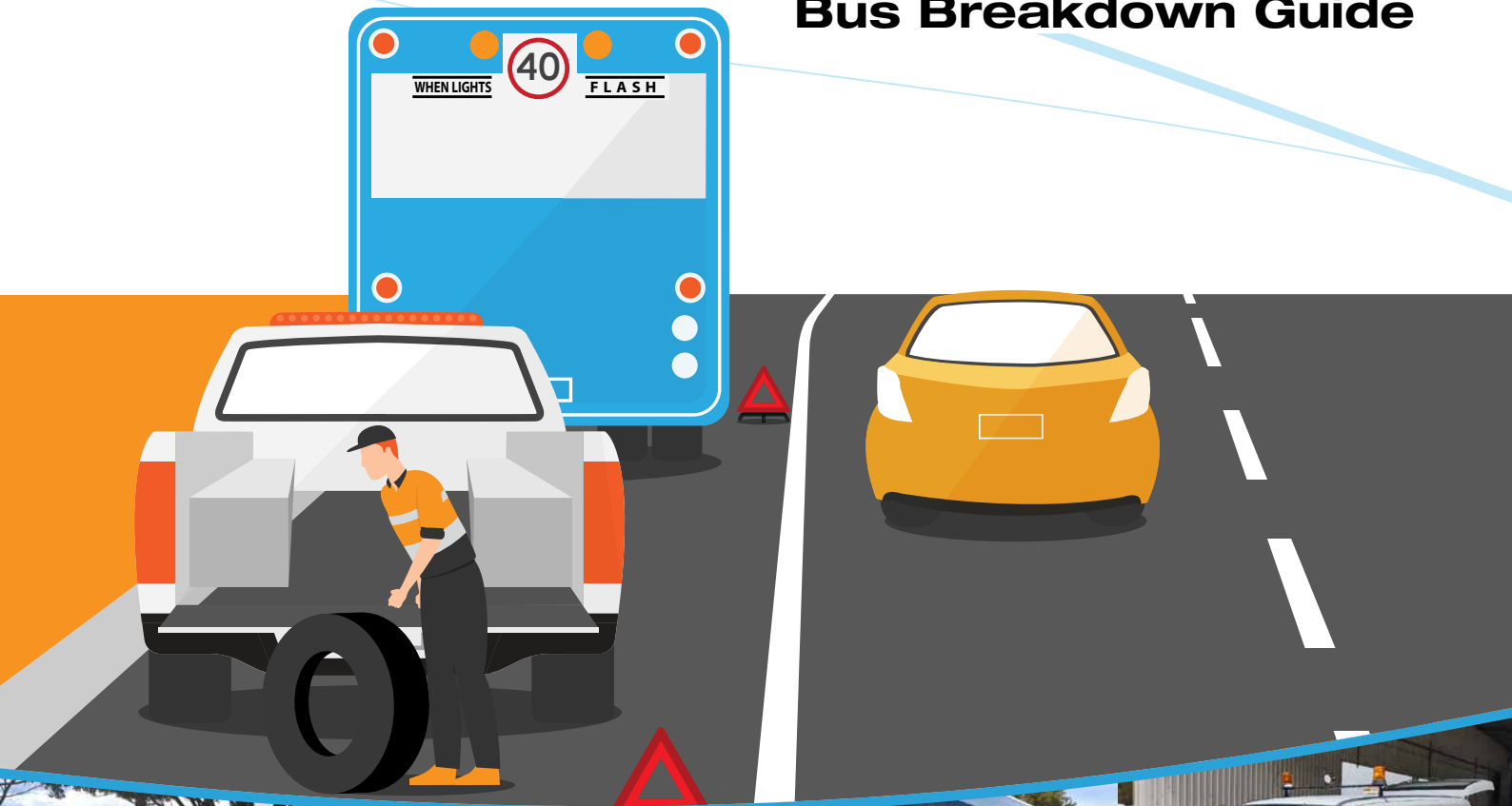


MOVING PEOPLE

➤ *Operator Guidelines*

Bus Breakdown Guide



A National Heavy Vehicle Safety Initiative

December 2021

Disclaimer

These Guidelines have been developed to assist bus operators and staff to manage safety in the event of a bus breakdown. While every effort has been made to ensure the accuracy of the material in the Guidelines, persons should seek their own independent legal and safety advice in relation to the topics covered based on their own individual circumstances. BusNSW and the Bus Industry Confederation shall not be liable for any matter contained herein or any loss suffered due to reliance on this information.

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Introduction

A BusNSW project to improve road safety was selected as one of twenty-six projects aimed at saving lives and reducing road trauma under Round 5 of the Australian Government's Heavy Vehicle Safety Initiative (HVSI). The HVSI program funds initiatives that will deliver tangible improvements in road user, road and heavy vehicle safety.

The funding from the Australian Government and coordination by the National Heavy Vehicle Regulator has provided a great opportunity for the bus and coach industry to promote road safety, particularly in regard to heavy vehicles. One of the most common hazards in the bus and coach industry arises from roadside safety risks that result from a bus breakdown.

While breakdowns can occur in all motor vehicles, the hazards associated with bus breakdowns, where the vehicle is usually carrying public passengers and often schoolchildren, can be significant. The aim of the project is to address risks by producing practical guidance material for

all parties in the supply chain associated with bus breakdowns, specifically operators, bus drivers, maintenance staff, and emergency assistance providers.

While BusNSW was the lead agency responsible for developing the guidance material, the project provides regional, cross-jurisdictional and national safety benefits for the industry. The guidelines were developed in close consultation with the Bus Industry Confederation and other state associations, who are members of the Bus Australia Network.

BusNSW would like to thank the Australian Government, National Heavy Vehicle Regulator and members of the Bus Australia Network committee formed to develop the guidelines for their respective contributions. We also recognise the SARAH Group for their tireless lobbying for a commitment to renewing poor infrastructure and asking motorists to take responsibility for their actions on our roads and highways.

Foreword

Everyone has the right to get home safe to their loved ones... every day... without exception!

I have been working in road safety for almost a decade having been brought into this area following the preventable and completely avoidable death of my own beautiful daughter Sarah Frazer. In February 2012, a distracted truck driver drove directly into her broken down vehicle while it was being hooked up, instantly killing the tow truck driver, and leaving my beautiful 23 year-old daughter in pieces on the Hume Freeway in NSW.

As a result of this tragedy, I created a Non-Government Organisation focused on improving national road safety. Called Safer Australian Roads And Highways (SARAH), our commitment is to protect all those who are vulnerable on the road ahead.

