

## Residential Impact Mitigation Guidelines for Construction

The Residential Impact Mitigation Guidelines for Construction are subject to the finalisation of the Metro Tunnel's Environment Effects Statement (EES), Inquiry and Advisory Committee hearing, the Ministerial Assessment and the Planning Scheme Amendment.

### 1 Background

The Metro Tunnel will deliver a range of benefits for Melbourne, substantially increasing the capacity of the rail network and improving connectivity and accessibility of the city's key growth areas. By stimulating urban renewal in inner city areas and enhancing access to the CBD and Parkville, the Metro Tunnel will also create opportunities for new commercial development, jobs and housing close to the city centre.

Melbourne Metro Rail Authority (MMRA) recognises that construction of the Metro Tunnel may affect those who live in areas close to construction activities. All feasible and reasonable mitigation measures will be implemented to comply with the Environmental Performance Requirements to reduce amenity impacts of construction on residents. These mitigation measures will be implemented 'on-site' by Metro Tunnel construction contractors, at the source of the impact.

Due to the scale, duration and variable nature of the construction works proposed during the construction phase of the Metro Tunnel, and the need for construction work to be undertaken outside Normal Working Hours, residual impacts on residential amenity may occur.

The causes of potential residual impacts on residential amenity addressed in these Guidelines are airborne noise, ground-borne noise and vibration, and the cumulative effects arising during rail occupations of light-spill, dust and construction traffic. These Guidelines have been developed to support the Environmental Performance Requirements approved for the Metro Tunnel.

### 2 Purpose

The purpose of these Guidelines is to provide a framework for the Metro Tunnel contractors to address residual impacts on residential amenity so far as is reasonably practicable and appropriate.

A number of 'off-site' mitigation measures may be offered to occupiers of residential properties affected by construction works in order to reduce residual impacts on residential amenity.

These Guidelines establish the criteria for determining which residents will be offered 'off-site' mitigation measures and the type of mitigation offered during the construction of the Metro Tunnel.

These Guidelines do not create entitlements for residents affected by the Metro Tunnel construction works.

#### 2.1 Scope

These Guidelines apply to residents in properties which are subject to amenity impacts due to the proximity of the Metro Tunnel construction works.

These Guidelines do not apply to non-residential receivers (including sensitive receivers, such as schools and hospitals). These receivers are likely to require specifically tailored mitigation measures which will be developed on a case by case basis. Similarly, commercial premises are not within the scope of these Guidelines. Mitigation measures to address the

impact of the Metro Tunnel construction works on commercial premises will be addressed as part of strategies developed to assist affected businesses.

The Appendix to these Guidelines describes the process for implementing these Guidelines.

## 2.2 Engagement measures

The engagement measures to be applied under these Guidelines are described below:

- (a) **Works notifications** – used to disseminate advance information about the works to residents and to provide early warning of high impact activities (notifications could be provided by email, SMS or letterbox drop);
- (b) **Individual briefings** – used to inform residents personally about the predicted impacts and the mitigation measures that will be implemented;
- (c) **Phone calls** – used to inform residents personally about the predicted impacts and the mitigation measures that will be implemented;
- (d) **Specific notification** – targeted communications to residents (via post or email) to advise that construction activities are expected to exceed the relevant criteria for 'off-site' mitigation as described below.

## 2.3 Mitigation measures

The mitigation measures to be applied under these Guidelines are described below:

- (a) **Respite offer** – residents subjected to periods of exposure to construction activities expected to exceed the applicable criteria for 'off-site' mitigation as described below will be provided with a respite offer (e.g. pre-purchased movie tickets);
- (b) **Acoustic treatment** – residents subject to significant periods of airborne noise expected to exceed the applicable criteria for 'off-site' mitigation as described below may be offered improved window glazing or other appropriate acoustic treatment;
- (c) **Alternative accommodation** – temporary relocation will be offered to residents subjected to substantial periods of exposure to construction activities expected to exceed the applicable criteria for 'off-site' mitigation as described below; and
- (d) **Earplugs** – earplugs will be offered to residents subjected to periods of exposure to construction activities that are expected to exceed the applicable noise criteria for 'off-site' mitigation who are keen to stay at home during the works.

## 3 Criteria for 'off-site' mitigation

Under these Guidelines, different criteria apply to different amenity impacts.

## 3.1 Airborne noise

Based on the predicted airborne noise level and the relevant time period, the following mitigation measures will be considered for affected residents where appropriate.

