This factsheet provides guidance on the selection of appropriate set up of static worksites for unsealed roads which generally occur in rural and remote areas and have lower traffic volumes.

Works on these types of roads typically involve road maintenance and repair. Such works need to be managed in accordance with the Queensland Department of Transport and Main Roads Manual of Uniform of Traffic Control Devices (MUTCD) Part 3 – Works on Roads Clause 4.5.

These works generally require less complex traffic arrangements due to the nature and geometry of unsealed road corridors. A key site specific issue is consideration of sight distance due to crests and curves. The MUTCD Part 3 Clause 4.5.3 allows for relaxations from the traffic management setup requirements for sealed road conditions due to the expected lower volumes and speeds. This requires a site specific risk assessment to be completed as per MUTCD Part 3 Clause 2.2.3.

MUTCD Part 3 – Clause 4.5 and associated relaxations must not be applied to temporary work sites for roads that are temporarily unsealed where normally the corridor is a sealed formation (for example, a temporary unsealed sidetrack or during pavement reconstruction).

### Specific Risks

Works on unsealed roads have different risks when compared to similar scenarios on sealed road corridors. The consideration of site specific risks is paramount to good design and implementation practices (see MUTCD Part 3 Page 3-5 and Clause 2.2.3). Some examples of risks to consider for unsealed roads are:

- Dust plumes impeding visibility
- Dust covering signage
- Increases in stopping distance
- Inconsistent carriageway widths
- Heavy and oversize vehicle movements
- Hot weather and lack of facilities
- Lack of phone reception
- Wet weather impacts.

Unsealed roads generally have the following characteristics:

- Gravel or dirt, as the road surface
- Where unsigned, the default open rural road speed limit of 100km/h applies
- Some unsealed roads located close to townships may have lower speed limits than 100km/h
- Operating speed varies due to location and topography
- Located in rural or remote areas
- Provide access to remote properties and recreational areas
- May serve as a haulage route for heavy agricultural and mining vehicles
- Low daily traffic volumes, typically less than 150 vehicles per day
- Road cross section is typically 6.5-8.0m wide.
- Road sides include various unprotected hazards (e.g. trees, culverts, swale drains and drop offs)
- Frequent maintenance grading is required
- Susceptible to weather damage and vehicle rutting
- No pedestrian footpaths or provisions
- Possibility of stray livestock on the road
- Wildlife may be present.
Short Term Partial Road Closures

Where works are not mobile or low impact, MUTCD Part 3 requirements for static worksites for sealed roads apply for short term partial road closures on unsealed roads. However, MUTCD Part 3 Clause 4.5.3 provides guidance on possible omissions from these requirements due to the reduced risks associated with lower traffic volumes.

Omission of advance signs

Advance signs may be omitted where:
• the vehicle mounted warning device on the work vehicle can be seen by approaching traffic for at least 250m, and
• no traffic controller is required when:
  - traffic volumes are 20 vehicles per day or less, or
  - there is room for two-way traffic past the work area.

Using a single traffic controller

Where traffic control is required that would normally require two traffic controllers, it may be performed by a single traffic controller under the following conditions:
• There is a single lane section not exceeding 50m in length, and
• Traffic volumes are not more than 20 vehicles per hour, and
• The traffic controller has good sight distance of traffic approaching from both directions when stationed at one end of the worksite.

Signs on unsealed roads

Advance Signs

Requirements for the display of advance warning signs and devices will vary according to factors such as the speed of approaching traffic, the degree to which the hazard requires modification of speed or diversion of travel path, or extra vigilance for other reasons, and the sight distance available to the hazard, including sight obstruction caused by other traffic. Examples of advanced warning signs and arrangements can be found below and further in MUTCD Part 3 Appendix L Clause L5.

The need for speed reductions and worker symbolic must be considered when workers on foot. For further guidance refer to MUTCD Part 3 Clause 4.2(c)(ii) and Table 4.4. Some examples of this are; whipper snipper working after a slasher and spotter working with a grader.

Hazard Signs

Road condition signs shall be placed at various locations if the freshly graded surface has loose material that may be a hazard. Hazard warning signs that can be installed include:

- Slippery (symbolic (T3-3))
- Loose Stones (symbolic (T3-9))
- Loose Surface (T3-14)
- Advisory Speed (T3-16)

Termination Signs

In most roadworks situations, at the termination of works the speed limit is reinstated back to the permanent posted speed limit. On unsealed roads where the default speed limit applies, it is not desirable to reinstate this speed limit with a speed limit sign. The preferable method to terminate the temporary speed zone is the use of an end speed limit sign.

Refer to MUTCD Cl 4.5
Maintenance

On unsealed roads grading is required frequently to maintain a safe road surface. This is due to their susceptibility to weather which may cause the road surface to become undulating and rutted with pot holes. Grading redistributes the road material to recreate a smooth and level surface. Grading works are considered a type of short-term low impact work site specific to unsealed roads. The following illustrates the two work site options available for grading works.

**Grading Option 1 - (exclusion of advance warning signs):**

![Diagram of Grading Option 1]

Note:
1. The grader is always to work leaving room for opposing traffic to pass it without driving off the roadway.
2. The sight distance to the grader's vehicle mounted warning device is always at least 250m (in both directions) throughout the entire section of road where work is being undertaken.
3. Where graded or resheeting material cannot be traversed by traffic, in order to allow traffic to overtake the grader, the grader driver should raise the blade from time to time and move forward a short distance to allow that traffic to pass.

**Grading Option 2 - (where Option 1 cannot be achieved):**

![Diagram of Grading Option 2]

Note:
1. The work shall be undertaken in work zones of not more than 10km in length.
2. The sign ROADWORK NEXT 10km (T1-24) shall be placed at each end of the section being worked on.
3. At locations where the sight distance falls to less than 250m the sign GRADER AHEAD (T1-4) or ROAD PLANT AHEAD (T1-3-1) together with NEXT 2km (T1-28) shall be used at each end of each subsection with reduced sight distance of up to 2km in length.
4. The signs shall be placed at least 100m in advance of the start of any windrow.
5. Only one subsection of works (up to 2km) shall be signed and worked on at a time. Once complete all installed signage shall be relocated onto the next sub section.

If there is difficulty turning a grader around at the end of a 2km section, it may be extended to the next available turning point but not to more than 6km in total length.


Traffic Guidance Schemes must be prepared by a competent person with Traffic Management Design certification. For more in-depth information refer to the MUTCD in the first instance, and then contact trafficengineering.support@tmr.qld.gov.au if required.