

PASSENGER RAIL INFRASTRUCTURE NOISE POLICY

APRIL 2013





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1 INTRODUCTION

Demand for passenger rail services has grown significantly in recent years and is expected to increase further in coming decades. To prepare for this growth, the Victorian Government is planning for the future development of the rail network.

As housing demand increases, land in the inner and middle suburbs is being rezoned from commercial and industrial uses to residential, while land in the outer suburbs and growth areas is being developed for the first time.

These changes are likely to put more homes closer to rail lines and expose more people to noise impacts, as well as broaden the benefits of greater access to public transport.

Managing rail noise effectively will help provide good urban, transport and social outcomes as Victoria grows.

2 OBJECTIVE

The objective of this policy is to guide transport bodies and planning authorities in their consideration of the impacts of rail noise from improved or new passenger rail infrastructure and from changes to land use near existing and planned rail corridors.

3 EXISTING LAWS

A range of laws set broad obligations for public bodies to consider rail noise. These include the *Major Transport Projects Facilitation Act 2009*, the *Environment Effects Act 1978*, the *Planning and Environment Act 1987* and the *Transport Integration Act 2010*.

Section 251B of the *Transport (Compliance and Miscellaneous) Act 1983* exempts passenger rail operations from liability and prosecution for nuisance in relation to noise under the *Environment Protection Act 1970* and the *Local Government Act 1989*. This does not mean that noise impacts should be ignored and no action taken in relation to them, particularly in obtaining statutory approvals for new projects. Nor does it mean that noise should be ignored when planning changes in land use near existing and future rail corridors.

4 DEFINITIONS

In this policy, key terms are defined below:

Day means from 6am to 10pm;

dB(A) External means the A-weighted sound pressure level in decibels measured externally to the affected building façade;

Existing passenger rail corridor means an area of land that is currently used to operate a passenger rail service, including land alongside the passenger rail infrastructure that is reserved for use by a transport body;

Investigation thresholds means the investigation thresholds in Tables A, B and C in Attachment 2;

Land and use have the same meanings as in the *Planning and Environment Act 1987*;

L_{Aeq} means equivalent continuous A-weighted sound pressure level and is the value of the A-weighted sound pressure level of a continuous steady sound that has the same acoustic energy as a given time-varying A-weighted sound pressure level when determined over the same measurement time interval;

L_{Amax} means maximum A-weighted sound pressure level and is the 95 percentile of the highest value of the A-weighted sound pressure level reached within the *day or night*;

Minister for Planning means the Minister administering the *Planning and Environment Act 1987*;

Minister for Public Transport means the Minister administering the *Transport Integration Act 2010* in relation to public transport;

New passenger rail infrastructure means passenger rail infrastructure that is to be developed on land in a new passenger rail corridor;

Night means from 10pm to 6am;

Passenger rail infrastructure means infrastructure used to operate a passenger railway and includes railway track, railway track sidings, associated track structures and works (such as cuttings, tunnels, bridges, stations, platforms, excavations, land fill, track support earthworks and drainage works), over-track structures, under-track structures, communications systems, notices and signs and overhead electrical power supply systems.

Passenger rail noise means noise emitted by a passenger rail service on passenger rail infrastructure;

Policy principles means the passenger rail infrastructure noise policy principles specified in Attachment 3;

Planned passenger rail corridor means an area of land that is reserved to operate a passenger rail service in the future or subject to a public acquisition overlay for the purposes of transport, including land alongside planned passenger rail infrastructure that is reserved for use by a transport body;

Redevelopment of passenger rail infrastructure means passenger rail infrastructure that is to be developed on land in an existing passenger rail corridor or land immediately adjacent to an existing rail corridor, including a rail corridor that is not currently being used for passenger rail services;

5 APPLICATION TO TRANSPORT BODIES AND PLANNING AUTHORITIES

The transport bodies and planning authorities listed in Column 1 of Table A, Attachment 1 must have regard to this policy when exercising powers or performing functions under the corresponding transport or planning legislation listed in Column 2 of Table A, Attachment 1; in relation to:

- a) new passenger rail infrastructure or the redevelopment of passenger rail infrastructure that will, or is likely to, require:
 - i) an assessment and approval under the *Major Transport Projects Facilitation Act 2009*;
 - ii) an assessment under the *Environment Effects Act 1978*; or
 - iii) a planning scheme amendment under the *Planning and Environment Act 1987*;

or
- b) a planning scheme amendment under the *Planning and Environment Act 1987* relating to land near an existing or planned rail corridor.

