



TfL - Buses Investigation of Major Incident Form

Section 1: About the Incident

1.1	IRIS Ref	LAF/24/0098AF
1.2	Operator reference	LAF/24/0098
1.3	CAD Number (where applicable)	
1.4	Incident type (e.g. bus vs pedestrian, bus vs car etc.)	Bus Fire
1.5	Date of incident	24/01/2024
1.6	Time of incident	08:19
1.7	Operator	Go-Ahead London
1.8	Route	265
1.9	Road name and borough (include junction where applicable)	Putney Bus Garage, Chelverton Road, LONDON, SW15 1RN
1.10	Summary of incident	<p>Fleet number SEe232 (electric bus) caught fire inside Putney Garage on the 24th of January at around 0819hrs when the bus was parked inside the garage (out of service)</p> <p>The night before 23.01.24 at around 23:47hrs a Route 265 driver reported that SEe232 was not moving and it was subsequently towed around eight miles from the Tolworth area and deposited outside Putney Garage, which was full overnight.</p> <p>After garage run-out was complete on 24.01.24, Putney Garage engineers used a 24V boost pack to move vehicle SEe232 inside the garage, where it was parked on designated bay and put on charge. Approximately 8min later, black smoke and sparks were observed coming from the front end of the vehicle. A garage engineer took the bus off charge, isolated the charger, raised the alarm and helped to safely evacuate the building and Fire Brigade were called.</p> <p>On attendance the LFB extinguished the fire, the manufacturer BYD engineers attended the site to support the London Fire Brigade (LFB), with assessing this vehicle and to identify the cause of the fire. The bus was recovered to BYD facility at Heston.</p>



1.11	Details of injury – where applicable	N/A
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Section 2: The Investigator

2.1	Person Conducting Investigation	[REDACTED]
2.2	Telephone	[REDACTED]
2.3	Email	[REDACTED]@galbuses.com

Section 3: Other Investigations likely or in progress

Police
 DVSA
 HSE
 TfL
 Coroner
 Other (specify):

Vehicle Manufacturers (BYD, ADL)

Section 4: Investigation Tools Used

CCTV
 Telematics
 Re-enactment
 Other (specify):

[Click here to enter text.](#)

Section 5: Key Factors

5.1 People Factors (please do not provide any personally identifiable information)		
5.1.1	Actions of third-party driver/ rider/ cyclist	N/A
5.1.2	Actions of passenger(s)	N/A
	Injured party (IP) profile	



5.1.3	Age of injured party or parties	Number of IPs under 10 Enter text here Number of IPs 11 - 17 Enter text here Number of IPs 18-24 Enter text here Number of IPs 25-34 Enter text here Number of IPs 35-44 Enter text here Number of IPs 45-54 Enter text here Number of IPs 55-64 Enter text here Number of IPs 65+ Enter text here
5.1.4	Actions of pedestrian(s) involved - Please include direction of movement, were they running or walking? Were they looking towards oncoming traffic, or away? Were they wearing headphones, using a mobile device etc.?	N/A
5.1.5	Was injured party under influence of drugs or alcohol?	N/A
5.1.6	Any other relevant factors about the injured party	N/A

5.2 Driver Factors (please do not provide any personally identifiable information)		
	Bus Driver Profile	
5.2.1	Driver's age	<input type="checkbox"/> 18-24 <input type="checkbox"/> 25-34 <input type="checkbox"/> 35-44 <input type="checkbox"/> 45- 54 <input type="checkbox"/> 55-64 <input type="checkbox"/> 65+
5.2.2	Length of service (years)	<input type="checkbox"/> Less than a year <input type="checkbox"/> 1-4 <input type="checkbox"/> 5-9 <input type="checkbox"/> 10-14 <input type="checkbox"/> 15-19 <input type="checkbox"/> 20+
5.2.3	Length PCV license held (years)	<input type="checkbox"/> Less than a year <input type="checkbox"/> 1-4 <input type="checkbox"/> 5-9 <input type="checkbox"/> 10-14 <input type="checkbox"/> 15-19 <input type="checkbox"/> 20+
	Bus Driver History	
5.2.4	Reference number(s) of any other NIMIs driver has been involved in	N/A



