

**For discussion
on 15 January 2002**

**LEGISLATIVE COUNCIL
PANELS ON ENVIRONMENTAL AFFAIRS, TRANSPORT,
AND PLANNING, LANDS AND WORKS**

Progress on Measures to Address Noise Impact of Existing Roads

Introduction

At the meeting of the Joint Panels on Environmental Affairs and Transport held on 4 July 2001 and the PWSC meeting held on 19 December 2001, Members requested the Administration to follow up with the following matters –

- (a) provide an update on the implementation timetable for the retrofitting and resurfacing programme;
 - (b) provide an implementation programme for the noisy roads which are presently not included in the retrofitting programme;
 - (c) provide information on complaints against traffic noise;
 - (d) review the existing traffic noise standard;
 - (e) provide information on how traffic noise is taken into account in the planning of land use; and
 - (f) explain how noise problems can be addressed by urban renewal programmes.
2. This paper provides the Administration's response to the above items and an update on the progress of the measures to address noise impact of existing roads.

Implementation of the Retrofitting and Resurfacing programme

3. Funds for the retrofitting projects set out at Annex A were earmarked in the 2001 Resource Allocation Exercise. The total estimated cost for these projects is about \$1,898 million. Highways Department (HyD) will commence design of the retrofitting works at these road sections by first quarter this year. Detailed commencement and completion dates are set out at Annex A. The remaining projects will be taken forward as soon as practicable.

4. The low noise resurfacing programme of 72 road sections will be divided into three phases, each consisting of 24 roads. The resurfacing works are scheduled to commence in mid 2002 and the last section will be resurfaced by the end of 2004. The costs of the resurfacing programme is estimated at about \$ 78 million.

Implementation of Non-engineering Solutions

5. The Transport Department (TD) and the Environmental Protection Department (EPD) have completed traffic surveys and assessed the potential environmental benefits from implementing night-time traffic management measures at the five locations preliminarily identified for trial. The following schemes have been proposed for consideration -

- (a) full closure of East Kowloon Corridor;
- (b) full closure of Texaco Road Flyover in Tsuen Wan;
- (c) full closure of Kwai Chung Road Flyover outside Kwai Fong Estate;
- (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 in Sha Tin

The latest position regarding these proposed schemes are outlined at Annex B.

6. Given the considerable operational and enforcement problems involved, it would not be practicable to implement non-engineering options such as traffic management measures at all existing excessively noisy roads. But we will continue to explore on a selective basis such options where they are practicable. In the longer term, the noise impact of the existing roads has to be addressed in a comprehensive manner through urban renewal efforts.

Traffic noise complaints

7. Between January 2000 and June 2001, government departments including EPD, TD, HyD, Housing Department and the Police received a total of 637 traffic noise related complaints. 250 of these complaints were on specific noise concerns such as illegal road racing, defective road surface, bus or public light bus routing/parking or idling engine of vehicles. These complaints were handled by the departments concerned e.g. illegal racing by the Police and defective road surface by HyD. The remaining 387 complaints were on noise from the general traffic on roads near the complainants' flats. Details are at Annex C.

Existing traffic noise standard for planning

8. There is no uniform international noise standard for traffic noise. Countries have adopted different noise standards which take into account local circumstances and community response to noise. The traffic noise standard adopted in Hong Kong is comparable to those in the UK and USA.

9. In considering what is appropriate for Hong Kong, it should be noted that most overseas countries are less densely populated, with less space constraints for development, better separation of residential and commercial/industrial districts and predominantly low rise residential houses. These factors make it practicable for some of these countries to adopt and achieve a more stringent traffic noise standard.

10. The existing traffic noise standard of 70B(A) L10 (1 hour) for domestic premises has been adopted to provide guidance on road development projects and land use planning. Due to compactness of our city and the large number of high-rise residential developments, many of them are already experiencing excessive traffic noise for which there are no practicable engineering solutions. There is also limited scope for us to adopt traffic management solutions for example banning goods vehicles from residential areas at nighttime to satisfactorily tackle the traffic noise problem as there is lack of clear separation between our residential, commercial and industrial areas. It would therefore provide no relief to these residents even if we are to tighten the existing traffic noise standard.

