

# State code 5: Development in a state-controlled transport tunnel environment

## 5.1 Purpose statement

The purpose of this code is to protect **state-controlled transport tunnels** from adverse impacts of development. The purpose of this code is also to protect the safety of people using, and living and working near **state-controlled transport tunnels**. Specifically, this code seeks to ensure:

1. development does not create a safety hazard for users of a **state-controlled transport tunnel**, by increasing the likelihood or frequency of fatality or serious injury
2. development does not compromise the structural integrity of **state-controlled transport tunnels**
3. development does not compromise the state’s ability to construct **state-controlled transport tunnels** and **future state-controlled transport tunnels**, or significantly increase the cost to construct **state-controlled transport tunnels** and **future state-controlled transport tunnels**
4. development does not compromise the state’s ability to maintain and operate **state-controlled transport tunnels**, or significantly increase the cost to maintain and operate **state-controlled transport tunnels**
5. the community is protected from significant adverse impacts resulting from environmental emissions generated by **state-controlled transport tunnels**.

Note: A document to provide guidance on how to comply with the performance outcomes of this code is currently being drafted by the Department of Transport and Main Roads.

## 5.2 Performance outcomes and acceptable outcomes

All development in a **state-controlled transport tunnel** environment should demonstrate compliance with the relevant provisions of table 5.2.1.

All development in a **future state-controlled transport tunnel** environment should demonstrate compliance with the relevant provisions of table 5.2.2.

**Table 5.2.1: Development in a state-controlled tunnel environment**

Performance outcomes	Acceptable outcomes
<b>Buildings and structures</b>	
<p><b>PO1</b> The location of buildings, <b>structures</b>, infrastructure, services and utilities does not cause damage to a <b>state-controlled transport tunnel</b>, or obstruct <b>state-controlled transport tunnel infrastructure</b>.</p>	<p><b>AO1.1</b> Buildings, <b>structures</b>, infrastructure, services and utilities are not located on land identified as a <b>state-controlled transport tunnel</b>.</p> <p>AND</p> <p><b>AO1.2</b> Buildings, <b>structures</b>, infrastructure, services and utilities can be maintained without requiring access to land identified as a <b>state-controlled transport tunnel</b>.</p>
<p><b>PO2</b> Buildings, <b>structures</b>, infrastructure, services and utilities do not interfere with, or result in damage to, infrastructure or services in a <b>state-controlled transport tunnel</b>.</p> <p>Note: Information on the location of services and public utilities in a <b>state-controlled transport tunnel</b> can be obtained from the <b>railway manager</b> and/or ‘Dial Before You Dig’ service.</p> <p>Where development will impact on a service or public utility plant in a <b>state-controlled transport tunnel</b>, such that the service or public utility plant will need to be relocated, an applicant should contact the</p>	<p>No acceptable outcome is prescribed.</p>

