



NEOM

Highway Personnel Safety (Managers)



**HIGHWAY
SAFETY**



BY OXAGON TRAFFIC TEAM



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Introduction

Managerial Roles and Safety Responsibilities

Managers are at the core of traffic safety on live carriageways.

They are responsible for ensuring safe operations by applying regulatory traffic protocols, leading worksite teams, and fostering a culture of safety.



This section provides a foundation for understanding how managers:

- Oversee Temporary Traffic Management (TTM) activities.
- Enforce safety zone design and PPE usage.
- Coordinate with local authorities and emergency services.
- Monitor compliance and traffic safety improvements.

Strong leadership from managers ensures that roadworks are carried out safely, efficiently, and with minimal disruption to road users.

Managing The Risks of Working on or Near Live Traffic

Whenever an activity changes the way a road normally operates, a risk is created for both workers and road users. Consideration needs to be given to managing the risk created By:

- Road users towards workers, and
- The risks created by the work/workers towards road users.



Temporary Traffic Management (TTM):

is a comprehensive system designed to safeguard both workers and road users during roadworks, inspections, and emergency situations.

There are five different work types, some of which will require different levels of TTM according to the activity type involved:

1. Static
2. Inspection/Maintenance
3. Mobile
4. Emergency
5. VSDOS



Static Work:

Prolonged, fixed-site operations requiring robust and clearly defined traffic management zones with permanent signage and barriers.



Inspection Work/Maintenance:

Short duration monitoring activities demanding minimal disruption and swift deployment of safety measures.

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Mobile Work:

Continuous movement along carriageways, such as road marking or sweeping, requiring dynamic traffic control and constant monitoring.



Emergency Work:

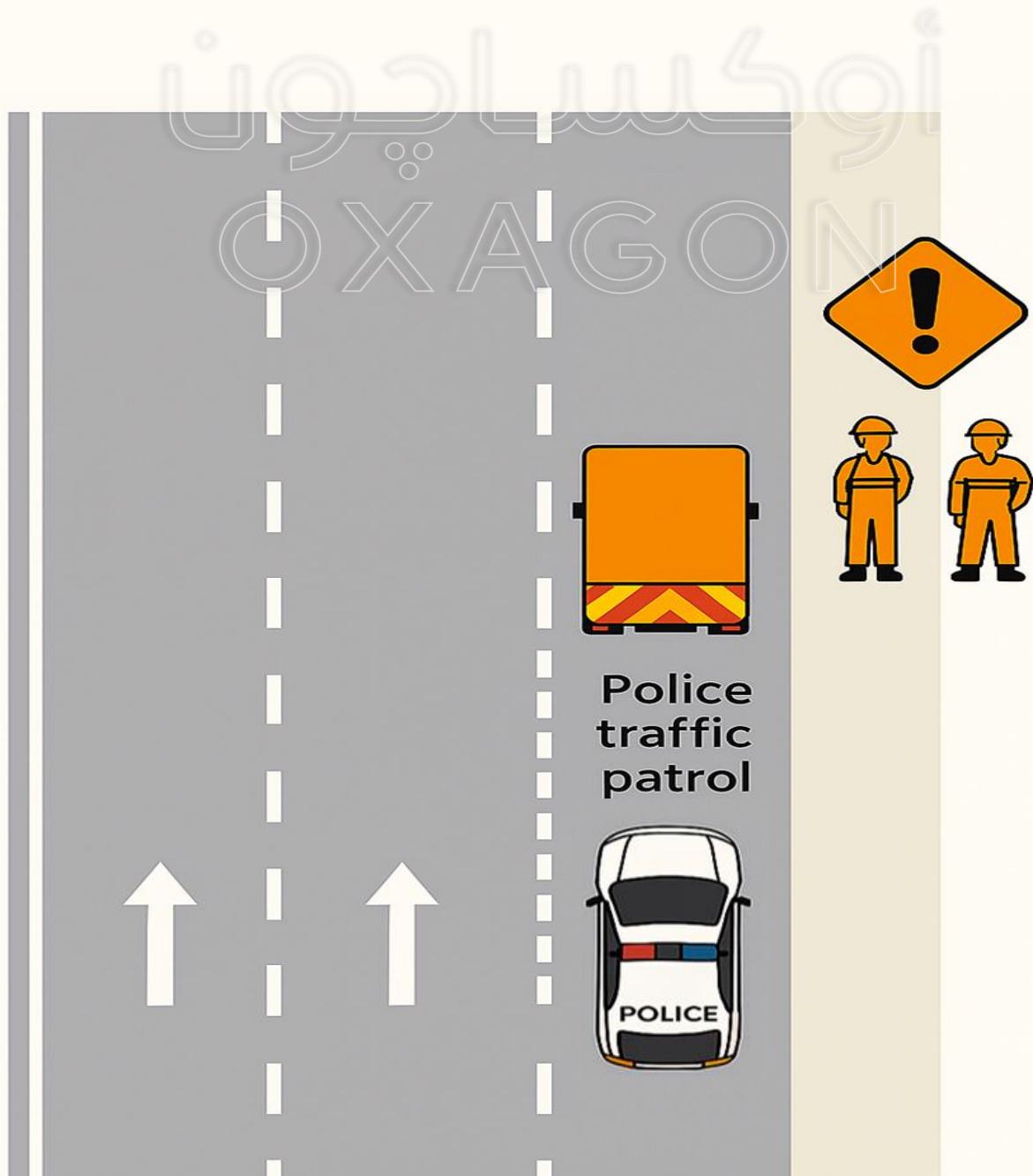
Unplanned urgent interventions needing rapid risk assessment and immediate deployment of protective measures.