5.2.5	Date of last licence check (please include a summary of relevant offenses, but no personal information)	Date Last Checked:		
		Total Points:		
		Date of Offence	Offence	Points
5.2.6	Length of time on route (years)	<input type="checkbox"/> Less than a year <input type="checkbox"/> 1-4 <input type="checkbox"/> 5-9 <input type="checkbox"/> 10-14 <input type="checkbox"/> 15-19 <input type="checkbox"/> 20+		
5.2.7	Length of time on vehicle type (years)	<input type="checkbox"/> Less than a year <input type="checkbox"/> 1-4 <input type="checkbox"/> 5-9 <input type="checkbox"/> 10-14 <input type="checkbox"/> 15-19 <input type="checkbox"/> 20+		
5.2.8	Had driver swapped between routes or rail- replacement/ other work, within 3 days prior to incident?	N/A		
Bus Driver Health				
5.2.9	Any underlying health issues relevant to the incident (summary only e.g. severe cramps due to medical condition etc.)	N/A		
5.2.10	If driver's health is relevant to the incident, please give date of last medical assessment	N/A		
5.2.11	Any recent sickness absences (past 4 weeks). Indicate if it that may be relevant to the incident	N/A		
5.2.12	If night bus driver, has a health questionnaire been issued and completed? If so, have any issues been raised (summary only)	N/A		
Bus Driver Working Hours				
5.2.13	What time did the driver sign on, the day of the incident?	N/A		



5.2.18	Speed limit on the road where the incident occurred	N/A
5.2.19	Bus manoeuvres before, during and after incident	Parked at the garage
Bus Driver Performance		
5.2.20	Last DQM score - if no score, please state	N/A
5.2.21	Any customer complaints received for driver in last 12 months? If so, a please provide a summary (e.g. 2 complaints about driving standard etc.)	N/A
5.2.22	Result of any post-incident drug & alcohol testing	N/A
5.2.23	Details of any social or personal factors that may affect driver performance (summary only - e.g. recent bereavement, personal issues etc.)	N/A
5.2.24	Any indications the driver was distracted at the time of the incident? Please provide details	N/A
5.2.25	Was the driver on time, or running late at the time of the incident? If late, how late?	N/A
5.2.26	Any indications the driver was suffering from fatigue?	Yes / No
	If yes was a fatigue investigation completed?	Yes / No
	If a fatigue investigation was completed state the main findings.	N/A
5.2.27	Any other information on the driver or driver factors.	
	Has driver passed IAM? Yes / No	If passed give pass date:



	Has driver attended Vision Zero CPC? Yes / No	If attended give date:
	Other driver information:	
5.3 Vehicle Factors		
5.3.1	Vehicle registration	LD23PJY
5.3.2	Fleet number	See232
5.3.3	Vehicle make (please use full title, e.g. "Volvo B5LH Wright Bus Gemini 2")	BYD D8UR Enviro 200 Enviro 200 MMC TVC90A 9.7
5.3.4	Vehicle model (e.g. "10.8m Double Deck")	Single Deck – Electric 9.7.
5.3.5	Vehicle condition	Good
5.3.6	Reference number(s) of any other NIMIs this vehicle has been involved in	N/A
5.3.7	Was the vehicle inspected by the DVSA after the incident? If so, please include (or attach) summary of findings	
5.3.8	Date vehicle last serviced	
5.3.9	Was CCTV functioning on the vehicle? If not, please provide details	CCTV unit is damaged and the footage is not revocable
5.3.10	Mode of operation – please select option	Other (specify) Not in service/ parked in the garage
5.4 Instrument Factors		
5.4.1	Did any safety equipment fail? Please provide details	N/A



5.4.2	Did all relevant alert systems activate? If not, please provide details	N/A
5.4.3	Did relevant fire suppression systems activate? If not, please provide details?	Fire started at the front of the bus [REDACTED]
5.4.4	Any other information on the vehicle or vehicle factors.	

