

APPROVAL REQUIREMENTS FOR NEW TRAFFIC ASSETS

TDT 2012/

08

General

This Technical Direction (TD) details the consultation and project specifications approval process for new traffic assets.

In Scope

- New traffic assets
- Upgrade of existing assets adding new functionality having major impact on the performance of these assets
- Asset life cycle management requirements

Out of Scope

- Existing traffic assets

This TD ensures the asset life cycle requirements are included in the project specifications for new traffic assets. This TD also complements the project management process for MinorWorks, ProjectPack and ITS Pack.

Traffic assets have grown significantly on the NSW road network over the last few years and will continue to do so. New traffic assets originate from different parts of the RMS; the specifications of new assets needs to be reviewed by the RMS technology groups, traffic asset management personnel, operational and maintenance groups.

The identification of funding for ongoing maintenance of new traffic assets is a critical issue that needs to be managed. Involving the sponsors, operators, asset and maintenance managers in the consultation and project specifications approval process will not only mitigate post handover technical issues but also highlight the ongoing operational and maintenance risks in a timely manner. The idea is to create transparency in the project specifications approval process of new traffic assets by adopting a consultative approach at various project stages and help in the smooth handover of traffic assets for on going operation and maintenance. Consequently, this will assist in life cycle management of the traffic assets by providing a reasonable assessment of the funding requirements for the up-keep of these assets throughout their expected life.

Distribution List:

Director, Infrastructure Development; Director, Commercial; Traffic & Safety Management staff; Project and Asset Managers.

For further enquiries

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Definitions

Terms	Definitions
Intelligent Transport System (ITS) Assets	Covers traffic signals, street lights, emergency phones, incident management systems, safety advisory systems, electro-mechanical tidal flow systems and driver aid systems with ITS devices such as Variable Message Signs (VMS), Variable Speed Limit Signs (VSLS), Closed Circuit Television (CCTV), weather stations, school zone alert systems, Sydney emergency evacuation system, Traffic Monitoring Units (TMU) and Changeable Message Signs (CMS) etc.
ITS Device	A physical electrical, electronic or electromechanical device (e.g. VMS, VSLS, CCTV, movable median, barrier gate etc. and associated interfaces) used to achieve an ITS objective or form part of an ITS system.
ITS Infrastructure	Physical structures or utilities which enable or form part of an ITS system such as pits, conduits, structures, foundations, cabling, etc.
Traffic Assets	Includes Non-ITS Assets such as signs and road markings, ITS Assets, ITS Devices, ITS infrastructure, hardware, software, firmware, documentation, intellectual property rights.
Existing Traffic Assets	Traffic Assets that have already achieved development maturity and are in service for a reasonable period of time
Traffic Asset Project	This signifies a project or part of a major project which consists of the design, development, installation, commissioning, handover, modification or removal of traffic assets.
TFAM	Traffic Facilities Asset Management (TFAM) is the Section in Traffic and Safety Management Branch (T&SMB) responsible for providing leadership in asset management through policy formulation and directions for traffic assets. Also, responsible for funding traffic asset management and maintenance.
ITSP	ITS Projects is the Section in Engineering Technology Branch (ETB) providing project development and management as well as technical support for ITS projects State-wide.
RISS	Road Information Strategy and Services collecting road based data and providing information to make evidence based decisions for improving efficiency and effectiveness of the road network.
SPS	Sydney Project Services (SPS) is the Section in Sydney Region providing life cycle management, planning and forecasting for traffic assets state-wide.
TMC	Transport Management Centre (TMC) is the Branch in Department of Transport (TfNSW), responsible for operating ITS assets. It is also responsible for monitoring the operational performance of ITS assets except for street lights, emergency phones, school zone alert systems.
ET	Engineering Technology Branch (ETB); Groups involved in Traffic System Design (TSD) and Civil Traffic Design (CTD). Responsible for design.
T&SMB (TSI)	Traffic and Safety Management Branch (T&SMB); Traffic System Integration (TSI) at Eveleigh: Responsible for standards, standard specifications and type approval of ITS assets.
STS	Sydney Traffic Services (STS); with its facilities for design, development, installation, commissioning and maintenance of traffic assets.
TES	Traffic Equipment & Standards (TES) Responsible for standards and type approval of traffic signals. This group is also responsible for maintenance specifications, version control and compliance testing of ITS assets.

