

1.1 BACKGROUND TO THE STUDY

In January 1994, the Government issued its second review of the 1989 White Paper *Pollution in Hong Kong: A Time to Act*. The review identified adverse traffic noise arising from existing roads as an important environmental issue facing the Territory.

As a consequence of the White Paper Review, the Government commissioned a two-stage study to assess the feasibility of reducing traffic noise from existing roads using direct technical remedies. Stage 1 of the study identified the roads in the Territory which are associated with traffic noise problems, and recommended measures for mitigation. The Stage 1 report, *A Scoping Study for Providing Retro-active Road Traffic Noise Mitigation Measures*, was prepared by ENPAC Limited for EPD in December 1995. The Stage 2 study was commissioned in June 1996 to assess the engineering feasibilities of the recommendations made in Stage 1.

Flyovers were specifically excluded from both of these studies. Since the majority of flyovers are located in densely populated areas and sit above other roads, independent structures for flyovers were at the time considered impractical. The Highways Department (HyD) therefore advised that all direct technical remedies were to be independent of flyovers.

Direct technical remedies to mitigate traffic noise from flyovers now appear more feasible, given the latest engineering know-how. In view of this, ERM Hong Kong was commissioned in October 1996 to undertake a separate review, *Scoping Study for Providing Direct Technical Remedies on Existing Flyovers*. Similar to the review of existing roads described above, this scoping study will be followed by a Stage 2 Study to assess the engineering feasibilities of applying direct technical remedies to flyovers.

This report presents the Stage 1 *Scoping Study for Providing Direct Technical Remedies on Existing Flyovers*.

1.2 SCOPE OF THE STUDY

The scope of this Stage 1 Study is defined in the *Tender for Provision of Service for Scoping Study for Providing Direct Technical Remedies on Existing Flyovers*. The specific requirements (listed in *Appendix III* of the Tender document, *Special Conditions of Contract*) are:

- (i) To develop a set of criteria for the selection of existing noisy flyovers on a Territory-wide basis.
- (ii) To select noisy flyovers based on the outcome of (i).
- (iii) To evaluate noise impact on Noise Sensitive Receivers (NSRs) brought about by road traffic along the selected flyovers through:
 - predicting prevailing traffic noise using relevant traffic data issued by the Transport Department or actual traffic count; or

- conducting site surveys and taking field measurements.
- (iv) To contact and liaise with relevant Government departments which have concerns in the development of direct technical remedies on existing flyovers. These departments include, but are not limited to, the Fire Services Department (FSD), Highways Department (HyD) and Transport Department (TD).
 - (v) To identify and assess the practical direct technical remedies which are available for the amelioration of traffic noise from the flyovers identified in (ii).
 - (vi) To identify and evaluate constraints for providing the recommended direct technical measures, such as fire fighting operation, access for emergency appliances, and the safety of road users.
 - (vii) To recommend selected flyovers with priority on which practicable direct technical remedies can be provided. The recommendations should include:
 - the form of the direct technical remedies;
 - cost estimates of the remedies; and
 - the likely noise reduction and number of dwellings benefited with the measures in place.
 - (viii) To prepare a time table for the incorporation of the recommended measures in (vi).
 - (ix) To identify and recommend further site investigation, surveys and study necessary to fulfil the objectives to the requirements of this Study.

1.3

STRUCTURE OF THE REPORT

The remainder of this Report is arranged as follows:

- *Section 2* describes the methodology adopted for the Study;
- *Section 3* describes the criteria used to coarse screen all flyovers within the Territory and lists the flyovers selected for further investigation within this Study;
- *Section 4* describes the direct technical remedies considered in the Study, and evaluates their suitability and effectiveness;
- *Section 5* provides an account of the traffic noise impact assessments conducted for the flyovers, and describes the results of these assessments;
- *Section 6* evaluates the effectiveness of the direct technical remedies;
- *Section 7* presents the recommendations of the Study; and
- *Section 8* presents the overall conclusions of the Study.