Stockton-on-Tees
BOROUGH COUNCIL

Big plans, bright future

Crime and Disorder Select Committee

Scrutiny Review of
Safety at Railway Crossing Points

April 2017

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Crime and Disorder Select Committee
Stockton-on-Tees Borough Council
Municipal Buildings
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Select Committee – Membership

Councillor Wilburn (Chair)
Councillor Rowling (Vice-Chair)
Councillor Dixon
Councillor Mitchell
Councillor Parry
Councillor Vickers
Councillor Walmsley
Councillor Whitehill
Councillor Woodhouse

ACKNOWLEDGEMENTS

The Select Committee thank the following specific contributors to this review:

- James Perkins, Route Level Crossing Manager – North London North Eastern & East Midlands Route
- David Guy, the local Level Crossing Manager for the area
- Joanne Roberts – Traffic and Network Safety Manager - Stockton Borough Council
- Steven Hume – Community Safety and Strategy Service Manager – Stockton Borough Council

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Scope

Which of our strategic corporate objectives does this topic address?

Ensure our residents are safe
Reduce levels of anti-social behaviour

What are the main issues and overall aim of this review?

The safety and general management of railway crossing points (both vehicular and pedestrian). Concerns have been expressed about the safety of pedestrians, road users, and train staff and passengers.
In addition, railway crossing points and lines are sometimes the focus of anti-social behaviour.

The Committee will undertake the following key lines of enquiry:

Examine Network Rail policy.
The approaches taken by British Transport Police, the Council's Technical Services and Community Protection Services.

Who will the Committee be trying to influence as part of its work?

Network Rail, British Transport Police, Stockton Council's Economic Growth and Development Services and Community Services.

Expected duration of review and key milestones:

2 months

What information do we need?

Existing information (background information, existing reports, legislation, central government documents, etc.):
Network Rail Policy

New information:
Operation Look results (British Transport Police)

Who can provide us with further relevant evidence? (Cabinet Member, officer, service user, general public, expert witness, etc.)	What specific areas do we want them to cover when they give evidence?
Network Rail	Policy and approach taken
British Transport Police	Incidence levels. Campaigns
Economic Growth and Development Services	Council policy that can assist with railway crossing safety
Community Services	

Foreword

We are pleased to present the final report of the Crime and Disorder Select Committee following its review of safety of railway crossings points.

The issue was reviewed in response to concerns about the safety of pedestrians and road users and reports of anti-social behaviour at Crossing Points.

This short and focused piece of work proved to be extremely valuable in bringing the various agencies together that are responsible for rail safety and the recommendations seek to improve communication and intelligence sharing and raise awareness about this important issue.

Councillor David Wilburn
Chair

Councillor Paul Rowling
Vice Chair

1.0 Introduction

1.1 This report presents Cabinet with the outcomes of the Scrutiny Review of Safety at Railway Crossing Points, undertaken by the Committee during the Municipal Year 2015/16. The topic was identified for review at Scrutiny Liaison Forum and included in the 2015/16 Work Programme by Executive Scrutiny Committee.

1.2 The main issues which were being examined by the Select Committee were:

- The safety and general management of railway crossing points (both vehicular and pedestrian
- Concerns about the safety of pedestrians, road users, and train staff and passengers
- Anti-social behaviour at Crossing Points

1.3 The Committee took evidence from:

- Network Rail
- British Transport Police
- Joanne Roberts – Traffic and Network Safety Manager - SBC
- Steven Hume – Community Safety and Strategy Service Manager - SBC

2.0 Evidence

Background

2.1 Level crossings provide a means for vehicles, pedestrians and animals to cross over railway lines. Nationally there are around 7000 level crossings in active use on Network Rail managed infrastructure. Of these approximately 1500 are on public vehicular roads and the remainder are where public footpaths, bridleways and private roads/tracks cross the railway. Some private vehicular crossings have public footpath or bridleway rights.