(VSDOS):

Very short duration maintenance operations (VSDOs) last for 15 minutes or less and usually involve operations such as removing an object from the roadway (either on the pavement or adjacent shoulder) or pothole patching. These activities have the potential to interrupt traffic flow and can pose a safety risk for both workers and drivers.

Police traffic patrol vehicle should always be present during these works.



Personal Protective Equipment (PPE)

Ensuring that every worker is equipped with full Personal Protective Equipment (PPE) is non-negotiable. PPE provides the last line of defense against hazards in high-risk environments such as live carriageways.



Hard hat



Eye protection



High-visibility
reflective suit



Protective gloves



Safety boots

Managers must enforce strict PPE compliance and conduct regular inspections to verify correct usage.

Work Zone Signs Standards & Technical Specifications

Standardized work zone signage ensures drivers receive timely, clear warnings—minimizing accidents and enabling safe traffic flow through hazardous areas

General Standard:

All traffic signs must comply with Saudi Highway Codes **SHC 305, 601, and 602** as the minimum regulatory framework.



Material Specs:

Signs must be fabricated from corrosion-resistant aluminum panels with a minimum thickness of 3 mm.

Reflective & Laminate:

Sign faces must be fully laminated and covered with Diamond Grade retroreflective sheeting meeting ASTM D4956 Type IX.



Lettering:

All signs must use bilingual text—Arabic in Naskh script and English in Transport type—with Arabic given visual priority.

