SKILLS TRANSFER TRAINING PROGRAMME

FLAGGER TRAINING IN COMPLIANCE WITH LEGISLATION

Presented by

André Fabricius *Pr Tech*

AnFab Consult (Pty)Ltd

Sign Design, Training & Verification

Copyright Reserved

TABLE OF CONTENTS

Traffic Safety and **YOU**

Module 1 : Flagger Roles and Responsibilities

Module 2 : The Riask to Road Safety at Construction zones

Module 3 : Flagger Roles and Resposibilities

Module 4 : Flagging Procedures in Compliance with Legislation

Module 5 : Flagger Training

Module 6 : Personal Protective Equipment

Copyright Reserved

TABLE OF CONTENTS

Traffic Safety and **YOU**

Module 7 : Distinctive Clothing

Module 8 : Advance Warning Area Signage

Module 9 : Transition Area Signage

Module 10 : Buffer Zone

Module 11 : Construction Zone Activity Area

Module 12 : Flag Specifications

Copyright Reserved

TABLE OF CONTENTS

Traffic Safety and **YOU**

Module 13 : Flagger Safe Position at the Transition Area

Module 14 : Flagger Personal Protective Equipment

Module 3 : Advance Warning Area and Signage

Module 4 : Transition Area and Signage

Module 5 : Flag Specifications and Flag Techniques

Module 6 : Flagger Position on the Road Reserve

Copyright Reserved

INTRODUCTION

All appropriate road signs should be in position at the pre-warning area prior to the commencement of the roadworks control zone

Copyright Reserved

Copyright Reserved

Copyright Reserved

COURSE OBJECTIVES

- ✓ to train the flag person the correct procedures to warn, slow down, stop traffic and traffic to proceed
- ✓ to provide the flagman the skills to determine a safe location on site with adequate lateral buffer zone
- ✓ to provide the flag person with the knowledge to determine realistic vehicle queue lengths at STOP/GO control flagman stations
- ✓ to provide the flagman with the knowledge to determine the flagman position prior to the last vehicle in the queue length at the STOP/GO control flagman station

Copyright Reserved

COURSE OBJECTIVES

- ✓ to establish a standard pattern of the traffic control devices prior to the flagman stations and flag man locations
- ✓ to generate a high level of driver respect for the flag person
- ✓ to keep the roadway capacity at the flagman stations and traffic flow at the highest possible levels
- ✓ to keep the roadwork related accidents levels at a minimum
- ✓ to provide the driver of the vehicle with a clear simple standard flag procedure and easy to understand and reaction time

Copyright Reserved

THE RISK TO ROAD SAFETY AT CONSTRUCTION ZONES

Road construction zones present a deadly hazard for workers, motorists, and pedestrians. This hazard is brought about by high speed limits, impatient drivers, and widespread traffic congestion.

To this we can add heat, driving stress, and long stretches of highway under construction - creating a recipe for extreme driving hazards for motorists and road workers alike.

The construction zones are also called “Cone Zones” - those portions of the highways marked by cones, barrels, and signs where road construction is taking place.

Copyright Reserved

THE RISK TO ROAD SAFETY AT CONSTRUCTION ZONES

Some work zones might have a speed-monitoring device to alert motorists of their speed prior to entering the work zone.

Even though they are marked and signposted as areas where motorists must slow down and drive with extra caution, many drivers speed up to get through the construction area as quickly as possible.

Construction or maintenance zones will have roadway signs in advance to warn motorists that road work is being done.

Active work zones are designated as such to notify motorists when they enter and leave the work zone.

Copyright Reserved

THE RISK TO ROAD SAFETY AT CONSTRUCTION ZONES

The main causes of deaths and injuries at construction zones are:

Speeding traffic - the number one cause of death and injury in highway construction work zones.

Inadequate sign posting and lighting and drivers failing to notice road workers.

Drivers do not pay attention to work zone signs or flaggers indicating they should slow down or come to a stop

Copyright Reserved

THE RISK TO ROAD SAFETY AT CONSTRUCTION ZONES

Drivers are distracted by cellular phone calls, conversations, and activities at roadside and are not merging properly.

Drivers are driving right up to the last second and then try to force themselves in - if the other driver doesn't let them get in, they enter the work zones and endanger the lives of workers.

