Transport for NSW

Standards Management Framework

March 2023, 2nd Edition

NSW GOVERNMENT

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Acknowledgement of Country

Transport for NSW acknowledges the traditional custodians of the land on which we work and live.

We pay our respects to Elders past and present and celebrate the diversity of Aboriginal people and their ongoing cultures and connections to the lands and waters of NSW.

Many of the transport routes we use today – from rail lines, to roads, to water crossings – follow the traditional Songlines, trade routes and ceremonial paths in Country that our nation's First Peoples followed for tens of thousands of years.

Transport for NSW is committed to honouring Aboriginal peoples' cultural and spiritual connections to the lands, waters and seas and their rich contribution to society.

Table of Contents

1. Introduction 7

1.1 Purpose 7

1.2 Related frameworks 7

1.3 Scope 8

1.4 Principles 8

2. Referenced documents 9

3. Terms and definitions 9

4. Context and alignment 10

4.1 Organisational context 10

4.2 Alignment 12

4.3 Stakeholders 12

5. Roles and responsibilities 13

5.1 Leadership commitments 13

5.2 Accountability roles 14

5.3 Levels of assurance and authority 14

5.4 Governance oversight 15

6. Standards classification and hierarchy 17

6.1 Standards classification and categories 17

6.2 Standards hierarchy 19

6.3 Changes to legislation and standards 20

7. Standards life cycle 21

7.1 Creating and reviewing standards 21

7.2 Concessions and nonconformances 21

8. Support 22

8.1 Resources, communication and awareness 22

8.2 Information requirements 23

8.3 TfNSW Standards developed by third party 23

9. Performance monitoring and improvement 24

9.1 Reporting 24

9.2 Assurance program 25

9.3 Innovation and improvement 25

9.4 Value creation 26

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2	Periodic update

Preface

Following the merger of NSW transport modes into a Transport cluster in late 2019, the current Transport operating model includes customer, delivery, enabling and regulatory divisions, operating agencies and external delivery partners that work together to deliver safe, customer-focussed services and outcomes across all transport modes.

A key driver of change for TfNSW, and the approach to standards management, is shifting the focus from mode-based prescriptive compliance to mode agnostic outcomes-based compliance.

The first edition of the Standards Management Framework was novel in defining standards as an asset (intangible) and for embedding the foundational approach of balancing cost, risk and performance across the life cycle. This second edition builds on this foundation and has been updated to reflect changes and improvements in the organisational maturity, systems and processes.

To provide continuous improvement this document should be reviewed every two years, or after any significant business process changes.

1. Introduction

1.1 Purpose

In the context of asset management, this Standards Management Framework (the Framework) describes the TfNSW standards management system, and specifically how standards (as assets) are developed, managed and governed for application to assets used in the Transport business.

This Framework is designed to provide a consistent, whole of life cycle approach to standards management. Implementation of the Framework aims to maximise value for customers, communities and the people of NSW.

Standards is the collective term used to identify asset and related process requirement documents for managing the configuration of transport assets and services through the asset life cycle

1.2 Related frameworks

The **Asset Management Framework** aligns TfNSW to the NSW Treasury Asset Management Policy and relevant national and international asset management standards such as the ISO 55000 series. There are six integrated frameworks which work together to support a consistent approach to asset management across the life cycle of TfNSW's assets and services, see Figure 1.

This document (the **Standards Management Framework**) describes the way transport standards are developed, managed and governed for application to assets used in the TfNSW business.

The **Configuration Management Framework** builds on the roles and responsibilities defined in the Asset Management Framework, particularly the asset custodian, and defines the authority required to make and recommend changes to TfNSW assets and services.

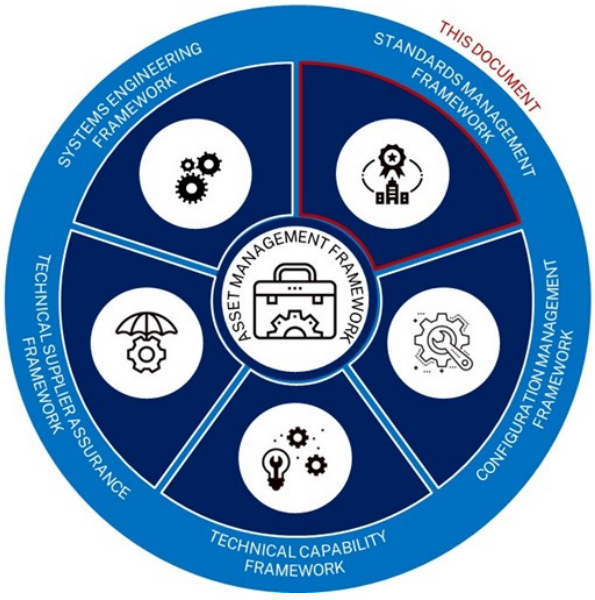


Figure 1. Transport's integrated asset management framework

The **Systems Engineering Framework** is currently in development and is intended to support the Asset Management Framework through the provision of a structured development process across the life cycle taking into consideration both the organisational and technical needs.

The **Technical Supplier Assurance Framework** (TS 00018) focuses on the supply of technical services and products to TfNSW and defines the assurance required to give justified confidence that the technical aspects of an asset or service change have been appropriately considered and conducted.

The **Technical Capability Framework** provides TfNSW with a structured and systematic approach to managing its technical capabilities. It establishes a shared language to describe the capabilities needed to perform work at different levels across TfNSW.

1.3 Scope

This Framework applies to all standards developed under the TfNSW Asset Management Policy for all transport assets.

The Framework does not apply to TfNSW-wide standards that are developed in accordance with the Corporate Policy Framework. However, this Framework is consistent with the Corporate Policy Framework.

This Framework does not apply to standards developed under externally accredited management systems such as a Safety Management System or an Environmental Management System.

1.4 Principles

The key principles which serve as the foundational policies of this Framework are outlined in Table 1.

Table 1. Key principles

	Standards are an asset TfNSW standards are an intangible asset with a life cycle
	Industry accepted TfNSW adopts industry accepted standards with no or minimal modification
	Outcomes based The Framework is outcomes focused producing performance-based standards where appropriate
	Risk-based management TfNSW standards provide for an appropriate balance of cost, risk and performance across the life of the asset
	Collaboration and consistency TfNSW standards management facilitates Transport-wide collaboration and consistency

Innovation and improvement

TfNSW standards promote and support innovation, continuous quality improvement, risk control and organisational effectiveness

2. Referenced documents

The following documents are cited in the text. For dated references, only the cited edition applies. For undated references, the latest edition of the referenced document applies.