So when BusNSW asked me to write the foreword for the Bus Breakdown Guide, I was honoured to do so for it demonstrates BusNSW's unwavering commitment to **get everyone home safe**. I am also pleased to note that in following its guidance, we will reduce the risk of road crashes, and in so doing, minimise the risk of trauma within our community.

When we consider those who provide patronage on our bus services, whether it's commuters, those travelling for pleasure, the elderly, and/or our children going to or from school, each of these groups start and end their journey as vulnerable pedestrians. As they all need our community's

active protection, our mantra to everyone in control of a vehicle must be to "Drive as if it's your loved ones on the road ahead!"

The document is all the more important because speed related injury and death remains Australia's most challenging issue. This is even more pressing as there appears to be a lack of understanding, acknowledgement or even compassion, for those who are quite defenceless should they be struck by a vehicle at any speed above 30 kilometres per hour.

This document will help change aberrant behaviours by reinforcing that, just as drivers must slow down to protect kids in school zones, **this same behaviour must also apply every time they approach a bus that is stationary, and irrespective of whether the bus is working or broken down, irrespective of whether an indicator is blinking, or all its hazard lights are flashing.**

I commend BusNSW and the National Heavy Vehicle Regulator on delivering this important national Guide because in helping make road safety the wider community's priority, together we will get everyone home safe!

**Peter Frazer B.Ec,
CF, FARSC**

*President, Safer Australian
Roads And Highways*



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Purpose of the Guidelines

One of the most common hazards in the bus and coach industry is the on-road safety risks presented by a bus breakdown. Across Australia, bus breakdowns are one of the most common types of incident in the industry.

While breakdowns can occur in all motor vehicles, the risks associated with bus breakdowns, where the vehicle is carrying public passengers and often schoolchildren, can be significant. Data from the bus and coach sector reveals that the majority of serious injuries and fatalities occur not within the bus but rather on the road where passengers alighting from a bus can be hit by other vehicles. There is also the potential of multiple fatalities from a collision between a moving vehicle and a stationary bus or repair vehicle.

These risks increase significantly in rural and regional Australia where a combination of high-speed roads, often with single lanes and high volumes of other heavy vehicle traffic, present additional safety issues. Road infrastructure in rural areas is generally poorer which, when combined with fog, wet weather and geographical features, can produce significant hazards for bus passengers and motorists in the event of a bus breakdown.

The aim of these Guidelines is to provide practical guidance material to help bus operators to manage the safety hazards associated with a bus mechanical breakdown that requires roadside repairs. Whilst primarily aimed at bus operators, the guidelines include procedures and safety protocols for bus drivers and the maintenance staff dispatched to repair the vehicle.

The transition to Zero-Emission Buses will add more complexity to these guidelines with operators needing to manage the electrical shut down and isolation on high voltage vehicles. A new training framework to ensure the current and future workforce who service and repair buses are 'electric ready' is currently being prepared for the industry. Similarly, any future changes to

government legislation will need to be considered within the context of this guide.

References to a bus in this advisory includes a coach.

Bus Breakdown Responsibilities

Many parties may be involved in a bus mechanical breakdown including:

- > Bus Operators (who are responsible for preparing for and overall management of the breakdown)

- > Bus Drivers (who are responsible for managing the immediate impact of a bus breakdown)

- > Bus Maintenance staff (who are responsible for responding to a breakdown and repairing the vehicle)

- > Secondary bus drivers (who are generally dispatched with a bus for the transfer and on-journey of passengers).

The number and variety of people involved can lead to confusion about each party's particular roles and responsibilities in the event of a roadside bus breakdown.

Generally, however, the breakdown of a bus can be divided sequentially into three stages:

- 1 Preparation for a Breakdown

- 2 The Bus Breakdown

- 3 Roadside Repairs

Dividing the breakdown in this way allows the particular responsibilities for each party in the chain of responsibility to be identified and allocated.



➤ **Section I**

Preparing for a Bus
Breakdown

Preparing for a Bus Breakdown

The first step in preparing for a breakdown is for operators to have an effective preventative maintenance regime. Providing well maintained vehicles ensures a reliable and safe passenger experience.

Breakdowns will inevitably occur so it is important to ensure that the staff and equipment needed in the event of a breakdown are ready to be deployed. This is primarily the responsibility of the bus operator.

Bus operators should also consider undertaking an assessment of the safety risk that bus breakdowns pose to their operations.

An example of a **Risk Assessment** for a **Bus Breakdown** is included at **Appendix A**.

Preparing for a bus breakdown can be divided into four key areas:

- 1 Communication Protocols
- 2 Training of Staff
- 3 Preparation of Buses
- 4 Preparation of Repair Vehicles

1. Communications

Clear communication channels and protocols are needed between the bus driver, depot and repair vehicle in the event of a bus breakdown. Ideally, all vehicles should be fitted with two-way radios to enable direct communications between the bus driver, depot and repair vehicle.

To assist with this and other requirements, a **Bus Operator Breakdown Communications Checklist** is included at **Appendix B**.

Specific communication protocols for both bus drivers and repair vehicle drivers are outlined in the following chapters. All parties should also be provided with breakdown contact numbers e.g., Operations Manager, Maintenance Manager, Roadside Assistance, Police, etc.



Hi Visibility and reflective markings provide additional safety for staff working in a dangerous environment.

2. Training

Bus operators need to ensure that bus drivers and maintenance staff understand exactly what to do in the event of a bus breakdown. This can be achieved via training and procedures. The following two chapters can provide the basis for developing a specific training program for:

- > Bus Drivers (“The Bus Breakdown”)
- > Maintenance Staff (“Roadside Repairs”) and
- > Operational Staff.

3. Preparation of Buses

Beyond drivers, it is important that buses are fitted with appropriate emergency equipment in a clearly marked location for use in the event of a bus breakdown. Such equipment may include:

- > Hi-visibility vests for drivers
- > Warning Triangles
- > Traffic Hazard Sign
- > Two-way radios
- > GPS Tracking
- > Mobile phones (in case a two-way radio is not available or out of range).

To ensure such equipment is always available, these items can be included as part of the Pre-Departure Checklist completed by the driver at the commencement of each shift.

A basic **Pre-Departure Checklist** is included as **Appendix C** and can be modified to suit the operator’s circumstances.



Spare wheels are safely unloaded on the near side of the repair vehicle away from the traffic flow

4. Preparation of Repair Vehicle

Thought also needs to go into the equipment and access for the repair vehicle which will be dispatched by the operator in the event of a breakdown. The repair vehicle should be clearly visible at night, with retro-reflective stickers or other markers applied. Flashing lights (generally yellow) may also be fitted subject to individual state regulations.

