

**Environment and Transport Committee****11 March 2014****Esplanade, Lerwick 20mph Zone****RD-02-14-F****Report presented by : Traffic & Road Safety Engineer****Roads
Infrastructure Services Department****1.0 Summary**

- 1.1 The purpose of this report is to address concerns raised at the Committee meeting on 21 January 2014 (min. ref.03/13) where the Committee decided to:
 - 1.1.1 Postpone a decision for 1 cycle until legal advice can be given on what the Council's obligations are, if the proposal is not progressed.
 - 1.1.2 That information is provided on the times that accidents occur whether these are in the morning, afternoon or night.
 - 1.1.3 That the next report provides an overall approach to road safety, including traffic calming requirements, in Lerwick as a whole.
- 1.2 The statutory duty to carry out studies into accidents arising out of the use of vehicles has been carried out and the Council has a duty now to do something in the light of those studies.
- 1.3 Officers have carefully considered options and the proposal before Committee is to introduce a 20mph Zone with traffic calming on the Esplanade. This proposal is being brought forward to try and reduce the injury accident rate in the area and to improve pedestrian amenity at certain locations. It would also enable consideration of the replacement of some of the Pelican crossings in the area with Zebra crossings. The report details the possible implications of these changes and seeks approval to progress to public consultation on the scheme as outlined.
- 1.4 Although delegated authority existed for officers to proceed directly to consultation it was thought appropriate, because of the significant alterations to the area and the likelihood of these attracting public comment, to allow Members an opportunity to hear the proposal. If

members are not minded to agree to the proposal they must give guidance to officers on how to proceed in light of the results of the accident studies.