Time period		Mitigation measures / external construction $L_{Aeq(15\text{ min})}$ above Background Noise Level, $L_{A90}$			
		0 – 10dB(A)	10 – 20dB(A)	20 – 30dB(A)	>30dB(A)
Normal Working Hours	Mon-Fri: 7am – 6pm	Nil	Nil	Works notification Earplugs	Works notification Earplugs
	Sat: 7am – 1pm				
	Sun/Pub Hol: nil				
Evening/Weekend Hours	Mon-Fri: 6pm – 10pm	Nil	Works notification	Works notification Earplugs	Works notification Individual briefings Phone calls Specific notification Earplugs Respite offer Acoustic treatment*
	Sat: 1pm – 10pm				
	Sun/Pub Hol: 7am – 10pm				
Night Hours	Mon-Fri: 10pm – 7am	Letterbox drop	Works notification Earplugs	Works notification Individual briefings Phone calls Specific notification Earplugs	Works notification Individual briefings Phone calls Specific notification Earplugs Respite offer Acoustic treatment* Alternative accommodation*
	Sat: 10pm – 7am				
	Sun/Pub Hol: 10pm – 7am				

\* Offers of acoustic treatment and alternative accommodation are subject to additional temporal threshold requirements (see below).

### Measurement standards

$L_{A90}$  is a commonly used background noise level standard, which measures the noise levels exceeded for 90% of the measurement period.

$L_{Aeq(15\text{ min})}$  is the A-weighted equivalent continuous noise level measured over a 15 minute period. For example, in order to receive a respite offer during Evening/Weekend Hour, an  $L_{Aeq(15\text{ min})}$  of more than 30dB(A) above the Background Noise Level must be predicted externally at the resident's location for a period of 15 minutes or longer.

For the airborne noise criteria above, the Background Noise Level is measured at the façade of the resident's property that is most exposed to construction noise at a height of approximately 1.5 metres above the ground for ground-level dwellings, or 1.5 metres above each floor for multi-storey dwellings. Modelling will be undertaken to predict noise levels in the same location.

Please note that if a building features a façade that provides a high level of mitigation, and as a result the noise levels predicted outside the building are not representative of the noise levels experienced inside the building, additional mitigation measures available under these Guidelines may not be required.

### **Additional temporal threshold requirements**

As noted above, offers of building mitigation acoustic treatment and of alternative accommodation are subject to additional temporal threshold requirements.

- Building mitigation acoustic treatment will be considered only if it is predicted that noise will be exceeded by 30dB(A) for at least 40 days out of any 6-month period.
- Alternative accommodation will be considered only if the relevant criteria for airborne noise are predicted to be exceeded for more than 2 consecutive nights.

## 3.2 Ground-borne noise and vibration

These Guidelines assume that, given the nature of Metro Tunnel construction works, exceedance of the construction noise targets for ground-borne noise will also address the potential adverse impacts on human comfort associated with ground-borne vibration.

Based on the predicted ground-borne noise level and the relevant time period, the following mitigation measures will be considered for affected residents where appropriate. Mitigation measures are not provided for the daytime period, as ambient daytime noise levels typically mask ground-borne noise.

Time period		Mitigation measures / $L_{Aeq(15\text{ min})}$ in exceedance of 40dB(A) during the evening period and 35dB(A) in the night time period		
		0 – 10dB(A)	10 – 20dB(A)	>20dB(A)
Evening/Weekend Hours	Mon-Sun: 6pm – 10pm	Works notification	Works notification Specific notification Earplugs Respite offer	Works notification Individual briefings Phone calls Specific notification Earplugs Respite offer
	Mon-Sun: 10pm – 7am	Works notification	Works notification Individual briefing Phone calls Specific notification Earplugs Respite offer Alternative accommodation*	Works notification Individual briefings Phone calls Specific notification Earplugs Respite offer Alternative accommodation*

\* Offers of alternative accommodation are subject to additional temporal threshold requirements.

### Additional temporal threshold requirement

Offers of alternative accommodation are subject to an additional temporal threshold requirement. Alternative accommodation will be considered only if the relevant criteria for ground-borne noise are predicted to be exceeded for more than 2 consecutive nights.

### **3.3 Loss of access**

There may be circumstances where access to residential properties is temporarily restricted for periods of time during construction works.

Respite or alternative accommodation will be offered to residents as appropriate where access to or egress from their property (including for vehicles) is temporarily unavailable and adequate alternative access has not been provided.

### **3.4 Cumulative effects (rail occupations)**

Rail occupations required to undertake intensive construction work outside of standard working hours may have a significant effect on the amenity of nearby residents through a combination of impacts such as noise, light spill and temporary loss of access.

As the works to be undertaken during each rail occupation will vary, it will be necessary to determine the likely effects on nearby residents when planning the occupation.

Respite and alternative accommodation for residents affected by rail occupations shall be based on:

- the time periods and mitigation measures set out above in relation to airborne noise, based on the relative disruption associated with the particular occupation; and
- a determination by geographic area of the residents eligible for respite and alternative accommodation, based on exposure to the impacts of the works to be undertaken during the particular occupation.

### **3.5 Special circumstances**

There may be circumstances in which the impacts of airborne noise, ground-borne noise and vibration or combined impacts do not exceed the criteria in these Guidelines, but the resident is particularly sensitive to those impacts. Requests for respite or relocation from such residents shall be considered on a case by case basis, taking into account:

- the impacts of construction works on the resident's amenity; and
- the special circumstances of the resident that would increase sensitivity to those impacts, such as night/shift workers or those with a medical condition exacerbated by noise or vibration.

