

11. GROUND VIBRATION MONITORING AT 72 AMYES ROAD

RR 9706

Officer responsible City Streets Manager	Author Paul Burden, Community Engineer
Corporate Plan Output: Advanced Transportation Planning	

The purpose of this report is to inform the Board of the results of the study commissioned by the Board and carried out by the consultant, Engineering Dynamics Limited, concerning ground vibration levels in Amyes Road.

Engineering Dynamics have carried out a very extensive study and compiled the results into a report that is now available to members. In brief the report concludes the following:

- The vibration levels are well below those set by international standards.
- The measured values are 1/25th of the levels considered to cause cosmetic damage
- The measured values are 1/50th of the levels considered to cause minor damage
- The measured values are 1/100th of the levels considered to cause major damage

In essence the current levels of vibration would need to increase 25 times before any “cosmetic” damage would be caused. The report also states that it may be informative to consider the discussion of BS 7385:Part 2:1993 Annex A regarding cracking in buildings -

“Thus cracks normally exist to varying degrees in buildings not subjected to vibration and are not, in themselves, an indication of vibration-induced damage. There are many reasons why buildings crack and care is required to ascertain the true cause...”

“For a building not exposed to major external disturbances such as vibration, there exists a time rate of cracking due to natural aging.”

“A small increase in cracks or crack length however should not be taken as damage due to any imposed vibration. Buildings also expand and contract preferentially along existing weaknesses (cracks) between daytime and night time and also seasonally. This continually varying expansion and contraction will return normal repair and repainting to the previous cracked state within several years or even months...”

Mr Colin McMurtrie from Engineering Dynamics Limited will be present at the Board meeting to answer any questions members may have.

Recommendation: That the claim of traffic induced vibration causing damage to residential buildings in Amyes Road be dismissed.

Chairperson’s

Recommendation: That the officer’s recommendation be adopted.