



Transport
for NSW

TfNSW Guidelines on External and Developer-led Works Affecting Transport Assets

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1. Introduction

Engagement with third party agencies and developers in land developments on, near or above TfNSW cluster land and infrastructure is an inevitable part of growth and change. This is occurring more often around public infrastructure.

Clear guidelines are required for Transport for NSW (TfNSW) personnel and external parties to facilitate development activities and approvals. Operating effectively, efficiently and economically is part of TfNSW's priority to be an agile, high-performing and collaborative agency.

2. Purpose

The purpose of this document is as follows:

- to facilitate the proposal, assessment and management of external or developer proposed works that impact the configuration or performance of Transport Assets
- to provide high level guidance to TfNSW and external parties on how planning and development activities might affect TfNSW's legislative safety obligations

2.1. Scope

This document covers the key areas to be considered for external and developer proposed works.

2.2. Application

These guidelines are applicable to any external or developer proposed works that impact Transport Assets. The guidelines are to be applied within the context of TfNSW and agency specific policies, systems and processes.

In relation to work that interfaces with other agencies, their specific procedures and systems should be consulted and complied with.

Sydney Trains procedures are available at <https://www.transport.nsw.gov.au/sydneytrains/commercial/building-near-railway>.

Department of Planning interim guide at <https://www.rms.nsw.gov.au/documents/projects/guideto-infrastructure-development-near-rail-corridors-busy-roads.pdf>

3. Reference 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.

Transport for NSW standards

T MU AM 04001 PL TfNSW Configuration Management Plan

T MU MD 00009 F1 AEO Engineering Services Matrix

T MU MD 00014 GU Multi-Discipline Rail Infrastructure Design Management

T MU MD 20001 ST System Safety Standard for New or Altered Assets

T HR CI 12080 ST External Developments

T HR CI 12051 ST Development Near Rail Tunnels

Legislation & Statutory Instruments

Conveyancing Act 1919

Electricity Safety Act 1945

Electricity Supply Act 1995

Environmental Planning and Assessment Act 1979

Rail Safety National Law (NSW) 2012

Roads Act 1993

State Environmental Planning Policy (Infrastructure) 2007

State Environmental Planning Policy (Sydney Region Growth Centres) 2006

Transport Administration Act 1988

RailSafe documents

PR D 78000 Electrical Network Safety Rules

Other reference documents

ASA Charter

TfNSW 2016, Asset Management Framework Overview v1.0

4. Terms and definitions

The following terms and definitions apply in this document:

active transport mode used to support movement undertaken by active means, for example walking, cycling, jogging, skating, roller blading and so on including access to public transport

adjoining development by a third party that is not integrated with any transport asset but physically adjoins next to or over a transport asset or a transport land

AEO Authorised Engineering Organisation

AEO authorisation an authorisation issued by the ASA to a legal entity (which may include a Transport Agency as applicable) which verifies that it has the relevant systems in place to carry out the class of Asset Lifecycle work specified in the authorisation, subject to any conditions of the authorisation. The issue of AEO Authorisation confers the status of AEO on the entity. (*ASA Charter*)

AGP assurance and governance plan

ASA Asset Standards Authority

bus assets means the transport infrastructure including the fleet necessary to provide bus services as defined in the *Transport Administration Act 1988*

client agent the TfNSW division or service provider delivering and assuring a service to the client representative, that is the division of TfNSW that represents the client who is the Secretary, TfNSW

concurrence is a term used in the EP&A Act to identify a requirement that an agreement be obtained (normally from a State agency) before a consent authority can decide to grant consent to a development application

consent form of planning approval issued by a consent authority (for example a local council) issued for a form of development under the *Environmental Planning and Assessment Act 1979* EP&A Act, but does not include an approval (that is, construction certificate or other) that enables the commencement of construction

DA development application

directly affects where activities have a direct causal impact on the operation, maintenance and configuration of Transport Assets. For example, building structures within the rail corridor has a direct effect on the operations and configuration of rail assets.

DSP delivery and service plan

ferry assets means the transport infrastructure including the ferry fleet necessary to provide ferry services as defined in the *Transport Administration Act 1988*

indirectly affects where activities have an indirect causal impact on the operation, maintenance or configuration of Transport Assets. For example, building work may cause increased use of a railway crossing, change the types of vehicles may degrade a railway crossing faster than planned, increased levels of trespass or vandalism, or creation of airborne intrusions.

integrating development a development by a third party that is integrated with Transport Assets, a facility or a corridor and may or may not be undertaken in conjunction with a transport project

ISEPP *State Environmental Planning Policy (Infrastructure) 2007*

LEP local environmental plan

non-adjoining development by a third party that is in the near vicinity of a transport asset, facility or a corridor but has no direct interface with any transport asset, facility or a corridor. It may have an impact on the asset, for example, pedestrian flow or connectivity to a station.

NSW rail assets means

(a) rail infrastructure, rolling stock, railways and railway premises as defined in the *Rail Safety National Law (NSW)*;

(b) the NSW rail network and rail infrastructure facilities as defined in the *Transport Administration Act 1988*, and

(c) stations, platforms, rolling stock and rolling stock maintenance facilities as referred to in the *Transport Administration Act 1988*,

NSW rail assets includes those assets to the extent which are vested in or owned, managed, controlled, commissioned or funded by the NSW Government, a NSW Government agency or a Transport Agency, but does not include anything leased, licensed to or managed by Australian Rail Track Corporation Ltd pursuant to Part 8A of the *Transport Administration Act 1988*.

RailCorp a NSW Government agency that holds rail property assets, rolling stock and rail infrastructure in the Sydney metropolitan area and limited country locations in the State of NSW and it makes these assets available to Sydney Trains and NSW Trains for their operations

referral requirement for a consent authority to seek and have regard to any advice provided by a State agency. Unlike concurrence, a consent authority may still be able to approve a development without a response or support from the referral agency.

SEPP State Environmental Planning Policies

TfNSW Transport for NSW

TfNSW Transport Network transport system owned and operated by TfNSW or its operating agencies upon which TfNSW has power to exercise its functions as conferred by the *Transport Administration Act 1988* or any other Act

transport access assets includes assets used for the provision of access to transport modes or between transport modes including stations, bus stops and wharves. These assets include buildings and facilities for all modes of transport, interchanges between modes of transport, safety assets including lighting, help points, fences and security measures for car parks and interchanges.

transport agency Transport for NSW (and each of its Divisions), Rail Corporation NSW, Sydney Trains and NSW Trains, Sydney Metro and others

transport assets as follows:

- NSW rail assets as defined in the *ASA Charter* comprising the following networks or systems
 - light rail
 - heavy rail - metropolitan rail area
 - heavy rail - country rail network
 - rapid transit/metro
- Non rail assets
 - property/land
 - active transport
 - transport access
 - ferry assets (excluding standards and AEO functions which are to commence from 1 January 2016)
 - bus assets
 - road assets (associated with projects developed and/or specified by TfNSW)

Transport Assets means assets used for or in connection with or to facilitate the movement of persons and freight by road, rail, sea, air or tother mode of transport, and includes transport infrastructure (*Transport Administration Act 1988*)

TfNSW transport network transport system owned and operated by TfNSW or its operating agencies upon which TfNSW has power to exercise its functions as conferred by the *Transport Administration Act 1988* or any other Act

transport infrastructure means infrastructure (including associated vehicles, vessels and rolling stock) used for or in connection with or to facilitate the movement of persons and fright by road, rail se, air o other mode of transport (including walking an cycling). It includes:

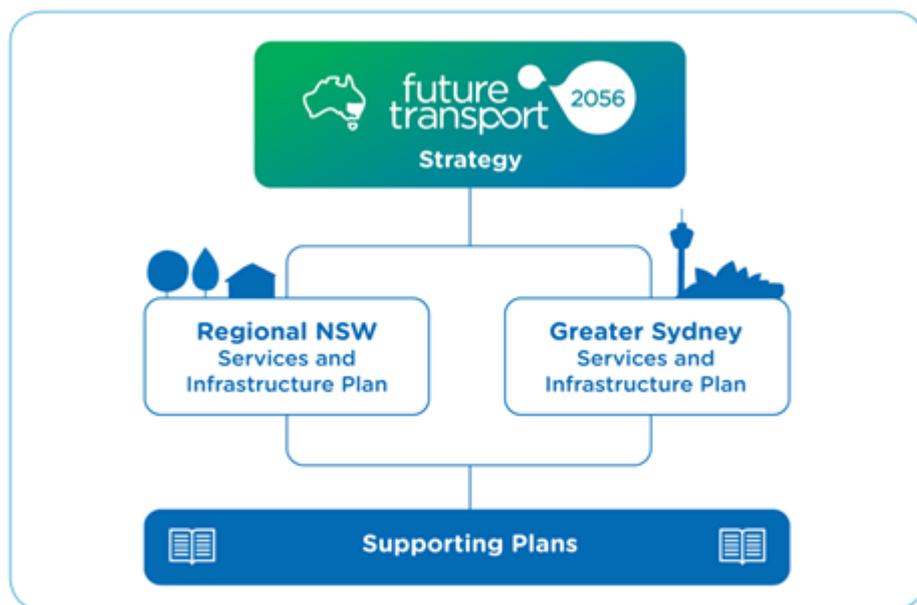
- a) railways and railway infrastructure, and
- b) roads and road infrastructure, and
- c) maritime infrastructure and ports, and
- d) transport safety infrastructure, and
- e) systems, works, structures, buildings, plant, machinery and equipment that are associated with or incidental to transport infrastructure

transport services includes railway services (including heavy rail, metro rail and light rail services), bus services and ferry services

transport system the transport services and transport infrastructure of NSW for all modes of transport

5. The future transport context

The *Future Transport Strategy 2056* outlines the vision, strategic directions and customer outcomes for transport infrastructure and services of the future. It includes the vital role that transport plays in the land use, tourism and economic development of towns and cities across NSW. It includes supporting plans that identify the expected outcomes for developing places and communities of the future. The *Future Transport Strategy 2056* provides the strategic context within which to position external and develop-led proposals. Figure 1 shows an overview of the *Future Transport Strategy 2056* and Figure 2 shows the *Future Transport 2056* outcomes.



Transport for NSW



Greater Sydney Commission

Figure 1 - Overview of Future Transport Strategy 2056



Figure 2 - Future Transport Strategy 2056 outcomes

The strategy outlines six state-wide outcomes to deliver the vision as outlined in Table 1. These six outcomes will guide transport investment, policy, reform and service provision for our public transport, road and freight customers over 40 years. External and developer-led proposals should consider how they contribute to these outcomes.

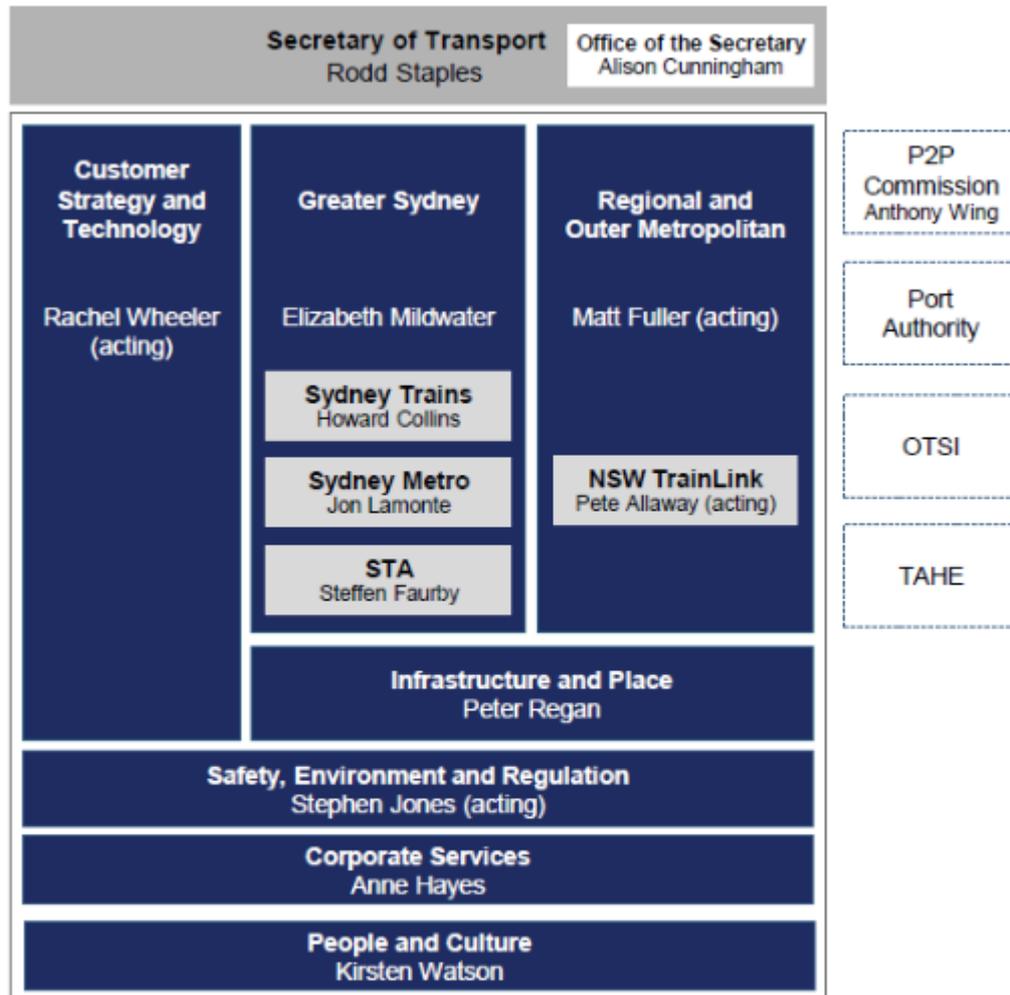
Table 1 – Future Transport Strategy 2056 customer outcomes

Customer focus	Customer experiences are seamless, interactive and personalised, supported by technology and data	Moving to mobility as a service and beyond
Successful places	The liveability, amenity and economic success of communities and places are enhanced by transport	<p>Activating centres with a new movement and place framework</p> <p>Encouraging walking, cycling and using public transport</p> <p>Strengthening local partnerships</p>
Growing the economy	The transport system powers NSW economy and enables activity across the state	<p>A transport system that powers the future NSW economy</p> <p>Strengthening our global gateways and satellite cities</p> <p>Connecting people to jobs, goods and services in our cities and regions</p>
Safety and performance	Every customer enjoys safe travel across high performing efficient network	<p>Safety, security and performance are interlinked</p> <p>A secure network in the digital age</p>

Customer focus	Customer experiences are seamless, interactive and personalised, supported by technology and data	Moving to mobility as a service and beyond
Accessible Services	Transport enables everyone to get the most out of life, wherever they live and whatever their age, ability or personal circumstances	A fully accessible network that enables barrier free travel for all Inclusive customer service and information
Sustainability	The transport system is economically and environmentally sustainable, affordable for customers and supports emissions reductions	An affordable network that is responsive to change Supporting more environmentally sustainable travel

6. The Transport cluster

The Transport cluster comprises TfNSW and an extended network of other agencies such as Sydney Trains, NSW Trains, Sate Transit Authority and Sydney Metro.



An integrated model focused on urban and regional customers and the communities where people live and work

Figure 3 - Transport cluster

TfNSW sets the strategic direction for transport and works in partnership with government transport operating agencies and private service providers to deliver improved transport outcomes for the community and economy of NSW. Any of these agencies may act as the client agent and have accountabilities in relation to externally or developer-led work.

