

Project 11/2007 – Developing a fully automated Close-Proximity vehicle for measuring tyre/road noise

Project Number	11/2007						
Project Title	Developing a fully automated Close-Proximity vehicle for measuring tyre/road noise						
Principal Investigator (PI)	Dr. HUNG Wing-tat, Department of Civil and Structural Engineering of the Hong Kong Polytechnic University						
Project summary	<p>The main purposes of this project are:</p> <ul style="list-style-type: none"> a) to demonstrate the proper application of tyre/road measuring method as stipulated in the draft ISO11819-2 locally in Hong Kong; b) to develop a full automated CPX tyre/road noise measuring vehicle which can perform efficient noise measuring, especially in the local narrow road configurations of Hong Kong; c) to devise experimental setups to perform certification tests for the CPX tyre/road noise measuring vehicle necessary to meet all the requirements as specified in the draft ISO11819-2 except that the test tyre may be a locally available tyre; d) to perform road worthiness tests and trial runs for this CPX tyre/road noise measuring vehicle; e) to develop a manual for the development and use of this CPX tyre/road noise measuring vehicle in Hong Kong; and f) to disseminate all technological materials obtained from this project through a dedicated web-site and training programmes to local engineers and professionals. 						
Project Duration	21 months						
Proposed Budget	<p>The total budget is \$1,768,380, comprising the following items:</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td>Manpower – 1 SRA and 1 RA</td> <td>\$898,380</td> </tr> <tr> <td>Equipment – a medium goods vehicle, CPX equipment, sound measuring, recording and analytical system, a portable computer and a microwave speed meter</td> <td>\$829,000</td> </tr> <tr> <td>Miscellaneous</td> <td>\$41,000</td> </tr> </table>	Manpower – 1 SRA and 1 RA	\$898,380	Equipment – a medium goods vehicle, CPX equipment, sound measuring, recording and analytical system, a portable computer and a microwave speed meter	\$829,000	Miscellaneous	\$41,000
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Assessments/Remarks	<p>EPD supports the project and remarks that the information gathered would help the relevant party to determine which type of low noise road surface would have greater noise reduction effect.</p> <p>The Highways Department (HyD) has also been consulted and advises that the objectives and deliverables of this project are very useful for assessing the noise performance of road surfaces in Hong Kong. They provide an internationally accepted assessment method in addition to the roadside traffic noise measurement method currently adopted in Hong Kong. The project and deliverables carry practical values that contribute to the environment of Hong Kong. Comparing the proposed deliverable with the trailer equipment of the previously completed ECF Project 23/2004, HyD opines that the proposed vehicle appears to be a significant improvement over the small trailer, and should solve the difficulties encountered in the previous trials. In respect of maintaining the deliverable vehicle, HyD states that they do not have facilities to maintain the vehicle. The vehicle can be kept and maintained by the applicant organisation and HyD can hire its services on an as-needed basis in future.</p> <p>Upon EPD and External Assessor 1's advice, the project proponent revised the project details and design of the CPX vehicle. The project period has been revised to a total of 21 months so as to cover the estimated workload for design and building. Both EPD and External Assessor 1 are satisfied with the revised proposal.</p> <p>External Assessor 2 supports the project because the CPX test vehicle should prove very usefully in tackling tyre/road surface noise and consequently assisting in the reduction of road traffic noise nuisance in Hong Kong.</p> <p>Members are invited to advise whether the application for ECF should be supported and if supported, the exact amount of fund to be recommended to the ECF Committee for approval.</p>
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