

**For discussion
on 28 April 2008**

**LEGISLATIVE COUNCIL
PANEL ON ENVIRONMENTAL AFFAIRS**

Progress of Measures to Mitigate Road Traffic Noise

PURPOSE

This paper reports on the progress of measures to mitigate road traffic noise.

BACKGROUND

2. On 3 July 2006, we briefed Members on the progress of the noise mitigation measures for existing roads and sought Members' views on the Draft Comprehensive Plan to Tackle Road Traffic Noise in Hong Kong. During the meeting, Members raised the following views for the Administration's consideration –

- (a) Prevention of noise problem at the outset of land use planning and project design planning was the most effective noise abatement measure. Consideration should be given to rejecting proposals of residential developments on sites where the surrounding traffic noise levels had already exceeded the noise limit. Buffer zones and green belts should be provided in the event that the noise levels of the proposed developments were below but close to the limit;
- (b) Consideration should be given to incorporating in the sales brochure for residential developments the noise levels which the developments would be exposed to so that prospective buyers could make an informed decision. This would encourage developers to adopt more effective noise mitigation measures, including the use of better construction materials to ensure sustainability of the buildings;

- (c) To reduce noise impacts arising from vehicles running on joints on flyovers, a joint-free design should be adopted for flyovers and highways while low noise road surfacing materials should be used for paving of roads;
 - (d) Lighter materials, more aesthetic designs and advanced technique should be applied in the provision of noise barriers; and
 - (e) Noise abatement measures should be adopted to resolve the complaint cases as set out in Appendix I and II of the Research Report on “Mitigation Measures against Road Traffic Noise in Selected Places” prepared by the Research and Library Services Division of the Legislative Council Secretariat (LegCo’s Research Report).
3. In the Secretariat’s letter dated 19 March, Members also asked the Administration to incorporate the following topics into this round of reporting –
- (a) Measures to tackle the impacts of road traffic noise in commercial and business districts; and
 - (b) The provision of air-conditioners and double-glazed windows for dwellings affected by road traffic noise.

PROGRESS OF MEASURES TO ADDRESS ROAD TRAFFIC NOISE

Retrofitting noise barriers on existing roads

4. So far, the programme of retrofitting noise barriers on suitable existing road sections has included 35 existing road sections. The total indicative cost of the retrofitting works is about \$3 billion. Upon completion, the retrofitting works will benefit some 90,000 people. A list of the noise barrier retrofitting projects is at **Annex A**.

5. Amongst the list, the retrofitting works along two sections of Fanling Highway near Choi Yuen Estate and Fanling Centre had been completed in February 2006. Works for retrofitting of noise barriers along the following four road sections are under construction –

- (a) Cheung Pei Shan Road – Retrofitting works commenced in September 2005 and are scheduled for completion in 2008.
- (b) Two road sections of Tseung Kwan O Road – Retrofitting works commenced in September 2007 and are scheduled for completion in 2009.
- (c) Tsing Tsuen Bridge – Retrofitting works commenced in January 2008 and are scheduled for completion in 2010.

6. The noise barrier retrofitting works along Kwun Tong Bypass and Yuen Shin Road have been upgraded to Category A. Tender for the retrofitting works along Kwun Tong Bypass is underway. The works are expected to commence in June 2008 for completion in 2010. We are also making arrangements for tendering out the retrofitting works along Yuen Shin Road. The works will commence upon the award of the contract.

7. Retrofitting works at six sections of Tuen Mun Road, namely Tsuen Wan, Yau Kom Tau, Sham Tseng, Anglers' Beach, Tsing Lung Tau and Castle Peak Bay, will be implemented under the project "Reconstruction and Improvement of Tuen Mun Road". The project was supported by the Public Works Sub-committee in February 2008. Subject to funding approval from the Finance Committee, the works are expected to commence in June 2008 for completion in phases by May 2014.

8. Funds for the noise barrier retrofitting works for the remaining road sections listed in Annex A have been earmarked in the Resource Allocation Exercise. If everything goes smoothly, these projects will be put up for tender and implemented within the next five years. Funding approval for these projects will be sought in due course according to the progress of the detailed design and planning work.