Planning of land use

11. 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. The principle is to ensure -

- (a) new noise sensitive uses are located so as not to be exposed to excessive noise level;
- (b) new noise emitters are located so as not to introduce excessive

levels of noise to existing, committed or planned sensitive uses;
and

- (c) noise reduction designs are incorporated at the earliest planning stage where constraints do not permit the above.

12. The road traffic noise impact on sensitive uses depends on different variables. Some of them can be controlled or influenced through -

- (a) distance separation between the noise receiver and the vehicles;
- (b) traffic planning to control vehicle movements and types at different times of the day;
- (c) careful layout design and building arrangement to reduce the exposed area of a development;
- (d) noise-tolerant building and acoustic insulation to reduce noise levels; and
- (e) shielding at sources such as road barrier, road enclosure, road decking, etc.

13. However, in urbanized areas the most effective reduction of noise disturbances would be obtained by using noise tolerant buildings as screening structures or the provision of noise barriers/enclosures, rather than by means of the separation between road and receiver, which may not be achievable. It is noted that apart from suitable buffer separation, Australia, Japan and European countries such as France and the Netherlands have also incorporated barriers in their road design to abate traffic noise.

14. Under the Environmental Impact Assessment Ordinance, land use proposals of expressway, trunk road, primary distributor road, district distributor road, and major extensions or improvements to existing roads are subject to the environmental impact assessments. This will ensure all requirements under the Ordinance are met before Environmental Permits would be issued to allow implementation of proposals.

Policy on urban renewal

15. Addressing the problem of traffic noise is one of the planning considerations in the formulation of the Urban Renewal Strategy and urban renewal programme. The main objectives of urban renewal include, among others, the restructuring, replanning and rationalising of land uses in designated target areas with a view to achieving environmentally-friendly local road transport and networks.

16. Urban renewal can be carried out by the URA and private sector. Large urban renewal projects are usually designated as 'Comprehensive Development Area (CDA)' on statutory plans and require the submission of master layout plans (MLP) to the Town Planning Board for approval. The MLP has to be supported by an environmental impact assessment which includes an assessment on traffic noise and measures to address the problem.

17. In respect of smaller urban renewal projects, traffic noise mitigation measures are normally included at the project planning stage in order to enhance the quality and marketability of the development. These measures can include careful planning of the location and orientation of

buildings, construction of podium, and setting-back of buildings. Construction of noise barrier/canopy may also be considered in more difficult sites.

Environment and Food Bureau

January 2002

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**Retrofitting Noise Barriers and Enclosures on Existing Roads
Implementation Programme**

| Road | Commencement | Completion |
|---|--------------|------------|
| Cheung Pei Shan Road (a) | 7/2002 | 5/2006 |
| Tseung Kwan O Road and Tseung Kwan O Road Flyover | 4/2002 | 10/2008 |
| Tuen Mun Road (Tsuen Wan, Sam Shing Hui and Tsing Lung Tau Sections)(b) | 3/2002 | 7/2008 |
| Tsing Tsuen Bridge | 4/2002 | 12/2007 |
| Yuen Shin Road (c) | 4/2002 | 6/2006 |
| Hoi On Road | 5/2002 | 11/2006 |
| Ma On Shan Road | 7/2002 | 1/2006 |
| Tai Chung Kiu Road and Che Kung Miu Road | 4/2002 | 9/2008 |
| Po Lam Road North | 4/2002 | 8/2007 |
| Hung Mui Kuk Road/ Che Kung Miu Road | 4/2002 | 8/2007 |
| Tin Sam Street | 4/2002 | 8/2007 |

Notes :

- (a) Implemented together with the Route 5 project
- (b) Implemented together with the Reconstruction and Improvement of Tuen Mun Road project
- (c) Implemented together with the Widening of Tolo Highways/Fanling Highways project

Updates on the traffic management schemes

(A) Full closure of East Kowloon Corridor

1. For the purpose of alleviating night-time traffic noise from the East Kowloon Corridor (EKC), which connects Chatham Road North with Kai Tak Tunnel and spans over Kowloon City Road, it is proposed that the feasibility of closing EKC completely to vehicular traffic at night time from 1:00 a.m. to 5:30 a.m. should be explored.

