

ANGUS COUNCIL

ROADS COMMITTEE

27 NOVEMBER 1997

A92 NORTH OF ARBROATH - ROAD SAFETY

REPORT BY THE DIRECTOR OF ROADS

**ABSTRACT**

This report discusses road safety issues on the A92 north of Arbroath.

1 **RECOMMENDATIONS**

It is recommended that the committee agree to:-

- (i) the carrying out of improvements to the lining and signing on the A92 north of Arbroath and
- (ii) the provision of an overhead vehicle detection system on the A92 at Inverkeilor Railway Bridge.

2 **INTRODUCTION**

Road safety on the A92 to the south of Arbroath was addressed by report no. 244/96 approved by the Roads Committee on 25 April 1996. The renewal and provision of road markings recommended in this report has now been carried out and has certainly improved conditions for the drivers particularly in the dark.

Although traffic volumes are lower north of Arbroath there is still a need to ensure that a similar consistent level of road markings is provided here.

Accident records show that there is a specific problem at Inverkeilor railway bridge which is subject to numerous strikes by high vehicles. Although in recent years these accidents have not resulted in personal injury the potential exists for a very serious accident perhaps even involving fatalities.

### 3 DETAILS

#### (a) Road markings and signing

The use of a solid edge line on high speed heavily trafficked main roads has been found to be beneficial to the driver particularly at night. The A92 which is affected by coastal haar will particularly benefit from such treatment.

As was done south of Arbroath it is proposed that rather than simply provide the new edge lines that the opportunity is taken to completely refurbish all the white road markings north of Arbroath. This will ensure that there is a consistent standard of road marking along the whole route to assist the driver.

Although the signing of this length of the A92 is generally acceptable it is proposed that as part of the need to ensure consistency that all the signing is checked and where appropriate brought up to a higher standard.

#### (b) Inverkeilor Railway Bridge

For a number of years there has been concern about the number of vehicle strikes at Inverkeilor railway bridge. As long ago as 1989 Tayside Regional Council had been in contact with Railtrack about the need for improved warning signing for the bridge.

Over the years there have been a number of improvements carried out to the signing. Larger signs have been erected, the signing has been made mandatory to enable the police to prosecute offenders and extra advance signing has been erected. The bridge is currently signed to a level in excess of that required for

such a structure with advance warning of both the restricted headroom and the diversion route.

Despite the signing measures taken, Railtrack have expressed their continuing concerns about the bridge being struck by high vehicles. Appendix A shows the number of reported incidents involving vehicle strikes at Inverkeilor bridge since 1989. In addition Railtrack advise that their records show that there are more incidents causing damage to the bridge than are reported to the police. They advise that in 1997 to the end of September, in addition to the two incidents reported to the police they have recorded a further three unreported incidents causing damage to the bridge.

Each of these incidents can represent a grave risk to both road and rail traffic. Lateral impact forces could displace girder bridges enough to cause tracks to be misaligned sufficiently under certain circumstances to cause derailments. There is also a significant risk to road users where loads are displaced from a vehicle coming into contact with a bridge. Indeed in 1995 a container did fall from a lorry onto the carriageway at Inverkeilor. Fortunately in this case it did not strike any other vehicles.

It is possible to calculate the probability of a vehicle strike causing a derailment at a railway bridge using formulae contained within The Design Manual for Roads and Bridges published by the Scottish Office. Based on expected road traffic flows for the year 2000 and using information on the number of trains per day and on the bridge's strength it has been calculated that in the worst case scenario and unless additional precautions are taken a derailment can be expected once every 140 years. Given the potential for serious injury or fatalities as a result of a major incident it is felt that this risk is unacceptable particularly in this case where there is clear evidence that despite the high standard of signing that strikes continue to occur.

To address the problem it is now proposed that an Overheight Vehicle Detection (OVD) system be installed at Inverkeilor Bridge.

The OVD system involves the use of infra red beams which when broken by a large vehicle switch on an illuminated sign and flashing amber lights. The illuminated sign would display the message OVERHEIGHT VEHICLE - DIVERT and this in conjunction with the existing diversion signing should ensure that all high vehicles will follow the signed diversion. The system has built in safeguards to ensure that the signing is not switched on by passing birds or a dirty vehicle exhaust etc.