9. Furthermore, as requested by the Legislative Council, the District Councils and the public, the Environmental Protection Department (EPD) and the Highways Department (HyD) will continue to review the need for and feasibility of retrofitting noise barriers on suitable existing road sections. Subject to availability of resources, the Administration will, based on the review results, consider to include more road sections in the noise barrier retrofitting programme in future.

Resurfacing with low noise materials

10. Regarding the programme to resurface roads with low noise materials, the Government has identified 72 existing local road sections and arranged for feasibility studies on their suitability for surfacing with low noise materials. The 72 road sections are listed at **Annex B**. If they are found to be suitable, about 130 000 residents will benefit from the resurfacing works on these 72 existing local road sections. As at the end of March 2008, resurfacing works on 36 road sections have been completed, providing relief to about 58 000 residents. The Government is monitoring the noise reduction effect on some of the road sections resurfaced with the low noise materials. Subject to availability of resources, the road resurfacing programme is scheduled to be completed by 2010.

11. Low noise road surfacing materials are now standard materials for high speed roads in the territory. However, due to various limitations such as durability and porosity, together with the constraints imposed by certain road geometry and traffic parameters, the materials may not be applicable to all local low-speed roads in Hong Kong. The trial of the 72 local road sections currently underway is to test out the effectiveness of the low noise resurfacing materials in terms of noise reduction and durability. Notwithstanding all the trial results will only be available by 2010, it is considered worthwhile in the light of the experience gained to go beyond the restrictions by initiating another phase of the trial scheme so that road sections which were originally excluded due to incompatibility in engineering terms will be brought within the scope of the trial. In this connection, we have identified another 26 existing local road sections for trial which will benefit an additional 70,000 residents. The 26 road sections are listed at **Annex C**. Resurfacing works will commence in 2008.

Implementing traffic management measures

12. Traffic management schemes aim at reducing road traffic noise by banning certain vehicles (e.g. heavy vehicles) from entering certain districts or road sections round the clock or at night. The successful implementation of such traffic control schemes depends on the availability of suitable alternative routes. We also need to ensure that traffic will not be affected and the noise problem will not be shifted to residents near the alternative routes. In addition, the measures should be acceptable to road users and the transport trades. Owing to these constraints, it is not easy for us to identify suitable road sections for implementing traffic management schemes.

13. With the support of Members, the traffic management scheme to ban franchised buses from using Texaco Road Flyover from midnight to 6 a.m. was implemented on 4 July 2005.

14. Apart from Texaco Road Flyover, we are still exploring the feasibility of implementing traffic management schemes at other road sections. If potentially suitable road sections are identified, we will conduct detailed studies with relevant departments and consult local residents, affected individuals and organizations, and District Councilors, etc. to help decide on whether or how to implement the schemes.

MEMBERS' VIEWS

Preventing noise problems at the land use planning and project design stage

15. We concur that good planning and design are effective measures in preventing road traffic noise during the implementation of new development areas and large-scale development projects. Chapter nine of the Hong Kong Planning Standards and Guidelines has already laid down objective criteria regarding the prevention of road traffic noise. Using these criteria as guidelines during the planning and design stage, the sites on both sides of the roads can be properly planned, thus ensuring the residential developments in the vicinity will not be affected by excessive road traffic noise. The guidelines have already included the use of buffer zones on both sides of the road to prevent road traffic noise.

16. In considering residential developments that require planning permission from Town Planning Board (TPB), the Government and TPB can ask the private developers to conduct traffic noise assessments and adopt appropriate noise mitigation measures so that the proposed residential developments will not be affected by traffic noise from the roads nearby. These noise mitigation measures can also be deemed as one of the conditions for granting approval. If the proposed development project will be exposed to noise exceeding the limit, TPB may consider rejecting the application.

17. New major road projects or projects involving substantial widening of existing roads are required to undergo environmental impact assessments (EIA) in accordance with the Environmental Impact Assessment Ordinance

(EIAO). We will require project proponents to take appropriate measures according to the Technical Memorandum under the EIAO, such as revising the road alignment, using low noise materials for surfacing and erecting noise barriers, to ensure that the noise limit will not be exceeded; otherwise, we will consider rejecting the EIA reports or environmental permit applications.