Where new passenger rail infrastructure or redevelopment of passenger rail infrastructure is not captured by sub-clause (a), the Minister responsible for the transport body may direct that transport body to have regard to this policy when exercising powers or performing functions.

Transport bodies must have regard to this policy throughout a project's lifecycle, including concept design and business case development. Similarly, planning authorities must have regard to this policy as early as possible in the development of a relevant planning scheme amendment.

Transport bodies and planning authorities listed in Table A in Attachment 1 need not have regard to this policy when exercising powers or performing functions in relation to:

- > new freight rail or tram infrastructure projects;
- or**
- > where the State Environment Protection Policy (Control of Noise from Industry, Commerce and Trade) No. N-1 provisions apply.

This means that transport bodies and planning authorities need not have regard to this policy when exercising powers or performing functions in relation to increases in passenger rail noise that result solely from an increase in services on existing passenger rail infrastructure.

6 INVESTIGATION THRESHOLDS

The investigation thresholds are provided to guide transport bodies and planning authorities when assessing the impacts of rail noise on nearby communities and exposure of people to passenger rail noise. They are not a limit on allowable noise emissions.

When assessing whether the investigation thresholds are exceeded, transport bodies and planning authorities should consider noise from current rail activity and forecast future trends in rail activity. Noise from both passenger rail and freight rail activity should be considered where the corridor is or is likely to also be used for freight rail operations. Where **redevelopment of passenger rail infrastructure** is being considered, noise from activity levels with and without the redevelopment should be assessed.

In considering **new passenger rail infrastructure or changing land use near a planned passenger rail corridor**, transport bodies and planning authorities should consider the receivers set out in Table A in Attachment 2. Transport bodies and planning authorities should consider whether the noise level produced at these receivers will exceed the investigation thresholds for the periods specified in Table A in Attachment 2.

In considering **changing land use near an existing passenger rail corridor**, transport bodies and planning authorities should consider the receivers set out in Table B in Attachment 2. Transport bodies and planning authorities should consider whether the noise level produced at these receivers will exceed the investigation thresholds for the periods specified in Table B in Attachment 2.

In considering **redevelopment of passenger rail infrastructure**, transport bodies and planning authorities should consider the receivers set out in Table C in Attachment 2. Transport bodies and planning authorities should consider whether the noise level produced and the change in noise level at these receivers will exceed the investigation thresholds for the periods specified in Table C in Attachment 2.

If an assessment shows the investigation thresholds are not exceeded, noise impacts should be considered a secondary matter. This means no further action need be considered under this policy.

In accordance with section 21 of the *Transport Integration Act 2010*, transport bodies and planning authorities should consider publishing a report on the results of the assessment of the investigation thresholds.



7 POLICY PRINCIPLES

If an assessment shows that the investigation thresholds will be exceeded, noise impacts should be considered a primary matter. This means that transport bodies and planning authorities should consider options for avoiding, minimising and mitigating rail noise by applying the policy principles set out in Attachment 3 as a set. Transport bodies and planning authorities may find that there are no appropriate options in some cases.

Transport bodies and planning authorities should seek the views of the Minister for Public Transport and the Minister for Planning.

In accordance with section 21 of the *Transport Integration Act 2010*, transport bodies and planning authorities should consider publishing a report demonstrating how the principles have been applied.

A. Change in land use near an existing passenger rail corridor

If an assessment shows that the investigation thresholds will be exceeded for a change in land use near an **existing** passenger rail corridor, planning authorities should consult with transport bodies to consider which of the following options (if any) best manage passenger rail noise:

- 1) Options that would avoid exposure to rail noise of receivers identified in Table B in Attachment 2 (for example, places where people sleep) through the way land is used, for example:
 - a) specifying the types of land use in proximity to rail infrastructure
 - b) requiring set-back from the rail reserve
 - c) encouraging the location of non-sensitive receivers (for example, commercial uses) in proximity to the rail corridor.
- 2) Options that would reduce or mitigate the exposure to rail noise of the receivers identified in Table B in Attachment 2 through building and architectural treatments, for example:
 - a) requiring developers to consider building orientation, placement on site and design of floor plans
 - b) use of building materials including double-glazing that can help reduce or mitigate internal noise in a building.

Note that options involving rail infrastructure design features are not applicable to a **change in land use near an existing passenger rail corridor**.



