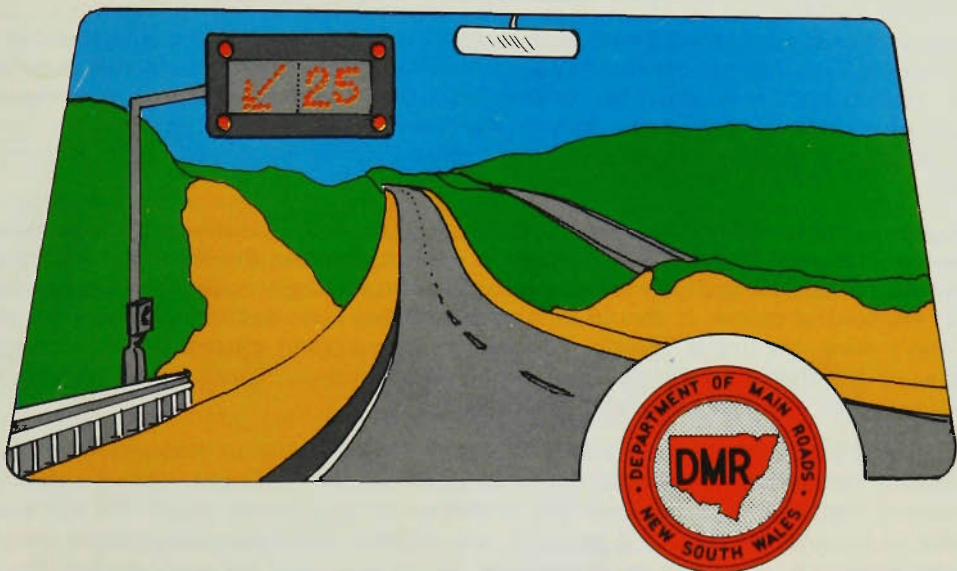
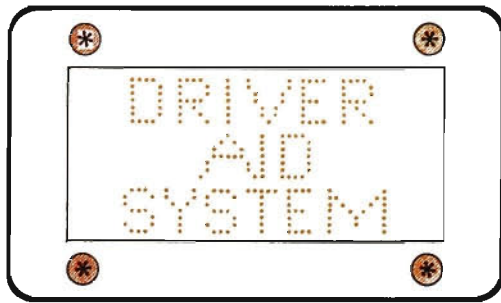


An introduction to the...

DRIVER AID SYSTEM



installed on the
**Waterfall — Bulli Pass
Tollwork**



HOW IT OPERATES

An electronic *driver aid system* has been installed on the 22.9 km length of the Waterfall – Bulli Pass Tollwork.

During fog or when traffic lanes on the Tollwork are blocked or closed for any reason, advisory speeds and other directions to drivers are displayed on roadside signs. These signs are activated by a traffic supervisor who directs the operations of the system from a computerised control centre at Waterfall.

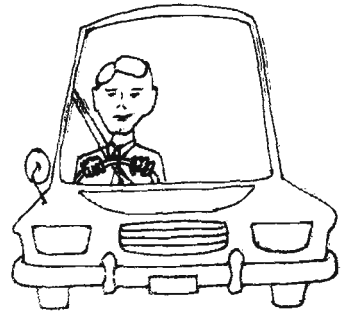
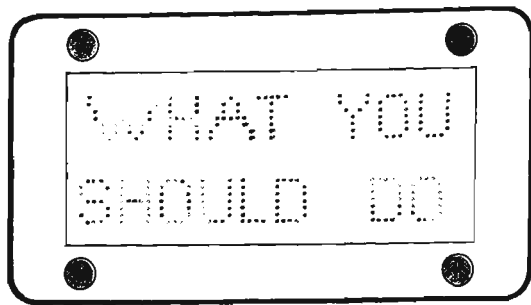
Along the southern half of the Tollwork, fogs are likely to be encountered on about 31 days of every year. Consequently, if it is acted upon correctly, this *driver aid system* will add considerably to the safety and convenience of motorists travelling between Sydney and Wollongong.

A small weather station has recently been established by the Department at the top of Bulli Pass to continually measure humidity, wind direction and wind speed. When a combination of these three factors indicates a likelihood of fog developing, equipment at the weather station automatically relays a warning to the control centre. At present, radio-equipped patrol vehicles on the Tollwork are then called on to give regular reports of existing conditions. Later, fog detectors along the Tollwork will automatically switch on an alarm in the control centre as soon as fog occurs.

When fog or other weather conditions reduce visibility, the traffic supervisor transmits appropriate messages to the roadside signs, by means of a central computer and a number of field stations. Automatic electronic switching apparatus at the back of the signs allows certain words, numbers and symbols to be displayed. The signs advise drivers to reduce speed, change lanes or stop, where necessary, and typical messages are shown on the inside pages of this leaflet.

