

Bus Safety Programme

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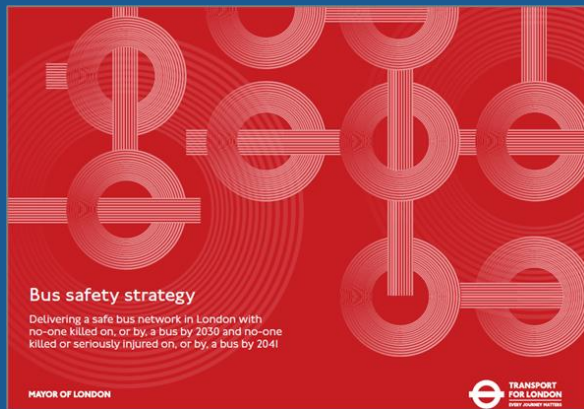
Bus Safety Development Manager

Transport for London - 17 November 2023



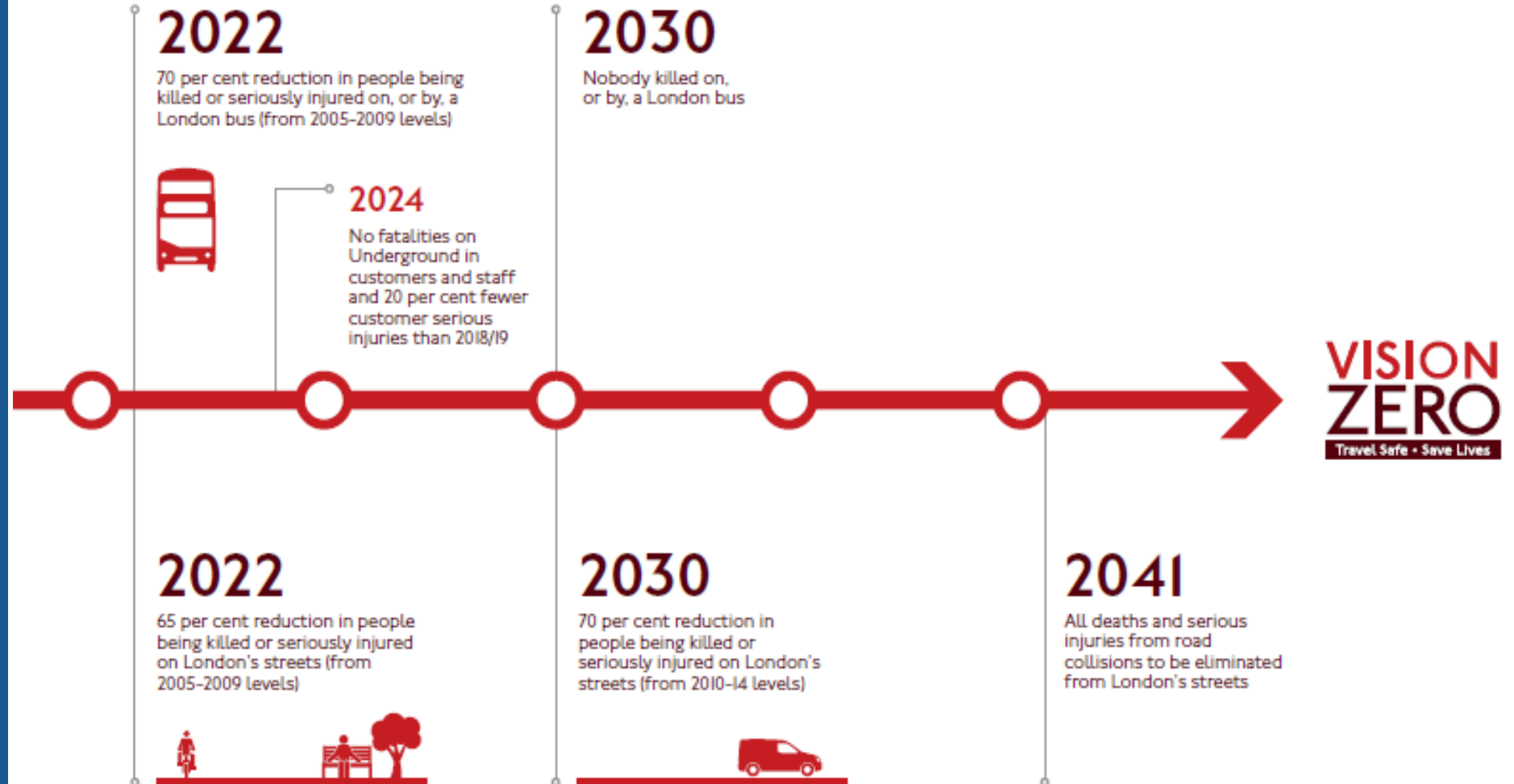
Vision Zero

The Mayor's Transport Strategy sets out a target that no one will be killed or seriously injured on London's roads by 2041.



Zero harm

is our ambition that no customer, colleague or supplier should be harmed while travelling or working on our services



