Traffic Control – Safety

Maintaining safety on a construction site requires effective traffic control measures to manage the movement of vehicles, equipment, and pedestrians. These measures help prevent accidents, ensure smooth operations, and comply with safety regulations. Below are the key traffic control measures required:

Traffic Management Plan (TMP)

- Develop a site-specific plan outlining traffic flow, designated routes, speed limits, parking zones, and pedestrian pathways.
- Include emergency protocols and ensure compliance with local regulations

Clear Signage and Markings

- Warning Signs: "Construction Zone," "Slow Down," "Pedestrian Crossing," or "Heavy Equipment Operating."
- Directional Signs: Arrows, lane markings, and detour signs to guide traffic.
- Barriers: Cones, barricades, or fences to separate work zones from traffic areas.

Speed Control

- Enforce strict speed limits (e.g., 10–15 mph) for vehicles and equipment.
- Use speed bumps, rumble strips, or temporary chicanes to slow traffic.

Pedestrian-Vehicle Separation

- Designate pedestrian walkways with physical barriers (e.g., guardrails, bollards).
- Install crosswalks with high-visibility markings and signage.

Use of Spotters/Flaggers

- Train and deploy spotters to guide vehicles (e.g., trucks, cranes) in blind spots or tight areas.
- Equip flaggers with high-visibility vests, stop/slow paddles, and radios for communication.

Visibility Enhancements

- Ensure adequate lighting for night work.
- Use reflective vests, helmets, and clothing for workers.
- Equip vehicles with strobe lights, beacons, and backup alarms.

Vehicle/Equipment Safety

- Inspect vehicles daily (brakes, lights, horns, alarms).
- Restrict unauthorized vehicles from entering the site.
- Use proximity sensors or cameras on heavy machinery (e.g., excavators, dump trucks).

Exclusion Zones

- Mark hazardous areas (e.g., crane swing radius, excavation zones) with tape, barriers, or fencing.
- Restrict access to authorized personnel only.

Training and Awareness

- Train workers on traffic safety protocols, PPE use, and hazard recognition.
- Conduct toolbox talks to reinforce safe practices (e.g., avoiding blind spots).

Communication Systems

- Use two-way radios or hand signals for coordination between operators and spotters.
- Implement a check-in/check-out system for deliveries and visitors.

Emergency Preparedness

- Maintain clear emergency access routes for ambulances, fire trucks, or evacuations.
- Post emergency contact numbers and evacuation maps.

Regular Monitoring and Enforcement

- Assign supervisors to audit compliance with traffic rules.
- Penalize violations (e.g., speeding, ignoring signage).

Temporary Traffic Control for Public Roads

For sites near public roads, use:

- Lane closures with advance warning signs.
- Flagging crews to direct public traffic.
- Detour routes to minimize disruptions.

Traffic Control Personnel

When employing personnel to direct traffic, ensure that:

- Scope of Duties: Workers directing traffic should manage only one lane in a given direction and be restricted from directing when vehicle speeds exceed safe operational thresholds.
- Competency: Only well-trained and competent workers are assigned these duties.
- Focus: They must solely concentrate on directing traffic, avoiding any secondary tasks.
- Positioning: Their positioning should minimize exposure to traffic hazards.
- Training: They receive comprehensive written and verbal instructions detailing the correct traffic control procedures and signals.
- Documentation: All instructions and protocols must be available on-site for reference.

Equipment Requirements

Traffic Signs

- Signs used for directing traffic must conform to specific design criteria:
  - Shape & Size: Octagonal in shape with defined dimensions and mounted on a rigid pole.
  - Visibility: One side displays a high-intensity red background with a clearly visible STOP indication, while the opposite side features a high-intensity fluorescent chartreuse background with a clear SLOW indication.
  - Maintenance: Signs must be maintained in a clean and legible condition at all times.

Personal Protective Equipment (PPE)

- Workers involved in traffic control must wear high-visibility garments, typically vests, that include:
  - A fluorescent blaze or international orange color, with reflective yellow stripes on the front and back meeting specified coverage areas.
  - An adjustable fit with tear-away features for safety.
  - For night operations, additional retro-reflective stripes on arms and legs to enhance visibility.

Key Risks and Prevention Strategies

- Risk of Vehicle Collision:
  - Prevention: Utilize physical barriers, high-visibility signage, and effective traffic diversion measures.
- Exposure to High-Speed Traffic:
  - Prevention: Limit the scope of traffic control duties based on safe speed parameters and ensure safe positioning of personnel.
- Miscommunication:
  - Prevention: Provide standardized training and clear, concise signals to maintain effective communication between traffic controllers and other site personnel.
- Equipment Malfunction:
  - Prevention: Conduct regular inspections and maintenance of all traffic control equipment and PPE.

NCC T&D Project Leaders Key Responsibilities

Project Leaders are accountable for:

- Plan Implementation: Overseeing the development and enforcement of traffic control measures in line with the NCC T&D HSE management system.

- Risk Assessment: Regularly assessing and identifying potential traffic hazards and ensuring appropriate preventive measures are in place.
- Training Coordination: Organizing comprehensive training sessions for all workers involved in traffic control.
- Documentation: Keeping detailed records of training, equipment inspections, and any incidents related to traffic control.
- Emergency Preparedness: Ensuring that effective rescue and emergency procedures are established and ready for deployment.

Worker Responsibilities

Workers engaged in traffic control must:

- Follow Protocols: Adhere strictly to all established traffic control procedures and use PPE as required.
- Conduct Inspections: Regularly inspect traffic control devices and personal equipment before each use.
- Report Deficiencies: Promptly report any equipment malfunctions or safety concerns to supervisors.
- Participate in Training: Attend all mandated training sessions and refresh their knowledge as needed.
- Focus on Safety: Direct traffic exclusively, avoiding any secondary tasks that could lead to distraction.

Key Elements

- Hazard Identification: Thoroughly identify and document all potential traffic hazards on the project site.
- Control Measures: Clearly outline and implement specific actions and devices designed to mitigate identified risks.
- Accessibility: Ensure that the traffic control plan is visibly posted and accessible at all project locations.
- Compliance: Regularly review and update the plan to maintain alignment with the NCC T&D HSE management system.

Key Takeaways

- Safety First: Implement comprehensive traffic control measures to protect workers and maintain operational efficiency.
- Defined Responsibilities: Clear roles for project leaders and workers ensure effective risk management.
- Continuous Training: Ongoing training, regular equipment inspections, and prompt reporting are essential for safe operations.
- Documentation: Maintain accessible and up-to-date records of all traffic control protocols and training materials.

For more information, refer to NCC T&D's relevant IMS procedures or consult our HSE Department for expert guidance and training resources.