Australian standards

AS ISO 55001 Asset management – Management systems – Requirements

Transport for NSW standards

TS 00001.1 Standards Review and Development

TS 00002 Information Architecture for Transport Standards

TS 00003.1 Concessions to Transport Standards Part 1 - Concession Process

TS 00004.1 Nonconformances to Transport Standards Part 1 - Nonconformance Process

TS 00018 Technical Supplier Assurance Framework

TS 01515.1 Asset Information, Part 1: Management of Asset Information (T MU AM 02004 ST Management of Asset Information)

TS 06197.2 Technically Assured Organisation (TAO) Scheme

Other referenced documents

Asset Management Framework

Asset Management Value Creation Toolkit

Configuration Management Framework

Systems Engineering Framework (in development)

Technical Supplier Assurance Framework

Technical Capability Framework

TfNSW Asset Management Policy

Corporate Policy Framework

Transport Cluster Strategic Asset and Services Plan (SASP)

TfNSW Stakeholder and Community Engagement Policy

3. Terms and definitions

Asset Custodian Accountable for the end-to-end lifecycle management and performance of assets (including asset condition, risk and reporting) on behalf of the asset owner to achieve agreed customer and community outcomes

Asset Management Branch Configuration Control Board (AMB CCB) Reviews and endorses TfNSW standards. The AMB CCB also delegates these functions based on the significance of the standard or concession

Asset Management Standards Advisory Panel (AMSAP) Provides independent technical advice to the AMB CCB or the Asset Management Steering Committee about new and revised standards that are considered significant standards

Asset Management Steering Committee (AMSC) Drives maturity, capability and consistent application of asset management practices across the Transport cluster. The AMSC also reviews and endorses significant TfNSW standards and concessions

Asset Steward Responsible for the management and performance of assets (including asset condition, risk and reporting) on behalf of the asset custodian for the required lifecycle stage and duration of the partner relationship. (e.g., delivery, operate or maintain)

SER Safety, Environment and Regulation division of Transport for NSW

Stakeholder Individual or group whose interest in the standard is recognised

Standards Lead Formalised individual who is identified as accountable for the management of the standard across its life cycle and is generally located within the structure of SER, however where standards management is a small part of an overall function or highly specialised within one division, the role may be outside of SER – for example: security management, safety

Standards management system Subset of the asset management system which describes how standards (as assets) are developed, managed and governed for application to assets used in the Transport business

Standards Program Management Office (PMO) Provides support for the development and publication of standards within the Standards Process Development and Publishing team in the Asset Management Branch of SER

Technical capability Engineering and/or scientific knowledge, skills and abilities to perform a role effectively

Technical direction (TD) Temporary document issued as an interim measure to clarify, add or delete requirements to an existing network standard, or to introduce new requirements in advance of the development and publication of a new network standard

Technical Subject Matter Expert (SME) Formalised individual who is identified as responsible for the technical content of the standard and is located within a relevant division across TfNSW

4. Context and alignment

4.1 Organisational context

Transport for NSW's (TfNSW) role is to lead the development of a safe, efficient, integrated transport system. The Asset Management Policy provides a statement of leadership commitment to effective asset management and sets the direction for asset management.

The Asset Management Framework (AMF) outlines the interrelated policies, objectives and processes that work together to support achievement of our enterprise or organisational objectives through asset management.

The Standards Management Framework (this document) is a key enabler, or technical and design support element, to the Asset Management Framework, see Figure 2.

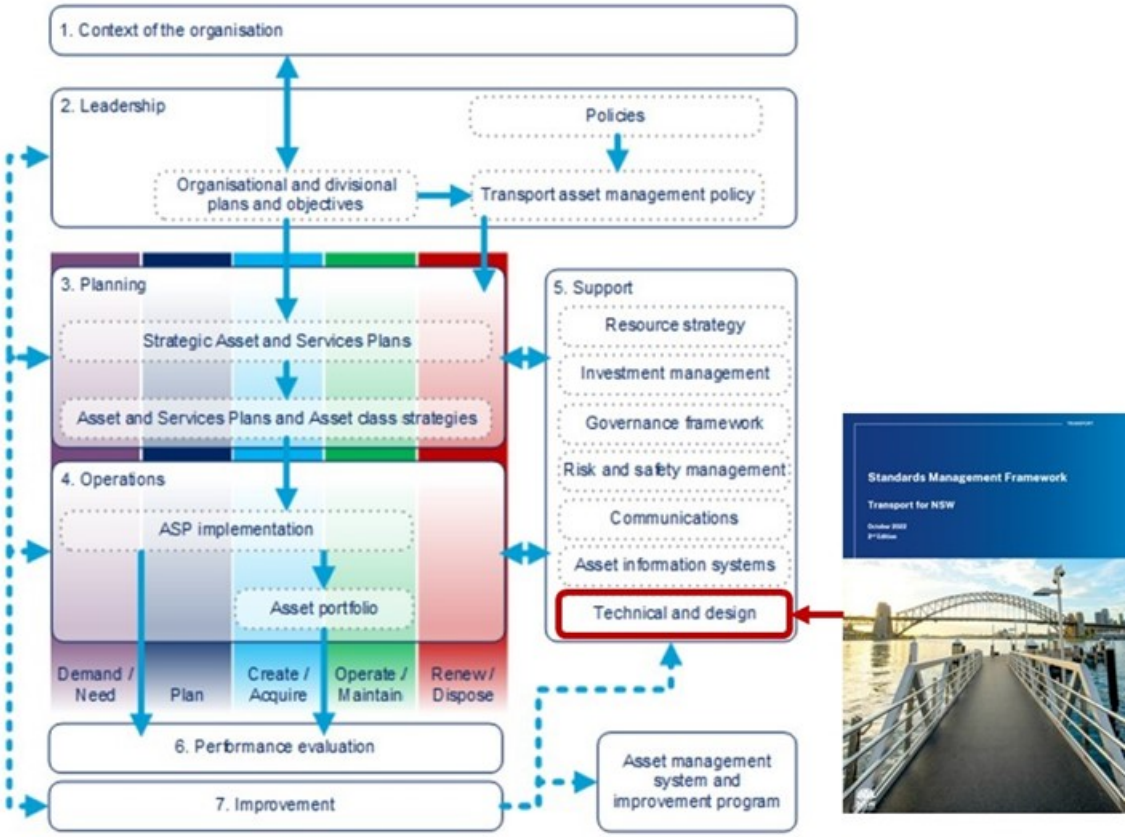


Figure 2. Standards Management Framework supporting the Asset Management Framework

Key relationships between standards management and the AMF are outlined in Table 2.

Table 2. AMF relationships

AMF element		Relationship
Organisational and divisional plans and objectives	⇨	Informs the role and direction of standards and standards management
Asset Management Policy	⇨	Informs the Standards Management Framework
Strategic Asset and Services Plans (SASPs) and Asset and Services Plans (ASPs)	⇔	Asset and service strategies and outcomes inform and are informed by standards
Governance framework	⇨	Informs the Standards Management Framework and approach for governing changes to and application of standards
Asset information systems	⇔	Informs and are informed by standards information management
Technical and design	⇔	Informs and are informed by the Standards Management Framework and standards
Risk and safety management	⇨	Informs standards management across the asset life cycle
Performance evaluation and improvement	⇨	Informs performance reporting against the Standards Management Framework

4.2 Alignment

The objective of the TfNSW standards management system, which is described by this Framework, is to support and enable the achievement of the Future Transport Strategy and its asset management objectives as articulated in the Transport Cluster Strategic Asset and Services Plan (SASP), see Figure 3.