Performance outcomes	Acceptable outcomes
relevant service or public utility plant provider for standards and design specifications for the alternative alignment. Any costs of relocation are to be borne by the developer.	
<p><b>PO3</b> Buildings, <b>structures</b>, infrastructure, services and utilities do not add or remove <b>loading</b> that will cause damage to a <b>state-controlled transport tunnel</b> or <b>state-controlled tunnel infrastructure</b>.</p> <p>Note: To demonstrate compliance with this performance outcome, it is recommended a Registered Professional Engineer of Queensland (RPEQ) certified geotechnical assessment is provided.</p>	No acceptable outcome is prescribed.
<p><b>PO4</b> Buildings, <b>structures</b>, infrastructure, services and utilities do not cause ground movement or vibration impacts that would cause damage or nuisance to a <b>state-controlled transport tunnel</b> or <b>state controlled transport tunnel infrastructure</b>.</p> <p>Note: To demonstrate compliance with this performance outcome, it is recommended a RPEQ certified geotechnical assessment is provided.</p>	No acceptable outcome is prescribed.
<p><b>PO5</b> Buildings, <b>structures</b>, infrastructure, services and utilities do not cause ground water disturbance on land for a <b>state-controlled transport tunnel</b>.</p> <p>Note: To demonstrate compliance with this performance outcome, it is recommended a RPEQ certified geotechnical assessment, is provided.</p>	No acceptable outcome is prescribed.
<b>Filling, excavation and retaining structures</b>	
<p><b>PO6</b> Filling, excavation and <b>retaining structures</b> do not interfere with, or result in damage to, infrastructure or services in a <b>state-controlled transport tunnel</b>.</p> <p>Note: Information on the location of services and public utilities in a <b>state-controlled transport tunnel</b> can be obtained from the <b>railway manager</b> and/or 'Dial Before You Dig' service.</p> <p>Where development will impact on a service or public utility plant in a <b>state-controlled transport tunnel</b>, such that the service or public utility plant will need to be relocated, an applicant should contact the relevant service or public utility plant provider for standards and design specifications for the alternative alignment. Any costs of relocation are to be borne by the developer.</p>	No acceptable outcome is prescribed.
<p><b>PO7</b> Filling, excavation, building foundations and <b>retaining structures</b> do not undermine or cause subsidence of land for a <b>state-controlled transport tunnel</b>.</p> <p>Note: To demonstrate compliance with this performance outcome, it is recommended a RPEQ certified geotechnical assessment is provided.</p>	No acceptable outcome is prescribed.
<p><b>PO8</b> Excavation, boring, piling or fill compaction during construction of a development does not result in ground movement or vibration impacts that would cause damage or nuisance to a <b>state-controlled transport tunnel</b>.</p> <p>Note: To demonstrate compliance with this performance outcome, it is recommended a RPEQ certified geotechnical assessment is provided.</p>	No acceptable outcome is prescribed.
<p><b>PO9</b> Development does not involve blasting.</p>	No acceptable outcome is prescribed.
<p><b>PO10</b> Filling and excavation, building foundations and <b>retaining structures</b> do not cause damage to a <b>state-controlled transport tunnel</b> by adding or removing <b>loading</b>.</p> <p>Note: To demonstrate compliance with this performance outcome, it is recommended a RPEQ certified geotechnical assessment is provided.</p>	No acceptable outcome is prescribed.
<p><b>PO11</b> Filling and excavation, building foundations and <b>retaining structures</b> do not cause ground water disturbance to a <b>state-controlled transport tunnel corridor</b>.</p>	No acceptable outcome is prescribed.