The Challenge

People walking or customers riding the bus are at most risk of being killed or seriously injured.

TfL London bus involved collisions

9

People killed on or by a bus in 2022

- 4 pedestrians
- 2 pedal cyclists
- 2 passengers
- 1 car driver

269

People seriously injured on or by a bus in 2022, including 100 vulnerable road users

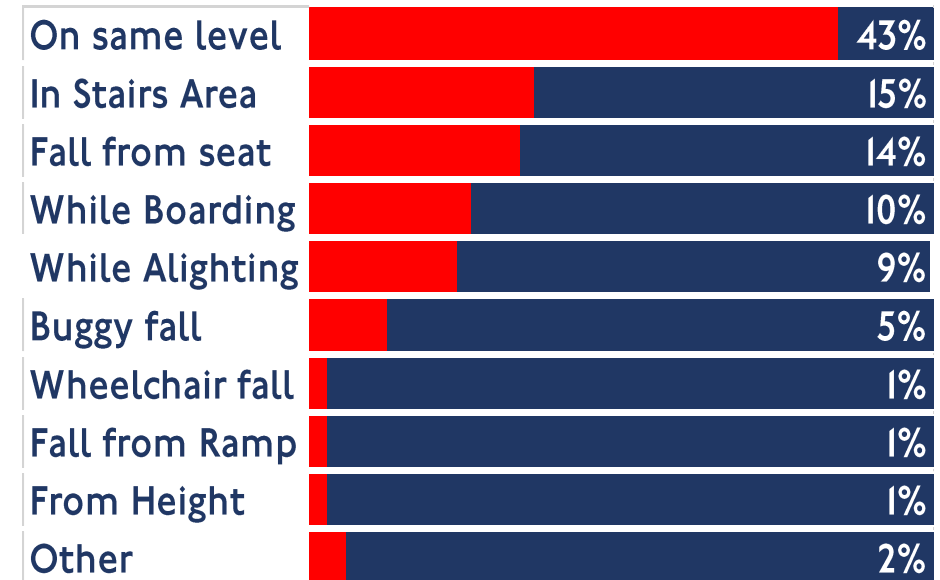
- 63 pedestrians
- 23 cyclists
- 14 motorcyclists