There are 36 signs spaced approximately 1.6 km apart along the whole length of the Tollwork. All the signs (which measure 2 metres wide by 1 metre high) are cantilevered out above the left-hand shoulder of each carriageway (as shown on the front cover illustration). Each sign gives directions to motorists in both lanes. To attract drivers' attention, amber lights at each corner of the signs flash whenever a message is displayed. Red flashing lights and a red STOP sign are shown if conditions become too hazardous for travel. The brightness of the messages displayed can be varied in intensity depending on the time and conditions. They are clearly legible from a distance of 200 metres in clear weather, day or night, while the flashing lights give advance warning at 500 metres.

When operating the system the traffic supervisor chooses the advisory speed or other directions most appropriate to the circumstances. The computer then transmits a pre-determined series of directions to the roadside signs. Special sequences have been developed so that the speeds displayed on consecutive signs approaching the fog-affected area or accident zone give motorists adequate time to slow down gradually. This helps to avoid accidents which could occur if the desired direction (such as "STOP") was displayed immediately, without prior warning, and drivers braked suddenly.



WHEN YOU ARE INVOLVED IN AN ACCIDENT OR BREAKDOWN ON THE TOLLWORK

As well as giving guidance during fog, the *driver aid system* is, of course, of vital importance in warning drivers when any lane of the Tollwork ahead is blocked. This could be due to a collision or breakdown or spilt load, or because road maintenance is being carried out. In such cases, the traffic supervisor can display advisory speeds, lane closed signs, change lane signs, slow signs or stop signs, depending on the circumstances.

If *your* vehicle has broken down or been involved in an accident, you should endeavour, as soon as possible to move it off the "through" lanes onto the road shoulders (appropriately called "breakdown" lanes) provided on both sides of the carriageway. It is also **important**, for your own safety as well as for the safety of other travellers, that you ring the control centre as soon as possible, especially if your vehicle cannot be moved and is blocking the roadway.

Emergency roadside telephones can be found along the left-hand side of each carriageway, in blue painted boxes, usually attached to the poles supporting the *driver aid system* signs. Simply lift the receiver and you will be connected automatically to the traffic supervisor on duty at the control centre. It should be noted that there is no dial tone on these telephones – so don't think the line is "dead". You will hear a recorded message if other emergency calls prevent the traffic supervisor answering you straight away. Please remember to hang up the receiver when you have completed your call.

On receiving your message, the traffic supervisor will be able to pinpoint your position immediately on a large electronic mimic diagram of the Tollwork. He can then warn approaching motorists to slow down and to change lanes when necessary. He can also call in police or ambulance services, if required, and direct a radio-controlled service vehicle to give you assistance. This service is provided 24 hours a day on every day of the year.

WHEN YOU ARE DRIVING ALONG THE TOLLWORK

At all times and particularly in fog, watch out on your *left*, not on your *right*, for messages displayed on the signs erected along the Tollwork. Having seen one and followed its directions, keep an alert eye open for any vehicles stopped ahead of you. Also watch out for the next sign at approximately 1.6 km further on. The messages displayed will change and become even more important as you approach the area of fog or the location of the breakdown or accident, etc. It should be noted that the signs apply to drivers travelling in both traffic lanes; there are *not* separate signs for each lane.

The illustrations opposite show typical words, symbols and numbers which can be displayed on the signs. Adjacent to each one is an explanation of the message which the sign is intended to convey and what you are expected to do. In all cases, the numbers relate to advisory speeds in kilometres (*not* miles) an hour.

-
- FOG AHEAD
 - SLOW DOWN TO THE SPEED INDICATED
(in this case, it's 25 km/h)
 - DO NOT STOP, UNLESS VEHICLES AHEAD OF YOU HAVE STOPPED
 - WATCH FOR NEXT SIGN

If you have not already done so, switch on your vehicle's head lights (low beam) and tail lights so that it can be seen clearly by other drivers, especially those following.



-
- HAZARD AHEAD
 - SLOW DOWN
 - WATCH FOR NEXT SIGN

When electronic devices along the Tollwork warn that too many vehicles are exceeding the advisory speeds already displayed, this SLOW sign is usually brought into use to try to reduce the speed of approaching traffic. It should therefore be regarded as a serious warning and not treated lightly.



-
- ROADWAY AHEAD IS BLOCKED
 - BOTH LANES ARE CLOSED
 - YOU MUST STOP

If possible, pull over onto the road shoulder (i.e., "breakdown" lane) nearest to you. Keep your lights on and face the sign. Await further directions. Do not overtake vehicles already parked on the road shoulders. This sign will always be preceded some distance back by signs warning you to reduce speed.