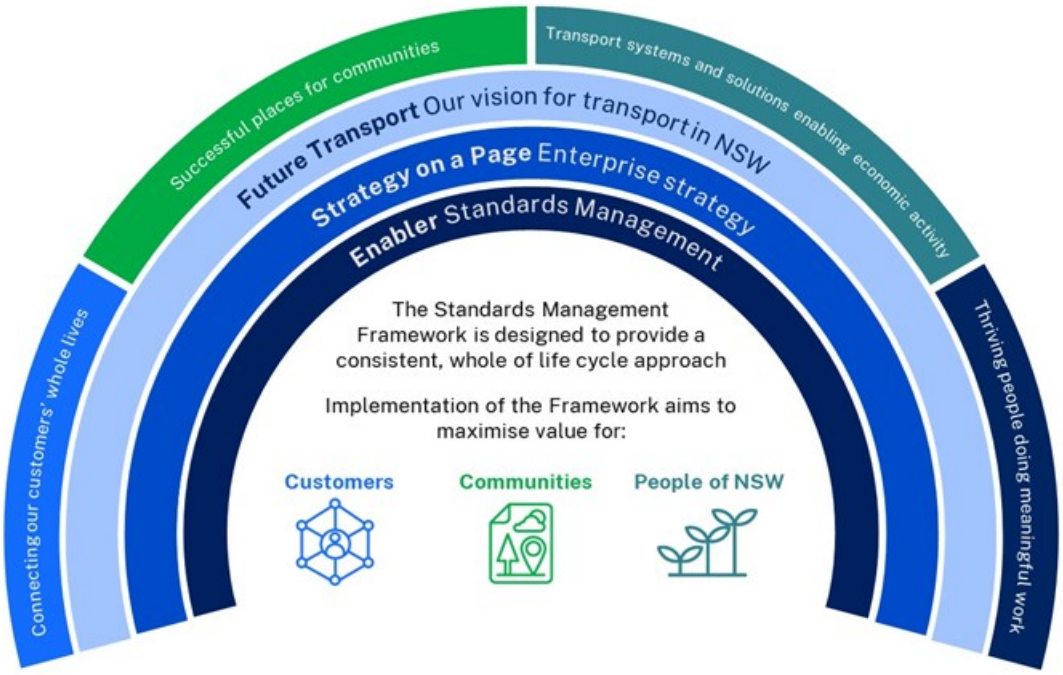


Figure 3. An enabler to strategic outcomes

4.3 Stakeholders

This Framework provides stakeholders with a level of assurance that standards management system objectives will be achieved. Table 3 lists stakeholders relevant to the Framework, with a summary of their interest.

Table 3. Key standards management stakeholders

Stakeholder	Interest
Secretary for Transport	Assurance that the intended network safety, integrity, availability and reliability outcomes are achieved and regulatory / legislative obligations are met
Asset Custodian	Standards that deliver the required whole of life cycle outcomes in alignment with the organisational and asset management objectives
Asset Steward	Application of standards that deliver the required project or program outcomes in alignment with the asset custodian requirements
Technical SMEs	Provides technical subject matter expertise, services and support in standards development and application

Stakeholder	Interest
Standard Setters	Collective roles responsible for establishing and administering this Framework and standards, and provides risk-based assurance that they are applied Provides technical subject matter expertise, services and support and includes but is not limited to the Standards Lead, Technical SME and PMO
Delivery partner	Also known as Service Provider. Application of standards that deliver the required project or program outcomes in alignment with TfNSW requirements
NSW Treasury	Assurance that the intended network safety, infrastructure integrity, network availability and reliability outcomes are achieved and regulatory/legislative obligations are met
Other government agencies	Sharing of frameworks and standards to foster continuous improvement learnings across government
Standards Development Organisations	External organisations seeking harmonisation, alignment and continuous improvement learnings across transport technical guides and tools and TfNSW standards, for example: Rail Industry Safety and Standards Board (RISSB) and Austroads
Suppliers	Application of standards to deliver the required products or services in alignment with the TfNSW requirements
Transport Asset Holding Entity (TAHE)	Assurance that the intended rail network safety, integrity, availability and reliability outcomes are achieved and regulatory/legislative obligations are met
Technically Assured Organisations (TAOs)	Application of standards that deliver the required project or program outcomes in alignment with TfNSW requirements and the scope of the TAOs authorisation

TfNSW has a Stakeholder and Community Engagement Policy that ensures consistency in the way TfNSW deals with customers, business partners, community members, and organisations with an interest in the State's transport systems and networks.

Under the Standards Management Framework, TfNSW will hold stakeholder information sessions for both internal and external stakeholders.

These collaborative stakeholder engagement sessions will provide an opportunity for stakeholders to outline their requirements and expectations, provide peer review and sharing of lessons learnt. TfNSW will also use these sessions to communicate performance against the Framework and to consult on changes to the Framework and associated artefacts.

5. Roles and responsibilities

5.1 Leadership commitments

Effective standards management requires demonstration of leadership commitment from top management to the system, together with an appropriate organisational culture to achieve the necessary outcomes. A fundamental element for effective leadership is clarity in accountability roles and this is supported by effective and aligned governance and assurance systems.

Further details on leadership commitments are outlined in the TfNSW Asset Management Framework.

5.2 Accountability roles

The key standards management accountability roles are described in Table 4. Application of these roles across the life cycle of a standard are described in further detail in the TS 00001.1 Standards Review and Development Standard and TS 00003.1 Concessions to Transport Standards – Part 1: Concessions Process Standard.

Table 4. Standards management accountability roles

Role	Description
Standards Lead	Formalised individual who is identified as accountable for management of the standard across its life cycle and is generally located within SER's structure, however where standards management is a small part of an overall function or highly specialised within one division, the role may be outside of SER – for example: digital engineering or strategic planning
Technical SME	Formalised individual who is identified as responsible for the technical content of the standard and is located within a relevant division across TfNSW and in some of our contracted service providers
Standards PMO	Support for the development and publication of standards provided by the Standards Process Development and Publishing team within the Asset Management Branch of SER
TSSR	The team within SER with oversight and accountability across system safety and risk
Internal Stakeholders	People/areas within TfNSW who have an interest or concern in standards
External Stakeholders	People/areas external to TfNSW who have an interest or concern in standards

The asset standards information system captures data recognising both allocated roles of Standards Lead and Technical SME as the point of contact to each standard as an asset.

5.3 Levels of assurance and authority

Transport adopts a 'levels of assurance' model to establish clear accountabilities and authorities at each of the levels, see Figure 4. This model allows Transport to assess that its risk exposure is appropriately controlled and assure itself that the asset custodians, stewards and TAOs or delivery partners are capable of complying with relevant asset management standards, legislation and regulatory obligations and contractual requirements.