This divisional structure is expected to change during 2019 as realignment of agencies and functions within TfNSW occurs.

7. Principles

7.1. Assurance for TfNSW

Regardless of life cycle phase the approach to providing assurance by a developer or external party for the development is an evolutionary one that aligns with the approval process and develops from a proposed methodology to a plan enabling progressive assurance against a specific scope of work agreed with TfNSW.

The concept of assurance is broad and should be scaled appropriately within the unique context of the level of technology, novelty, complexity and speed of delivery required for the services. This scaling should be mutually agreed between the parties as informed buyer and informed supplier.

An appropriate level of assurance is required for Transport Assets wherever TfNSW or one of the Transport cluster agencies acting as the client agent, retain legal or regulatory obligations. This is an important principle where the operations and maintenance of the asset is leased to an external party whilst TfNSW retains ownership.

It is expected that the organisation proposing the work will also propose an assurance methodology or plan for those elements involving Transport Assets. This assurance methodology must be agreed with TfNSW prior to approval and monitored during design and construction and throughout life cycle of the asset.

7.2. External management of work

Unlike works directly managed by TfNSW, externally proposed works are managed by the party responsible for the proposal, fundamentally changing the role that TfNSW plays. As TfNSW continues to have legal and regulatory obligations it is essential that it remains involved with the work through some form that enables it to have management oversight and decision-making capability.

The level of involvement that TfNSW has in oversight of these types of works should be agreed with the external party in accordance with the associated risk and opportunity of the proposal.

It is essential that TfNSW personnel involved with these types of works consider the different approach and perspective this type of work requires.

7.3. Minimum viable bureaucracy

It is essential that these types of works are controlled and assured through governance arrangements commensurate with the level of risk and uncertainty associated with them. The expected assurance outcomes should be realised through governance arrangements that balance the risk with the outcome. Governance activities and requirements that are overly prescriptive or unnecessarily increase costs may not actually deliver the desired outcomes

whilst insufficient governance activities lead to a lack of control and understanding of the impact of these types of works.

When assessing proposals and developing governance arrangements, TfNSW personnel should seek to ensure the minimum level of viable bureaucracy to assure the interests of TfNSW are achieved.

7.4. Collaboration

Successfully delivering external and developer works requires complex interface management across a range of stakeholders, regulatory environments and management systems. Without clear communication and collaboration, the opportunity to fully understand the drivers and expectations of all parties will be extremely difficult and lead to degraded outcomes.

When dealing with these types of works, TfNSW personnel and the organisations leading the works should ensure that they proactively seek to communicate and understand the drivers and expectations of each party. Doing so will improve the chances of the proposal optimising the outcomes and benefits for each parties.

8. Assurance

TfNSW is accountable for the safe, effective and efficient use of NSW Government owned Transport Assets throughout the whole life cycle. Under the Authorised Engineering Organisation (AEO) framework, TfNSW retains the status of overall design authority. However, it delegates this design authority to AEOs.

Assurance is a set of structured and planned activities conducted through the asset life cycle providing progressive, justified confidence that objectives are being achieved and that the asset is or will be fit for purpose.

When working with TfNSW a project assurance process is required to provide evidence that all new or changed assets within the TfNSW project portfolio are designed, constructed, tested and commissioned in accordance with the design; that the design meets all safety requirements of relevant standards, procedures, regulations and contracts, and that those requirements have been verified and validated, with particular regard to safety.

Note: The TfNSW Transport Network Assurance Committee is identified as the acceptance authority and is responsible for conducting appropriate due diligence of any assessment of AEO-provided assurance.

8.1. Safety assurance

Safety assurance is defined as the planned and systematic actions necessary to afford adequate confidence that a product, a service, an organisation or a functional system achieves acceptable or tolerable safety. In relation to Transport Assets, this translates to providing evidence that any works planned and undertaken around and on Transport Assets has been

done so using a robust safety assurance regime. Safety assurance for Transport assets should be in accordance with T MU MD 20001 ST *System Safety Standard for New or Altered Assets*.

Integrating safety assurance into the early phases of a program or a project is paramount to achieving the safest possible outcomes. Safety assurance includes demonstration that all hazards have been identified, analysed and appropriately eliminated, controlled and managed throughout the project life cycle resulting in the safety risk being reduced so far as is reasonably practical (SFAIRP).

Note: It is the responsibility of AEOs to provide suitable and sufficient assurance that the new or altered assets being developed for the TfNSW Transport Network will be sufficiently safe in operation.

For any projects that result in a significant safety impact evidence requirements can be set out in an assurance and governance plan (AGP) and a goal structuring notation (a system that produces a graphical presentation of the structure of arguments called a goal structure known as a GSN) argument for each identified activity or work package. Projects that result in a significant safety impact should be managed and collated through the project assurance processes and in the creation of the safety assurance statements and reports for each project.

Significant operations safety changes can include the introduction of the following:

- new rolling stock
- a novel safety critical rolling stock or track element
- a new railway line or station or significant reconfiguration of a railway line or station
- a novel risk exposure or treatment not currently faced, for example, unsolicited proposals

It is not usual for developer led work to result in a significant safety change.

8.2. Engineering assurance

The engineering safety assurance process forms an integral part of the project life cycle commensurate with the level of safety risk exhibited by the proposed change.

Engineering safety assurance activities and deliverables are an essential part of the configuration management process. These are key evidence of change management to the stakeholders and address the achievement of engineering safety assurance requirements within the design development and implementation.

Engineering safety assurance activities that occur throughout the duration of a project (including project definition, design, construction, testing and commissioning) will result in a set of deliverables (evidence) that demonstrate compliance and conformance to requirements for presentation at relevant configuration change boards (CCBs) to seek endorsement to proceed to the next project phase. These requirements should be set out in the project safety assurance plan associated with each project life cycle phase.

Engineering works affecting rail design should comply with T MU MD 00014 GU *Multi-Discipline Rail Infrastructure Design Management*.

8.3. Determining the right management strategy

Resources are available on the TfNSW website regarding templates, processes, guidelines and standards required to be followed. In all instances a single point of contact at TfNSW is required to guide the external party with respect to relevant guidelines and specific TfNSW requirements. This point of contact is to be determined between the affected stakeholders and will have the responsibility of ensuring communications are maintained throughout the life of the works. The point of contact may change during the asset life cycle depending upon need. In all cases when working near transport infrastructure, the relevant legislation and regulations should be complied with.

9. Stakeholders

The external party or developer needs to engage with stakeholders with responsibility for managing the Transport Assets on behalf of the Secretary, TfNSW. Broadly, these are shown in Table 2.

Table 2 – Key transport related stakeholders

Network aspect	Client agent	Contact details	Key specific regulatory and legislative application
Heavy rail network	Sydney Trains	https://www.transport.nsw.gov.au/sydneytrains	<i>Rail Safety National Law (NSW)</i> <i>National Safety Law (NSW)</i> <i>Electricity Supply Act 1995</i> <i>Electricity Safety Act 1945</i> <i>Transport Administration Act 1988</i>
Metro rail network	Sydney Metro	https://www.sydneymetro.info/get-touch	<i>Rail Safety National Law (NSW)</i> <i>Transport Administration Act 1988</i> <i>Electricity Supply Act 1995</i> <i>Electricity Safety Act 1945</i>

Network aspect	Client agent	Contact details	Key specific regulatory and legislative application
Light rail network (inner west, CBD and south east)	Transdev	https://www.transdevsydney.com.au/contact-us/helpful-contacts/	<i>Rail Safety National Law (NSW)</i> <i>Transport Administration Act 1988</i>
Roads and ferry wharves	TfNSW	Greater Sydney Division Regional and Outer Metropolitan Division	<i>Roads Act 1993</i> <i>Transport Administration Act 1988</i>
Bus interchanges	TfNSW	https://www.transport.nsw.gov.au/industry/doing-business-transport	<i>Roads Act 1993</i> <i>Transport Administration Act 1988</i>
Local bus stops	Local council	As per local council websites	
Transport interchanges	TfNSW	https://www.transport.nsw.gov.au/industry/doing-business-transport	<i>Roads Act 1993</i> <i>Transport Administration Act 1988</i> <i>Rail Safety National Law (NSW)</i>
General coordination of works across Sydney	CBD and elsewhere Sydney Coordination Office	https://mysydneycbd.nsw.gov.au/contact	<i>Transport Administration Act 1988</i>
Land or property ownership for heavy rail network and elements of the light rail network	RailCorp	https://www.transport.nsw.gov.au/about-us/who-we-are/railcorp	<i>Rail Safety National Law (NSW)</i> <i>and various</i>

Where an applicable stakeholder is not apparent, the external party or developer must engage with TfNSW to define appropriate stakeholders.