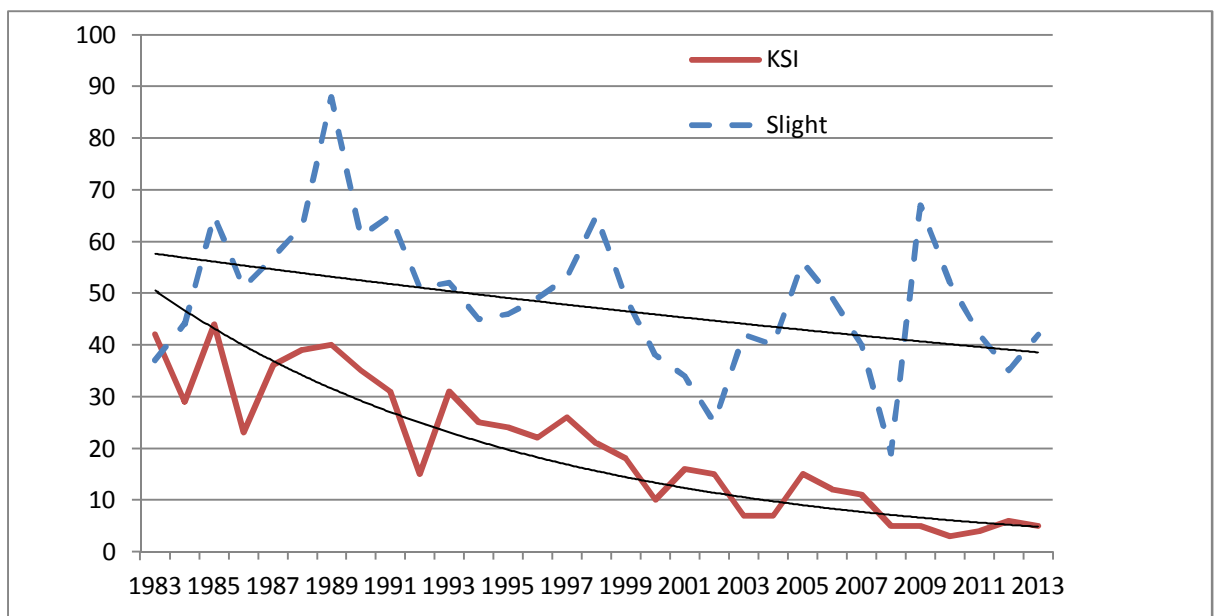
2.0 Decision Required

2.1 That the Environment and Transport Committee RESOLVES to:

- 2.1.1 Approve proceeding to consultation on a 20mph Zone scheme with traffic calming along the Esplanade and Commercial Road between Annsbrae and North Ness following the normal statutory public consultation and advertising process; and
- 2.1.2 Approve proceeding to consultation with vulnerable and other user groups on the replacement of some Pelican crossings with Zebra crossings; and
- 2.1.3 Note that following consultations recommendations will be brought back to the Committee for a decision; and
- 2.1.4 Note that any future funding requirement for works will require to be addressed in line with the normal capital programme budgeting procedures under the Council's Gateway Process.

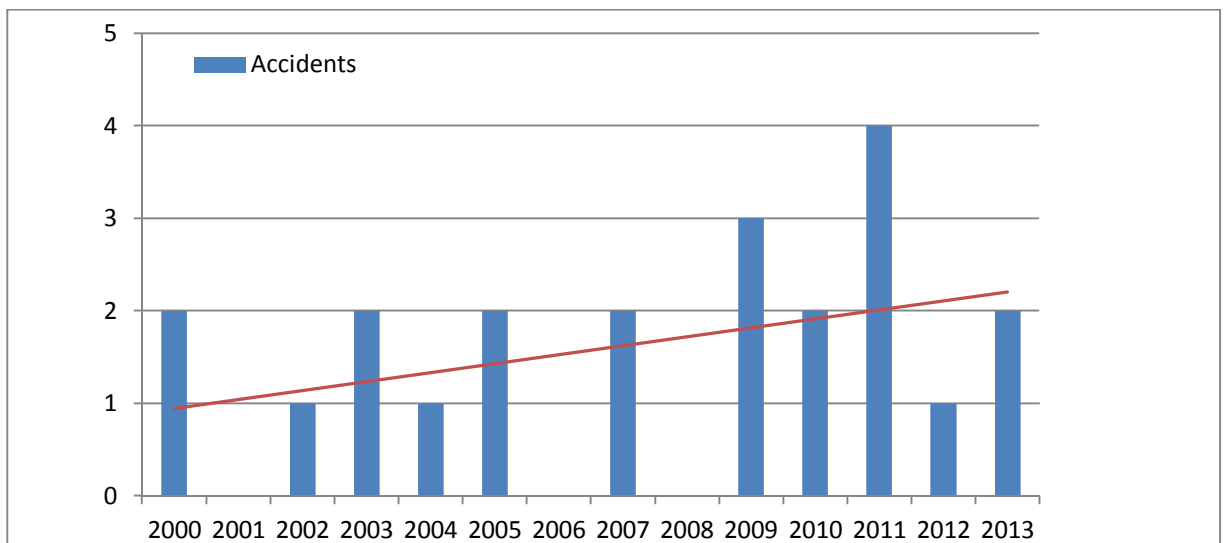
3.0 Background

- 3.1 Section 39 of the Road Traffic Act 1988 makes it a requirement for the Council to prepare and carry out a programme of measures designed to promote road safety; to carry out studies into accidents within our area; and in light of those studies, take such measures as appear appropriate to the Council to prevent such accidents.
- 3.2 Scotland's Road Safety Framework to 2020 sets national policy on casualty reduction where the vision is that *'A steady reduction in the numbers of those killed and those seriously injured, with the ultimate vision of a future where no-one is killed on Scotland's roads, and the injury rate is much reduced.'*
- 3.3 Accident rates in Shetland have been steadily falling since the 1980's and in order to maintain the steady reduction to injury rates accident remedial measures have moved from individual bend and junction sites to route and area action plans.



