

The **AA** *Motoring Trust*

TOO CLOSE
FOR COMFORT



ACCIDENTS ALONGSIDE BRITAIN'S
HIGH-SPEED DUAL CARRIAGEWAYS

UNSAFE STOPPING



An accident in a lay-by the car ran into a parked HGV

Britain's motorway building programme got underway in the 1960s. Motorways were built to high standards and their safety record continues to be outstanding.

The standard of high-speed dual carriageways, however, varies greatly. Many miles have been purpose built, with split-level junctions and even hard shoulders. The safety record of these sections is as good as a motorway. But many miles of dual carriageway have simply evolved, with a second carriageway being built alongside the original road: their safety record can be several times worse than a motorway.

In the 1930's, lay-bys became a welcome haven for motorists on longer journeys. Even in the 1950s, dual carriageways on through-routes carried as few as 3000 vehicles per day. When traffic flows were light, lorries were smaller and speeds lower, a simple lay-by was seen as a safe pull-in.

A new study has looked at today's accidents on high-speed dual carriageways. It has identified a serious problem with the old 'unprotected' lay-bys that do not conform to the latest design advice issued by the Highways Agency. A survey of fatal accidents involving stopped vehicles on a dual carriageway showed that 60 per cent happen in a lay-by.

A key result of the study is advice to motorists not to stop in unprotected lay-bys unless it is essential, and a plea to road authorities to replace unprotected lay-bys with the new design as soon as the rolling programme of maintenance permits.

Key risks associated with stopping

- Vehicles stopped on any high-speed road are at risk
- Lay-bys are a vital emergency facility: a vehicle stopped on a dual carriageway is 100 times more at risk than one stopped in a lay-by
- A vehicle stopped alongside the road of a high-speed dual carriageway is 15 times more likely to be rammed than one that has stopped on the hard shoulder of the M1 motorway
- 1 in 8 fatal accidents on high-speed dual carriageways involves stationary vehicles
- There is a high risk of collision between vehicles mistakenly entering a lay-by at high speed and vehicles already parked there, resulting in death or serious injury
- More than half the vehicles hit in lay-bys are HGVs
- Drivers typically drift into unprotected lay-bys through fatigue, drink, distraction, inattention and misreading the lay-by as the main carriageway
- Lay-bys sited on right-hand bends are more commonly misread as the main carriageway
- Accidents involving a stationary vehicle that is on or straddling the main carriageway often also involve a driver who is not paying full attention to the road



Poor design a lay-by sited before a junction but after an exit sign



An unprotected lay-by on a three-lane dual carriageway

THE SAFETY RECORD



A protected lay-by on a three-lane dual carriageway



An unprotected lay-by on a two-lane dual carriageway



No place to hide a metre strip alongside a dual carriageway

Key facts about dual carriageways

- The serious accident rate on dual carriageways is more than double that of motorways*
- Dual carriageways can have either 2 or 3 lanes but most are built to a lower standard than motorways
- Some dual carriageways have higher traffic flows than some motorways
- Most have more bends and hills than motorways – and sightlines are not as good
- Sometimes a dual carriageway has been created simply by building a second carriageway alongside the original road
- Junctions on many dual carriageways are not split level, and the fatal and serious accident rate of these dual carriageways is more than three times that of motorways*
- Dual carriageways mostly have a metre strip rather than the full-width 3.3m hard shoulder found on motorways

Key facts about lay-bys on dual carriageways

- Basically there are two types of lay-by :
 - 'unprotected', ie, separated from the road only by white dashes; and
 - 'protected', with a kerbed island to separate the lay-by from the carriageway

Why people stop on high-speed dual carriageways

- The most common reason for going into a lay-by is for a rest or a toilet stop – even though most lay-bys do not have toilet facilities
- Car drivers typically stop for 5-10 minutes, while HGV drivers often stop for 40-50 minutes
- Where there is no hard shoulder or only a metre strip, most stops on dual carriageways are breakdowns

*source: European Road Assessment Programme (www.eurorap.org)

SPECIFYING SAFETY



A kerbed island gives lay-bys greater protection



An unprotected lay-by on a right-hand bend is often mistaken for the main carriageway