5.5 Environment Factors

5.5.1	Weather condition at time of incident	Cloudy
5.5.2	Road condition at time of incident, e.g. adverse camber, potholes, rutted, good condition etc.	N/A
5.5.3	Visibility at time of incident	Dusk
	Location	
5.5.4	Exact location including nearest junction (provide map in section 8). If bus stop or shelter involved, please give name of stop	Putney Bus Garage
5.5.5	Did incident occur on normal line of route? If not, please provide reason for location	N/A
5.5.6	Direction bus was travelling, e.g. towards Oxford Circus	N/A



5.5.7	Was a site visit undertaken? If so, please provide date, name and roles of those attending, and summary of any learning outcomes	24/01/2024 [REDACTED] (Deputy Operations Manager) Assisted LFB with the investigation.
5.5.8	Details of any road markings relevant to incident	N/A
5.5.9	Details of any traffic signals relevant to incident	N/A
5.5.10	Details of any unusual conditions present e.g. roadworks, vehicle obstructions etc.	N/A
5.5.11	Any other information on the environment or location.	
5.6 Organisational Factors		
Policies and Procedures		
5.6.1	Were any TfL procedures/ policies a contributory factor? Please give details	N/A
5.6.2	Were any bus operator procedures/ policies a contributory factor? Please give details	N/A
Route Risk Assessment		
5.6.3	Date route risk assessment last reviewed	N/A
5.6.4	Is the incident location identified in the route risk assessment? If so, what controls were in place?	N/A
5.6.5	Will route risk assessment be reviewed as a result of this incident?	No



5.6.6	Will this incident result in a change to the route risk assessment? If so, please summarise change	No
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5.6.7	Any other information on policies, procedures, or risk assessments.	

5.7 Other Factors

Please include any other information you feel is relevant to the investigation which is not already included in the report.

The Putney garage incident. AD have finally come up with a permanent solution to prevent reoccurrence which has been approved by the DVSA. Refer to section 6.4

5.8 Incident Timeline

Time	Event
08:19	Cloud of smoke appear from the front of the bus
08:23	Front of the bus is in flames
08:30	LFB arrived on site



6.2	<p>Steps to be taken to reduce likelihood of recurrence (Operator)?</p>	<p>An instruction has gone out from the manufacturer to bus operators to not disable the buses HVAC in the event the bus will not start up.</p> <p>Putney fire, solution from AD</p> <p>Physical Changes</p> <ul style="list-style-type: none"> • [REDACTED] • Warning label from service bulletin 966-2 fitted to isolator box will remain in place, the information is key as a reminder of correct operation. • [REDACTED] • Install new Hispacold control software to introduce the control changes detailed below. <p><u>Control Changes – Applies to the control of all heating elements in the HVAC system (Demist, Saloon Evaporator, and Saloon Condenser)</u></p> <p>If a contactor auxiliary contacts are closed when not commanded, OR Excessive Heat is detected via sensors local to the element, then:</p> <ul style="list-style-type: none"> • Run appropriate blower fan at 100% to maintain the element at a safe temperature • Prevent drivers controls from adjusting fan speed (Demist) • Prevent driver from turning system off using controller 'Auto' switch (Demist) • Open fresh air flaps (no recirculation) • Display fault on driver's HVAC controller • De-energise all contactor coils <p>Notes</p> <p>[REDACTED]</p> <p>Monitoring of the auxiliary contacts will be continuous when the HVAC system is powered, the integrity of the monitor circuit will be checked at each start up.</p>
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6.3	Steps to be taken to reduce likelihood of recurrence (TfL)?	N/A
6.4	Actions by third parties (e.g. vehicle manufacturer, local borough etc.) that could reduce the likelihood of recurrence	<p>Investigated with the BYD and ADL.</p> <p><u>Physical Changes</u></p> <p>[REDACTED]</p> <p>Warning label from service bulletin 966-2 fitted to isolator box will remain in place, the information is key as a reminder of correct operation.</p> <p>[REDACTED]</p> <p><u>Control Changes – Applies to the control of all heating elements in the HVAC system (Demist, Saloon Evaporator, and Saloon Condenser)</u></p> <p>If a contactor auxiliary contacts are closed when not commanded, OR Excessive Heat is detected via sensors local to the element, then:</p> <ul style="list-style-type: none"> Run appropriate blower fan at 100% to maintain the element at a safe temperature Prevent drivers controls from adjusting fan speed (Demist) Prevent driver from turning system off using controller 'Auto' switch (Demist) Open fresh air flaps (no recirculation) Display fault on driver's HVAC controller De-energise all contactor coils <p><u>Notes</u></p> <p>[REDACTED]</p> <p>Monitoring of the auxiliary contacts will be continuous when the HVAC system is powered, the integrity of the monitor circuit will be checked at each start up.</p>

