

**Project 23/2004 – Towards developing an engineering strategy to reduce  
tire-pavement noise**

**Purpose**

This paper seeks Members' advice on funding the captioned application for ECF submitted by the Hong Kong Polytechnic University.

**Background**

2. The funding requested by this project is \$403,650.00 for the staff cost of employing one Research Assistant for 18 months (\$270,000.00), the equipment cost for the noise measuring trailer (\$50,000.00), the cost for converting a vehicle to tow the trailer (\$24,000.00), the local transport cost for the study (\$5,000.00), the refreshment cost for organizing workshop (\$1,000.00), the printing cost for 1,000 leaflet (\$1,000.00), and the overhead administrative cost (\$52,650.00). The project is expected to last for 18 months.

3. The objectives of this proposed research are as follows:

- a) to design and fabricate a trailer-based device employing the Close Proximity Method to measure the tire-pavement noise;
- b) to conduct on-road tire-pavement noise surveys employing the trailer over selected low-noise pavement segments;
- c) to conduct roadside traffic noise measurements over selected points along the road segments surveyed in b) above;
- d) to assess noise-reduction performance of various types of road pavements;
- e) to evaluate the effects of different tire constructions and conditions on tire-pavement noise; and
- f) to provide recommendations that facilitate the development of an engineering strategy to reduce tire-pavement noise.

4. The proposal has been examined by the Environmental Protection Department (EPD), the Highways Department (HyD) and two external expert assessors. Both EPD and HyD consider the project worthy of support. EPD supports the proposal as it may provide a better method to measure the tire-pavement noise which helps develop a strategy to reduce the traffic noise. HyD considers that the development of a trailer based device to measure

tire-pavement noise using the Close Proximity Method will be a useful supplement to the existing Statistical Pass-By Method being used in Hong Kong. On this basis, HyD supports the application to the ECF.

5. The proposal has also been assessed by two external expert assessors and both of them consider the proposal worthy of support. On the advice of the Assessor 1, the principal investigator (PI) has revised the proposal as per attached with resources concentrated on the activities listed by the Assessor 1. Though Assessor 1 has commented that the budget for the proposal was too tight for the trailer and the hiring of only one research assistant was not sufficient to carry out the research, the PI reassured that there would be no compromise on the quality of the trailer and the work of the research assistant. The PI would also deploy students and laboratory technicians to help the work. In reply to the comment by the Assessor 2, the PI also agreed to post the research findings and the project reports on a web-site for public access.

6. Regarding the budget, the “Guide to Application for the Fund” stipulated that funding for general administrative costs incurred by the applicant organization in undertaking the project will not normally be given. Hence, according to the guideline, this proposed overhead administrative cost of \$52,650.00 will not be supported.

### **Advice sought**

7. Members are invited to advise whether the application for ECF should be supported as detailed in paragraphs 2 to 3 above and if supported, the exact amount of fund to be recommended to the ECF Committee for approval.

Secretariat, ECF Research Projects Vetting Subcommittee  
May 2005