

### *A guide to how we've designed the Expressway to manage operational noise*



#### **Minimising traffic noise**

Managing traffic noise on the Mackays to Peka Peka (M2PP) Expressway started even before the first sod was turned on site.

In fact, we've been actively modelling and minimising traffic noise impacts for Kāpiti residents since the project was first designed. From the beginning, the New Zealand Standard for Operational Road Noise has provided benchmarks for noise on this project.

#### **Measuring current levels**

Noise is modelled and measured in decibels. Before construction began, we measured current ambient noise levels along the Expressway route. In some places, moving traffic onto the Expressway might actually reduce current noise levels. In others, they might increase.

#### **Minimising noise at its source**

Our staff looked at what could be done on the road surface to reduce noise at its source, and chose OGPA as the ideal surface.

OGPA (open graded porous asphalt) is a proven low noise road seal and will be used from Poplar Avenue to just north of Te Moana Road, wherever the Expressway passes through major urban areas.

#### **Noise model built**

A noise expert was brought in to build a model showing how road noise would travel to local areas.

This included modelling noise contours, assessing levels as noise travelled over every hill and gully along the route, to model the effects on local communities and individual homes. Two versions of the model were built, one with no Expressway which was tested against actual noise readings to test its accuracy, and a second version with the Expressway added.

This model will be checked against actual noise readings after the Expressway has opened to traffic.

#### **Building bunds and walls**

The noise model identified areas where action needed to be taken to further reduce road noise. In those areas, we planned to construct noise bunds or walls. Bunds or earth barriers are preferred, but in some places it's more practical to build wooden fences or concrete walls.

With the noise bunds and walls built, our modelling shows the road noise affecting homes and buildings near the Expressway route will comply with the New Zealand Standard for Operational Road Noise.

#### **New residents and noise issues**

Noise affects people differently and we all have different tolerance levels for road noise. In the future, people who move into an area near the Expressway might want to make changes to their home to reduce noise levels.

For many homes this can be achieved through 'acoustic glazing', where standard glass is replaced with acoustic glass that blocks noise. There are also other noise-reducing options, however double glazing is often less effective than acoustic glazing.

If you've got concerns or questions about managing any Expressway-related noise in your home, please contact us using the details below.

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