Disclosing noise information in sales brochure

18. Regarding the study on the disclosure of expected levels of traffic noise at residential developments in property sales brochures, a working group comprising EPD and the relevant policy bureaux and departments has been established to explore all feasible options and examine the technical and legal implications. We are currently drafting technical guidelines on the presentation formats and modes of disclosing traffic noise information, as well as the possible implementation options. We plan to initiate consultation with stakeholders (including the Consumer Council and the Real Estate Developers Association) for detailed discussions in late 2008 with a view to identifying an effective option that is acceptable to both the public and the trade.

Improving joints at flyovers

19. A preliminary study on the running of vehicles over joints at flyovers has been completed. Findings of the study reveal that noise generated at road joints is primarily affected by five factors, namely rugged road surface, joint width, joint position, joint materials and vehicle types. We are now conducting further study to review the findings. We are also liaising with joint suppliers on design improvement including the installation and testing of low noise joints on existing bridges. Tests on these low noise joints will commence in mid-2008 and are expected to complete in late 2009.

Using lighter materials, more aesthetic design and advanced technology in constructing noise barriers

20. The Government is committed to improving the landscape features of highway projects and street furniture in order to create a greener and more aesthetic environment. HyD completed a study in 2006 on the greening and aesthetic design of noise barriers, thereby providing useful design principles and examples as references for designing noise barriers. HyD

will implement and try out the greening and beautification measures covered by the study where appropriate, with a view to improving the overall landscape design, blending noise barriers with the surrounding environment and enhancing public acceptance and support for the road noise mitigation schemes. We will apply the greening techniques to the noise barrier retrofitting projects at Tseung Kwan O Road and Tsing Tsuen Bridge. In addition, HyD has already tried out the noise barrier greening design in the Deep Bay Link, Yuen Long Highway and Route 8 projects.

21. In 2000, EPD and HyD jointly issued the Guidelines on Design of Noise Barriers, providing the relevant professionals with information on the construction, choice of materials, maintenance and aesthetic design of noise barriers for their reference. To enhance the design work of noise barriers, we have carried out a focus study in December 2006 to explore the optimum design of roadside noise barriers in Hong Kong. Making reference to overseas noise barrier designs, the study also aims at identifying a design with enhanced noise reduction effect which is best suited for Hong Kong's dense high-rise environment for wider application in the territory. This study will be completed in the second half of 2008. Moreover, we will also consider holding design competitions on noise barrier for suitable road sections.

Complaints cases

22. Appendix I of the LegCo's Research Report mentioned five complaint cases which involved the widened section of Ching Cheung Road adjacent to Nob Hill, the section of Lai Chi Kok Road adjacent to Liberte, the section of Tseung Kwan O Road near Hing Tin Estate, the East Kowloon Corridor (now known as East Kowloon Way), Fanling Highway and the road widening works of Kai Leng Roundabout in North District. We have already responded to these traffic noise complaints. Amongst these, the relevant sections of Tseung Kwan O Road and Fanling Highway have been included in the noise barrier retrofitting programme. Details are shown in **Annex D**.

23. Appendix II of the LegCo's Research Report listed the road sections included in the noise barrier retrofitting programme and the low noise resurfacing programme. Progress of these two programmes is reported above in paragraphs 4 to 11.

Traffic noise in commercial districts

24. The Government has established traffic noise standards to prevent excessive traffic noise impact on noise sensitive receivers such as residential buildings and schools, which need to open their windows for ventilation. As for office buildings in commercial districts, which are generally provided with air-conditioning and noise insulation to meet the indoor environment requirements of their users, they are regarded as tolerant structures for road traffic noise. In land use planning, office buildings are positioned along both sides of the roads as buffers for effective mitigation of road traffic noise. According to the LegCo's Research Report, such practice is widely adopted in other places.

Providing air-conditioning and double-glazed windows

25. We have reconsidered the provision of noise insulation in the form of air-conditioners and high quality glass windows to residential units currently affected by excessive road traffic noise. We are of the view that this is a passive and very costly method. Moreover, it would not be fair to provide noise insulation to some of the affected residential units but not the others. With a total of approximately 350,000 residential units affected by excessive noise, the total cost of providing such insulation would be at least \$18 billion assuming an average cost of \$50,000 per residential unit, not to mention recurrent and replacement expenditure.

