

8 Work site inspections, recording and reporting

8.1 Work site inspections, reviews and audits

8.1.1 General

The inspection, review and audit of temporary traffic management (TTM) arrangements are critical to ensure that the work site is operating safely. As such, the structure, schedule and frequency of these activities must be considered and identified during the TTM planning phase. These aspects will vary depending on the size, complexity and duration of works.

There are two categories of monitoring activities that occur during TTM:

- **Mandatory monitoring activities**—these are required for all TTM arrangements (summarised in [Table 8-1](#)); and
- **Additional monitoring activities**—these are provided to assist the TTM application and may be prescribed as mandatory by Transport as divisional process in the relevant G10 specification or undertaken on behalf of client representatives as part of other functions (summarised in [Table 8-2](#)).

TTM monitoring activities must be undertaken in all instances where work is being performed or aftercare is in place. This includes during the day and at night times.

Table 8-1. Mandatory monitoring activities during TTM

Stage	Activity	Purpose	Qualification	Tools and checklists
Planning	TGS verification	To ensure that the TGS selected or designed is suitable for the works and location.	ITCP or PWZTMP	Appendix E.2 TGS verification checklist
During TTM	Weekly TTM inspections (includes preopening inspection)	To ensure that the TMP and relevant TGS are appropriate and operating safely, effectively and efficiently	PWZTMP	Appendix E.3 Weekly TTM inspection checklist
	Shift TTM inspections	To ensure that the TGS is implemented as designed. This includes at a minimum, twice per shift and when: <ul style="list-style-type: none"> • A TGS is installed, changed or updated; • At regular frequency after work commences, recommended every 2 hours; and • Once aftercare arrangements have been installed if required 	ITCP or PWZTMP	Appendix E.4 Shift / Daily TTM inspection checklist
	TMP review	To ensure that TMP controls are achieving the required outcomes.	PWZTMP	Not provided
Post completion	Post-completion inspection	To ensure that the site has been demobilised as planned and is safe for opening to traffic	ITCP or PWZTMP	Appendix E.5 Post completion inspection checklist

Table 8-2. Additional monitoring activities during TTM

Stage	Activity	Purpose	Qualification	Tools and checklists
During TTM	TTM Road Safety Audits	To identify road safety crash potential and areas of risk that could lead to traffic incidents in relation to the application of TTM. The aim of a road safety audit is undertake an objective assessment of crash risk.	Road Safety Audit who holds a PWZTMP	Not provided
	Client inspections	Verification of TTM through the Transport Traffic Engineering Services, Work Health and Safety Branch, Surveillance Officers or other client representatives.	Divisionally determined	Not provided

8.1.2 TGS verification

In accordance with *Section 7.9 TGS confirmation and approval*, prior to use on site a TGS must be verified to ensure it is suitable for the works and the location. An example TGS verification checklist has been included in *Appendix E – Inspection checklists and tools* that may be suitable for this purpose.

Where a physical site inspection cannot be completed due to extenuating circumstances, such as emergency works or excessive distance, the TGS verification may be completed via the collection of the relevant information from other sources. Alternative sources of relevant information include aerial or street view images.

The purpose of the TGS verification is to ensure that the TGS selected or designed identifies and manages the site-specific risks associated with the location. As such the TGS verification must validate the accuracy of the data and information provided in the TMP and TGS, including but not limited to the existing permanent speed limits, and identifying any other items that may generate a risk or hazard during the works that have not already been considered, such as bus stops or parking.

Information that should be considered when undertaking a TGS verification includes:

- Shoulder widths;
- Sight distances;
- Existing permanent speed limit;
- Existing infrastructure such as signs, barriers, buildings and utilities;
- Transport services such as bus stops or parking facilities; and
- Other sources of risk for the works, such as community facilities.

Once completed, the TGS selector or designer, must ensure that all relevant supporting information, including records of verification, are included with the TGS for implementation.

8.1.3 Weekly TTM inspections

After a TMP and TGS have been approved and the TTM work site is established in accordance with this Section, a weekly TTM inspection must be completed prior to the initial opening of a work site, regardless of duration of work.

Note: This means that the TTM has been installed, but the work intended to be protected by the TTM has not yet commenced.

After the initial opening inspection, the same inspection must be completed on a weekly basis thereafter. Appendix E – Inspection checklists and tools provides a checklist that may be suitable for carrying out weekly TTM inspections.

The weekly TTM inspections must focus on effectiveness of the TMP in the context of the work being performed and that the TGS has been appropriately implemented.

