



LONDON FIRE BRIGADE

FIRE SAFETY GUIDANCE NOTE

Number:

Bus and Coach Accommodation

GN02

The London Fire Commissioner (the Commissioner) is the fire and rescue authority for London. The Commissioner is responsible for enforcing the Regulatory Reform (Fire Safety) Order 2005 (The Order) in London.

This Guidance Note provides fire safety advice in respect of buses / coaches converted for use as community vehicles (play buses etc).

This Note is one of a series produced by the Commissioner to provide advice on various aspects of fire safety. If you require any further guidance on the advice given or require advice on another topic please visit your local Fire Safety Office, telephone 020 8555 1200 and ask for the nearest Fire Safety Office, or visit our web site at <http://www.london-fire.gov.uk>

CONTENTS:

1	INTRODUCTION	2
2	OTHER AUTHORITIES YOU MAY NEED TO CONSULT	2
3	GENERAL PRINCIPLES	2
4	LIGHTING	3
5	FIRE ALARM	4
6	FIRE FIGHTING EQUIPMENT	4
7	SMOKE ALARMS	4
8	FIRE PRECAUTIONS AND DRILLS	4
9	ADDITIONAL GUIDANCE	5
10	BIBLIOGRAPHY	5

1 INTRODUCTION

- 1.1 Various organisations are equipping ex-Public Service Vehicles (PSVs) as Mobile Community Resources for use as playbuses, classrooms, mobile demonstration vehicles, dental surgeries etc., and whilst some vehicles remain in one place, others are moved from site to site.
- 1.2 Definitive guidelines on the safe conversion and use of mobile resources have been published by the Home Office, in association with Working on Wheels (www.workingonwheels.org) and these have been adopted as London Fire Commissioner policy.
- 1.3 The provisions contained in the legislation that covers children and young persons details the requirements for these people and Working on Wheels has issued a guidance leaflet which lists the minimum requirements for registration. Guidance documents should be referred to when converting buses or coaches for playbus/mobile community projects.
- 1.4 Any person or organisation employing mobile community resources will need to consider the requirements of the Regulatory Reform (Fire Safety) Order 2005 which imposes minimum fire safety requirements. The Commissioner's Fire Safety Guidance Note number 66 gives further details about these regulations.

2 OTHER AUTHORITIES YOU MAY NEED TO CONSULT

- 2.1 Any organisation proposing to convert ex-PSVs to Mobile Community Resources should in the first instance contact Working on Wheels.
- 2.2 Depending on the proposed use of the PSV, there are also other interested parties who may need to be consulted. These are likely to include :-
 - Social Services Department (local authority)
 - Department of Health

3 GENERAL PRINCIPLES

- 3.1 The following general recommendations are to be considered when undertaking such conversions.

Materials used in conversion

- 3.2 Should a fire occur in a bus, the safety of the occupants will depend to a large extent upon the flammability of the materials used to convert and equip the vehicle for its intended use(s) and the amount of smoke and toxic gases given off by the materials. Therefore, so far as is possible, non-combustible materials or those having a low flammability should be used, and in particular the surface finishes of ceilings and partitions should conform to the Class I Standard of BS 476: Part 7.
- 3.3 When furniture or furnishings are to be installed in a vehicle they should satisfy, as a minimum, the standards set out in the current BS 5852. Curtains and other textile hangings should be inherently flame retardant, or be treated with a durable flame retardant. They should be capable of meeting the requirements of the current BS 5867: Part 2 - Flammability requirements for Fabric Type B.

Means of escape and fire separation

- 3.4 During conversion, the original passenger entry/exit doors and staircase, where provided, should be retained and regarded as the primary means of escape in case of fire. Additionally, an alternative means of escape should always be provided from each deck of the vehicle and sited as far as possible from the primary means of escape. In the case of a double deck PSV, the decks should be separated at the head of the primary staircase by a substantial partition and self-closing door.
- 3.5 Dependent upon the intended class of use, either of the following additional means of escape should be provided from upper decks, remote from the primary staircase:-

- (a) Another staircase separated from the lower deck by a substantial partition and self-closing door and which discharges directly to open air, or
- (b) A fixed raking ladder with hatch access from the upper deck which either discharges directly to outside or is separated as detailed in (a) above.