Guidelines

This technical direction details the approval requirements for new traffic assets or asset trialling-research within existing or new traffic asset projects. A flow chart depicting the process attached in **Appendix A** summarises the consultative process as the project proceeds from design to development, construction and to handover:

Requirement of New Traffic Assets

The requirement for a new traffic asset may originate as part of an existing or new traffic project. For every new asset, a requirement specification is required. In the case of a new traffic project, the requirement specifications of the new ITS assets can be developed from the sponsor's brief or concept plan. Normally, the requirement specification will be written by project team. The requirement specifications will be submitted to the Specification Consultation Committee (SCC) for review. The SCC will normally be constituted as follows:

1. TFAM member as chairman
2. Traffic Equipment and Standards (TES) member as secretary
3. T&SMB(TSI) member
4. ITSP member
5. RISS member
6. SPS member
7. TMC member
8. STS member
9. Sponsor's representative

If necessary the SCC may work with fewer members for the sake of efficiency as determined by the chairman. The preferred method of consultation will be by face to face meetings. However, in time-critical cases as determined by the SCC chairman, the consultation may be carried out via email/teleconference to speed up the process.

Design Stage

The SCC will analyse the requirement specifications/business requirement document for the new traffic asset project. At this stage, the reliability, maintainability and availability aspects over the life cycle of the traffic assets will be deliberated and the suitability of the requirement specifications will be ascertained. Based on the preliminary assessment, the SCC will either approve or reject the requirement specifications. If the requirement specifications are not accepted, SCC may recommend changes to them and request resubmission. On receiving the acceptance of the requirement specifications, the project team will proceed with risk assessment and detailed design of the project as detailed in the Minor Works/Project Pack/ITS Pack.

At this stage of the design, the maintenance specifications and the life cycle cost schedule of the project must be prepared by the project team. The requirement specifications, risk assessment and the cost schedule must be submitted to the SCC along with the finalised design. The SCC may recommend changes to the plans or cost schedule if required. This will be considered as a *hold point*.

At this stage a trial of the new traffic asset may need to be carried out or research & development/study work may need to be undertaken as recommended by the project and approved by the SCC or initiated by the SCC as part of its own determination the template for 'Trial and R&D/Study' process - **Appendix B** must be followed. This trial shall be conducted by the project team under the direction of SCC or its appointed representative. At the end of the trial a report must be submitted to the SCC by the project team identifying the results of the trial/R&D/study. The SCC will advise how the results of the trial/R&D/study

shall be used by the project team to finalise the specifications of the traffic asset. The project team must submit the finalised specifications to the SCC for acceptance.

If no trial/R&D/study is needed, the SCC is to document the reasoning for the decision.

On acceptance of the specifications by the SCC (with or without a trial/R&D/study) the SCC shall recommend the approval of the specifications of the traffic asset to the General Manager Traffic and Safety Management Branch (T&SMB). Based on recommendations from the SCC, the General Manager T&SMB will grant the approval. This step will be considered a *hold point*.

The Traffic Facilities Maintenance Planner will determine the net present value of the life cycle costs and prepare a maintenance plan with annual recurrent maintenance cost for inclusion in the traffic facilities maintenance program. A template for assessing the life cycle costs over the assessed life of the traffic assets is attached as **Appendix C**.

Construction Stage

During the construction stage, the Minor Works/Project Pack/ITS Pack as applicable will be followed.

Any material change in design specifications during construction stage must be referred to the SCC and approval obtained from GM Traffic and Safety Management (GM, T&SM).