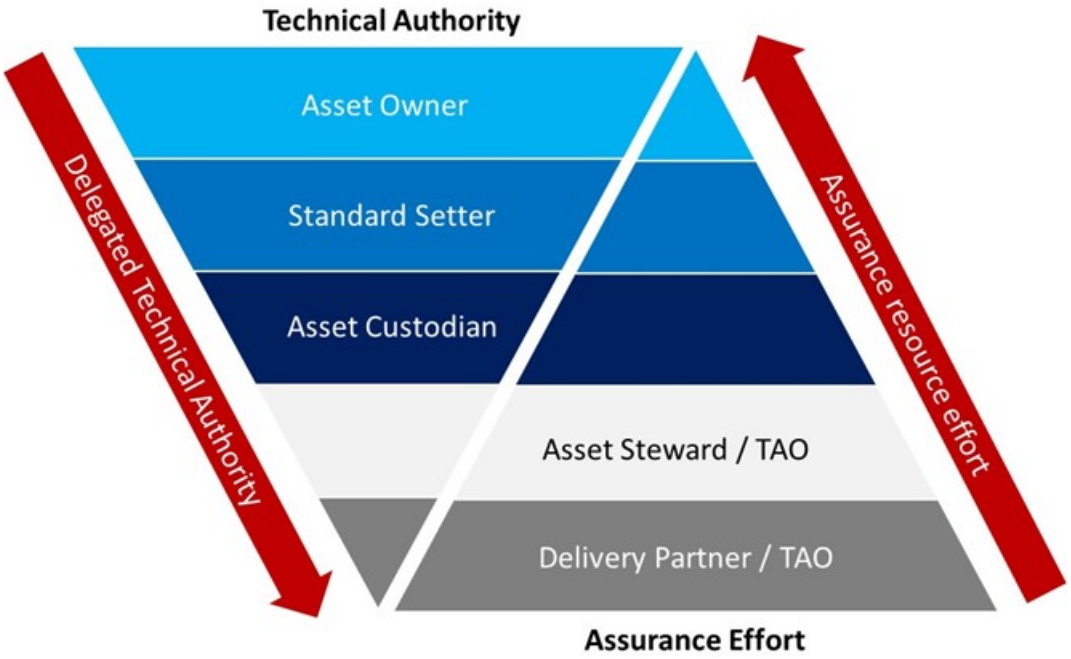


Figure 4. Levels of assurance model

Technical authority is delegated, based on proven skills and capability, from the asset owner to the standard setter, who is accountable for setting standards for products and services and establishing the related assurance frameworks.

The asset owner uses internal and external audits and reviews to test and provide assurance that their obligations are met.

In the case of standards management, the Asset Management branch is accountable for establishing the standards management system and related assurance systems which are covered in this Framework. They are also accountable for providing risk-based assurance that the Framework, standards and controls are being applied.

The asset custodian, as an informed client, is accountable for setting the required whole of life cycle outcomes for their assets. They are also accountable for providing risk based due diligence and assurance activities that the outcomes are being met through intelligent compliance with the required standards.

The asset steward is accountable for delivery and the TAO or delivery partner is responsible for delivering the required outcome applying intelligent compliance with the relevant standards. The TAO or delivery partner is accountable for providing 100 per cent self-assured products or services across their authorised technical capability areas. The asset steward provides independent risk-based verification and due diligence. See Technical Supplier Assurance Framework for further information on TAOs.

5.4 Governance oversight

The governance model used across standards management integrates into the formal Transport governance model for asset management frameworks, systems, processes and standards, see Figure 5. This creates alignment between standards management and overall asset management.

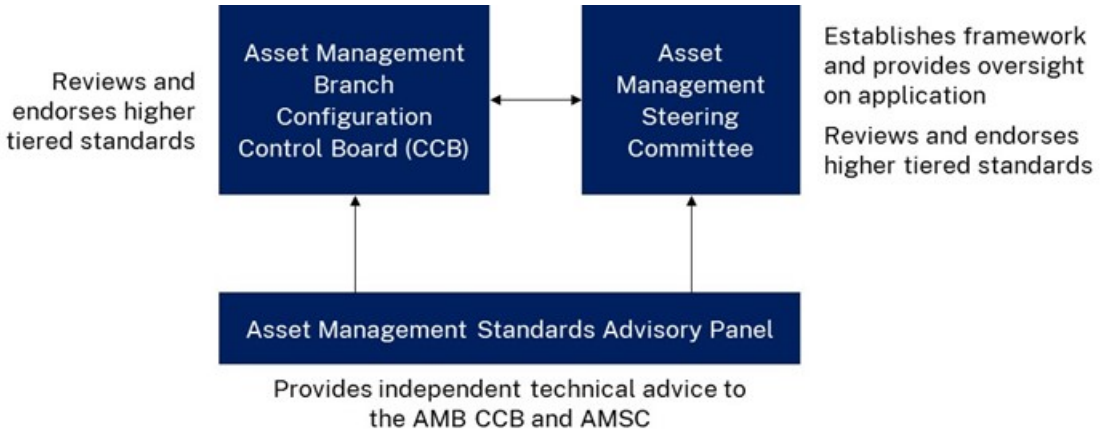


Figure 5. Standards management governance model

The Asset Management Steering Committee (AMSC) provides oversight in establishment and application of this Standards Management Framework. The AMSC receives periodic reporting on performance of the Framework and relevant insights are shared from the AMSC to the Asset Management Branch Configuration Control Board (AMB CCB).

A scaled (tiering) approach has been adopted to apply an appropriate level of assurance and governance to standards and concession development and review. Through tiering, an appropriate level of authorisation is identified to support efficient decision-making that is commensurate with the risk and change impact, see Figure 6.

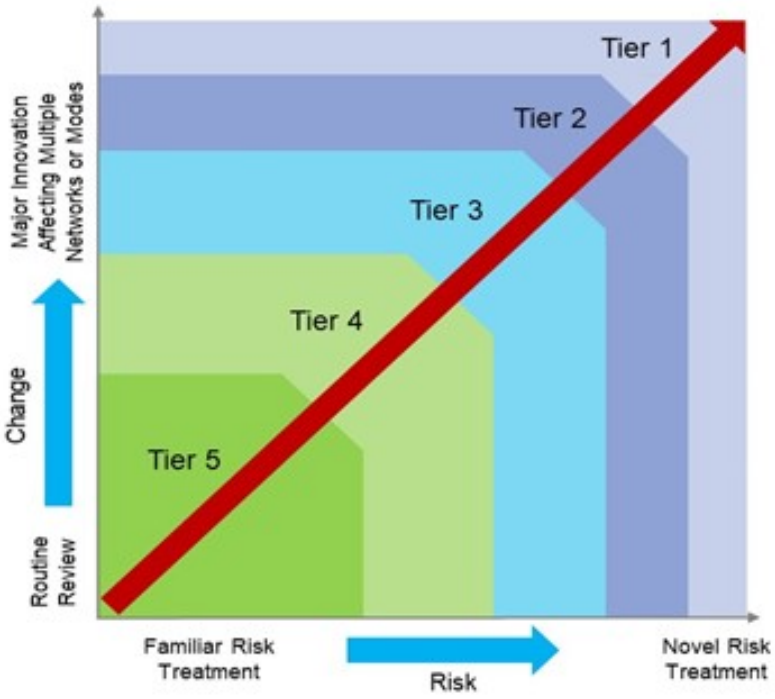


Figure 6. Scaled approach

The Asset Management Standards Advisory Panel provides independent technical advice to both the AMSC and AMB CCB who are accountable to review and endorse TfNSW standards and concessions.

