CABINET
13TH FEBRUARY, 2007

ITEM NO. .....

STREET SCENE AND FURNITURE REVIEW GROUP
GUARDRAILING IN THE TOWN CENTRE

Responsible Cabinet Member – Councillor N.V. Wallis
Highways and Transport Portfolio

Responsible Director – John Buxton, Director of Development and Environment

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Purpose of Report

1. To report the further action required in response to one of the findings of the Street Scene and Furniture Review Group which were fed into the Improvement Planning stage of the Best Value Review of Street Environment, relating to Pedestrian Guardrailing in the Town Centre.

Information and Analysis

2. The background to the potential removal of guardrails has been dealt with in previous reports to Members but in summary, those on the Ring Road have been targeted as they provide the biggest concentration of pedestrian guardrail in the Borough and are in a prominent position.

3. At the meeting of Environment Scrutiny Committee held on 21st December, 2006 consideration was given to the work that had been undertaken to date on this project, including the Risk Assessment Report, outcome of the further research into guardrail removal and a proposed action plan (copy of report attached).

Director's Comments

4. The recommendations of the Scrutiny Committee are broadly supported, funded from appropriate budgets in line with priorities and availability of financial resources.

Legal Implications

5. This report has been considered by the Borough Solicitor for legal implications in accordance with the Council's approved procedures. There are no issues which the Borough Solicitor considers need to be brought to the specific attention of Members, other than those highlighted in the report.

Section 17 of the Crime and Disorder Act 1998

6. The contents of this report have been considered in the context of the requirements placed on the Council by Section 17 of the Crime and Disorder Act 1998, namely, the duty on the Council to exercise its functions with due regard to the likely effect of the exercise of those functions on, and the need to do all that it reasonably can to prevent, crime and disorder in

its area. It is not considered that the contents of this report have any such effect.

Council Policy Framework

7. The issues contained within this report do not represent change to Council policy or the Council's policy framework.

Decision Deadline

8. For the purpose of the 'call-in' procedure this does not represent an urgent matter.

Recommendation

9. That the recommendations of the Environment Scrutiny Committee, as detailed below, be approved:-

   (a) The Highways Asset Management Plan be used as a means of managing essential repairs to guardrailing;

   (b) A standard design be approved for guard rails and this design should be used for urgent repairs that are currently required;

   (c) Town on the Move finances should be considered as an option when looking at pedestrian safety issues;

   (d) The Environment Scrutiny Committee recognises that adequate funding is required as there has been 30 years of neglect to the guardrails and a dedicated budget should be provided for future maintenance; and

   (e) Option 4 of the submitted Action Plan be implemented as the desired course of action.

Reasons

10. To seek Cabinet's approval to the recommendations of the Environment Scrutiny Committee.

Paul Wildsmith
Director of Corporate Services

Background Papers

There were no background papers used other than those referred to in the report.

Karen Graves : Extension 2291

ENVIRONMENT SCRUTINY COMMITTEE
21 DECEMBER 2006 **ITEM NO.** .....

DARLINGTON TOWN CENTRE
REVIEW OF PEDESTRIAN GUARDRAILING ON THE RING ROAD

Purpose of Report

1. To provide Members with details of the work that has been carried out so far on this project, including the Risk Assessment Report, outcome of the further research into guardrail removal and a proposed action plan.

Information and Analysis

2. An update report was presented to Members at their meeting on the 9 November 2006 setting out the background to the project and brief details of the work carried out to date along with the associated costs. This further report gives Members details of the risk assessment which has been carried out, further research into Local Authorities that had removed guardrail and an outline of a proposed action plan to deal with these guardrails.

3. The background to the potential removal of guardrails has been dealt with in previous reports to Members but in summary, those on the Ring Road have been targeted as they provide the biggest concentration of pedestrian guardrail in the Borough and are in a prominent position. Outline details of the Risk Assessment work carried out by Capita Symonds on behalf of the Council has also been covered in previous reports but to date their findings and recommendations have not been presented to Members and these are set out in **Appendix 1**.

4. As reported to members, additional work has been carried out, also by Capita Symonds, to examine experiences of those Local Authorities that have taken part in 'Living Streets' initiatives involving guardrail removal. The findings/conclusions are set out in **Appendix 2**, including a recommendation for a small pilot study of guardrail removal in Darlington along with its risk assessment.

5. Taking account of the two pieces of work outlined above and the condition of the existing guardrails, an outline of a proposed action plan is set out later in the report.

6. The sections of guardrail that are the subject of this report are located on or in the immediate vicinity of the Ring Road between its roundabouts at Grange Road and Bondgate. This approximately 1700 metres of road is dual carriageway with a central reserve of varying type and width. It has six major junctions, all of which are roundabouts. There are also nine other significant junctions (T-junctions) within the area of interest and seven light controlled crossings (Pelican/Puffin/Toucan). The schedule below summarises this information.