## **4 Implementation overview**

Tenderers will be required to outline their approach to implementing the requirements of these Guidelines as part of their proposed approach to managing disruption.

Metro Tunnel contractors will be responsible for implementing the mitigation measures in accordance with the criteria set out in these Guidelines. Minimum requirements regarding processes and standards to be used in implementing mitigation measures based on those set out in the Appendix to these Guidelines shall also apply.

## Appendix - Implementation process

---

This Appendix sets out the processes and standards to be used in the implementation of the 'off-site' mitigation measures set out in these Guidelines. As Metro Tunnel contractors are responsible for the implementation of the mitigation measures, these requirements shall be incorporated into the technical requirements of relevant contracts.

### 1 Prior to construction

Prior to commencing the relevant works, Metro Tunnel contractors will assess the properties that are likely to be significantly affected by the construction activities.

This assessment may be carried out in different ways, such as via a noise modelling program or via an analysis of the proposed construction works and methodology, time of day and duration of works.

From this assessment, a predicted area of impact will be established. The relevant contractor will notify residents in this area in advance of the works commencing in accordance with the notification periods set out below.

#### Notification timeframes

Timing of works	Notification period in advance of works
<b>Daytime works: 7am to 6pm weekdays and 8am to 5pm Saturday</b>	5 business days
<b>Out of hours and night works: all Works after 6pm weekdays, after 5pm Saturday or any time on Sundays or public holidays</b>	10 business days

### 1.1 Respite

Prior to the commencement of the relevant work, respite offers will be made to all residents who occupy properties where the applicable criteria are predicted to be exceeded.

Metro Tunnel contractors will be required to offer eligible residents either one or both of the following options:

- a choice of pre-determined and pre-paid respite options. Possible respite options may include tickets to cultural or sporting activities (e.g. cinema tickets, sporting tickets, admission to galleries/museum), public transport vouchers (e.g. pre-paid myki cards), and gift vouchers to be used at retail or restaurant outlets from which residents may choose; or
- reimbursement of the reasonable costs incurred by the resident, up to a dollar value equivalent to the pre-determined respite offers.

### 1.2 Building mitigation (noise insulation)

Prior to the commencement of the relevant work, offers to install noise insulation will be made to residents who occupy properties where the applicable airborne noise criteria are predicted to be exceeded by 30dB(A) and the additional temporal requirement threshold

applies. Offers will only be made where noise insulation is deemed to be an effective solution to mitigating airborne noise.

Metro Tunnel contractors will be required to offer eligible residents either one or both of the following options:

- a choice of approved and pre-paid insulation technicians to install acoustic treatment at affected residents' properties that is appropriate to the circumstances and design of the affected premises; and
- reimbursement of the reasonable costs incurred by the resident in having acoustic treatment installed at their premises, provided that the installation of any acoustic treatment is agreed with the relevant contractor prior to the acoustic treatment being carried out on the property and is completed before construction work commences.

### **1.3 Alternative accommodation**

Prior to the commencement of the relevant work, offers to provide temporary alternative accommodation will be made to residents who occupy properties where the applicable criteria are predicted to be exceeded and any additional temporal requirement threshold applies.

Metro Tunnel contractors will be required to offer eligible residents a choice of pre-arranged and pre-paid local accommodation providers that can provide a standard of accommodation that enables the affected resident to receive respite from the works and to go about their daily life (for example, serviced apartments).

Consideration will also be given to including incidentals such as car parking, wifi and a breakfast pack with the alternative accommodation offer. All other incidentals will be paid for by the resident. Requests for pet accommodation will be assessed on a case by case basis.

## **2 During construction**

### **2.1 Monitoring**

Contractors will undertake monitoring throughout the construction of the Metro Tunnel to ensure compliance with environmental performance requirements, including those which may impact on residential amenity as set out in these Guidelines.

In addition to offers based on predicted effects, contractors will offer mitigation to residents in advance of works taking place where monitoring indicates that impacts are expected to exceed the applicable criteria set out in these Guidelines.

### **2.2 Complaints and requests**

A 24-hour Metro Tunnel Project Information Line will be established through which residents may obtain further information or register complaints regarding the carrying out of Metro Tunnel works, including the effect of construction works on residential amenity.

Residents who were offered respite or alternative accommodation but did not take up the offer prior to construction commencing, may contact the Metro Tunnel contractors at any time during the carrying out of the relevant works to request respite or alternative accommodation under these Guidelines via the Project Information Line.

Residents who have not received offers of respite or alternative accommodation but who believe their residential amenity is or will be adversely impacted by construction works may register a request for assessment under these Guidelines via the Project Information Line.

Where the relevant contractor has deemed a resident ineligible for respite or alternative accommodation under these Guidelines, the resident may request MMRA to review this decision.