Assessment

2. The Administration has conducted traffic impact assessment for the proposed closure. The findings are that if the EKC is closed to traffic at night time, about 11 000 vehicle trips originally made on EKC during the closure period would have to be made on the ground level roads in the Kowloon City area, and Prince Edward Road East and Kwun Tong Road in the Kwun Tong area. The survey estimates that these alternative routes would have sufficient capacity to cope with the detoured traffic from EKC.

3. On the environmental front, the Administration's assessment is that while there would be reduction in the noise level of about 8dB(A) for approximately 2 600 dwellings along EKC upon its night-time closure, there would be increases in the noise level of about 5 to 7 dB(A) affecting approximately 8 600 dwellings along the alternative routes due to the diverted traffic. There is as such no conclusive evidence about the overall environmental benefit of the proposed closure of EKC. The trucking industry when consulted on the proposed scheme in early January 2002 also objected to the proposed closure as it would only shift the noise problem from one location to another. They also considered that the "stop and go" movements of vehicles at signalised road junctions at ground level roads would actually create more serious noise problem than the case would be when the vehicles are travelling non-stop on EKC.

Way Forward

4. Taking into account the comments received, the Administration is planning to conduct a trial closure in April 2002 to assess the effectiveness of the scheme before deciding on the way forward. The Administration is preparing for the consultation with relevant District Councils including Kowloon City, Wong Tai Sin and Kwun Tong and other transport trade associations in January 2002 in this regard.

(B) Full closure of Texaco Road Flyover in Tsuen Wan and

(C) Full closure of Kwai Chung Road Flyover outside Kwai Fong Estate

5. These two proposed schemes involve the banning of all types of vehicles from using both the Texaco Road Flyover and the Kwai Chung Road Flyover from 12:00 mid-night to 6:00 a.m. Vehicular traffic would be diverted to the ground level roads immediately underneath the two flyovers (i.e. sections of Texaco Road and Kwai Chung Road Flyover). It is expected that the proposed schemes would alleviate the night-time noise problem of the Tai Wo Hau Estate and the Kwai Fong Estate adjacent to the Texaco Road Flyover and Kwai Chung Road Flyover respectively.

Assessment

6. The Administration has conducted traffic impact assessments for the proposed closures. It is shown that the maximum hourly traffic volume during the proposed closure period is about 350 vehicles in both directions for each of the flyovers. The alternative ground level roads are considered to have sufficient capacity to cope with the vehicular traffic diverted from the two flyovers during their night-time closure.

7. On the environmental front, the Administration's assessment is that there would be reduction in the noise level of 1 – 2 dB(A) for certain dwellings along the two flyovers upon their closure. Approximately 2 600 dwellings can benefit from these two schemes.

Public Consultation

8. At the district level, the Administration has consulted the Traffic and Transport Committees (T&TC) of the Tsuen Wan and Kwai Tsing District Councils respectively. Both Committees raised no objection to the two proposed schemes. However, the T&TC of the Tsuen Wan District Council requested a review of the effectiveness of the Texaco Road Flyover scheme in three months' time after its implementation. The T&TC of the Kwai Tsing District Council requested the Administration to consult the transport trade on the proposed schemes.

9. For the transport trade associations, the Administration has consulted those for Taxis (both Urban and New Territories), Red Mini Buses (RMB), and Green Mini Buses (GMB).

10. The Taxis (Urban) trade raised strong objections to both schemes on the following grounds –

- (a) taxis are not a major source of traffic noise and should be exempted from the schemes, which should apply to heavy vehicles first;
- (b) the closures would lead to longer journey times as the alternative routes included several signal-controlled road junctions;
- (c) such schemes would become precedents and other roads might also be closed for the purpose of noise mitigation. This would have a serious impact on their businesses; and

- (d) the Kwai Chung Road Flyover scheme was not necessary as many of the buildings to the east of it were industrial buildings and that traffic noise should not be an issue.

11. The New Territories taxi and the RMB trades, on the other hand, did not raise objection to the schemes but suggested that the banning be implemented in phases – only heavy vehicles should be banned in the first phase and, if the schemes are found successful, other vehicle types should be banned in the second phase. Separately, the GMB trade also raised no objection to the schemes but requested that the trade be consulted again on any similar road closure schemes in the future.

12. As for the trucking industry, they have expressed objection to the two schemes on similar grounds as described in paragraph 3 above. In addition, they are strongly against the approach to ban only heavy vehicles from using the two flyovers at night time. They consider that such a measure would seriously restrict their route choices and have adverse impact on their operation, which is already very difficult given the current economic conditions. As such, they are not prepared to accept any traffic management proposal which would restrict their use of existing roads.