Until now the cost of improved signing at the bridge has been borne by the Roads Authority, and the responsibility for the provision of signing in accordance with the Traffic Signs Regulations and General Directions lies with the local roads authority under the Road Traffic Regulation Act 1984. As stated above however the signage at the bridge is already in excess of that required for such a structure and the provision of the OVD system is not a statutory requirement under the Act. While the provision of an OVD system will undoubtedly improve public safety for both road and rail travellers there will also be indirect benefits to both Railtrack and the insurance companies and their clients through a reduction in the number of overheight vehicle strikes. Generally (although not always) when the bridge is hit the incident is reported to the police and the driver of the vehicle can be prosecuted and damage costs recovered from the vehicle insurer. The insurance companies' risks and costs are reflected in the insurance premiums which they charge their customers. Each incident is dealt with separately with damages being settled after the claims have been assessed. There is therefore no prospect of contributions towards the cost of the OVD system being made by the insurance companies either collectively or individually in respect of future and as yet unquantified claims.

Railtrack on the other hand have a vested interest in protecting their bridge from accidental damage and thereby minimising their costs in pursuing damages where the culprit is known or carrying out repairs at their own cost when the accident goes unreported. Following the privatisation of British Rail, Railtrack is also subject to financial penalties when a line is temporarily

closed and unavailable to the train operators. These costs could be significant if the bridge suffered serious damage and the line was closed for any length of time, not to mention the hidden costs to the economy as a whole due to the temporary loss of this vital rail link.

It is therefore deemed appropriate that Railtrack make a contribution towards the cost of providing the OVD system and this has been discussed informally with Railtrack. These discussions indicated that Railtrack might be willing to contribute and a letter has now been sent to them requesting that they make a contribution to an OVD system at Inverkeilor Bridge.

#### 4 **FINANCIAL IMPLICATIONS**

##### (a) **Capital**

The refurbishment of the existing white lines and the provision of new edge lining is estimated to cost £23000. The estimated cost of the proposed OVD system including installation and provision of a power supply is £80,000. The estimated cost of improved road signing is £16,000. The total estimated cost of the improvements identified in this report is therefore £119,000 (including engineering/admin costs).

£80,000 has been allocated in the Capital Estimates for 1997/98 for the A92 Arbroath - Montrose Route Action Plan and a further £50,000 provided for in 1998/99 in the draft Financial Plan 1997 - 2001.


It is therefore proposed to take up the whole of the £80,000 allocation for the current year with the provision of the OVD system at Inverkeilor Bridge. The road marking and signing work (£39,000) will be phased into 1998/99 - subject to approval of sufficient allocation in the Capital Estimates for 1998/99.

(b) **Revenue**

Additional maintenance costs would amount to £4,800 per annum and this would require to be provided for in future years' Revenue Budgets. Loan charges would amount to £13,978 per annum over 20 years.

5 **CONSULTATION**

The Chief Executive, the Director of Law and Administration, the Director of Finance and the Chief Constable have been consulted in the preparation of this Report.



Dr Bob McLellan  
DIRECTOR OF ROADS

NOTE

The following background papers as defined by Section 50D of the Local Government (Scotland) Act 1973 (other than any containing confidential or exempt information) were relied on to any material extent in preparing the above Report:-

Report No 244/96 Road Safety - Dundee to Arbroath Road - Angus Council Roads Committee 25 April 1996

## APPENDIX A

INVERKEILOR RAILWAY BRIDGEREPORTED HIGH VEHICLE STRIKES - 1989 TO SEPTEMBER 1997

NORTHBOUND		SOUTHBOUND	
27.2.89	Serious Injury	31.1.89	Non injury
20.12.89	Slight Injury	1.12.89	Slight Injury
1990	Nil	1990	Nil
21.10.91	Non injury	3.8.91	Non injury
12.3.92	Non injury	1992	Nil
4.11.92	Non injury		
1993	Nil	13.1.93	Non injury
		29.5.93	Non injury
1994	Nil	1994	Nil
17.1.95	Non injury	1995	Nil
14.8.95	Non injury		
14.12.95	Non injury		
21.12.95	Non injury		
1996	Nil	17.5.96	Non injury
31.1.97	Non injury	1997	Nil
18.2.97	Non injury		
<b>Total Northbound</b>	<b><u>11 No.</u></b>	<b>Total Southbound</b>	<b><u>6 No.</u></b>