In considering the options and applying the policy principles to changes in land use near an **existing** passenger rail corridor, planning authorities and transport bodies must have regard to the considerations listed in Table A in Attachment 4 as a guide to applying each principle listed in the table.

B. Change in land use near a planned passenger rail corridor

If an assessment shows that the investigation thresholds will be exceeded for a change in land use near a **planned** passenger rail corridor, planning authorities should consult with transport bodies to consider which of the following options (if any) best manage passenger rail noise:

- 1) Options that would avoid exposure to rail noise of receivers identified in Table A in Attachment 2 (for example, places where people sleep) through the way land is used, for example:
 - a) specifying the types of land use in proximity to rail infrastructure
 - b) requiring set-back from the rail reserve
 - c) encouraging the location of non-sensitive receivers (for example, commercial uses) in proximity to the rail corridor.

- 2) Options that would reduce or mitigate the exposure to rail noise of receivers identified in Table A in Attachment 2 through building and architectural treatments, for example:

- a) requiring developers to consider building orientation, placement on site and design of floor-plans
- b) use of building materials including double-glazing that can help reduce or mitigate internal noise in a building.

- 3) Options that would avoid or minimise exposure to rail noise of receivers identified in Table A in Attachment 2 through rail infrastructure design features, for example:

- a) proposed horizontal and vertical alignment
- b) location of any walls or buildings
- c) other engineering treatments, such as construction of barriers.

In considering the options and applying the policy principles to changes in land use near a **planned** passenger rail corridor, planning authorities and transport bodies must have regard to the considerations listed in Table A in Attachment 4 as a guide to applying each principle listed in the table.



C. Redevelopment of passenger rail infrastructure or new passenger rail infrastructure

If an assessment shows that the investigation thresholds will be exceeded for **redevelopment of passenger rail infrastructure or new passenger rail infrastructure**, transport bodies should consult with planning authorities to consider which of the following options (if any) best manage passenger rail noise:

- 1) Options that would avoid exposure to rail noise of receivers identified in Table A in Attachment 2 and Table C in Attachment 2 through the way land is used by, for example:
 - a) specifying the types of land use in proximity to existing and future rail infrastructure
 - b) requiring set-back from the rail reserve
 - c) encouraging the location of non-sensitive receivers in proximity to the rail corridor.
- 2) Options that would reduce or mitigate the exposure to rail noise of receivers identified in Table A in Attachment 2 and Table C in Attachment 2 through building and architectural treatments by, for example:
 - a) requiring developers to consider building orientation, placement on site and design of floor-plans
 - b) use of building materials including double-glazing that can help reduce or mitigate internal noise in a building.
- 3) Options that would avoid or minimise exposure to rail noise of receivers identified in Table A in Attachment 2 and Table C in Attachment 2 through rail infrastructure design features by, for example:
 - a) proposed horizontal and vertical alignment
 - b) location of any walls or buildings
 - c) other engineering treatments, such as track design or construction of barriers.

In considering the options and applying the principles to **redevelopment of passenger rail infrastructure or new passenger rail infrastructure**, transport bodies and planning authorities must have regard to the considerations listed in Table A in Attachment 5 as a guide to applying each principle listed in the table.

8 POLICY PROCESS

Figure 1, Attachment 6 guides planning authorities and transport bodies on the steps to follow when considering the impact of rail noise relating to **a change in land use near an existing passenger rail corridor or a planned passenger rail corridor**.

Figure 2, Attachment 6 guides transport bodies and planning authorities on the steps to follow when considering the impact of rail noise relating to a **redevelopment of passenger rail infrastructure or new passenger rail infrastructure**.

Attachment 1

Table A: Transport bodies and planning authorities and applicable legislation

Transport body or planning authority	Applicable legislation
Assessment committee	<i>Major Transport Projects Facilitation Act 2009</i>
Department of Transport	<i>Transport Integration Act 2010</i>
Growth Areas Authority	<i>Planning and Environment Act 1987</i>
Linking Melbourne Authority	<i>Transport Integration Act 2010</i>
Minister for Planning	<i>Major Transport Projects Facilitation Act 2009; Environment Effects Act 1978 and Planning and Environment Act 1987</i>
Minister for Public Transport	<i>Transport Integration Act 2010</i>
Planning authorities	<i>Planning and Environment Act 1987</i>
Project authority	<i>Major Transport Projects Facilitation Act 2009</i>
Project proponent	<i>Major Transport Projects Facilitation Act 2009, Environment Effects Act 1978</i>
Public Transport Development Authority	<i>Transport Integration Act 2010</i>
Regional Rail Link Authority	<i>Transport Integration Act 2010</i>
Roads Corporation	<i>Transport Integration Act 2010</i>
Secretary of the Department of Transport	<i>Transport Integration Act 2010</i>