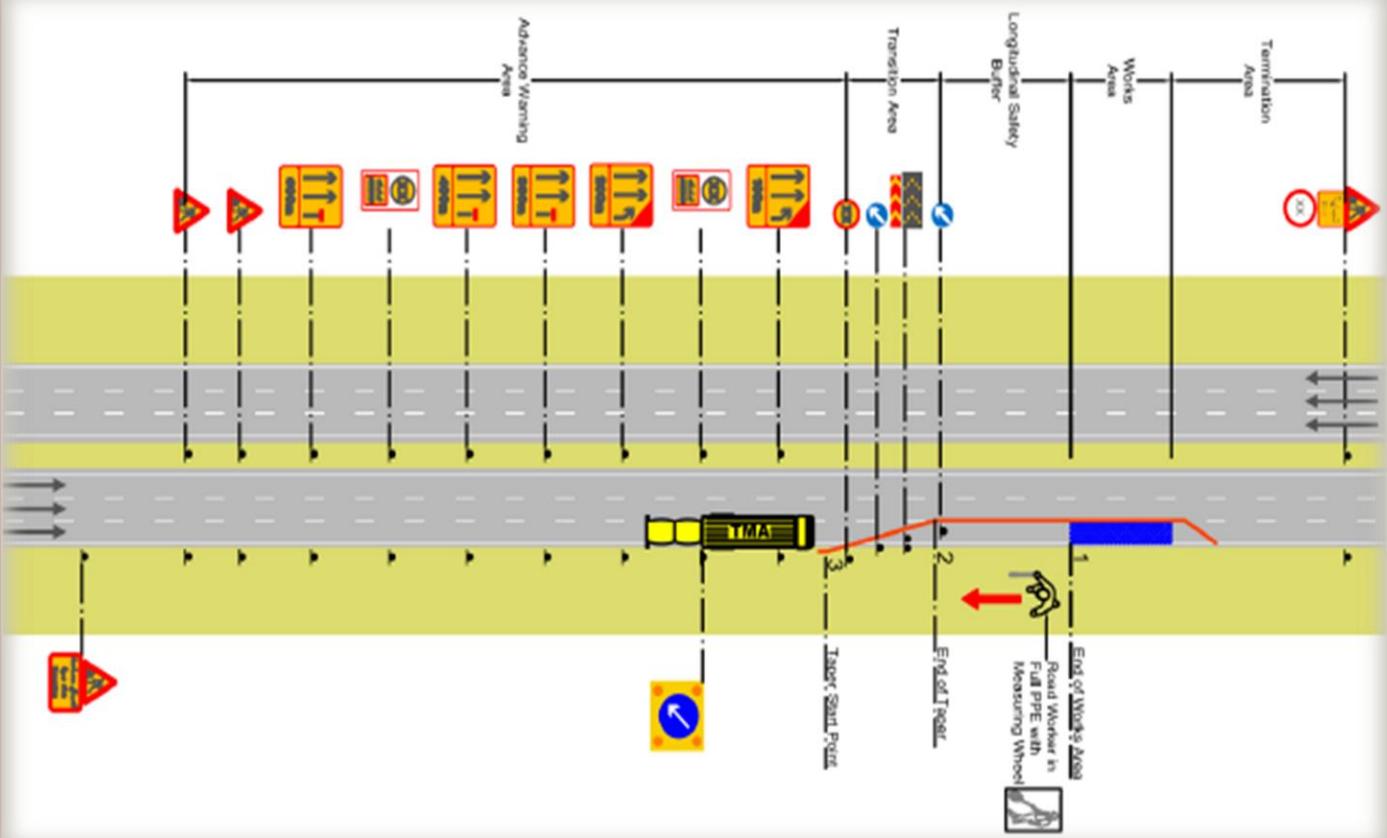


Size Standards:

Sign dimensions must follow SHC 305 tables, scaled according to road type, speed, and function (regulatory, warning, work zone).

Setting Up Works Zone

1. Identify and define the start of the works area
2. Set out advance signs
3. Signs to be located with the TMA protection
4. Signs on the median to be implemented with TMA
5. Position TMA prior to taper area set up taper with TMA as protection
6. Move TMA inside works area finish setting out closure



SAFETY ZONES

The Lateral Safety Buffer

provides clear separation between works activity and road users, as well as allowing safety barriers to function correctly if they are struck by an errant vehicle.