2.2 The layout, configuration and use of level crossings vary from location to location, so each one is essentially unique. To minimise the risk of trains striking crossing users the following features may also be present:

- barriers or gates at public vehicular crossings to physically prevent vehicle or pedestrian users from crossing the railway. These may be operated:
  - automatically upon detection of an approaching train, or
  - manually by railway staff present at the crossing (or from an adjacent signal box) or via remote control from the signal box controlling the area

- Some barriers close off the entire road whereas others (i.e. half-barriers) simply close off the side of the road on which the road traffic approaches the crossing, leaving the exit from the crossing clear at all times

- coloured lights which provide a visual indication to the user of whether, or not, it is safe to cross; this may also be combined with an audible alarm

- telephones for the user to request permission from the signaller to cross

- gates or stiles to highlight to the user where the boundary with the railway begins and ends. These can also prevent inadvertent trespass of children or animals onto the crossing or, in the case of locked gates, unauthorised use

- signage to explain the safe method of using the crossing or to bring the user's attention to specific dangers

- railway signals that can be set to stop trains on the approach to crossings which are open to crossing users before they are closed to allow trains to pass

- railway signs that signify trains to stop on the approach to crossings which are crossed over when identified as safe to cross by the train crew

2.3 Exactly which of these crossing safety features need to be provided have for many years been specified by legislative requirements and industry standards, supplemented by HM Railway Inspectorate guidance.

2.4 The principal factors which influence the requirements are maximum train speed, train frequency, crossing user frequency and whether it is for public or private use. Other risks that arise at level crossings include user slips/trips/falls (including cyclists), trespass along the railway line itself, equipment damage due to vandalism, electric shock from overhead wires and vehicle collisions with barriers, pedestrians or other vehicles.

2.5 All highway crossings are controlled by a signaller although a number are controlled by CCTV and a remote signaller. Network Rail plan to close all signal boxes and move to central operating centre.

Types of Level Crossings

2.6 Types of level crossings in Great Britain include:

- Gated crossings operated by railway staff - this type of crossing is protected by gates, on both sides of the railway, which complete the fencing of the railway when closed across the road or the railway
- Barrier crossings operated by railway staff - this type of crossing is protected by road traffic light signals and lifting barriers on both sides of the railway. An audible warning to pedestrians is also provided
- Barrier crossings with obstacle detection - this type of crossing is protected by road traffic light signals and lifting barriers on each side of the railway. An audible warning to pedestrians is also provided
- Automatic half barrier crossings (AHBC) - this type of crossing is protected by road traffic light signals and a lifting barrier on both sides of the railway. Audible warning to pedestrians is also provided
- Automatic barrier crossings, locally monitored (ABCL) - this type of crossing appears, to the road user, to be similar to an automatic half barrier crossing. It is protected by road traffic light signals and a single lifting barrier on both sides of the railway
- Automatic open crossings, locally monitored (AOCL) - this type of crossing has no barriers but is protected by road traffic light signals and an audible warning for pedestrians
- Open crossings - this type of crossing does not have barriers or road traffic light signals. Only road traffic signs are provided. Road users must give way to trains at the crossing
- User worked crossings (UWCs) for vehicles – this type of crossing is normally protected by gates, or lifting barriers on both sides of the railway. The gates, normally closed across the road and hung so as to open away from the railway, are operated by the users
- Footpath and bridleway crossings - this type of crossing is found where the railway crosses a footpath or bridleway

- Foot crossings at stations - this type of crossing is found between platforms at stations and may be the only route between platforms or the only practicable route for people who cannot use steps

2.7 In Stockton highway level crossings are located at:

Wolviston Back Lane, Billingham
Seal Sands Access Road
Station Road, Billingham
Station Road, Norton
Blakeston Lane, Norton
Allens West, Durham Lane, Eaglescliffe
Urlay Nook Road, Eaglescliffe
Carters Lane

2.8 Photographs of all of Stockton's railway level crossings are attached at **Appendix A**.

2.9 The proximity of railway crossings to primary and secondary schools in Stockton is attached at **Appendix B.**

2.10 Network Rail has advised that in Stockton, all level crossings are at a satisfactory standard and that all crossings are considered for upgrade at the point of renewal. Cowpen Lane (Automatic Half Barrier) is planned to be upgraded to a mechanically controlled full barrier crossing at the point of renewal as part of the re-signalling renewal programme. This type of crossing provides the highest protection being a full barrier operated crossing, protected by signals. It was not possible to become trapped in this type of crossing and therefore it has a lower risk. As yet there has been no formal confirmation of the upgrade. The Council as Highway Authority will need to work with Network Rail in due course to ensure disruption for the public is minimised

2.11 Automatic half barriers on highways present a higher risk and red light enforcement cameras have been installed in other parts of the country to minimise risk. The cameras could trigger automatic penalty notices with offenders having to attend a level crossing improvement course or pay a fine.