Notes:

Transport Integration Act 2010

Transport bodies and planning authorities, specified in Table A, must have regard to this policy when exercising powers or performing functions in accordance with the legislation in Column 2. The transport bodies and planning authorities, in varying ways, participate and contribute towards statutory approvals provided under the *Major Transport Projects Facilitation Act 2009* and the *Planning and Environment Act 1987*.

Major Transport Projects Facilitation Act 2009

Transport bodies and planning authorities, specified in Table A, must have regard to this policy when participating in any process leading to an assessment or approval under the *Major Transport Projects Facilitation Act 2009* framework. This includes but is not limited to, the assessment and approvals process under Parts 3 and 8 of that Act, project proponents when preparing or revising comprehensive impact statements, assessment committees when preparing recommendations, and the Minister for Planning when issuing scoping directions and making approval decisions.

Environment Effects Act 1978

Transport bodies and planning authorities, specified in Table A, must have regard to this policy when participating in any process leading to an assessment under the *Environment Effects Act 1978* framework.

Planning and Environment Act 1987

Transport bodies and planning authorities, specified in Table A, must have regard to this policy when participating in any planning scheme amendment process under the *Planning and Environment Act 1987*. This includes but is not limited to, local governments acting as planning authorities when preparing planning scheme amendments and the Minister for Planning when preparing, adopting or approving planning scheme amendments.

Attachment 2

Table A: Investigation thresholds for new passenger rail infrastructure or change in land use near a planned rail corridor

Time	Type of receiver	Investigation threshold(s)
Day (6am – 10pm) dB(A) External	<ul style="list-style-type: none"> > Residential dwellings and other buildings where people sleep including aged person homes, hospitals, motels and caravan parks > Noise sensitive community buildings including schools, kindergartens, libraries 	60 L_{Aeq} or 80 L_{Amax}
Night (10pm – 6am) dB(A) External	<ul style="list-style-type: none"> > Residential dwellings and other buildings where people sleep including aged person homes, hospitals, motels and caravan parks 	55 L_{Aeq} or 80 L_{Amax}

Table B: Investigation thresholds for change in land use near an existing rail corridor

Time	Type of receiver	Investigation threshold(s)
Day (6am – 10pm) dB(A) External	<ul style="list-style-type: none"> > Residential dwellings and other buildings where people sleep including aged person homes, hospitals, motels and caravan parks > Noise sensitive community buildings including schools, kindergartens, libraries 	65 L_{Aeq} or 85 L_{Amax}
Night (10pm – 6am) dB(A) External	<ul style="list-style-type: none"> > Residential dwellings and other buildings where people sleep including aged person homes, hospitals, motels and caravan parks 	60 L_{Aeq} or 85 L_{Amax}

Table C: Investigation thresholds for redevelopment of existing passenger rail infrastructure

Time	Type of receiver	Investigation threshold(s)
Day (6am – 10pm) dB(A) External	<ul style="list-style-type: none"> > Residential dwellings and other buildings where people sleep including aged person homes, hospitals, motels and caravan parks > Noise sensitive community buildings including schools, kindergartens, libraries 	<p>65 L_{Aeq} and change in L_{Aeq} of 3 dB(A) or more</p> <p>or</p> <p>85 L_{Amax} and change in L_{Amax} of 3 dB(A) or more</p>
Night (10pm – 6am) dB(A) External	<ul style="list-style-type: none"> > Residential dwellings and other buildings where people sleep including aged person homes, hospitals, motels and caravan parks 	<p>60 L_{Aeq} and change in L_{Aeq} of 3 dB(A) or more</p> <p>or</p> <p>85 L_{Amax} and change in L_{Amax} of 3 dB(A) or more</p>



Attachment 3

Passenger rail infrastructure noise policy principles

Integrated early consideration

Impacts of noise from rail projects and options for noise reduction should be considered early in the development of a proposal for new/ redevelopment of passenger rail infrastructure or a change in land use, and an integrated approach should be taken to identifying the options to avoid or reduce noise and its impacts.