Performance outcomes	Acceptable outcomes
Note: To demonstrate compliance with this performance outcome, it is recommended a RPEQ certified geotechnical assessment is provided.	
<b>PO12</b> Fill material from a development site does not result in contamination of a <b>state-controlled transport tunnel corridor</b> .	<p><b>AO12.1</b> Fill material is free of contaminants including acid sulfate content.</p> <p>Note: Soil and rocks should be tested in accordance with AS 1289 – Methods of testing soils for engineering purposes and AS 4133 2005 – Methods of testing rocks for engineering purposes.</p> <p>AND</p> <p><b>AO12.2</b> Compaction of fill is carried out in accordance with the requirements of AS 1289.0 2000 – Methods of testing soils for engineering purposes.</p>
<b>PO13</b> Filling and excavation in the vicinity of a <b>state-controlled transport tunnel portal</b> does not cause wind-blown dust nuisance in a <b>state-controlled transport tunnel</b> .	<p><b>AO13.1</b> Compaction of fill is carried out in accordance with the requirements of AS 1289.0 2000 – Methods of testing soils for engineering purposes.</p> <p>AND</p> <p><b>AO13.2</b> Dust suppression measures are used during filling and excavation activities such as wind breaks or barriers and dampening of ground surfaces.</p>
<b>PO14</b> Filling and excavation material does not cause damage, obstruction or nuisance in a <b>state-controlled transport tunnel corridor</b> .	<b>AO14.1</b> Development does not store fill, spoil or any other material in a <b>state-controlled transport tunnel corridor</b> .
<b>Stormwater and drainage</b>	
<b>PO15</b> Development does not result in an <b>actionable nuisance</b> or worsening of stormwater, flooding or drainage impacts in a <b>state-controlled transport tunnel corridor</b> or a <b>state-controlled transport tunnel</b> .	No acceptable outcome is prescribed.
<b>PO16</b> Run-off from the development site during construction of development does not cause siltation of stormwater infrastructure affecting a <b>state-controlled transport tunnel</b> .	<b>AO16.1</b> Run-off from the development site during construction is not discharged to stormwater infrastructure for a <b>state-controlled transport tunnel</b> .
<b>PO17</b> Development does not cause damage to tunnel drainage <b>structures</b> .	No acceptable outcome is prescribed.
<b>Access</b>	
<b>PO18</b> Vehicular access to a development is not from a <b>state-controlled transport tunnel</b> .	No acceptable outcome is prescribed.
<b>PO19</b> Development does not obstruct or impede existing access to a <b>state-controlled transport tunnel</b> .	<b>AO19.1</b> Development is designed and sited to ensure existing authorised access points and access routes for maintenance and emergency works to a <b>state-controlled transport tunnel</b> are clear from obstructions at all times.
<b>Network safety</b>	
<p><b>PO20</b> Development involving <b>dangerous goods</b> adjacent to a <b>state-controlled transport tunnel corridor</b> does not adversely impact on the safety or operations of a <b>state-controlled transport tunnel</b>.</p> <p>Note: Development involving <b>dangerous goods</b>, or hazardous chemicals above the threshold quantities listed in table 5.2 of the Model Planning Scheme Development Code for Hazardous Industries and Chemicals, Office of Industrial Relations, Department of Justice and Attorney-General, 2016, should demonstrate that impacts on a <b>state-controlled transport tunnel</b> from a fire, explosion, spill, gas emission or <b>dangerous goods</b> incident can be appropriately mitigated.</p>	<b>AO20.1</b> Development does not involve handling or storage of hazardous chemicals above the threshold quantities listed in table 5.2 of Model Planning Scheme Development Code for Hazardous Industries and Chemicals, Office of Industrial Relations, Department of Justice and Attorney-General, 2016.
<b>Air and light</b>	
<b>PO21</b> Development involving an <b>accommodation activity</b> located near a <b>state-controlled transport tunnel portal</b> minimises air quality impacts from a <b>state-controlled transport tunnel</b> in <b>outdoor spaces for passive recreation</b> .	<b>AO21.1</b> Each dwelling has access to an <b>outdoor space for passive recreation</b> which is shielded from a <b>state-controlled transport tunnel portal</b> by a building, solid gap-free fence, or other solid gap-free <b>structure</b> .

Performance outcomes	Acceptable outcomes
<p><b>PO22</b> Development involving a:</p> <ol style="list-style-type: none"> <li>1. <b>childcare centre</b>; or</li> <li>2. <b>educational establishment</b></li> </ol> <p>located near a <b>state-controlled transport tunnel portal</b> minimises air quality impacts from a <b>state-controlled transport tunnel</b> in <b>outdoor education areas</b> and <b>outdoor play areas</b>.</p>	<p><b>AO22.1</b> Each <b>outdoor education area</b> and <b>outdoor play area</b> is shielded from a <b>state-controlled transport tunnel portal</b> by a building, solid gap-free fence, or other solid gap-free <b>structure</b>.</p>
<p><b>PO23</b> Development involving an <b>accommodation activity</b> or <b>hospital</b> located near a <b>state-controlled transport tunnel portal</b> minimises lighting impacts from a <b>state-controlled transport tunnel</b>.</p>	<p><b>AO23.1</b> Buildings for an <b>accommodation activity</b> or <b>hospital</b> are designed to minimise the number of windows or transparent/translucent panels facing a <b>state-controlled transport tunnel portal</b>.</p> <p>OR</p> <p><b>AO23.2</b> Windows facing a <b>state-controlled transport tunnel</b> include window treatments to block light from <b>state-controlled transport tunnel portal</b>.</p>