Level Crossing Risk

2.12 Network Rail's strapline to reduce risk at crossings is "the safest crossing is a closed crossing". Although it was not always possible to achieve this, crossings were upgraded where possible.

2.13 Over 90% of risk in the previous five years has resulted from user misuse in the form of error or abuse - the remainder being due to other causes such as equipment failure, reduced visibility or railway operator error.

Typical examples of user error include incorrect knowledge of operation, misjudging the time it takes the train to reach the crossing or making incorrect assumptions regarding who has priority of use, direction of travel or the presence of second train approaching usually from the opposite direction.

2.14 Typical examples of user abuse include users driving around half-barriers, users crossing when the crossing lights are red, users not requesting the signaller's authority to cross (where required) and leaving gates open after use. Problems can occur when users were distracted, for example, headphones are a modern risk.

2.15 On average, nationally, there are seven pedestrian and two to three vehicle occupant fatalities per year (excluding suicides). Accidents involving injury to persons on the train are rare.

2.16 A number of changes are expected in the future that potentially could increase level crossing risk if longer term strategies and tactical initiatives are not put in place. These include:

- increased in population
- increasing pressures for new residential and commercial development – particularly in the already densely populated South East
- the requirement to run additional train services and convey more passengers
- increased number of elderly drivers
- increased impatience brought about by the pace of modern life (i.e. users take greater risks to avoid having to wait for trains to pass).

2.17 Management of level crossings is based on risk and inspection frequency can range from 1 ¼ to 3 ¼ years for the completion of risk inspections. Level crossings are given a score for collective and individual risk. Collective risk is on a scale of 1 – 13 and individual risk is on a scale of A – M making A1 the highest risk score. No level crossings in Stockton were scored as high risk crossings.

2.18 Asset inspections are carried out by Network Rail and the Highway Authority has a legal responsibility to maintain some highway approach signage, road surfaces and markings on the approach.

2.19 Information relating to risk factors including usage, type of user (i.e. children and vulnerable people) train numbers, line speed and type of crossing are all fed into an algorithm which generates a risk score and informs judgements on the need to make improvements.

Reducing Level Crossing Risk

2.20 The most effective way of reducing level crossing risk is to eliminate the crossing completely. Whilst purely private level crossings can be closed by agreement with authorised users, closure of public level crossings is notoriously more difficult under the present law. In addition, closure of a public bridleway or footpath level crossing may result in a requirement to provide an alternative route either in the form of a bridge over the railway, an underpass beneath the railway or through provision of a diversionary route to a nearby existing bridge, underpass or level crossing.

2.21 Provision of structures such as bridges or underpasses involves large capital investment. It can also take a long period of time before they are realised due to the need to obtain the necessary planning (and other) consents and the magnitude of the infrastructure works required. Additional land may also need to be purchased. Level crossings are an expensive asset and Network Rail are continually working to encourage production of further cost effective level crossing safety innovation which can be utilised on the crossings across the network.

2.22 Network Rail is subject to the requirements of the Health and Safety at Work Act etc. 1974 to reduce risk ‘so far as is reasonably practicable’. In simple terms this means that the cost, time and effort required in providing a specific risk reduction measure needs to be commensurate with the safety benefit that will be obtained as a result of its implementation. Network Rail’s health and safety management system (part of its safety authorisation issued

by the Office of Rail Regulation) sets out the company's approach towards prioritisation of safety expenditure.