The impact of noise from the operation of a proposed new/redevelopment of passenger rail infrastructure should be considered as early as possible in the development process. Similarly, where there is a proposed change in land use near passenger rail infrastructure, the impact of noise should be considered early. This will allow decisions about the investment to be taken in the knowledge of the full implications for all areas of government and ensure that treatments are costed into the project in the initial stages.

The planning and transport portfolios should work together to develop an integrated land use and transport approach to address noise from new passenger rail infrastructure and to protect receivers of noise where there is a change in land use near passenger rail infrastructure. This will ensure that all opportunities to avoid, minimise and mitigate noise and its impacts can be considered from a broader perspective, through both planning and engineering treatments and having regard to the broader social, environmental and economic interests of the State.

Balancing objectives

Decisions about managing the impact of rail noise should balance economic, social and environmental objectives within the context of the wider objectives of a passenger rail project or change to land use

In deciding how passenger rail noise should be managed, costs and benefits of possible treatments and other management options need to be considered. Cost-effective options should be selected, not only in an economic context, but also taking into account social and environmental impacts. This approach will provide a wider perspective of the overall public value of mitigation.

The impacts of mitigating noise should be compared to the impacts of a passenger rail project or change to land use near an existing or planned passenger rail corridor where no noise mitigation is provided. The impacts of mitigating noise should also be compared with the impacts of not proceeding with a passenger rail project or change to land use near an existing or planned passenger rail corridor. This can help determine whether the mitigation can cost-effectively address noise impacts and whether it will reduce the benefit or increase the costs significantly in the context of the wider objectives of the proposal.

The budget implications of providing noise mitigation should be financially prudent and should not unreasonably compromise the core objective of the passenger rail project or change to land use near an existing or planned passenger rail corridor.



Responsibility for mitigating noise may rest with land owners and developers where they purchased land or property in a location where passenger rail noise was known or could have reasonably been expected.

The highest priority should be given to treatments that generate the greatest overall public value.

Best fit solutions

All reasonable efforts to limit impacts of noise should be made taking account of what is practicable, reasonable and cost effective, given the specific local circumstances and the broader public good.

The noise impact of passenger rail infrastructure should be addressed in relation to the local circumstances. Different treatments may also be suitable for dealing with noise being generated from different sources and for different types of noise – for example, constant or intermittent noise.

Examples of significant local factors that need to be considered include:

- > the existing level of noise in the location, including from any existing rail activity
- > how discernible any change in noise is likely to be as a result of a redevelopment of passenger rail infrastructure and from any options for treating the noise that are being considered
- > the nature of the noise that is to occur, that is, whether it is constant or intermittent, of a particular frequency or another factor that might affect its impacts on people and property
- > the extent to which there is existing or proposed development in the location impacted
- > whether existing or proposed developments or property investments would have been aware of likely noise associated with the rail passenger infrastructure or corridor
- > the number of people exposed to noise associated with the passenger rail infrastructure or corridor and the number of people likely to benefit from any treatment options being considered
- > whether there will be impacts on surrounding transport activity or transport networks that might have other benefits or result in reduced noise exposure
- > whether there are physical or other practical constraints that limit the treatment options available or increase costs of adopting any option.



Attachment 4

Table A: Considerations to apply in assessing options for managing passenger rail noise for change in land use near existing or planned passenger rail corridors

Principles	Considerations for applying the policy principles
Integrated early consideration	<ul style="list-style-type: none"> > Is the existing or currently proposed land use sensitive to rail noise? > Can non-sensitive uses be located along the existing or planned rail corridor? > Can developments be located or situated to protect sensitive receptors from noise from the existing or planned rail corridor? > Will a design and development overlay be needed to mitigate exposure of sensitive receivers to significant levels of rail noise?
Balancing objectives	<ul style="list-style-type: none"> > How effective is it to avoid/minimise conflicting land use and rail activity (and hence rail noise impacts) through a land use planning approach compared to mitigating rail noise with project design approaches and engineering options? <ul style="list-style-type: none"> > How effective is the land use planning approach compared to future rail project design approaches (if a future rail investment is expected) and development design options? > Have social and environmental impacts of each option been considered in addition to economic impacts? > What are the benefits and costs of each option? > Have options that reduce internal noise of buildings, particularly bedrooms, been considered? > How do the benefits and costs of avoiding, minimising or mitigating the rail noise compare to that of doing nothing (i.e. no land use change, no treatment)? <ul style="list-style-type: none"> > What are the opportunity costs of the proposed land use? > Given the benefits and costs of the land use planning approach and that of project design approaches and engineering options, how do the benefit-to-cost ratios for each option compare? <ul style="list-style-type: none"> > What are the costs in terms of project budget? > Are the costs of avoiding, minimising or mitigating the rail noise proportionate to the overall public value of the change in land use? > Are the costs of noise treatment shared equitably? <ul style="list-style-type: none"> > Is there an existing passenger rail corridor? Was the rail corridor reserved or was there a public acquisition overlay in place before land owners or developers purchased in this location? If so, transport bodies and planning authorities may decide management of rail noise at this location is the responsibility of the land owner or developer and a planning control such as a design and development overlay may be considered. > Will land owners or developers in this location benefit from the land use change and if so should they share responsibility for avoiding, minimising or mitigating the rail noise? > Is the highest preference given to the options that are expected to provide the greatest overall public value?

