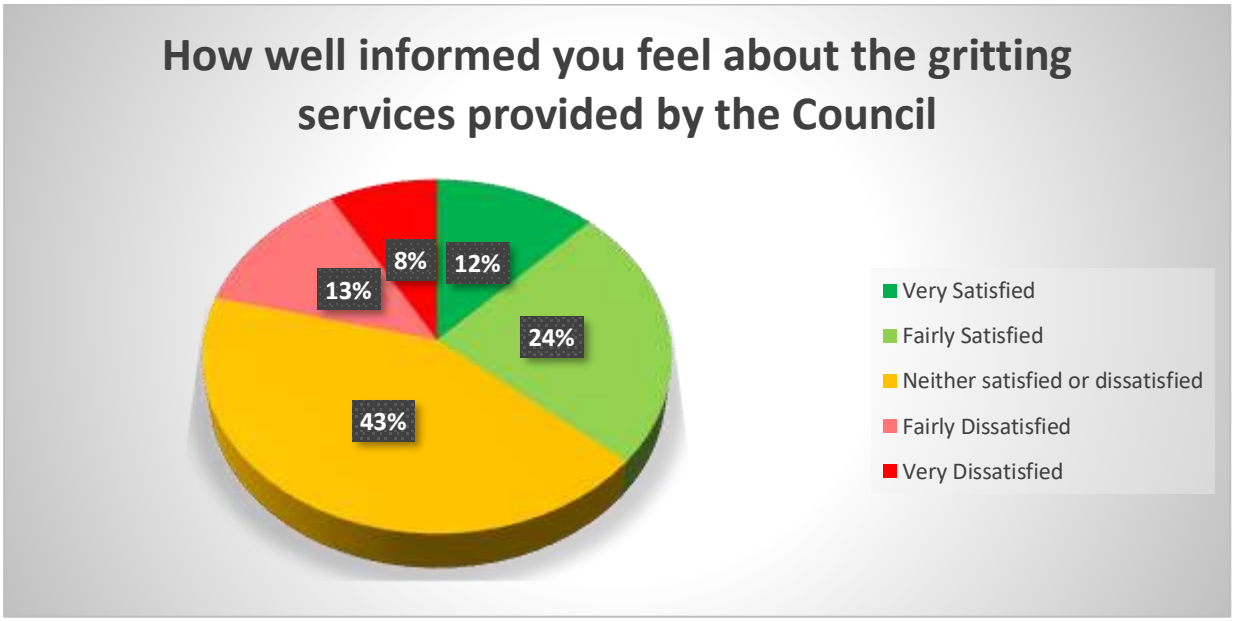
CUSTOMER SATISFACTION SURVEY RESULTS FOR TREATMENT TIME QUESTIONS

How satisfied or dissatisfied are you with the following aspects of the Council's Gritting/Snow Clearing?








How well informed you feel about the gritting services provided by the Council
12%
24%
43%
13%
8%
Very Satisfied
Fairly Satisfied
Neither satisfied or dissatisfied
Fairly Dissatisfied
Very Dissatisfied

APPENDIX 3:
MAINLAND COUNCIL GRITTING REGIMES

	STANDARD TREATMENT TIMES	WEEKENDS	CHRISTMAS & NEW YEAR'S DAY	BOXING DAY & 2ND JANUARY
Rural				
Aberdeenshire	Monday to Saturday, 6am to 9pm. Primary routes only after 6pm.	Saturdays as per weekdays. Sundays, 7am to 9pm Primary routes only.	7am to 9pm, Primary routes only.	7am to 9pm, Primary and Secondary routes only.
Highland	Monday to Saturday, 6am to 6pm. Extends to 9pm on primary routes only.	Saturdays as per weekdays. Sundays 7am to 9pm on the primary network only.	7am to 9pm on the primary network only.	7am to 9pm on the primary and secondary networks.
Moray	Monday to Saturday, 6am to 8.30pm. Primary routes only after 6pm. 24 hour standby for Priority 1 routes only.	Saturdays as per weekdays. Sundays, 6am to 8.30pm but Priority 1 routes only. 24 hour standby for Priority 1 routes only.	Public holidays, 6am to 8.30pm but Priority 1 routes only. 24 hour standby for Priority 1 routes only.	Public holidays, 6am to 8.30pm but Priority 1 routes only. 24 hour standby for Priority 1 routes only.
Urban				
Aberdeen	24 hour standby arrangements for all routes (2 rotas).	24 hour standby arrangements for all routes (2 rotas).	24 hour standby arrangements for Priority 1 routes only.	24 hour standby arrangements for Priority 1 routes only.
Perth	Monday to Saturday, 5am to 9pm on Priority 1 routes. Monday to Friday, 5.30am to 3pm on Priority 2 routes. Nightshift routes midnight to 8am, Sunday to Friday.	Saturdays as per weekdays on Priority 1 routes and Sundays 7am to 9pm. No treatment on Priority 2 routes. No "Nightshift" routes.	Priority 1 routes 7am to 9pm. No treatment on Priority 2 routes. No "Nightshift" routes.	Priority 1 routes 7am to 9pm. No treatment on Priority 2 routes. No "Nightshift" routes.
Dundee	Priority 1 routes 5am to 10pm. Priority 2 routes 7.30 to 4pm. Limited nightshift on routes on major importance. 9pm to 5.30am.	Priority 1 routes only between 5am to 10pm. No nightshift routes.	Priority 1 routes only between 5am to 10pm. No nightshift routes.	Priority 1 routes only between 5am to 10pm. No nightshift routes.

APPENDIX 4:
ISLAND COUNCIL GRITTING REGIMES

	STANDARD TREATMENT TIMES	WEEKENDS	CHRISTMAS & NEW YEAR'S DAY	PUBLIC HOLIDAYS INCLUDING BOXING DAY & 2ND JANUARY
Isles				
Shetland	Priority 1 and 2 roads* treated Monday to Friday, 6am and 6pm extending to 9pm (4pm in practice) in exceptionally bad conditions. Priority 1 roads pre-salted when necessary.	Priority 1 and 2 roads only treated, 8am to 5pm (4pm in practice). Priority 1 roads pre-salted when necessary.	No service.	Restricted service on priority 1 roads only, 7am start.
Orkney	Priority 1 and 2 roads+ commence at 6am with no routes started after 6pm. Priority 1 roads pre-salted when necessary.	Priority 1 and 2 roads only treated on weekends and public holidays, 6am to 6pm. Priority 1 roads pre-salted when necessary.	"Limited service."	"Limited service."
Eilean Siar	Priority 1, 2 and 3 roads$ commence at 6am with no routes started after 6pm. Priority 1 roads pre-salted when necessary.	Saturdays as per weekdays. Sundays priority 1 and 2 roads only are treated, commencing at 8am.	Limited service of priority 1 and 2 roads only, starting at 8am.	Limited service of priority 1 and 2 roads only, starting at 8am. Priority 1 and 2 only on "core school" holidays but with 6am start).

* Priority 3 roads not normally to be treated for frost unless severe in severe conditions when they are done following the priority 1 and 2 roads.

+ Priority 3 roads are not normally treated unless conditions are severe and likely to persist for several days.

$ Priority 4 roads to be gritted only in persistent icy conditions.

Shetland Islands Council

Agenda Item

3

Meeting(s):	Environment & Transport Committee	02 October 2018
Report Title:	Carriageway Condition of Shetland's Roads	
Reference Number:	RD-06-18-F	
Author / Job Title:	Neil Hutcheson/ Team Leader – Asset and Network	

1.0 Decisions / Action required:

1.1 That the Environment and Transport Committee NOTE the contents of this report including the improvement in the overall Road Condition Indicator (RCI) figure shown in the 2016-18 results, the benchmarking of Shetland's roads against the other Scottish local authorities and the predicted impact of budgetary decisions on the future condition of our carriageways.

2.0 High Level Summary:

2.1 Carriageway Condition 2016-18

2.1.1 The Council in its role as roads authority has a statutory duty to "manage and maintain" the public road network. The carriageway condition is measured each year and the results submitted as a statutory performance indicator to Audit Scotland. The Road Condition Indicator (RCI) that is used is a measure of "the percentage of the road network that should be considered for maintenance treatment." Therefore, the lower the RCI the better the carriageway condition.

2.1.2 The overall RCI for Shetland's public road network, as at April 2017, has improved to 35.3% "that should be considered for maintenance" from a percentage of 37.7 the previous year. The Scottish average is 36.7%.The breakdown of the RCI for the various road classifications is detailed in Appendix 1.

2.1.3 The recent improvements in the overall RCI have been due to the various treatments undertaken on our classified roads as the condition of the unclassified roads has remained fairly steady at a figure of around 50 to 55%. However, the 2016-18 survey shows considerable improvement in our unclassified roads with a reduced percentage of 45.6% that should be considered for maintenance. This may in part be due to the micro-surfacing of a significant number of unclassified roads in Lerwick during the summer of 2016. However, the larger part of the "improvement" though may be due to the unclassified roads that were selected for the survey. With only 10% of them surveyed each year it may be that the random sample contained a higher proportion of roads in the best condition than was the case in previous years.

2.1.4 The majority of Shetland's classified roads were improved in a short period during the early years of the oil "boom." Many of these have shown and continue to show signs of deterioration after 30 years of use as they near the end of their design life. The surface dressing of these roads, to address poor texture has improved their

RCI. However, this is likely to mask the long term decline of the structure of the road network, indicated by heavy cracking, rutting and poor longitudinal profile, that can only be addressed with more expensive treatments such as overlay resurfacing or reconstruction. The cost of surface dressing is £5 per square metre while resurfacing and reconstruction cost approximately £30 and £125 respectively.

2.2 Benchmarking

2.2.1 Shetland Islands Council is ranked 17th out of the 32 Scottish authorities for the road carriageway condition. In 2016/17 the Council ranked 10th for lowest expenditure on maintenance cost per kilometre of road network, an increase from 5th or 6th during the previous three years. The increase in 2016/17 was due to £450k additional expenditure on the micro-surfacing of streets in Lerwick. The Council was ranked 3rd for the percentage of the network that is surface dressed and 2nd for the percentage of the network that is either resurfaced, surface dressed or micro-surfaced. Further information on the Council's performance over the years is detailed in Appendix 1.

2.3 Impact of Budgetary Decisions

2.3.1 This report presents a number of options for the future maintenance of the road network that have been analysed using the SCOTS Cost Projection Tool to predict the effects on carriageway condition. The options are:

- a continuance of current funding levels;
- a reduction in current funding levels; and
- the predicted effect of a preventative strategy.

Since road assets deteriorate slowly the impact of a level of investment cannot be shown by consideration of only a couple of years. Therefore, the report includes 20 year predictions in Appendix 4 to give an understanding of the long term implications of budgetary decisions.

2.3.2 The tool indicates that the best method for reducing deterioration of the carriageway network is to increase the amount of surface dressing done to address poor surface texture and cracking of the carriageway. However, the Road Service only has enough capacity to complete a limited additional amount during the short surface dressing season. Therefore, an option for a 10% transfer of funds from resurfacing to surface dressing has been modelled. This predicts that over a 20 year period the RCI would increase by 4.3% from the current figure. This compares to the current spending regime that would result in a 6.9% increase in the RCI. The increase in surface dressing would still result in an increase in the lengths of unclassified road in the worst condition category, which will require a significant increase in the level of reconstruction and resurfacing to prevent the predicted 7.8% deterioration in the condition of our unclassified roads.

2.3.4 The tool was also used to predict the effects of a 10% reduction in the overall carriageway maintenance budget. This would result in the RCI increasing by 10.5% from the current figure over a 20 year period. This is 3.6% worse than retaining the current regime. This means that an additional 37.5 kilometres of road would be in the category "that should be considered for maintenance."

3.0 Corporate Priorities and Joint Working:

3.1 The local outcomes from Shetland's Single outcome agreement include "Shetland stays a safe place to live, and we have strong, resilient and supportive communities." The condition of the carriageway has direct implications for road safety.

3.2 A further local outcome that is particularly relevant to carriageway condition is "Shetland has sustainable economic growth with good employment opportunities and our people have the skills to match, good places to stay and the transport people and businesses we need."

3.3 Development of a sustainable public road network contributes to the "Stronger" section of the Community Plan and also the Corporate aim to use resources sustainably.

3.4 Shetland Islands Council Improvement Plan 12/13
Area 6.5 – To deliver the agreed savings reviews within the timescales agreed by Council.
Area 8.1 – Make sure the Council has a comprehensive view of its asset needs and how they are to be most effectively delivered.

4.0 Key Issues:

4.1 Analysis of Road Condition Indicator (RCI) Data

4.1.1 The survey results show that between 2016 and 2017 there was an improvement of 2.4% in the overall condition of Shetland's public roads from 37.7% to 35.3%. This is partly due to minor improvements in the "A and C Class" roads, of 1.0% and 0.4% respectively, but mainly due to a 4.9% improvement in the condition of unclassified roads. The condition of "B class" carriageways has deteriorated during this period by 0.7%.

4.2.1 The unclassified roads make up of 44% of the length of the public road network, but are only surveyed once every 10 years. Therefore, we must consider the long term trend when evaluating progress. In the past 5 years there has been an improvement of 6.1% in the overall RCI equating to a 12 kilometre reduction per year in the length of road requiring maintenance treatment.

Over a 13 year period the overall condition of all roads is neither improving nor deteriorating. The "A class" roads are in slight decline, the "B class" roads more so while the "C class" roads are improving. The unclassified roads, following the latest survey, are also in a similar condition to 13 years ago. This is shown by the "linear" trend lines on the graphs of Shetland's RCI figures (see Graph 1 in Appendix 1).