**Table 5.2.2: Development impacting on a future state-controlled tunnel environment**

Performance outcomes	Acceptable outcomes
<p><b>PO24</b> Development does not impede the delivery of a <b>future state-controlled transport tunnel</b>.</p>	<p><b>AO24.1</b> Development is not located on land identified as a <b>future state-controlled transport tunnel corridor</b>.</p> <p>OR</p> <p><b>AO24.2</b> Development is sited and designed so that permanent buildings, <b>structures</b>, infrastructure, services or utilities are not located on land identified as a <b>future state-controlled transport tunnel</b>.</p> <p>OR all of the following acceptable outcomes apply:</p> <p><b>AO24.3</b> <b>Structures</b> and infrastructure located on land identified as a <b>future state-controlled transport tunnel</b> are able to be readily relocated or removed without materially affecting the viability or functionality of the development.</p> <p>AND</p> <p><b>AO24.4</b> Development does not involve filling and excavation of, or material changes to, land identified as a <b>future state-controlled transport tunnel</b>.</p> <p>AND</p> <p><b>AO24.5</b> Land is able to be reinstated to the pre-development condition at the completion of the use.</p>
<p><b>PO25</b> Filling and excavation, building foundations and <b>retaining structures</b> do not obstruct, undermine, or cause subsidence of land for a <b>future state-controlled transport tunnel</b>.</p> <p>Note: To demonstrate compliance with this performance outcome, it is recommended a RPEQ certified geotechnical assessment is provided, prepared in accordance with Volume 3 of the Road Planning And Design Manual 2<sup>nd</sup> edition, Department of Transport and Main Roads, 2016.</p>	<p>No acceptable outcome is prescribed.</p>
<p><b>PO26</b> Filling and excavation, building foundations and <b>retaining structures</b> do not cause damage to land for a <b>future state-controlled transport tunnel</b> by adding or removing <b>loading</b>.</p>	<p>No acceptable outcome is prescribed.</p>

Performance outcomes	Acceptable outcomes
Note: To demonstrate compliance with this performance outcome, it is recommended a RPEQ certified geotechnical assessment is provided.	
<b>PO27</b> Fill material from a development site does not result in contamination of land for a <b>future state-controlled transport tunnel</b> .	<p><b>AO27.1</b> Fill material is free of contaminants including acid sulfate content.</p> <p>Note: Soil and rocks should be tested in accordance with AS1289 – Methods of testing soils for engineering purposes and AS4133 2005 – Methods of testing rocks for engineering purposes.</p> <p>AND</p> <p><b>AO27.2</b> Compaction of fill is carried out in accordance with the requirements of AS1289.0 2000 – Methods of testing soils for engineering purposes.</p>
<b>PO28</b> Development does not result in an <b>actionable nuisance</b> or worsening of stormwater, flooding or drainage impacts on land for a <b>future state-controlled transport tunnel</b> .	No acceptable outcome is prescribed.

### 5.3 Reference documents

Department of Justice and Attorney-General (Office of Industrial Relations) 2016, [Model Planning Scheme Development Code for Hazardous Industries and Chemicals](#)

Department of Transport and Main Roads 2015, [Guide to Development in a Transport Environment: Rail](#)

Department of Transport and Main Roads 2014, [State development assessment provisions supporting information – filling and excavation](#)

Department of Transport and Main Roads 2013, [State development assessment provisions supporting information – stormwater and drainage](#)

Department of Transport and Main Roads 2014, [Design criteria for bridges and other structures manual](#)

Department of Transport and Main Roads 2015, [Road drainage manual](#)

Department of Transport and Main Roads 2016, [Road Planning and Design Manual 2<sup>nd</sup> edition: Volume 3](#)

Department of Transport and Main Roads 2016, [Transport Noise Management Code of Practice Volume 2: Construction noise and vibration](#)

Department of Energy and Water Supply 2013, [Queensland Urban drainage manual](#)

Queensland Rail, Civil Engineering Technical Requirements and standard drawings:

[Civil-SR-002 – Work in or about Queensland Rail property](#)

[Civil-SR-003 – Requirements for work on or near high voltage overhead line equipment and low voltage services](#)

[Civil-SR-005 – Design of buildings over or near railways](#)

[Civil-SR-012 – Collision protection of supporting elements adjacent to railways](#)

[Civil-SR-014 – Design of noise barriers adjacent to railways](#)