The Longitudinal Safety Buffer

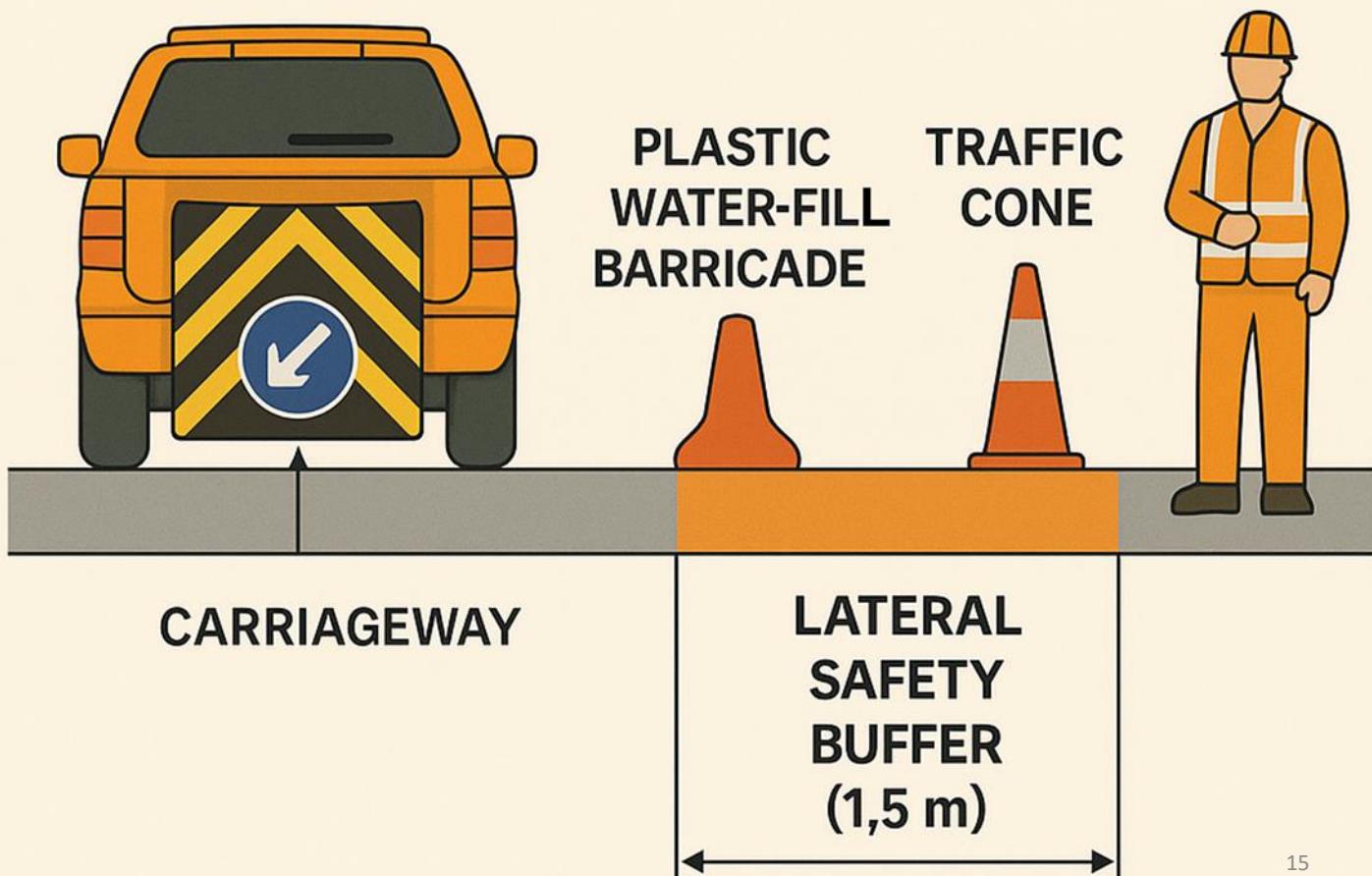
is after the Taper (Transition Area) and before the Works Area and acts as runoff area for errant vehicles.

The length of the longitudinal safety buffer is determined by the road speed.

Lateral Buffers:

Defined horizontal distances between the edge of the work area and moving traffic, usually dictated by speed limits and road conditions.