4.2 Road Condition Conclusions

4.2.1 In 2014 it was determined that the improvement of unclassified roads should be given more priority, but this may result in a deterioration of the overall RCI as unclassified roads are surveyed once every 10 years and it would take a number of years for any improvement in them to register in the overall RCI figure. However, if this was not undertaken the roads would continue to decline resulting in the failure of road surfaces and the need for more costly repairs.

4.2.2 Based on the latest figures the initial indications are that the unclassified roads are improved and the overall RCI is not suffering. This will continue to be monitored over the longer term.

4.3 Winter 2017/18

4.3.1 During the past winter there were prolonged periods of frost and numerous days with very low temperatures. The gritters were called-out on 58 mornings compared to the average number of call-outs of between 30 to 35 mornings per season. The road surface temperature fell below minus 5^{o}C on 4 occasions during the past season. The most occasions below this temperature in the previous 5 seasons was 2 in 2013/14.

4.3.2 This has resulted in a greater number of potholes and other defects than normally appear after the winter. The current budgetary constraints, and the resulting reduction in workforce, means that repairs take longer. Dependent on the severity of this coming winter, the backlog of repairs will be undertaken. This demonstrates the reduction in capacity to meet the deterioration of the network resulting from recurring prolonged and severe conditions.

4.4 Rural Housing Estate Roads

4.4.1 The past winter has highlighted the continual deterioration of the majority of roads in rural housing estates (see photographs in Appendix 2 below). These are badly potholed and there are other common defects such as fretted joints and poor reinstatements following the installation of utilities.

4.4.2 The most appropriate treatment for housing estate roads is micro-surfacing as used in Lerwick in 2016 to treat 32 road lengths. This treatment seals the road to prevent further damage and will level out minor height differences in the surface to address issues such as settled reinstatements and patches. This is a specialist process which requires to be outsourced.

4.4.3 There is a considerable saving to be made from using micro-surfacing rather than asphalt resurfacing or reconstruction as the treatment for these estate roads. It is an equivalent to surface dressing that cannot be used here due to the frequency of junctions and the high number of parked cars. The unit rate for the micro-surfacing is inexpensive but the real benefit is that it allows significant lengths of carriageway to be repaired sooner. This avoids further deterioration and much more expensive repairs at a later date and demonstrates best value for the Council.

5.0 Exempt and/or confidential information:

5.1 None.

6.0 Implications :	
6.1 Service Users, Patients and Communities:	The condition of the road network will affect its reliability which in turn will impact on stakeholders and the community if there are delays and temporary road closures due to maintenance works. The contribution of road maintenance to communities is recognised by the Audit Commission in their report Going the Distance, 2011. The report states “Councils must use their road

<table>
<tr><td></td><td>maintenance to support the economic competitiveness of their area. Roads play a critical role in public service delivery and economic growth – both through the increased mobility of citizens, goods and services, and through building and maintaining infrastructure.”</td></tr>
<tr><td>6.2 Human Resources and Organisational Development:</td><td>No implications.</td></tr>
<tr><td>6.3 Equality, Diversity and Human Rights:</td><td>No further implications than those considered in para 6.1.</td></tr>
<tr><td>6.4 Legal:</td><td>The Council’s statutory duties are defined by Section 1 of the Roads (Scotland) Act 1984 which requires that “a local roads authority shall manage and maintain all such roads in their area as are for the time being entered in a list (in this Act referred to as their “list of public roads”).”</td></tr>
<tr><td>6.5 Finance:</td><td>There are no direct implications arising from this report. The total revenue budget for carriageway maintenance is £1.8m in 2018/19. The table below shows the actual spend on carriageway maintenance over the last three years plus the current year budget, with an overall total of £7.3m over the period.

<table>
<tr><th>Year</th><th>Resurfacing</th><th>Surface Dressing</th><th>Patching</th><th>Reconstruction</th><th>Total</th></tr>
<tr><td></td><td>£000</td><td>£000</td><td>£000</td><td>£000</td><td>£000</td></tr>
<tr><td>2015/16</td><td>624</td><td>474</td><td>357</td><td>255</td><td>1,710</td></tr>
<tr><td>2016/17</td><td>719</td><td>992</td><td>253</td><td>209</td><td>2,173</td></tr>
<tr><td>2017/18</td><td>592</td><td>468</td><td>309</td><td>252</td><td>1,621</td></tr>
<tr><td>2018/19</td><td>716</td><td>500</td><td>331</td><td>269</td><td>1,816</td></tr>
<tr><td>Total</td><td>2,651</td><td>2,434</td><td>1,250</td><td>985</td><td>7,320</td></tr>
</table></td></tr>
<tr><td>6.7 ICT and new technologies:</td><td>None.</td></tr>
<tr><td>6.8 Environmental:</td><td>No implications.</td></tr>
<tr><td>6.9 Risk Management:</td><td>Failure to manage and maintain the road network and the net ongoing running costs of the Council carries a significant risk of the Council’s financial policies not being adhered to and will require a further draw on Reserves.

The Highways Term Maintenance Association have stated “there is a compelling commercial argument for investing early in road maintenance to arrest the decline in the condition of a road network with case studies showing benefits to cost ratios in excess of 2:1.”</td></tr>
</table>

6.10 Policy and Delegated Authority:	In accordance with Section 2.3.1 of the Council's Scheme of Delegations the Environment and Transport Committee has responsibility for the Roads Service. The Council's Constitution – Part C - Scheme of Administration and Delegations provides in its terms of reference for Functional Committees (2.3.1 (2)) that they; "Monitor and review achievement of key outcomes in the Service Plans within their functional area by ensuring – (a) Appropriate performance measures are in place, and to monitor the relevant Planning and Performance Management Framework. (b) Best value in the use of resources to achieve these key outcomes is met within a performance culture of continuous improvement and customer focus."
6.11 Previously considered by:	None.

Contact Details:
Neil Hutcheson, Team Leader – Asset & Network neil.hutcheson@shetland.gov.uk
8 August 2018

Appendices:
Appendix 1: Carriageway Condition of Shetland's Roads: Detailed Information
Appendix 2: Rural Housing Estate Roads: Photographs of Carriageway Condition
Appendix 3: Roads Performance: Detailed Information
Appendix 4: Impact of Budgetary Options

Background Documents:
1. "Carriageway Condition of Shetland's Roads" 12 April 2017 (RD-03-16-F)

Appendix 1

Carriageway Condition of Shetland's Roads: Detailed Information

1 SCANNER Survey Results

1.1 Road Condition Indicator

Audit Scotland's statutory performance indicator (SPI) for road carriageways is 'the percentage of the road network that should be considered for maintenance treatment'. The figure reported for the SPI is a Road Condition Indicator (RCI) produced from machine-based measurements taken during a Scotland wide survey of the road network. The parameters measured are:

- surface texture, helps to provide skidding resistance and indicates surface wear;
- cracking, indicates deterioration of the surface course or more deep seated structural defects;
- rutting, can affect vehicle handling or cause water to pond;
- longitudinal profile, the main factor controlling ride quality and hence user perception and is also a good indication of defects in the road structure.

The former two parameters are usually treated with surface dressing and the latter require a minimum of overlay resurfacing or more expensive reconstruction if the damage has reached the base layers.

1.2 Survey Frequency

The required survey coverage of the road network is detailed in the SPI. The "A Class" roads are surveyed in both directions every two years, that is one direction one year and the opposite direction the following year. The "B and C Class" roads are surveyed in both directions over a four year period, that is 50% per year in one direction. The unclassified roads have a 10% sample surveyed on an annual basis selected at random by the survey contractor.

While surveys are carried out on an annual basis, the RCI is calculated over two years to minimise the effect of sampling errors on the results.

1.3 Results

The results are categorised into Green, Amber and Red condition bands where:

Green indicates the carriageway is generally in a good state of repair;

Amber indicates the carriageway has some deterioration that should be investigated to determine the optimum time for planned maintenance treatment; and

Red indicates the carriageway has lengths in poor overall condition that are likely to require planned maintenance soon.

The RCI figure includes both the Amber and Red categories so an increase in the figure indicates deterioration in the condition of the road. Table 1 and Graph 1 show how the RCI for both Shetland's and Scotland's roads have varied since 2004. The graphs show that although there have been crests and troughs over the years the general trend, as indicated by the thick black line, is a deterioration in the condition of each of our road classifications.

Table 1: Road Condition Indicators (RCI) for Shetland and Scotland

	A Class Shetland	A Class Scotland	**B Class Shetland**	B Class Scotland	**C Class Shetland**	C Class Scotland	**Unclass Shetland**	Unclass Scotland	**All Shetland**	All Scotland
2004-06	**18.3**	27.4	**33.1**	32.2	**34.5**	31.0	**48.3**	41.3	**36.9**	35.9
2005-07	**21.0**	28.6	**34.5**	33.4	**35.8**	31.9	**48.1**	42.8	**37.8**	37.2
2006-08	**19.9**	29.2	**33.1**	34.2	**35.7**	33.0	**54.6**	42.5	**40.2**	37.4
2007-09	**16.3**	28.5	**31.5**	33.6	**32.4**	33.1	**54.1**	36.6	**38.3**	34.2
2008-10	**21.8**	29.6	**33.9**	34.9	**35.9**	33.2	**51.2**	39.4	**39.3**	36.1
2009-11	**24.7**	30.5	**38.2**	35.8	**38.8**	35.0	**50.3**	41.9	**40.7**	37.9
2010-12	**26.4**	30.5	**41.8**	36.3	**40.7**	36.0	**53.8**	38.3	**43.7**	36.4
2011-13	**25.2**	29.4	**39.6**	35.0	**39.9**	34.8	**53.1**	39.0	**42.5**	36.2
2012-14	**21.1**	28.7	**38.0**	35.2	**38.2**	36.6	**54.0**	39.4	**41.4**	36.7
2013-15	**21.2**	29.0	**39.3**	36.1	**38.1**	37.3	**54.6**	39.3	**41.9**	37.0
2014-16	**20.7**	29.0	**34.4**	34.8	**35.0**	34.7	**51.1**	40.2	**38.9**	36.7
2015-17	**19.8**	29.5	**33.5**	34.8	**31.5**	34.6	**50.5**	39.5	**37.7**	36.4
2016-18	**18.8**	30.2	**34.2**	35.9	**31.0**	36.2	**45.6**	39.0	**35.3**	36.7

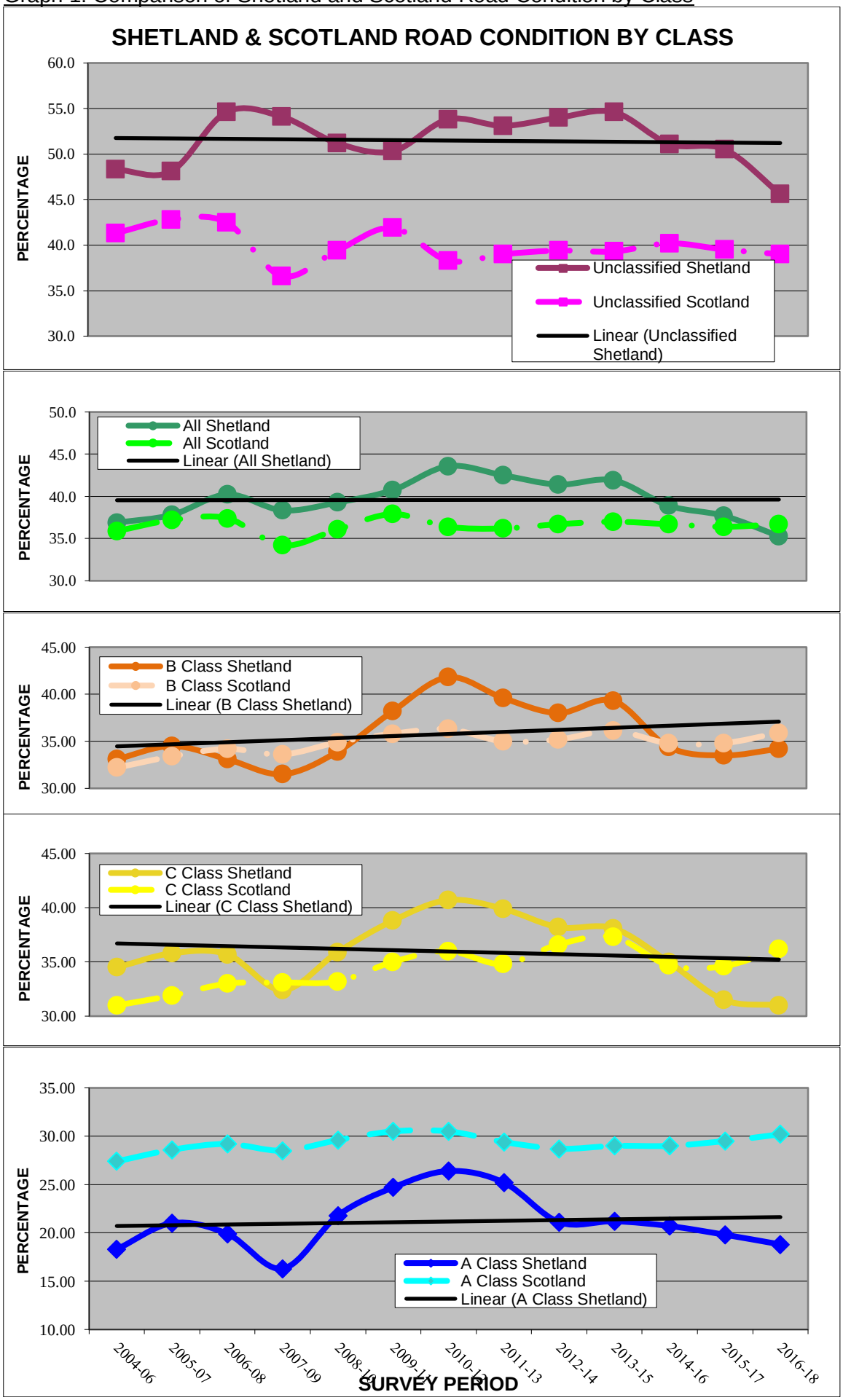
1.4 "A class" Roads

Shetland's "A class" roads have been and still are in a better condition than the average for "A class" roads in Scotland. The gap between them had reduced from a high of 12.2% in 2007-09 to 4.1% in 2010-12. However, this closing of the figures has slowed then reversed with the latest survey showing that the difference is now 11.4%. This may have occurred because we have been targeting treatment at lengths of "A class" road that the SCANNER survey has shown to be in an amber condition. The surface dressing of these lengths is a low cost treatment that improves the carriageways surface texture and seals any cracking to prevent the ingress of water. The result is improved skid resistance, the prevention of future frost damage and an improvement in the condition indicator from amber to green. The relatively good condition of our "A class" carriageways means that we are now able to give more priority to the treatment of the other classifications.