7. The Ring Road constitutes a major part of the road network in the town. All the major radial routes link to the Ring Road and it carries on average between 19,000 and 28,000 vehicles per day depending on the particular section of Ring Road involved. Whilst it is subject to a 30 mph speed limit outside peak traffic times, vehicle speeds tend to be higher than this. In a recent trial, a vehicle was driven round the Ring Road at a steady 30 mph and it was consistently overtaken by other vehicles showing that the actual driven speeds exceed the 30 mph limit. In general, therefore, the Ring Road is a highly trafficked road with little or no frontage access or development and having significant pedestrian crossing movements at various locations.

Major Junctions	Grange Road Roundabout Feethams Roundabout Stonebridge Roundabout Freeman's Place Roundabout Northgate Roundabout Bondgate Roundabout
Other Significant Junctions	Coniscliffe Road/Stanhope Road South Victoria Road/Grange Road Coniscliffe Road/Northumberland Street Victoria Road/Feethams Victoria Road/Victoria Road Embankment St Cuthbert's Way/East Street St Cuthbert's Way/Russell Street St Cuthbert's Way/Brunswick Street Northgate/Gladstone Street
Light Controlled Crossings (Pelican/Puffin/Toucan)	Grange Road - Puffin Victoria Road (near Grange Road) - Puffin Victoria Road (near South Arden Street) - Puffin St Cuthbert's Way (Sorting Office) - Pelican St Cuthbert's Way (Courts) - Toucan St Cuthbert's Way (Priestgate) - Toucan St Cuthbert's Way (Russell Street) - Puffin There is also the Wig Wag Crossing outside the Fire Station.

8. In general pedestrian guardrail is used along the edge of footways to provide guidance to pedestrians. The underlying philosophy is to protect pedestrians by preventing them from:

   (a) walking on the carriageway; and

   (b) crossing at unsafe places.

9. Where there are pedestrian safety barriers, The Highway Code advises pedestrians to 'cross the road only at the gaps provided for pedestrians. Do not climb over the barriers or walk between them and the road.'

10. Equally these barriers are significant and prominent pieces of street furniture which can create a less than pleasant environment for pedestrians which can take them away from their 'desire lines' by stopping them from crossing where they want to. As a Council we are seeking to provide good facilities for pedestrians whilst at the same time attempting to reduce street clutter and improving the street scene.

11. As mentioned in previous reports there is around 3Km of guardrail on and around the Ring Road between Bondgate and Grange Road roundabouts. There are about 140 individual sections varying lengths from a couple of metres to several hundred metres. In terms of appearance one of the concerns is the number of different types and styles. Whilst there are only two basic types , those with full height vertical bars and those with a sight gap at the top and vertical bars, there are a number of variations on the these basic styles. For example round bars and straight bars of varying dimensions and spacing, some sections are welded together and some slot together or have angle brackets fixings. A small proportion is new guardrail introduced in connection with recent crossing point improvements.

12. Another consideration is the generally poor condition of the guardrail. Some of the panels that have been used over the years are now obsolete which causes difficulty when repairs are necessary.

13. The guardrail has been utilised for a number of years for fixing planters as part of the floral displays in various parts of the Ring Road.

14. There are no dedicated documents concerning the installation of pedestrian guardrailing but the guidance that exists in design standards for features such as pedestrian crossings, traffic signals and safety audits generally recommends its installation at locations deemed hazardous. For example when a pedestrian crossing is installed, the site becomes a focus of drivers' concentration and areas either side of the crossing become potentially more hazardous for pedestrians crossing the road. 'The Design of Pedestrian Crossings' [DOT, 1995(2)] advises:

    'It may be necessary in urban areas, where large numbers of pedestrians are present, to provide guardrails or other means of deterring pedestrians to prevent indiscriminate crossing of the carriageway.'

    'Many accidents at pedestrian crossings occur at the approach to the crossing. The provision of guardrailing at such positions should be considered. Guardrailing may also provide useful guidance for blind and partially sighted pedestrians.

15. 'A Road Safety Good Practice Guide' [DOT, 2001], states that *'guardrail or fencing to channel pedestrians to the dedicated crossings may be deemed necessary on busy roads'*. However they do point out that they can have disadvantages by being visually intrusive, reducing footpath width, can obscure children and can cause

access difficulties to commercial premises.

16. There are no recommendations regarding the use of pedestrian guardrailing on central reservations.

Risk Assessment

17. In carrying out the risk assessment one of the important considerations that was taken into account was the personal injury road accident record. This was examined for the various sections of the Ring Road and a summary is set out below with the full data included as **Appendix 3**. Currently pedestrians are involved in 21% of personal injury road accidents around the Ring Road.