NOTE: The horizontal emergency window at the rear of the upper deck should not be considered suitable access to an alternative means of escape.

3.6 The means of escape should be readily available when the bus is occupied and suitable signs should be provided to indicate:-

- (a) Exits and routes thereto; and
- (b) Means of releasing fastenings on doors or hatches which lead to alternative means of escape.

3.7 All signs should comply with the Health and Safety (Safety Signs and Signals) Regulations 1996 (see the Commissioner's Fire Safety Guidance Note number 61 for further advice).

Cooking and heating facilities

3.8 Where a kitchen area is provided, it should be separated from the remainder of the vehicle by means of a substantial fire resisting partition and self-closing fire resisting door which may be fitted with a vision panel of fire-resisting glass.

3.9 Heaters should be firmly fixed in position and provided with a substantial additional fixed guard with no protruding sharp edges and be so sited that neither their radiant nor convected heat will ignite any combustible materials nor cause injury to persons.

3.10 Kitchen areas must be well vented to open air at all times via permanent vents; partitions and work surfaces adjacent to cooking appliances should be faced with non-combustible materials or materials of low flammability.

3.11 Cooking and heating may be provided by either:-

- (a) Low voltage electricity, i.e., 110/220v supplied from either a low voltage generator or via a mains electric supply (from a standpoint). All electrical wiring on the vehicle should be installed by a competent electrician and comply with current IEE Regulations and be professionally examined at least once every year or
- (b) Liquefied petroleum gas (LPG) stored by means of portable cylinders, or in a bulk tank fixed to the vehicle. Any storage compartment should preferably be sited midway between the front and rear axles.

3.12 The compartment should not be used to store any other materials, and where the cylinder/tanks are housed within the interior of the bus, they should be separated from the interior by a continuously welded sheet steel compartment lined with fire resisting board.

3.13 The installations should conform to BS 5482: Part 2 and/or the UKLPG Codes of Practice and be installed by professional engineers.

4 LIGHTING

4.1 Gas lighting is not recommended for this type of vehicle. Electricity is the only form of suitable lighting; this may be by way of low voltage electricity from a generator or standpoint, or extra low voltage from either the vehicle battery or back-up batteries. Where low voltage lighting is installed, additional extra low voltage lighting should be retained/installed to provide sufficient illumination in the event of failure of the low voltage supply.

- 4.2 Although extra low voltage lighting is not generally prone to sudden loss of power, if this is the only source of light on the vehicle and it is used regularly in the late afternoons and evenings, handlamps should be provided and sited on each deck for use in an emergency.

5 FIRE ALARM

- 5.1 If young children are to use the facilities of the bus some means other than by shouting a warning should be provided to raise the alarm in the event of fire. The existing driver/conductor signalling bell circuit may be modified to provide a continuous ring when operated. Alternatively, handbells or whistles can be provided on each deck for use only to raise the alarm.

6 FIRE FIGHTING EQUIPMENT

- 6.1 The following fire fighting equipment should be provided as a minimum and sited as indicated:-
- (a) 1 (x 1.1kg) carbon dioxide extinguisher, minimum rating 34B; or 1 foam spray AFFF extinguisher minimum rating 55B sited in the driver's cab;
 - (b) 2 x water extinguishers minimum rating 13A sited one adjacent to the main entrance door and one on the upper deck at the head of the primary staircase;
 - (c) 1 x fire blanket sited in or adjacent to the kitchen area. Extinguishers should be certified for the British Approvals for Fire Equipment under the British Standards Institution's "Kitemark" scheme (a stamp of certification will be shown on the extinguisher). Fire blankets should conform to the current BS EN 1869.
- 6.2 Fire fighting equipment should be mounted on brackets securely fixed to the vehicle at a convenient height so that the item is visible and accessible but not in a position where the equipment may be accidentally set off by children.

