

# Draft Government Policy Framework for Passenger Rail Noise

## 1. Introduction

Concerns about noise from passenger rail investments are likely to be factors taken into account in decision making as demand for public transport grows, alongside Victoria's population. Growth in demand for public transport will be an important driver for decisions on additional passenger rail investment in developed areas and around planned developments where communities will be located in the future.

The Victorian Government has decided to develop a principles-based framework for making decisions about noise from future passenger rail investments.

This paper explains the principles-based framework for noise from future passenger rail investments, the proposed set of principles within the framework, and the process for further developing a future passenger rail investment noise policy.

## 2. Rationale

Victoria has a range of legislative instruments that cover how the impact of noise is managed in the community. This legislation imposes broad obligations to manage or take account of noise. The *Transport (Compliance and Miscellaneous) Act 1983* exempts operational noise from passenger rail services from being considered a nuisance and from action under the *Environment Protection Act 1970* or the *Local Government Act 1989*. The State Planning Policy Framework (under the *Planning and Environment Act 1987*) also controls the effects of noise on sensitive land uses through strategies including building design, urban design and the separation of land uses.

This means that, while passenger rail operations are exempt from liability stemming from complaints about noise, planning and construction of new passenger rail infrastructure are still subject to the approvals processes of the *Planning and Environment Act 1987* and the *Environment Effects Act 1978*. Collectively, the legislation imposes broad obligations to manage or take account of noise from a range of sources.

At present, there are broad legislative requirements relating to noise from future passenger rail investments. These are complex and have the potential to impose significant impacts on the community, either through noise impacts or financial cost added to rail projects.

Each future passenger rail investment will differ in terms of size and scope, the impact of noise on the community and the range of treatment options available. Several factors influence the degree to which noise may be an issue for a community:

- existing and proposed land uses next to the passenger rail investment,
- proximity of the passenger rail investment to residences and other sensitive receptors,
- the type of rolling stock used,
- the design of crossings,
- the time and frequency of train movements, and
- local topography.

From a technical perspective the options for treatment vary considerably in terms of costs, timing, effectiveness and practicality. Different treatments are more applicable to different situations and no single treatment is comprehensive enough to be appropriate for all cases of noise. Some treatment

choices are prohibitively expensive and have negative effects on how easy or difficult it is to access locations on either side of the rail infrastructure, safety and security.

The decision making environment is also complex as it includes numerous stakeholders with a range of perspectives, interests and objectives. Within Government there are multiple stakeholders involved, including the Department of Transport, its portfolio agencies and service operators; the Department of Planning and Community Development; the Department of Sustainability and Environment and other planning bodies and regulatory authorities such as the Environment Protection Authority. There are also a number of community stakeholders, including local councils, community groups and individual households.

Making decisions about noise from passenger rail investments requires balancing the objectives, views and interests of a large number of stakeholders.

In summary, making decisions about noise from future passenger rail investments is complex, needs to have regard to a range of factors, and has significant consequences. For these reasons, more detailed guidance would aid decision making about noise emissions from new passenger rail proposals.

### **3. A principles-based framework**

The Victorian Government has chosen a flexible principles-based framework over a more prescriptive standards-based framework. A principles-based framework will enable the impact of noise to be assessed and for decisions to be made about how to respond to noise from future passenger rail investments.

The principles-based framework will be applied on a case by case basis. Each investment will have different noise impacts, constraints on solutions and potential noise treatment options.

The principles underpinning the framework can be applied at each stage of project development, from the earliest planning through to final endorsement of the project. This means that different types of treatment options can be applied at different stages and are not ruled out by decisions taken beforehand. Early consideration ensures that all the potential solutions are available as there is a more limited range of treatments that can be used in the later stages of project development.

Making decisions about noise from future passenger rail investment is complex because each investment will differ in:

- size and scope;
- the impact on the community;
- the range of potential treatments options;
- the local circumstances; and
- the range of stakeholders involved.

A principles-based framework will enable the complexity of these issues to be addressed.

The principles-based framework enables the most cost effective and practical solutions to managing noise to be adopted. The principles underpinning the framework recognise the need to balance differing objectives and take action in the best interests of the whole Victorian community.

#### **Draft principles**

The set of four draft principles are set out below and are intended to be applied jointly. During the further development of the framework (as set out in section 5 of this paper), the principles will be refined and detailed guidance on how the principles should be applied will be developed.

### ***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 passenger rail investment and an integrated approach should be taken to identifying the options to avoid or reduce noise and its impacts*

The planning and transport portfolios must work together to develop an integrated land use and transport approach to address noise from future passenger rail investments. This will ensure that all opportunities to avoid or reduce noise and its impacts, through both planning and engineering treatments, can be considered in the context of local circumstances and having regard to the broader social, environmental and economic interests of the state.

The impact of noise from the construction and operation of a future passenger rail investment should be considered as early as possible in the development process, preferably at the business case development stage. This will ensure that decisions about the investment are taken in the knowledge of the full implications for all areas of government and to ensure that treatments are costed into the project in the initial stages.

### ***Affordability and equity***

*Noise reduction should be cost effective, while sharing the costs and benefits of infrastructure and noise treatments equitably*

In deciding on noise reduction treatments, the costs and benefits of possible treatments and other management options need to be considered. Costs of possible treatments also need to be compared to their likely effectiveness. Both costs and effectiveness will vary with the specific local circumstances. The costs and impacts of treatment options should be considered with the costs and impacts of not proceeding with the infrastructure project to achieve equitable outcomes.

The overall costs of noise treatments also need to be considered in the context of the budget likely to be available so that:

- the costs of noise treatments does not unreasonably compromise the core objectives of the passenger rail investment; and
- the budget implications of implementing noise treatments are financially prudent.

