

## **EXAMPLE AIDS FOR IMPROVING SAFETY ON WASTE RECYCLING AND COLLECTION VEHICLES**

*This information document is aimed at health and safety improvements in the waste management industry. It is endorsed by the Waste Industry Safety and Health (WISH) Forum.*

### **Contents**

#### **Scope and audience**

#### **Introduction**

#### **Application examples:**

1. Visibility of seat belts
2. Working on top of vehicles
3. Under-run side-guards
4. Warning beacons
5. Warning signs (including electronic)
6. Audible warnings
7. Visual monitoring (mirrors)
8. Cameras
9. Radar and sonic detection systems
10. On-board weighing
11. Wheel nut security
12. Other additional safety aids

### **Scope and audience**

This document is intended for anyone involved in the procurement and/or use of waste, recycling and collection vehicles. In particular those who may be involved in the specification of new vehicles, although the information given may also be used by those who wish to upgrade existing vehicles.

## Introduction

This document provides information on example safety aids that can be fitted to most if not all waste, recycling and collection vehicles. These example aids are available as both new and retrofit products. The below provides generic information that may assist in the understanding and selection of relevant technologies, but does not provide detailed descriptions of any specific manufacturers' products.

The information provided is not exhaustive and recognises that vehicle safety aids do not remove responsibility for the safe operation a vehicle by the driver. However, good standards of aids can make a significant contribution toward enabling drivers to discharge their responsibility.

Mandatory road safety items, fitted as standard by manufacturers, have not been included, although some of the example aids listed are provided by some suppliers as standard or optional extras. This document does not aim to be comprehensive and acts only as an introduction to aids available. Should more detailed information be required, it is recommended that manufacturers/distributors of the relevant aids are approached directly.

## Application examples

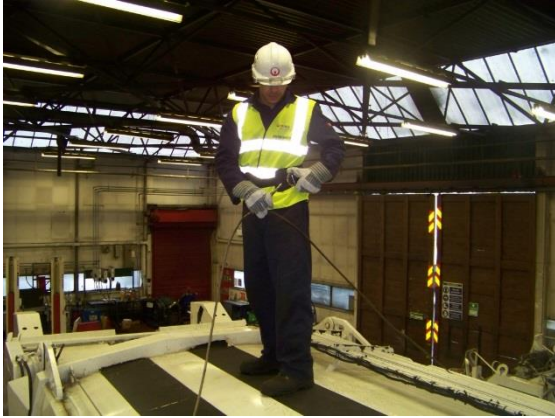
Given below are examples of the types of safety aid which can be fitted to vehicles. Only brief explanations are given for each – choices on detail specification are a matter for individual assessment of need and application.

### 1. Visibility of seat belts



High Visibility seat belts and sheaths cover seat belts in high visibility colours making their mandatory wear easier to monitor and inspect from the roadside.

## 2. Working on top of vehicles



Fall arrest /restraint systems: Bi –Lines and fall arrest systems are suitable in particular for maintenance work required on the roof of the body of a vehicle and should be fitted to any to any vehicle where working at, and/or falling from, height during operation or maintenance presents significant risk.

## 3. Under-un side-guards



Fitted to large vehicles where the wheel height presents significant risk of cyclists, other two wheeled road users, small cars and pedestrians, travelling, or being drawn under the vehicle bed.

## 4. Warning beacons



Standard fit on most industrial vehicles with special relevance regarding use with waste, recycling, collection and site vehicles. Available using different technologies including traditional rotating beacon, xenon flash, LED strobe types. They provide visual confirmation to pedestrians and other road users that a vehicle is active.

## 5. Warning signs (including electronic)



Provide specific warnings to pedestrians and other road users, in particular cyclists. For example: *Caution: Vehicle Reversing*, *Caution: Workers at Rear*, or *Vehicle Turning*. These types of active warnings are likely to get more attention than the simple flashing beacon.

