

立法會
Legislative Council

LC Paper No. CB(1) 735/04-05(07)

Ref. : CB1/PL/EA

Panel on Environmental Affairs

Meeting on 24 January 2005

**Background brief on
measures to address noise impact on existing roads**

Existing policies

Under the existing policy, when planning new roads, the relevant department or developer has to ensure that traffic noise will stay below the statutory noise limit of 70 dB(A)L(10)(1 hour)^{note} (noise limit) in the Hong Kong Planning Standards and Guidelines. If it is envisaged that traffic noise generated will exceed the noise limit, practicable direct measures such as adjusting the alignment and erecting barriers should be adopted to reduce the impact on residents in the neighbourhood. Where direct measures are inadequate, indirect technical remedies in the form of good quality window and air-conditioning should be provided to the affected residents.

2. The direct and indirect measures are however not applicable to existing roads that have been constructed before the current policy on new roads took effect. To this end, the Administration has put in place the following arrangements to address the noise impact of existing roads on neighbouring residents -

- (a) engineering solutions, by way of retrofitting of barriers and enclosures, and resurfacing with low noise material, should be implemented where practicable at existing excessively noisy roads; and
- (b) traffic management solutions, such as speed control, traffic diversion and restricting use by heavy vehicles, should be fully explored and implemented where practicable on a case by case basis at roads where engineering solutions are impracticable or where engineering solutions alone are inadequate in reducing the noise to an acceptable level.

^{note} L10 (1 hour) is the noise level exceeded for 10% of an one-hour period, generally used for road noise at peak traffic flow.

Mitigating measures

3. The Panel on Environmental Affairs and the Panel on Transport have all along been concerned about the noise impact of existing roads on neighbouring and have held a number of joint meetings to discuss the measures to address the problem. Members of the two Panels generally feel that in planning the development for new towns, consideration should be given to aligning the trunk roads at the outskirts of the towns to obviate the need for heavy vehicles to travel through the towns. Flexibility should also be allowed for expansion to cater for possible increase in traffic flow. Members have also called on the Administration to improve land use planning to minimize the noise problem suffered by residents. To encourage the adoption of noise insulation measures by private developers, the Panels have proposed to the Administration that incentives such as bonus plot ratio should be provided to private developments close to noisy roads.

Implementation of engineering solutions

4. To mitigate the impact of excessive traffic noise from existing roads on residents nearby, the Panels hold the view that the Administration should expedite the implementation of the retrofitting programme and to take advantage of synchronizing the retrofitting projects and nearby planned major road projects. According to the Administration, it has arranged funding for the retrofitting works at a number of roads so that they would tie in with the adjoining road projects. Works for resurfacing the 72 identified local road sections with low noise materials have been programmed to be completed in phases.

5. Apart from expediting the retrofitting and resurfacing programme, the Panels opine that consideration should also be given to the following -

- (a) installing double-glazed windows and air-conditioning for the affected residents taking into account the financial implications;
- (b) constructing highways using in situ construction instead of pre-cast components to reduce the number of expansion joints and using new noise-absorbing surfacing materials to fill the uneven joints so as to reduce wheel-passing noise;
- (c) providing financial assistance to the transport trade to improve the design of the latching mechanism of container vehicles which is believed to create loud bangs when passing expansion joints;
- (d) stepping up enforcement against sounding of horns in silent zones, speeding, converting of motor vehicles to high-speed vehicles and car racing to reduce traffic noise;

- (e) re-considering the propriety of the current noise limit as a criterion for planning of improvement works to existing roads; and
- (f) planting trees as an alternative to noise barriers.

6. The Administration's stance is that the provision of noise insulation to residential units affected by excessive traffic noise is passive and costly. It would incur an expenditure of at least \$15 billion, let alone the recurrent and replacement costs. The more cost-effective remedy is to tackle the problem at source. Where mitigation measures at source cannot be implemented, the Administration will then consider short-term non-engineering solutions and rely on urban renewal in the longer term to address the noise problem. The Administration would step up enforcement which is an effective means to reduce unnecessary or avoidable noise from inconsiderate use of vehicle horns, speeding, illegal modification of vehicles and illegal car racing. However, both enforcement and mitigation measures are required to be implemented in parallel where practicable to achieve a better result in tackling the problem. On the use of low noise surfacing material on high speed roads, the Administration advises the Panels that it has identified new materials for testing of their durability and noise reducing properties. As regards the proposed use of trees as an alternative to noise barriers, the Administration's explanation is that noise attenuation from trees in lieu of noise barriers was only about 1dB(A) for every 10 metre-thickness of tree planting.