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Longitudinal Safety Buffers:

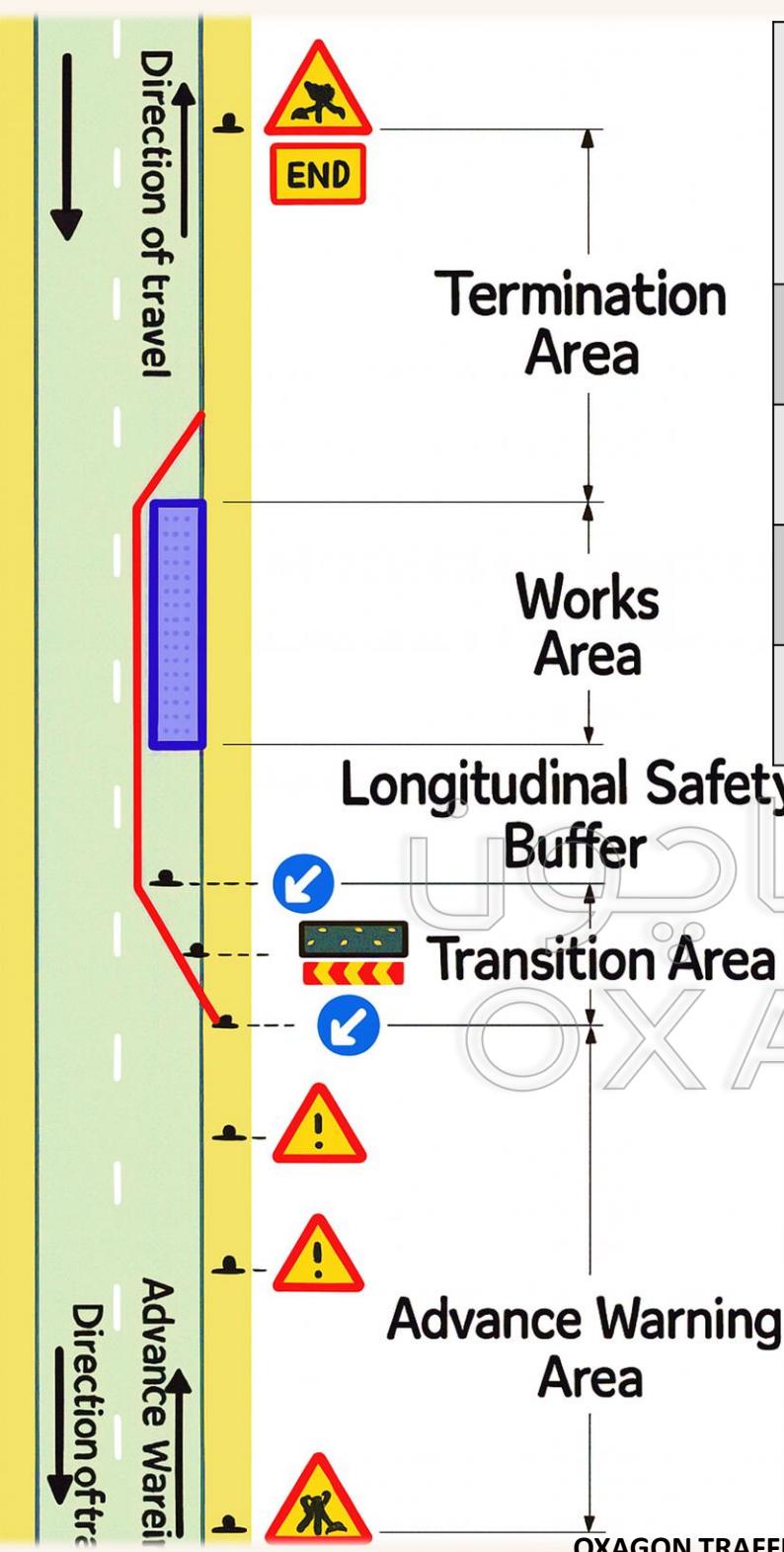
Distance upstream of the work area allowing vehicles sufficient time to decelerate safely.



The Longitudinal Safety Buffer is in advance of the Works Area, and after the Transition Area and acts as a runoff area for errant vehicles. The length of the longitudinal safety buffer is determined by the permanent road speed.



Required lengths of longitudinal buffer zones based on road speed, in accordance with the Saudi Highway Code (SHC 305).