Way Forward

13. The Administration considers that there are merits in pursuing the two schemes because –

- (a) the closure period of six hours is short and that the total number of vehicles affected would be less than 2 000 every night for each scheme;

- (b) there would be no adverse traffic impact. The journey times for the alternative routes would not be significantly longer than if the flyovers were used; and
- (c) although the improvements in terms of noise reduction may not be substantial, night-time closure of the two flyovers will help to alleviate the night-time traffic noise problem of the Tai Wo Hau Estate and Kwai Fong Estate.

But the Administration has also noted the concerns of the transport trade. The Administration aims to discuss further with the transport trade with a view to addressing their concerns in the next one to two months, and to put the schemes to trial in April/May 2002.

(D) Banning of goods vehicles over 5.5 tonnes along Po Lam Road between Kowloon and Tseung Kwan O

14. The proposed scheme seeks to ban goods vehicles over 5.5 tonnes to use the sections of Po Lam Road and Po Lam North Road between Po Hong Road and Sau Mau Ping Road every day from 11:00 p.m. to 7:00 a.m. As goods vehicle could also enter Po Lam Road via Anderson Road through Clear Water Bay Road, the proposed scheme also involves the banning of goods vehicle of over 5.5 tonnes from using Anderson Road. All diverted traffic can use Tseung Kwan O Tunnel instead.

Assessment

15. The Administration has conducted traffic impact assessments for the proposed banning. It is found that the number of goods vehicles during the proposed restriction period is very small (at 17 only) and can be easily absorbed by the alternative route of Tseung Kwan O Tunnel. No adverse traffic impact is expected from the proposed banning.

16. On the environmental front, the Administration's assessment is that the noise nuisance caused by heavy vehicles passing in front of dwellings along the relevant sections of Po Lam Road and Po Lam North Road would only be reduced by less than 1 dB(A).

Way Forward

17. In the light of the assessment on the potential environmental benefits, the Administration is reviewing the proposed scheme and will consider the way forward as soon as possible.

(E) Banning of goods vehicles over 5.5 tonnes along Ngan Shing Street in Sha Tin

18. The proposed scheme seeks to ban goods vehicles over 5.5 tonnes along the section of Ngan Shing Street between Siu Lek Yuen Road and Cha Wai Kong Street at night time from 11:00 p.m. to 7:00 a.m. The affected goods vehicles can make use of the alternative route of Chap Wai Kong Street and Siu Lek Yuen Road.

Assessment

19. The Administration has conducted traffic impact assessments for the proposed banning. It is found that the number of goods vehicles during the proposed restriction period is very small (at about 20 only) and can be easily absorbed by the alternative route. No adverse traffic impact is expected from the proposed banning.

20. On the environmental front, the Administration's assessment is that the proposed scheme would only result in a very slight drop in traffic noise by less than 1 dB(A).

Way Forward

21. The Administration is reviewing the proposed scheme having regard to all relevant factors including the assessment on the potential environmental benefit and will consider whether and how it should be taken forward.

Annex C

| No. of Traffic Noise Complaints (Jan 2000 - Jun 2001) | | |
|--|-----------------------------|-----|
| General Traffic | ≤ 65dB | 18 |
| | 66-70dB | 115 |
| | 71-75dB | 122 |
| | 76-80dB | 117 |
| | >80dB | 15 |
| | Sub-total | 387 |
| Specific Concern | Bus Movement | 66 |
| | Parking & Engine Idling | 52 |
| | Heavy Vehicle Movement | 42 |
| | Car Racing/Speeding | 31 |
| | Public Light Bus Movement | 20 |
| | Defective Road Surface | 17 |
| | Braking/Vehicle Stop & Go | 16 |
| | Horn Noise, Unloading & etc | 6 |
| | Sub-total | 250 |
| Total | 637 | |

| No. of Traffic Noise Complaints Handled by Various Departments (Jan 2000 - Jun 2001) | | |
|---|--|------------|
| Environmental Protection Department | | 481 |
| Transport Department | | 73 |
| Hong Kong Police | | 30 |
| Highways Department | | 29 |
| Housing Department | | 24 |
| Total | | 637 |