The weekly TTM inspection must be:

- Undertaken by a person holding the PWZTMP qualification;
- Carried out from within the traffic stream at the normal traffic speed;
- Undertaken:
 - After the TGS has been implemented but prior to the work commencing on-site for the first time, known as a pre-opening inspection; and
 - At least once per week thereafter, known as a weekly inspection.

The pre-opening inspection must be carried after the required TGS is installed but prior to the intended work activity commences or prior to opening a switch to traffic to ensure that:

- The work site is established in accordance with the TMP and relevant TGS;
- The TMP and relevant TGS are:
 - Provided and are on site;
 - Approved; and
 - Implemented as prescribed.
- Safe passage has been provided for all road users to travel around, past or through the work site;
- Signs and devices are in good condition and clearly visible to road users; and
- Any potential hazards are identified and addressed in the TMP and TGS prior to opening.

Thereafter, the weekly TTM inspection must ensure all of the above are maintained in addition to verifying:

- The work site is operating safely and as intended, including risk identification and mitigation;
- All incidents and near misses are reviewed; and
- Inspections are being completed.

When undertaking a pre-opening or weekly TTM inspection, the person completing the inspection should:

- Have a copy of the approved TMP and TGS used on-site;
- Ensure inspections are completed in day and/or night conditions as required; and
- If inspecting during low light, ensure low beam headlights are used for the inspection.

8.1.4 Shift TTM inspections

After the work site has been opened, shift TTM inspections, also known as 'daily' inspections, must be undertaken on a regular basis to confirm that the site traffic management:

- Has been implemented in accordance with the approved TGS;
- Is operating as intended; and

- The controls implemented, are effective.

These shift TTM inspections ensure all road users are safely travelling around, past or through the work site. If vulnerable road user paths have been impacted, such as footways and cycle ways, the shift TTM inspection must include a walk-through or cycle-through as appropriate. The inspections must also include the surrounding road network if detour routes have been implemented.

The frequency of shift TTM inspections must be determined during the TGS development and approval phase by the PWZTMP qualified person, and recorded on the relevant TGS.

Shift TTM inspections must be completed at regular intervals throughout the work shift, at a minimum, shift TTM inspection must be completed twice per shift, however it is recommended that they be completed every two hours. TTM shift inspections must additionally be completed when:

- A TGS is installed, changed or updated; and
- Once aftercare arrangements have been installed, if required.

Shift TTM inspections must be undertaken by an ITCP or PWZTMP qualified person. When undertaking a shift TTM inspection, the person completing the inspection should:

- Have a copy of the TMP and TGS used on site;
- Carry out the inspection from within the traffic stream at the normal traffic speed;
- Ensure inspections are completed in day and/or night conditions as required; and
- If inspecting during low light, ensure low beam headlights are used for the inspection.

Where relevant, the shift TTM inspection must ensure that:

- Signs and devices:
 - Are installed and spaced in accordance with approved TGS;
 - Are in good condition, undamaged, in place and clearly visible to road users; and
 - Have been added, adjusted or moved in accordance with the approved TGS.
- There are no conflicting signs and devices;
- Delineation is clear and appropriate;
- Any variations, changes or departures to the TGS are recorded, approved and incorporated;
- Changed conditions do not impact on visibility of signs and devices (e.g. shade, parked vehicles etc.);
- There will be no drainage issues during a rain event from the positioning of signs or devices, or other safety issues arising from where traffic will be travelling through the work site;

In addition, a shift TTM inspection must be undertaken at least once for aftercare conditions to ensure:

- The relevant signs and devices have been covered and/or removed;
- The covers adequately cover the out-of-service sign;
- All covers are securely installed and will remain in place during windy conditions; and
- The appropriate speed limit is reinstated as per TMP & TGS.

A shift TTM inspection checklist is included in [*Appendix E – Inspection checklists and tools*](#) and may be used to keep a record of the inspection.

8.1.5 TMP reviews

TMP reviews are undertaken to ensure TMP elements are implemented as designed and remain appropriate. The TMP review must be undertaken by PWZTMP qualified person, who is independent to the installation of the TTM, usually the relevant project manager.

The objectives of a TMP review are to:

- Ensure that due consideration has been given to traffic management planning, risk identification and mitigation;
- Ensure that the work site is operating safely;
- Assess site conditions to ensure speed choice is still appropriate or reductions are still necessary;
- Ensure that the TGS has been provided, is available on the work site, has been approved and has been implemented as prescribed;
- Ensure any variations to the TGS (for example in sign location due to shade, parked vehicles) are in accordance with Section 7.10.3 Tolerances on positioning of signs and devices, recorded on the TGS and approved; and
- Record discrepancies and non-compliances and make recommendations for rectification.