136 bus occupant serious injuries

On board injuries

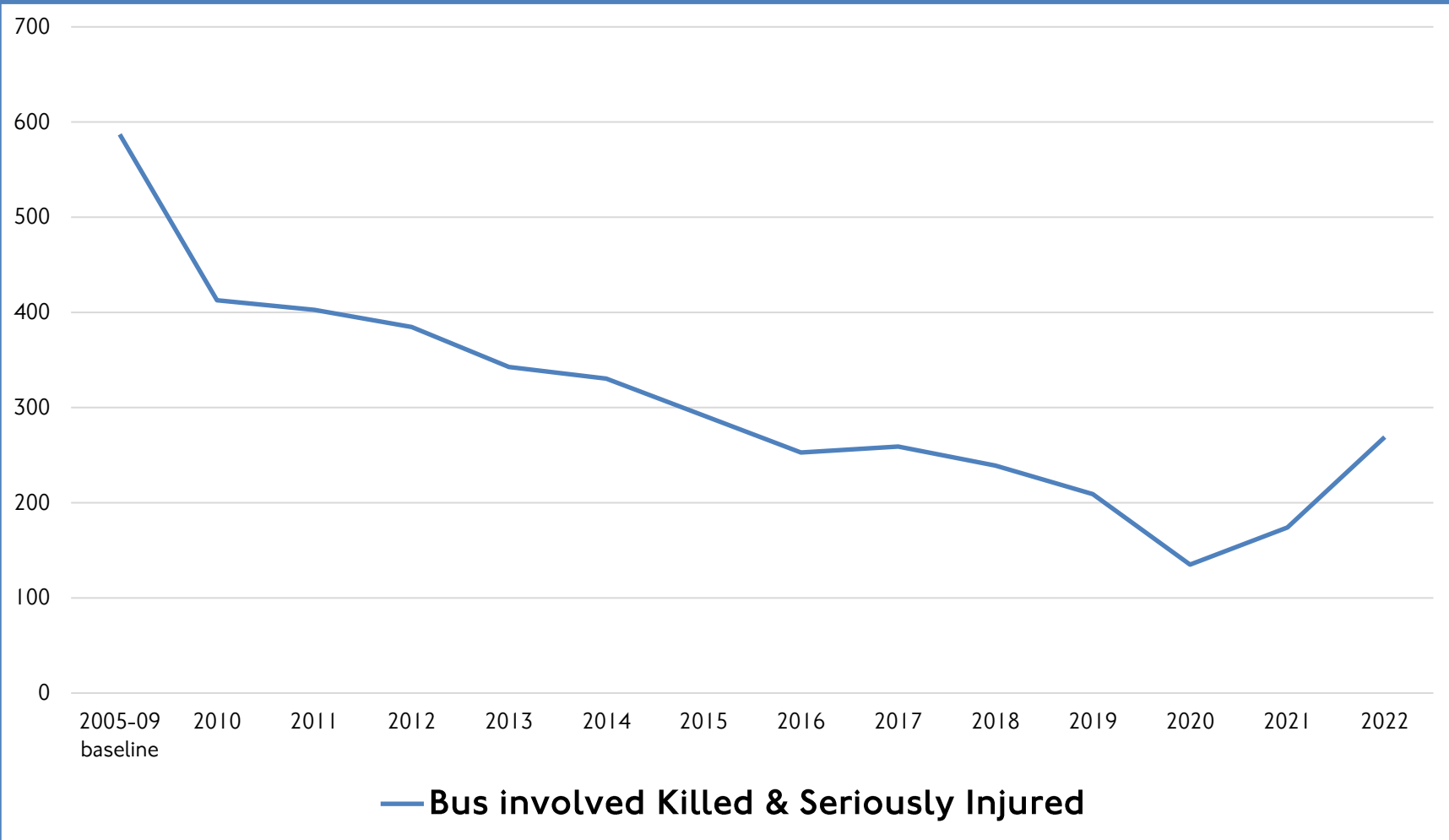
3,393

Slips, trips and falls causing injury to passengers in 2022



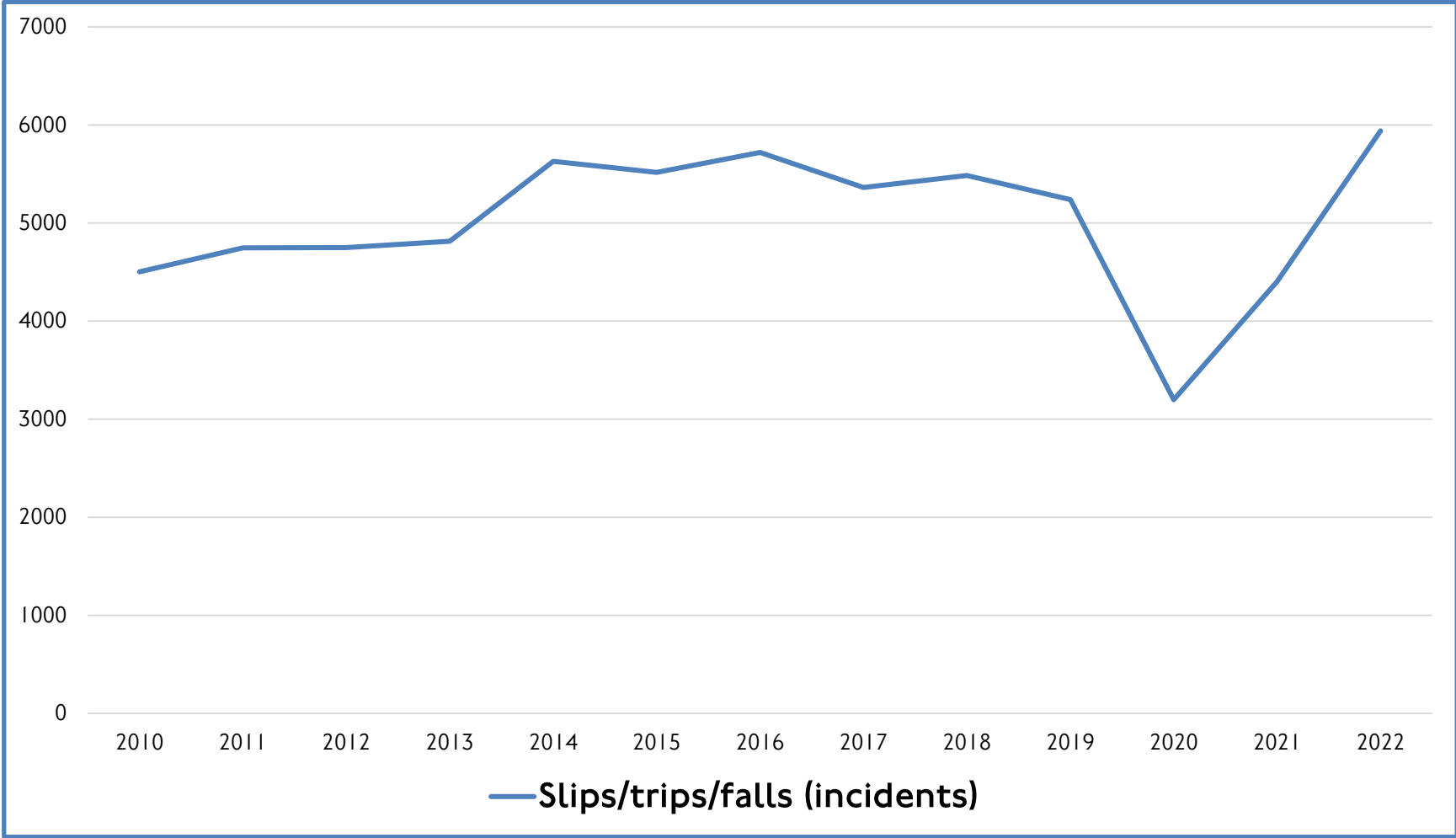
Bus Safety Target Progress

There was an overall decrease of 54 per cent in the number of fatalities and serious casualties in 2022 against our 2005-09.



Bus Safety Target Progress

Passenger slips, trips and falls include slight injuries, while not part of our Vision Zero targets, we are committed to reducing these.



Bus Safety Programme

The Bus Safety Programme, introduced in 2016, focuses on the five key Vision Zero themes to drive major safety improvements around safe speeds, streets, behaviours, vehicles and post collision learning.