1.5 "B and C Class" Roads

While a number of these roads were improved in the 1970's and 80's the majority are still single track. Approximately 20% of these are founded on peat that generally has a low load bearing capacity. This can result in uneven road surfaces, differential settlement, edge deterioration, cracking and eventually disintegration of the bitmac surface. This has always been a problem but the rate of deterioration increased as the number of heavy goods vehicles accessing aquaculture sites and other developments increased. This is why Shetland's "B and C class" roads have over the years tended to be in a poorer condition than the Scottish average. The exception was in a period between 2007 and 2009 when the condition of the "B class" roads improved significantly. In the two years following this period there was a deterioration of approximately 9% in the condition of the "B and C class" roads. However, this has again improved recently and these two classes of road now have a condition figure better than the national average. This improvement is again likely due to these roads having been given greater priority over our unclassified roads.

Graph 1: Comparison of Shetland and Scotland Road Condition by Class



1.6 "Unclassified" Roads

The "unclassified" roads have historically been in a worse condition than the national average. They tend to be narrower than their "classified" equivalent and so are even more susceptible to edge damage due to HGV's or the larger agricultural vehicles now being used. From 2011 to 2014 the condition of Shetland's unclassified roads was approximately 15% worse than the Scottish average. This was a decline from a figure that was 12% worse in the preceding 4 years. It is likely that this continued decline was partly due to the classified roads being treated with more priority than was previously the case. However, in the past 3 years their RCI has shown a significant reduction to a figure only 6.6% worse than the national average. However, given that only 10% of the unclassified roads are surveyed each year it is too early to make any conclusions about the success or otherwise of our relatively new practice of increasing the length of unclassified roads to be treated each year. For example, it may be that the survey's random sample contains, for this year only, a high proportion of roads in the best condition.

1.7 Entire Network

The "all" roads figure for the entire network is now 1.4% better than the average, a relative improvement of 2.7% since last year. The graph shows that the Shetland figure began to diverge from the Scottish average figure in 2009-11 but has now closed as our figure has improved and the Scottish average has remained relatively steady. Prior to this the percentage of Shetland's carriageways that should be considered for treatment was approximately 3% greater than the national average largely due to the relatively poor condition of our single track unclassified roads. The reduction in funding may have been a contributory factor in the increase from this 3% gap but, as already discussed in paragraph 2.1.3 of the report, a further reason for the long term decline since 2004 may be that the majority of Shetland's "classified" roads were improved in a short period during the early years of the oil "boom." Many of these have shown and continue to show signs of deterioration after 30 years of use. The surface dressing of these roads, to address poor texture (see 1.1 above), has improved the RCI of our "classified" roads. However, this will to a certain extent mask the long term decline of the "structure" of the road network, indicated by heavy cracking, rutting and poor longitudinal profile, that can only be addressed with more expensive treatments such as overlay resurfacing or reconstruction.

2 Maintenance Backlog

2.1 "One Off" Repair Cost

The Society of Chief Officers of Transportation in Scotland (SCOTS) has analysed the SCANNER surveys and the carriageway maintenance budgets of local authorities to calculate a maintenance backlog figure. The inputs to the backlog calculation are:

- the survey data parameters;
- the treatment method for each defect type;
- the treatment costs supplied by each Council; and
- the carriageway lengths and widths supplied by each Council.

The resulting figure is the expenditure required to bring the entire road network of an authority to the acceptable or "Green" condition. The 2017 headline backlog figure to improve Shetland's carriageways to this acceptable condition is £31.9 million. The backlog figure is generally calculated by SCOTS every two years so will next be done in 2019. The figures since 2009 are shown in the following table.

(Please note that in 2015 SCOTS decided to use Scotland wide average treatment costs for calculating the backlog figure rather than each Council's own unit rates for treatment costs).

Table 1: Backlog Figures (Recalculated) for Shetland 2009-15

	BACKLOG (£M)	BACKLOG 2017 RATES (£M)	VARIANCE (£M)	VARIANCE (%)	RCI OVERALL	RCI "A class"	RCI CLASSIFIED	RCI UNCLASSIFIED
2009	27.3	-			36.6	16.3	26.0	54.1
2010	35.5	-	8.2	30.0	39.3	21.8	29.9	51.2
2011	45.7	-	10.2	28.7	40.7	24.7	33.2	50.3
2013	50.5	-	4.8	10.5	42.5	25.2	34.2	53.1
2015	53.8	36.4	3.3	6.5	41.9	21.2	32.0	54.6
2017	-	31.9	-4.5	-12.1	37.7	19.8	31.5	50.5

3 "Steady State" Figure

3.1 Budget Required to Maintain Current Condition

SCOTS developed the backlog concept further and arrived at a figure giving the annual budget required to maintain carriageways in a "steady state" so that they are neither improving nor deteriorating. In 2009 this figure for Shetland was £2.4 million per year. The budget allocated for carriageway treatments that year was £2.08 million or 87% of the steady state figure. In 2015 the "steady state" figure increased to £4.1 million per year while that year's budget reduced to £1.78 million which equates to only 43% of the "steady state" figure. The latest "steady state" figure, calculated in 2017, is £3.9 million. Therefore, last year's carriageway maintenance budgets, which totalled £1.77 million amounted to 45% of the funding required to maintain our roads in their current condition. (Please note that in 2015 SCOTS decided to use Scotland wide average treatment costs for calculating the "steady state" figure rather than each Council's own unit rates for treatment costs).

An increase in the unit rates of carriageway treatments due to inflation and the stagnation of the revenue budgets to fund these treatments partly explains why the gap between the "steady state" and actual budgets has increased significantly. Another factor is that the proportion of roads in a "red" condition increased even though the

overall condition improved. These roads in the poorest condition are more expensive to repair hence the increase in the “steady state” figure.

3.2 Future Road Condition

The gap between the “steady state” and the budgets, if it continues in the long term, will eventually have a detrimental impact on the condition of Shetland’s roads and on the statutory performance indicator. It is vital that planned and preventative maintenance measures, such as surface dressing, are adequately funded in order to avoid much costlier reactive maintenance such as the repair of potholes or deeper failures of the road foundation.

3.3 Structural Failures

It is important to recognise that preventative measures, such as surface dressing, cannot address the structural failure of our carriageways that results from poor “foundations” and heavy loading from larger vehicles. We have already stated “that the majority of Shetland’s “classified” roads were improved in a short period during the early years of the oil “boom.” Many of these have shown and continue to show signs of deterioration after 30 years of use.” Due to the age of these roads a significant proportion of that deterioration is and will be structural. We have to bear this in mind and be prepared for an increase in the lengths of road that will have to be resurfaced or reconstructed. The “easy” gains to be made in carriageway condition by the inexpensive surface dressing of amber sections of carriageway will in time diminish. This would allow a redistribution of funding with the surface dressing budget being reduced in favour of the resurfacing budget. In turn this would, in the meantime, allow a slight increase in the structural treatment of failed sections thereby reducing the expected peak in structurally failed roads. However, given the higher unit rate of resurfacing and reconstruction this peak is likely to result in a worse RCI figure and an increased backlog.

Appendix 2

Rural Housing Estate Roads: Photographs of Carriageway Condition

Thistle Court, Hestingott, Virkie

Dalsetter Wynd, Boddam

Rural Housing Estate Roads: Photographs of Carriageway Condition

Park Wynd, Sandwick

Kalliness, Weisdale

Rural Housing Estate Roads: Photographs of Carriageway Condition

Clach-na-Strom, Whiteness

Appendix 3

Roads Performance: Detailed Information

1.1 SCOTS Audit

A recent informal audit of the Roads Services' reporting procedures recommended that more emphasis be given to our performance. Therefore, a section on performance indicators is now included in this annual report.

1.2 Carriageway Performance Indicators

The additional indicators are the percentage of road network treated by length, the percentage of road network surface dressed by area and carriageway maintenance cost per kilometre. The Council's performance benchmarked against the 32 Scottish local authorities is also given in each of these criteria. Figures for these indicators are shown in the following tables. It is notable that Shetland Islands Council is ranked 3rd for percentage of the carriageway surface dressed each year and that we spend the 10th least of the 32 authorities on the maintenance of our carriageways.

Table 1: Shetland's Performance Indicators and Benchmarking

Financial Year	% of Network Treated (by Length)	RANK	% of Surface Dressing (by Area)	RANK	Maintenance Cost per Km (£) (Lowest = 1)	RANK
2011/12	4.21	15	3.62	5	2,992	9
2012/13	3.98	*	3.38	*	3,222	*
2013/14	4.68	10	3.64	3	3,281	6
2014/15	4.60	10	3.56	3	3,096	5
2015/16	4.97	7	3.90	3	3,274	6
2016/17	6.68	2	4.94	3	4,106	10

	A Class RCI Ranking	B Class RCI Ranking	C Class RCI Ranking	Unclassified RCI Ranking	Overall RCI Ranking
2004-06	**5**	18	**20**	23	**16**
2005-07	**6**	20	**19**	22	**19**
2006-08	**4**	16	**20**	29	**21**
2007-09	**2**	15	**14**	32	**23**
2008-10	**4**	19	**18**	29	**20**
2009-11	**8**	23	**19**	27	**19**
2010-12	**14**	27	**21**	30	**25**
2011-13	**7**	24	**17**	29	**23**
2012-14	**7**	21	**17**	29	**22**
2013-15	**8**	28	**16**	30	**25**
2014-16	**8**	22	**19**	28	**21**
2015-17	**6**	19	**16**	28	**21**
2016-18	**3**	18	**14**	27	**17**

Appendix 4

Impact of Budgetary Options

1.1 Cost Projection Tool

SCOTS identified a need to assist authorities with assessing and reporting on the predicted effects of varying levels of funding. There was a need to assist authorities to explore and understand the potential for making better use of limited budgets via their deployment in an improved manner. This resulted in the development of the "Cost Projection Tool." It is a spreadsheet that uses the SCANNER data to predict the future condition of the asset based upon estimated rates of deterioration and the effect of maintenance treatments in improving condition. The projection of costs allows decision makers, including Councillors, to be informed if current and future funding levels are likely to result in an improvement of the network or deterioration. This data is output on graphs showing how the condition is predicted to change over a 20 year period.

1.2 Funding Scenarios

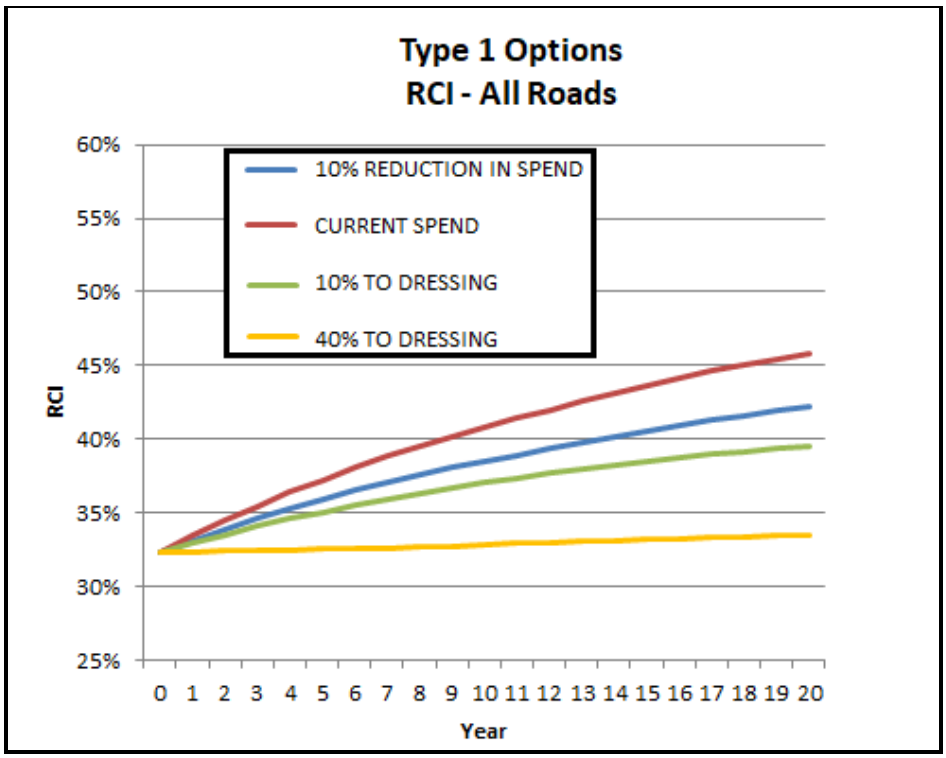
The funding scenarios that have been modelled are as follows:

- Option 1 - the current spending regime;
- Option 2 - a 10% reduction in spending across all treatments;
- Option 3 - transferring 10% of resurfacing budget to surface dressing; and
- Option 4 - transferring 40% of resurfacing budget to surface dressing.