Provision of noise barriers

7. The Panels note that in considering the provision of noise barriers at existing road sections/flyovers, the Administration would have regard to the technical feasibility of the new structures. The criteria are as follows -

- (a) There is no obstruction of emergency access or fire fighting;
- (b) The new structures should not undermine road safety or impede pedestrian and vehicular movements;
- (c) There is no interference with commercial activities or no social disruptions; and
- (d) There will be adequate space and structural capability (applicable to flyovers) for supporting the barrier/enclosure.

In addition, the following guiding principles will be applied in providing noise barriers on roads -

Principle 1: Compliance with existing statutory requirements

Principle 2: Timely implementation of mitigation measures, i.e. noise barriers

Principle 3: Setting priority for existing roads in the retrofit programme according to excessive noise levels

Principle 4: For existing roads, cost effectiveness of noise barriers

Principle 5: Paying due attention to aesthetic design of noise barriers

8. Generally speaking, members of the Panels are of the view that greater flexibility should be exercised in the application of noise standards and the provision of noise barriers under the Environmental Impact Assessment Ordinance (Cap. 499) (EIAO) at the planning and design stages of designated projects. A proper balance should be maintained between achieving cost-effectiveness of erecting noise barriers and protecting the interest of the minority neighbourhood against excessive traffic noise. Members also consider that there is a need for the Administration to examine the design and choice of materials for noise barriers, in particular their visual impact, to ensure public acceptance.

9. The Administration's stance is that the role of land use planning against noise is to provide an environment whereby noise impacts on sensitive uses can be maintained at an acceptable level. Under EIAO, land use proposals of expressway, trunk road, primary distributor road, district distributor road, and major extension or improvement to existing road are subject to environmental impact assessments. This will ensure all requirements under the Ordinance are met before Environmental Permits will be issued to allow implementation of proposals.

Implementation of traffic management measures to address traffic noise

10. According to the Administration, consideration has to be given to the following guiding principles in implementing traffic management measures to address traffic noise problem -

- (a) the existence of alternative routes to cope with the diverted traffic from the concerned road sections during the closure period;
- (b) the noise problem will not be shifted from one location to another;
- (c) the proposal has the support of local residents; and
- (d) the successful implementation of any traffic management scheme will require the understanding and co-operation of the transport trades.

11. In early 2002, to study the feasibility of the night-time traffic management scheme, the Administration proposed a trial scheme to put on trial a number of traffic management measures -

- (a) full closure of East Kowloon Corridor;
- (b) full closure of Kwai Chung Road Flyover outside Kwai Fong Estate;
- (c) full closure of Texaco Road Flyover in Tsuen Wan;
- (d) banning of goods vehicles over 5.5 tonnes along Po Lam Road between Kowloon and Tseung Kwan O; and
- (e) banning of goods vehicles over 5.5 tonnes along Ngan Shing Street.

On 21 October 2002, the Panel on Environmental Affairs and the Panel on Transport conducted a joint site visit to ascertain the noise impact caused by different types of vehicles to the affected dwellings along Texaco Road Flyover during the proposed night-time restriction hours.

12. During the examination of the Administration's proposed traffic management measures, the Panels found that the transport trades generally did not consider the proposed measures a real solution to the problem because the traffic noise at the concerned flyovers/road sections was simply diverted to other areas along the alternative routes. Furthermore, the proposals would seriously hamper the operation of the transport trades and in turn affect the livelihood of drivers. The Panel however noted that the local District Councils had expressed support to the proposals and had urged the Administration to speed up the trial schemes so as to ascertain their feasibility and effectiveness.

13. After deliberation, members of the two Panel noted the need to address the problem of nuisance created by excessively noisy roads/flyovers and to strike a right balance between the interests of all parties concerned. Some members suggested that before making a final decision, the Administration should conduct sustainability assessment and economic impact assessment studies to ascertain the implications of the proposals. It should also explore all other direct engineering and non-engineering options, such as the feasibility of erecting lower soundproof barrier which does not require strong foundation, to reduce noise pollution generated by road traffic. Others opine that the Administration should not rule out any option that could alleviate the nuisance of excessive traffic noise suffered by the affected residents. Members maintained that traffic management schemes should be implemented where practicable and called on the transport trades to adopt a more understanding attitude and give their support to conducting trial closure schemes so that the effectiveness and impact of the proposed road closure could be assessed realistically.

Latest position

14. In view of the substantial noise impact on the dwellings along the diverted routes, the Administration has deferred the proposed scheme at East Kowloon Corridor until the relevant departments are able to devise a scheme that can satisfactorily alleviate the noise impact on those dwellings. The Administration has also decided not to pursue with the proposed scheme at Po Lam Road between Kowloon and Tseung Kwan O as well as Texaco Flyover in the light of strong objection.

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18 January 2005