26. The findings of the LegCo's Research Report reveal that the overseas places under study, namely Japan, Taiwan, New South Wales and Victoria in Australia, and California in the United States, mainly implement traffic noise mitigation measures through town planning, noise reduction at source and blocking of noise propagation. The provision of noise insulation for affected residents is not a common practice. We consider that tackling road traffic noise at source is the more equitable and sensible solution. In the long run, we will have to rely on urban renewal efforts to address the noise problem.

THE WAY FORWARD

27. The Government is very concerned about the road traffic noise problem. We will continue to require the adoption of suitable noise mitigation measures for new development areas, large-scale development

projects and new roads through planning and environmental impact assessment. We will also continue to look into retrofitting noise barriers on more existing road sections, expand the application of low noise road surfacing materials, and explore the feasibility of implementing traffic management schemes on other road sections.

28. After giving careful consideration to Members' views, we agree to look further into improving joints at flyovers, and study the continual improvement of the materials, design and technology of noise barriers. On the disclosure of noise information in the sales brochure, we will put forward proposals for consultation and detailed discussion with stakeholders, including the Consumer Council and the Real Estate Developers Association, in late 2008 with a view to identifying an effective option that is acceptable to the public and the trade.

29. We will continue to report on the progress of the various measures.

Environmental Protection Department
April 2008

**List of 35 Road Sections included in the Public Works Programme
for Retrofitting Noise Barriers**
(as at April 2008)

Ref No.	Road Section ^{1,2}	Remarks
1	Fanling Highway (near Choi Yuen Estate)	Works completed in February 2006
2	Fanling Highway (near Fanling Centre)	Works completed in February 2006
3	Cheung Pei Shan Road	Under construction
4	Tseung Kwan O Road (near Hing Tin Estate)	Under construction
5	Tseung Kwan O Road (near Tsui Ping (South) Estate)	Under construction
6	Tsing Tsuen Bridge (Tsuen Wan and Tsing Yi)	Under construction
7	Yuen Shin Road (near Kwong Fuk Estate)	Works expected to commence in 2008
8	Tuen Mun Road (Tsuen Wan)	The noise barrier retrofitting works will be implemented under the contract of the project "Reconstruction and Improvement of Tuen Mun Road" and is expected to commence in 2008.
9	Tuen Mun Road (Yau Kom Tau)	
10	Tuen Mun Road (Castle Peak Bay)	
11	Tuen Mun Road (Anglers' Beach)	
12	Tuen Mun Road (Sham Tseng)	
13	Tuen Mun Road (Tsing Lung Tau)	
14	Kwun Tong Bypass	Works expected to commence in 2008
15	Fanling Highway (Po Shek Wu Road to MTR Fanling Station)	Works expected to commence in 2009
16	Fanling Highway (MTR Fanling Station to Wo Hing Road)	Works expected to commence in 2009
17	Sha Tin Road	Works expected to commence in 2009
18	Tai Po Road (Sha Tin Section)	Works expected to commence in 2010
19	Yuen Wo Road	Works expected to commence in 2009
20	Tai Po Tai Wo Road	Works expected to commence in 2009
21	Ma Wang Road	Expected to consult District Council in 2009
22	Chai Wan Road	Expected to consult District Council in 2009
23	Tuen Mun Road (Town Centre)	Expected to consult District Council in 2009
24	Tuen Mun Road (Fu Tei)	Expected to consult District Council in 2009

¹ In response to the objections against the retrofitting works on Tai Chung Kiu Road, Che Kung Miu Road, Hung Mui Kuk Road and Tin Sam Street during public consultation, we proposed to apply low noise surfacing materials on these road sections in lieu of noise barriers. The revised proposal of paving low noise materials on these four road sections was supported at the meeting of Sha Tin District Council's Health and Environment Committee in March 2007. HyD is working on the design and making arrangements for the works.

² The originally proposed retrofitting works on Tuen Mun Road (Sam Shing Hui) falls within the scope of the project "Traffic Improvements to Tuen Mun Road Town Centre Section". As the road project falls under the Environmental Impact Assessment Ordinance (EIAO), HyD is required to conduct EIA and implement suitable noise mitigation measures according to the EIAO to alleviate the impact of the traffic noise on buildings along the road. The above-mentioned road section is consequently removed from the noise barrier retrofitting programme.