Principles	Considerations for applying the policy principles
Best-fit solutions	<ul style="list-style-type: none"> > What are the local constraints on avoiding and/or minimising exposure to rail noise? <ul style="list-style-type: none"> > Topography of surrounding land > Shielding provided by other buildings > Presence of waterways and bridges > Amount of land required for mitigation > Are there cultural heritage requirements such as sites of Aboriginal significance including burial and ceremonial sites that might impact potential land use, project design elements or engineering treatment options? > Are there environmental protection issues such as presence of endangered local fauna and flora that might limit land use, project design elements or engineering treatment options? > What impact will these local constraints have on land use or future engineering options to avoid, minimise or mitigate rail noise?

Note 1: Detailed costings and estimates of benefits will not always be available. When detailed information is not available, a qualitative assessment can be made.



Attachment 5

Table A: Considerations to apply in assessing options for managing passenger rail noise for redevelopment of or new passenger rail infrastructure

Principles	Considerations for applying the policy principles
Integrated early consideration	<div><div>> Will this project require a change of land use and/or the acquisition of land?</div><div><div>> Is the use of land adjoining the proposed rail infrastructure sensitive to rail noise?</div><div>> Can non-sensitive uses be located along the existing or planned rail corridor?</div><div>> Can developments be located or situated to protect sensitive receptors from noise from the existing or planned rail corridor?</div><div>> Will a design and development overlay be needed to mitigate exposure of sensitive receivers to significant levels of rail noise?</div></div><div>> Can the overall project design (e.g. the planned horizontal and vertical alignment) avoid or minimise likely exposure of sensitive receivers to significant levels of rail noise?</div><div>> What land uses, design and development overlays, project design elements or engineering elements should be included in project costings?</div></div>



Principles	Considerations for applying the policy principles
Balancing objectives	<ul style="list-style-type: none"> > How effective is it to avoid, minimise or mitigate exposure of sensitive receivers to significant levels of rail noise through restrictions on land use, development and design overlays, project design elements or engineering treatments? <ul style="list-style-type: none"> > Have social and environmental impacts of each option been considered in addition to economic impacts? > What are the benefits and costs of each option? > How much noise has the project added? If the level of noise is reduced to the level that would occur without the project, do the benefits exceed the costs? > How do the benefits and costs of reducing exposure to rail noise compare to that of doing nothing (that is, not proceeding with the project)? <ul style="list-style-type: none"> > What are the risks of proceeding with the project but with no or limited noise treatment options? > What are the opportunity costs of the potential options? > How do the benefit-to-cost ratios for each option compare? <ul style="list-style-type: none"> > Are the costs of reducing exposure to significant levels of rail noise proportionate to the project budget? > Does this proportion reflect the ratio of the benefits of reduced rail noise to the overall public benefits of the project? > Are the costs of noise treatment shared equitably? <ul style="list-style-type: none"> > Did the land owners or developers in this location purchase or develop at this location after the date the project was declared? If so, transport bodies and planning authorities may decide management of rail noise at this location is at the discretion of the land owner or developer and is the responsibility of the land owner or developer. > If most land owners or developers are considered responsible for mitigating rail noise, it may be more cost effective for transport bodies and planning authorities to focus on options that treat individual properties. > If only a small number of land owners or developers are considered responsible for mitigating rail noise, transport bodies and planning authorities may need to continue to consider options that benefit multiple properties. > Who will benefit from reductions in road noise as a result of the new rail investment, and how do road noise reductions compare to likely exposure of sensitive receptors to significant levels of rail noise? > Is highest preference given to the options that are expected to provide the greatest overall public value?