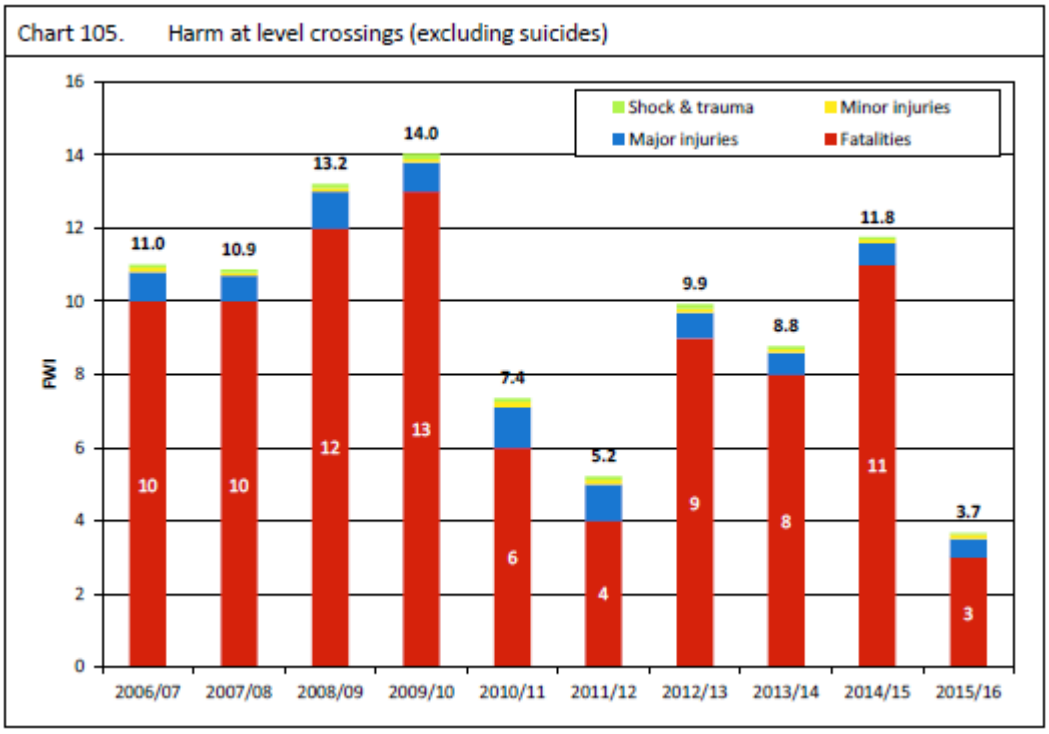
2.23 In the majority of cases the risk associated with individual level crossing use is insufficient to make a clear case for its closure and/or diversion. It is therefore necessary to understand any other benefits that can be factored in, for example reduced operational or maintenance costs, avoidance of forthcoming renewal costs, improved operating performance or funding obtained from other parties involved such as the Highways Agency, local councils or private housing developers. Management judgement also forms a key part of the decision process when qualitatively the risk warrants something to be done but the case for closure and/or diversion is not necessarily clear cut.

2.24 If it is not practicable to close and/or divert the crossing then it may still be possible to reduce risk through the provision of improved safety features where it is considered reasonably practicable.

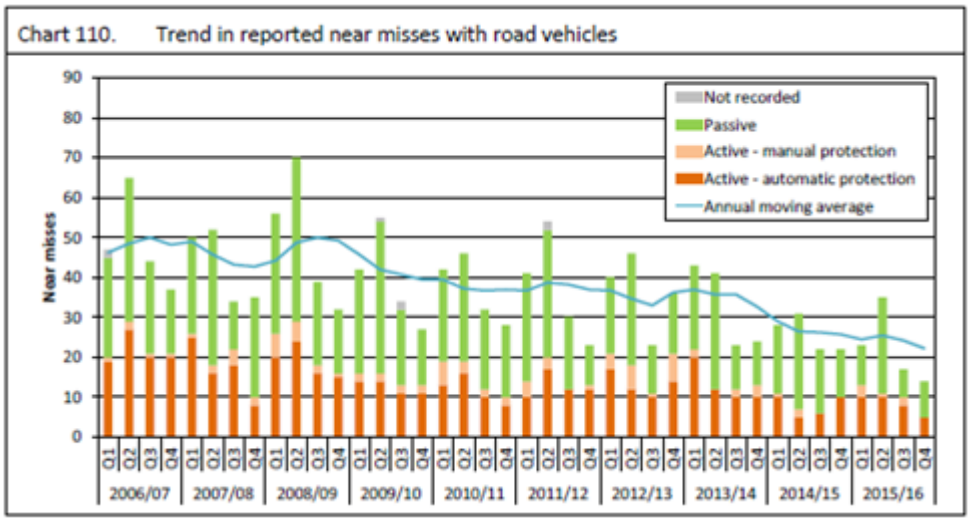
2.25 In contrast provision of new level crossings would introduce additional risk and therefore would be permitted only in exceptional circumstances.