-
- ROADWAY IS NOW CLEAR AHEAD
 - YOU MAY RESUME YOUR NORMAL SPEED UP TO THE LIMIT APPLICABLE ON THE TOLLWORK (I.E., 110 KM/H)

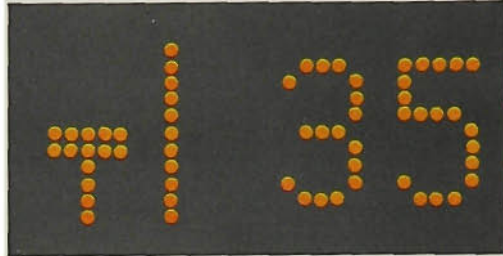
Please do not increase your travelling speed or move off from a stopped position until this sign indicates that it is safe to do so.




- THE LEFT-HAND LANE AHEAD IS CLOSED
- THE RIGHT-HAND LANE AHEAD IS OPEN
- SLOW DOWN TO THE SPEED INDICATED
- YOU MAY PROCEED IN EITHER LANE AT THIS STAGE UNLESS VEHICLES AHEAD OF YOU HAVE STOPPED

Watch for traffic merging from left lane into right lane. Watch for next sign which will probably display the "change lane" legend shown below.

A similar legend  is displayed when the right-hand lane ahead is closed and the left-hand lane is open.



- THE LEFT-HAND LANE AHEAD IS CLOSED
- THE RIGHT-HAND LANE AHEAD IS OPEN
- SLOW DOWN TO THE SPEED INDICATED
- MOVE CAREFULLY INTO THE RIGHT-HAND LANE
- IF YOU ARE ALREADY IN IT, WATCH FOR MERGING TRAFFIC

A similar legend  is displayed when the right-hand lane ahead is closed and you are required to move into the left-hand lane.



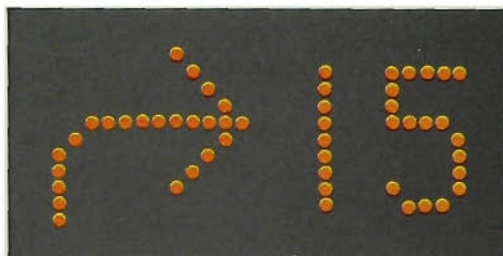
- ROADWAY AHEAD IS BLOCKED
- BOTH LANES ARE CLOSED
- SLOW DOWN TO THE SPEED INDICATED
- DO NOT STOP, UNLESS VEHICLES AHEAD OF YOU HAVE STOPPED

Watch for the next sign (which will probably display the STOP sign, shown opposite, or the message shown below).

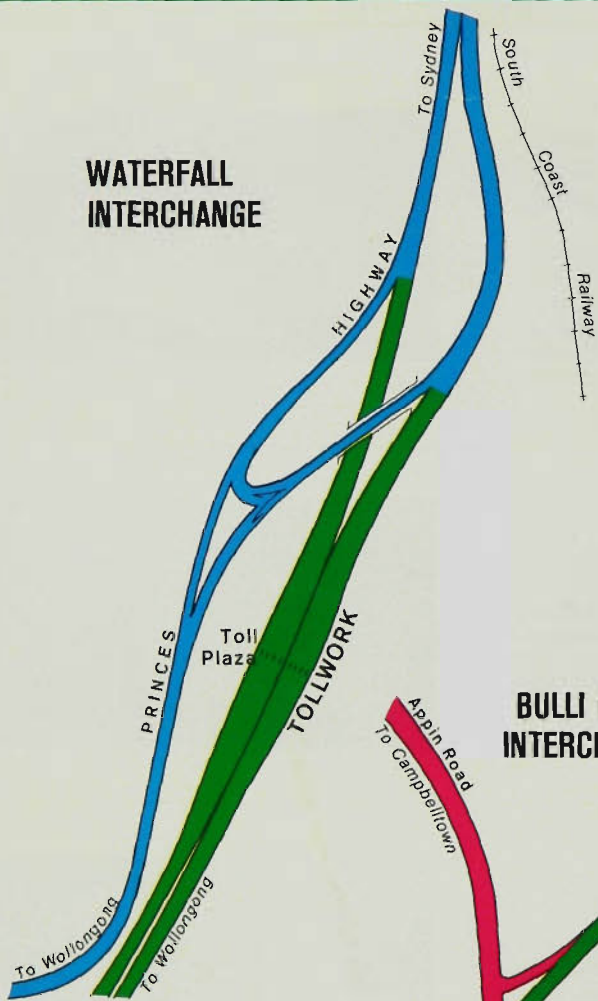


- ROADWAY AHEAD IS BLOCKED
- BOTH LANES ARE CLOSED
- PREPARE TO CROSS THE MEDIAN TO THE OPPOSITE CARRIAGEWAY, WHEN DIRECTED BY POLICE OR OTHER TRAFFIC OFFICIALS

Do not cross the median, and do not enter any traffic lane usually used by vehicles moving in the opposite direction, unless traffic in it has been stopped and you have been clearly directed to do so by police.



WATERFALL INTERCHANGE



BULLI PASS INTERCHANGE

