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Consultant Advice

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Acoustics – Additional Noise Impacts Due to Increased Traffic on King Street

This consultant advice is in response to the following query included in the Department of Planning, Industry & Environment email dated 30 October 2019 relating to additional noise from increased traffic.

Query

The Department notes Urbis responded to the Department's comments below regarding additional traffic impacts from traffic being diverted to King Street, however the Department also queried if there would be additional noise impacts. Please clarify whether there would be any additional noise impacts:

'The Department notes the number of cars expected to access the development via the Lancastrian Drive/Qantas Drive intersection would increase by 114 vehicles in the AM, and the number of vehicles predicted to access the site via King Street (west of O'Riordan Street) on a weekday morning would be 157 vehicles (pg 36 of the TPA). Please provide further clarification on any additional noise and traffic impacts if 114 vehicles are diverted onto King Street due to the removal of the right hand turn at the Lancastrian Road/Qantas Drive intersection.'

Response

With respect to the above query, the following provides advice on the additional noise impacts as requested.

The current version of the acoustic SEARS report is based on peak hour AM traffic on King St W of 463 cars, which is an increase of 157 from the current 280 cars. The addition of a further 114 cars, results in a total of 541 vehicles against the current benchmark of 280.

The acoustic implication of increasing the numbers to an overall 541 cars, when compared to the baseline of 280 cars, is that the noise is predicted to increase by 2.9 dB. This increase is above the 2dB recommended in the NSW Road Noise Policy.

Given that we exceed the 2dB increase limit, the NSW Road Noise Policy (RNP) sets out the next steps that need to be taken. Below is the excerpt from the NSW Road Noise Policy for reference.



NSW Road Noise Policy (RNP) excerpt:

Step 3

For each assessment location in the study area where exceedances are identified in Step 2, identify feasible and reasonable mitigation measures in the following order of priority:

- i. road design and traffic management
- ii. quieter pavement surfaces
- iii. in-corridor noise barriers/mounds
- iv. at-property treatments or localised barriers/mounds

to achieve the controlling criteria in Step 2 for both day-time and night-time periods.

Assessment locations exceeding the external noise criteria in Step 2 that already incorporate at-property treatment should identify feasible and reasonable mitigation measures in the priority order of (i) to (iii) above to address those external exceedances.

Step 4

For each assessment location in the study area, if the controlling criteria identified in Step 2 are not achievable in Step 3, justification should be provided that all feasible and reasonable mitigation has been applied.

We have carried out an assessment to identify any feasible and reasonable mitigation measures in line with requirements of Step 3 in the Policy as outlined above, which is shown as follows:

- i. **Road design and traffic management** – not feasible here given we have 114 additional cars on this section of road.
- ii. **Quieter pavement surfaces** – not practical here because at low speeds (50kph limit) the engine noise will dominate, not road surface noise, so changes to the road surface would not be effective
- iii. **In-corridor noise barriers** – not suitable. The height of the Travelodge would overlook the road even with barriers, and the barriers would need to be broken for the hotel driveways, negating the barrier effect.
- iv. **At-property treatments or barriers.** Barriers not practical as above. Other at-property treatments would include façade upgrades. Given the size of the building and disruption to the hotel of works to the façade this would not be feasible.

The hotel is a modern building in an active area near the airport and can be expected to have a reasonably good façade acoustically. The road is a minor road, so although the noise increase is 2.9 dB, the total traffic volumes are still low compared to other roads in the area. The total impacts to the hotel are therefore expected to be small and no mitigations are recommended acoustically.

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