National Performance 2015/16

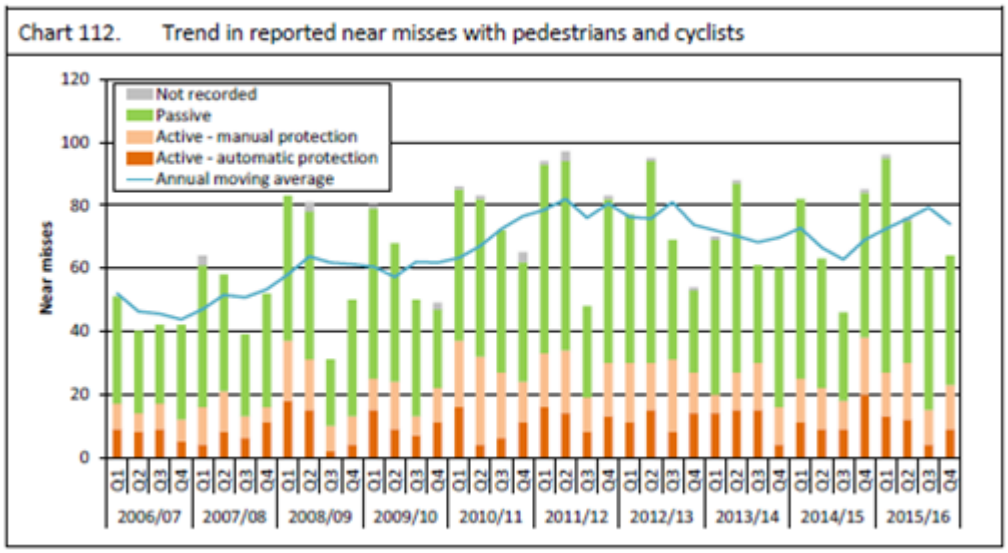
Trend in Harm at Level Crossings:



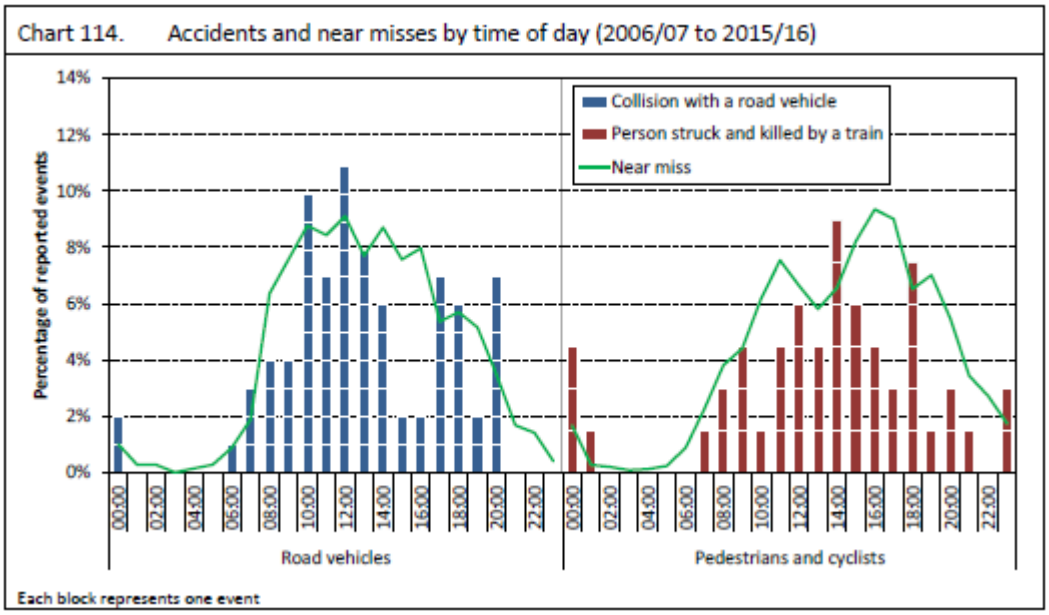
Near misses with road vehicles by crossing type:



Near Misses with pedestrians and cyclists by crossing type:



Near Misses by Time of Day:



2.26 In 2015/16 there were:

- Three fatalities – all pedestrian
- Five major injuries
- 65 reported minor injuries
- 28 reports of shock or trauma, mainly affecting train drivers
- Four collisions between trains and road vehicles
- The number of train collisions was at its lowest in 10 years
- Collisions were the largest single cause of train accident risk
- Train collisions with road vehicles contributed to 32% of the risk at level crossings – 29% affected members of the public in road vehicles and 3% affected people on trains
- Slips, trips and falls accounted for 4% of risk and being struck by level crossing equipment accounted for 1%

2.27 Factors affecting the risk at level crossings:

- Level Crossing Equipment Failure
- Railway Crime
- Actions by level crossing users

2.28 Initiatives by Network Rail to reduce the risk at level crossings:

- Introduction of level crossing managers
- Improved risk assessments
- Asset renewals
- Risk based closure programme with £99m investment
- Improvements to light signals
- Half barrier overlay systems
- Assessing the effectiveness of whistle boards

- Installing audible warning systems
- Delivering additional red light safety equipment
- Mobile safety vehicles
- Two new overlay miniature stop light systems
- Power operated gate openers installed at 80 private vehicle crossings

Network Rail – Strategy and Key Initiatives

2.29 Network Rail's overall strategy for managing level crossing risk is based upon a principle known as the four 'E's:

• Education; educating crossing users on how to use level crossings correctly and highlighting the dangers of misuse
• Enforcement; taking appropriate action to assist the police in identifying those who deliberately endanger others through their actions at level crossings with a view to securing their prosecution
• Enablement; developing appropriate techniques, processes, models and relationships/partnerships to improve the management of level crossing risk (e.g. Road Rail Partnership Groups, the All Level Crossing Risk Model)
• Engineering; requirement that level crossings are regularly inspected and correctly maintained. Additionally, where it is reasonably practicable to do so, enhancing crossing safety through means such as closure/diversion or provision of additional safety features/equipment (e.g. addition of telephones or lights, conversion from half-barriers to full-barriers)

2.30 In addition to the established legislative requirements and risk management controls, Network Rail is taking forward the following key initiatives with a view to further improving level crossing safety:

- use of the All Level Crossing Risk Model (ALCRM) to gain a greater understanding of crossing risk and to target investment to close/divert or improve crossings where reasonably practicable
- continuing to implement and evolve the 'Don't Run The Risk' public awareness campaign to educate users on how to use level crossings correctly and the dangers of misuse
- investigation, trial and employment of measures to reduce the cost of level crossing closure such as 'modular'/standard bridge designs, new construction material /techniques/processes and challenging current construction standards
- realising the benefits from the formation of Road Rail Partnership Groups through taking measures to address level crossing safety from both a highway and railway perspective
- trialling of new technology which could reduce the cost of providing improved crossing safety features/equipment (e.g. conversion of automatic half-barrier crossings to automatic full-barrier crossings with obstacle detection)
- realising the benefits from the recent establishment of a National Level Crossing Safety Group and creation of a national specialist team
- realising the benefits from reducing the costs of level crossing design through bringing crossing renewal design in-house and reducing maintenance costs through the use of new technology to improve asset availability and reliability (e.g. replacement of filament bulbs with LEDs).

Campaigns

2.31 Network Rail's programme of national safety awareness activity includes working with local communities to find safer ways to cross the railway – above, beneath or via an alternative route.

2.32 Dedicated community safety and level crossing teams work to reduce railway crime and increase safety awareness. Safety awareness and media campaigns have been run together with partner organisations to reach particular at-risk groups.