Copyright Reserved

THE RISK TO ROAD SAFETY AT CONSTRUCTION ZONES

National awareness campaigns are one way to convey the message that out on road, orange-clad workers and orange cones mean "slow down". Experts say that an elementary grasp of colour-coded signs is crucial. Drivers should also be encouraged to follow the rules of the road through construction zones across the country.

Traffic enforcement is another way to improve safety. Many states in the US have greatly increased penalties for speeding through work zones. Tough new measures are implemented to encourage drivers to slow down and avoid the potentially deadly consequences of reckless driving through work zones.

Copyright Reserved

THE RISK TO ROAD SAFETY AT CONSTRUCTION ZONES

Road construction zones present a deadly hazard for workers, motorists, and pedestrians. This hazard is brought about by high speed limits, impatient drivers, and widespread traffic congestion.

To this we can add heat, driving stress, and long stretches of highway under construction - creating a recipe for extreme driving hazards for motorists and road workers alike.

The construction zones are also called “Cone Zones” - those portions of the highways marked by cones, barrels, and signs where road construction is taking place.

Copyright Reserved

FLAGGER ROLES AND RESPOSIBILITIES

Flaggers are the people on construction sites who control traffic. They are the men and women along roads and highways who help traffic keep flowing through a construction zone, despite a shutdown of lanes. Flaggers often work in teams, with each person controlling the flow of traffic in a certain direction.

Flaggers need to stand on their feet for long periods of time and understand how to control traffic to the best of their ability.

Copyright Reserved

FLAGGER ROLES AND RESPOSIBILITIES

Flaggers may put out traffic cones and use signs and hand signals to communicate with motorists. Flaggers need to be confident enough to stand in front of cars, sometimes in blazing heat, sometimes in the middle of the night, to make sure that traffic is no more snarled than it has to be. And if motorists do not obey the signs, flaggers may record license plates to report to the police.

Copyright Reserved

FLAGGING PROCEDURES IN COMPLIANCE WITH LEGISLATION

Flagging procedures are prescribed in the National Road Traffic Act and must be standardised so that the travelling public throughout South Africa can expect to be given the same signals by flaggers controlling traffic.

Copyright Reserved

FLAGGING PROCEDURES IN COMPLIANCE WITH LEGISLATION

The purpose of flagging procedures and STOP/GO control is to regulate and control traffic flow, and to warn drivers of a potential danger ahead, Regulation and control by flaggers will normally be under taken to allow access by construction vehicles or to operate one-way traffic flow.

Such interruptions in an already restricted traffic flow should be kept to a minimum. Drivers will become irritated by delays in excess of two minutes. Irate, impatient drivers

Copyright Reserved

FLAGGING PROCEDURES IN COMPLIANCE WITH LEGISLATION

Such interruptions in an already restricted traffic flow should be kept to a minimum. Drivers will become irritated by delays in excess of two minutes. Irate, impatient drivers will be inclined to disobey traffic control measures and speed limits at roadworks, to the risk of site staff and themselves. Flagging procedures can be very effective in drawing attention to hazardous features of a roadworks site because of the flag movement involved.

Copyright Reserved

TYPICAL STOP/GO LAYOUT

Copyright Reserved

FLAGGER TRAINING

Careful Selection for Training

- ✓ Flagger – Good Eyesight and Hearing
- ✓ Mentally Alert
- ✓ Only talk on cell phone in case of emergency
- ✓ No earphones
- ✓ Do not stand in the line of the traffic

Copyright Reserved

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Safety shoes

Orange Distinctive High Visibility Clothing

Fluorescent Coloured Helmut

Safety Goggles

Copyright Reserved

DISTINCTIVE CLOTING

Level 1 Clothing - Minimum requirement.

Clothing is appropriate for **daytime use** only – the possible need to supplement the above articles of clothing with fluorescent harnesses or vests must be considered – if a work function is likely to be carry over into darkness then the work unit must carry adequate supplies of removable retro-reflective vests or harnesses. Distinctive clothing should be worn by flaggers on duty that public will recognise them and respect indications given by them. They should be issued with fluorescent-coloured helmets and safety jackets. Bright fluorescent red-orange, orange or yellow material. Fluorescent/retro-reflective harness to be used over overalls during poor visibility and night conditions.

