Pedestrians

Workplace transport site safety information sheet WPT16

This information will be useful to anyone who uses workplace transport or who works where it is used. It will help employers, managers and supervisors to assess their workplace and make improvements. The checklists will help you to prepare your risk assessment.

Pedestrians and cyclists are vulnerable road users, particularly when sharing routes with vehicles. By law, pedestrians and vehicles must be able to use a traffic route without causing danger to their health and safety or that of people working near the traffic route.

Pedestrian movements need to be managed to make sure they don't conflict with other vehicle and cycle movements.

When relevant, pedestrian issues have been considered in all the site safety information sheets in this series.

Common problems

Problems occur when pedestrians are not provided with safe routes and crossing facilities and conflicting movements occur. Common pedestrian problems include:

A lack of clearly marked, signed and segregated pedestrian routes and crossings: Pedestrians should be separated from vehicles wherever possible. Segregated routes and safe crossing points should be accompanied by a pedestrian strategy that clearly outlines where pedestrian routes are and the procedures and safe working practices (eg wearing high-visibility clothing) that they should follow.

Poorly marked and signed routes are difficult to follow and may cause pedestrians to become lost or stray from the route they should be taking. Routes that are not clearly segregated by barriers, bollards or guard rails can leave pedestrians at risk.

Blocked pedestrian routes: Blocked footpaths and crossings can cause pedestrians to divert into vehicle routes and put themselves at risk of injury. Blockages can be caused by delivery vehicles, parked vehicles or equipment. Where blockages are unavoidable, such as when a delivery is being made from the public highway, you should provide a safe alternative route.

Photo Jackie Stevens

Pedestrians taking short cuts: Pedestrian behaviour is difficult to control. If there is a quicker and more direct route than the one that has been provided they will try to use it. This can cause pedestrians to stray from designated safe routes into vehicle routes or dangerous and restricted areas such as loading bays and turning circles.

Large numbers of pedestrians and vehicles using the same route at peak periods: Large numbers of vehicles and pedestrians can be travelling on the same route at peak periods, particularly on sites where shift work takes place. Often, routes are not wide enough for the volume of traffic using them so they become congested and there is an increased risk of accidents caused by conflicting movements.

Unsuitable and dangerous pedestrian routes: Pedestrian routes can be dangerous if they are poorly maintained. If the surface of a footpath is cracked, damaged or uneven it can become a trip hazard. If guard rails, barriers and bollards are damaged or not correctly used then pedestrians will be vulnerable and at an increased risk of being hit by vehicles.

Pedestrian routes can also be lit either too brightly or too dimly. This can cause problems with glaring lights and

shadows. Lighting should take into account individual site conditions.

Narrow roads where there is not enough room for pedestrians and vehicles: Narrow roads can cause problems by forcing vehicles and pedestrians into the same road space.

Pedestrians being struck by vehicles because drivers can't see them: Pedestrians are not easily seen by vehicles, particularly reversing vehicles or those moving in areas where visibility is poor. When pedestrians are not seen by vehicles there is chance that they will be struck, which often results in injury and in some cases death. Pedestrians should be prevented from entering these areas unless it is absolutely necessary.

Pedestrians feeling unsafe and insecure when walking to and within a site: Issues such as poor lighting, narrow routes and being alone can often lead people to perceive that they are at risk. Blind corners and concealed routes where people are not easily seen should be avoided. It may be necessary to supervise people who are unfamiliar with the site or who are not competent to work alone.

Locked emergency doors and gates: Locked emergency gates and doors prevent pedestrians escaping in the event of a fire or emergency. You should have clear procedures for emergency evacuation of pedestrians and vehicles. Areas on site where pedestrians are at greatest risk, such as loading platforms and turning areas, should have clear escape routes.

Pedestrian routes that have poor drainage and are prone to flooding: Pedestrian routes that have poor drainage can become flooded, which can lead to them becoming blocked and unsafe. If a drainage problem is not dealt with it can lead to further problems such as damage to the surface of the footway.

A lack of disabled access to and within a site: Sites need to comply with the amended 2005 Disability Discrimination Act. Where it is 'reasonably practicable' there should be level access to the site and the buildings within it. Appropriate provision should be made for wheelchair users and those with other mobility difficulties. Sites that do not provide safe access for the disabled are discriminatory. They may cause accidents by encouraging disabled people to try and travel around the site in an unsafe way.

Information about disabled access can be found on the Department for Transport website www.dft.gov.uk.

How can you deal with common problems?

Pedestrian problems can often be avoided by carefully managing pedestrian and vehicle traffic. This will make sure that they remain separated and will reduce the number of conflicting movements.

Checklist – what to look out for

- Lack of clearly marked and signed pedestrian routes and crossings.
- Pedestrian routes blocked by vehicles or equipment.
- Pedestrians take short cuts that lead them away from designated safe routes.
- Large numbers of pedestrians and vehicles travelling on the same route at peak periods.
- Unsuitable and dangerous pedestrian routes.
- Narrow roads where there is not enough room for pedestrians and vehicles.
- Pedestrians being struck by vehicles because they are not seen by drivers.
- Pedestrians entering dangerous and restricted areas such as turning areas and delivery bays.
- Pedestrians feeling unsafe and insecure when walking to and within a site.
- Locked emergency doors and gates.
- Pedestrian routes that have poor drainage and are prone to flooding.
- A lack of disabled access to and within a site.