Section 7: Closure

7.1	Date investigation closed	Local investigation completed on 20.02.24.
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7.2	Details of any disciplinary action taken	N/A
7.3	Was driver prosecuted? If so, what was the offense?	N/A
7.4	Is the incident reportable under RIDDOR? If so, has it been reported?	N/A
7.5	Is the incident reportable to the Traffic Commissioner? If so, has it been reported?	N/A
7.6	Coroner's Verdict and Recommendations (if applicable)	N/A



Section 8: Maps and Images

For collision incidents please include a map annotated to show:

- Exact location the collision occurred
- Direction of travel for bus and third-party vehicle(s) involved - as applicable
- Direction of movement for pedestrian(s) involved- as applicable
- Resting position of bus, third party vehicle(s), and pedestrian(s) involved as applicable

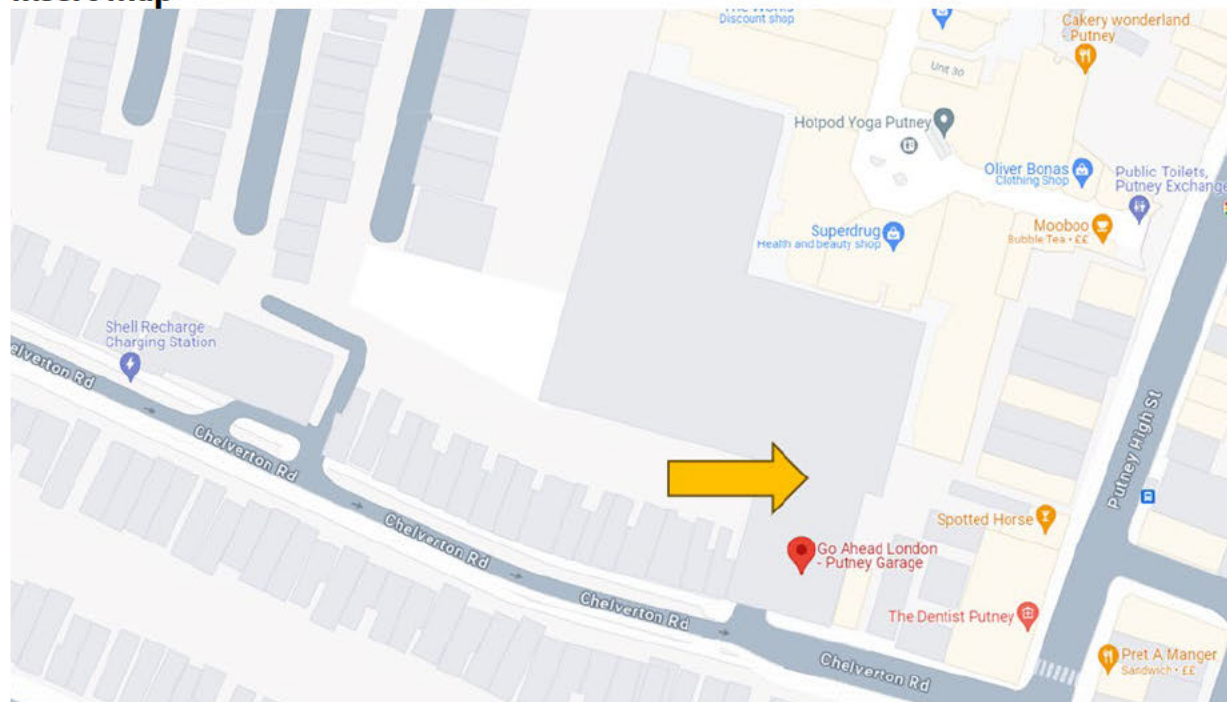
As a minimum, please provide images from the following cameras just before, during and after the incident:

- Front-mounted forward-facing
- Side-mounted forward facing
- Side/rear-mounted rear facing
- Cab-mounted driver-facing

Please include any other images that are relevant, including photos taken on site

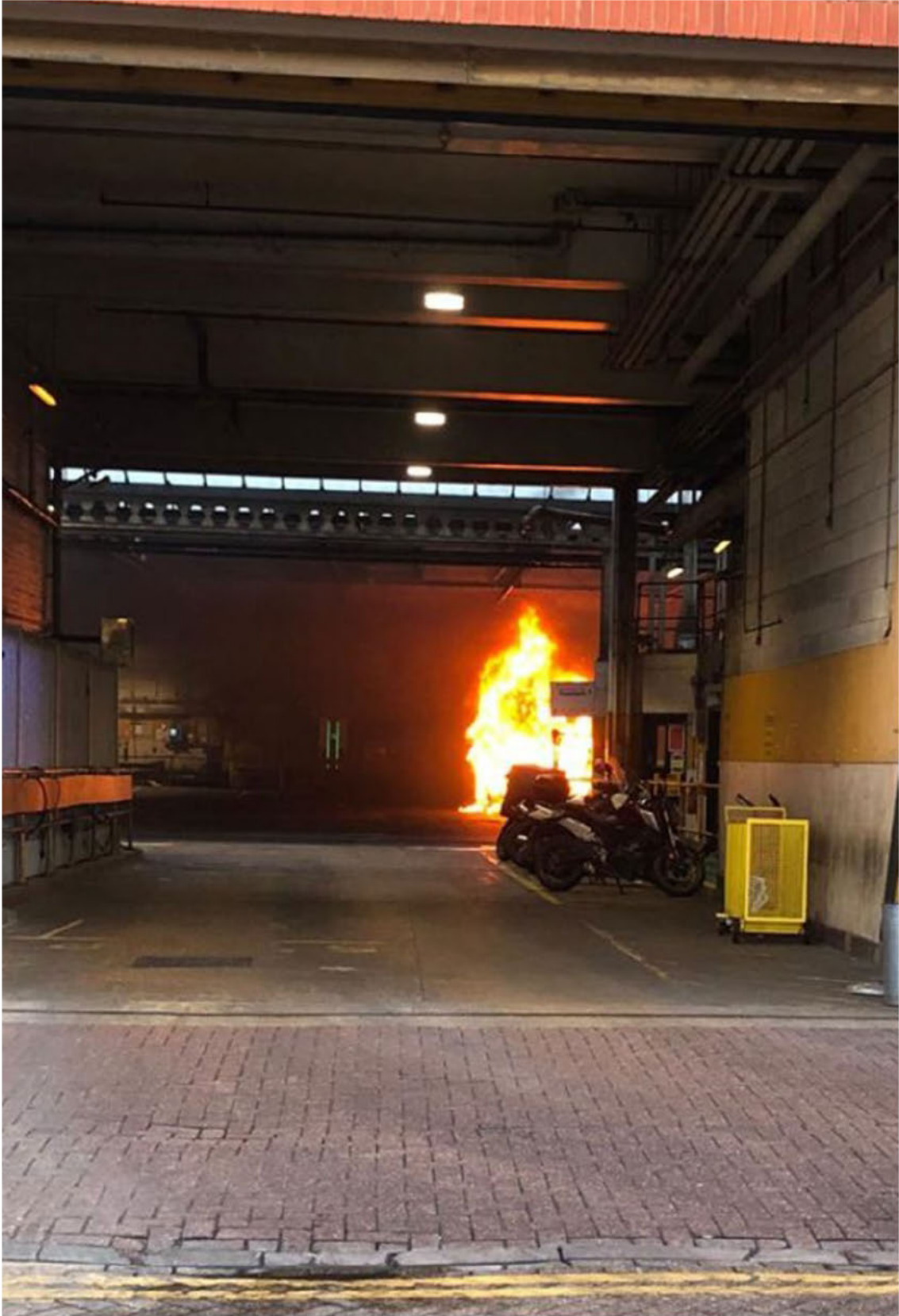
8.1

Insert Map



8.2

Insert CCTV Stills





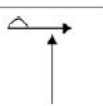
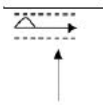
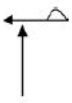
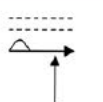
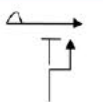





Section 9: TfL Internal Use Only


Contributory Factors Profile			
Bus Driver behaviour	<input type="checkbox"/> Distraction <input type="checkbox"/> Driving standards	<input type="checkbox"/> Hazard perception <input type="checkbox"/> Off LOR <input type="checkbox"/> Pedal confusion	<input type="checkbox"/> Speed <input type="checkbox"/> Vehicle familiarisation <input type="checkbox"/> Medical
Fitness to drive	<input type="checkbox"/> Fatigue <input type="checkbox"/> Health	<input type="checkbox"/> D&A	
Vehicle	<input type="checkbox"/> Component failure <input type="checkbox"/> Design issues	<input type="checkbox"/> Lines of sight <input type="checkbox"/> Maintenance	<input type="checkbox"/> System failure
3rd party behaviour	Driver	Rider (P2W & Cyclists)	Pedestrian
	<input type="checkbox"/> D&A <input type="checkbox"/> Unexplained action	<input type="checkbox"/> D&A <input type="checkbox"/> Unexplained action	<input type="checkbox"/> D&A <input type="checkbox"/> Unexplained action
Infrastructure	<input type="checkbox"/> Asset condition <input type="checkbox"/> Location	<input type="checkbox"/> Lighting/ signage <input type="checkbox"/> Road layout	

Shift Profile	
Shift period prevalence	<input type="checkbox"/> First half <input type="checkbox"/> Second half