Totals for All Eight Sites							
	2000	**2001**	**2002**	**2003**	**2004**	**2005**	**Total**
Killed or Serious	3	0	1	0	2	0	6
Slight	11	19	24	22	16	7	99
Total	**14**	**19**	**25**	**22**	**18**	**7**	**105**
Pedestrians (inc in above figures)	6	4	5	4	3	0	22

18. As mentioned in paragraph 3, the full Risk Assessment is given in **Appendix 1**. This recommended retaining almost all of the existing guardrail for a number of reasons, which are summarised below:

    (a) Junctions are heavily trafficked which makes crossing the road potentially dangerous when not using designated crossing points.

    (b) Pedestrian guardrail is provided to direct pedestrians to the appropriate crossing points – this has been broadly successful with most pedestrians crossing at designated crossing points.

    (c) Drivers are likely to anticipate the presence of pedestrians at established crossing points and removing the guardrail could cause pedestrians to cross the road in random locations, adversely affecting road safety.

    (d) If the guardrail is removed, pedestrians may attempt to cross the road in less suitable locations.

    (e) In almost all cases pedestrians crossed at the designated crossing points.

19. Capita has also commented on the condition of the guardrail and recommended actions to each individual section ranging from replacement or repair to repainting.

Further Research into Guardrail Removal

20. As mentioned in the November 2006 report to Members (paragraph 6), Capita Symonds was commissioned to investigate other Local Authorities that have removed guardrail with a view to learning from their experiences. This work has now been completed and the report (Darlington Town Centre Pedestrian Guardrail Pilot Study) is included at **Appendix 2**. The conclusions and recommendations from their report are reproduced below:

(a) The initial remit was to recommend an area for a pilot study of guardrail removal in Darlington with a risk assessment. This has proved difficult for the following reasons:

(i) No evidence has been found of any local authorities removing guardrail on roads of a similar nature. Where guardrail has been removed under the 'living streets' initiative this has been in town centres where conditions are quite different.

(ii) There is a robust and consistent strategy behind the positioning of most of the existing guardrail in Darlington and removing any section would be likely to reduce the effectiveness of the overall provision.

(iii) Research in London on similar roads shows that on average the pedestrian accident rate at sites without guardrail was 2.5 times higher than similar sites with guardrail. This suggests that removing guardrail is likely to result in a substantial increase in pedestrian accidents.

(b) The only area identified where the positioning of guardrail is not currently consistent is at Parkgate roundabout, where the footway alignment appears to have changed since the guardrail was installed. It is recommended that the guardrail is re-aligned as described in the relevant section above.

(c) A slight overprovision has been identified in a limited number of locations where guardrail at the side of the road is duplicated by guardrail in the central reserve. Consideration should be given to removing duplicate sections when maintenance is carried out.

(d) Some sections of guardrail, notably those at Grange Road roundabout, have been removed and replaced by inappropriate temporary fencing. It is recommended that these sections are repaired at the earliest opportunity.

(e) The only area identified where a pilot study of guardrail removal could be considered is section 59-60 at Northgate roundabout. The saving in maintenance costs from removing this section is likely to be small. Furthermore, the results from the pilot study would not automatically be applicable to other sections of guardrail where the situation regarding number of vehicles and pedestrians is entirely different.

(f) For the whole length of road under consideration the current pedestrian accident rate is 3.09 accidents per year. If all guardrail is removed from these

roads research in London suggests that pedestrian accidents could increase to 2.5 times the current rate. This would result in 7.73 accidents per year (2.5 x 3.09). Taking the average cost of a pedestrian injury accident to be £66,413 (Highways economic note No 1:2004) the additional annual costs would be £308,156.32 ([7.73-3.09] x £66,413). Therefore any decision to remove guardrail for economic reasons needs to be weighed carefully against the potential for increased accident costs.

(g) *In summary, the additional research carried out in compiling this report reinforces the conclusions of the first report. It has only been possible to suggest a pilot study of guardrail removal in one limited location. However, an area has been identified where revisions to the guardrail alignment could improve road safety. A slight overprovision has also been identified in a limited number of locations.*

21. As set out in the final paragraph of the Executive Summary of the Capita Report in Appendix 2, there is concern that results of a pilot study would be essentially site specific and not automatically applicable to other locations. For this reason it is recommended that the pilot study should not proceed.

Action Plan

22. As mentioned previously the Risk Assessment also advised on the condition of the guardrail and suggested actions were included in the recommendations from Capita. These ranged from replacement of damaged panels to repair and repainting. However the fundamental issue of the multitude of guardrail variations that has been identified in paragraph 11 needs to be considered. In order to do so it is recommended that further work be carried out to identify a guardrail that could be used within the Town Centre Conservation Area as standard. The existing guardrail might then be replaced on a progressive basis so that on completion all guardrail will be to a consistent style, colour and specification. If a standard specification was established it could also help to steer repairs and future maintenance.