## Civil-SR-016 – Requirements for services under the railway corridor (non-QR services)

Standards Australia 2000, [AS1289.0-2000 – Methods of testing soils for engineering purposes](#)

Standards Australia 2010, [AS2436–2010 – Guide to noise and vibration control on construction, demolition and maintenance sites](#)

Standards Australia 2005, [AS4133.0–2005 – Methods of testing rocks for engineering purposes](#)

## 5.4 Glossary of Terms

**Accommodation activity** means any of the following:

1. caretaker's accommodation
2. community residence
3. dual occupancy
4. dwelling house
5. dwelling unit
6. multiple dwelling
7. relocatable home park
8. residential care facility
9. resort complex
10. retirement facility
11. rooming accommodation
12. short-term accommodation
13. tourist park
14. a development with a combination of uses 1 to 13.

**Actionable nuisance** means where stormwater or surface water drainage to a downstream property causes a loss of enjoyment of property or physical damage to property (termed 'nuisance') such that the nuisance is actionable in law.

Note: See the Queensland Urban Drainage Manual, Department of Energy and Water Supply, 2016 for further information.

**ADG code** see schedule 1 of the *Work Health and Safety Act 2011*.

Note: **ADG code** means the Australian Code for the Transport of Dangerous goods by Road and Rail approved by the Australian Transport Council, as updated from time to time.

**Childcare centre** see schedule 24 of the Planning Regulation 2017.

Note: **Childcare centre** means the premises used for minding or care, but not residence, of children.

**DA mapping system** means the mapping system containing the Geographic Information System mapping layers kept, prepared or sourced by the state that relate to development assessment and matters of interest to the state in assessing development applications.

Note: The **DA mapping system** is available on the department's website.

**Dangerous goods** see schedule 1 of the *Work Health and Safety Act 2011*.

Note: **Dangerous goods** means:

1. asbestos; or
2. anything defined under the **ADG code** as:
  - a. **dangerous goods**; or
  - b. goods too dangerous to be transported.

**Educational establishment** see schedule 24 of the Planning Regulation 2017.

Note: **Educational establishment** means premises used for training and instruction designed to impart knowledge and develop skills.

**Educational establishment** includes the following uses and activities if they are ancillary:



1. on-site student accommodation
2. on-site before and after school care
3. on site vacation care.

**Future state-controlled transport tunnel** see schedule 24 of the Planning Regulation 2017.

Note: **Future state-controlled transport tunnel** means a tunnel that forms part of a **future state transport corridor**.

**Future state transport corridor** see schedule 24 of the Planning Regulation 2017.

Note: **Future State transport corridor** means:

1. a future state-controlled road; or
2. a future railway corridor; or
3. a future busway corridor; or
4. a future light rail corridor.

See the **DA mapping system**.

**Hospital** see schedule 24 of the Planning Regulation 2017.

Note: **Hospital** means the use of premises for:

1. the medical or surgical care or treatment of patients, whether or not the care or treatment requires overnight accommodation
2. providing accommodation for patients.

**Hospital** includes the use of premises for providing accommodation for employees and other activities that are ancillary to the **hospital**.

**Loading** means pressure or force exerted on land or infrastructure.

**Outdoor education area** means outdoor areas intended for use for the training or teaching of persons. This term does not include playgrounds or outdoor sport and recreational areas.

**Outdoor play area** see the Queensland Development Code.

Note: **Outdoor play area** means an unenclosed area located outside the external walls of the building. This term only includes playgrounds/play areas in a **childcare centre** or **educational establishment**.

**Outdoor spaces for passive recreation** means private open space, communal open space or public open space.

**Retaining structures** means retention **structures** and systems such as walls, batters, anchors, bolts, soil nails, shoring, piles, piers, beams and similar **structures**.

**Structure** means any built structure as well as **retaining structures**.

**State-controlled transport tunnel** see schedule 24 of the Planning Regulation 2017

Note: **State-controlled transport tunnel** means a tunnel that forms part of a state transport corridor.

See the **DA mapping system**.

**State-controlled transport tunnel portal** means the entrance to a tunnel.

## 5.5 Abbreviations

**RPEQ** – Registered Professional Engineer of Queensland