- 3.4 It was under this type of initiative that the recent study into rural A and B Class road speed limits was carried out; and resulted in the installation of a 50mph limit on the A970 through Girlsta.
- 3.5 Of the 454 injury accidents on file for Shetland since 2000 some 121 or 27% of them are located within the boundaries of Lerwick. However, since 2009 the Lerwick area has accounted for 31% of the injury accidents reported in Shetland with the Esplanade/ Commercial Road area containing over 25% of those accidents, or 8% of all injury accidents in Shetland. The locations of those falling within the main part of Lerwick are shown in Appendix 10. The locations of injury accidents within this area involving pedestrians are shown in Appendix 11.
- 3.6 From the figures above and the plots of injury accidents it is clear that there is a concentration of incidents in the Esplanade/ Commercial Road area. These are shown in more detail in Appendix 8.
- 3.7 From analysis of the accident pattern across Lerwick, and following a detailed look at each accident report, it was determined that targeting an accident remedial scheme at the Esplanade/ Commercial Road area had the greatest potential to provide a meaningful reduction in the injury accident rate across Lerwick. As the predominant casualties in the area were pedestrians any scheme would also be targeted at a vulnerable group of users.
- 3.8 At some other accident cluster locations across Lerwick, such as the South Lochside roundabout, measures have already been undertaken since 2000 to address the issues identified. At other locations there are currently insufficient common factors to allow an effective remedial treatment to be identified. Traffic calming would not be an appropriate measure to consider for many of the areas where accidents are occurring out with the Esplanade, due to the need to retain the main through routes.
- 3.9 Over the past 5 years the Esplanade and Commercial Road area has had a small but regular accident rate of about 2 slight injury accidents per year. Looking at historical accident data back to 2000 this rate

appears to be growing. Unfortunately, because the accidents are not clustered in any specific location the cost of any remedial treatment to reduce this accident rate will be greater than would normally be spent on a single junction or bend site.



- 3.10 Of the 22 accidents on file 16 have involved pedestrians and 4 of the remaining 6 involved rear end shunts. These are accident types where vehicle speeds are particularly relevant to the severity of the accident. It should be noted that none of these shunt accidents occurred at any of the pedestrian crossing points and only one of the pedestrian accidents occurred at an existing crossing location. Tables relating to the pattern and frequency of these accidents are to found in Appendix 12.
- 3.11 The Council have been approached at various times over the last few years regarding the possibility of introducing a lower (20mph) speed limit along the Esplanade. This approach is now being discussed at national level as possible Government Policy to make town centres and shopping areas more pedestrian friendly.
- 3.11.1 Transport Scotland has just announced that they are to begin consultation to introduce 20mph speed limits on sections of the trunk roads in town centres across Scotland. However, at this time these limits are only being proposed where they do not require physical traffic calming and there is a significant accident history involving vulnerable road users (pedestrians and cyclists).
- 3.12 There have been reliability problems with the existing stock of Pelican crossings. These problems have led to a number of enquiries, most notably by the Lerwick Community Council, regarding the possibility of providing Zebra crossings instead.
- 3.13 There are well documented safety issues with Zebra crossings, particularly on roads carrying traffic at higher speeds. Therefore, replacing Pelican crossings with Zebra crossings is not recommended unless they are contained within a lower speed zone or limit area.
- 3.14 However, Zebra crossings are felt to be more pedestrian friendly as the crossing demand is controlled by pedestrian desire rather than electronic

timers that favour traffic flow. As such they are being reintroduced in town centres as part of the move to make them more accessible.