- 'Unprotected' lay-bys on busy high-speed dual carriageways need to be brought up to the national standard*
- The two most important changes needed are
 - widening, so vehicles park further from the main carriageway
 - a kerbed island to segregate the running lane from parked vehicles
- Lay-bys should not be sited on right-hand bends
- Lay-bys should not be located on the approach to a junction if this means that the sign for the junction must appear before the sign for the lay-by
- High-speed roads should have signing and road markings adhering to national standards for reflectivity
- HGVs need suitable stopping places and drivers should be encouraged to stop in protected lay-bys or service or parking areas away from the carriageway
- Authorities should make equitable arrangements with garages and roadside restaurants to provide public toilets that may be used without motorists having to make a purchase
- The national standard recommends lay-bys every 2.5km to give drivers a reasonable opportunity to pull over if they encounter problems
- On very busy dual carriageways with a high proportion of HGVs, up to twice as many lay-bys may be required



Emergency lay-bys give drivers extra options

When a vehicle breaks down, most drivers still have some choice and control over where they can stop. On very busy dual carriageways with a high proportion of large goods vehicles, however, there may be benefits in providing additional lay-bys. For example, on the A42 (between M1 J23A and M42 J11) the amenity lay-bys have been supplemented by emergency lay-bys to give an enhanced level of provision, with an average spacing of 1.2km southbound and 1.6km northbound. The national standard* includes an emergency lay-by design.

* Type A (Modified) Standard set out in Design Manual for Roads and Bridges 6.3.3 (TA 69/96)
Changes to this design standard are currently in progress and the Highways Agency should be consulted, particularly when specifying the height and spacing of marker posts.



HGVs in an unprotected lay-by on a dual carriageway

STOPPING SAFELY



Always use the motorway telephone to call for assistance in an emergency

The motorway hard shoulder a dangerous place to be but 15 times safer than stopping on the verge of a high-speed dual carriageway

Motorways

- Never stop on the hard shoulder to
 - go to the toilet
 - use a mobile telephone
 - check a route or map
 - do anything else that can wait until you are in a safer place
- If an emergency forces you to stop, then
 - use the hard shoulder as a deceleration lane before coming to a halt
 - watch out for debris on the hard shoulder that could damage your vehicle
 - pull over to the left as far as you can and turn your front wheels towards the nearside verge
 - turn on your hazard lights
 - turn on the sidelights if visibility is poor
 - do not stay on a hard shoulder longer than necessary
 - use the hard shoulder as an acceleration lane when you rejoin the carriageway
- It is recommended that
 - you and any occupants leave the vehicle as quickly as possible through the nearside passenger doors and move as far away from the traffic as you can
 - you use the motorway telephone to get professional help – attempting to repair your vehicle on a hard shoulder is particularly dangerous

High-speed dual carriageways

- Never stop alongside the main carriageway. If an emergency forces you to stop, then
 - pull over to the left as far as you can and turn your front wheels towards the nearside verge
 - turn on your hazard lights
 - turn on the sidelights if visibility is poor
 - follow the motorway advice about leaving your car and not attempting to repair your vehicle

Lay-bys

- Roadside services are safer but if you must stop in a lay-by then
 - Avoid unprotected lay-bys if possible
 - Park close to the left-hand edge of the lay-by
 - Do not stay in the lay-by longer than necessary
 - Switch on the parking lights at night if you are in a lay-by on a road with a speed limit greater than 30mph (Highway Code Rule 223)
 - Be patient and very cautious of high-speed traffic when rejoining the main carriageway – the distance provided for acceleration is very short



Parking area at roadside services

THE SAFETY SURVEY



A protected lay-by on a three-lane dual carriageway



Accident in lay-by - vehicle ran into parked HGV

- On the 250 km of carriageway surveyed there were
 - 65 unprotected lay-bys
 - 21 protected lay-bys
 - an average distance between lay-bys of 3 km
 - 12 roadside facilities spaced at an average of 21 km
- Of vehicles parked in lay-bys, 53 per cent were heavy goods vehicles, 36 per cent cars, 10 per cent light goods vehicles and 1 per cent public service vehicles
 - cars and other light vehicles stopped for an average of 10 minutes, while heavy vehicles stopped for an average of 21 minutes
 - 85 per cent of HGV drivers stopped in lay-bys for a rest or a toilet stop
- Motorists who stopped on the carriageway said that they had had no choice about where they stopped (vehicle breakdown)
- When accidents happen on high-speed dual carriageway roads, more than 20 per cent are fatal or serious
- In 60 per cent of fatal accidents involving a stopped vehicle on dual carriageways, the vehicle was parked in a lay-by, and more than half were HGVs

The **AA** *Motoring Trust*

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 **HIGHWAYS**
AGENCY

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Poor lay-by design photograph used by kind permission of the North Yorkshire Police.

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