The tiering approach and application, including when a standard or concession is approved by the AMSC or the AMB CCB, are described in further detail in TS 00001.1 Standards Review and Development Standard and TS 00003.1 Concessions to Transport Standards – Part 1: Concessions Process Standard.

6. Standards classification and hierarchy

6.1 Standards classification and categories

Standards are classified according to their use to provide users within groups or across groups a basis for mutual understanding of the standard type. Table 5 provides guidance and a sample (not an exhaustive list) of the types of standards within the scope of this Framework.

Table 5. Guidance on standards classification

Classification	Description
Business or Asset Management System Standard	An asset related business process applied across the business or parts of the business to streamline information flows across the asset life cycle and achieve consistent business outcomes, and/or sets system requirements for managing an asset management function.
Design Standard	A document that sets the minimum requirements for the design of a system, subsystem, or an individual asset, for example overbridges and footbridges. This classification of standard includes product type approvals (such as expansion joints or bridge bearings) and approvals of standard configurations/typical arrangements such as vehicle axle loads.
Product Standard	A document that specifies minimum requirements for function, interface, performance, design, construction, maintenance, and quality of a product. This classification includes product type approvals, for example general products.
Network Asset Standard	A document that specifies minimum requirements for function, interface, performance, safety, design, construction, maintenance, and quality of an asset. This classification may bring together a number of other subgroups, for example Design and Product Standards. This classification includes Technical Maintenance Plans and TOC (Train Operating Conditions) Waivers.
Safety Standard	A document that sets the minimum safety performance requirements of a system, subsystem or a product, for example structural integrity and crashworthiness of passenger rolling stock Standard, vehicle standards, or temporary traffic control at worksites.
Information Standard	A document that sets the minimum requirements for information including the extent and nature of information that is to be derived and maintained for a system, subsystem or a product, for example Asset Handover Information, Management of Asset Information, Engineering Drawings and CAD Requirements.
Data Standard	Documents the rules by which data are described, exchanged and recorded.
Technology Standard	At the most basic level, technology standards establish boundaries for technology usage, specifying technology to be used (acceptable use) and restricting access to technology that is deemed non-standard.

There are four categories of standards: technical standards (TS), technical directions (TD), concessions (CN) and nonconformances (NC). A description of each category is provided in Table 6.

Table 6. Categories of standards

Category	Description
Technical Standard (TS) – examples:	
Policy	High level directions set by TfNSW that reflect the core values, direction, and vision of the organisation in the context of TfNSW Standards.
Standard	A document that sets high-level function, interface, performance and design requirements for a system or asset type. Note: this includes Austroads Guides when adopted as TfNSW Standards, unless specifically stated otherwise.
Specification	Sets minimum or precise requirements specific to that system or an asset for the detailed outcomes in terms of quality or performance expected in the finished product or system. Note: this includes Austroads Specifications when adopted as TfNSW Specifications, unless specifically stated otherwise
Plan	A plan is a document that describes activities, roles and responsibilities relating to a management process and sets requirements to achieve a desired outcome. Plans include technical maintenance plans.
Supplement	A supplement is issued by TfNSW to clarify, add to, or modify the application of requirements such as Legislation, RISSB guidelines, Australian Standards or the Austroads Guides. Supplements also include Type Approvals.
Procedure	A procedure is a document that describes a step-by-step process and sets procedural requirements to achieve a desired outcome.
Manual	A manual is a practical guide on how to perform a task or activity in relation to a system or an asset during the life cycle of that system or asset.
Guide	A guide is a document that provides clarification or additional information and could be applied to achieve expected outcomes on an asset.
Standard Drawing	A technical drawing that depicts a Standard or common configuration that can be used in a specified context without change. A Standard drawing may be made mandatory via a Standard or Specification.
Test Method	A test method is a standardised scientific process that consists of the determination of one or more characteristics of a given material, product or process according to a specified method. A test method may be made mandatory via a Standard or Specification.
Form	A form is a standardised template to collect information in a consistent format to perform an asset related activity.
Model	A model is a digital representation of a system that can be used to simulate or to produce multi-dimensional views of the system, for example digital engineering models. At publication of this Framework, it is noted that Digital Engineering is under significant development.
Technical Information	A document that contains supporting information in a consistent format to perform an asset related activity.

Category	Description
Technical Direction (TD)	An interim standard document to implement, expand, delete, clarify and/or mandate an approach in a technical area which is not shown in current technical documents. A technical direction may modify content of an existing document or be a standalone document. A technical direction may introduce new requirements in advance of the development and publication of a new network standard. Further details of technical directions are provided in TS 00001.1 *Standards Review and Development Standard.*
Concession (CN)	A concession is a permitted exception to a mandatory Standard to achieve the closest possible asset or service outcome expected from compliance to the Standard or to allow innovation to occur on a specific or constrained situation in the operating environment. The approval of concession is a separate process to the Standards governance process. However, it may result in a reference document that modifies the Standard adopted within a specific situation or set of circumstances. Further details of concessions are provided in TS 00003.1 *Concessions to Transport Standards – Part 1: Concessions Process Standard.*
Nonconformance (NC)	A nonconformance arises when a configuration change has been progressed through the applicable configuration management gates without obtaining a concession. Further details of nonconformances are provided in TS 00004.1 *Nonconformances to Transport Standards – Part 1: Nonconformance Process Standard.*

6.2 Standards hierarchy

Consistent with the Corporate Policy Framework architecture, a standardised approach is used to explain the standards hierarchy, see Figure 7.