Additional information can be found at the NSW Department of Planning and Environment Planning Portal that can be found at: <https://www.planningportal.nsw.gov.au>.

10. Authorised Engineering Organisations

AEOs are to be used for all work where Asset Standards Authority (ASA) standards are implemented and engineering decisions will be made that affect Transport Assets.

Further information about AEOs is in Appendix A.

Determining the requirement for AEOs is dependent upon the impact on Transport Assets. Appendix B contains a tool that will guide external parties and developers to determine this.

11. Types of work interfacing with on Transport Assets

External and developer-led works will interface with Transport Assets in the following three ways:

- integrating development
- adjoining development
- non-adjoining development

The type of interface will help identify the impact of such works and the stakeholder engagement needs. Table 3 provides a number of examples and consideration factors.

Table 3 - Work types

Type of development	Description	Examples	Factors to be considered
Integrating development	Development by a third party integrated with Transport Assets, a facility or a corridor which may or may not be undertaken in conjunction with a transport project.	<p>Non-transport infrastructure built within the rail corridor.</p> <p>A shopping arcade connecting a major thoroughfare to a station.</p>	<p>Legal and regulatory constraints and obligations.</p> <p>Technical factors regarding integration of the development with the TfNSW asset.</p> <p>Directly or indirectly affects development on transport service delivery (for example, example, pedestrian and passenger flows and transport interchanges with other modes).</p> <p>Interaction with other government bodies (for example local councils, utility providers).</p> <p>Access issues such as restrictions or opportunities presented by the possessions program or safe access requirements.</p> <p>Fire life safety integration.</p> <p>Strategic network configuration considerations.</p> <p>Ongoing servicing and maintenance access for the development and the impact on the TfNSW Transport Network.</p> <p>Transport access assets.</p> <p>Legal or regulatory constraints and obligations.</p> <p>Effect of development on transport service delivery (for example, pedestrian and passenger flows and transport interchanges with other modes).</p> <p>Effect of development on other Transport Assets (for example, roads, buses, ferries, trains, light rail).</p> <p>Access issues such as restrictions or opportunities presented by the possessions program or safe access requirements.</p> <p>Interaction with other government bodies (for example, local councils, utility providers).</p> <p>Strategic network configuration considerations.</p> <p>Ongoing servicing and maintenance access for the development and the impact on the Transport network.</p> <p>Transport access assets.</p> <p>Safe work around these assets.</p>

Type of development	Description	Examples	Factors to be considered
Adjoining development	Development by a third party not integrated with any transport asset but physically adjoins next to, under or over a transport asset or a transport corridor.	<p>Bridges and other structures.</p> <p>A road bridge over the rail corridor; high voltage aerial power lines over a transport corridor.</p> <p>Residential, industrial, community or commercial development</p>	<p>Legal or regulatory constraints and obligations.</p> <p>Directly or indirectly affects transport service delivery (for example, pedestrian and passenger flows and transport interchanges with other modes).</p> <p>Directly or indirectly affects other Transport Assets (for example, roads, buses, ferries, trains).</p> <p>Access issues such as restrictions or opportunities presented by the possessions program or safe access requirements.</p> <p>Interaction with other government bodies (for example, local councils, utility providers).</p> <p>Strategic network configuration considerations.</p> <p>Ongoing servicing and maintenance access for the development and the impact on the TfNSW Transport Network.</p> <p>Transport access assets.</p> <p>Safe work around these assets.</p>
Non-adjointing development	Development by a third party in the near vicinity of a transport asset, facility or corridor that has no direct interface with any transport asset, facility or corridor. It may have an impact on the asset, for example, pedestrian flow to a station	<p>Transport carparks built on council land, developments that may impact the pedestrian flow to a transport service.</p> <p>For example, a council carpark opposite a station.</p> <p>High Voltage (HV) feeders in in public spaces.</p>	<p>Directly or indirectly affects transport service delivery (for example, pedestrian and passenger flows and transport interchanges with other modes).</p> <p>Potential effect of development on TfNSW land and its value for future use or development.</p> <p>Interaction with other government bodies (for example, local councils).</p> <p>Access issues through transport property.</p> <p>Directly or indirectly affects concurrent works and contractor management of sites (for example, hoists, cranes, access).</p> <p>Ongoing servicing and maintenance access for the development and the impact on the TfNSW Transport Network.</p> <p>Transport access assets.</p> <p>Safe work around these assets.</p>

Notes: Any of these types of work may require access to land, property or the rail corridor. This is to be arranged through the relevant Transport Agency and may be subject to formal access arrangements.

12. Interfacing with transport

In presenting and developing a project proposal it is important to do so in a methodical way.

This will enable more effective information, direction and understanding of expectations.

Section 12.1 and Section 12.2 areas provide some considerations to inform a proposal. A list of typical considerations to inform a project proposal is included in Appendix B. The list in Appendix B is not exhaustive and should be tailored to the particular circumstance.

12.1. Project management systems

It is expected that project management for any external or developer works will be performed by the applicant. TfNSW will manage these works from an oversight perspective that will include the requirement for any proposals, delivery and maintenance to be assessed through its approval gates.

12.2. Collaboration expectations

It is expected that all external and developer-led projects will work collaboratively with the Transport cluster to ensure that asset changes are integrated into the TfNSW Transport Network in accordance with the principle of collaboration outlined in this document.

13. Contracts

Transport will manage external or developer works through project deeds. TfNSW does not generally drive or control the contractual arrangements for the delivery of the works itself.

13.1. Unsolicited proposals

Information on the unsolicited proposals process can be found at <https://www.nsw.gov.au/contact-us/unsolicited-proposals/>.

13.2. Delivery mechanisms

External and development works are usually delivered through one of the mechanisms outlined below. These will have an impact on how the risk of proposals are considered by the Transport cluster.

Table 4 - Delivery mechanisms

Delivery mechanism	Description	Examples	Drivers
Unsolicited proposals or solicited proposals	Unsolicited or solicited proposals by developers or other private sector entities to build infrastructure or deliver services that interact with the TfNSW Transport Network	Wynyard Place transit hall proposal	Unsolicited proposals or solicited proposals
Joint ventures or public private participation models	Potential joint projects	Where TfNSW owns an asset, the developer builds a new asset, then offers to split the proceeds or ownership with TfNSW	Joint ventures or public private participation models
Third party works (internally)	Works carried out by organisations within the Transport cluster	Developing bridges over the rail corridor	Third party capital and maintenance works programs
Third party works (externally)	Works carried out by organisations outside the Transport cluster	Utility organisations constructing under bores beneath the rail corridor	Third party capital and maintenance works programs
Over station development	Works carried out by an external organisation for over station development that integrates with metro rail stations	Over station development (OSD) – Crows Nest, Victoria Cross, Pitt Street metro stations	Value capture Air rights development consent
Adjoining development	Works carried out by organisations outside the Transport cluster.	Through direct negotiation with TfNSW the redevelopment of sites that may be located close to TfNSW assets and infrastructure.	Redevelopment of assets for the benefit of all parties.