The predicted results over a 20 year period are as shown in graph 2 below.

To enable consideration of the graphs it should also be noted in the situation where the money allocated is greater than the amount of work required the model calculates the amount of 'surplus budget' which allows that surplus to be reallocated to other road classes or treatments. This allows all spending to be directed to roads where it will be needed and won't be wasted.

Graph 2: 20 Year RCI Prediction for Different funding Scenarios



This shows that a 10% reduction in spend across all treatments would increase the RCI by 3.6% in comparison to retaining the current spend. A 10% reallocation of the spend with more surface dressing done rather than resurfacing would give a 2.6% relative improvement over the 20 year period while a 40% reallocation yields a 8.7% relative improvement. This suggests that we should increase the amount of surface dressing we do at the expense of our resurfacing programme. However, as surface dressing is weather dependent and there is a limited time when it can be done, it would not be possible to dress the additional area represented by a 40% transfer of funds. Therefore, a 10% transfer of funds would be a better regime to achieve maximum improvement in the RCI.

1.3 Carriageway Predictions Summary

In summary, the cost tool predicts that it is possible to restrict the deterioration of Shetland's carriageways to only 4.3% in the 20 year period by transferring 10% of the resurfacing budget to surface dressing. Since resources are limited the chosen option would not require any additional funding for carriageway maintenance above that in the current budgets. The model also shows that, if the current spending regime is retained, there would be a surplus of spending on classified rural roads. This would have to be reallocated to unclassified roads if this deterioration of only 4.3% is to be achieved.

Shetland Islands Council

Agenda Item

4

Meeting(s):	Environment & Transport Committee Policy & Resources Committee	02 October 2018 08 October 2018
Report Title:	Road Safety Inspection and Defect Categorisation Policy	
Reference Number:	RD-04-18-F	
Author / Job Title:	Neil Hutcheson/ Team Leader – Asset and Network	

1.0 Decisions / Action required:

1.1 That the Environment and Transport Committee NOTE the contents of this report and RECOMMEND to the Policy and Resources Committee that it approves the proposal to revise the "Road Safety Inspection and Defect Categorisation Policy" as detailed in section 2.3.

2.0 High Level Summary:

2.1 Current Policy

2.1.1 The current Road Inspection Policy has been in place since 2006, updated in 2009, and was developed in accordance with "Well-Maintained Highways," the code of practice at that time (see Appendix 1). The current policy is risk based in that it uses a "Defect Risk Assessment Matrix" to categorise defects and assign the required "Target Response Times." However, it also uses "Safety Inspection Intervention Levels" which are thresholds above which a defect **must** be assessed, categorised then repaired within specified periods. The frequency of inspections are determined using the "Road Maintenance Hierarchy" which essentially means that the more trafficked "main" roads are inspected more often than the less trafficked "minor" roads.

2.1.2 There are no concerns or issues regarding the current policy and inspection regime. Analysis of the Police's road accident records between 2011 and 2015 showed that on average there were less than 20 injury accidents per year. This figure is among the lowest in Scotland, relative to traffic volume, and the vast majority of these accidents were not attributed to road defects. A similar study of the roads related insurance claims made against the Council showed that on average there were only 2 per year that could be attributed to road defects.

2.2 New Code of Practice – Risk Based

2.2.1 A new code, titled "Well-Managed Highway Infrastructure," was published in 2016 and roads authorities have been advised that they should comply with its

recommendations by October 2018. The new code recommends a "more" risk based approach for categorising the road network, undertaking inspections, assessing and prioritising defects.

2.2.2 The current policy meets the new network categorisation and inspection frequency recommendations as our "Road Maintenance Hierarchy" already accounts for "current and expected use, resilience, and local economic and social factors such as industry, schools, hospitals and similar" as suggested. It also, as explained above, meets the new recommendation regarding the risk based assessment of defect and the prioritisation of their repair due to its "Defect Risk Assessment Matrix."

2.2.3 Therefore, the only significant difference is the new code's reference to "investigatory levels" rather than "intervention levels." The former terminology is used as it infers that there is no expectation that repair action will be taken where a defect exceeds an investigatory level. Instead each defect is to be assessed on site on an individual basis using the inspector's judgement. These "investigatory levels" are to be set with reference to local needs and priorities, similar to our "intervention levels," but also with reference to affordability.

2.3 Proposed Policy

2.3.1 The Society of Chief Officers for Transportation in Scotland (SCOTS) in November 2016 developed draft road inspection guidelines with the aim of achieving a consistent approach across Scottish local authorities. The proposed new policy is based on the SCOTS guidance (see Appendix 2). However, it does **not** fully adopt the recommendations contained in the new code of practice. In particular we propose that our current "intervention levels" be retained rather than being replaced with the new "investigatory" approach. The reasoning behind this is based on the following considerations:

- the lack of case law due to the new code not yet being tested in court, especially the principle that affordability is a factor to be considered when developing a risk based approach;
- affordability is not an issue with regard to our inspections as we consider that the two inspector posts we currently have is the optimum number given the extents of our road network and the range of tasks that the inspectors are required to undertake; and
- there is no need to significantly change our inspection regime due to the low number of road accidents on our roads and the extremely low number of insurance claims against the Council resulting from road defects.

2.3.2 The proposed policy should ensure a consistent methodology across Shetland's road network for the management and inspection of road defects. It would also comply with the current SCOTS guidance. This should assist the Council when defending any public liability claims.

3.0 Corporate Priorities and Joint Working:

3.1 The local outcomes from Shetland's Single outcome agreement include "Shetland stays a safe place to live, and we have strong, resilient and supportive communities." The road inspection regime and the categorisation of defects has direct implications for road safety.

3.2 A further local outcome that is particularly relevant to the condition of the road network and hence road inspections, is "Shetland has sustainable economic growth with good employment opportunities and our people have the skills to match, good places to stay and the transport people and businesses need."

3.3 A safe and sustainable public road network contributes to the "Stronger" section of the Community Plan and also the Corporate aim to use resources sustainably.

3.4 Shetland Islands Council Improvement Plan 12/13
Area 8.1 – Make sure the Council has a comprehensive view of its asset needs and how they are to be most effectively delivered.

4.0 Key Issues:

4.1 Extents and Condition of Road Network

4.1.1 The Roads Service delivers a road maintenance function that seeks to maintain 1,050 kilometres of carriageway and 137 kilometres of footway in a serviceable and safe condition. The condition of Shetland's carriageways is surveyed on an annual basis. The latest survey shows that 35.3% of our road network is in a condition where it "should be considered for maintenance treatment." Therefore, there is a clearly identified long-term need for safety and maintenance inspections.

4.2 Road Maintenance Hierarchy

4.2.1 The Council's "Road Maintenance Hierarchy" was introduced by the Roads Maintenance Plan that was reported to the Infrastructure Committee on 14 March 2006. This plan, which was developed according to the guidance in "Well-Maintained Highways," contained policy, strategy, safety inspection frequencies, response times and intervention limits for road maintenance. It recognised that road class, on its own, is not a suitable indicator of a particular road section's importance within the network and introduced a system of road hierarchies. The theory being that the higher a roads hierarchy then the more frequently it will be inspected. In other words a risk based approach.

4.2.2 The road hierarchies are based on a number of important local criteria to ensure that greater priority is attached to road sections that are strategically more important to the network and the community. A mathematical matrix is used to evaluate each section against predetermined, important, local criteria to produce an objective assessment of the road's importance. This allows lower class roads such as Commercial Street, a "C Class" road, to attain a similar priority to some of our "A class" roads. Therefore, the process recommended in the new code of practice for

risk based network categorisation and setting of inspection frequencies has been in place since 2006 (see section 2.2.1 above).

4.3 Affordability

4.3.1 The new code states, “the principle is that Authorities will adopt a risk-based approach in accordance with local needs (including safety), priorities and affordability.” However, the Institute of Highway Engineers in their “Well Managed Highway Liability Risk” publication state, “the concept of affordability acknowledges the financial constraints authorities face but it is recognised that the legal position will need to evolve to give effect to this.”

4.4 Defect Risk Assessment Matrix

4.4.1 The “Defect Risk Assessment Matrix” in the proposed policy is identical to the matrix that we have used since 2009 (see Appendices 1 and 2). It has served its purpose well and there is no need to amend its format. The matrix allows an assessment to be made by the inspector of the probability of an incident due to a defect and the likely impact or severity of that incident. This gives the defect a score in the range from 1 to 16 with the lower scores being Category 4 defects for recording, monitoring and reviewing only. The higher scores are Category 1 defects that must be made safe immediately and repaired within 24 hours.

4.5 Further Recommendations

4.5.1 The new code contains a total of 36 recommendations including those relating to road inspections and defect categorisation. We have reviewed our current practices against these recommendations and where they differ we have either changed our practices or documented our reasons for taking an alternative approach. This review is attached in Appendix 3.

5.0 Exempt and/or confidential information:

5.1 None.

6.0 Implications :	
6.1 Service Users, Patients and Communities:	The condition of the road network will affect its safety and reliability. The latter will impact on stakeholders and the community if there are delays and temporary road closures due to maintenance works. The contribution of roads to communities is recognised by the Audit Commission in their report Going the Distance, 2011. The report states “Roads play a critical role in public service delivery and economic growth – both through the increased mobility of citizens, goods and services, and through building and maintaining infrastructure.”
6.2 Human Resources and	No implications.

Organisational Development:	
6.3 Equality, Diversity and Human Rights:	No implications.
6.4 Legal:	The Council's statutory duties are defined by Section 1 of the Roads (Scotland) Act 1984 which requires that *"a local roads authority shall manage and maintain all such roads in their area as are for the time being entered in a list (in this Act referred to as their "list of public roads")."*
6.5 Finance:	Under the Local Government in Scotland Act 2003, the Council has a duty to make arrangements that secure Best Value. Best Value is continuous improvement in the performance of the authority's functions taking into account efficiency, effectiveness, economy and equal opportunities. Road inspections and defect categorisation are essential to ensure timeous and therefore less costly repairs. There are no direct implications arising from this report.
6.7 ICT and new technologies:	None.
6.8 Environmental:	No implications.
6.9 Risk Management:	The safety inspection regime forms a key aspect of the Council's strategy for managing liability and risk. Failure to manage and maintain the road network and the net ongoing running costs of the Council carries a significant risk of the Council's financial policies not being adhered to and will require a further draw on Reserves. Regular road inspections and condition surveys ensure that defects do not deteriorate with time and then become more costly to repair. The Highways Term Maintenance Association have stated "there is a compelling commercial argument for investing early in road maintenance to arrest the decline in the condition of a road network with case studies showing benefits to cost ratios in excess of 2:1."
6.10 Policy and Delegated Authority:	<u>Environment & Transport Committee</u> In accordance with Section 2.3.1 of the Council's Scheme of Delegations the Environment and Transport Committee has responsibility for the Roads Service. The Council's Constitution – Part C - Scheme of Administration and Delegations provides in its terms of reference for Functional Committees (2.3.1 (2)) that they;

	"Monitor and review achievement of key outcomes in the Service Plans within their functional area by ensuring – (a) Appropriate performance measures are in place, and to monitor the relevant Planning and Performance Management Framework. (b) Best value in the use of resources to achieve these key outcomes is met within a performance culture of continuous improvement and customer focus." <u>Policy and Resources Committee</u> In accordance with Section 2.2.1 of the Council's Scheme of Administration and Delegations, the Policy and Resources Committee is responsible for reviewing the overall effectiveness of the Council's work and standards and levels of services and ensures the Council discharges its functions relating to Best Value. It also ensures the effectiveness of the Council's planning and performance management framework.
6.11 Previously considered by:	None.

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17 July 2018

Appendices:
Appendix 1: Inspection Policy – 2009
Appendix 2: Proposed "Road Safety Inspection and Defect Categorisation Policy"
Appendix 3: Review of "Well Managed Highway Infrastructure – Recommendations"

Background Documents:
1. "Road Maintenance Plan – Policy and Strategy" 14 March 2006 (RD-01-06-F)
   http://www.shetland.gov.uk/coins/viewDoc.asp?c=e%97%9Dh%92j%80

APPENDIX 1

Inspections

There are three different types of inspections carried out on the road network.

1. Safety Inspections
2. Service Inspections
3. Condition Surveys

1. Safety Inspections

These comprise relatively frequent and comprehensive inspections of all roads elements. Inspectors within the network section carry out these surveys using tablet computers to record inspection details and log defects.

The purpose of these inspections is to identify all defects likely to create danger or serious inconvenience to the road users and the wider community. They should detect all defects requiring an emergency response **(commonly termed as category 1 defects)** as well as less serious hazards where the type, location or sizes of defects are such that a longer-term response will be acceptable **(commonly termed as category 2 defects),** as defined in the Code of Practice for Highway Maintenance Management 2005.

Safety inspections are normally undertaken from a slow moving vehicle, at frequencies that match the characteristics and use of a particular section of the network. Footpath surveys will generally be undertaken on foot at least once a year.

Inspections can also be triggered as a result of an incident, extreme weather, community concerns or in the light of historical information. The results of these inspections will define the majority of reactive repairs carried out on the Network.