Table 8-3 provides additional requirements in relation to TMP reviews.

Table 8-3. Additional requirements for TMP reviews

Type of TMP review	Frequency	Considerations
Scheduled	The scheduled TMP review must be undertaken every 6 months or as determined by the relevant G10 Specification or project specific plan (PSP).	The scheduled TMP review must consider the following: <ul style="list-style-type: none"> • TMP and TGS are approved; • Identify required variations to the TGS, and ensure that they are updated, recorded and approved; • Review any departures or variations to ensure they have been documented and approved; • Speed control effectiveness; and • Construction vehicle entry/egress suitability.
Change generated review	The change generated TMP review must be undertaken when implementing new traffic stages, switches or diversions.	The change generated TMP review must consider the following: <ul style="list-style-type: none"> • The work site is operating safely; • Delineation is effective with appropriate signage installed for changed conditions; • Safe passage is provided for all road users; • Road Safety Audits are arranged or confirmed as required by <u>Section 8.1.7 TTM road safety audits</u>; and • Accountability for approval and inspection is well understood and documented.
Post-incident or near miss	The post-incident near miss TMP review must be undertaken following an incident or near miss.	The post incident or near miss TMP review must consider: <ul style="list-style-type: none"> • Causal factors; • Contributory factors or changes required; and • Identified changes to TGS are completed, approved, recorded and communicated.

8.1.6 Post completion inspection

A post completion inspection must be undertaken to ensure the site has been demobilised as planned and is safe for opening to traffic. This must be completed by an ITCP qualified person, to ensure:

- The road has been reinstated to the planned condition;
- All temporary speed limits have been removed;
- All signs and devices are removed from the site; and
- No hazards as a result of the work site are present.

If any issues are noted they must be rectified as soon as practical.

An example post completion inspection checklist is provided in [Appendix E – Inspection checklists and tools](#) and may be used to guide this inspection.

8.1.7 TTM road safety audits

A TTM road safety audit (RSA) is a formal examination of a road construction project from the perspective of road users, to identify road safety crash potential and areas of risk that could lead to traffic incidents. The aim of a road safety audit is to undertake an objective assessment of crash risk.

The requirement and frequency of an RSA will be specified in the works relevant G10 or in divisional processes. Additionally, it may be beneficial to perform a pre-opening and finalisation RSA where the temporary or permanent traffic control devices cannot be completed or installed until traffic is switched onto the new alignment.

A TTM RSA must be conducted in accordance with the requirements in the Austroads [Guide to Road Safety Part 6: Managing Road Safety Audits](#) and conducted by an independent and qualified Road Safety Audit team who holds a PWZTMP qualification. RSAs should be carried out during both day and night time to ensure appropriate delineation is in place to suit the conditions.

TTM RSAs may be completed internally or externally to verify compliance with relevant Transport standards, specifications, requirements of this Technical Manual or as part of third party certification. All Transport works should develop an audit schedule in line with the relevant divisional quality management framework. The project manager is accountable and must be satisfied that the TMP and required RSAs are completed.

8.1.8 Client inspections

Additional TTM inspections may be carried out by the client through the Transport Traffic Engineering Services, Work Health and Safety Branch, Surveillance Officers or other client representatives. Projects should make contact with their client to determine frequency and needed preparations for these inspections.

8.2 Record keeping of TTM documentation

8.2.1 General

Documentation and recording of information related TTM is an essential part of the process to ensure that the TTM has been implemented as designed and the controls are achieving the desired outcomes. As required by the State Records Act, records must be retained for 7 years as this will also be required in case of an investigation relating to an incident or legal proceedings are commenced.

Records of TTM documentation must be kept and include at a minimum:

- The identification of the job;
- Reference number of the TMP or TGS;
- Date and location of the TTM;
- The name of the person keeping the record; and
- The name of the person responsible for the work.

TTM documentation produced as a result of site-specific works must be kept and include at a minimum:

- Approved TMP developed for the works;
- Completed risk assessments;
- Approved TGSs used, including versions where modifications or updates have been made;
- Other relevant documentation including staging plans;
- Completed inspection checklists that have been undertaken in accordance with Section 8.1 Work site inspections, reviews and audits;
- Records of traffic related incidents that occurred during the works;
- Any departures, and approvals of departures from this Technical Manual; and
- Any other relevant document generated by the process of completing the TTM works.

It is recommended that a folder system be developed to house all relevant TTM documentation for each activity. The format of the folder (e.g. paper based or electronic) and storage requirements will depend on the divisional record keeping requirements.