2.33 Network Rail advise that although national awareness campaigns were run, TV advertising was very expensive and it is hard to judge the impact of these. As a result awareness campaigns tended to have a local focus.

2.34 In addition Network Rail is working with the Police and Crown Prosecution Service to change driver behaviour through prosecution of offenders who deliberately misuse level crossings and targeted safety courses.

Local Resourcing

2.35 The Transport Police advised the Committee that their staffing had not been reduced locally and that there were 10 PCs working from 7am to midnight each day across the Tees Valley. Out of hours cover was provided from Newcastle.

Local Issues and Communication

2.36 During the review, Committee Members commented that they were aware of incidents of motorists driving through half barriers. Network Rail and British Transport Police reported that there had been no recorded reports of misuse of this type in Stockton and that reports would usually come from train drivers as the barriers at this type of crossing would only come down just before the train crossed the road.

2.37 Transport Police representatives confirmed that there were no reports of pedestrians being run down on the line. There had been one fatality in the last four years which was a suicide and reports of trespass were minimal. With regard to suicide, Network Rail worked closely with the Samaritans but the figures from suicide were disregarded for reporting purposes.

2.38 Members were also aware of youths being pulled away from railway lines by residents and a case of a pedestrian being "clipped" by a train. Transport Police confirmed that they had received no reports and stressed the need for the public to report such incidents and the importance of getting this message out to the general public. They stressed that if children were sighted on a railway line, a 999 call should be made. The more intelligence received on misuse would strengthen the case for an upgrade. The Transport Police also carried out school liaison in areas where there was known to be problem.

2.39 Network Rail also ran education programmes in high risk areas and Community Safety also ran initiatives such as Crucial Crew working with school children.

2.40 Better intelligence and reporting of issues and incidents would enable Network Rail to build a better risk profile and better inform the need to upgrades any crossings.

Partnership Working between Network Rail and British Transport Police

2.41 Both Network Rail and Transport Police representatives attending the Select Committee to give evidence agreed that they were working together effectively. For example, they had a shared resource in a red light enforcement vehicle which issued auto prosecutions; they had worked on joint awareness campaigns such as Operation Look; attended schools together and shared data each month.

2.42 Network Rail felt that the Highway Authority should classify roads for maintenance purposes giving a higher priority to those roads with a level crossing. For example, vegetation by the level crossing at Cowpen Lane caused obstruction; a higher priority would mean more regular maintenance and reduce risk.

Best Practice

2.43 Network Rail commented that in other parts of the country a Road Rail Partnership had proven to be an effective way to share intelligence with membership drawn from Network Rail, Highway officers, Planning officers and Public Rights of Way Officers to discuss general concerns and provide an interface between Network Rail and Highways. Given the low number of railway crossings in Stockton, a partnership of this type could be conjunction with other local authorities.

2.44 Council representatives indicated that they would welcome an enhanced relationship and in respect of schools liaison, the Council's road safety officer could have a role attending schools where the lower risk meant that police engagement would not take place. The Council's Communications Department could also help to get messages out through social media.

3.0 Conclusion

The Committee found that there was scope to improve communication and intelligence sharing between the various agencies, improve communication with the public including greater use of social media channels and further raise awareness in schools in conjunction with initiatives such as Crucial Crew and the Junior Road Safety Officer.

Recommendations

(1) That a communication strategy be developed to raise awareness of the safety risks at crossing points and promote responsible behaviour utilising social media channels as appropriate.

(2) That the Council raise awareness in primary and secondary schools as part of initiatives such as Crucial Crew and the Junior Road Safety Officer to complement the work of the British Transport Police.