Following is a list of suggested items to be carried in the repair vehicle:

- > Hi-visibility vests and PPE for bus repairers
- > Safety Signs (e.g. “Traffic Hazard Ahead”)
- > Warning Cones
- > Portable warning lights to illuminate the traffic hazard area
- > Clean up absorbents (Spill kits)
- > Two-way radio
- > Mobile Phone
- > Reflective barrier warning tape.

In addition, the repair vehicle needs to be set up in such a way that access to service compartments and driver entry and exit is from the left side of the vehicle, to minimise the need for the driver to be exposed to traffic when parked on the roadside.



➤ **Section II**

The Bus Breakdown

The Bus Breakdown

A bus breakdown will be initially managed by the bus driver. Normally, the driver manages the breakdown in the following order:

- > Detecting a problem with the vehicle
- > Communicating with the Depot
- > Determining where to pull over
- > Securing the Vehicle
- > Placing Warning Triangles and other signals
- > Passenger Evacuation (if necessary)
- > Waiting for Assistance
- > Transfer of passengers to replacement vehicle.

Bus breakdown procedures for drivers need to cover each of these events.

1. Detecting a Problem with the Vehicle

In most situations, a bus with mechanical problems will not stop immediately. Normally, the driver will have some warning (e.g. an illuminated oil light or noise from a flat tyre) indicating that something is wrong with the vehicle. Even when there is no advance warning, the vehicle will usually be able to coast or travel in “limp” mode for some distance before coming to a stop.

This is an important consideration because it provides the bus driver with the opportunity to choose a location to stop on the roadside.

2. Communicate with Depot

Once a problem with the bus is detected, the driver should contact the depot to inform them of:

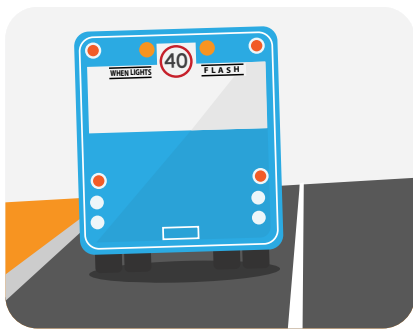
- > The nature of the problem
- > The location of the bus
- > Any imminent safety or environmental hazards e.g., fuel or oil spillage
- > The number of passengers on board and any passengers with special needs (e.g. children, elderly, passengers with a disability, etc.)
- > The speed limit in the immediate vicinity (if known)
- > Whether the road is single lane or dual carriageway.

The depot will notify the driver of what action to take and will keep the driver updated on events as they happen such as the dispatch of a replacement bus, repair vehicle or tow truck.

3. Determining Where to Pull Over

In choosing where to pull over, drivers need to keep the following 4 principles in mind:

- > **Sight:** A good line of sight from a distance, away from intersections, bends or corners.
- > **Surface:** A hard road or shoulder surface on which to stop the bus.
- > **Space:** Consider the space that maybe required for any passengers in wheelchairs and the space that may be required for the repair vehicle and the replacement bus to safely pull over.
- > **Slope/Camber:** A flat road or shoulder to transfer passengers and repair the vehicle.



Consider the suitability of the location.



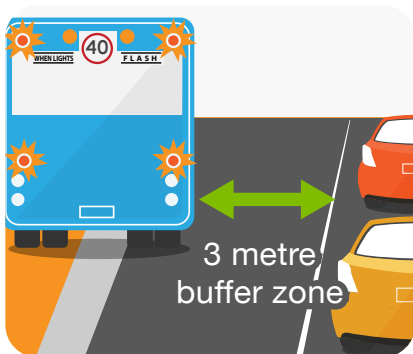
Is there a more suitable location like a rest stop or service station nearby?



Avoid locations that impede passing traffic.

4. Securing the vehicle

Passing traffic is the single greatest risk in a bus breakdown. Ideally the roadside breakdown location should allow for **3 metres** of clearance from other traffic. Where this is not possible, the bus should be stopped in a position where it is clearly visible from a distance and does not interfere with passing traffic.



A buffer zone increases visibility and safety.



Parking at an angle reduces risks.



Turning the front away from the traffic creates a clearance.

The bus should be secured by selecting Park or Neutral, applying the parking brake, turning the engine off and removing the keys, unless otherwise directed by the depot or maintenance staff. The battery isolation switch (if fitted) may also be turned to the off position. **Under no circumstances should the bus door interlock be used to secure the vehicle.**

The vehicle's hazard lights should be activated. **Where passengers are on board, they should be advised of the problem and asked to remain on the bus unless there is an imminent danger with them remaining on board.**

5. Warning Triangles

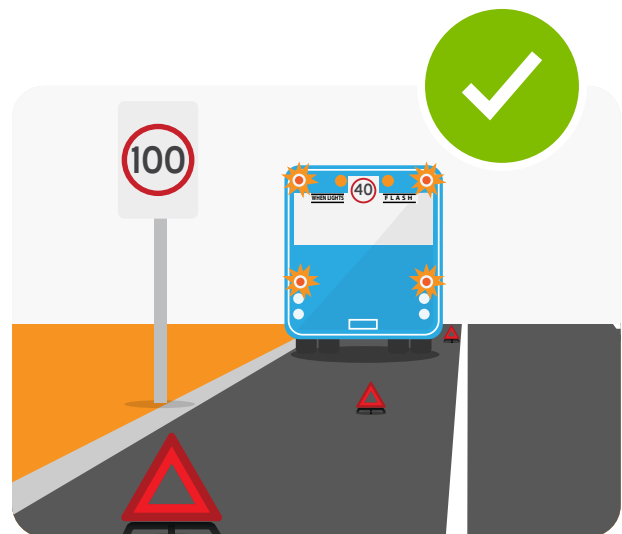
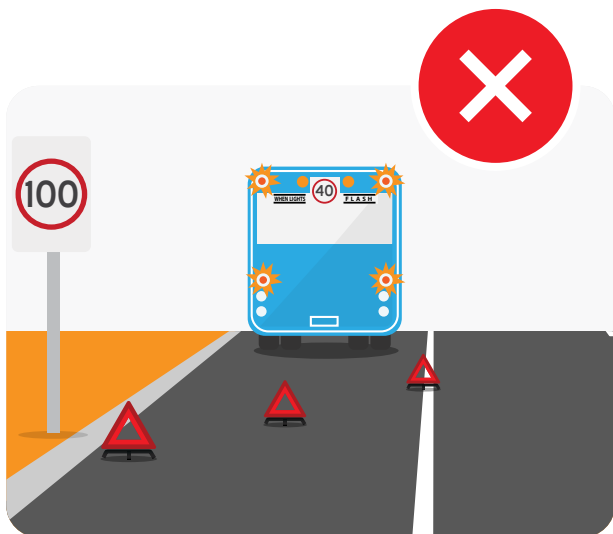
Prior to exiting the bus, the driver must put on their high visibility vest.