## 6. Audible warnings



Reversing alarms: Standard fit on most industrial vehicles with special relevance regarding use with waste, recycling, collection and site vehicles. They provide audible warning that vehicle is reversing and are available in a variety of tone output and message levels.

## 7. Visual monitoring (mirrors)



Additional mirrors are available to provide views above the standard requirement to the front, side and rear of the vehicle.

## 8. Cameras

Cameras can be mounted on vehicle exterior with a visual display screen inside the cab. Options available offer differing driver views:



**Rear View:** Gives view from the rear of the vehicle and to the corner side (depending upon camera type). Used for confirming the danger area of bin lift and the rear of the vehicle is clear of operators, pedestrians or vehicles. Normally used alongside an audible reverse warning alarm.

**Side View:** As shown left, views concentrate down both sides of the vehicle



**360 Vision:** As above, with the addition of a forward view camera (4 cameras in total) giving all round (360 degree) vision) from the vehicle cab, this can also be coupled with an alarm to warn operators if hazards are present. These cameras may be of particular use in urban areas with heavy cyclist and pedestrian presence.

**Note:** Cameras require line of sight, a clear unobstructed view, good level of ambient light conditions and for the driver to be viewing the camera, in addition to other aids, at the same time as manoeuvring. However, they are an ideal additional safety aid prior moving the vehicle. They can be automatically activated upon particular vehicle movement e.g. reversing and can be connected to digital video recorders.

Camera technology is rapidly developing, and their use is becoming more popular. However, care should be taken not to present drivers with such an array of screens and 'things to look at' that they become blind to the one screen/split screen they should be watching, or their mirrors or direct observation.

## 9. Radar and sonic detection systems



Used to detect pedestrians, cyclists, vehicles and static objects at the rear of the vehicle and warn the driver of their presence. Particularly useful on single manned collection vehicle reversing manoeuvres.

## 10. On-board weighing

Commonly available and cover a wide range of vehicle types and functions of operation. In addition to their commercial uses, on-board weighing systems can be a useful safety aid that indicates the vehicle load and ensures that its gross weight is not exceeded.

## 11. Wheel-nut security



Various types of aid available, such as: Yellow indicators which show that a wheel nut has loosened when one of the points does not line up with its partner, or RIC clips which hold nuts secure by interlocking against each other.

## 12. Other safety aids

Among the many other vehicle safety aids to be considered in vehicle specification are audible handbrake alarms, effective means of preventing vehicle rollaway or unauthorised drive away and visibility panels in the cab nearside doors through which encroaching pedestrians and cyclists may be seen. Advice on these and other more complex safety aids should be sought from vehicle manufacturers

## Disclaimer and WISH

This information document has been prepared by health and safety practitioners to assist health and safety improvements in the waste management industry. It is endorsed by the WISH (Waste Industry Safety and Health) Forum. This information document is not formal guidance and represents good practice, which typically goes beyond the strict requirements of health and safety law.

Nothing in this information document constitutes legal or other professional advice and no warranty is given nor liability accepted (to the fullest extent permitted under law) for any loss or damage suffered or incurred as a consequence of reliance on this document. WISH accepts no liability (to the fullest extent permitted under law) for any act or omission of any persons using this document.

The information document is not a substitute for duty holder judgment and/or professional safety advisor's judgment, Notwithstanding the good practice contained within this document, duty holders are responsible for ascertaining the sufficiency and adequacy of their internal and independent procedures for verifying and evaluating their organisation's compliance with safety law.

The Waste Industry Safety and Health (WISH) Forum exists to communicate and consult with key stakeholders, including local and national government bodies, equipment manufacturers, trade associations, professional associations and trade unions. The aim of WISH is to identify, devise and promote activities that can improve industry health and safety performance.

## Useful links and further reading

WISH website

WISH Waste 04 Waste and recycling vehicles in street collection

WISH Waste 23 Safe waste and recycling collection services

HSE waste and recycling webpages