14. Planning

14.1. Negotiating engineering, planning and urban design outcomes

In certain circumstances developments that impact TfNSW cluster agency land or assets will require the negotiation of engineering, planning and urban design requirements. These may result in conditions of consent for moderate impact development and a developer deed for high impact development.

Note: Consultation with TfNSW includes any appropriate agency within the Transport cluster.

14.1.1. Special consideration for state and regional roads

When a development proposal impacts on a classified state or regional road the consent authority must refer the proposal, including the traffic impact assessment, to TfNSW as part of the development application (DA) process. TfNSW advises the consent authority of its requirements in relation to its *Roads Act 1993* responsibilities and any other matters of relevance, including road safety, network efficiency, property, road assets and broader transport issues. Generally, these requirements relate to any additional or improved road and transport infrastructure necessary to accommodate the additional traffic generated by the proposed development or for road safety reasons. The developer may consult with TfNSW during this process.

14.2. Developer deeds

Developer deeds are only used for development with the potential for high impacts on future design, construction and operations of the transport corridor. In addition to providing consent conditions, developer deeds are used to incorporate specific engineering and design criteria for the proposed development which have been prepared by TfNSW. A developer deed is between TfNSW and the applicant. While a developer deed would not be registered as a covenant on title certain instruments created through the operation of the deed such as restrictive and positive or positive covenants and easements may be registered on the title under the *Conveyancing Act 1919*.

The developer deed includes, but is not limited to, the following matters (which would be identified within the conditions of consent):

1. the design, construction and maintenance of the development to satisfy the requirements of the relevant consent conditions
2. allowances for the future construction of transport infrastructure in the vicinity of the approved development
3. allowances in the design, construction and maintenance of the approved development for the future operation of the transport corridor in the vicinity of the approved development, especially in relation to noise, vibration, stray currents, electromagnetic fields and fire safety
4. consultation with TfNSW and appropriate agencies within the Transport cluster
5. access by representatives of TfNSW to the site of the approved development and all structures on that site
6. provision of drawings, reports and other information related to the design, construction and maintenance of the approved development to TfNSW (and appropriate agencies)

7. such other matters which TfNSW considers are appropriate to give effect to points 1 to 6;
and
8. such other matters as the owners and TfNSW may agree

In addition to giving effect to the consent conditions, the developer deed would incorporate specific design criteria for the proposed development which have been prepared by TfNSW. These criteria would include the following:

- drawings showing the location of the transport corridor relative to the approved development
- requirements for non-interference by the approved development with the capacity to design, construct and operate the future transport infrastructure
- design, construction and maintenance requirements for structures associated with the approved development so as not to interfere with the capacity to design, construct and operate the future transport corridor
- requirements for structures adjoining the transport corridor to allow for future demolition of the approved development (or any part of it) without damaging or otherwise interfering with the transport corridor and its operations and
- requirements to implement measures in the approved development to avoid unreasonable interference from the transport corridor with respect to noise, vibration, stray currents and electromagnetic fields.

14.2.1. Delivery and service plan

Where additional assurance is required around the whole of life asset considerations in relation to freight and services, the client agent may request, under the deed, for the external party or developer to produce a delivery and service plan (DSP). The DSP aims to improve the sustainability of freight and servicing when servicing a particular development or precinct.

It is produced jointly by suppliers, clients and the freight industry, seeking to reduce the number of deliveries required where possible, while ensuring remaining deliveries are made as safely as possible, in an environmentally friendly way and with minimal impact to the surrounding TfNSW Transport Network and community.

14.3. Suggested concurrence approach

Table 5 outlines the preferred concurrence approach in relation to various types of development within or adjacent to the transport corridor.

Table 5 - Concurrence approach for various development types within or adjacent to the transport corridor

Development type	Over alignment	Within 25 m of alignment
Commercial or retail	Concurrence may be granted with restrictive covenants and developer deeds	Concurrence may be granted with conditions
Residential	Concurrence may be granted with restrictive covenants and developer deeds	Concurrence may be granted with conditions
Industrial	Concurrence may be granted with restrictive covenants and developer deeds	Concurrence may be granted with conditions
Roads and infrastructure	Concurrence may be granted with conditions and restrictive covenants	Concurrence may be granted.
Community facilities	Concurrence may be granted with conditions and restrictive covenants.	Concurrence may be granted with conditions.
Open spaces	Concurrence may be granted with conditions	Concurrence may be granted.

Notwithstanding the information in Table 5 above, TfNSW may strategically allow for development that would conflict with the corridor to occur where acquisition of the area affected could occur as part of a project or strategic acquisition in the future.

14.4. Current legislative requirements for transport corridor protection

Specific existing and future transport corridors in NSW are protected under State or local planning instruments under the *Environmental Planning and Assessment Act 1979*.

The State Environmental Planning Policies (SEPP) provides advice and concurrence to development proposals that potentially impact on road and rail corridors (existing and future).

The *State Environmental Planning Policy (Infrastructure) 2007* (ISEPP) provides the following provisions for rail corridor protection:

- Clause 45 relates to development comprising work likely to impact on electricity transmission or distribution (this applies to rail authorities)
- Clause 84 outlines developer requirements for any development where access is directly via a level crossing, or significantly impacts a level crossing.

- Clause 86 requires a consent authority to notify and obtain concurrence of the rail authority for development within, above, or within 25 metres of a rail corridor.
- Clause 85 applies to development on land that is in or adjacent to a rail corridor and relates to rail safety
- Clause 88 requires a consent authority to notify and obtain the concurrence of the relevant rail authority for development within certain rail corridors as identified in the map attached to the ISEPP.
- Clause 88A relates to development within the interim metro corridor within the City of Sydney. It requires the consent authority to notify and take into account any submissions made by Sydney Metro before granting consent.
- Clause 100 requires a consent authority to notify and obtain the concurrence of TfNSW prior to granting consent to development on land reserved for the purpose of a classified road.
- Clause 101 is intended to protect classified roads from development that may compromise its effective and ongoing operation.
- Clause 102 applies to impacts of road noise or vibration on on-road development.
- Clause 103 applies to development that involves the penetration of ground to a depth of at least 3 m below ground level adjacent to certain rail corridors.
- Clause 104 applies to traffic-generating development (see Schedule 3 of the ISEPP).

Similar to the ISEPP, the *State Environmental Planning Policy (Sydney Region Growth Centres) 2006* also includes notification and concurrence provisions, protecting a corridor within the Sydney Region Growth Centres.

Local Environmental Plans (LEPs) also provide corridor protection provisions, mainly for road reservation, widening or realignment. These corridors are usually zoned SP2 – Infrastructure.

Local council LEPs are required to recognise road widenings and realignment schemes made under the provisions of the *Roads Act 1993*. These are shown in local council LEPs as road reservations and are zoned accordingly.

15. Configuration management

The ASA sets the framework for configuration management and the acceptance and assurance of assets. If the development includes or interfaces with Transport Assets then an AGP will be required.

TfNSW may alter its standard configuration management arrangements to suit specific proposed works. Variations to standard configuration management arrangements will require approval in accordance to provisions of T MU AM 04001 PL *TfNSW Configuration Management Plan*.

TfNSW will require assurance that the external party or developer is delivering the transport asset or interface as proposed. This will entail the following:

- the works integrate with or are aligned with the wider network configuration and the *Asset Management Framework Overview v1.0*
- the progressive design and construction of the Transport Assets is in accordance with TfNSW requirements, is fit for purpose and safe
- the configuration management arrangements and expectations should be determined on a case-by-case basis in light of the scope and risk of the external works or development

15.1. Assurance and governance plan

The AGP for the delivery of work is owned by TfNSW and describes how TfNSW will gain confidence that the resulting development will be acceptable to TfNSW and its stakeholders. Typically the AGP will be developed by the party within TfNSW that is co-ordinating interfaces to the development.