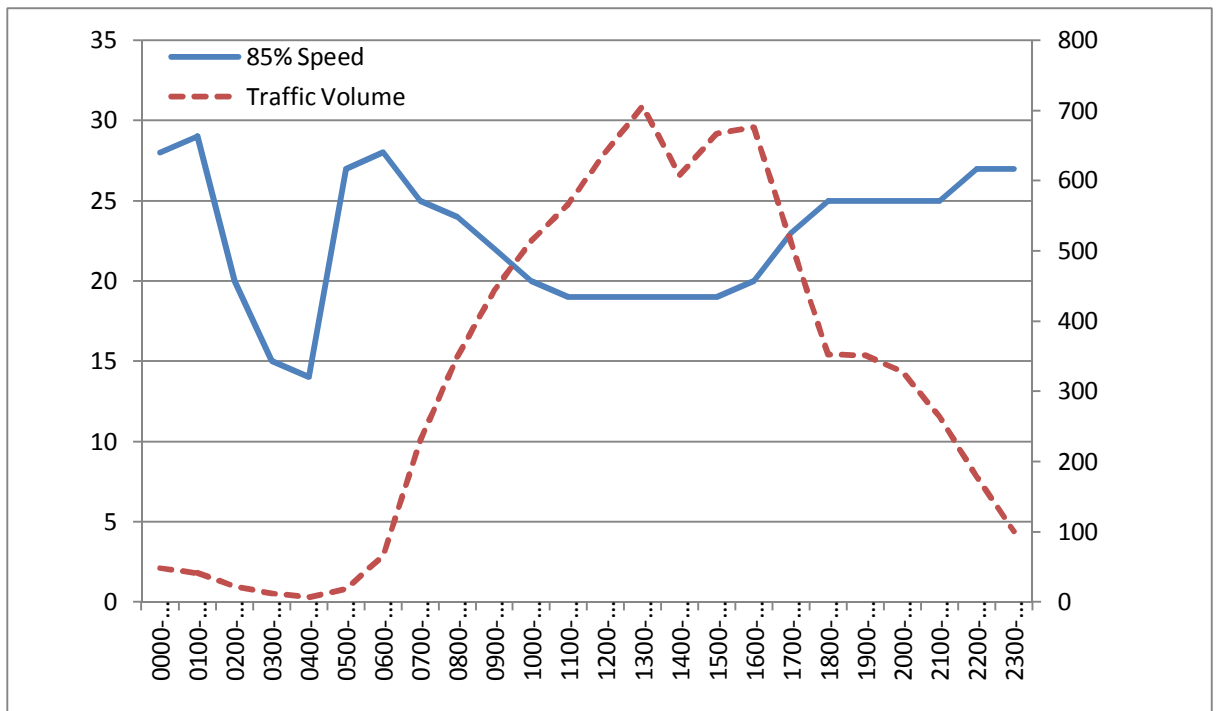
- 3.15 There have been a number of complaints by residents in the Church Road area regarding the speed of vehicles along Church Road, particularly at lunch times and in the evenings. While in general vehicle speeds on Church Road were in the 19mph to 28mph range when they were monitored, some 5% of drivers exceeded 30mph.
- 3.16 The Pelican crossing installation at Church Road has regularly attracted criticism over its location away from the natural desire line, poor footway widths on its approaches, and limited visibility for approaching vehicles. Unfortunately, given the current road/ footway layout and speed of approaching vehicles there is currently little that can be done to improve the situation.

4.0 Detail

- 4.1 To obtain a reduction in the injury accident rate within the Esplanade/ Commercial Road area it is necessary to either reduce the number of impacts, or the speed at which they occur.
- 4.2 The accepted method of doing both of this is, in the first instance, would be to introduce a lower speed limit. In this location this would be 20mph.
- 4.3 This reduced speed limit would allow a new road layout to be considered for the Church Road / Commercial Street junction, as shown in Appendix 4. This layout has been chosen specifically to address the issues that have limited the safety and use of the existing Pelican crossing and is a departure from normal arrangements. It could only be considered as part of a controlled low speed environment.
- 4.4 A reduction in the speed limit in the area would also enable consideration of the replacement of a number of the Pelican crossings in the area with Zebra crossings.
 - 4.4.1 The remainder of the Pelican crossings will be the subject of a detailed review process that requires pedestrian use surveys, which would need to be carried out in late spring/ early summer when the survey would show peak usage. This review will be reported to Committee on completion of the surveys later in the year.
- 4.5 Replacing a Pelican crossing with a Zebra crossing could result in a number of potential cost savings for the Council. The physical installation costs are less, the ongoing maintenance cost is much reduced, and there are no significant end-of life replacement costs. Also, co-locating either of these crossing types with certain traffic calming features within a 20mph zone or limit allows the relatively expensive anti-skid surfacing to be omitted from the approaches to the crossing.
- 4.6 Some of the potential long term cost savings to the Council, which would be realised by replacing Pelican crossings with Zebra crossings, could be put towards the cost of the proposals outlined in this report. This