7 SMOKE ALARMS

- 7.1 A smoke alarm should be fitted on each deck. The use of domestic smoke alarms conforming to BS EN 14604 is acceptable and they should be interconnected so that the detection of smoke by one detector will result in all alarms sounding.

8 FIRE PRECAUTIONS AND DRILLS

8.1 Fire procedure

- 8.2 All staff should be fully trained in the procedures to be adopted in the event of fire. The training should cover:
- (a) the action to be taken on discovery of a fire;
 - (b) the action to be taken on hearing the fire alarm;
 - (c) operation of the fire alarm, positions of fire alarm call points if provided, or of manual sounders;
 - (d) evacuation of the vehicle and location of assembly points remote from the vehicle.
 - (e) the method of calling the fire brigade;
 - (f) the correct method of operation and the positions of fire fighting appliances;
 - (g) familiarity with all escape routes;
 - (h) the purpose of fire resisting doors and the need to maintain them unobstructed and in good working order; and

8.3 Fire evacuation drill

- (a) Fire evacuation training and drills should be carried out initially and then at a frequency that will ensure that the staff not only understand but can clearly recite the procedures. In any case you should aim to ensure that this is not less than once every six months. Where there are two or more exits in order to obtain the maximum benefit from any drill, it should be assumed that one escape route would not be available.

9 ADDITIONAL GUIDANCE

- 9.1 The foregoing notes on the conversion of PSVs to mobile community resources are intended to provide general advice. Full guidance should be sought from the document published by Working on Wheels entitled "Safer Conversions" (ISBN 0950874655), available as a free download from their website.
- 9.2 If difficulty is experienced in the interpretation of this document, then the local Fire Safety Office should be contacted for advice.

10 BIBLIOGRAPHY

- 10.1 Detailed guidance on the various standards referred to in this guidance note may be obtained from the following bibliography. You can also obtain fire safety advice on other subjects by visiting our website at www.london-fire.gov.uk

The publications can be obtained from the following addresses:-

AVAILABLE FROM	TITLE
British Standards Institution (Sales) 389 Chiswick High Road London W4 4AL Telephone: 020 8996 9000 Fax: 020 8996 7001 Web: www.bsi.org.uk	BS 476: Part 7 Fire tests on building materials and structures. Method of test to determine the classification of the surface spread of flame of products
	BS 5852 Methods of test for assessment of the ignitability of upholstered seating by smouldering and flaming ignition sources
	BS 5867: Part 2 : Specification for Fabrics for Curtain and Drapes, Part 2 : Flammability Requirements – (Fabric Type B)
	BS 5482: Part 2 Code of Practice for Domestic Butane and Propane Gas Burning Installations Part 2 : Installations in Caravans and Non-Permanent Dwellings
	BS EN 3 Parts 6-9 Specification for Portable Fire Extinguishers
	BS 5306 Parts 3 and 8. Commissioning and maintenance of Portable Fire Extinguishers & Selection and Installation of Portable Fire Extinguishers
	BS EN 1869: Fire Blankets

<p>Working on Wheels Brunswick Court, Brunswick Square Bristol UK BS2 8PE</p> <p>Telephone : 0117-916-6580</p>	<p>Safer Conversions</p>
<p>Publications issued by the UKLPG Camden House Warwick Road Kenilworth Warwickshire CV8 1TH</p> <p>mail@uklpg.org</p>	<p>Code of Practice : 3 : Recommendations for Prevention or Control of Fire involving LPG.</p>
<p>The Institution of Engineering and Technology Michael Faraday House Six Hills Way Stevenage SG1 2AY UK</p> <p>Tel: 01438 313311</p> <p>www.theiet.org</p>	<p>IEE Regulations (Current Edition)</p>

The above publications are current at the time of preparation of this Guidance Note (see date at foot of last page).

Making London A Safer City