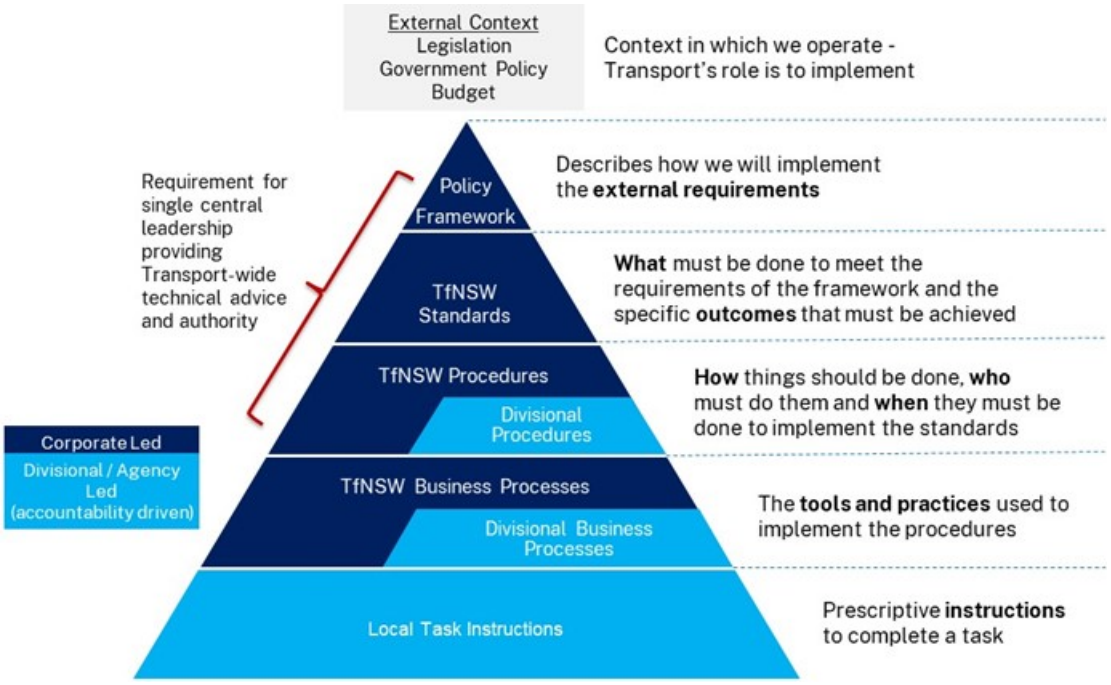


Figure 7. Standards hierarchy standardised approach

Corporate led elements are within scope of the Standards Management Framework. Divisional and Agency led elements should align with the principles of the Framework but are typically managed outside of the Framework by the relevant Division or Agency.

The standards hierarchy is based on adopting industry accepted standards as TfNSW standards, with no or minimal modification. This can occur for any of the document classifications and categories provided in Table 5 and Table 6 (excluding concessions and nonconformances). The development of TfNSW specific standards only occurs to promote consistency, specify asset interfaces or control specific network risks and peculiarities.

Standards development hierarchy commences with application of legislative requirements. It is informed first by international standards, then by Australian standards, followed by local or industry standards where applicable. The final consideration in standard development is current TfNSW standards or practices.

Deployment or application of standards is different from development. Compliance with legislative requirements is required across the deployment hierarchy followed by application of TfNSW standards.

If there are no legislative requirements or TfNSW standards then precedence is given first to Australian standards, then to international standards and finally to local or industry standards.

An overview of the hierarchy of development and deployment is provided in Figure 8.

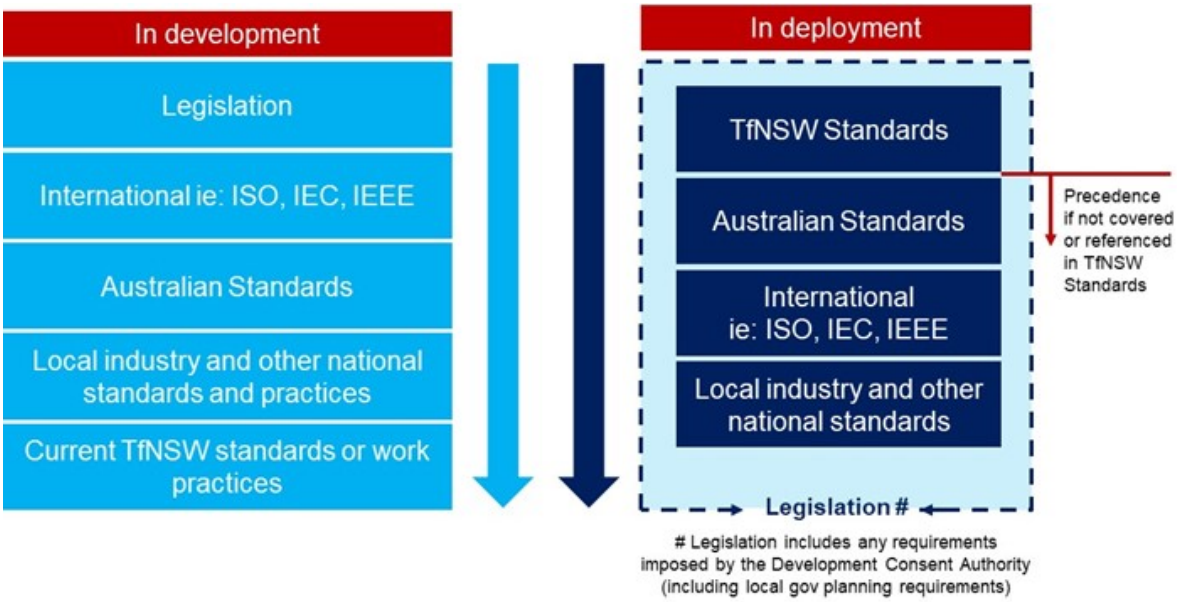


Figure 8. Hierarchy of development and deployment

6.3 Changes to legislation and standards

Generally, when legislation changes or amendments to Australian Standards are contemplated, they are first explored as part of working groups which TfNSW are involved in. This involvement should provide sufficient notice to TfNSW that a change is likely to be triggered and to take steps to be ready to update, if necessary, any related TfNSW standard.

The occurrence of other trigger events may also, if necessary, lead to an update to a TfNSW standard. Other trigger events are detailed in TS 00001.1 Standards Review and Development Standard.

Changes in legislation are a known risk and as such there is a process for communicating legislative changes to key stakeholders in a timely manner. A high-level overview of the process is provided in Figure 9.

Figure 9. Legislative change communication process

7. Standards life cycle

7.1 Creating and reviewing standards

As TfNSW standards are considered an asset (intangible), they are also managed across their own asset life cycle, see Figure 10