Drivers should assess the breakdown site to ensure that the warning triangles are correctly placed for the safety of the bus and passengers and other motorists.

Triangle placement is determined by the speed zone of the road, whether the road is divided by a median strip and the visibility of the broken-down bus. Warning triangles should be placed when the bus is not visible from at least 200 metres away or 300 metres away in a high-speed zone.

Refer to the table below for instructions on the use of triangles.

SPEED LIMIT	ONE WAY OR DIVIDED ROAD (ONCOMING TRAFFIC SEPARATED BY A FIXED MEDIAN STRIP)	ONE WAY OR DIVIDED ROAD (ONCOMING TRAFFIC <u>NOT</u> SEPARATED BY A FIXED MEDIAN STRIP)
UNDER 80 KM/H	<ol style="list-style-type: none"> 1 First Triangle beside the bus 2 Second Triangle at least 50m but no more than 150m behind bus 3 Third Triangle in between bus and the last Triangle 	<ol style="list-style-type: none"> 1 First Triangle beside the bus 2 Second Triangle at least 50m but no more than 150m behind bus 3 Third Triangle placed at least 50m but not more than 150m in front of bus
80 KM/H OR OVER	<ol style="list-style-type: none"> 1 First Triangle beside the bus 2 Second Triangle at least 200m but no more than 250m behind bus 3 Third Triangle in between bus and the last Triangle 	<ol style="list-style-type: none"> 1 First Triangle beside the bus 2 Second Triangle at least 200m but no more than 250m behind bus 3 Third Triangle placed at least 200m but not more than 250m in front of bus



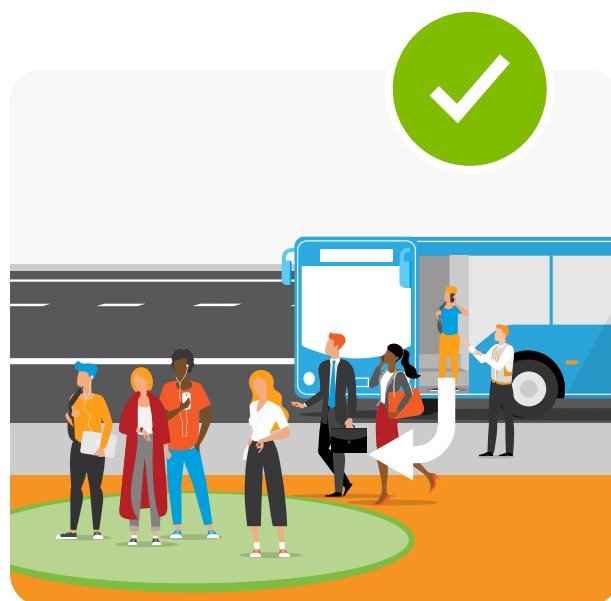
Placement and spacing of warning triangles is important. Triangles should not encroach onto a trafficable lane.

6. Passenger Evacuation (If necessary)

Generally, passengers are likely to be safer on than off the stationary broken down bus. This requires the driver to advise passengers to remain on board the bus and to await further instructions.

However, there will be circumstances where passenger evacuation is necessary (e.g. the bus has been forced to stop in a dangerous location or there is a risk of a fire).

If evacuation is necessary, instruct the passengers to disembark in an orderly manner and escort them to a safe area away from the bus and other traffic. The bus driver should count the number of passengers and consider appointing marshals from among the passengers to assist with vulnerable passengers e.g. elderly passengers or children. The passenger count should be provided to the depot and replacement bus driver to ensure no one is left behind.



Passengers should wait in a safe area “upwind” of the breakdown

7. Waiting for Assistance

While waiting for the repair vehicle and/or replacement bus, the driver should maintain regular contact with the depot, to determine the likely arrival time for assistance. Drivers should also keep passengers informed of progress.

Depending on the bus’s location and situation, the driver may also need to contact the depot to contact other emergency agencies such as:

- > Police (000)
- > The relevant road agency in each state.

Generally, if a tow truck is required, this will be arranged by the maintenance staff.

Passengers should be advised that a replacement bus will arrive soon. If the vehicle has been evacuated, the driver should maintain visual contact with passengers. Children should never be left unattended – this may require the driver appointing a marshal from among the passengers to ensure children remain supervised at all times.

8. Transfer of Passengers

Prior to the arrival of the replacement bus, the depot and the original driver should determine the best place to park the replacement bus to transfer the passengers. On a divided road this is usually in front of the broken down bus if possible. Once the replacement bus is in position, the driver of the original bus should assist with the safe transfer of passengers.

Passengers should be reminded to take their belongings with them and to disembark in an orderly fashion. The driver should do a head count of the passengers on board. Depending on the number of passengers, the driver may request that passengers disembark in stages; for example, passengers in the front three rows of seats to disembark first.

Passengers should be instructed to remain on the left-hand side of the bus and to proceed directly to the replacement vehicle. The driver should also consider appointing marshals from among the passengers to assist with vulnerable passengers e.g. elderly passengers or children.

Once all passengers have boarded, the driver should conduct a final head count to ensure that no one has been left behind.

To assist drivers to manage the breakdown and other requirements, a **Bus Driver Breakdown Checklist** is included at **Appendix D**.



➤ **Section III**

Roadside Repairs

Roadside Repairs

1. Prior to Arrival

Prior to arriving on the scene, operations or maintenance staff should communicate with the bus driver to establish:

- > The mechanical issue/problem with the bus
- > The exact location of the bus
- > The direction the bus is facing
- > If there will be any problems accessing the bus
- > The location of the bus keys and the need to hand these over to maintenance staff
- > Any other assistance required.

2. Communication

The maintenance staff or driver at the scene should maintain regular contact with the depot. This includes at the beginning and completion of each roadside repair job.

There should be the ability for the driver or maintenance staff on scene to contact emergency services on '000' on their mobile phone if needed (e.g. in order to direct traffic).