Safe Vehicles

The Bus Safety Standard contractually requires the use of safer vehicles, and supports safer behaviours and speeds, specifying safety requirements that new buses entering service in London must meet.

Driver assist

Helping the driver to avoid or mitigate the severity of incidents:

- Advanced Emergency Braking
- Intelligent Speed Assistance
- Improved direct and indirect vision
- Pedal application error
- Runaway bus prevention

Occupant protection

Reducing severity of injuries for people on board the bus:

- Occupant-friendly interiors
- Slip protection

Partner assist

Helping other involved road users – the collision partners – to avoid the collision:

- Acoustic conspicuity
- Visual conspicuity

Partner protection

Reducing severity of injuries for road users outside the bus in a collision:

- Vulnerable road user frontal crashworthiness

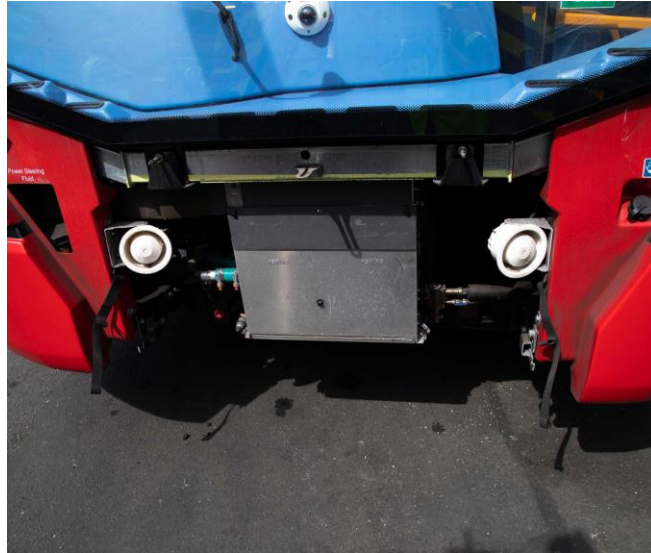


Safe Vehicles

Acoustic Vehicle Alerting System (AVAS) has been required on new buses since 2019



We exceeded the United Nations Economic Commission for Europe regulatory requirements by developing a unique Urban Bus Sound to ensure it was distinguishable over typical city background noise and responsive to the background noise levels.



Safe Vehicles

Direct and indirect vision standard

- Blind spot mirrors were introduced on new buses in 2019 and were retrofitted to the entire bus fleet.
- Camera Monitoring Systems for new buses were introduced in 2021



Safe Speeds

Intelligent Speed Assistance has been required on new buses since 2019, ahead of regulatory requirements.



- Currently, more than half of London's roads are subject to a 20mph speed limit, of which 142km is on the TfL road network.
- By 2024 more than 220km of the Tfl road network will be 20mph.



