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**Background brief on
Measures to abate traffic noise**

Background

This paper provides background information on measures to address noise impact on existing roads. It also sets out the principles guiding the implementation of the provision of noise barriers on roads.

Policy for mitigating traffic noise on existing roads

2. In November 2000, the Administration proposed the following policy 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.

Previous discussion by Panels

3. The Environmental Affairs Panel and the Transport Panel held a series of joint meetings to discuss the new policy to address the noise impact of existing roads on neighbouring residents and invited interested parties to express their views on the subject.
4. To mitigate the impact of excessive traffic noise from existing roads on residents nearby, members have put forward the following suggestions :

- (a) installing double-glazed windows and air-conditioning for the affected residents taking into account the financial implications;
- (b) expediting engineering solutions, including the retrofitting and resurfacing programme where practicable;
- (c) using new noise-absorbing surfacing materials to fill the uneven expansion joints so as to reduce wheel-passing noise;
- (d) planting of trees as an alternative to noise barriers;
- (e) providing financial assistance to the transport trades to improve the design of the latching mechanism of container vehicles;
- (f) 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; and
- (g) re-considering the propriety of the current noise limit as a criterion for planning of improvement works to existing roads.

5. According to the Administration, the provision of noise insulation to residential units affected by excessive traffic noise is a passive method and very costly and will incur public expenditure of at least \$15 billion, without counting recurrent and replacement expenditure. The more cost-effective remedy is to mitigate the problem at source. Where mitigation measures cannot be implemented at source, the Administration will have to consider non-engineering solutions in the short term and rely on urban renewal in the longer term to address the noise problem. To expedite the implementation of the retrofitting programme and to take advantage of synchronizing the retrofitting projects and nearby planned major road projects, the Administration has arranged funding for the retrofitting works at a number of roads so that they will tie in with the adjoining road projects. Works for resurfacing the 72 identified local road sections with low noise materials are programmed to be completed in phases. As regards the use of low noise surfacing material on high speed roads, the Administration has identified new materials for testing of their durability and noise reducing properties. On the suggestion of using trees as an alternative to noise barriers, the Administration has advised that noise attenuation from trees in lieu of noise barriers is only about 1dB(A) for every 10 metre-thickness of tree planting.

6. The Administration also considers enforcement actions effective to reduce unnecessary or avoidable noise from inconsiderate use of vehicle horns, speeding, illegal modification of vehicles and illegal car racing. Such actions also help prevent further aggravation of the traffic noise problem. However, both enforcement actions and mitigation measures are required to be implemented in parallel where practicable to achieve a better result in tackling

the problem.

Provision of noise barriers

Feasibility of the provision of noise barriers

7. The Administration has advised that provision of noise barriers at existing road sections/flyovers will only be considered technically feasible if these four principles are satisfied:

- (a) the new structures will not obstruct emergency access or fire fighting;
- (b) they will not undermine road safety or impede pedestrian and vehicular movements;
- (c) they will not interfere with commercial activities or cause social disruptions; and
- (d) there will be adequate space and structural capability (applicable to flyovers) for supporting the barrier/enclosure.

Guiding principles of the provision of noise barriers

8. In discussing the widening of Tolo Highway and provision of associated noise barriers at the Transport Panel meeting held on 22 November 2002, the Secretary for the Environment, Transport and Works advised that the following guiding principles would 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

9. Members generally consider that there is a need to provide greater flexibility 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.

Notwithstanding, a proper balance must be maintained between achieving cost-effectiveness of erecting noise barriers and protecting the interest of the minority neighbourhood against excessive traffic noise. To ensure public acceptance, the design and choice of materials for noise barriers, in particular their visual impact should also be carefully examined.

Noise impacts from new roads

10. Members have suggested that in planning the development for new towns, consideration could be given to aligning the trunk roads at the outskirts of the towns to obviate the need for vehicles to travel through town centres. Some flexibility for expansion should also be allowed to cater for possible increase in traffic flow. They also call 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, consideration could be given to providing incentive bonus plot ratio to private developments close to noisy roads.

11. The Administration advises 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 the 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 would be issued to allow implementation of proposals.

Implementation of traffic management measures to address traffic noise

12. On implementation of traffic management measures to address traffic noise problem, the Administration has taken the following guiding principles into account:

- (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 must be supported by local residents; and
- (d) the successful implementation of any traffic management scheme will require the understanding and co-operation of the transport trades.

13. In early 2002, the Administration proposed a trial scheme to study the feasibility of the following night-time traffic management schemes to address the noise problem of the road sections concerned :

- (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.

Views on the proposed traffic management schemes

14. The general view of the transport trades is that the use of traffic management measures to abate traffic noise will not bring about a real solution to the problem because the traffic noise at the concerned flyovers/road sections is simply diverted to other areas along the alternative routes. Further, the proposals will seriously hamper the operation of the transport trades and in turn affect the livelihood of drivers. Local District Councils however are in support of the proposed traffic management schemes to address the noise impact of existing roads on nearby residents. They call on the Administration to speed up the trial schemes so as to ascertain their feasibility and effectiveness.

15. Members of the two Panels in general acknowledge that the problem of nuisance created by excessively noisy roads/flyovers should be addressed while striking a right balance between the interests of all parties concerned. Some members consider that before a final decision is made, the Administration should conduct sustainability assessment and economic impact assessment studies to ascertain the implications of the proposals. The Administration should also explore all other direct engineering and non-engineering options to address the problem such as the feasibility of erecting lower soundproof barrier which does not require strong foundation to reduce noise pollution generated by road traffic.

16. Some other members opine that the Administration should not rule out any option that could alleviate the nuisance of excessive traffic noise suffered by the affected residents. They maintain that traffic management schemes should be implemented where practical and call 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

17. In view of the substantial noise impact on the dwellings along the diverted routes, the Administration suggests to defer the proposed scheme at East Kowloon Corridor until the relevant departments are able to devise a scheme that could satisfactorily alleviate the noise impact on those dwellings. The Administration has also decided not to pursue the proposed scheme at Po Lam Road between Kowloon and Tseung Kwan O in the light of strong local objection.

18. A site visit was conducted by the two Panels on 21 October 2002 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.

19. The Administration has advised that they need more time to consider thoroughly how they should proceed with the suggested traffic management schemes. They would seek more detailed information about the provision of soundproof barrier by using active sound edge technology to reduce noise pollution generated by road traffic. They would revert to the Panels on the related issues as soon as practicable.

Council Business Division 1

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