23. There are a number of possible ways of improving matters as set out below. These are conceptual ideas and have been costed accordingly later in the report. The likelihood is that when the detailed action plan is developed it will involve a combination of these options. However at this stage it is not possible to identify which of these options should be adopted until it is established how the work could be funded and the funding provision that might be available. Ideally option 5 would be the desired action but this may not be affordable.

24. In terms of finance, the potential funding routes could be by way of a Capital Bid or via the existing LTP and revenue Highway Maintenance budgets but Members should be aware that the highway maintenance budgets are already under pressure in respect of the maintenance to footpaths and roads. Regarding a Capital Bid, the scheme would need to compete against other projects for a funding allocation.

Action	Comments

1 Do Nothing	Appearance continues to be poor and guardrail deteriorates further. Cost of remedial works increase along with potential insurance liabilities.
2 Carry out only essential repairs	Minimum requirement. Includes works leading to the removal of barriers used as temporary repairs.
3 Carry out only essential repairs and repaint all guard rail	Could provide a relatively straight forward route to producing improved appearance along with some additional life. Depending on the costs and the availability of funding this may need to be carried out as part of a phased programme. Not a long term solution but may be appropriate as an interim measure if the total replacement is the desired option.
4 Carry out substantial repairs as required and repaint all guard rail	Depending on the extent it may be more cost effective to replace panels rather than carry out repairs to panels that have limited future life. Will have to be determined on a site-specific assessment. Will need to be carried out as part of a phased programme depending on the availability of funding. Would provide a longer-term solution than 2 above.
5 Take out existing and replace with new	The most comprehensive and expensive option which will need to be carried out as part of a phased programme the length of which depends on the availability of funding. Because of the potential long timescale it is likely that actions 2 and 3 above will also be involved as interim measures.

25. To date there has been no dedicated budget for carrying out routine inspection and maintenance of guardrailing. Essential repairs and maintenance are funded via the existing highway maintenance revenue budget. Members may not be aware that, along with other highway authorities across the country, Darlington is now well advanced in establishing a Highway Asset Management system. This system will include all the highway information ranging from roads, footpaths, cycleways, verges, street lights, traffic signs, gullies, street furniture etc etc. Guardrailing will be one of the pieces of street furniture that is included and parameters such as location, type, age, conditions, inspection records, maintenance regimes and service standards will be used. In this way an appropriate inspection and maintenance regime can be introduced which will help to keep the street furniture in a good and safe condition, subject to funding availability.

26. Some preliminary work has been carried out to give an indication of the likely capital cost of some of the various options. Starting with the desired option (Option 5) this is likely to cost of the order of £600K, based on taking out and replacing all of the 3Km of existing guardrail and allowing for the associated traffic management works. Regarding Option 4 it is very difficult to be precise without carrying out a very rigorous exercise but on the basis of the information available at the present time it is estimated that this work could cost of the order of £250K. Regarding Option 3 the same caveat applies regarding available information but the likely cost would be of

the order of a £150K. Regarding Option 2, essential repairs need to be carried and these are likely to cost in total about £60,000. This includes work leading to the removal of barriers used as temporary repairs such as the chestnut pale fencing. In addition to the capital cost there will be on going maintenance costs which will vary depending on the option that is implemented. These will be highest for Option 2 and lowest for Option 5. In terms of the financial aspects, in submitting a bid for funding it is necessary to determine the whole life cost of the proposed works and this on going maintenance will need to be evaluated along with obtaining more detailed capital cost estimates for the guard rail itself which will depend on its specification.

27. In the first instance it is proposed that funding be made available through the LTP and revenue Highway Maintenance budgets to implement Option 2, the programme of works depending upon the extent and timing of funding that can be made available. It is also suggested that the work be carried out for discrete sections of guardrail rather than a number of ad hoc repairs. It may be possible, on occasions, to have some of this work carried out in conjunction with development proposals adjacent to the Ring Road.

Legal Implications

28. This report has been considered by the Borough Solicitor for legal implications in accordance with the Council's approved procedures. There are no issues which the Borough Solicitor considers need to be brought to the specific attention of Members, other than those highlighted in the report.

Section 17 of the Crime and Disorder Act 1998

29. The contents of this report have been considered in the context of the requirements placed on the Council by Section 17 of the Crime and Disorder Act 1998, namely, the duty on the Council to exercise it functions with due regard to the likely effect of the exercise of those functions on, and the need to do all that it reasonably can to prevent, crime and disorder in its area. It is not considered that the contents of this report have any such effect.

Recommendations

30. It is recommended that Members receive the report, consider its content and make recommendations.

John Buxton
Director of Development & Environment

Background Papers

(i) Capita Symonds Safety Audit.

(ii) Capita Symonds Pedestrian Guardrail Pilot Study.

John Ray : Extension 2746
cc