Copyright Reserved

DISTINCTIVE CLOTING

WAISTCOAT (or PULLOVER)

<u>Level 2 Clothing</u> <u>- Night or reduced visibility</u>

Bright fluorescent red-orange, or yellow material with fixed retro-reflective tape. Clothing is appropriate for use at night (or at other times of reduced visibility) at roadworks sites where vehicle **speed are under 50km/h** – level 2 clothing should incorporate a visible minimum of 0,50m² of background material 0,13m²of Class 3 retro-reflective material – the retro-reflective materials should be in bands of not less than 50mm width – for larger sizes of clothing to comfort to these requirements the retro-reflective material banns will need to exceed 50mm(i.e. for a 107 mm chest the bands will need to be 62mm wide).

Copyright Reserved

DISTINCTIVE CLOTING

Jackets

Overalls

Bib & Brace Overalls

<u>Level 3 Clothing</u> <u>- Night or reduced visibility</u>

Bright fluorescent red-orange, or yellow material with fixed retro-reflective tape. Clothing is appropriate for use at night (or at other times of reduced visibility) at roadworks sites where vehicle **speeds are over 50km/h** – level 3 clothing should incorporate a visible minimum of 0,80m² of background material 0,13m²of Class 3 retro-reflective material – the retro-reflective materials should be in bands of not less than 50mm width – for larger sizes of clothing to comfort to these requirements the retro-reflective material banns will need to exceed 50mm(i.e. for a 107 mm chest the bands will need to be 62mm wide).

Copyright Reserved

GENERAL FLAG PROCEDURES: FLAG WARNING – SLOW MOVING VEHICLES

Walk 300 paces in front of moving vehicle while raising and lowering flag continuously from side of leg to shoulder height. - At sharp curves or when visibility of vehicles is reduced stand still, facing and visible to oncoming traffic, and continue to raise and lower flag to warn traffic – use flag in arm nearest to

Copyright Reserved

ADVANCE WARNING AREA SIGNAGE

Step 1 - Roadworks Ahead

1200mm Urban

1500mm Rural

Daytime
Slow Speed

1200 x 2000 Freeway

Night Time High Speed

Copyright Reserved

ADVANCE WARNING AREA SIGNAGE

Step 2 - Speed Limit Reduction – Increments of 20km/h

Urban Rural Freeway

Copyright Reserved

ADVANCE WARNING AREA

Step 3 – Information for Driver

Flag Control.
Less than 200
vehicles per hour,
See 100m flag to flag

Max speed
40km/h

R1.5A & R1.5B
STOP/GO. **Over 200 vehicles per hour** – more than 100m apart -two way radio

Copyright Reserved

TRANSITION AREA

Step 3 – Flagger Control

Flag Control.
Less than 200 vehicles per day,
See 100m flag to flag

Daytime ONLY

R1.5A & R1.5B STOP/GO. **Over 200 vehicles per day** – more than 100m apart -two way radio

Copyright Reserved

TRANSITION AREA

Night time One Way Traffic Control

Traffic Signals

Copyright Reserved

FLAG SPECIFICATIONS

Copyright Reserved

GENERAL FLAG PROCEDURES: TRANSITION AREA

TO STOP TRAFFIC

1 Stand facing traffic looking directly at the driver

2 Flag in left hand

3 Move flag up and down from side of leg to shoulder until vehicle is 100 paces away

4 Looking at driver directly

5 Hold flag at shoulder height with outstretched arm

6 Raise right hand with palm to face traffic –

Flagger Control.

Less than 200 vehicles per day and be able to see other flagger max 100m apart

Copyright Reserved

FLAGGER POSITION

<u>Warning Traffic - Step 1</u>

Stand facing traffic looking directly at the driver – flag in left hand – move flag up and down from side of leg to shoulder height continuously – for added effect move right arm up and down as well.

Copyright Reserved

FLAGGER POSITION

<u>Warning Traffic – Step 2</u>

Stand facing traffic looking directly at the driver – flag in left hand – move flag up and down from side of leg to shoulder height continuously – for added effect move right arm up and down as well.