8.2.2 Generic TGS library

A TGS library is a series of generic TGSs that have been designed by a work group for use at particular locations or for specific work types. The TGS library makes relevant TGS readily accessible for the person selecting a TGS for specific work activities.

For example, a works depot that is responsible for the regular maintenance of a particular section of the network may collate a series of generic TGSs, from which the nominated ITCP or PWZTMP qualified person can select.

TGSs included in a TGS library must be approved by PWZTMP qualified person. When developing a TGS library, a TGS selection procedure must also be developed in accordance with Section 7.5.2 TGS Selection Procedure, to aid the effective selection of a generic TGS for use.

A process must be developed to ensure the TGS in the library are:

- Stored appropriately;
- Easily identified and accessed;
- Secure, so that a generic TGS is not changed or removed without authority; and
- Identified as being an approved generic TGS.

A site-specific TGS may become part of the generic TGS library if it is suitable for ongoing use, provided it is approved by a PWZTMP qualified person and endorsed for inclusion in the library.

8.2.3 TTM inspection records

All TTM inspections must be completed in accordance with relevant requirements Section 8.1 Work site inspections, reviews and audits. A record of each TTM inspection must be kept and include the following:

- Reference to the TGS that was used and inspected;
- The start and finish times and location/s of the works;
- The date and time of the inspection;
- Any deficiencies identified and corrective action taken;
- Detail of adjustments and modifications made and by whom;
- Name of person authorising any modifications;
- Any near misses;
- Time of next shift TTM inspection;
- Name of the ITCP qualified person who installed the TGS;
- Weather conditions and
- Details of on-site traffic controllers;

Daily records should be detailed enough to identify the site, signs and devices which were in place at a given time on a given day. This enables, for example coroner requests, to establish the conditions and TTM which existed at a specific point in time. Photo and/or video evidence should also be collected and stored in support of other forms of documentation such as checklists, TTM diaries and site registers.

All records of inspections must be made available to Transport personnel, or those working on behalf of Transport.

8.3 Reporting work site incidents

8.3.1 General

For all traffic related incidents, either witnessed or reported, involving the public or from which legal proceedings might arise, the following must be recorded and reported to Transport:

- Type, size and location of signs and devices in use at the time of incident;
- Travel path width and road condition;
- Weather conditions;
- Witnesses present;
- Details of any personal injury/injuries; and
- Extent of any vehicle damage as well as vehicle details (e.g. registration).

8.3.2 Reporting procedure for Transport employees

The reporting process in *Table 8-4* must be followed by Transport staff performing work for Transport. The SRIMS Helpdesk can be contacted in 1300 131 469 or SRIMS mailbox SRIMS@rms.nsw.gov.au for assistance.

Table 8-4. Reporting requirements for Transport for NSW staff

Type incident	Requirements
Incidents involving Transport employees	All workplace incidents and near misses must be reported immediately to the workplace supervisor who is responsible for investigating the incident. The incident and investigation must also be recorded in Transport's incident reporting system, SRIMS.
Incidents involving non-Transport employees on Transport work sites	All workplace incidents that involve a non-Transport employee including contractors, visitors and members of the public must be reported immediately to the Transport workplace supervisor, who is to determine responsibility for investigating the incident. The incident and investigation must also be recorded in the incident reporting system of Transport, SRIMS.

8.3.3 Reporting to SafeWork NSW

By law, employers or occupiers must report work-related incidents to SafeWork NSW or the relevant workers compensation insurers.

An occupier (of premises or workplace) is someone who manages or has responsibility for a workplace or a particular operation at a workplace, even if they are not the employer.

Serious incidents must be notified to SafeWork NSW immediately as an urgent investigation may need to be undertaken. For Transport internal work, the Work Health and Safety Branch is responsible for notifications to SafeWork NSW.

Serious incidents include:

- An incident where there has been a fatality to an employee, contractor, visitor or member of the public;
- An incident where there has been a serious injury or illness, such as when a person:
 - Is placed on a life support system;

- Loses consciousness;
- Is trapped in machinery or a confined space; or
- Has serious burns.
- An incident where there is an immediate threat to life, such as major damage to machinery or buildings.

Further details on SafeWork NSW's reporting requirements can be found on the [SafeWork NSW Incident Notification](#) website.

After a serious incident has been reported the immediate area around the incident must not be disturbed (adhering to SafeWork NSW requirements), except where exemptions are provided for under the [WHS Act 2011](#) which include to assist any injured persons, to avoid further injuries and issues or where SafeWork has authorised work to continue.