The AGP describes arrangements from the perspective of TfNSW and identifies assurance activities and expected supporting evidence required by TfNSW. The activities and evidence are intended to collectively support the argument that the resulting Transport Assets and interfaces are acceptable to TfNSW.

Identified evidence will usually be expected from the assurance activities performed by the developer. While developers are generally expected to demonstrate they have met TfNSW requirements and delivered an appropriate outcome for TfNSW, TfNSW may also conduct its own due diligence activities to satisfy itself that the outcome has been properly assured.

15.2. Asset information

TfNSW and its agencies require information about assets owned, controlled or managed at a level which allows TfNSW to understand its asset holdings, risks and obligations as well as facilitate activities such as planning, service delivery, asset modifications and maintenance.

For the asset information to be of value the information held has to be able to be presented in a format and structure that allows TfNSW or its agencies to readily integrate it with existing asset information held. Generally this means that asset information is to comply with appropriate standards or specifications as set out by TfNSW or its agencies.

Asset information may include registers, drawings, documents or any other content as appropriate.

16. Applicability of TfNSW standards

Where the scope of work will include Transport Assets and TfNSW standards are deemed applicable, the following aspects need to be considered:

- applicability of standards to the assets
- concession requests for any of the standards that are deemed to be applicable
- demonstrable compliance with ASA requirements and standards

TfNSW has specific artefacts it requires to demonstrate compliance against all stages of the project. In some circumstances, these can be tailored to meet the project context. Where this is applicable the external party or developer must liaise with the TfNSW stakeholder to determine what is required. As a minimum the following would be required:

- safety and engineering assurance plan
- project risk register
- project hazard log

17. Key considerations for TfNSW

When assessing proposed external development works, the following technical aspects shall be considered and addressed:

- fire and life safety
- whole-of-life operations and maintenance implications
- wayfinding, branding and signage matters
- social responsibility
- transport and customer access and safety
- non disruptive and ongoing supply of services including power, data and water
- construction management factors including the following:
 - traffic and pedestrian management
 - noise and vibration
- precinct activation and place
- mobility impacts
- active transport and transport integration
- security impacts
- environmental impacts
- heritage requirements
- community engagement.

18. Risk management

Risk management is a core capability and a key contributor to the success of the Transport cluster in delivering effective and safe services to the travelling public. To ensure TfNSW meets its objectives safely and successfully, all works that affect the operations, maintenance or configuration of its assets should proactively address risk within the business, legal and regulatory context.

Some risks are solely the responsibility of TfNSW and its operators, for example, managing the risk of collisions between trains or derailments. However, the risk from such types of accidents accounts for only a small amount of the total safety risk associated with railway operations.

Other risk is introduced by third parties and passengers who must understand the role they will play to control it. Any externally and developer-led works may present risk to TfNSW and its customers. It is the responsibility of the organisation proposing and delivering such works to identify and manage the risk the various risk mitigation strategies and actions. They must ensure that enterprise, business, safety and technical risk is to be managed in accordance with the relevant TfNSW policy and the relevant agencies or private sector suppliers systems.

The instigator of a change to a Transport Asset is required to demonstrate the potential impact of that change and how it will be managed. Any assessment shall identify risks associated with the change in accordance with the relevant criteria for the particular asset affected. These criteria and the relevant risk management information can be confirmed through the Stakeholders section of this document.

Indicative risk ownership diagrams are included in Appendix C.

Appendix A AEOs and external or developer-led works

A.1. AEOs

An AEO is an organisation authorised to deliver engineering services for TfNSW. The AEO program is managed by the ASA. The AEO program enables industry to self-assure when delivering and maintaining Transport Assets to enable greater efficiency, innovation and safety. It does this by providing TfNSW with the justified confidence its engineering and technical supply chain has an appropriate level of maturity and capability to do so.

A.2. Responsibilities and expectations of an AEO

The ASA authorises AEOs to provide particular engineering services to TfNSW. How an AEO delivers these services and the scope of work provided to TfNSW will be defined through a contractual arrangement with TfNSW.

Organisations applying for authorisation will need to provide justified confidence that their systems and tools for engineering management meet the needs of TfNSW to deliver projects and services within the TfNSW Transport Network. The justified confidence is evidenced through an organisation's documentation along with evidence of deployment of its systems and tools within its engineering function.

Applicants for authorisation will need to allow the ASA to assess the capability of their organisations to deliver relevant engineering services based on 11 good practice engineering management capability areas, as seen in Figure 4.



Figure 4 - Engineering management capability areas

AEOs will use their own systems and tools as evidence for authorisation, outlining how they would undertake, assure and manage engineering activities as well as the competence of their engineering resources.

Expectations of AEOs are outlined in Table 6.

Table 6 – Expectations of AEOs

Expectation	Elements
Assure AEO's own services in the context of the project or service	<ul style="list-style-type: none"> • Ensure competence of staff and sub-contractors • Ensure effectiveness and quality of the engineering services • Ensure compliance with engineering standards • Ensure safety and reliability of the engineering services
Manage stakeholders	<ul style="list-style-type: none"> • Identify and manage the necessary project or service stakeholders • Engage stakeholder input • Respond to stakeholder concerns
Provide the safety assurance argument	<ul style="list-style-type: none"> • Ensure statutory and regulatory compliance of services • Provide an assurance plan • Deliver the assurance argument enabling testing, commissioning and hand over
Coordinate the delivery with the end user	<ul style="list-style-type: none"> • Engage with end users early • Ensure configuration management of AEO's own services • Determine handover requirements • Demonstrate compliance with handover requirements

A.3. Work requiring an AEO

Any infrastructure work involving Transport Assets, needs to be assured by an AEO. This work may include renewal of existing infrastructure or new infrastructure. The use of AEOs for the externally or developer-led work is dependent upon the unique requirements of the different works. If the work does not impact Transport Assets, then an AEO is not required however all work should be considered under the categories in Table 7 to determine the need.

Table 7 - Categories of work

Type of development	Related work
Integrating development	AEOs will be required for work that integrates with and directly impacts Transport Assets. For example, in the case of an integrated station development, this typically includes the fit out of the station, ventilation shafts and other civil components.

Adjoining development	It is highly likely that AEOs will be required for aspects of adjoining developments that impact Transport Assets. These would typically include assets that may be in a shared environment such as those involved with power, fire and life safety, and access. This is due to the potential impact that these assets may have on TfNSW regulatory and legal obligations to the public. These will differ depending upon the specific circumstances of the development.
Non-adjoining development	It is less likely that an AEO will be required for non-adjoining developments to Transport Assets. However, where these may impact the utilisation or safety of Transport Assets, an AEO will be necessary. For example, an AEO will need to undertake, assure and certify the aspect of the design and the works that relates to the interface with the Transport Assets (that is, a station) or where the development will affect passenger flow.

A.3.1 Example of the use of AEOs in an integrated development

External and developer-led works are usually conducted in an environment requiring an integrated approach to the work. Figure 5 shows a possible scenario of an integrated development with the AEO and TfNSW interfaces.