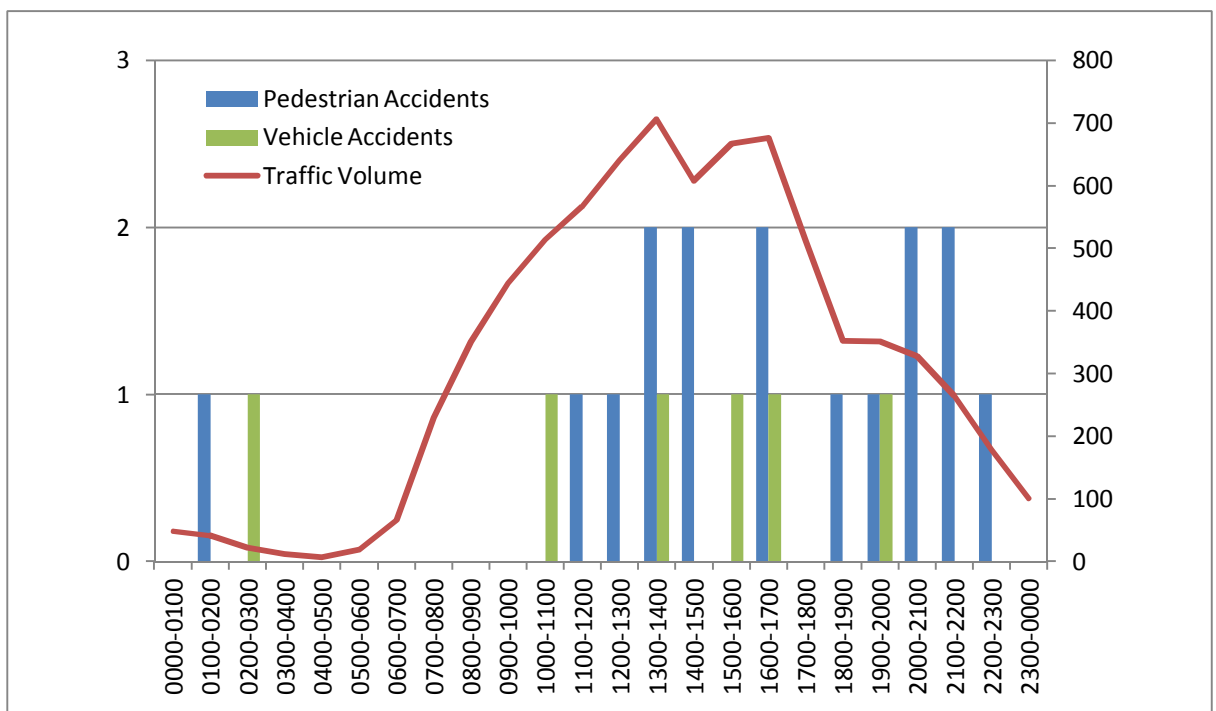
funding, along with some from the Traffic Management and Accident Investigation and Prevention budgets, would go some way towards funding the implementation of a traffic calmed 20mph zone along the Esplanade and part of Commercial Road.