3. Arrival at the Scene

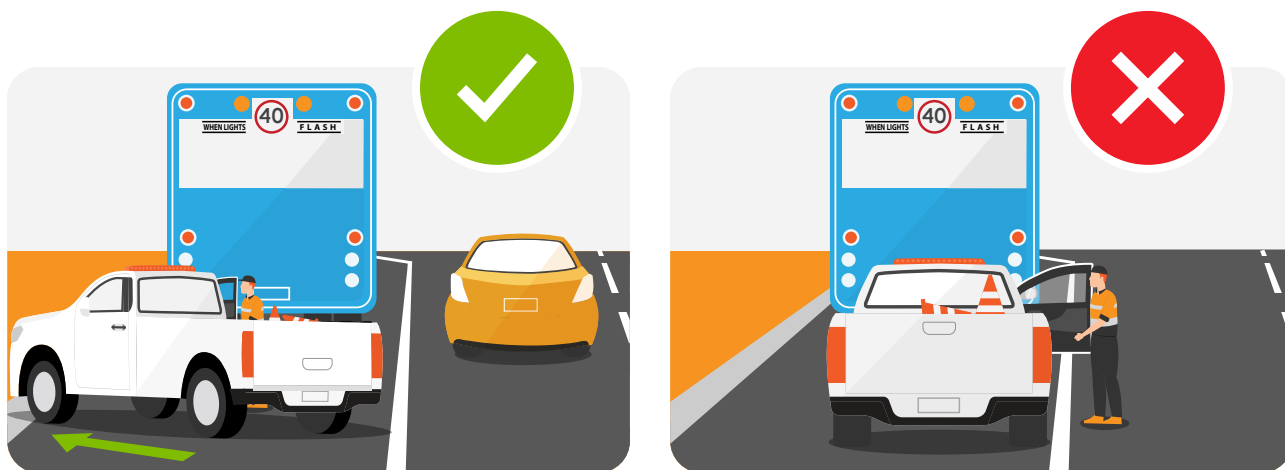
A physical "drive-by" of the breakdown location should be considered by maintenance staff to observe the vehicle's location and any factors that may impact on the ability to safely work on the vehicle. These factors may include:

- > The worksite approach speed
- > The road surface and camber/slope
- > Traffic volume and vehicle composition (e.g. the prevalence of heavy vehicles on the road)
- > Layout of the work area and approaches to the work area
- > Weather conditions and visibility
- > Activity of pedestrians or cyclists.

To assist with this and other requirements, a **Maintenance Staff Breakdown Checklist** is included at **Appendix E**.

4. Parking the Repair Vehicle

The repair vehicle may be positioned at the **front** or **rear** of the stationary broken down bus. Generally, the repair vehicle should be parked at a **45-degree angle** (with the rear of the repair vehicle closest to the road). This increases the visibility of the repair vehicle and reduces the potential hazard for passing traffic. It also provides safer access from both sides of the repair vehicle if required.



Whenever possible, avoid parking right next to a trafficable lane.

The front wheels of the workshop breakdown vehicle should be turned towards the near side kerb whenever possible.

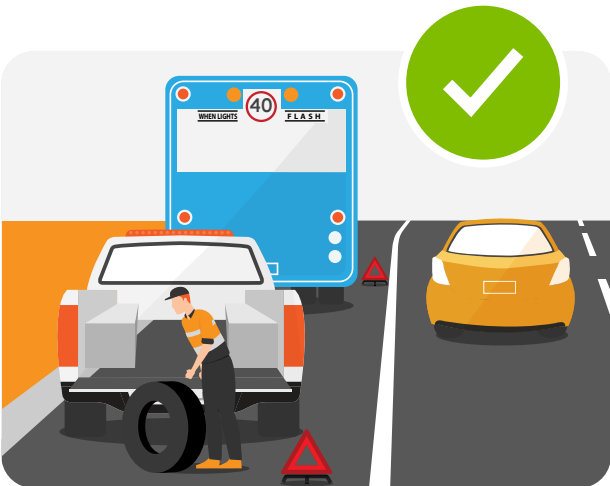


A 45 degree angle increases visibility for passing traffic.

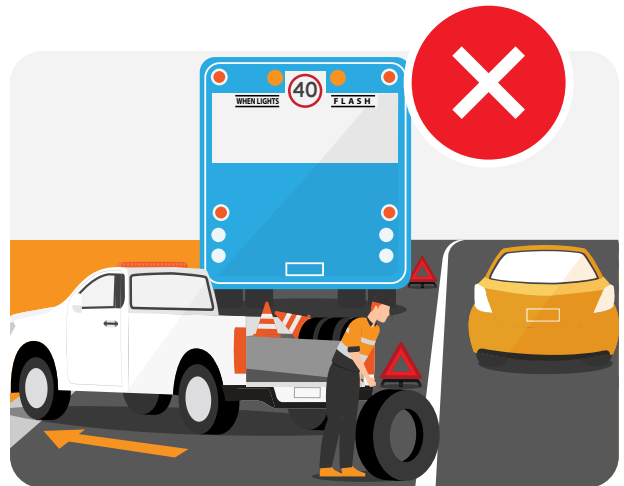


Only the rear of the repair vehicle is visible. Equipment stored on the right hand side cannot be safely accessed.

However, where bulky items such as spare tyres need to be unloaded from the repair vehicle, it may be safer not to park at an angle.



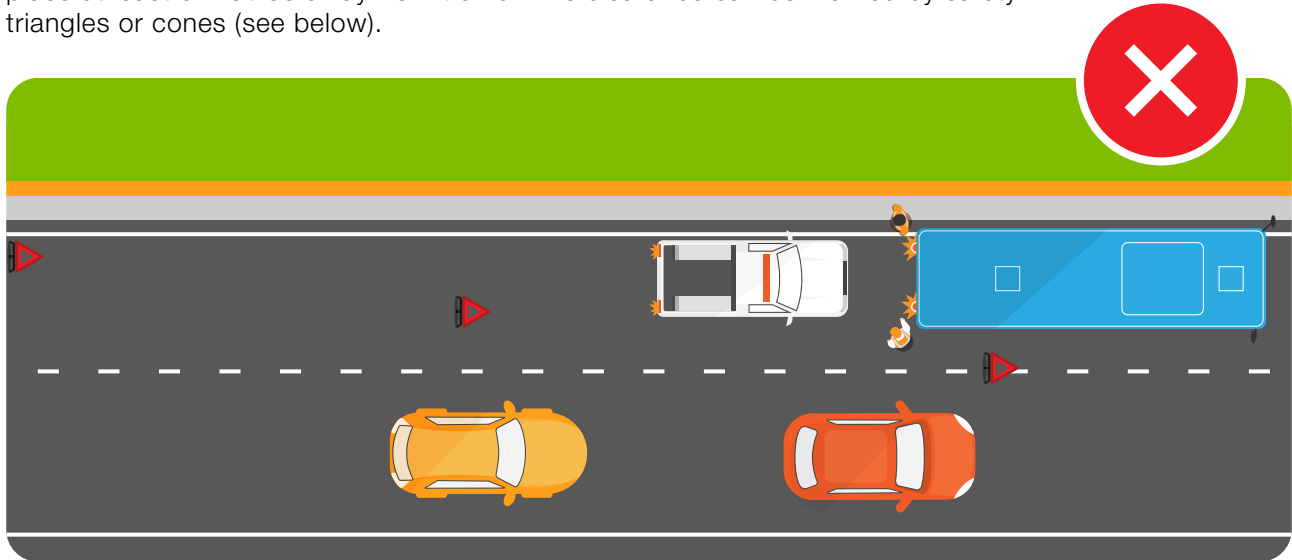
Parking parallel to traffic may be required when access to the rear of the vehicle is essential.



