



LONDON BUS SERVICES LIMITED

Specification for new buses

Version 2.1

Issued December 2020

Effective from Tranche 734



Preface

This specification will determine the technical characteristics required for all new London buses.

Where an Original Equipment Manufacturer (OEM) perceives that a particular feature of this document should be changed, this should be raised by the OEM with the Approval Authority (London Bus Service Limited - LBSL) assessor present at the assessment, or in writing to the Approval Authority (LBSL) Nominated Officer in the absence of an assessor. The competent authority (LBSL) will assess the proposal based on their judgment and provide instruction to the assessment facility.

OEMs are directly or indirectly barred from interfering with any assessment undertaken as part of this specification and prohibited from altering any characteristics that may impact the assessment, including but not restricted to vehicle setting, laboratory environment etc.

Version	Published	Date	Details
2.1	TfL	December 2020	LBSL Bus Specification

Disclaimer

LBSL has taken all appropriate caution to guarantee that the information contained in this protocol is correct and demonstrates the prevailing technical decisions taken by the organisation. In the occasion that a mistake or inaccuracy is identified, LBSL retains the right to make amendments and decide on the assessment and future outcome of the affected requirement(s).

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Advanced Emergency Braking (AEB)

This requirement only applies to new vehicles entering the fleet from 2024 as per the Bus Safety Roadmap for new build buses

It should be noted that AEB is intended to operate only in the last second or two before an imminent collision. The driver remains responsible for all aspects of driving, including collision avoidance, at all times.

Buses shall be fitted with AEB systems complying with the following requirements:

- It shall be tested in accordance with LBSL's Automated Emergency Braking Assessment Protocol (Attachment 15) and it must attain a performance score greater than zero.
- The bus OEM must produce documentary evidence for LBSL approval to demonstrate that on average they would expect false positive activations in mixed London traffic less frequently than once every [600,000]km per vehicle.
- The bus to which AEB is fitted must have been assessed in accordance with the LBSL's Occupant Friendly Interiors Assessment Protocol (Attachment 34) and have achieved the Level 1 requirements, with a score of ≤ 80 for the lower saloon, and where applied to double deck vehicles, a score of ≤ 8 for the upper saloon.
- The system shall provide the driver with a status indicator that will inform the driver if the system is unavailable for any reason or if performance is degraded because of imperfect conditions such as sensor misalignment. Where this occurs, the system shall fail to a standard equivalent to an identical vehicle not fitted with AEB. The warning light illuminated in such cases shall be amber.
- The bus OEM must make signals regarding AEB function available for recording by the CCTV system (specified separately) and/or any other appropriate data recording device specified by the vehicle operators. These signals shall at all times indicate the status of the AEB system as follows:
 - Enabled, manually deactivated (if any deactivated mode, for example for service, is provided) or unavailable (for example due to self-diagnosed defect or adverse weather)
 - Warning active
 - Brake demand active
 - Level of braking demanded