The following list gives examples of the types of deficiencies that would normally be reported during a safety inspection:

- Debris, spillage or contamination on running surface or hard shoulder.
- Displaced road studs lying in the carriageway.
- Vandalism, particularly with electrical consequences.
- Abrupt level differences in the running surface.
- Potholes, cracks or gaps in the running surface.
- Loss of skidding resistance.
- Broken or missing ironwork (gully or manhole lids etc.)
- Standing water, water discharging onto or overflowing across the road.
- Blocked drains, ditches, culverts etc.
- Damaged, defective, displaced, signals or lighting columns.

- Missing or misleading traffic signs
- Dirty or otherwise obscured traffic signals and signs.
- Missing or badly worn road markings.
- Damaged safety fencing, parapet fencing, handrails or other barriers.
- Sightlines obscured by vegetation, unauthorized signs and other features.
- Abrupt level differences (trips, potholes) in excess of 25mm on Footways, or 50mm in the carriageway.
- Any situations that contravene current roads legislation.

The above list is not exhaustive and anything that is considered to be dangerous should be noted. The inspector will need to give a subjective opinion on whether a defect is classed as category 1 or 2. It is difficult to give absolute rules as factors such as the location, density of use and the prevailing weather conditions will all have a bearing on the decision.

As a general rule it is best to err on the side of safety.

2. Service Inspections

These comprise more detailed inspections carried out on foot examining all highway elements to ensure that they meet requirements for safety and serviceability.

Data collected during these inspections should form the basis of most planned maintenance operations and provides a record of the condition of the road assets for which the authority is responsible.

The category also includes inspections for regulatory purposes, including those required by the New Roads and Street Works Act 1991, with a view to maintaining network availability and reliability.

3. Condition Surveys

These are carried out by maintenance engineers to enable the planning and prioritisation of works.

External contractors are utilized to collect machine based surveys e.g. SCRIM and SRMCS surveys. SCRIM surveys measure the resistance to skidding provided by the road surface. The SRMCS survey is coordinated through the Society of Chief Officers for Transportation in Scotland (SCOTS) on behalf of all Scottish Local Authorities and measures the surface texture of the road, any rutting and undulations in the surface. These are measured in a single pass by a vehicle travelling at normal road speeds. These surveys have been carried out annually and have been applied to all our “A” class roads and a percentage of other roads. We have results from surveys carried out during the last two years. These surveys are relatively new and are subject to ongoing reviews and modification but do provide reliable data that will become even more effective over time. The results can be displayed graphically and

provide an indication of where further investigation and possible improvements are needed.

As well as displaying the results graphically, the program calculates a performance indicator that we have to submit to Audit Scotland annually giving the percentage of the network that has triggered anyone of a number of preset threshold limits.

These condition surveys are one of the tools we use to determine our priorities for surface dressing and surfacing overlay programs. Schemes are determined following physical assessments and the proposed programs are notified to the Member / Officer working group and community councils.
The end of this document contains tables showing the inspection frequencies, intervention limits, and risk assessment guidelines currently used during safety inspections in Shetland. The list is not exhaustive but covers the main areas of concern. These tables will be updated as and when required.

Safety Inspection Frequency

SIC Code	Maintenance Hierarchy	Inspection frequency	Method
M1	Strategic, major roads and footways. This category includes most of the A class roads and some lower class roads of strategic importance.	**Monthly**	**Driven**
M2	Largely B and C class roads and footways but also included are unclassified urban bus routes.	**Every 3 months**	**Driven**
M3	Link roads and footways serving residential and industrial developments	**Every 6 months**	**Driven**
M4	Local access roads, footways and remote footpaths including residential loops and cul-de-sacs.	**Annually**	**Driven/ Walked**
M5	Distant Islands of Skerries, Papa Stour, Fair Isle and Foula	**Annually**	**Walked**

Safety Inspection Intervention Limits

Asset Category	Defect Type	Intervention Threshold
Carriageway	Potholes/Trips	Depth > 50mm
	Subsidence/Tracking	Depth > 50mm
	Ironwork	Level difference >50mm
	Cracking	> 25mm wide and 50mm deep
	Edge Failure	> 100mm deep, and > 1m long
	Road Markings	Worn to below 70% of original size.
Footway	Potholes/Tips	Depth > 25mm
	Loose/Rocking slab	Depth/Height > 25mm
	Open Joints	>25mm wide > 25mm deep
	Ironwork	Depth/Height > 25mm

Defect Risk Assessment Matrix and Target Response Times

Impact → **Probability ↓**	Very Low	Low	Medium	High
Negligible	1	2	3	4
Low	2	4	6	8
Noticeable	3	6	9	12
High	4	8	12	16

Response Category	Category 2 (L) Response	Category 2 (M) Response	Category 2 (H) Response	Category 1 Emergency Response

Target Response Times

Category 1	**Make safe or repair within 24 hours**
Category 2 (H)	**Make safe or repair within 7 days**
Category 2 (M)	**Repair within 30 days**
Category 2 (L)	**Repair during next available program, review condition if still present at next inspection.**

Shetland Islands Council
Roads Service

Road Safety Inspection and Defect Categorisation Policy

Document Information

Title	Shetland Islands Council - Inspection & Defect Categorisation Policy
Author	Neil Hutcheson – Team Leader, Asset and Network Management
Description	This document details the Policy of Shetland Islands Council for road safety inspections, defect categorisation and repair.

Document History

Version	Status	Date	Author	Changes from Previous Version
1.0	Draft	11/6/18	NEH	This policy document has been drafted in accordance with SCOTS recommendations and meets the requirements of the new code of practice, "Well Managed Highway Infrastructure." This includes consideration of a risk based approach for inspections and defect categorisation. However, a decision has been made to retain the Council's "Safety Inspection Intervention Limits" from the previous policy.

Document Control

Version	Status	Date	Authorised for Issue by Shetland Islands Council, Roads Service
1.0	Draft	11/6/18	Draft produced for committee approval consideration

POLICY FOR ROAD SAFETY INSPECTIONS AND DEFECT CATEGORISATION

CONTENTS

1. Introduction

1.1 The Roads (Scotland) Act 1984 under section 1, states that "…a local roads authority shall manage and maintain all such roads in their area as are for the time being entered in a list (in this Act referred to as their "list of public roads") prepared and kept by them under this section."

1.2 The new code of practice, titled "Well-managed Highway Infrastructure" recommends a risk based approach to managing all aspects of the road network including inspections and the categorisation of defects. This "Road Safety Inspection and Defect Categorisation Policy" continues the risk based approach that Shetland Islands Council and other Scottish Road Authorities have been using for a number of years but **does not fully adopt the recommendations contained in the new code.**

1.3 The new code states, "the principle is that Authorities will adopt a risk-based approach in accordance with local needs (including safety), priorities and affordability." However, the Institute of Highway Engineers in their "Well Managed Highway Liability Risk" publication state, "the concept of affordability acknowledges the financial constraints authorities face but it is recognised that the legal position will need to evolve to give effect to this."

1.4 The new code recommends that the risk-based approach should be used to determine the frequency of safety inspections. A number of factors should be considered when devising and setting the appropriate inspection frequency including the:

- category within the network hierarchy;
- type of asset, e.g. carriageway, footway, embankment, cutting, structure, electrical apparatus, etc;
- consequence of failure;
- use, characteristics and trends; and
- incident and inspection history.

When considering a defect that has been identified a risk-based approach requires analysis of the area in which the defect is located and of the hazards posed by that specific defect in order to inform the required response. A defect considered to pose a low risk of harm may merit only a routine repair (or no repair at all). An item that is considered to pose a high risk of harm may merit immediate repair. In other words there should be a risk assessment for each defect without reference to prescribed intervention levels.

1.5 Having given these particular recommendations due consideration the Roads Service decided that it would **not** be in the best interest of the Council to implement them. Analysis of the injury accident records and the roads related insurance claims made against the Council concluded that the best policy would be to retain the current inspection frequencies and safety inspection intervention levels. The annual number of these were low, particularly the number of claims with two per year being due to road defects. Therefore, there were no concerns regarding the effectiveness of the current regime. There is also no requirement to alter the regime for affordability reasons. The Council has two Roads Inspector posts which is the optimum number to meet the required level of inspections.

1.6 This conclusion was reached in the knowledge that a form of risk assessment had been used when developing and subsequently checking these inspection frequencies and intervention levels.

1.7 The establishment of an effective regime of safety inspections is a crucial component of road maintenance in accordance with the Code, and the Society of Chief Officers of Transportation in Scotland (SCOTS) seek to encourage the benefits that will be gained by harmonising such procedures across Scotland.

1.8 The Policy has been developed in partnership with the Roads Authorities associated through the Society of Chief Officers for Transportation in Scotland (SCOTS) to focus on safety inspections, categorisation of defects and repairs.

1.9 Scottish local authorities recognise the benefits of adopting a common approach with regards to road safety inspections and intervention levels for the repairs to road defects which follow the principles of the code.

1.10 While this Policy only applies to adopted roads, the principles it contains will enable the Council, where appropriate to develop resilience enabling them to inspect and maintain additional roads assets not contained within their list of public roads, where the Council also has a maintenance responsibility.

1.11 The Policy will provide a consistent methodology for the management of the road network that focuses on the safety of the road network for the travelling public. It is intended that the implementation of this Policy will also allow performance to be monitored and reviewed, implementing any necessary improvements identified through its use.

1.12 This consistent approach will also assist the Council when defending any public liability claim that may be intimated against them.

2. Statement of Policy

2.1 This manual defines the standards for safety inspections on public roads in Shetland including the nature and priority of response to defects encountered. It is intended to provide a correct and clear process for all staff involved with these inspections to follow.

2.2 The manual has been developed to ensure safety inspections are carried out in the safest manner possible for road users and inspection staff, and to improve performance. The general term ‘inspector’ has been used to cover all staff that may be involved in the survey process.

2.3 Circumstances may arise that are not covered by this manual. However, inspectors would be expected to use their own initiative/best judgement in such situations based upon the principles set out in this manual.

2.4 Recording details of all inspections promptly, including ‘nil returns’, together with action taken, is essential as this information would be required in the event of any legal action against the Council for alleged failure to maintain, and its completeness and accuracy will be crucial.

2.5 Shetland Islands Council has a statutory duty to manage and maintain public roads within Shetland. The Council is responsible for 1,050km of carriageways and over 137km of footpaths but has finite resources for managing and maintaining these. An effective road safety inspection procedure is needed to maximise the safety of road users within the constraints of resources available to the Council. The Council aims to ensure that the safety inspection activity identifies and rectifies hazardous defects on public roads in a timely manner, in line with best practice where reasonable and within available resources.

3. Objectives of Safety Inspections

3.1 Safety Inspections are designed to identify and repair defects likely to cause danger or serious inconvenience to users of the network or the wider community. Such defects include those that require immediate attention as well as those where the locations and sizes are such that longer periods of response are possible.

3.2 The Safety Inspection regime forms a key aspect of the Council’s strategy for managing liability and risk.

3.3 The Council uses its Safety Inspection process, monitoring information and a regime of proactive maintenance to reduce risk and provide the public with a safer roads network.

3.4 The objectives of safety inspection activity are:

- to minimise the risk of injury and disruption to road users as far as is reasonably practicable;
- provide a regular, structured inspection of the public road network, within available resources;
- deliver a consistent, reliable response to identified defects, within available resources;
- maintain accurate and comprehensive records of inspections and responses; and
- provide clear accurate and comprehensive response to claims.

4. Principles of Service Delivery

4.1 The safety inspection process is a tool to ensure that our legal responsibilities with regard to the inspection and maintenance of public roads are fulfilled. A robust process allows us to demonstrate this and has the benefit of reducing the number of claims made against the Council, and better defend those which are made.

4.2 Safety inspection and response is one of the most important and highly visible demonstrations of the Council's commitment to its customers and the delivery of its duty of best value.

4.3 The Council has an obligation to ensure that the inspectors and the staff within the Roads Service are well trained, supported and able to work together effectively as a single organisation. It is important to ensure that roles and responsibilities are clearly defined.

4.4 In the case of absence of an inspector due to annual leave or ill health it will be the responsibility of the Network Engineer to ensure a suitably trained substitute Inspector undertakes any inspection due within the time frames set down in this manual.

4.5 During periods of extreme weather, the Executive Manager – Roads, will make a decision regarding the viability of a safety survey being undertaken - taking into account the availability of staff and the prevailing weather conditions.

5. Safety Inspections

5.1 Safety inspections identify defects within the road network, including those that are likely to create a danger or serious inconvenience to road users or the wider community and therefore require immediate or urgent attention.

5.2 Safety inspections are normally undertaken by an inspector in a slow moving vehicle. (In urban areas, particularly when inspecting footways, walked inspections will be required).

5.3 During safety inspections, all observed defects that provide any foreseeable degree of risk to users will be recorded. The degree of deficiency in the road elements will be crucial in determining the nature and speed of response. Judgement will always need to take account of particular circumstances. For example the degree of risk from a pothole depends upon not only its depth but also its surface area and location within the road.

5.4 Items for Inspection

The following are examples of the types of defect which when identified should be assessed and an instruction for repair issued with an appropriate response time specified. The list identified below is not exhaustive.