Principles	Considerations for applying the policy principles
Best-fit solutions	<ul style="list-style-type: none">> What are the local constraints on minimising or mitigating exposure to rail noise?<ul style="list-style-type: none">> Topography of surrounding land> Shielding provided by other buildings> Presence of waterways and bridges> Amount of land required for mitigation> Are there cultural heritage requirements such as sites of Aboriginal significance including burial and ceremonial sites that might limit land use, project design elements or engineering treatment options?> Is the rail infrastructure placed in a green field or brown field site?> Are there environmental protection issues such as presence of endangered local fauna and flora that might limit land use, project design elements or engineering treatment options?> What are the community views on the positive and negative aspects of viable potential solutions for minimising and mitigating exposure to significant levels of rail noise?



Attachment 6

Figure 1: Flow chart of the process when a change in land use is proposed

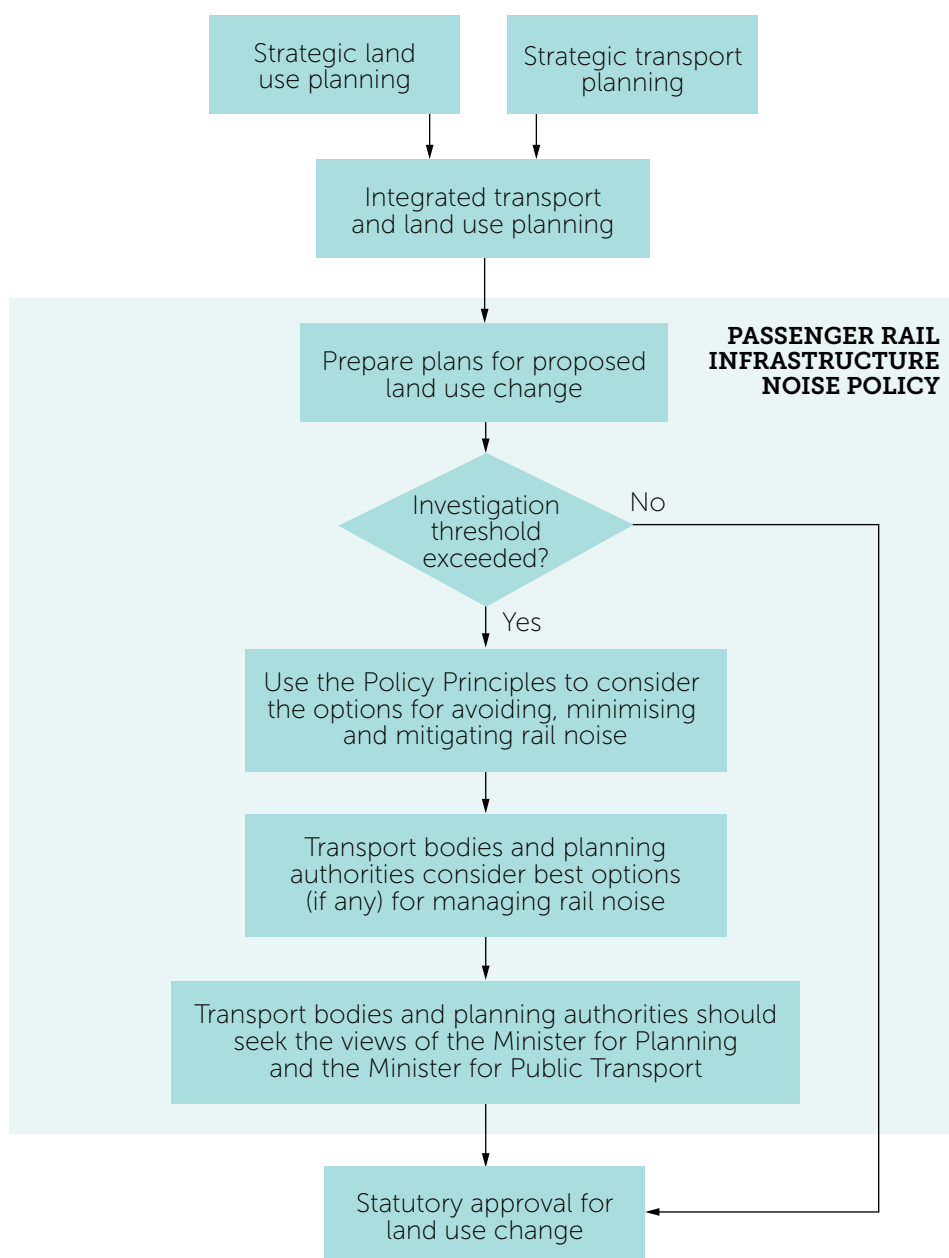
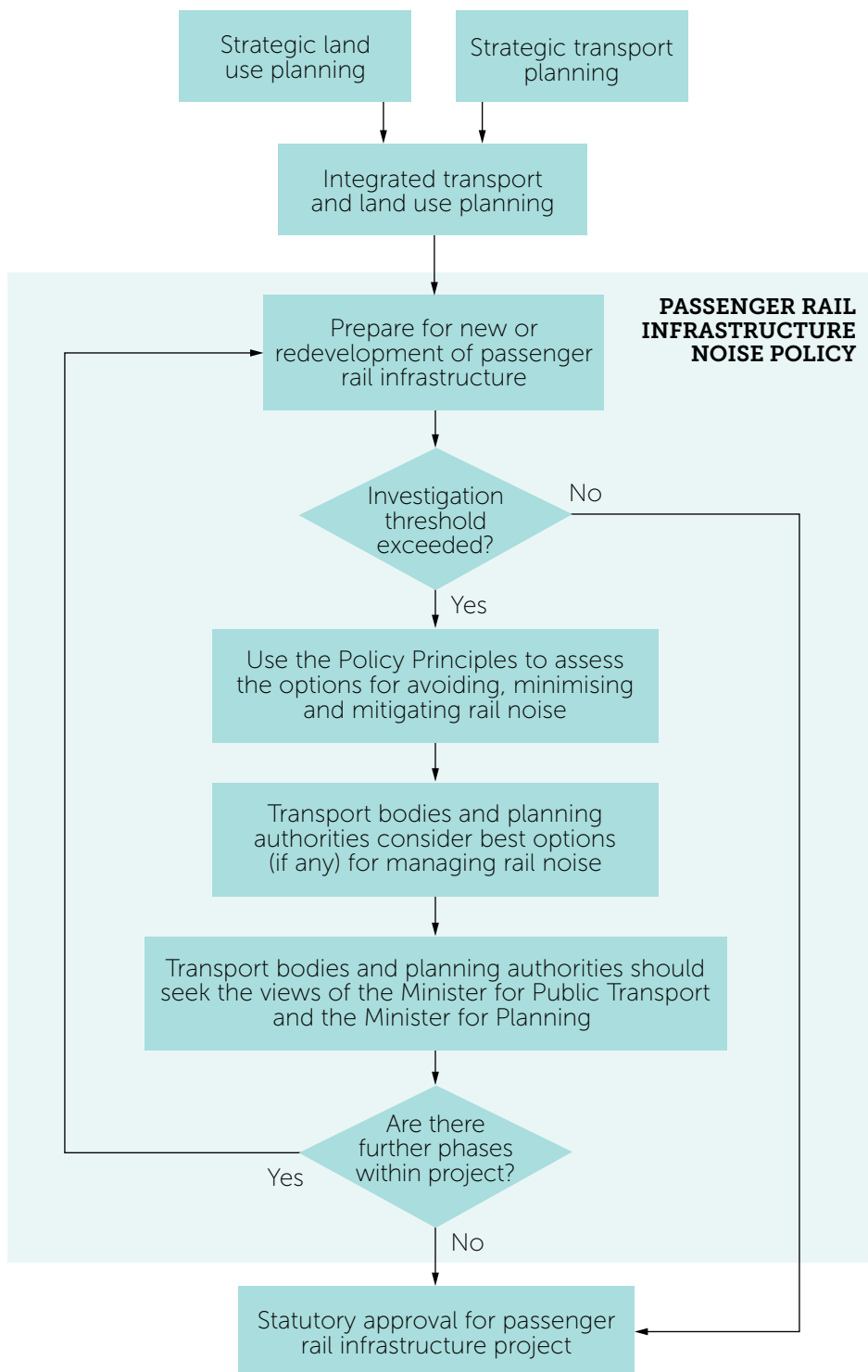


Figure 2: Flow chart of the process when a redevelopment or new passenger rail infrastructure is proposed





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