In this scenario, parking at a 45 degree angle may introduce hazards.

5. Distance from Passing Traffic

Space should be maintained between the work area and passing traffic – if possible, work should take place at least **3 metres** away from traffic. This clearance can be marked by safety triangles or cones (see below).



The risk from passing traffic is present at the rear or the front of the bus.

Where possible, a “buffer zone” of **10 to 15 metres** should be maintained between the repair vehicle and the stationary broken down bus.

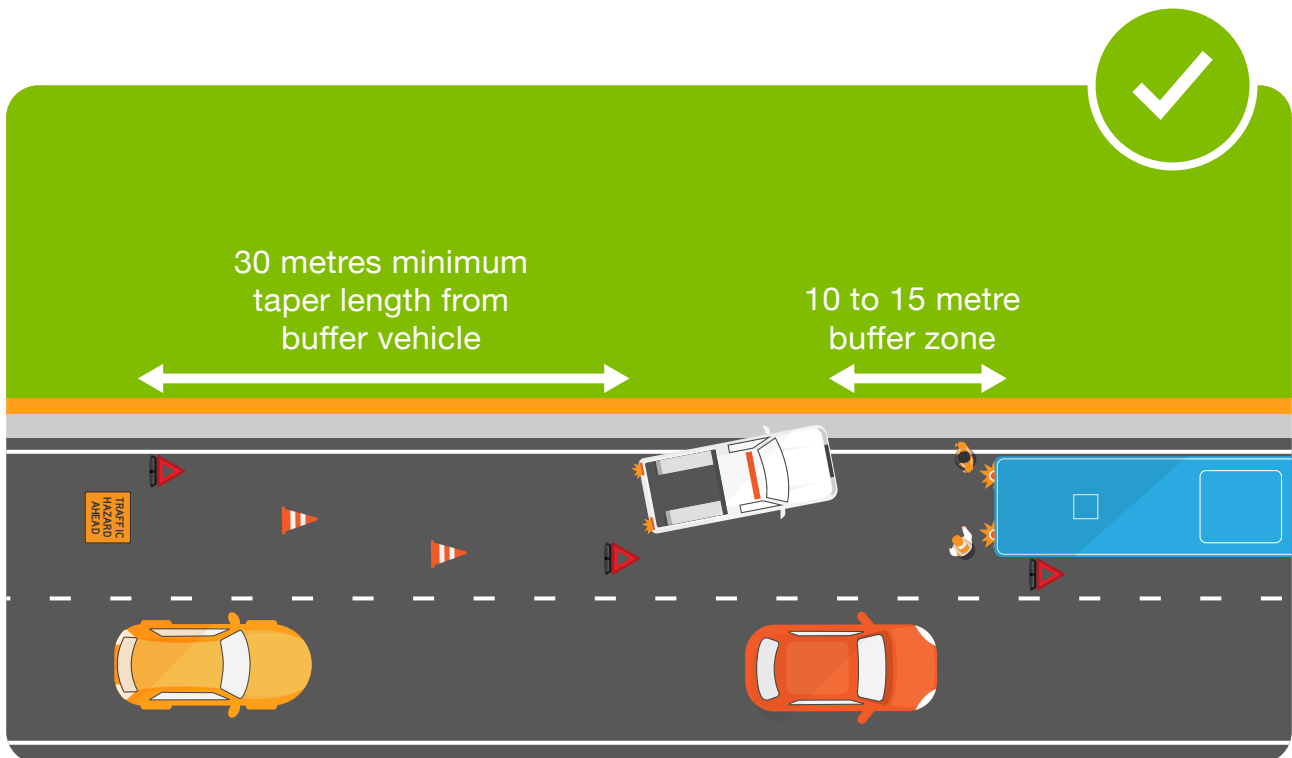


Illustration showing placement of warning sign, triangles and safety cones.

6. Safety Cones and Warning Signs

Safety cones and Warning Signs are to be deployed for the duration of the repairs.

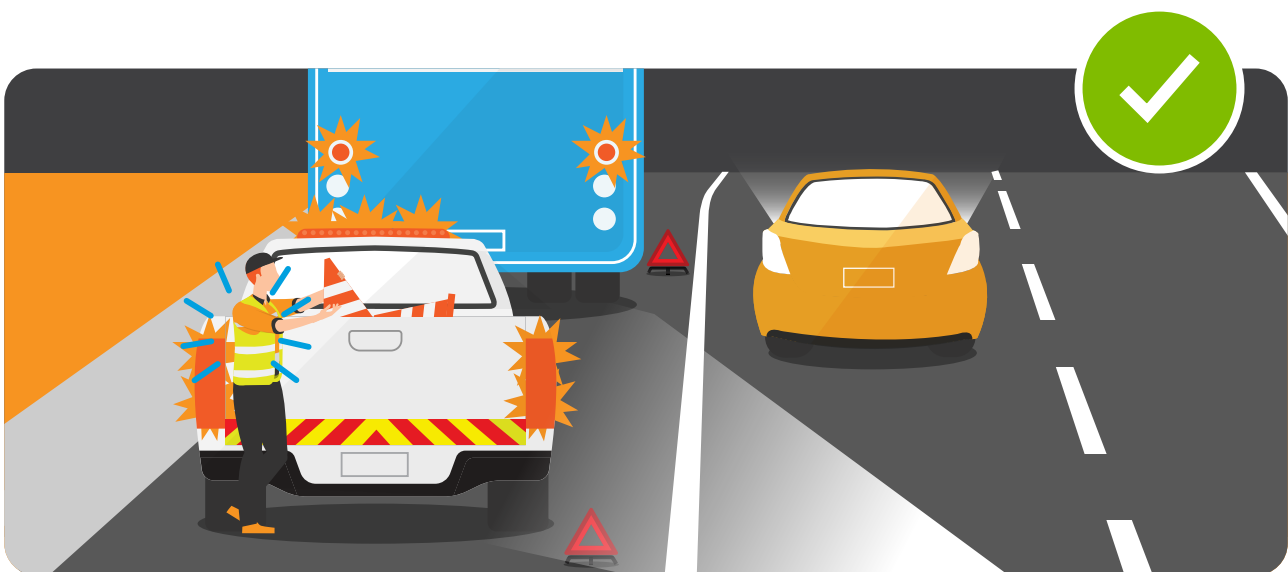
The purpose of safety cones is to direct traffic either by:

- > merging traffic from one trafficable lane to an adjacent trafficable lane moving in the same direction, or
- > moving a single lane in a lateral direction around an obstacle or work area for the safety of the maintenance staff.

