Prevention of bridge strikes

A good practice guide for passenger transport operational staff
Foreword

The reported occurrence of vehicles striking bridges continues to rise each year. In the last year alone there have been over 2,000 such incidents; some bridge strikes regretfully involve passenger vehicles.

In addition to the potential consequences to the railway (such as costly damage to the bridge concerned, delays to train services, and the possibility of a train derailment), there could be serious injury to the driver and occupants of the passenger vehicle involved and to other road users. Many of you will have seen images, similar to those shown in this booklet, of buses with their roofs removed when they have attempted to pass under a bridge that was too low.

Network Rail, in conjunction with the passenger transport industry, have produced this good practice guide for operational staff to help you to identify the causes of bridge strikes – and how to avoid them. A similar guide has also been produced for use by professional passenger vehicle drivers, and I would recommend that each of your drivers be supplied with a copy.

I hope that the advice provided in this booklet will assist you in considering how you, your company and your drivers can help to reduce the number of bridge strikes by following the guidance given here.

Karen Buck MP
Parliamentary Under Secretary of State,
Department for Transport
Introduction

This good practice guide is intended to raise your awareness of the risks and consequences of bridge strikes.

The information given in this guide applies to operational staff and others involved in route risk assessment and schedules for passenger vehicles:

- on a normal service route
- on diversionary routes
- providing school and community transport
- on private hire including rail replacement
- being recovered or on engineering test
- out of service

Between April 2004 and March 2005 there were 2006 bridge strikes at railway bridges over a road reported to Network Rail. Historically, the causes of bridge strikes involving passenger transport vehicles are:

- drivers going off line of route, including under diversion
- drivers operating “not in service”, and taking a short cut
- engineers with insufficient route knowledge returning a vehicle to the depot for maintenance
- drivers who normally drive a single deck vehicle taking a double deck vehicle on a single deck route

This guide has been produced by organisations representing the passenger transport industry in conjunction with Network Rail. Its purpose is to enable the identification of the risks and provide guidance to prevent bridge strikes.
What is the law?
You should ensure that every driver is aware that any bridge strike is a road traffic collision and that failure to report any bridge strike is an offence.
The Road Vehicles (Construction and Use) Regulations 1986 No. SI 1078 as amended requires passenger transport vehicles having a travelling height of 9ft 10ins (3.0 metres) or above to have a notice in the cab displaying the maximum height of the vehicle.
It is an offence to cause or permit a vehicle to be used in breach of the regulations.
It is the transport manager’s responsibility to ensure that a procedure is in place for drivers to check that the correct maximum height is displayed in their cabs.

Road traffic signs
Road traffic signs are provided at bridges to show the maximum permitted vehicle height when less than 16'-3''.
• red circles prohibit
• red triangles warn
If a vehicle is higher than the dimensions shown on a circular road sign, the driver must stop and not pass the sign. If the vehicle is higher than the dimension shown on a triangular sign at the bridge, the driver should not pass the sign.
Special signs are sometimes used on arch bridges. White lines on the road and ‘goal posts’ on the bridge may be provided to indicate the extent of the signed limit on vehicle height, normally over a 3 metre width. There may be additional sets of ‘goal posts’ showing lower limits towards the kerbs.

What is a bridge strike?
A bridge strike is an incident in which a vehicle collides with a bridge. Most incidents occur where roads pass under railway bridges.
A bridge strike at a railway bridge affects the safety of trains and may cause damage to the bridge as well as possible death or injury to the driver, passengers and other members of the public.

The following organisations have been involved:
• Department for Transport
• Transport for London
• Confederation of Passenger Transport
• Road Operators’ Safety Council
• Transport & General Workers Union
• Association of Chief Police Officers
• Association of Chief Police Officers in Scotland
• Arriva plc
• Network Rail

The top of a double deck bus removed following a bridge strike
Height indicator located in the driver’s cab
The top of a double deck bus removed following a bridge strike
Height indicator located in the driver’s cab
What are the consequences for passenger vehicle operators?

Striking bridges is potentially dangerous and expensive.

Dangerous because

- the bus or coach driver may be killed or suffer physical or psychological injury
- passengers may be killed or seriously injured
- bridge strikes can also be fatal to other drivers and members of the public
- the safety of trains and the travelling public is put at risk

Expensive because

- your company will be liable for the cost of the incident including:
  - an examination of the bridge
  - repairing the damage to the bridge
  - replacement of any damaged road signs
  - vehicle recovery
- your company will be liable for the damage to your vehicle and personal injury claims
- your company may lose business because the vehicle and driver are off the road
- your company could be required to pay increased insurance premiums
- your company may also be liable to prosecution
- the good repute of your company may be jeopardised
- your company’s operator’s licence may be suspended, curtailed or revoked

Recovery of a damaged bus following a bridge strike

Passengers on the upper level of a bus are at particular risk of injury

What are the consequences of bridge strikes to the railway?

- derailment of passenger trains with the potential for catastrophic loss of life
- derailment of freight trains with potential for a major incident or environmental damage
- damage to railway infrastructure
- delays and disruption to trains

A bridge strike can seriously damage railway bridges!

Actions to take before the journey to prevent bridge strikes

Route risk assessment

- assess the risk of bridge strikes based on the height and width of the vehicle
- assess and select routes to eliminate the risk of bridge strikes
- assess routes for vehicles under maintenance or engineering test to avoid bridge strikes
- schedules should not cause the driver pressure, stress or fatigue as this may increase the risk of bridge strikes

Guidance is available from:

- "The Trucker’s Atlas" – a valuable source of information on limits on vehicle heights on "A" and "B" roads
- software routing systems – information on limits on vehicle heights should be included
- CentreComm (London only)
- local highway authorities – guidance may be obtained on limits on vehicle heights under bridges

Passengers on the upper level of a bus are at particular risk of injury
Vehicle height checks

The first use check should include:

- the vehicle height
- that the vehicle height is correctly displayed in the driving cab

Transport managers should ensure that a procedure is in place:

- for the display of the maximum vehicle height in the cab to be included in the first use check
- for drivers to be advised of the height of the vehicle
- to remind drivers that at arch bridges the signed clearance is only provided through part of the bridge and that they must be aware of the vehicle width

Actions to prevent bridge strikes during the journey

- ensure that all drivers in your company are provided with a copy of “Prevention of Bridge Strikes – a Good Practice Guide for Professional Drivers of Passenger Vehicles”
- when advised of road closures or diversions, ensure that drivers are provided with guidance and assistance on alternative routes or actions to be taken to avoid low bridges
- ensure that drivers seek advice when unplanned or emerging situations from road closures or diversions etc. occur
- drivers should seek guidance from your company of emerging situations as they arise
- ideally two-way communication should exist between the transport manager and the professional driver

Remember that:

- a driver must maintain proper control of their vehicle at all times
- it is an offence for a driver to use a hand held mobile phone or similar device while driving

What actions should be taken if a bridge strike occurs

- at a railway bridge, ensure that Network Rail is informed of the bridge strike using the telephone number on the identification plate
- ensure the police are advised using the 999 system
- implement your company accident procedures
- you should monitor and investigate the causes of a bridge strike so that your company may learn lessons to avoid a repeat incident

Training and competence

A passenger transport company’s Health and Safety Policy should include the management of the risk of bridge strikes.

Include the prevention of bridge strikes in training programmes and safety briefings for all drivers and other staff.