Copyright Reserved

FLAGGER POSITION

<u>Warning Traffic – Step 3</u>

Stand facing traffic looking directly at the driver – flag in left hand – move flag up and down from side of leg to shoulder height continuously – for added effect move right arm up and down as well.

Copyright Reserved

FLAGGER POSITION

<u>Warning Traffic – Step 4</u>

Stand facing traffic looking directly at the driver – flag in left hand – move flag up and down from side of leg to shoulder height continuously – for added effect move right arm up and down as well.

Copyright Reserved

FLAGGER POSITION

Control Traffic – Step 5

Flag control or STOP/GO sign control

Copyright Reserved

TRANSITION AREA

Flagger Position for Stopping Vehicles

Buffer Zone

Transition Area, 1:10 Taper Rate

6m

X

Advance Warning Area

60m

40

600m

Temporary Stop line 500mm wide

150mm Wide No Overtaking Line

TW401/402 Delineator Rural and Freeway @ 5mc/c

TD4 Traffic Cone Urban Daytime Only

Copyright Reserved

TRANSITION AREA

Flagger Position for Stopping Vehicles

Buffer Zone

Transition Area, 1:10 Taper Rate

6m

X

Temporary Stop line 500mm wide

Advance Warning Area

60m

40

600m

150mm Wide No Overtaking Line

TW401/402 Delineator Rural and Freeway @ 5mc/c

TD4 Traffic Cone Urban Daytime Only 2 3m c/c

Copyright Reserved

ADVANCE WARNING AREA

Step 3 – Information for Driver

Max speed
40km/h

Flag Control.
Less than 200
vehicles per day,
See 100m flag to flag

R1.5A & R1.5B
STOP/GO. **Over 200 vehicles per day** –
more than 100m
apart -two way radio

Copyright Reserved

GENERAL FLAG PROCEDURES

Warning Traffic

Stand facing traffic looking directly at the driver - Flag in left hand - move flag up and down from side of leg to shoulder height continuously - For added effect move right arm up and down as well.

Copyright Reserved

GENERAL FLAG PROCEDURES

To Stop Traffic

Stand facing traffic looking directly at the driver - Flag in left hand - move flag up and down from side of leg to shoulder until vehicle is 100 paces away - Looking at driver directly - hold flag at shoulder height with outstretched arm - Raise right hand with palm to face traffic - This procedure is for short-term use only.

Copyright Reserved

GENERAL FLAG PROCEDURES

Vehicles To Proceed

Turn right hand side of body towards oncoming traffic - lower flag behind left leg and indicate with horizontal swinging movement of the right arm that vehicles may proceed.

Copyright Reserved

GENERAL FLAG PROCEDURES

To Slow Traffic Down

Stand facing traffic looking directly at the driver - Keep flag at shoulder height with out-stretched arm and raise right hand - palm facing traffic - As soon as traffic has slowed enough turn right hand side of body to oncoming traffic - Lower flag behind left leg and indicate with horizontal swinging movement of the arm that vehicles may proceed.

Copyright Reserved

GENERAL FLAG PROCEDURES

Warning of Slow-Moving Vehicles

Walk 300 paces in front of moving vehicle while raising and lowering flag continuously from side of leg to shoulder height - At sharp curves or when visibility of vehicles is reduced, stand still, facing and visible to oncoming traffic, and continue to raise and lower flag to warn traffic - use flag in arm nearest to road.

Copyright Reserved

STOP/GO PROCEDURES

Warning Traffic

Stand with right hand side of body towards oncoming traffic - hold STOP/GO sign with GO turned to traffic with right hand - Move flag up and down continuously, behind sign, from side of left leg to shoulder height while vehicles are approaching.

Copyright Reserved

STOP/GO PROCEDURES

To Stop Traffic

Stand with right hand side of body towards oncoming traffic - hold STOP/GO sign with the STOP side facing traffic - Move flag up and down continuously from side of left leg to shoulder height, behind sign, until traffic is 100 paces away then keep flag at shoulder height pointing towards road centre.

Copyright Reserved

STOP/GO PROCEDURES

To Stop Traffic

Stand facing traffic looking directly at the driver - Flag in left hand - move flag up and down from side of leg to shoulder until vehicle is 100 paces away - Looking at driver directly - hold flag at shoulder height with outstretched arm - Raise right hand with palm to face traffic - This procedure is for short-term use only.