Commissioning

Prior to commissioning, the project team shall submit a compliance statement and associated certifications/test reports to the SCC for review. The SCC or its representative shall verify and validate the compliance claims by the project team. This will be considered as a *hold point*.

The Factory Acceptance Test (FAT)/Site Acceptance Test (SAT) documents prepared for the new traffic asset must be reviewed and accepted by the SCC. The SCC will ensure that the FAT/SAT tests reflect the approved specifications for the Traffic Asset. This activity will be considered as a *hold point*.

FAT/SAT will be carried out as per project management process defined in the MinorWorks, ProjectPack, ITS Pack for Traffic Assets as applicable.

Project Handover

After successful commissioning the project will be ready for operations. The process for handover is set out in the MinorWorks, ProjectPack and ITS Pack as applicable.

At this stage, any variation to the life cycle cost assessment will be given to the SCC and subsequently passed on to the Traffic Facilities Maintenance Planner (TFMP). The TFMP will take over the new asset only when all design documents, maintenance specifications and cost schedules are handed over as detailed in the MinorWorks, ProjectPack and ITS Pack as applicable. This activity will be considered as a *hold point*.

The Traffic Facilities Maintenance Planner will finalise the maintenance plan identifying the recurrent maintenance cost in the future maintenance program. At the same time, SPS Traffic Asset Officer will include those assets in the ITS Asset Database.

Attachments

Traffic ITS Projects Approval Process Diagram – Appendix A.

Template for Trial/R&D/Study – Appendix B.

Template for Life Cycle Costs of Traffic ITS Assets – Appendix C.

Action

This policy takes effect immediately.

Updates

To ensure that this *Technical Direction* remains current and relevant, minor updates may be made from time to time. This may be done through the Roads & Maritime Services' website using the Traffic & Transport Policies & Guidelines Register which can be found at:

www.rta.nsw.gov.au/trafficinformation/guidelines/documentregister.

The Register should always be checked prior to using this *Technical Direction*.

Approved by:

Authorised by:

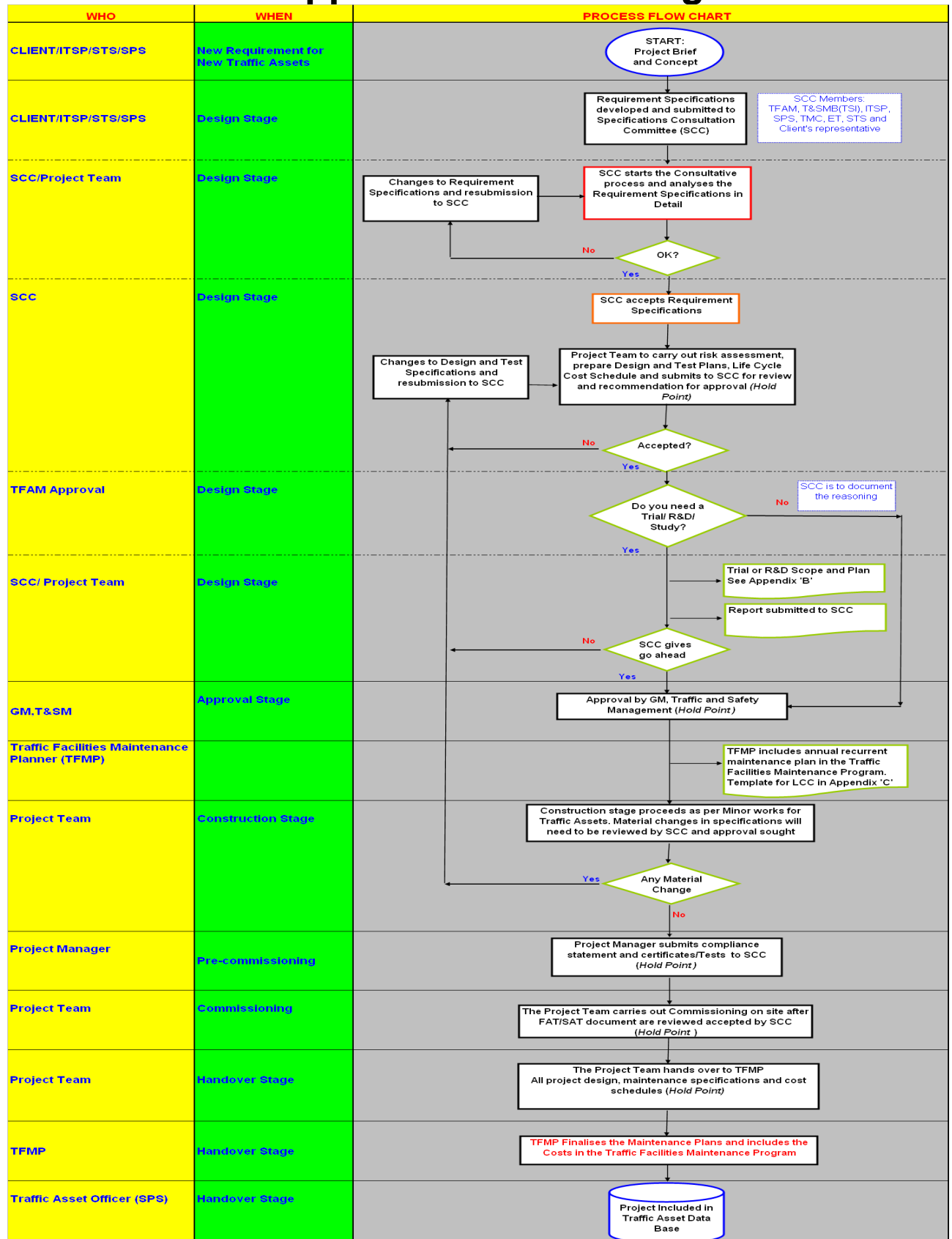
SIGNED

SIGNED

Craig Moran
General Manager
Traffic and Safety Management

Michael Veysey
Director
Network Management

APPENDIX A - Approval Process Diagram



APPENDIX B: TEMPLATE FOR TRIAL/ R&D/STUDY

Trial/R&D/Study Information

- Title
- Date
- Project No.

Scope

- *[Description of scope]*

Background

- *[Description of background]*

Issues

- *[Description of issues]*

Objectives

- *[Description of objectives, as for examples, what to achieve, deliver, or demonstrate]*

Constraints (limitations)

- *[List of applicable project constraints]*

Criteria

- *[List of criteria that are applicable to the project, e.g. criteria for operation, operational environmental conditions to be evaluated, and metrics for the trial/R&D/study]*

Deliverables

- *[List of required deliverables]*

Milestones

- *[Tabulate the milestone dates for deliverables of the Trial/R&D/Study]*

Research management

Team

Roles and responsibilities

- *[Tabulate the roles, names and responsibilities of the Trial/R&D/Study team]*
- *[Include contact details of the Project Manager]*

Stakeholders

Sponsor

- *[Details of the Sponsor]*

Sponsor’s representative

- *[Details of Sponsor’s representative]*

Specifications Consultation Committee

Acceptance

Chairman

- Signed:
- Position:
- Date:

APPENDIX C: LIFE -CYCLE COSTS

COST ELEMENTS	YEAR 1 \$	YEAR 2 \$	YEAR 3 \$	YEAR 4 \$	YEAR 5 \$	YEAR 6 \$	YEAR 7 \$	YEAR 8 \$	YEAR 9 \$	YEAR 10 \$
Project Management										
Initiation										
Design										
Development										
Procurement										
Prototypes										
Construction										
Testing (e.g. FAT and SAT)										
Commissioning										
Operation										
Scheduled Maintenance										
Unscheduled Maintenance										
Upgrades										
Decommissioning										
Disposal										
TOTAL COSTS										
Net Present Value (for TFMP use)										
	Year =	Financial Year								