Approach Speed Limit (Kmph)	Minimum Length of Longitudinal Safety buffer (m)
50	10m
51 - 80	25m
81 - 100	40m
101 - 120	55m

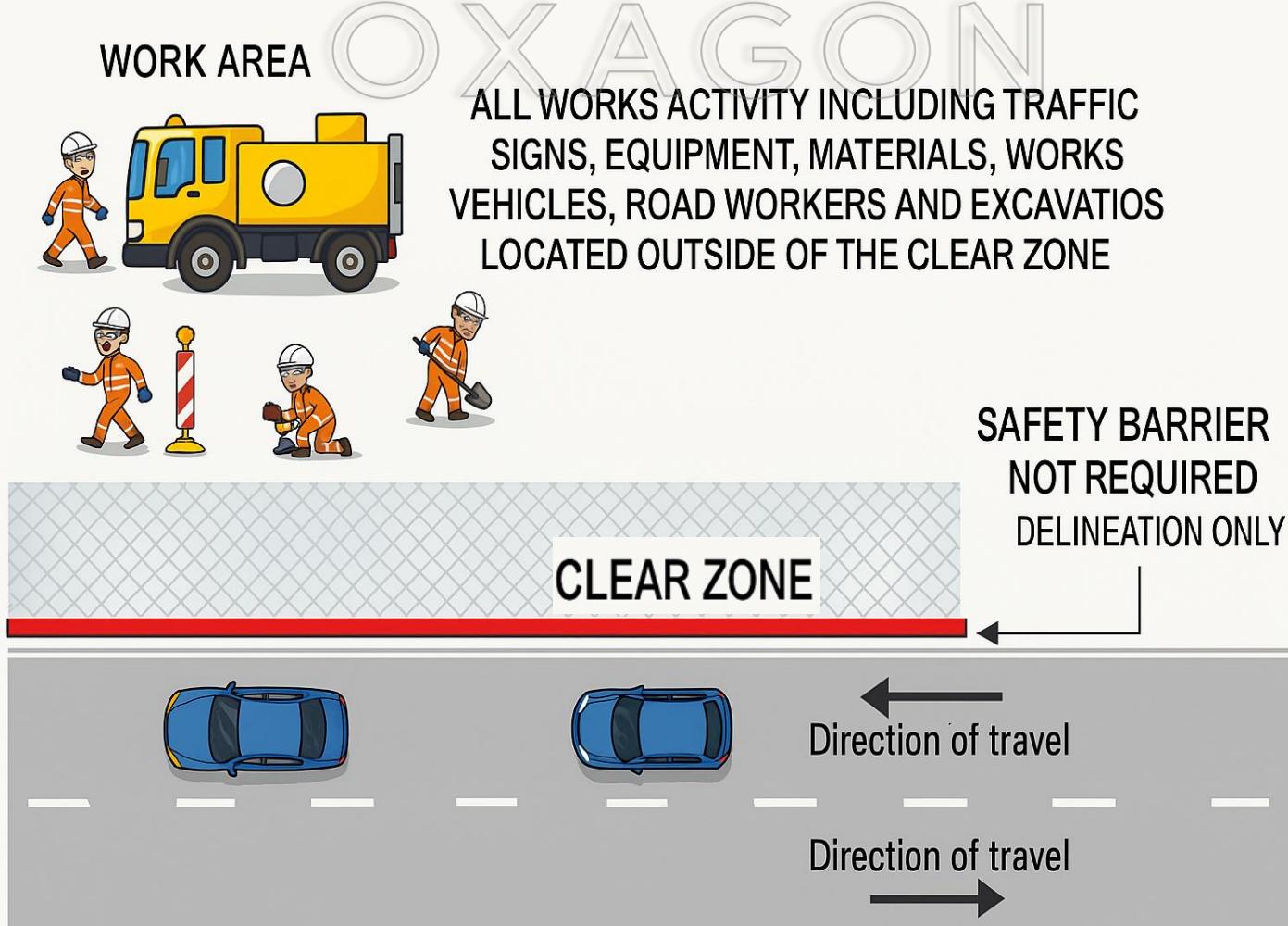
Clear zones

A Clear Zone is the unobstructed area provided beyond the edge of the road.