Clearly marked, signed and segregated pedestrian routes: If both pedestrians and vehicles use the same traffic routes, the routes should be wide enough to allow vehicles to pass pedestrians safely. Provide clearly marked and signed pedestrian routes that keep pedestrians safely away from vehicles.

Where there is 'two-way' traffic on a narrow road a one-way system and a segregated footway may solve potential problems. Pedestrians should be encouraged to take extra care by walking in single file and on the right-hand side, facing vehicles coming in the opposite direction, so that they can be easily seen.

Where necessary, provide protective barriers or guard rails to reduce the potential impact of road traffic accidents. Make sure that barriers don't reduce visibility below acceptable standards for road users and pedestrians. Protective barriers should be designed to BS 7669 *Vehicle restraint systems*. You should also protect vulnerable pipework, storage tanks and other plant and equipment.

On routes used by both pedestrians and automatic, driverless vehicles, take steps to make sure that vehicles do not trap pedestrians. Fit safeguards to vehicles and make sure there is plenty of space between vehicles and people.

If the public have access to the premises, routes for public use should be separate from work activities wherever possible and as close as possible to where the public are likely to want to go (eg to visit a farm or factory shop). Separate routes for the public should be clearly signposted.

Pedestrian routes follow the paths people would naturally follow ('desire lines'): Pedestrian routes, where possible, should represent the paths people would naturally follow. This will encourage pedestrians to stay on designated safe routes and discourage them from making dangerous shortcuts.

Provide appropriate crossing points for pedestrians to cross vehicle routes: Pedestrians should be able to cross vehicle routes safely and to do this they need to be provided with safe crossing points. Road crossing points for pedestrians should be clearly marked out and signed. If traffic flows don't provide adequate gaps in the traffic for pedestrians to cross, consider using traffic lights and zebra crossings.

The positioning of pedestrian crossing points should be considered carefully. You should make sure that all users have adequate visibility and the most direct possible pedestrian route is used. Use dropped kerbs where the walkway is raised above the driving surface. Barriers, guard rails or deterrent paving should be provided to direct pedestrians to designated crossing points and to prevent them crossing in unsafe places. Guard rails should be set back a minimum of 500 mm from the kerb and be designed in accordance with BS 3049 *Pedestrian guard rails*.

Where road crossings are wide, provide a central refuge so that the roadway can be crossed safely in two or more movements. In some circumstances footbridges or subways may be considered necessary.

Provide separate entrances for vehicles and pedestrians to site buildings: By law, traffic routes must keep vehicle routes far enough away from doors or gates that pedestrians use or from pedestrian routes that lead on to them, so that the safety of pedestrians is not threatened. Building entrances should have separate doorways for vehicles and pedestrians, with vision panels on all doors. Barriers or guard rails may be useful at building entrances and exits, at corners, and to prevent pedestrians walking straight onto roads.

Introduce a one-way system: On a narrow road you may need to introduce a one-way system with a segregated footpath rather than a two-way road. This will reduce the number of conflicting movements and help pedestrian and vehicle traffic move around site. It is advised that one-way systems run clockwise so that pedestrians are sure of where vehicles are coming from.

At peak periods limit or prevent use of busy routes: At peak periods, such as at the beginning and end of the day, it may be necessary to stop vehicles or pedestrians using busy routes. This may mean providing an alternative route or staggered vehicle and pedestrian departure times.

Provide pedestrians with high-visibility clothing: Pedestrians should only work in areas where vehicles are turning or making deliveries when absolutely necessary. In such cases, provide pedestrians with high-visibility clothing to help them be seen more easily. It may be necessary for all people walking on site to wear high-visibility clothing. Pedestrians should also wear appropriate footwear and personal protective equipment (PPE).

Checklist

- Clearly marked and signed pedestrian routes that are separated from traffic whenever it is reasonable to do so.
- High-visibility clothing for pedestrians.
- Appropriate crossing points where pedestrians need to cross vehicle routes.
- Separate entrances to site buildings for vehicles and pedestrians.
- A one-way system if roads are narrow.
- Limit or prevent either vehicles or pedestrians from using busy routes at peak periods.
- Use pedestrian routes which represent the paths people would naturally follow (desire lines).

Checking your site

Carry out a visual inspection of your site to look for problems with pedestrian routes. It will help you identify whether these routes are safe and how well they are used. Walk around the premises (you may also want to consider driving), make notes and take photographs of any problems. In particular, look for where pedestrians are sharing routes with vehicles, where pedestrians are taking short cuts and where there are unsafe crossing points. Mark the problem areas on a site plan.