- 4.6.1 Members should note that the largest part (50 – 70%) of the likely costs of the proposals come from the significant changes proposed for the Church Road/ Commercial Street junction area, and which would see a Pelican replaced by a more pedestrian desire friendly Zebra. These changes would bring about a notable improvement in this area – but can only be delivered as part of a wider speed reduction scheme.
- 4.7 The replacement of Pelicans with Zebras, even in a low speed environment, is not without safety concerns. Visually impaired persons rely, completely, on the audible and tactile signals that are part of a Pelican or other light controlled crossing to let them know when traffic is stopped. This is of particular benefit on busy roads and in noisy environments, such as the town centre area we are considering. It should also be noted that in recent years car engines have become much quieter, and this increases the problem for the visually impaired person.
- 4.8 However, despite these concerns, implementation of a 20mph zone or limit for the Esplanade and Commercial Road area should deliver a reduction in the background accident rate for the area. It would allow an improved road layout at the Church Road/ Commercial Street junction to be considered, and it would also be in line with emerging national policy.
- 4.9 With all of this in mind, three options were considered for the area; the first was a 20mph limit without traffic calming, the second a 20mph limit with traffic calming at selected locations, and the third option was a 20mph zone with traffic calming throughout.
 - 4.9.1 A 20mph limit requires entry and exit signing as well as regular secondary signing or repeaters to remind drivers that they are in a reduced speed limit. Any traffic calming features within a 20mph limit must be specifically signed and may only be used in a particular manner to ensure that they do not create safety hazards in their own right. 20mph limits are generally only put in place where traffic speeds are uniformly low.
 - 4.9.2 20mph zones only require entry and exit signing but must have regular traffic calming features. This allows them to be used where existing vehicle speeds are higher or there are a notable number above the nominal threshold for a 20mph limit.
- 4.10 Traffic counts were undertaken through the area in 2012 and these show that, in general, drivers are travelling at a responsible speed. However, there were notable numbers of drivers travelling above this typical level and speeds generally increased in the evenings. The speed survey results are shown in Appendix 9 to this report. A typical speed profile and traffic volume flow by time of day for the Esplanade is shown in the graph below.



4.11 From the graph above it can be seen that traffic speeds along the Esplanade vary by about 10mph across the day, with a notable increase in speeds in the evenings. Given the speed profile of the area it is necessary to install traffic calming features to regulate vehicle speeds around the 20mph level throughout the whole day.

4.12 Unless vehicle speeds are maintained at the lower level the current evening/ night injury accident rate, as shown in the graph below, is unlikely to be reduced. Also, without regulated lower speeds installing Zebra crossings could increase the level of accidents.



4.13 In considering the signage and other infrastructure requirements of a partially traffic calmed 20mph limit against a 20mph zone with traffic calming throughout it was determined that while the latter would be

slightly more expensive it would be more effective and consistent in its impact.

- 4.14 The general proposals for the replacement of Pelican crossings with Zebra crossings and the associated 20mph zone with traffic calming are indicated in the plans attached as Appendix 1 and 2 to this report. More specific details are shown in Appendices 3 to 7.
- 4.15 The extents of the proposed speed zone have been chosen to coincide with the points where traffic naturally slows on the approach to the Church Road and North Ness roundabouts.
- 4.16 The number of traffic calming features within the zone is determined by both the effective and maximum spacing identified in the national guidance and regulations for such schemes.
- 4.17 The specific design of each feature, and the mix of features used, will relate to their location and the specific impact on bus traffic using the route.
- 4.18 The shared layout type of scheme proposed for the Church Road/ Commercial Street junction area also introduces a number of issues for visually impaired persons and significant care needs to be taken with the detailing and finish of the area to aid them in route finding across and through the area.
- 4.19 Another crossing provision type that can be considered in a low speed environment is the 'courtesy crossing', either at road level or across a raised traffic calming hump. At these locations vehicles have no legal requirement to stop for pedestrians wishing to cross but with the minimal delays associated in doing so many motorists do choose to stop. Examples are shown in Appendix 5.

5.0 Implications

- 5.1 Delivery On Corporate Priorities – The proposals in this report could assist in reducing ongoing revenue expenditure in line with the Council's Medium Term Financial Plan. The promotion of such a scheme, which provides obvious safety improvement works, is in line with Council Road Safety Policy.
- 5.2 Community / Stakeholder Issues – The more pedestrian friendly environment that could be created by these proposals is in line with the aspirations of many groups, bodies and individuals. However, there is no doubt that with these potential benefits come a number of concerns for various vulnerable groups and their views need to be given sufficient consideration.
- 5.3 Policy And / Or Delegated Authority – The Council's Scheme of Administration and Delegation provides authority for each functional Committee to discharge the powers and duties of the Council within their own functional areas in accordance with the policies of the Council, and the relevant provisions in its approved revenue and capital budgets.