Ref No.	Road Section ^{1,2}	Remarks
25	Po Lam Road North	Expected to consult District Council in 2009
26	Po Ning Road	Expected to consult District Council in 2009
27	Tai Po Road (Sham Shui Po)	Expected to consult District Council in 2009
28	Hoi On Road	Expected to consult District Council in 2011
29	New Clear Water Bay Road	Expected to consult District Council in 2008
30	Po Shek Wu Road	Expected to consult District Council in 2009
31	Long Tin Road	Expected to consult District Council in 2009
32	Castle Peak Road (Ping Shan)	Expected to consult District Council in 2009
33	Castle Peak Road (Hung Shui Kiu)	Expected to consult District Council in 2009
34	Fanling Highway (near Chung Pak Long)	Expected to consult District Council in 2009
35	Ma On Shan Road	Under review ³

³ In response to the views raised by District Councilors and the residents during public consultation, we used low noise surfacing materials for the retrofitting works on Ma On Shan Road to facilitate future review of the traffic noise conditions. The surfacing works was completed in November 2007.

Annex B**Low Noise Resurfacing Programme**

(as at March 2008)

Road No.	Road	From	To	Implementation Timetable
Phase I (24 sections)				
1	Pik Wan Road	Tak Shing House	Tak Shui House	Works completed.
2	Cox's Road	Austin Road	Jordan Road	Works completed
3	Fa Yuen Street	Prince Edward Road West	Boundary Street	Works completed.
4	Hing Wah Street	Cheung Sha Wan Road	Un Chau Street	Works completed.
5	Kimberley Road	Nathan Road	Observatory Road	Works completed.
6	Mong Kok Road	Shanghai Street	Tong Mi Road	Works completed.
7	Nam Cheong Street	Cheung Sha Wan Road	Lai Chi Kok Road	To tie in with other works in the vicinity, resurfacing works are tentatively scheduled for completion by 2008/09.
8	Oak Street	Cherry Street	Ivy Street	Works completed.
9	Portland Street	Argyle Street	Waterloo Road	To tie in with other works in the vicinity, resurfacing works are tentatively scheduled for completion by 2008/09.
10	Public Square Street	Ferry Street	Canton Road	Works completed.
11	Reclamation Street	Public Square Street	Argyle Street	To tie in with other works in the vicinity, resurfacing works are tentatively scheduled for completion by 2009/10.
12	Sai Yee Street	Prince Edward Road West	Boundary Street	Works completed.
13	Un Chau Street	Hing Wah Street	Tonkin Street	Works completed.
14	Waterloo Road	Ferry Street	Shanghai Street	Technical feasibility under review.
15	Yen Chow Street	Hai Tan Street	Lai Chi Kok Rd	To tie in with other works in the vicinity, resurfacing works are tentatively scheduled for completion by 2008/09.
16	Lai Chi Kok Road	Tonkin Street	Hing Wah Street	Technical feasibility under review.

Road No.	Road	From	To	Implementation Timetable
17	Tonkin Street	Cheung Sha Wan Road	Un Chau Street	Works completed.
18	Shanghai Street	Public Square Street	Kansu Street	Technical feasibility under review.
19	Un Chau Street	Tonkin Street	Yen Chow Street	Works completed.
20	Shanghai Street	Argyle Street	Dundas Street	Works completed.
21	Embankment Road	Prince Edward Road West	Boundary Street	Works completed.
22	Shek Kip Mei Street	Tai Po Road	Woh Chai Street	Works completed.
23	Tai Hang Tung Road	Tong Yam Street	Tat Chee Avenue	Works have commenced but due to other works in the area, completion has been deferred to 2008/09.
24	Yim Po Fong Street	Shantung Street	Waterloo Road	Works completed.
Phase II (22 sections)				
25	Aberdeen Main Road	Aberdeen Praya Road	Aberdeen Reservoir Road	Technical feasibility under review.
26	Connaught Road West	Des Voeux Road West	Water Street	Technical feasibility under review.
27	Electric Road	Gordon Road	Wing Hing Street (Tsing Fung Street)	Works completed.
28	Java Road	Tong Shui Road	Tin Chiu Street	To tie in with other works in the vicinity, resurfacing works are tentatively scheduled for completion by 2009/10.
29	King's Road	Healthy Street West	Java Road	Works are tentatively scheduled for completion by 2008/09.
30	Kingston Street	Paterson Street	Gloucester Road	Works completed.
31	Lockhart Road	Arsenal Street	Percival Street	To tie in with other works in the vicinity, resurfacing works are tentatively scheduled for completion by 2009/10.
32	Queen's Road West	Des Voeux Road West	Hill Road	To tie in with other works in the vicinity, resurfacing works are tentatively scheduled for completion by 2009/10.
33	Whitty Street	Des Voeux Road West	Queen's Road West	Works completed.
34	Johnston Road	Luard Road	Fleming Road	Works completed.
35	Wong Nai Chung Road	Sing Woo Road	Broadwood Road	To tie in with other works in the vicinity, resurfacing works are tentatively scheduled for