Traffic cones are usually bright red or orange. The minimum height of the safety cone is determined by the approach speed of traffic. Cones with a minimum height of 450mm can be used on roads of up to 70km/h in speed. A 700mm cone is required for all speeds above 70km/h.

It is recommended that warning signs and traffic cones suitable for all road speeds be carried in repair vehicles and used for freeways and night guidance during breakdowns.

'Traffic Hazard Ahead' sign may be used whenever any unexpected event causes a traffic hazard. This sign does not require a permit to use.



During the entire breakdown process the repair vehicle must have all available hazard lights illuminated and all workers must always wear high visibility clothing.

7. Undertaking Repairs

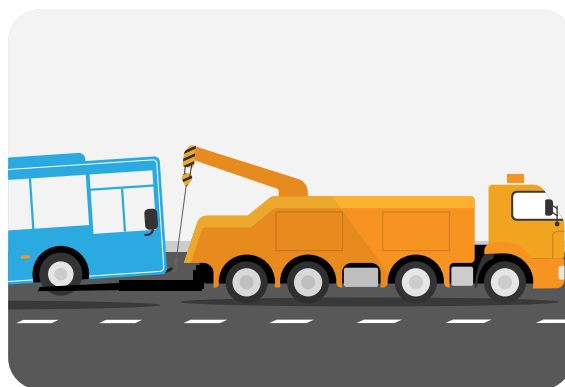
Work on the stationary broken down bus should only take place once a clear and safe work area has been established including the correct placement of warning triangles, safety signs and cones.

Maintenance staff should ensure that the vehicle has been correctly isolated and is in a stable position for the repair. Prior to commencing work, maintenance staff should verify that the bus has been parked with the park brake applied, the bus gear in Park or Neutral, the engine should be turned off and keys removed unless the maintenance staff determine it necessary to have the engine running.

While undertaking repairs, maintenance staff should access tools and spare parts from the repair vehicle **on the left-hand side of the vehicle** wherever possible.

If the maintenance staff determine that a safe distance cannot be maintained between the breakdown vehicle and passing traffic, it may be necessary to seek professional help; for example:

- > The Police or state road agency to assist with traffic control or
- > Having the bus towed to a safe area or the depot before repairs are attempted.



The depot is to be advised prior to this course of action.

8. Clean-Up

Once repairs are completed and the bus is operational, warning cones and other traffic signals are to remain in place until after the repaired bus and the replacement have departed.

Maintenance staff are to ensure that any rubbish and debris created by the breakdown are removed, prior to moving the breakdown signage. Particular attention should be paid to waste regulation requirements for the cleaning of any environmental hazards such as coolant, diesel and oil spills.

Once the area is clear, warning signs, triangles and safety cones are to be removed and stored, with the repair vehicle to wait for a break in the traffic before leaving the site.

Appendix F includes some **further resources** that bus operators may access for information related to this topic.





➤ **Appendices**

Appendix A: Sample Risk Assessment – Bus Breakdown

HAZARD	LIKELIHOOD	SEVERITY	RISK RATING	RECOMMENDED CONTROLS	RISK RATING AFTER CONTROLS
VEHICLE/ PASSENGER COLLISION FOLLOWING BUS BREAKDOWN	Likely	Death or permanent disability	1	<p>All bus drivers and maintenance staff trained in breakdown procedures based on the BIC/BAN Bus Breakdown Guide.</p> <p>Buses and repair vehicles carry breakdown and safety equipment including hi vis vests, warning triangles, traffic signs and suitable communication devices.</p> <p>Drivers instructed to pull over at location with good visibility of bus for the safety of other traffic.</p> <p>Drivers instructed to put hazard lights on and advise depot of any site hazards.</p> <p>Driver instructed to place warning triangles as per the guidelines to warn traffic.</p> <p>Drivers instructed to keep passengers on board the bus unless clear risk e.g., smoke or fire.</p> <p>Replacement bus to park in front of broken-down bus where possible.</p> <p>Bus driver and replacement driver to assist and account for all passengers to safely evacuate and board replacement bus.</p> <p>Replacement bus to wait for break in traffic before departing.</p>	6

Risk Rating:

1-2: High Risk (Action now) | 3-4: Moderate Risk (Action soon) | 5-6: Low Risk (Action when practicable)

Appendix B: Bus Operator Breakdown Communications Checklist

ITEM CHECKED (PLEASE TICK)	YES	NO	DETAILS
CONFIRM DRIVER AND BUS REGO			
CONFIRM EXACT LOCATION			
SINGLE OR DUAL LANES			
CONFIRM SPEED LIMIT AT LOCATION			
CONFIRM PASSENGER NUMBERS			
ARE THERE ANY INJURIES			
ARE THERE ANY ENVIRONMENTAL ISSUES			
ARE EMERGENCY SERVICES REQUIRED			
IS FURTHER ASSISTANCE REQUIRED FOR TRAFFIC MANAGEMENT			
RECORD TIME REPLACEMENT BUS SENT			
CONTACT DETAILS FOR ANY MARSHALS APPOINTED			
ANY PASSENGER SPECIAL NEEDS			
CONFIRM PASSENGER LOCATION AND TRANSFER POINT			
ARE FURTHER TRIPS / SERVICES AFFECTED			
DO SCHOOLS OR OTHER THIRD PARTIES NEED TO BE NOTIFIED			
REPORTING REQUIREMENTS COMPLETED			
BUS BREAKDOWN COMPLETED			

Appendix C: Bus Driver Pre-Departure Checklist

Most companies require drivers to conduct a visual pre-departure check of the vehicle prior to each shift. The checklist below provides a sample of the basic items that most operators would require drivers to check combined with other items for operators to consider adding to the vehicle to assist in the event of breakdown.