A Clear Zone width is measured from the outside edge of the nearest traffic lane.

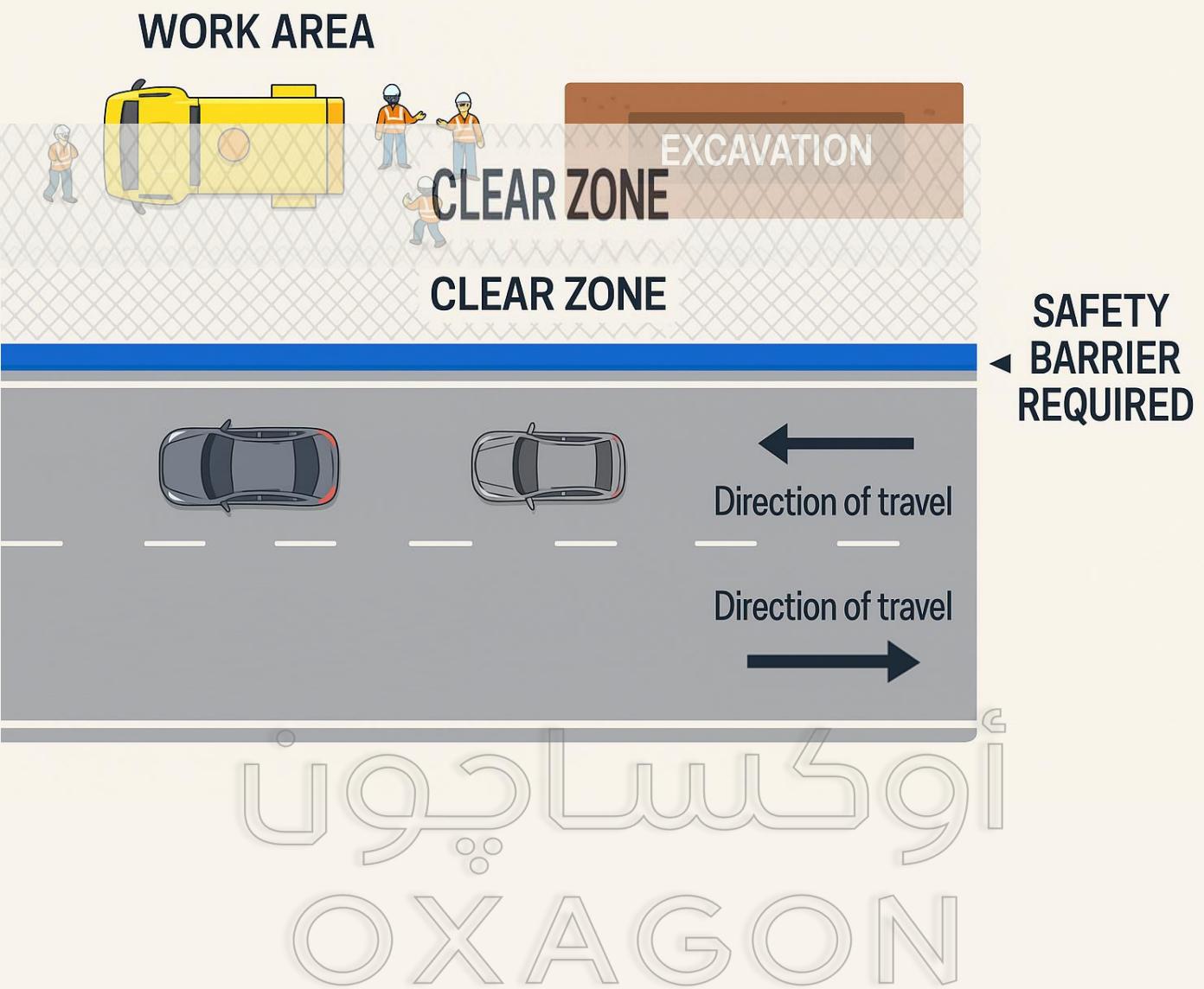
The area must be kept free from hazards and free from road workers.