(3) That a road rail liaison group be established comprising representatives from the Council, Network Rail and the British Transport Police to improve communication between the various agencies, including:

- discussion of concerns
- identifying improvements to crossings
- sharing intelligence including intelligence about anti-social behaviour in the vicinity of crossings
- providing an interface between all agencies

- discussion of road classifications
- sharing timescales for programmes of work
- co-ordinating activity in relation to national and local awareness campaigns

Appendix A

Wolviston Back Lane, Billingham

Seal Sands Access Road

Station Road, Billingham

Station Road, Norton

Blakeston Lane, Norton

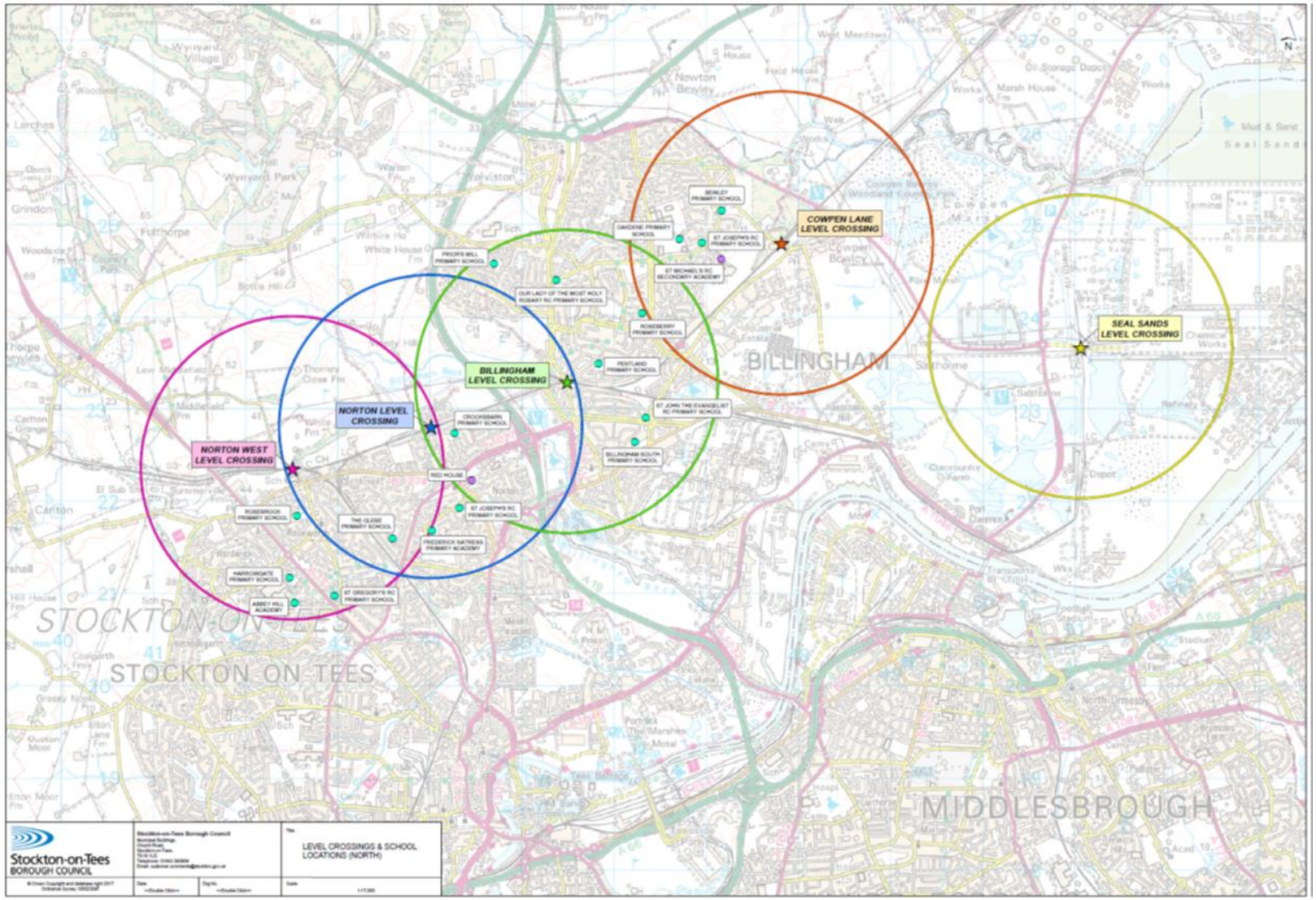
Allens West, Durham Lane, Eaglescliffe

Urlay Nook Road, Eaglescliffe

Carters Lane

Appendix B

Proximity of Level Crossings to Primary Schools (1 mile radius)



Proximity of Level Crossings to Secondary Schools (1 mile radius)