### ***Balancing objectives***

*Decisions about managing the impact of noise from future passenger rail investments should balance noise reduction against other objectives of the project*

Decisions about how to reduce the impact of noise from future passenger rail investments should be balanced against the wide objectives of the investment including the economic, social and environmental impacts.

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 future passenger rail investments should be addressed in relation to the local circumstances. Different treatments will also be suitable for dealing with noise being generated from different sources and for different types of noise e.g., 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 the investment 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 investment;
- The number of people exposed to noise associated with the passenger rail investment 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; and
- Whether there are physical or other practical constraints that limit the treatment options available or confound costs of adopting any option.

#### **4. Applying the principle-based framework**

Applying a principle-based framework for noise from passenger rail investments in Victoria provides guidance on how the existing broad legislative requirements should be met.

The principles-based framework will require that assessments of noise impacts and decisions about managing noise from passenger rail investments will be made at several stages in the investment process. For example, when the alignment for a rail line is being determined, assessments of the noise impacts from different options will need to be made. Then, when decisions are being made about the type of rails and rolling stock to be used, further assessments and decisions about treatment options will need to be undertaken.

At the different stages of the investment a different range of treatment options will be available. As the investment progresses some treatment options will be locked out. When the alignment for a rail line is being determined, the treatment options will include changing the actual alignment and influencing the abutting land-use. Once the alignment has been determined, the choice of treatment options is reduced.

Different treatment options will have different social and environmental impacts when applied to local circumstances. Determining the appropriate treatments requires trade offs to be made between these differing impacts.

An example is provided below of the steps that might be taken to apply the principles-based framework. For this example, there is an existing corridor reserved for a future rail investment, but no rail development has yet occurred:

- Assess the potential noise impact of a desired alignment;
- Avoid noise impacts through changes to alignment, designating land use zoning or building controls;
- Identify infrastructure design options for reducing remaining noise impacts (eg cuttings);
- Identify further treatment options (eg operational, engineering approaches, maintenance approaches, noise walls etc);
- Assess the costs and benefits of each approach to reducing noise;
- Assess whether any approach will have negative impacts (eg on the amenity, social connectivity in the area or biodiversity);
- Assess whether any approach will compromise the operational or service objectives of the proposed investment; and

- Determine an appropriate set of treatment options ensuring consideration of social, economic and environmental impacts.

In different circumstances, these steps might need to be varied.

Strong relationships and effective coordination will be required between key stakeholders on future passenger rail investments. This will particularly impact on the Department of Transport, the Department of Planning and Community Development, the Department of Sustainability and Environment, the Environment Protection Authority and the Growth Areas Authority. The ability to develop integrated land use and transport planning solutions will be dependent on timely communication between parties.

### **Interim application**

In the absence of a finalised set of principles, the draft principles provide an indication of the direction the Victorian Government intends to take. The principles will be refined through the policy development process, outlined below. Through this process the principles are expected to be finalised in 2012.

The Victorian Government suggests that the Advisory Committee has regard to the principles-based framework and the set of draft principles in determining its recommendations on the Regional Rail Link Section 2 Project.

## **5. Developing a Future Passenger Rail Investment Noise Policy**

As part of the policy development process, the following issues will be explored:

- Criteria for requiring a noise assessment – Passenger rail investments vary in size and scope. For major investments, noise assessments may be triggered as part of the process of preparing an Environment Effects Statement, however smaller investments may still have a noise impact on the community.
- Timing of noise assessments - For most passenger rail investments, noise assessments will need to be conducted early, that is, when the project is being planned. If the scope or design of the project changes significantly, then additional noise assessments will need to be undertaken.
- Methodology for measuring noise - It will be necessary to establish and agree how noise will be measured, including issues such as pitch and noise frequency, average and maximum loudness, duration and time of day. Robust methodology and reliable data sources will be needed to enhance understanding of the size and scale of the impact of noise from future passenger rail investments, including impacts on individuals, schools and hospitals and the broader community. An understanding of how the noise from the investment compares to background noise and whether there are particular features of the noise that will influence how it impacts on receptors will need to be provided.
- Thresholds for taking action – The impact of noise on the community for each passenger rail investment will be different. It may be necessary to develop thresholds which will trigger the need to take action.
- Balancing objectives – The treatment options for each passenger rail investment will be different, as will the costs. Guidance will be needed on how to balance objectives of future passenger rail investments and noise treatments. Guidance will also be needed on how to assess whether possible treatments are cost-effective and to have regard to the broader social, environmental and economic benefits the rail investment provides.
- Ongoing monitoring and evaluation – Establishing a principles-based framework is only the first step. Developing detailed policy guidance will assist in implementing the set of principles. However in the longer term a process for reviewing whether, when and how the principles have been applied

will need to be established. Responsibilities for monitoring, evaluation and ensuring that issues are addressed will also need to be clearly assigned and appropriately resourced.

- Policy overlaps – At times passenger and freight trains use the same track. The different requirements for managing noise between passenger and freight will need to be considered.

The Victorian Government will develop an Issues Paper on *Developing a Future Passenger Rail Investment Noise Policy*. The purpose of the Issues Paper is to seek community and stakeholder views on the draft principles and how they should be applied. It will also explore the issues above.

As part of the policy development process, the Government will also explore how other jurisdictions deal with these issues and how similar issues are dealt with for noise from other sources. The policy will be developed with advice from experts in acoustic engineering, environmental health, rail engineering and land use planning. Research and analysis will also be undertaken to explore the issues in the Victorian context.

The Future Passenger Rail Investment Noise Policy will contain the finalised principles and guidance on how the principles should be applied. It is anticipated that the policy will be released in 2012.

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