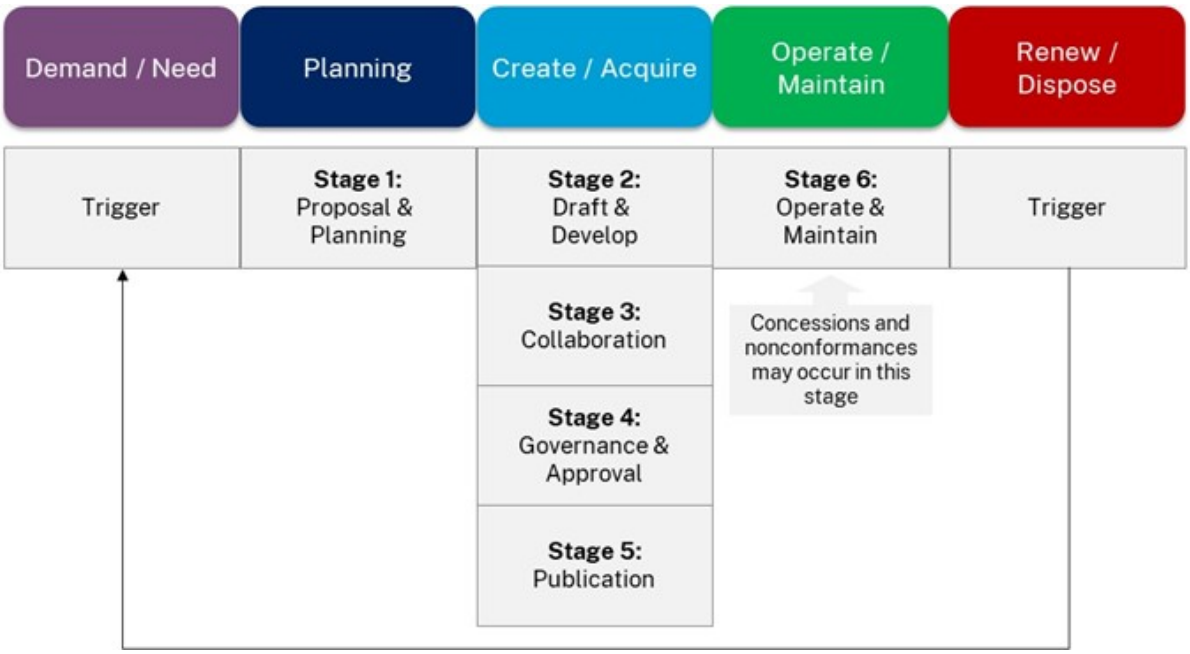


Figure 10. Asset life cycle for creating and review standards

The process, roles and responsibilities for creating and reviewing standards are described in further detail in the TS 00001.1 Standards Review and Development Standard.

7.2 Concessions and nonconformances

Concessions to standards can add value to the organisation where it is appropriately governed and managed early in the life cycle. We encourage users of standards to consider the outcome intended by standards and where a more appropriate solution, or an innovative approach is identified to submit this for consideration, see Figure 11.

In all cases, where an asset outcome is non-compliant with an applicable Transport standard, there will be appropriate documentation for this decision to ensure that stakeholders are aware and can manage the non-compliant situation.

Outcomes that do not comply with a standard but are designed and engineered ahead of time with appropriate assurance are concessions to Transport standards. Refer to TS 00003.1 Concessions to Transport Standards Part 1 – Concessions Process.

Outcomes that do not comply with a standard, that are identified after the fact, are managed as a nonconformance in accordance with TS 00004.1 Nonconformances to Transport Standards – Part 1: Nonconformance Process.

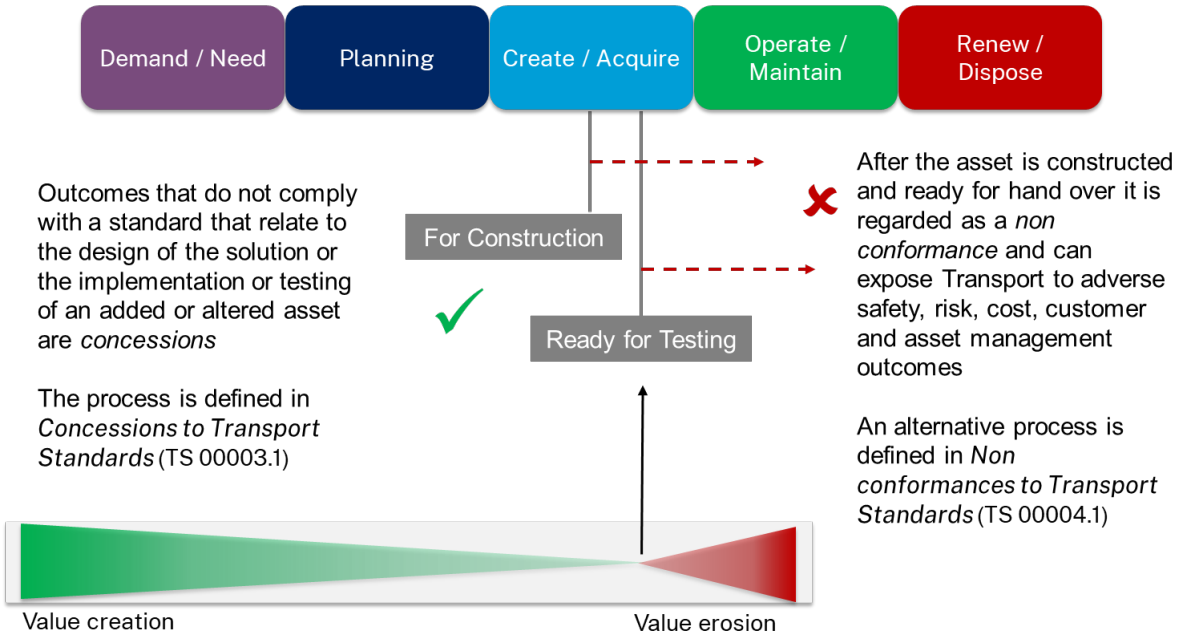


Figure 11. Concessions and nonconformances within the project[1] life cycle

8. Support

8.1 Resources, communication and awareness

The Standards Management Framework and associated supporting artefacts in relation to standards creation, development and application, are available on the internet. A list of artefacts referenced in this Framework is provided at Section 2.

Figure 12 provides a graphical representation of the relationship between the SMF and the supporting artefacts.

[1] In this figure 'project' includes creation of a new asset or operations and maintenance of an existing asset.