Carriageway defects such as: -

1 Surface defects and other local defects
2 Abrupt level differences in running surface
3 Edge deterioration of the running surface and other local defects
4 Excessive standing water and water discharging onto and or flowing across the road
5 Blocked gullies and obstructed drainage channels or grips which could lead to ponding or flooding
6 Debris and/or spillages
7 Missing cats eyes
8 Missing or damaged covers

Footway & Cycleway defects such as: -

1 Surface and other local defects
2 Excessive standing water and water discharging onto and or flowing across the foot/cycleway
3 Dangerous rocking paving slabs
4 Large cracks or gaps between paving slabs
5 Missing or damaged covers
6 Debris and or spillages likely to be a hazard

Street Furniture Defects such as:-

1 Damaged safety fencing
2 Damaged parapet
3 Damaged handrail
4 Damaged road structures

Traffic Signs such as:-

1 Missing, damaged or faded regulatory or warning sign or bollard
2 Major sign plate or structural failure
3 Electrically or otherwise unsafe apparatus
4 Damage which may cause a dangerous obstruction to road traffic or other road users

Road Markings such as:-

1 Badly worn Stop, Give Way or double continuous white line

Cattle Grids such as:-

1 Loose and/or damaged nests
2 Loose and/or damaged nosings
3 Damaged side rails or gate
4 Overgrown bypass

Other Safety Defects:-

1 Overhead wires in dangerous condition
2 Sight-lines obstructed by trees and other vegetation,
3 Trees in an apparent dangerous condition, (referred to a specialist officer for comment)
4 Earthslips where debris has encroached or is likely to encroach the road
5 Rocks or rock faces constituting a hazard to road users

6. Frequency of Inspection

6.1 Based on the “Well Managed Highway Infrastructure” code of practice for carriageway and footway hierarchy, the recommended frequencies for inspections are set out in the following tables.

Table 1 – Adopted Carriageway Hierarchy

Urban and residential carriageway inspections may be carried out on foot but may be carried out from a vehicle, with rural carriageway inspections being carried out from a vehicle.

Carriageway Category	Hierarchy Description	Road Maintenance Hierarchy Score & General Description	Description
1	Motorway	N/A	N/A
M1	Strategic Route	**Road Maintenance Hierarchy Score of 30 or above.** Strategic, major roads. Includes most of the "A class" roads and some lower class roads of strategic importance.	Principal roads linking major centres of population, major industrial sites and ferry terminals. Access routes to some schools and hospitals. Main through routes in Lerwick.
M2	Main Distributor	**Road Maintenance Hierarchy Score of 17 to 29**. Largely "B and C class" roads but also included are unclassified urban bus routes.	Other principal roads not included above linking smaller centres of population to the M1 network. Major loop roads. Main town streets in Lerwick and Scalloway. Accesses to any schools not on Priority 1 routes.
M3	Secondary Distributor	**Road Maintenance Hierarchy Score of 12 to 16**. Link roads serving residential and industrial developments.	Minor roads in Lerwick, Scalloway and Brae. Roads linking rural settlements, residential and industrial developments.
M4	Link Road	**Road Maintenance Hierarchy Score 11 or under.** Local access roads, footways and remote footpaths including residential loops and cul-de-sacs.	Side roads linking isolated communities to the M1, M2 and M3 network. Minor roads in housing schemes in Lerwick and Scalloway.
M5	Local Access (Isles) Road	-	All roads on "distant islands" of Skerries, Foula, Fair Isle and Papa Stour.

Table 2 – Adopted Footway Hierarchy

Footway inspections may be carried out either on foot or from a vehicle, but urban footways must be walked at least once per annum. For footways with on street parking adjacent to them, inspection from a vehicle should only be carried out when parking is light.

Category	Category Name	Description
1(a)	Prestige Walking Zones	Very busy areas of town centres with "public space" and Streetscene contribution (Commercial Street and Esplanade, Lerwick)
1	Primary Walking Routes	Strategic footways running alongside "A class" roads and some lower class roads of strategic importance. Busy urban shopping and business areas and main pedestrian routes.
2	Secondary Walking Routes	Largely running along "B and C class" roads also medium use routes through local areas feeding into primary routes, local shopping centres etc.
3	Link Footways / Footpaths	Link footways serving residential and industrial developments.
4	Local Access Footways / Footpaths	Local footways and remote footpaths including residential loops and cul-de-sacs.

Table 3 – Hierarchy Frequency of Inspection

Feature	Description	Category	Frequency	Method
Roads	Strategic Routes	M1	Monthly	Driven
	Main Distributor	M2	Every 3 Months	Driven
	Secondary Distributor	M3	Every 6 Months	Driven
	Link Road	M4	Annually	Driven/ Walked
	Local Access (Isles Road)	M5	Annually	Walked
	All other locations (eg non Roads Service carparks)		Not inspected – reactive response only to defects notified	
Footways	Prestige Walking Zones	1(a)	Monthly	Driven/ Walked
	Primary Walking Routes	1	Monthly	Driven
	Secondary Walking Routes	2	Every 3 Months	Driven
	Link Footway	3	Every 6 Months	Driven
	Local Access Footways	4	Annually	Driven/ Walked
Cycle Route	Remote from road (Clickimin Shared Paths)	-	Every 6 months	Walked

Additional inspections may be necessary in response to user or community concerns, as a result of incidents or extreme weather conditions, or in the light of monitoring information. These reactive inspections will not be routinely recorded although defect information will be.

6.2 Inspection Tolerance

Due to factors out with the Council's control such as public holidays, inclement weather, sickness etc., it is not possible to complete all inspections exactly to programme. Therefore, the maximum tolerance allowed from programmed dates will be plus or minus 14 days. The only exception is the "distant islands" (Skerries, Foula, Fair Isle and Papa Stour) which will be programmed in conjunction with the Area Maintenance Engineers to take account of their visits.

7. Intervention Levels and Response Times

7.1 Defect Risk Assessment

Inspectors undertaking safety inspections or responding to reported incidents require to use judgement in determining response times to observed or reported defects. The current and previous Codes of Practice have recommended that roads authorities adopt a system of defect risk assessment for determining the response times to road defects.

7.2 The risks identified through this process have to be evaluated in terms of the significance. This means assessing the likely impact should the risk occur and the probability of it actually happening. The impact is quantified by assessing the extent of damage likely to be caused should the risk become an incident.

7.3 All defects identified require to be evaluated in terms of their significance. This means assessing the likely impact of exposure to the risk and the probability of it actually happening. Having identified a particular risk, the Risk Matrix below (see Table 5) will be used as the principle to determine the defect category and response time.

Table 5 – Risk Matrix

RISK MATRIX				
Probability → Impact ↓	**Very Low (1)**	**Low (2)**	**Medium (3)**	**High (4)**
Negligible (1)	**Cat 4 Risk Value 1 (No action – record only)**	**Cat 4 Risk Value 2 (No action – record only)**	**Cat 4 Risk Value 3 (No action – record only)**	**Cat 4 Risk Value 4 (No action – record only)**
Low (2)	**Cat 4 Risk Value 2 (No action – record only)**	**Cat 4 Risk Value 4 (No action – record only)**	**Cat 3 Risk Value 6 (30 Days)**	**Cat 3 Risk Value 8 (30 Days)**
Noticeable (3)	**Cat 4 (No action – record only) Risk Value 3**	**Cat 3 Risk Value 6 (30 Days)**	**Cat 2 Risk Value 9 (5 Days)**	**Cat 2 Risk Value 12 (5 Days)**
High (4)	**Cat 4 (No action – record only) Risk Value 4**	**Cat 3 Risk Value 8 (30 Days)**	**Cat 2 Risk Value 12 (5 Days)**	**Cat 1 Risk Value 16 (24 Hours)**

Category 1: Represent a high risk to road users and **should be corrected or made safe at the time of inspection, if reasonably practicable.** In this context, making safe may constitute displaying warning signs and/or coning off to protect the public from the defect. Where practicable, safety defects of this category should not be left unattended until a temporary or permanent repair has been carried out.

Category 2: **Repair within 5 working days.** This allows a more proactive approach to be adopted for those defects that represent a medium risk to road users or because there is a risk of short-term structural deterioration.

Category 3: **Repair within 30 working days.** Defects that require attention because they represent a low risk to road users. This allows defects of this nature to be included into longer planned programmes of work.

Category 4: **Monitor and Review condition** during subsequent planned inspection. Defects in category 4 are not classed as safety defects and are inspected following 3rd party reporting. No action – record only for insurance purposes

7.4 Safety Inspection Intervention Limits

The Council's Safety Inspection Intervention Limits (see Table 6) will be considered when assessing all defects. A defect that meets or exceeds the specified intervention threshold will be recorded as a category 1 or 2 defect again depending on how they are evaluated in terms of their significance. Please note that meeting the intervention limit is a minimum requirement for being assessed in category 1 or 2. Where a defect does not meet any of the thresholds but is still judged by the inspector to be a serious hazard then the inspector will also record it as one of these categories.

Table 6 – SAFETY INSPECTION INTERVENTION LIMITS

SAFETY INSPECTION INTERVENTION LIMITS		
Asset Category	**Defect Type**	**Intervention Threshold**
Carriageway	Potholes/Trips	Depth > 50mm
	Subsidence/Tracking	Depth > 50mm
	Ironwork	Level difference > 50mm
	Cracking	>25mm wide and 50mm deep
	Edge Failure	>100mm deep and > 1m long
	Road Markings	Worn to below 70% of original size
Footway	Potholes/Trips	Depth > 25mm
	Loose/Rocking Slab	Depth/Height > 25mm
	Open Joints	> 25mm wide and 25 mm deep
	Ironwork	Depth/Height > 25mm

7.5 It may not be possible, particularly at certain times of year, to meet target response times, due to pressure on resources. This could, but not exclusively, be due to the high number of defects that can arise in a short period of time after periods of adverse weather, such as prolonged spells of heavy rain or snow, or freeze / thaw conditions. Prolonged periods of adverse weather may also prevent remedial measures being carried out.

7.6 Records of all safety inspections, defects and works instructions issued following inspections shall be documented within an electronic Routine Maintenance System.

7.7 Defects that meet the investigation criteria are recorded on a data capture device using an inspection route loaded on the device prior to the beginning of the inspection. In the unlikely event of a catastrophic IT failure inspections will be recorded manually at the time of the inspection and the system updated when made available.

7.8 A Global Positioning System device will be used so that a trace can be produced for evidence that an inspection has taken place on the date and time recorded and also allows for more accurate positioning of defects.

7.9 Commencement of Response Times
When a defect has been identified during a formal inspection the response time will commence when the defect has been identified and categorised. If it originates from a customer enquiry the clock also starts once the defect has been categorised during the subsequent formal inspection.

8. Defects that are not the Responsibility of the Council

8.1 During an inspection, defects may be identified which are not the responsibility of the Council to repair. The Council does however have a duty of care to the users of the road. Therefore, the defect must be recorded and the party responsible for the asset must be made aware of the defect. If the defect is identified as a Category 1 defect, it should be made safe either by signing and guarding or by a temporary repair.

8.2 **Statutory Undertakers' Defective Apparatus**
Where defective apparatus belonging to undertakers is identified, the defect must be recorded and the utility contacted in accordance with the New Roads & Street Works Act 1991 – Code of Practice for Inspections. The initial procedure is summarised in Figure 1 below.

8.3 **Defects that are the responsibility of other Third Parties**
Where the defect is the responsibility of another party who is not a Statutory Undertaker, for example an adjacent landowner, the defect should be recorded and the landowner contacted with a request to carry out the necessary remedial works within an appropriate period of time. A number of scenarios may arise from an inspection, which are covered by provisions contained within the Roads (Scotland) Act 1984. It may be appropriate to inform the party responsible for the defect / hazard of their responsibilities under the Act.

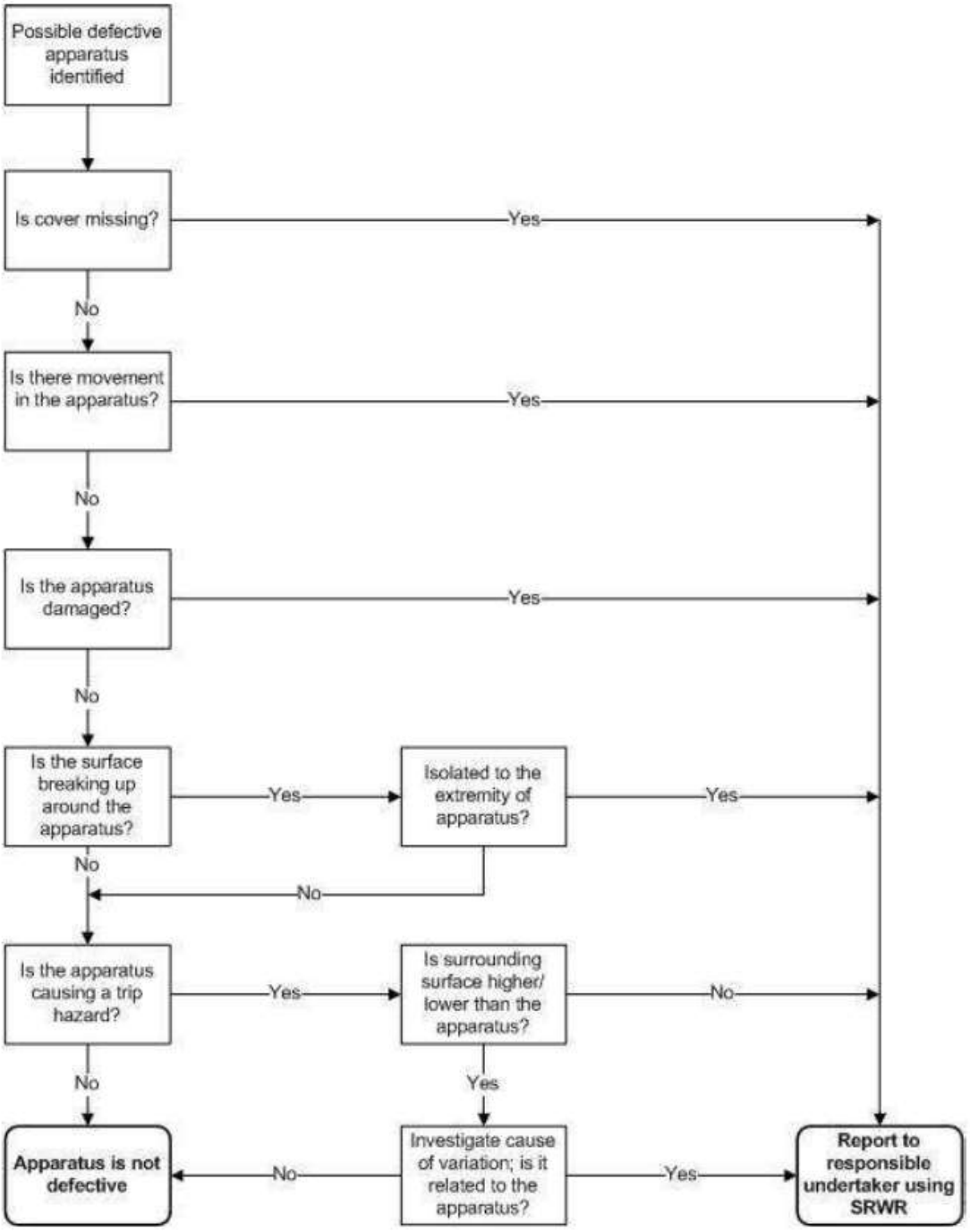
8.4 Some selected examples of the above are;

a. Prevention of danger to road users from nearby vegetation and fences etc. or from retaining walls being inadequate (Section 91)
b. Deposit of mud from vehicles on road (Section 95)
c. Control of flow of water etc. onto roads (Section 99)

8.5 A number of these provisions within the Act allow the Roads Authority to carry out remedial works to address the defect/hazard either immediately or after a suitable period of notice, and further may give powers to recover any expenses reasonably incurred in doing so.