Copyright Reserved

STOP/GO PROCEDURES

Vehicles To Proceed

Make sure that all vehicles from the other side have passed through and that the flagman at the opposite end has closed the road - Turn STOP/GO sign to GO and lower flag behind left leg behind the sign.

Copyright Reserved

STOP/GO PROCEDURES

Vehicles To Proceed

Make sure that all vehicles from the other side have passed through and that the flagman at the opposite end has closed the road - Turn STOP/GO sign to GO and lower flag behind left leg behind the sign.

Copyright Reserved

STOP/GO PROCEDURES

To Slow Traffic Down

Stand with right hand side of body towards oncoming traffic - hold STOP/GO sign with right hand with STOP facing traffic - Hold flag at shoulder height with left hand pointing towards road centre - When oncoming vehicle has slowed, turn sign to GO and lower flag behind left leg behind sign.

Copyright Reserved

FLAGGER TRAINING AND SAFETY

Copyright Reserved

FLAGGER TRAINING AND SAFETY

Copyright Reserved

FLAGGER TRAINING AND SAFETY

Copyright Reserved

FLAGGER TRAINING AND SAFETY

Copyright Reserved

Transition Area – Taper 1:10 TD4 Traffic Cone Spacing 3m c/c

Flagger Position

Copyright Reserved

Flagger Position

Copyright Reserved

Flagger Positions

Detail 13.37.1 Partial Lane Closure

Copyright Reserved

Flagger Positions

Copyright Reserved

Flagger Positions

Copyright Reserved

Detail 13.18.2 Slip-Over"Cloth" Signs on a Portable Frame.

Copyright Reserved

Flags may be attached to sign frames so that the flag movement and visual impact draws attention to the sign.

Copyright Reserved

CONCLUSION

Many motorists view road construction workers as an inconvenience, but they should rather look at them as a service. Road and maintenance workers are doing their best to minimize motorist inconvenience. No matter how it seems to the motorist, road workers **and flaggers** are striving to improve traffic safety conditions, and it is up to the driver to be alert, aware, and responsive

Copyright Reserved

SAFETY OF WORKERS AND FLAGGERS IN AREAS OF ROAD CONSTRUCTION

- Workers in areas of road construction are worthy of protection. On the Arrive Alive website we find information on safe driving in areas of construction activity.
- The most important safety precaution for drivers is to obey the Rules of the Road, road signage and the directions from flagmen.
  - This will allow for safe sharing of the roads by normal road traffic, construction vehicles as well as workers in the area.
  - It is important for construction companies to ensure that those employees regulating the flow of traffic are doing so with the necessary training and safety awareness

Copyright Reserved

SAFETY OF WORKERS AND FLAGGERS IN AREAS OF ROAD CONSTRUCTION

incorrect positioning of the flagmen:

Who is ultimately responsible for ensuring the safety of the flagmen?
The contractor / employer of the flagman and so the direct supervisor and appointed manager for that section of work.

Are there specific regulations applying to how these flagmen should operate?
There are guidelines stated in Chapter 13 Volume 2 of the 'South African Road Traffic Signs Manual"

Are they provided with any training to gain an understanding for what should and should not be done? Is this something you would recommend?
Training should be given required under both OHS Act Section 8 and Construction Regulation 7. I believe SARF "South African Road Federation" has formal training available or can recommend.

Copyright Reserved

SAFETY OF WORKERS AND FLAGGERS IN AREAS OF ROAD CONSTRUCTION

What is the correct positioning of the flagmen at a stop-go – and are there different workers with different duties?
There are clear set up guidelines in the SARTSM Chapter 2 Volume 13 for Roadworks Signing.

Can specific engineering or design recommendations enhance the safety of these workers at the stop-and go- - and what would these be?
Yes barriers can be used and/ or temporary traffic lights, this requires special permissions, permits etc.

Are there specific guidance either from the labour law side or a safety side as to work hours and how long their shifts should be?
No specific requirements in the Construction Regulations except that a risk assessment should be performed and if this were done properly then restrictions could be identified.

Copyright Reserved

Questions

Copyright Reserved

DRIVE SAFELY GOODBYE !!

André Fabricius Pr Tech

anfabconsult@gmail.com