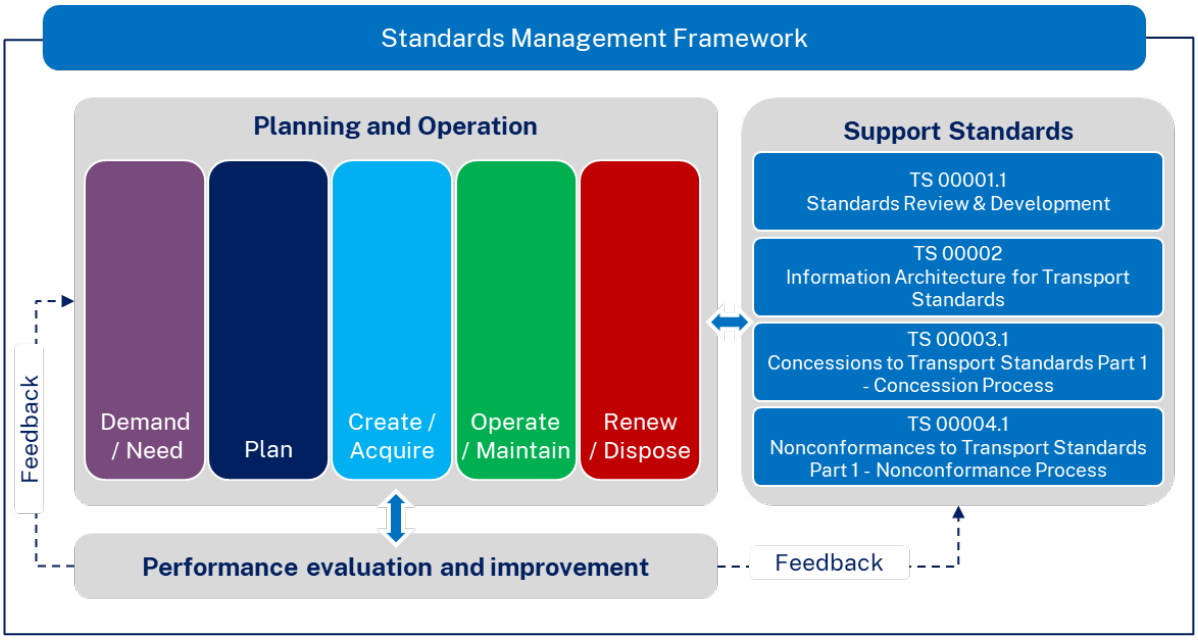


Figure 12. SMF and support standards

The Asset Management Branch (AMB) generally provides the resources for and are accountable for communication and awareness of the Framework and associated processes. AMB facilitates a number of stakeholder information sessions throughout the year for both internal and external stakeholders.

The TfNSW Standards Community of Practice (CoP) brings together individuals from across the organisation with a focus on sharing lessons learnt, developing better practice and advancing knowledge of standards professional practice.

8.2 Information requirements

TS 00002 Information architecture for Transport Standards specifies requirements for document identification, metadata, management and properties and electronic document format for Transport standards, concessions and nonconformances.

Asset information related to creation, application and review of standards is managed consistent with the requirements detailed in TS 01515.1 Asset Information, Part 1: Management of Asset Information (T MU AM 02004 ST) Management of Asset Information so that information is acquired and managed accurately, consistently and appropriately.

The TfNSW Standards Portal is the repository for Transport standards and includes details of all current, superseded and withdrawn standards.

Concessions and nonconformances, along with supporting governance records, are managed via the TfNSW compliant records management system.

8.3 TfNSW Standards developed by third party

Associated risks with, and performance monitoring of outsourcing activities in relation to standards management are assessed and controlled through:

- Application of the Technical Supplier Assurance Framework (TS 00018) and the Technically Assured Organisation (TAO) Scheme (TS 06197.2)
- Compliance with relevant prequalification schemes (for example the Performance and Management (P&MS) scheme (SCM0005))

- Application of the Technical Capability Framework
- Application of TS 00001.1

9. Performance monitoring and improvement

Performance evaluation involves measuring, monitoring, analysing and evaluating standards management performance against the agreed objectives and performance measures.

9.1 Reporting

Using the standard management principles provided in Section 1.4, quarterly performance reports are prepared and provided to the Asset Management Steering Committee to assess performance of standards management system and the Standards Management Framework.

Relevant elements of the performance report are also shared with the Standards Community of Practice and with broader internal and external stakeholders at the information sessions.

AMB has designed dashboards which hosts the standard management reporting elements provided in Table 7.

Table 7. Key standards management reporting elements

Principle	Reporting element
Standards are an asset TfNSW standards are an intangible asset with a life cycle	Standards Management Framework assessed as compliant with ISO 55001 and periodic maturity assessments conducted
Industry accepted TfNSW adopts industry accepted standards with no or minimal modification	Reduce bespoke Transport standards Increase harmonisation of standards with international and Australian standards through adoption and alignment
Outcomes based The Framework is outcomes focused producing performance-based standards where appropriate	Initial Technical SME assessment on whether current standards are performance based
Risk-based management TfNSW standards provide for an appropriate balance of cost, risk and performance across the life of the asset	Review and analysis of the number and tiering of concessions Review and analysis of the number of nonconformances Number of standards due or overdue for period review Number of standards with a validated risk register
Collaboration and consistency TfNSW standards management facilitates Transport-wide collaboration and consistency	Increase in number of multi-modal standards Reduction in number of duplicate standards and requirements

Principle	Reporting element
Innovation and improvement TfNSW standards promote and support innovation, continuous quality improvement, risk control and organisational effectiveness	Value created measures through application of the value creation toolkit Reduction in the number of standards

9.2 Assurance program

The following assurance activities provide confidence to stakeholders that the standards management system is effective and that potential risks and issues are identified early to allow for mitigation:

- Internal Audit provides independent and proactive internal audit services focused on the effectiveness of governance, risk management and internal controls on standards development and management
- Asset Assurance and Reporting, within SER, implements an assurance program that complements the Internal Audit program and provides a focus on asset governance, risk management and controls.

9.3 Innovation and improvement

TfNSW utilises the four-stage plan-do-check-act (PDCA) approach for control and the continuous improvement of processes, see Figure 13. The Executive Director Asset Management is accountable, and the Director Standards Process Development and Publishing is responsible, for ensuring the suitability, adequacy and effectiveness of the standard management system.

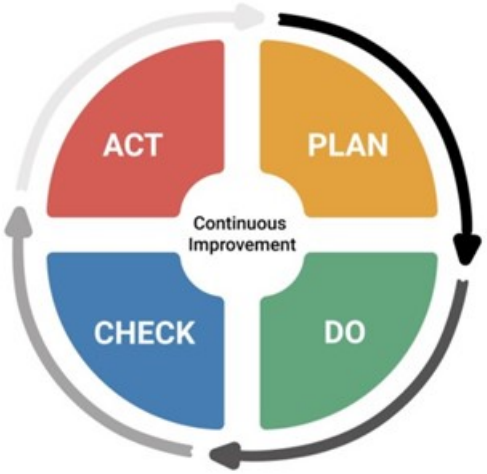


Figure 13. PDCA approach

Opportunities for improvement are identified, assessed and implemented across the Standards Management Framework as appropriate. Non-conformity, areas for improvement and preventive actions identified from process and performance reviews are managed in accordance with the agreed actions.

Capital project governance including asset handover and acceptance processes, benefits realisation and lessons learnt reviews and independent NSW Gateway Policy review gates for

major projects are key activities where innovation and improvement to standards management is captured.

9.4 Value creation

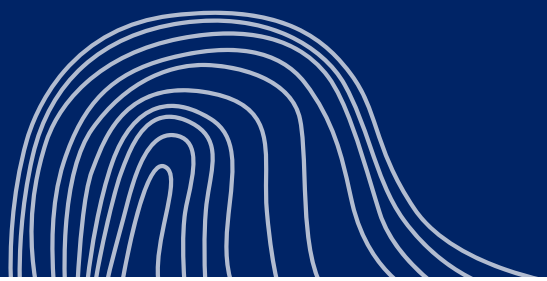
The Asset Management Value Creation Toolkit focuses on improved processes and standards to drive and capture intelligent compliance and changes to standards to achieve better quality, safety and financial outcomes.

The toolkit enables the identification, monitoring and reporting of the value created as part of the following:

a) Granting of concessions

b) Standards development

c) Initiatives delivered under the Asset Technology Program.



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