Road No.	Road	From	To	Implementation Timetable
				completion by 2009/10.
36	Queen's Road West	Western Street	Water Street	Works completed.
37	Wong Nai Chung Road	Sports Road	Broadwood Road	To tie in with other works in the vicinity, resurfacing works are tentatively scheduled completion by 2009/10.
38	Hennessy Road	Fleming Road	Stewart Road	Works completed.
39	Queen's Road East	Queensway	Kennedy Road	To tie in with other works in the vicinity, resurfacing works are tentatively scheduled for completion by 2009/10.
40	Chi Kiang Street	To Kwa Wan Road	Ma Tau Wai Road	To tie in with other works in the vicinity, resurfacing works are tentatively scheduled for completion by 2008/09.
41	Ma Tau Kok Road	Kowloon City Road	Ma Tau Chung Road	Works completed.
42	Wuhu Street	Gillies Ave. South	Chatham Road North	Technical feasibility under review.
43	To Kwa Wan Road	Kwei Chow Street	Chi Kiang Street	Technical feasibility under review.
44	To Kwa Wan Road	Mok Cheong Street	Ma Tau Kok Road	Technical feasibility under review.
45	Lomond Road	Argyle Street	Prince Edward Road West	Works completed.
46	Nga Tsin Wai Road	Tak Ku Ling Road	Junction Road	Technical feasibility under review.
Phase III (New Territories East - 12 sections)				
47	Jockey Club Road	Po Shek Wu Rd	Man Kam To Road	Technical feasibility under review.
48	Jockey Club Road	Lung Sum Avenue	San Fung Avenue	To make way for the Beijing 2008 Olympic and Paralympic Equestrian Events, resurfacing works are tentatively scheduled for completion after the events.
49	Ma Sik Road	Jockey Club Road	Tin Ping Road	
50	Tai Po Tai Wo Road	On Cheung Road	Nam Wan Road	Works completed.
51	Tai Po Tai Wo Road	Ting Kok Road	Ting Tai Road	Works completed.
52	Nam Wan Road	Nga Wan Road	Pan Chung Road	Technical feasibility under review.
53	Shatin Rural Committee Road	Tai Po Road (Shatin Section)	Yuen Wo Road	Technical feasibility under review.
54	Sha Tin Wai Road	Ngan Shing Street	Ngau Pei Sha Street	Works will commence in tandem with other road works in the vicinity.
55	Sha Tin Wai Road	Sha Tin Road	Ngan Shing Street	