Consider some of the following questions when inspecting your site:

- Are separate pedestrian routes provided and are they segregated?
- Are there safe crossing points for pedestrians?
- Are noticeable shortcuts being taken?
- Do footways have the appropriate signage?
- Do footways have the appropriate guard rails?
- Are any vehicles blocking pedestrian routes?
- If the public use your site, are they separated from work traffic?
- Are footways kept clear from obstructions and flooding?

If you require a more detailed and wider-reaching guide, see the *Site inspection: Workplace transport checklist* at www.hse.gov.uk/workplacetransport.

You could also ask for feedback from pedestrians using the site about the routes they use. Ask them if they feel the routes allow them to travel where they need to and whether they feel safe using them. You should also ask them if there are any pedestrian issues that they are concerned with.

Use the information gained from the site inspection and staff feedback to review your site's rules and procedures. You may want to create a separate pedestrian strategy which, as a minimum, should include:

- the location of pedestrian and emergency routes on site;
- the location of pedestrian site and building entrances;
- emergency evacuation procedures for pedestrians; and
- procedures that pedestrians should follow such as those relating to PPE.

If you know there are conflicting pedestrian and/or vehicle movements consider commissioning a traffic and pedestrian flow survey. This will identify the areas within your site where there are problems with conflicting movements and will highlight areas where segregated pedestrian routes would be beneficial. The survey results will also help diagnose other problems such as 'two-way traffic flow', signage and road markings.

A site inspection may provide a good opportunity to complete a risk assessment for pedestrians. This will help you to identify hazards and risks associated with pedestrian activity on your site. You should carefully examine what, in your work, could cause harm to people so that you can weigh up whether you have taken enough precautions or should do more to prevent harm. The important things you need to decide are whether a hazard is significant, and whether you have it covered by satisfactory precautions so that the risk is small. You can find more information on how to complete a risk assessment in *Five steps to risk assessment*.

Checklist

- Carry out a site inspection to identify any pedestrian issues.
- Commission a pedestrian traffic survey to identify areas of conflicting movements.
- Review your site rules and procedures.
- Complete a risk assessment for pedestrians using your site.

Where to get help

If you have a problem with pedestrian issues on your site, you might be able to solve it yourself. If you are unsure, speak to your health and safety workplace representative or contact HSE for advice. It may be more cost effective to have a professional assess your site and carry out the work.

Contact the Institution of Highways and Transportation www.iht.org.uk or Living Streets (the Pedestrians Association) www.livingstreets.org.uk.

You can also get advice by speaking to other similar local businesses – look for examples of good practice. Contact your local trade association or Chamber of Commerce for recommended local suppliers or look in the *Yellow Pages*.

Checklist

- Can you do the work yourself?
- Speak to your health and safety representative.
- Consult with HSE if you require further information.
- Speak to the Institute of Highways and Transportation or Living Streets.
- Employ the necessary consultant or contractor.

What might it cost?

- Professional site inspection – around £2000.
- Zebra crossing – two beacons £400 each, crossings studs £200, black and white lines £100, two signs £150, white lines £100. Total approximately £1500, plus electrical connection.
- Protection barriers are around £80 each and guard rails cost around £50 per metre.
- Dropped kerbs cost around £30 per metre.

(These costs are a guide and may vary significantly for individual sites and circumstances.)

Find out more

Workplace transport safety: An overview Leaflet INDG199(rev1) HSE Books 2005 (single copy free or priced packs of 5 ISBN 978 0 7176 2821 6) www.hse.gov.uk/pubns/indg199.pdf

Workplace transport safety: An employers' guide HSG136 (Second edition) HSE Books 2005 ISBN 978 0 7176 6154 1

Five steps to risk assessment Leaflet INDG163(rev2) HSE Books 2006 (single copy free or priced packs of 10 ISBN 978 0 7176 6189 3) www.hse.gov.uk/pubns/indg163.pdf

Designing for deliveries Freight Transport Association 1998 ISBN 978 0 902991 66 8

BS 7669-3:1994 *Vehicle restraint systems. Guide to the installation, inspection and repair of safety fences* British Standards Institution

BS 3049:1976 *Specification*. *Pedestrian guard rails (metal)* British Standards Institution

Further information

HSE priced and free publications can be viewed online or ordered from www.hse.gov.uk or contact HSE Books, PO Box 1999, Sudbury, Suffolk CO10 2WA Tel: 01787 881165 Fax: 01787 313995. HSE priced publications are also available from bookshops.

For information about health and safety ring HSE's Infoline Tel: 0845 345 0055 Fax: 0845 408 9566 Textphone: 0845 408 9577 e-mail: hse.infoline@natbrit.com or write to HSE Information Services, Caerphilly Business Park, Caerphilly CF83 3GG.

British Standards can be obtained in PDF or hard copy formats from the BSI online shop: www.bsigroup.com/Shop or by contacting BSI Customer Services for hard copies only Tel: 020 8996 9001 e-mail: cservices@bsigroup.com.

This document contains notes on good practice which are not compulsory but which you may find helpful in considering what you need to do.

This document is available web-only at: www.hse.gov.uk/pubns/wpt16.pdf.

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