ITEM CHECKED (PLEASE TICK)	YES	NO	COMMENTS
EMERGENCY BREAKDOWN CONTACT NUMBERS ARE SUPPLIED TO DRIVER OR LOCATED WITHIN THE VEHICLE			
WHEEL NUTS SECURE (VISUAL CHECK)			
CHECK ALL TYRES INFLATED AND NO SIGNIFICANT TREAD OR WALL DAMAGE TO TYRES			
NO BODY DAMAGE			
CHECK FOR ANY OBVIOUS LEAKS AND START BUS (CHECK ALL WARNING LIGHTS AND GAUGES)			
INDICATORS WORKING			
HAZARD LIGHTS WORKING			
TWO WAY RADIO WORKING			
MIRRORS UNDAMAGED AND IN POSITION			
CHECK GAUGES			
HI-VISIBILITY VEST ON BOARD			
SAFETY TRIANGLES ON BOARD (IF APPLICABLE)			
MOBILE PHONE CARRIED (EMERGENCIES ONLY)			
WIG WAGS WORKING (IF APPLICABLE)			
TICKET MACHINE WORKING (IF APPLICABLE)			
AIR BAGS ARE UP BEFORE MOVING BUS (IF APPLICABLE)			
GPS TRACKING WORKING (IF APPLICABLE)			

Appendix D: Bus Driver Breakdown Checklist

WHERE BUS IS STOPPED		YES	NO	COMMENTS
AWAY FROM INTERSECTIONS, BENDS OR CORNER				
ON HARD ROAD OR SHOULDER SURFACE				
ON FLAT ROAD OR SHOULDER				
GOOD LINE OF SIGHT FOR ONCOMING TRAFFIC				
SUFFICIENT SPACE FOR BUS AND WORKSHOP VEHICLE				
CLEARANCE FROM OTHER TRAFFIC (3M IS IDEAL)				
SECURING THE BUS		YES	NO	COMMENTS
BUS GEAR IN PARK OR NEUTRAL				
PARKING BRAKE APPLIED				
ENGINE TURNED OFF AND KEYS REMOVED FROM BUS				
HAZARD LIGHTS ON				
PASSENGERS ADVISED TO REMAIN ON BUS (UNLESS DANGER)				
HI-VIS VEST WORN				
DEPOT COMMUNICATION		YES	NO	COMMENTS
PROBLEM WITH BUS (IF KNOWN)				
LOCATION OF BUS				
SPEED LIMIT OF ROAD				
SINGLE LANE OR DUAL CARRIAGEWAY				
NO. OF PASSENGERS ON BOARD AND ANY SPECIAL NEEDS?				
PLACEMENT OF WARNING TRIANGLES				
ROADWAY SEPARATED BY FIXED MEDIAN		ROADWAY NOT SEPARATED BY FIXED MEDIAN		
Under 80km/h	80km/h or Over	Under 80km/h	80km/h or Over	
Beside bus	Beside bus	Beside bus	Beside bus	
100m behind bus	200m behind bus	100m behind bus	200m behind bus	
50m behind bus	100m behind bus	100m in front of bus	200m in front of bus	
EVACUATION OF PASSENGERS (ONLY WHERE NECESSARY)		YES	NO	COMMENTS
INSTRUCTED TO EVACUATE IN ORDERLY MANNER				
MARSHALLS APPOINTED FOR VULNERABLE PASSENGERS				
ESCORTED TO SAFE PLACE AWAY FROM BUS/TRAFFIC				

Appendix E: Maintenance Staff Breakdown Checklist

BEFORE LEAVING DEPOT	YES		NO		COMMENTS			
IS THE WORKSHOP BREAKDOWN VEHICLE EQUIPPED WITH THE CORRECT SAFETY DEVICES E.G. TRIANGLES, CONES, SAFETY SIGNS AND SPILL KIT								
ARE THE WARNING LIGHTS WORKING IN THE BREAKDOWN VEHICLE?								
IS THE TWO-WAY RADIO WORKING?								
DO YOU HAVE A CHARGED MOBILE PHONE AND EMERGENCY CONTACT NUMBERS WITH YOU?								
DO YOU HAVE THE CORRECT PPE WITH YOU E.G. HI VIS VEST AND SAFETY GLASSES								
ARE YOU AWARE OF THE LOCATION/SITUATION OF THE VEHICLE I.E. SPEED LIMIT, DIRECTION FACING?								
HAVE YOU PLANNED YOUR TRAVEL ROUTE TO THE BREAKDOWN LOCATION?								
AT THE BREAKDOWN LOCATION	YES		NO		COMMENTS			
DID YOU UNDERTAKE A SAFETY "DRIVE BY" PRIOR TO STOPPING?								
WHAT IS THE SPEED LIMIT OF THE ROAD YOU ARE WORKING ON? (PLEASE CIRCLE)	40	50	60	70	80	90	100	110
WHERE IS THE SERVICE VEHICLE POSITIONED IN RELATION TO THE BROKEN-DOWN VEHICLE? (PLEASE CIRCLE)	Rear			Front				
IS THE SERVICE VEHICLE PARKED AT A 45-DEGREE ANGLE TO THE ROAD?								
HAS BUS DRIVER APPLIED PARK BRAKE, SELECTED PARK OR NEUTRAL AND SHUT DOWN ENGINE?								
HAVE YOU RECEIVED THE KEYS FROM BUS DRIVER?								
HAVE THE WARNING TRIANGLES, WARNING CONES AND HAZARD SIGNS BEEN PLACED CORRECTLY?								
IS TRAFFIC ASSISTANCE REQUIRED TO ENSURE A SAFE WORKPLACE?								
IS A TOW TRUCK OR FLOAT REQUIRED?								
HAVE YOU CREATED A SAFE WORK ZONE I.E. 3 METRES FROM PASSING TRAFFIC AND 10 METRES BUFFER ZONE FROM BUS								
AFTER THE BREAKDOWN	YES		NO		COMMENTS			
ARE THERE ANY ENVIRONMENTAL HAZARDS TO REMEDIATE?								
IS THE BREAKDOWN LOCATION FREE OF RUBBISH AND DEBRIS?								
DID YOU COMMUNICATE WITH THE DEPOT THAT THE VEHICLE REPAIR WAS COMPLETED?								

Appendix F: Further Resources

Listed below are some additional resources that bus operators may access for information related to this topic.

Bus Industry Confederation

- > *Operator Guidelines: Incident Management Guide*, June 2012

- > *Bus Incident Pocket Guide: Immediate Actions for Managing Incidents*, June 2012

- > *Industry Advisory: Fire Mitigation Advisory*, September 2014

- > *Bus Fire Evacuation Protocol Advisory*, March 2019

Bus Industry Confederation guides and advisory documents can be downloaded at:
www.movingpeople.com.au

Transport for NSW and BusNSW

- > *Bus Operator Guide: Managing Critical Incidents*, November 2020

- > *Bus Driver's Pocket Guide: Managing Critical Incidents*, November 2020

Transport for NSW and BusNSW guides can be downloaded at: **www.busnsw.com.au**



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