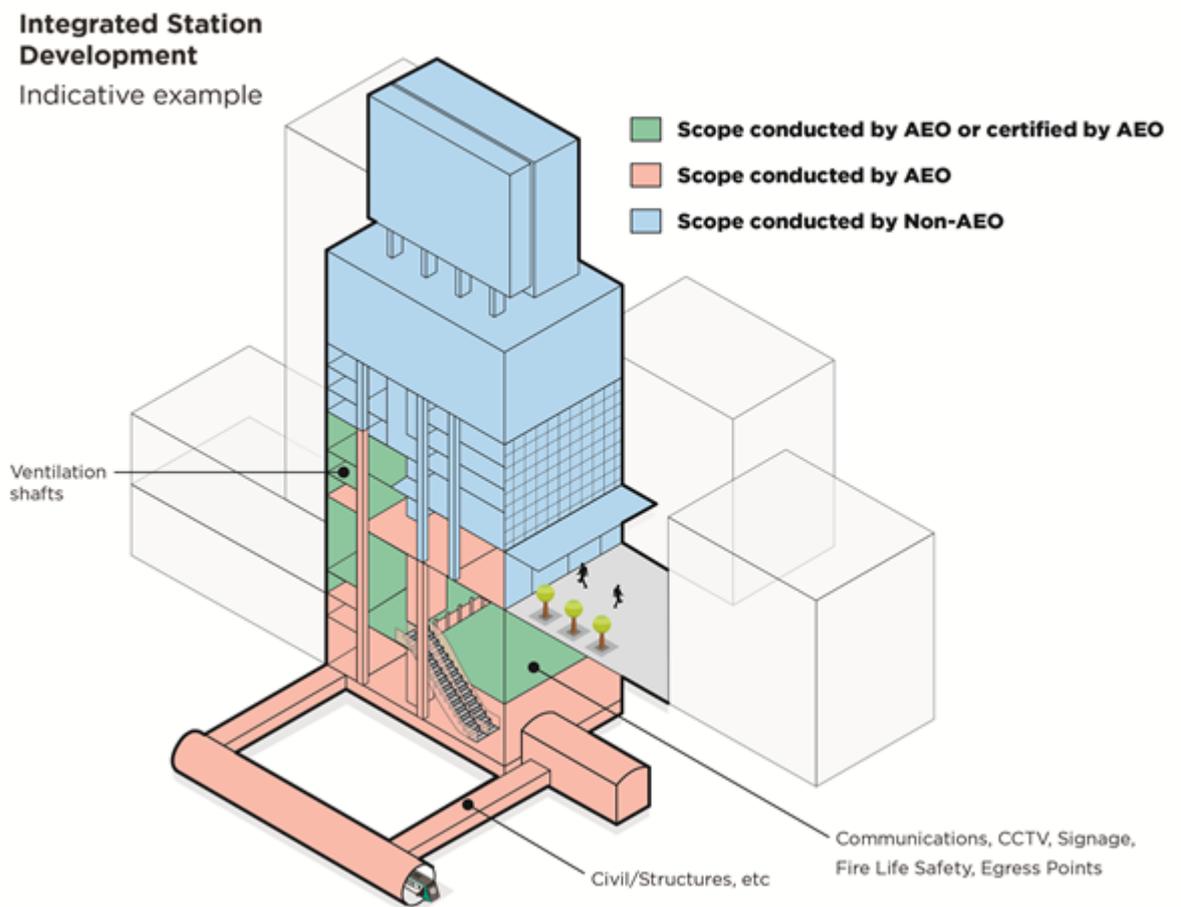


Figure 5 - Possible scenario of an integrated development

A.4. Engaging AEOs

It is the responsibility of the organisation proposing the works to engage an AEO with the appropriate scope of engineering services for the work. The ASA is able to provide support in the process.

Figure 6 represents the four models of how AEOs are engaged. Any external party engaging AEOs will need to ensure that the relevant asset services are assured by an AEO under one of the arrangements shown in Figure 6.

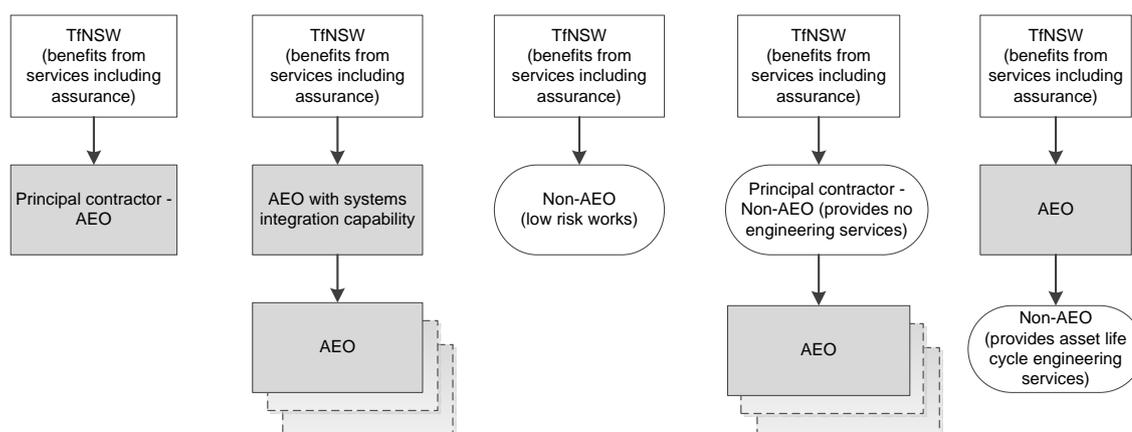


Figure 6 - AEO engagement models

The shaded boxes in Figure 6 represent where the assurance for Transport Assets is coming from. In externally-led works it is likely that the fourth model will be the most utilised, however it may include any mixture of the other models under the shaded boxes. In this instance the oval box could represent a project management company, a developer or other external party to TfNSW that has engaged an AEO for its work.

Any proposal that may impact Transport Assets will need to demonstrate how the AEO will be engaged and utilised.

A.4.1 Ensuring that the AEO has the right scope of authorisation

As part of any external work or proposed development, TfNSW is able to assist in identifying the engineering services it will expect to be deployed to work on its assets. This can be done through consultation with the ASA or the agency directly responsible for maintenance of the Transport Asset.

The scope of engineering services is to be outlined on a T MU MD 00009 F1 *AEO Engineering Services Matrix* available on the TfNSW website. AEOs will be able to demonstrate that their authorised services match these requirements.

As the ASA authorises an organisation rather than individuals, the AEO is accountable for assuring the resources it deploys on work are competent and in accordance with its authorised scope of services.

There are over a hundred AEOs listed on the TfNSW website covering a range of services.

A.4.2 Applicability of Rail Safety National Law (NSW) and the Electrical Network Safety Rules

Typically where work impacts TfNSW rail assets, there may be obligations to TfNSW in accordance with *National Rail Safety Law (NSW)* and PR D 78000 *Electrical Network Safety Rules*. These obligations will extend to the following:

- AEOs
- developers
- any and all contractors, sub-contractors, consultants or sub-consultants

The development site location and topography, the nature of any proposed infrastructure, or the proximity of the development site to existing rail infrastructure (such as concourses and rail corridors) will determine whether or not the construction of the project needs to be managed as a rail infrastructure project in accordance with the requirements of the *Rail Safety National Law (NSW)* or PR D 78000.

Whether or not the *Rail Safety National Law (NSW)* applies is a question of fact that can be difficult to determine. Construction occurring on 'railway premises' which does not materially affect 'rail infrastructure' (as those terms are defined under the *Rail Safety National Law (NSW)*) may not need to be managed as a rail infrastructure project under the *Rail Safety National Law (NSW)*. The applicability of the *Rail Safety National Law (NSW)* will need to be assessed on a case-by-case basis in respect of each development site. In any case, early engagement with the National Rail Safety regulator is recommended and that any proponents or developers either contract or create a consortium with appropriate contractors who are authorised under the *Rail Safety National Law (NSW)*, at the outset as part of their development delivery teams.

A.5. Becoming an AEO

Where an organisation proposing works to TfNSW is not an AEO and wishes to provide assurance under its own systems, it may need to become an AEO. This can be done by approaching the ASA at info@asa.transport.nsw.gov.au.

The AEO authorisation process consists of an initial assessment for a defined scope of engineering services followed by periodic surveillance of these as delivered for TfNSW.

Assessment is a process that determines whether a supplier has the capabilities and maturity necessary to deliver and assure engineering services that affect Transport Assets.