The speed of this bus is restricted to the local limit

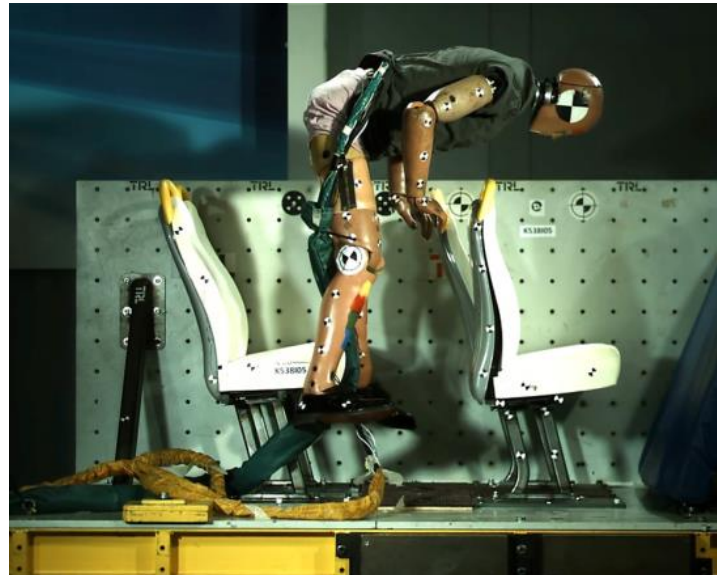
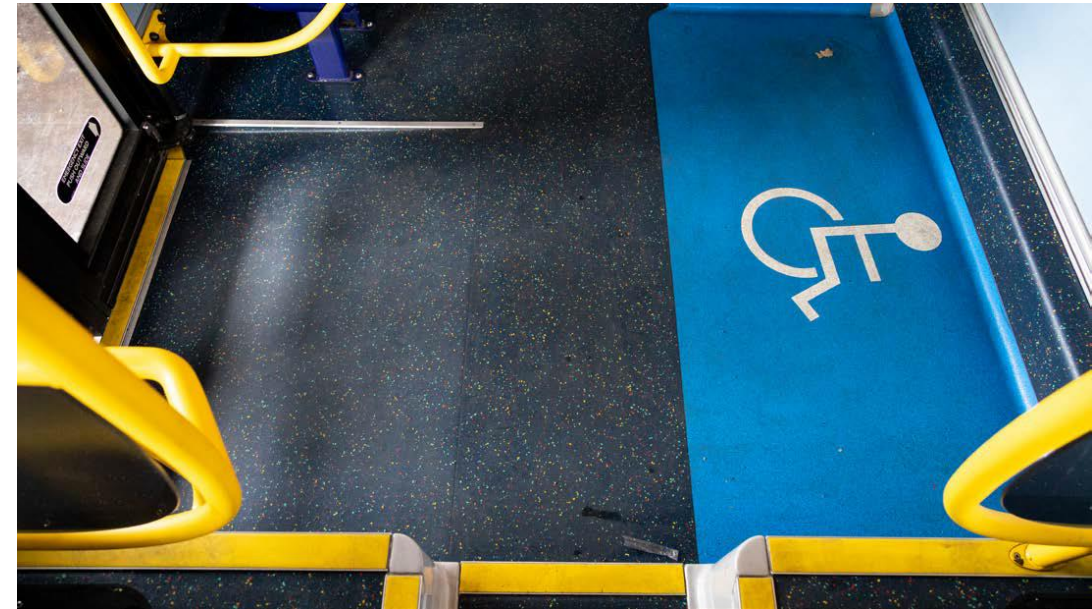


- Intelligent Speed Assistance keeps bus speeds to the posted speed limit (through acceleration retardation), thereby preventing buses from exceeding the limit.

Safe Vehicles

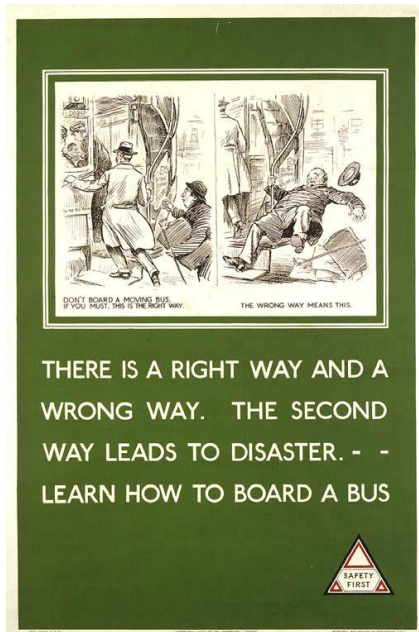
Occupant Friendly Interiors and surface friction requirements were introduced in 2021

Requirements for occupant friendly interiors include requirements for the staircase, seat positions, handrail construction and guards for exposed seats.



Customer injuries

The customer injuries workstream is focused on innovative features and technology that can be introduced on new buses through the Bus Safety Standard as well as initiatives focused on safe behaviours, including bus driver training and customer communications.



Customer slips, trips and falls are not a new phenomenon and work to reduce and prevent non-collision events on buses has been happening for a very long time.



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