CHAPTER 4. ROAD SAFETY

4.1 INTRODUCTION

High volumes of traffic travel at speed on national roads. Working on or close to the road surface can be very dangerous. Routine maintenance staff need to develop a safety culture or attitude and training courses to this end should be provided to all workers on the road. Staff should be made aware of the following:

- Always be aware of potentially dangerous situations
- Always wear a safety jacket when working in the road reserve
- Do not step onto the travelled surface without first checking for oncoming traffic
- When not in a delineated work area always face oncoming traffic and watch traffic movements.
- When driving on the road do not make sudden stops
- When stopping, park off the road surface
- All maintenance vehicles should be equipped with yellow flashing lights and "Maintenance Vehicle" signs
- Making a U turn on the road is dangerous and increases the risk of an accident
- Remove all loose or foreign objects such as tools, material, broken exhausts, rubber from burst tyres and signs not in use from the road surface
- Maintain appropriate temporary signage - when not required remove or cover signs
- Do not hold discussions on the carriageway or shoulder - inspect the problem area and move to a safe place in the road reserve for any discussions
- Do not work simultaneously on both sides of the road at one location
- Clear accident scenes as soon as possible

Traffic accommodation is vital to the safety of both the contractor's staff and the travelling public. The SABITA Bituminous Pavement Repairs Manual (Appendix D) given as a reference in the Introduction covers the subject well, and on page 6 of Task One gives a clear summary of actions needed.

Special attention should be given to training the Stop/Go board operators and the flagmen. The same people should as far as possible be used for this task throughout the contract, in accordance with clause M0502(b) in the Standard Specifications for Routine Road Maintenance. The Traffic Safety Officer (TSO) appointed by the Contractor at the start of the contract must be trained very well to ensure that this aspect is well managed. The Route Manager, Contractor and TSO should hold a safety meeting once a fortnight and should check traffic accommodation regularly. Incorrect setups or poor procedures should...
be changed immediately.

Traffic accommodation must always meet the appropriate requirements of Chapter 13 Volume 2 of the South African Road Traffic Signs Manual (SARTSM). Typical traffic accommodation layouts based on Chapter 13 for temporary day-to-day partial closures are presented in Appendix B and on SANRAL’s standard drawings.

For each traffic accommodation set up, a plan of the traffic accommodation measures must be produced and the TSO must inspect and sign off this plan every day before the accommodation measures are opened to traffic. Regular inspections must be made by the TSO and Route Manager to ensure the measures that are in place are working correctly.

On freeways, where traffic is reduced from two lanes to one, the reduction should be effected over a taper distance of sufficient length for the prevailing conditions to keep traffic moving even at a slow pace. In certain extreme conditions a reduction can be made from three lanes to two and then one. The reduction should be made over an extended distance and if at all possible only for periods when traffic flows are very low, so that congestion as a result is limited. When work is stopped for the night or over a weekend all signs other than essential warning signs like loose gravel, potholes and speed restriction signs should be removed from the road. Signs such as "Stop ahead" or speed restriction signs on an open road where no reason is evident cause the travelling public to lose faith in the messages given. As a result the travelling public will disregard them, which could be fatal in a real situation.
Regular liaison with the local and provincial traffic police is strongly advised. Traffic accommodation measures should be referred to the traffic police for their comment. Traffic officers can assist by advising on standardised hand signals and operating procedures for flagmen and Stop/Go operators. Particularly where more major work or disruption is about to take place on a portion of the road the local commanding officer should be informed before work starts.

The public must be warned of potential traffic disruption and the periods when this will occur. This can be done through information provided to the press, radio and television, the details of which must be agreed with SANRAL beforehand and through variable message signage. This will allow road users to plan their travel routes accordingly.

Where traffic accidents occur which are related to routine maintenance operations the Route Manager should prepare a report which covers details such as
- location
- date and time
- persons
- vehicles involved
- road condition
- weather
- signage

Photographs of the road condition and signage must be taken as they can provide vital evidence in the event of subsequent legal action which often only takes place months or years later. The procedures for Incident Management System (IMS) should be used and the records of the incident filed in the Site Management System.

Timing of work on the road surface is important and should be programmed to avoid peak periods such as
- morning and afternoon peak periods
- public holidays like Easter weekend
- important events such as international sports events, the Comrades and the Argus Pick ‘n Pay Cycle Tour.

This may mean working over weekends or at night on heavily trafficked routes.

Correct management of traffic and the safety of the public and the routine maintenance staff is an extremely important part of the contract. Everyone concerned must adopt a safety-conscious attitude and any poor performance in this area must be dealt with immediately.
4.2 SIGNS AND ROAD MARKINGS

Traffic signs and road markings play a significant part in overall road safety. Each element of the signage has been thought out carefully for the benefit of the public. Lack of appropriate signage can make travel hazardous, particularly at night and in inclement weather conditions.

An inventory should be kept of all new signs and road markings on the contract, recording when they were placed. A formal inspection should be made at least once a year to assess their condition both in the day and at night and also during wet conditions. Typically road sign life could be 7 to 8 years whereas road markings could have a life of 2 to 4 years depending on traffic and climate. Damaged or broken signs should be repaired or replaced as soon as possible, particularly regulatory and warning signs. The lines of sight to signs must also be checked and obstructions such as branches or vegetation encroachment removed. Particular attention must be paid to signage at intersections and critical areas such as blind rises.

The appearance of signs can be much improved by washing them down with water and detergent and repairing bullet holes and other minor marks with self-adhesive reflective tape.

Where periodic maintenance (i.e. reseal or rehabilitation) is programmed in the short to medium term but the road markings require attention, painting of the centreline only should be discussed with SANRAL.

The Route Manager should assess the signage and road marking to check whether certain areas or situations warrant additional measures (for example at recurring accident positions and at or near intersections). Barrier line lengths and positions should also be checked. On roads where there are no road studs these could be placed on a limited basis at sharp curves and blind rises. Strict quality control should be exercised over road marking operations.
4.3 HAZARDOUS LOCATIONS

Particular attention must be given to road safety at hazardous locations. Such locations should be identified during site inspections and in the evaluation of Incident Management System (IMS) information. Hazardous locations are often associated with -

- informal settlements abutting the road reserve where fences are broken or absent, access is not controlled and pedestrians walk within the reserve or cross the road along desire lines;
- schools situated close to the road reserve where learners cross the road or use the road to cycle or catch public transport;
- a peri-urban or smallholdings landuse environment with frequent direct access to the reserve. Farming equipment and vehicles (tractors, trailers, harvesters) accessing and travelling slowly along the road can be extremely hazardous.
- cattle crossings
- areas experiencing mist and fog conditions frequently

Where hazardous locations are present, the Site Management Team must seek solutions to reduce or limit the hazards present. The Route Manager must be involved in discussions with local communities for this purpose.