8.6 Any decision to undertake such remedial work should not be done without the agreement of a suitably responsible person. In the first instance the preferred option is to have constructive discussion with the responsible party, in order to resolve the issue.

Figure 1: Initial Procedure for Defective Apparatus



9. Health and Safety

9.1 General

In general road inspections are carried out from a slow moving vehicle or on foot. The vehicle should be driven at an appropriate speed to allow any defects to be identified and recorded.

9.2 Health and Safety

Inspections are to be conducted in accordance with the Council's procedures for the health, safety and welfare of its employees and others.

As a minimum:

a. All staff engaged in inspections must wear high visibility clothing to BS EN 471 class 3.
b. All vehicles used to carry out inspections shall be liveried to an appropriate standard and all necessary vehicle checks shall be carried out prior to inspections being undertaken.

9.3 All surveys should make use of two-way communications (i.e. radio or mobile telephone). ***Note:*** The Council's Lone Working Procedures should be followed when an inspector is undertaking a safety inspection on his/her own. The inspectors vehicles are fitted with telematics, including global positioning, so are tracked at all times from leaving their home or base until they return.

9.4 Should it be necessary to stop the vehicle it shall be parked off the live carriageway wherever possible. If this cannot be achieved then there must be clear visibility in both directions and the roof mounted beacon must be switched on. Traffic must not be forced across any continuous solid white centre line.

9.5 Making Safe

If a defect is considered to be a serious hazard to road users, full traffic management should be called for and the safety inspection vehicle should remain at the hazard until it is in place.

9.6 Equipment

The inspectors have a dedicated store for the equipment that they may need when inspecting the network or when called-out to an incident. This includes a trailer with warning signs, traffic management signs cones and sandbags.

9.7 In addition to any other equipment they consider necessary, Inspectors should carry a camera to photograph defects, and when available a GPS enabled system to accurately record the location of defects.

9.8 Documents

The safety inspection team should also carry a copy of;
a. this manual;
b. the New Roads & Streetworks Act 1991 – Code of Practice for Inspections; and
c. "Safety at Street Works and Road Works, A Code of Practice."

10. Special Considerations

10.1 At times defects identified within an area of carriageway will require the intervention levels and investigatory criteria of a footway to be applied.

They are as follows:

- the width of a defined pedestrian crossing point identified by tapered and dropped kerb units, often accompanied by tactile paving;
- light controlled crossings;
- Zebra crossings; and
- fully pedestrianised carriageways.

10.2 Trips are considered a vertical difference in height (as specified in defect priority tables) of adjoining elements unless present by design i.e. steps, kerbs, drainage channels etc.

10.3 Inspectors are not expected to record defects that are hidden by static objects in the road such as bins, parked vehicles, skips etc.

10.4 Many roads have been adopted with historic features that would not be acceptable in a current road design. This might include steps, cellar openings or drainage arrangements that present potential trip situations worse than the intervention levels suggested in this document. These should not be recorded as defects, as in law the road has been adopted with these encumbrances and the public must take appropriate care.

10.5 Assets will receive safety inspections, in accordance with their hierarchy, as soon as they are formally adopted by the Council.

11. Monitoring and Review

General

11.1 Regular monitoring and review of hierarchy, standards, procedures and records is an essential aspect of the system, for a number of reasons:-

- To enable changes in risk to be identified, if necessary, in new standards or procedures
- To enable any uncertainties or problems in responsibilities, procedures or treatments to be discussed and resolved
- To enable actual or potential claims to be reviewed and strategy for defence agreed where appropriate
- To review inspection and response performance and enable any possible improvements or efficiencies to be discussed and introduced.

11.2 All information obtained from safety inspections, together with the nature of response, including nil returns, shall be recorded consistently. The data obtained shall be able to be reviewed independently and in conjunction with other survey information. It shall be stored electronically in the council's electronic system (RMS). Service requests, complaints, reports or information from users and other third parties shall also be recorded, along with the nature of response, including nil returns. These will be logged on RMS as "Call Centre Defects" to be escalated if required following an inspection. These "Call Centre Defects" shall remain on the system for record purposes even when the inspection yields a nil return.

11.3 All inspection records shall include the date, time and the name of the person conducting the inspection.

11.4 In order to ensure that safety inspections are being undertaken to a consistent and satisfactory level an audit will be undertaken on an annual basis. This will consist of a rotation of routes covered by the individual Inspectors to check for any inconsistencies in the number and type of defects identified. A record of this review will be kept on file.

Variations/Review of Hierarchy and Inspection Frequency

11.5 The network and its hierarchy is fluid and as a minimum the network shall be reviewed for changes with regard to hierarchy at least every five years. Changes in the network hierarchy shall be approved by the Executive Manager – Roads and may be altered in response to the factors listed below:

- Traffic growth or reduction
- Change of use to premises adjacent to the road
- Increased HGV or industrial traffic
- Relocation of a transport terminal
- New bus routes
- New schools or the closure of schools

APPENDIX 3

NEW CODE OF PRACTICE: "WELL MAINTAINED HIGHWAY INFRASTRUCTURE"
SHETLAND ISLANDS COUNCIL COMPLIANCE WITH RECOMMENDATIONS

The Roads Service complies with the majority of the recommendations in the new code of practice. Where that is not the case the "further work" required is highlighted below.

RECOMMENDATION 1 – USE OF THE CODE
This Code, in conjunction with the UKRLG Highway Infrastructure Asset Management Guidance, should be used as the starting point against which to develop, review and formally approve highway infrastructure maintenance policy and to identify and formally approve the nature and extent of any variations.

COMPLIANT - The code has been used as the basis for the review of our road maintenance and inspection policy that will be approved before October 2018, as recommended. The code will be used in conjunction with the Society of Chief Officers of Transportation Scotland (SCOTS) Road Asset Management Guidance and where necessary the "UKRLG Highway Infrastructure Asset Management Guidance." The policies take account of the Council's corporate aims and goals as contained in "Our Plan."

RECOMMENDATION 2 – ASSET MANAGEMENT FRAMEWORK
An Asset Management Framework should be developed and endorsed by senior decision makers. All activities outlined in the Framework should be documented. (HIAMG Recommendation 1)

COMPLIANT - The Council's "Road Asset Management Plan" which has been developed according to SCOTS guidance was approved by the Environment & Transport Committee in October 2016 and the full Council in December 2016. The Executive Manager, Roads is responsible for "championing" the RAMP and the Director of Infrastructure is required to approve all functional amendments proposed to Committee.

RECOMMENDATION 3 – ASSET MANAGEMENT POLICY AND STRATEGY
An asset management policy and a strategy should be developed and published. These should align with the corporate vision and demonstrate the contribution asset management makes towards achieving this vision. (HIAMG Recommendation 3)

COMPLIANT - The Council's "Road Asset Management Plan" was approved by the Environment & Transport Committee in October 2016 and the full Council in December 2016. The plan was reviewed and updated in December 2017.

RECOMMENDATION 4 – ENGAGING AND COMMUNICATING WITH STAKEHOLDERS
Relevant information should be actively communicated through engagement with relevant stakeholders in setting requirements, making decisions and reporting performance. (Taken from HIAMG Recommendation 2)

COMPLIANT - The Roads Service submits performance data annually to SCOTS/APSE "Roads Asset Data Management Template." The results are reported each year in the "Road Condition Report" and relevant performance indicators are posted on the Council's website. Road users and other stakeholders have been consulted via an APSE "Customer Satisfaction Survey" prior to the finalising of the proposed policy. The questions were chosen to enable us to determine their priorities in relation to the maintenance of the road network.

RECOMMENDATION 5 – CONSISTENCY WITH OTHER AUTHORITIES
To ensure that users' reasonable expectations for consistency are taken into account, the approach of other local and strategic highway and transport authorities, especially those with integrated or adjoining networks, should be considered when developing highway infrastructure maintenance policies.

COMPLIANT - Shetland does not, of course, have any adjoining networks so the need for "cross network" consistency is not as great an issue as elsewhere. However, we have monitored the contents and format of the policies produced by a number of other Council's to ensure that our understanding and application of

the guidance is similar to theirs. Council's that introduced new policies in late 2017, that we have considered, include Aberdeenshire, Perth & Kinross and South Lanarkshire Councils. The Society of Chief Officers of Transport in Scotland (SCOTS) recently revised their "Road Safety Inspections and Defect Categorisation Procedure" guidance document to meet the requirements of the new code of practice. We have used this document as the template for our new Road Inspection Policy. We have also followed the guidance published by the Institute of Highway Engineers in their "Well Managed Highway Liability Risk" document.

RECOMMENDATION 6 – AN INTEGRATED NETWORK
The highway network should be considered as an integrated set of assets when developing highway infrastructure maintenance policies.

COMPLIANT - The Road Service, being relatively small when compared to the equivalent on the mainland, has no alternative but to work closely together. This avoids a so called "silo mentality" with the design, maintenance and network sections together considering all assets and all aspects of road maintenance and management when developing policies.

RECOMMENDATION 7 – RISK BASED APPROACH
A risk based approach should be adopted for all aspects of highway infrastructure maintenance, including setting levels of service, inspections, responses, resilience, priorities and programmes.

COMPLIANT - The new "Road Maintenance and Inspection Policy" has been developed to continue the use of a risk based approach for the inspection regime and response. Maintenance priorities and programming are developed from consideration of the road hierarchy and condition so are essentially risk based. We already have and publish levels of service for our winter maintenance.
FURTHER WORK - The intention is to develop further levels of service for the other aspects of maintenance in conjunction with SCOTS. These will be informed by a customer survey. ("Levels of Service are statements of the key requirements or expectations of customers when they use the road asset, or when it directly affects them in some other way. They are expressions of desired outcomes for customers, and are concerned with how the asset performs in supporting delivery of those outcomes, rather than in performance in a technical sense," UK Road Liaison Group).

RECOMMENDATION 8 – INFORMATION MANAGEMENT
Information to support a risk based approach to highway maintenance should be collected, managed and made available in ways that are sustainable, secure, meet any statutory obligations, and, where appropriate, facilitate transparency for network users.

COMPLIANT - The information required to support the maintenance of Shetland's roads is collected and managed in our Routine Maintenance System (RMS) software provided by WDM Ltd.

RECOMMENDATION 9 – NETWORK INVENTORY
A detailed inventory or register of highway assets, together with information on their scale, nature and use, should be maintained. The nature and extent of inventory collected should be fit for purpose and meet business needs. Where data or information held is considered sensitive, this should be managed in a security minded way.

COMPLIANT - An inventory of our road assets is kept in our RMS with further information on inspections, traffic volumes and the location of injury accidents. More detailed information on the lighting network including its condition is kept in the Lighting Management System (LMS). The condition of the carriageways is kept in the Pavement Management System (PMS).
FURTHER WORK - We need to develop a "Data Assessment and Data Management Plan" in accordance with SCOTS guidance.

RECOMMENDATION 10 – ASSET DATA MANAGEMENT
The quality, currency, appropriateness and completeness of all data supporting asset management should be regularly reviewed. An asset register should be maintained that stores, manages and reports all relevant asset data. (HIAMG Recommendation 5)

FURTHER WORK - We shall review asset management data using our "Data Assessment and Data Management Plan" developed from the SCOTS template.

RECOMMENDATION 11 – ASSET MANAGEMENT SYSTEMS
Asset management systems should be sustainable and able to support the information required to enable asset management. Systems should be accessible to relevant staff and, where appropriate, support the provision of information for stakeholders. (HIAMG Recommendation 12)

COMPLIANT - SCOTS are to review asset management software capability and use then develop a national strategy for the introduction of software capable of supporting advanced asset management methods. We will act on their findings.

RECOMMENDATION 12 – NETWORK HIERARCHY
A network hierarchy, or a series of related hierarchies, should be defined which include all elements of the highway network, including carriageways, footways, cycle routes, structures, lighting and rights of way. The hierarchy should take into account current and expected use, resilience, and local economic and social factors such as industry, schools, hospitals and similar, as well as the desirability of continuity and of a consistent approach for walking and cycling.