Location Profile	
'Safe Streets' priority list	<input type="checkbox"/> Not on list <input type="checkbox"/> Priority 1 <input type="checkbox"/> Priority 2 <input type="checkbox"/> Priority 3
Better junctions	<input type="checkbox"/> Improvements planned <input type="checkbox"/> Undergoing safety study <input type="checkbox"/> Not in programme



Bus v VRU conflict profile		
1		<input type="checkbox"/> NA
2		<input type="checkbox"/> Bus going ahead, pedestrian crossing from nearside (not on formal crossing)
3		<input type="checkbox"/> Bus going ahead, pedestrian crossing from nearside (on formal crossing)
4		<input type="checkbox"/> Bus going ahead, pedestrian crossing from offside (not on formal crossing)
5		<input type="checkbox"/> Bus going ahead, pedestrian crossing from nearside near formal crossing
6		<input type="checkbox"/> Bus overtaking stationary traffic
7		<input type="checkbox"/> Bus undertaking stationary traffic (including bus lane)
8		<input type="checkbox"/> Bus turning right, P2W or cyclist overtaking into path of bus
9		<input checked="" type="checkbox"/> Bus turning left, across path of P2W or cyclist going ahead
10		<input type="checkbox"/> Bus going ahead, oncoming P2W or cyclist turning right across path of bus
11		<input type="checkbox"/> Bus and P2W or Cyclist travelling alongside each other

12		<input type="checkbox"/> All conflicts arising from bus loss of control
13		<input type="checkbox"/> Other (please specify) Enter text here

TfL Follow-up actions		
Action owner	Action	To be completed by
Click here to enter text.	Click here to enter text.	Click here to enter a date.
Click here to enter text.	Click here to enter text.	Click here to enter a date.
Click here to enter text.	Click here to enter text.	Click here to enter a date.

