Noise and vibration

November 2026

The Wave – Stages 1 and 2 have been carefully assessed to understand and manage potential noise and vibration during construction and operation.

The Draft Public Environment Report (PER) assessed potential effects on nearby homes, businesses, schools, childcare centres, hospitals, community facilities, recreation areas and sensitive wildlife habitat.

What did the Draft Public Environment Report find?

The Draft PER found that construction impacts would be temporary and can be managed through careful work planning, quieter construction methods, monitoring and communication with nearby communities.

Once operational, vibration is predicted to meet the applicable criteria at all assessed locations.

Assessments found airborne noise can be mitigated through standard controls, including noise barriers and other measures. Additional measures will be developed through detailed design to address predicted groundborne noise exceedances at some locations.

Key findings

- The assessment used conservative assumptions to ensure potential noise and vibration effects were not underestimated.
- Most construction will occur during standard daytime hours.
- While some construction activities may be noticeable near work areas, the effects will be temporary and managed through location-specific controls.
- Operational vibration is predicted to meet the applicable criteria at all assessed locations, including locations with vibration-sensitive equipment.
- Proposed noise barriers, track treatments and other design measures will help manage operational rail noise in line with relevant noise criteria.

How impacts will be managed

Design and work planning

Design and construction planning will help reduce noise and vibration. Measures include:

- refining the rail alignment, track design, bridges, elevated structures, tunnels and roads, where reasonable and practicable
- using noise barriers and track treatments such as rail dampers where required
- using quieter piling methods, such as bored piling, where ground conditions and structural requirements allow
- planning most construction within standard hours, with additional assessment and controls for work that must occur at night or on weekends.

Keeping communities informed and responding to impacts

Measures for individual locations will be set out in the Construction Noise and Vibration Management Plan. These include:

- notifying nearby communities and sensitive

facilities before work likely to cause noticeable noise or vibration.

- providing information about where and when work will occur, its expected duration and the measures in place to manage noise and vibration
- monitoring noise and vibration at sensitive locations where required
- adjusting work methods, equipment, timing or location, or introducing additional measures where needed.

What happens next

Noise and vibration modelling will be updated as the design and construction methods are confirmed. This will help refine the measures needed to manage noise and vibration at

Find out more

Read The Wave – Stages 1 and 2 (Rail) Draft PER for the detailed findings and proposed environmental management measures.

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