Road No.	Road	From	To	Implementation Timetable
56	Tai Chung Kiu Road	Sha Kok Street	Sha Tin Wai Road	To tie in with other works in the vicinity, resurfacing works are tentatively scheduled for completion by 2008/09.
57	Chiu Shun Road	Po Ning Road	Ngan O Road	Works completed.
58	Chui Tin Street	Che Kung Miu Road	Cul-de-sac	Works completed.
Phase III (New Territories West - 14 sections)				
59	Castle Peak Road	Tuen Mun Heung Sze Wui Road	Hing Ping Road	Works completed.
60	Castle Peak Road	Pui To Road	Tuen Mun Heung Sze Wui Road	Works completed.
61	Tuen Mun Heung Sze Wui Road	Tuen Hing Road	Siu Lun Street	Works completed.
62	Tuen Mun Heung Sze Wui Road	Siu Lun Street	Hoi Chu Road	To tie in with other works in the vicinity, resurfacing works are tentatively scheduled for completion by 2008/09.
63	Wu Shan Road	Lung Mun Road	Wu King Road	Works completed.
64	Long Ping Road	Fung Chi Road	Long Ping Road INT.	Works completed.
65	Castle Peak Road (Yuen Long)	Tai Tong Road	Fung Cheung Road	Technical feasibility under review.
66	Yuen Long On Ning Road	Tai Kiu Road	Wang Chau Road	To tie in with other works in the vicinity, resurfacing works are tentatively scheduled for completion by 2008/09.
67	Ma Miu Road	Yuen Long On Ning Road	Ma Wang Road	Works completed.
68	Castle Peak Road	Ping Ha Road	Tin Ha Road	Works completed.
69	Chung On Street	Sha Tsui Road	Yeung Uk Road	Technical feasibility under review.
70	Yeung Uk Road	Tai Ho Road	Chung On Street	Works will commence in tandem with other road works in the vicinity.
71	Kwai Foo Road	Kwai Chung Road	Hing Fong Road	To tie in with other works in the vicinity, resurfacing works are tentatively scheduled for completion by 2008/09.
72	Kwai Yik Road	Kwai Chung Road	Hing Fong Road	Works completed.

Annex C

26 New Road Sections for Trial of Low Noise Road Surfacing

Road No.	District	Road	From	To
1	Wong Tai Sin	Chuk Yuen Road	Ma Chai Hang Playground	Nga Chuk Street
2	Wong Tai Sin	Wong Tai Sin Road	Nga Chuk Street	Ma Chai Hang Road
3	Wong Tai Sin	Tung Tau Estate Road	Shatin Pass Road	Tai Shing Street
4	Wong Tai Sin	Fung Tak Road	Lung Poon Street	Sheung Yuen Street
5	Wong Tai Sin	Shatin Pass Road	Choi Hung Road	Tung Tau Tsuen Road
6	Kwun Tong	Lei Yue Mun Road	Ko Chiu Road (North Junction)	Ko Chiu Road (South Junction)
7	Kwun Tong	Shun Lee Tsuen Road	Access Road to Kwun Tong High Level Service Reservoir	Shun On Road South
8	Kwun Tong	Chun Wah Road	Hong Ning Road	Lok Wah North Estate
9	Kwun Tong	Sau Mau Ping Road	Sau Hong House	Sau Lok House
10	Kowloon City	Junction Road	Boundary Street	Dumbarton Road
11	Kowloon City	Hung Hom Road	Tak Hong Street	Tak Fung Street
12	Yau Tsim Mong	Soares Avenue	Waterloo Road	Argyle Street
13	Shum Shui Po	Lai Chi Kok Road (West Bound)	Tai Nam West Street	Cheung Mou Street
14	Eastern	Chai Wan Road	Wan Tsui Road	Wing Tai Road
15	Eastern	Kornhill Road	King's Road (East Junction)	King's Road (West Junction)
16	Sha Tin	Ngan Shing Street	Siu Lek Yuen Road	Tak Wing Street
17	Sha Tin	Siu Lek Yuen Road	Chap Wai Kon Road	Tai Chung Kiu Road
18	Sha Tin	Tin Sam Street	Che Kung Miu Road	Hung Mui Kuk Road
19	Sai Kung	Ngan O Road	Pui Shing Road	Chiu Shun Road
20	Sai Kung	Po Lam Road North	Po Hong Road	Po Fung Road
21	Tai Po	Ting Kok Road	Ting Tai Road	Tai Po Tai Wo Road
22	Tai Po	Nam Wan Road	On Po Road	Tai Po Tai Wo Road
23	North	Pak Wo Road	So Kwun Po Road	Pak Wo Road Roundabout
24	North	Pak Wo Road	Choi Yuen Road	Po Wing Road
25	Yuen Long	Wang Tat Road	Wang Lok Street	Chun Hing San Tsuen
26	Tsuen Wan	Texaco Road	Kwok Shui Road	Tsuen Kam Interchange

Annex D

Responses to Complaint Cases Raised in Appendix I of LegCo's Research Report "Mitigation Measures against Road Traffic Noise in Selected Places"