If works are to be carried out within the clear zone, then suitable protection must be provided, Such as barriers or TMAs.



Example of work outside clear zone

Example of work inside clear zone



Clear Zone Guidelines According to Operating Speeds

Permanent Speed Limit (Km/h)	Clear Zone (meters)
50	5m
80	8m
100	10m
120	12m

Truck Mounted Attenuator (TMA)

A **TMA** is a specialist piece of Temporary Traffic Management equipment that is used to reduce the severity of workers and slow moving or stationary workers vehicles being struck on highways.

The use of **Truck Mounted Attenuators (TMAs)** in KSA is fundamental to reducing the risks relating to Work Zone Traffic Management.

All **TMAs** and attenuators used on the NEOM road network must comply with the requirements of the MOT.



Truck Mounted Attenuator (TMA)

Designed to reduce severity of rear end collisions and manage collisions from vehicles up to 2000 kg at 100km/h (TL-3).

Approved by Neom. ([Document code: NEOM-NPR-PRC-501](#))

Exclusion zone of 50 m for low-speed environment and 75 m for high-speed in front of the TMA.



- Used for setting out TTM.
- Used to protect site operatives.
- Used for short term and mobile work types

Prior to Works

- All highway works must have approved TMP from NEOM traffic department & Land Mobility prior to any works commencing.
- Traffic department & HSE must be informed in writing of any enabling or generic works planned at least 24 hours prior.
- 48 hours prior to any diversion being installed, breakdown & maintenance procedures must be received by traffic department with all information required.
- All diversions or daily works must be installed as per TMP approved design.
- Traffic department must be informed prior opening of diversions, to carry out pre-opening inspection
- Police patrol vehicle must be on site prior to any works commencing.
- Traffic department & HSE representative must be on site prior to any works commencing on Highway.
- Toolbox talk must take place daily prior to any works commencing.



Worksite Safety Procedures



1. Identification of hazards specific to the day's activities.
2. Detailed review of the traffic management plan.
3. Emergency procedures and communication protocols.
4. Instructions to remain within safe zones and avoid distractions.

Emergency Response

Managers must develop and communicate comprehensive emergency response plans include:

 Clear evacuation routes and muster points

 Availability and location of first aid kits and trained responders

 Established communication channels with emergency services



Coordination and Communication



Effective coordination with local authorities is essential for smooth operations.

- Schedule regular safety meetings and document outcomes.
- Ensure permits and approvals are secured prior to work commencement.
- Maintain real-time communication with all stakeholders during operations

Documentation and Reporting

Accurate and thorough documentation supports accountability and continuous.

- Logs of safety briefings, incidents, and corrective actions.
- Records of personnel training and certifications.
- Reports on equipment inspections and maintenance.

Managers should regularly review records to identify trends and areas for improvement.



Continuous Improvement

Traffic safety management is an evolving process. Managers must:



Conduct frequent audits and site inspections



Solicit feedback from workers and stakeholders



Implement changes based on data and experience to enhance safety outcomes

Conduct frequent audits and site inspections

Solicit feedback from workers and stakeholders





References

All Temporary Traffic Management (**TTM**) procedures, safety zones, and buffer design principles outlined in this document comply with the **Saudi Highway Code (SHC)** suite, including:

- **SHC 305 – Work Zone Design and Traffic Management**
- **SHC 601 – Traffic Signs and Road Markings**
- **SHC 602 – Temporary Traffic Control Devices and Layouts**

These codes are published by the **Ministry of Transport and Logistic Services (MOT), KSA**, and represent the **minimum regulatory standard** required for traffic safety planning and execution on live carriageways.

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At OXAGON Traffic Team, Your Safety Is Our Highest Priority.

We Are Committed To Ensuring That Every Road Activity Is Conducted With Discipline And Responsibility — Fully Aligned With NEOM's Vision Of A Safer, Smarter, And More Sustainable Future. Our Procedures, Controls, And Traffic Standards Are Not Just Regulations — They Are A Promise To Protect Every Individual On Site.

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Stay Alert, Stay Alive.

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