COMPLIANT - We already have a network hierarchy in place for road maintenance and inspections. This was developed in accordance with "Well Maintained Highways – Code of Practice for Highway Maintenance Management," the previous code, and was approved by the Infrastructure Committee in March 2006. We will continue to use this hierarchy so it will be reviewed and updated where required.

RECOMMENDATION 13 – WHOLE LIFE / DESIGNING FOR MAINTENANCE
Authorities should take whole life costs into consideration when assessing options for maintenance, new and improved highway schemes. The future maintenance costs of such new infrastructure are therefore a prime consideration.

COMPLIANT - Whole life costing options and implications are presented annually to the Environment & Transport Committee in the "Carriageway Condition of Shetland's Roads" report. The report presents a number of options for the future maintenance of the road network that have been run through the SCOTS "Cost Projection Tool" to predict the effects on carriageway condition. The options are a continuance of current funding levels, a reduction in current funding levels and the predicted effect of a preventative strategy.

RECOMMENDATION 14 – RISK MANAGEMENT
The management of current and future risks associated with assets should be embedded within the approach to asset management. Strategic, tactical and operational risks should be included as should appropriate mitigation measures. (HIAMG Recommendation 11)

COMPLIANT - The risks to the management and maintenance of the road network are listed in the RAMP in the "Risks to the Plan" section. This details the risks and their mitigation from the Roads Service Risk Register including "staff numbers/skill shortage," "budget control failure" and "failure of key supplier." The RAMP also details major risks to road assets including "lack of funding." Finally, general risks that may impact on service delivery, such as "more rapid deterioration of assets than expected," are also included. The relevant entries in the Risk Register for Roads are also detailed in our Service Plan.

RECOMMENDATION 15 – COMPETENCIES AND TRAINING
The appropriate competencies for all staff should be identified. Training should be provided where necessary for directly employed staff, and contractors should be required to provide evidence of the appropriate competencies of their staff.

COMPLIANT - We have a Training Officer who is responsible for ensuring that all staff have the required qualifications and training. The requirement for contractors to provide evidence of the appropriate competencies will be included in the tender pre-qualification process in future.

RECOMMENDATION 16 – INSPECTIONS
A risk-based inspection regime, including regular safety inspections, should be developed and implemented for all highway assets.

COMPLIANT - See response to recommendation 7 above.

RECOMMENDATION 17 – CONDITION SURVEYS
An asset condition survey regime, based on asset management needs and any statutory reporting requirements, should be developed and implemented.

COMPLIANT - The SCANNER survey is undertaken each year to measure carriageway condition. This information is used to provide the statutory performance indicator for roads. The information is also used to identify and programme surface treatments. We have also recently undertaken a structural inspection of our streetlighting columns in preparation for the LED upgrading of our network. The condition of structures on the network are also inspected in accordance with “Bridge Stock Condition Indicator.”

RECOMMENDATION 18 – MANAGEMENT SYSTEMS AND CLAIMS
Records should be kept of all activities, particularly safety and other inspections, including the time and nature of any response, and procedures established to ensure efficient management of claims whilst protecting the authority from unjustified or fraudulent claims.

COMPLIANT - Records of defects and repairs are currently logged on our Reactive Maintenance System supplied by WDM. Records are also kept of “nil returns” when no defects are identified during an inspection.

RECOMMENDATION 19 – DEFECT REPAIR
A risk-based defect repair regime should be developed and implemented for all highway assets.

COMPLIANT - See response to recommendation 7 above.

RECOMMENDATION 20 – RESILIENT NETWORK
Within the highway network hierarchy a 'Resilient Network' should be identified to which priority is given through maintenance and other measures to maintain economic activity and access to key services during extreme weather.

COMPLIANT - Shetland Seafood and Shetland Aquaculture as representatives of the aquaculture industry, Shetland’s largest industry, have provided the routes that members consider essential for their business. This will be used as the basis for the “Resilient Network” and to review the existing Maintenance Hierarchy. The essential routes for the oil industry are already well known and ranked at M1.

RECOMMENDATION 21 – CLIMATE CHANGE ADAPTATION
The effects of extreme weather events on highway infrastructure assets should be risk assessed and ways to mitigate the impacts of the highest risks identified.

COMPLIANT - A series of rainfall induced peat landslides occurred on Shetland's South Mainland on 19th September 2003. The scale of the event caused serious flooding, disruption and temporary closure of the A970 at Channerwick. The runout of peat landslide materials inundated the road and choked culverts with debris. Several cars narrowly avoided collision with debris and 800 metres of safety barrier were destroyed. The total costs associated with this event were estimated to exceed £1 million in road reconstruction, slope remediation, drainage, site investigation and clearance operations. A detailed geotechnical investigation was undertaken by Halcrow Group Ltd during May 2004. It was concluded that peat landslides "may represent a potentially serious hazard to both motorists and infrastructure at Channerwick and possibly elsewhere in Shetland." Risk areas for flooding and bridge scour have already been identified in the "Local Flood Risk Management Plan" published by the Council. The new policy prioritises these so that the Roads Service carries out inspections of bridges and culverts and produces a schedule of clearance or repair works for these priority locations as required.
FURTHER WORK - Critical locations for landslips elsewhere in Shetland, such as the A970 at Voe, will have to be determined and risk assessed. Mitigation measures will also have to be devised for these lengths of road.

RECOMMENDATION 22 – DRAINAGE MAINTENANCE
Drainage assets should be maintained in good working order to reduce the threat and scale of flooding. Particular attention should be paid to locations known to be prone to problems, so that drainage systems operate close to their designed efficiency.

COMPLIANT - The susceptible locations have been identified with the assistance of Planning. These locations have been prioritised in the inspection regime.

RECOMMENDATION 23 – CIVIL EMERGENCIES AND SEVERE WEATHER EMERGENCIES PLANS
The role and responsibilities of the Highway Authority in responding to civil emergencies should be defined in the authority's Civil Emergency Plan. A Severe Weather Emergencies Plan should also be established in consultation with others, including emergency services, relevant authorities and agencies. It should include operational, resource and contingency plans and procedures to enable timely and effective action by the Highway Authority to mitigate the effects of severe weather on the network and provide the best practicable service in the circumstances.

COMPLIANT - The responsibilities of the Roads Service listed in the Shetland Islands Council "Major Emergency Plan" include:

- Provide and support mortuary facilities in a mass fatality event;
- Assist with repairs to the Council's own buildings and other buildings;
- Provide location maps and plans for buildings owned by the Council;
- Maintain a list of small plant and engineering materials available from the Council;
- Provide specialist plant, machinery, maps and civil engineering advice either directly or through sub-contractors;
- Provide any necessary Road Closures
- Undertake gritting and snow clearance during the winter months to keep roads open where possible;
- Clear, open and maintain all essential routes in conjunction with the Police;
- Signpost route diversions in conjunction with the Police;
- Co-ordinate provision of engineering personnel, construction vehicles and specialist construction plant as required;
- Assist with communication during the emergency by utilising the Roads Service radio system in the event of telephone/mobile failure;
- Provide and co-ordinate the provision of freight transport (haulage); and
- Maintain a diary of events.

The Council's Emergency Planning and Resilience Section proposed the adoption of a "Severe Weather Emergencies Plan" but following discussions with partners, including the emergency services, the decision made was that the current arrangements worked well and did not require revising at that time.

FURTHER WORK - However, weather warnings need to be taken into account to ensure for example the health and safety of operatives. This may limit the extent to which any direct assistance can be provided until conditions have eased. The contribution to dealing with extreme weather could include signing and maintaining temporary closures and diversions; clearance and removal of debris; assistance with temporary support and repair of buildings; and general support to emergency services.

RECOMMENDATION 24 – COMMUNICATIONS
Severe Weather and Civil Emergencies Plans should incorporate a communications plan to ensure that information including weather and flood forecasts are received through agreed channels and that information is disseminated to highway users through a range of media.

FURTHER WORK - Need to ensure there are agreed channels for receiving weather and flood forecasts. These should be monitored in real time during periods when extreme weather is expected. Need to provide timely, credible and useful information to road users to allow them to make informed decisions before they travel, and give advanced indication of what they can expect if they decide to travel. Use social media, website, the press and radio. Also should explain what is happening and how services are being affected by the weather or due to weather induced damage to infrastructure.

RECOMMENDATION 25 – LEARNING FROM EVENTS
Severe Weather and Civil Emergencies Plans should be regularly rehearsed and refined as necessary. The effectiveness of the Plans should be reviewed after actual events and the learning used to develop them as necessary.

COMPLIANT - Representatives of the Roads Service have been and will continue to attend civil emergency rehearsals such as the recent exercise that simulated a flu epidemic.

RECOMMENDATION 26 – PERFORMANCE MANAGEMENT FRAMEWORK
A performance management framework should be developed that is clear and accessible to stakeholders as appropriate and supports the asset management strategy. (HIAMG Recommendation 4)

COMPLIANT - Relevant and clearly understood performance indicators, such as the RCI, are reported annually to members in the Road Condition Report and published on the Roads Service website.

RECOMMENDATION 27 – PERFORMANCE MONITORING
The performance of the Asset Management Framework should be monitored and reported. It should be reviewed regularly by senior decision makers and when appropriate, improvement actions should be taken. (HIAMG Recommendation 13)

COMPLIANT - The Executive Manager, Roads is responsible for “championing” the RAMP and the Director of Infrastructure is required to approve all functional amendments proposed to Committee. The RAMP is reviewed annually and may be amended if performance indicators identify that improvements are required in a particular aspect of maintenance or management.

RECOMMENDATION 28 – FINANCIAL PLANS
Financial plans should be prepared for all highway maintenance activities covering short, medium and long term time horizons.

COMPLIANT - This is done for capital works and the larger scale revenue works such as resurfacing and surface dressing.

RECOMMENDATION 29 – LIFECYCLE PLANS
Lifecycle planning principles should be used to review the level of funding, support investment decisions and substantiate the need for appropriate and sustainable long term investment. (HIAMG Recommendation 6)

COMPLIANT - See response to recommendation 13 above. These have also been used to show the benefits of the upgrading of our streetlighting network with LED's.

RECOMMENDATION 30 – CROSS ASSET PRIORITIES
In developing priorities and programmes, consideration should be given to prioritising across asset groups as well as within them.

COMPLIANT - This is already given consideration during the budgeting process. This has been reflected in the prioritising of certain budgets over others when making savings.

RECOMMENDATION 31 – WORKS PROGRAMMING
A prioritised forward works programme for a rolling period of three to five years should be developed and updated regularly. (HIAMG Recommendation 7)

COMPLIANT - This is in place for the capital reconstruction, resurfacing and surface dressing works.

RECOMMENDATION 32 – CARBON
The impact of highway infrastructure maintenance activities in terms of whole life carbon costs should be taken into account when determining appropriate interventions, materials and treatments.

COMPLIANT - This is already considered. For example the upgrading of our entire streetlighting network from conventional lanterns to new energy and carbon efficient LED's, the use of kerosene as a burner fuel at the asphalt mixing plant and the replacement of the steam heating system for the bitumen tanks with the electric equivalent. The potential for carbon savings is considered in all reports and business cases.

RECOMMENDATION 33 – CONSISTENCY WITH CHARACTER
Determination of materials, products and treatments for the highway network should take into account the character of the area as well as factoring in whole life costing and sustainability. The materials, products and treatments used for highway maintenance should meet requirements for effectiveness and durability.

COMPLIANT - The materials to be used in the various Conservation areas in Lerwick and Scalloway are already specified. For example, natural stone surfacing in Lerwick Old Town and Conservation concrete paving in Lerwick's New Town. This has been made clear in the new policy.

RECOMMENDATION 34 – HERITAGE ASSETS
Authorities should identify a schedule of listed structures, ancient monuments and other relevant assets and work with relevant organisations to ensure that maintenance reflects planning requirements.

COMPLIANT - We discussed this issue with Shetland Amenity Trust. Their preference is that we continue to contact them at the initial "planning" stage of any projects where the road will be re-aligned or where there may be significant excavations. They also suggested that for more minor or routine works we check the location of the works on the pastmap.org.uk website. "PastMap" brings together map-based information from many different sources, providing a single point of access to information about the archaeological and architectural sites and landscapes of Scotland. It is operated by Historic Environment Scotland in partnership with local government archaeological curators. Should this check identify any heritage asset then we will contact Shetland Amenity Trust to discuss how we are to proceed.

RECOMMENDATION 35 – ENVIRONMENTAL IMPACT, NATURE CONSERVATION AND BIODIVERSITY

Materials, products and treatments for highway infrastructure maintenance should be appraised for environmental impact and for wider issues of sustainability. Highway verges, trees and landscaped areas should be managed with regard to their nature conservation value and biodiversity principles as well as whole-life costing, highway safety and serviceability.

COMPLIANT - Verge cutting policy is already in place and takes account of biodiversity etc., trees not an issue and landscaped areas are largely the responsibility of Housing Services and Assets & Properties.

RECOMMENDATION 36 – MINIMISING CLUTTER

Opportunities to simplify signs and other street furniture and to remove redundant items should be taken into account when planning highway infrastructure maintenance activities.

COMPLIANT – We already undertake decluttering but we will now follow the advice contained in the "Traffic Advisory Leaflet 01/13: Reducing Traffic Sign Clutter." This will ensure that:

- streetscape is improved by identifying and removing unnecessary, damaged and worn out signing;
- signs are rationalised and provided only where required;
- the environmental impact of signing is minimised through careful design, including siting, size and colour;
- costs and carbon emissions associated with providing traffic signs and lighting units are reduced; and
- need for maintenance, such as cleaning and lamp changing.