Cases	Complaints	Summary of Responses from Bureaux and Departments
Widened section of Ching Cheung Road adjacent to Nob Hill	Request for installing noise barriers on Ching Cheung Road near Nob Hill.	<p>Since Ching Cheung Road is only widened locally near Nob Hill and not along its full length, there is no increase in the predicted traffic flow of this section of Ching Cheung Road and its corresponding noise impact would be insignificant. HyD/EPD and Civil Engineering and Development Department (CEDD) conducted feasibility studies on retrofitting noise barriers at the section of Ching Cheung Road near Nob Hill. The study results reviewed that it was technically not feasible.</p> <p>To further mitigate the noise problem, HyD has surfaced the uphill carriageway of Ching Cheung Road facing Nob Hill with low noise materials and replaced the expansion joints of the sections concerned. HyD will surface the section of Ching Cheung Road planned for widening with low noise materials.</p>
Road section of Lai Chi Kok Road adjacent to Liberte	The Government was requested to implement remedial measures and finance the installation of double-glazed windows for the affected units.	<p>As the West Kowloon Corridor is a flyover built many years ago, there is no spare capacity structurally to support the additional noise barriers. An independent structure would be required to support the additional noise barriers but there is not enough space on the road underneath this section of the flyover for the construction of an independent structure. Moreover, the erection of noise barriers on Lai Chi Kok Road is subject to space limitation and would hinder commercial activities. As such, it is technically not feasible to erect noise barriers on this road section.</p> <p>The developer has already provided noise mitigation measures for Liberte including the construction of a podium. Suitable window insulation and air-conditioners were also provided for those units exposed to traffic noise exceeding planning standards. Hence, the Government will not implement additional noise mitigation measures for Liberte.</p> <p>HyD has resurfaced the eastbound carriageway of the West Kowloon Corridor near Liberte with low noise materials and replaced the relevant expansion joints on the West Kowloon Corridor in 2005.</p>

Cases	Complaints	Summary of Responses from Bureaux and Departments
Road section of Tseung Kwan O Road near Hing Tin Estate	Request for retrofitting noise barriers on the road section of Tseung Kwan O Road near Hing Tin Estate	The road section of Tseung Kwan O Road near Hing Tin Estate has been included in the noise barrier retrofitting programme. The retrofitting works commenced in September 2007 and is expected to be completed in 2009.
East Kowloon Way (EKW)	Request for retrofitting noise barriers on EKW and installing insulation windows and air-conditioners for the affected units.	<p>In response to Legislative Councilors' request, HyD re-examined the loadings and structural capacity of EKW in 2005 to assess the feasibility of retrofitting noise barriers or enclosures on EKW. The findings of the assessment revealed that it was technically not feasible to retrofit effective cantilevered noise barriers or enclosures on EKW.</p> <p>The provision of insulation windows and air-conditioners for dwellings affected by excessive traffic noise is passive and very costly.</p>
Fanling Highway and Kai Leng Roundabout widening works in North District	<p>Request for retrofitting noise barriers on the sections of Fanling Highway near housing estates such as Dawning Views, Avon Park and Ka Fuk Estate.</p> <p>Request for retrofitting noise barriers on the concerned widened sections of Kai Leng Roundabout, providing window insulation for the residents, surfacing the concerned road junction with low noise materials, and measuring the noise level after the intake of the public housing at Fanling Area 36.</p>	<p><u>Fanling Highway</u> The sections of Fanling Highway near housing estates such as Dawning Views, Avon Park and Ka Fuk Estate have been included in the noise barrier retrofitting programme. In January 2007, the North District Council gave support to the proposed noise barriers. HyD is working on the design and the works are expected to commence in 2009.</p> <p><u>Kai Leng Roundabout widening works</u> As Vienna Garden is too close to the carriageway, it is technically not feasible to erect noise barriers there. Under the prevailing policy, the Government will not provide window insulation for buildings affected by traffic noise of existing roads.</p> <p>Assessments carried out by CEDD and HyD showed that the frequent stop-and-go traffic on the road section would cause rapid wear and tear of the road surface. Thus it is not feasible to surface the section around the concerned road junction with low noise materials.</p> <p>The public housing at Fanling Area 36 is expected to have its last intake around late 2008. EPD proposed to conduct noise measurement there again at an appropriate time in 2009.</p>