- 5.4 Risk Management – The public road area covered by this report currently presents an ongoing capital replacement and maintenance liability through the existing pelican crossing stock. The injury accident rate in this area, particularly for pedestrians, is both consistent and higher than would be expected for our population base and traffic flows.
- 5.5 Equalities, Health And Human Rights – Reducing traffic speeds in an area provides considerable benefits for all, but in particular for many disabled and vulnerable persons. Increasing opportunities for pedestrians to cross the main road in the town centre potentially also brings a number of benefits.
- 5.6 Environmental – None.
- 5.7 Financial Resources – The cost of a public consultation on the proposals in this report can be met from existing approved budgets.

If the scheme is introduced, implementation will require a fully costed business case to be made for consideration under the Council's Gateway Process for capital project prioritisation. It should be noted that even if these proposals do proceed to be assessed under the Gateway Process they may not ultimately be progressed if deemed not to be sufficiently high in the Council's priorities against other capital projects.

No specific costing work has been carried out on the proposals at this time as the detail is subject to change and review during the consultation process. However, it would be prudent to consider that scheme costs are likely to be in the order of £100K to £150K.

- 5.8 Legal – As noted in 3.1 above section 39 of the Road Traffic Act 1988 places a duty on the Council such that it "*must carry out studies into accidents arising out of the use of vehicles*". The Council "*must, in the light of those studies, take such measures as appear to the authority to be appropriate to prevent such accidents, including the dissemination of information and advice relating to the use of roads, the giving of practical training to road users or any class or description of road users, the construction, improvement, maintenance or repair of roads for the maintenance of which they are responsible and other measures taken in the exercise of their powers for controlling, protecting or assisting the movement of traffic on roads.....*"

The result of the studies carried out by Roads Service have been carefully considered by them. Roads Service consider the measures that appear most appropriate to prevent such accidents is the introduction of a 20mph zone with traffic calming. Absent any other proposal likely to achieve the same objectives, the Council should move to consult on the proposal.

Failure to take appropriate measures could be considered to be a breach of the Council's duties under the legislation. Although there are no statutory penalties the Council could expose itself to a claim or claims in the event of an accident in that area. Such claim or claims could be harder to defend, and the financial loss to the Council much greater, if the pursuer persuades the court that the Council should have at least properly considered a solution to prevent accidents in the area but

refused even to consult on it. Should the results of the consultation conclude that these measures will not achieve the objectives sought, and the Council decides against such a scheme, the Council will have to consider other measures.

The implications of changing or removing pedestrian crossing points for vulnerable users has implications under the Equality Act 2010 and suitable consultation would be required in order for us to discharge our responsibilities to these users. The introduction of a 20mph speed zone with traffic calming has a statutory public consultation and advertising requirement under the Road Traffic Regulation Act 1984.

5.9 Human Resources – None.

5.10 Assets And Property – None.

6.0 Conclusion

6.1 By ensuring that vehicle speeds throughout the Esplanade and adjacent areas are at or below 20mph, through the installation of physical traffic calming features, a reduction in the injury accident rate in this area could be expected. This lower speed limit should also enhance the amenity of the area and allow significant changes to be made to the Church Road/ Commercial Street junction area.

6.1 Should a traffic calmed 20mph limit be introduced then the Council could also consider the use of Zebra crossings in the area. This may provide an opportunity for the Council's to reduce its ongoing financial liability in respect of the existing Pelican crossing provisions, without necessarily reducing the functional provision.

6.2 Any consultation on these proposals must include a full assessment of the usability concerns for zebra crossings, particularly for visually impaired persons who rely on an audible or tactile confirmation that traffic has stopped.

For further information please contact:

Colin Gair, Engineer – Traffic & Road Safety
Tel: 01595 744867 E-Mail: colin.gair@shetland.gov.uk
27 February 2014

List of Appendices

Appendix 1 – Layout Drawing
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Appendix 3 – Detail Drawing
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Appendix 6 – Detail Drawing
Appendix 7 – Detail Drawing
Appendix 8 – Esplanade Injury Accident Location Drawing

Appendix 9 – Speed Survey Summary Drawing
Appendix 10 – Lerwick Injury Accident Location Drawing
Appendix 11 – Lerwick Pedestrian Injury Accident Location Drawing
Appendix 12 – Esplanade Accident Pattern Graphs

Background documents:

None

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