A.5.1 The authorisation process

Authorisation is a three step process as shown in Figure 7.

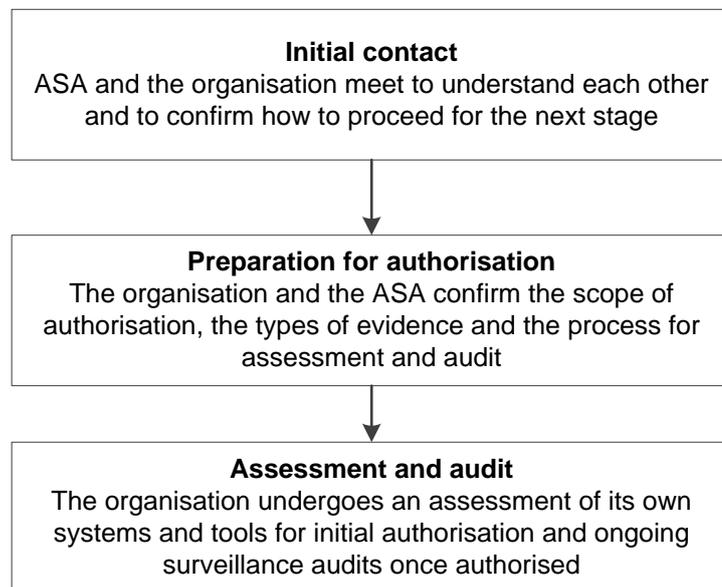


Figure 7 - AEO authorisation process

Prospective AEOs need to provide documented evidence of their ability to manage risk within their defined scope of authorisation. This evidence should address the AEO requirements underpinning the engineering capability management areas.

Once an organisation is authorised it needs to participate in surveillance audits to demonstrate how it deploys its capability on projects and services, as well as to ensure that the AEO's engineering management continues to grow in maturity, capability and capacity.

Appendix B Typical consideration for project proposals

Note: These considerations are not exhaustive and should be tailored to the specific circumstances of the project.

Consideration	Typical questions
Project	<p>What is the project?</p> <p>What is intended to be constructed?</p> <p>What are the high level details – where is it, what is it, when does it begin, when will it finish?</p>
Deliverable	<p>What will be delivered?</p> <p>Is it something that will interact with Transport Assets, property or transport functions?</p> <p>Does it sit alongside, above, behind, or is it integrated with, any existing infrastructure?</p> <p>What opportunities does the development create?</p>
Project interfaces and dependencies	<p>What is related to the project but not necessarily a part of it?</p> <p>Is it happening at the same time that TfNSW has announced major developments around proposed area?</p> <p>Will the project be affected by TfNSW works or will it affect transport works or normal business activities?</p>
Constraints and restrictions	<p>What constraints or restrictions does the proposal face?</p> <p>Is any consent needed from any part of the TfNSW cluster?</p> <p>For example does the DA consent require that planning conditions of approval or concurrence be considered by TfNSW at some stage?</p> <p>Can the stakeholders be identified who are needed to consider or comment on constraints or restrictions affecting the proposal?</p>
Timing	<p>Is there a high level program of works and engagement activities?</p> <p>What are the details of activities that need consideration by TfNSW for example, works impacting access to road, rail or other Transport Assets or modes; materials handling; adjoining landowners and impacts on them?</p> <p>What is the estimate of time allowance made for engaging with TfNSW agencies.</p>
Quality systems	<p>What quality control systems are being adopted?</p> <p>What site control and incident management systems have been considered?</p> <p>How might they interface with TfNSW systems?</p>
People	<p>Who are the people delivering the work?</p> <p>What is their experience in delivering this type of work?</p> <p>What is the principal contact for the work?</p>
Expert advice	<p>Do consultants or other experts who can discuss the project with TfNSW need to be engaged?</p> <p>Where the use of AEOs is required, what are the boundaries of their work and who are they?</p>
Responsibility	<p>Where will responsibility for delivery reside within the proposal?</p>
Stakeholders and	<p>What are the stakeholders (individuals and groups) that need to be</p>

communication	<p>consulted with for the proposal? For example:</p> <ul style="list-style-type: none"> • government bodies such as councils, planning, utility providers • local property owners • TfNSW agencies – is it a proposal that involves many different parts of TfNSW to be involved? <p>Is there a stakeholder engagement plan in place for the proposal?</p>
Issues	<p>What are the major hurdles of the proposal?</p> <p>What additional support is needed from TfNSW to help identify and manage these?</p>
Site services	<p>What site services are required for the proposal?</p> <p>What agreements or assumptions have been made?</p> <p>What are site environmental assumptions such as stormwater, waste water and air particles?</p>
Risk management	<p>What are the potential impacts on Transport Assets, their operations or maintenance?</p> <p>What risk analysis and assessment is required?</p>

Appendix C Indicative risk ownership profiles

C.1. Third party planning and development risk examples, by activity

The table below shows risk examples listed by activity. The risk areas for further analysis are shaded blue.

Planning and Development Risk examples by Activity:	Person / Third Party							
	Planner	Designer	Construction	Road Authority	Utility	Waterway maintainer	Industry	Event Organiser
Siting facilities for vulnerable groups								
Siting facilities with high risk								
Siting facilities that increase traffic flow across the railway								
Planting or removing vegetation								
Changing drainage arrangements								
Granting water extraction licences								
Road signage and lighting								
Design of structure								
Design of separation from the railway								
Maintaining equipment or structures								
Temporary works and scaffolding								
Working near to the track								
Locating materials, plant and site offices								
Demolition, excavation and general construction								
Lighting of construction site								
Storage of equipment/materials near to the running line								
Working near railway overhead line equipment								
Operation of cranes and lifting equipment								
Site security arrangements								
Operation of electrical equipment								
Resurfacing road at bridge under railway								
Resurfacing road or adding a footpath at bridge over railway								
Traffic diversions								
Designing road layout near level crossings								
Advance signage								
Licence work on the road								
Protecting the railway from the road								
Accessing utilities at bridge under/over the railway or at level crossings								
Accessing equipment on railway land								
Accessing equipment on third party land through railway infrastructure								

THIS IS A SAMPLE ONLY

Planning and Development Risk examples by Activity: CONT.	Person / Third Party							
	Planner	Designer	Construction	Road Authority	Utility	Waterway maintainer	Industry	Event Organiser
Laying of services on railway land	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Applicable	Not Applicable	Not Applicable	Not Applicable
Repair/relaying of services on railway land	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Applicable	Not Applicable	Not Applicable	Not Applicable
Draining and maintaining a waterway	Applicable	Applicable	Applicable	Applicable	Applicable	Not Applicable	Applicable	Applicable
Preparing emergency response plan Responding to incident affecting railway Responding to gas	Applicable	Applicable	Applicable	Applicable	Applicable	Not Applicable	Applicable	Applicable
release incident Responding to incident where ESB power lines are down or damaged	Applicable	Applicable	Applicable	Applicable	Applicable	Not Applicable	Applicable	Applicable
Organising an event	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable

KEY:
 Applicable
 Not Applicable

C.2. Level crossing user risk examples, by activity

Below is an example of risk examples listed by activity for a level crossing. The risk areas for further analysis are shaded blue.

Level Crossing User Risk examples by Activity:	Person / Third Party				
	Any level crossing user	Any bridge user	Farmer	Drivers of abnormal vehicles or loads	Open top bus operator
Using any level crossing	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Crossing at protected level crossing	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Crossing at unprotected level crossing	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Taking animal(s) across a crossing	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Harvesting that involves crossing the railway using an iron gate crossing	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Driving an abnormal vehicle or load across a crossing	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Driving open top double decker bus across crossing	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Crossing the Light Rails System tracks	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Driving under or over a bridge	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable

Reporting incidents, injuries and substandard conditions					

KEY:



Applicable

Not Applicable