

APPENDIX J



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(By Fax & Mail)

Our Ref: EA/94129
14 October 1994

Environmental Assessment & Pollution Control

Director of Buildings
Buildings Department
11th Floor Murray Building
Garden Road
Hong Kong

(Attn : TS Bldg and TS Struct)

Dear Sir/Madam

Scoping Study for Providing Retroactive
Road Traffic Noise Mitigation Measures

We have been appointed by Environmental Protection Department recently to undertake the captioned project to examine the existing roads on the feasibility of providing retroactive road traffic noise mitigation measures on a territory-wide basis.

As part of the study, a consultation paper will be sent to your office for comments shortly. To enable us to conduct the study swiftly, your advising us the contact officer for this project would be highly appreciated.

Please do not hesitate to call the undersigned or our Mr. Jesse Yuen if you have any queries.

Thank you for your kind assistance.

Yours faithfully
ENPAC Limited

Edwin Chui
Project Manager

c.c. Noise Policy Group, EPD (Mr. C.C. Chiu)



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(By Fax & Mail)

Our Ref: EA/94129
14 October 1994

Environmental Assessment & Pollution Control

Director of Civil Engineering
Civil Engineering Department
15th Floor, Civil Engineering Building
101 Princess Margaret Road
Ho Man Tin
Kowloon

(Attn : TS/HQ)

Dear Sir/Madam

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Road Traffic Noise Mitigation Measures

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(By Fax & Mail)

Our Ref: EA/94129
14 October 1994

Environmental Assessment & Pollution Control

Secretary for Home Affairs
City & New Territories Administration
30th Floor Southorn Centre
130 Hennessy Road
Wan Chai
Hong Kong

Dear Sir/Madam

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Road Traffic Noise Mitigation Measures

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(By Fax & Mail)

Our Ref: EA/94129
14 October 1994

Environmental Assessment & Pollution Control

Director of Drainage Services
Drainage Services Department
43/F Revenue Tower
5 Gloucester road
Wan Chai
Hong Kong

(Attn: TS)

Dear Sir/Madam

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Road Traffic Noise Mitigation Measures

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(By Fax & Mail)

Our Ref: EA/94129
14 October 1994

Environmental Assessment & Pollution Control

Director of E & M Services
E & M Services Department
98 Caroline Hill Road
Hong Kong

(Attn: TS)

Dear Sir/Madam

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Road Traffic Noise Mitigation Measures

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Project Manager

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(By Fax & Mail)

Our Ref: EA/94129
14 October 1994

Environmental Assessment & Pollution Control

Director of Fire Services
Fire Services Department
1 Hong Chong Road
Tsim Sha Tsui
Kowloon

(Attn: S Div O i/c PG)

Dear Sir/Madam

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Road Traffic Noise Mitigation Measures

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(By Fax & Mail)

Our Ref: EA/94129
14 October 1994

Environmental Assessment & Pollution Control

Director of Highways
Highways Department
5th floor Ho Man Tin Government Office
88 Chung Hau Street
Ho Man Tin
Kowloon

Dear Sir/Madam

Scoping Study for Providing Retroactive
Road Traffic Noise Mitigation Measures

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Project Manager

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(By Fax & Mail)

Our Ref: EA/94129
14 October 1994

Environmental Assessment & Pollution Control

Director of Housing
Housing Department
Headquarters
33 Fat Kwong Street
Kowloon

(Attn : Mr. T.C. Yuen, AD/D)

Dear Mr. Yuen

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Road Traffic Noise Mitigation Measures

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Yours sincerely
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Project Manager

c.c. Noise Policy Group, EPD (Mr. C.C. Chiu)



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(By Fax & Mail)

Our Ref: EA/94129
14 October 1994

Environmental Assessment & Pollution Control

Director of Planning
Planning Department
16th Floor Murray Building
Garden Road
Hong Kong

(Attn: CTP/TS)

Dear Sir/Madam

Scoping Study for Providing Retroactive
Road Traffic Noise Mitigation Measures

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(By Fax & Mail)

Our Ref: EA/94129
14 October 1994

Environmental Assessment & Pollution Control

Director of Land
Land Department
2nd Floor Murray Building
Garden Road
Hong Kong

Dear Sir/Madam

Scoping Study for Providing Retroactive
Road Traffic Noise Mitigation Measures

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(By Fax & Mail)

Our Ref: EA/94129
14 October 1994

Environmental Assessment & Pollution Control

Commissioner of Police
Royal Hong Kong Police Force
Arsenal Street
Wan Chai
Hong Kong

(Attn: SSO /Traffic Management Bureau)

Dear Sir/Madam

Scoping Study for Providing Retroactive
Road Traffic Noise Mitigation Measures

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Project Manager

c.c. Noise Policy Group, EPD (Mr. C.C. Chiu)



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(By Fax & Mail)

Our Ref: EA/94129
14 October 1994

Environmental Assessment & Pollution Control

Director of Territory Development
Territory Development Department
13th floor Leighton Centre
77 Leighton Road
Causeway Bay
Hong Kong

(Attn: TS/HQ)

Dear Sir/Madam

Scoping Study for Providing Retroactive
Road Traffic Noise Mitigation Measures

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Project Manager

c.c. Noise Policy Group, EPD (Mr. C.C. Chiu)



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(By Fax & Mail)

Our Ref: EA/94129
14 October 1994

Environmental Assessment & Pollution Control

Commissioner for Transport
Transport Department
41st floor Immigration Tower
7 Gloucester Road
Causeway Bay
Hong Kong

(Attn: AC for T/Tech Services & Planning)

Dear Sir/Madam

Scoping Study for Providing Retroactive
Road Traffic Noise Mitigation Measures

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Project Manager

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(By Fax & Mail)

Our Ref: EA/94129
14 October 1994

Environmental Assessment & Pollution Control

Director of Water Supplies
Water Supplies Department
48th floor Immigration Tower
7 Gloucester Road
Causeway Bay
Hong Kong

Dear Sir/Madam

Scoping Study for Providing Retroactive
Road Traffic Noise Mitigation Measures

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Edwin Chui
Project Manager

c.c. Noise Policy Group, EPD (Mr. C.C. Chiu)

Appendix J Responses to Comments

Comments

Responses

Buildings Department

Ref. (59) in BD GR/CONS/2 dated 24 November 1994

I have no comments on the consultative paper under the Buildings Ordinance, noting that the effect of the erection of high noise barriers and enclosures on the quantity of natural lighting and ventilation available to the adjacent buildings will be considered when implementing the noise mitigation measures.

Noted.

Civil Engineering Department, Geotechnical Engineering Office

Ref. GCP 1/10/481 dated 23 November 1994

The Civil Engineering Department has no comment on the First Consultation Paper of the captioned study.

Noted.

Director of Home Affairs

Ref. (5) in HAD/D/16A/33 dated 7 December 1994

Please be informed that we have no comment on the captioned document.

Noted.

Comments

Responses

Drainage Services Department

Ref. (8) in DSD T 15/5/3 III dated 23 November 1994

- | | | |
|-----|---|--------|
| (a) | The foundations of noise screening structures as shown in fig. 12 & 13 take up space for utilities. They force utilities to shift sideways, causing congestion. In order to minimise these adverse impacts, the foundations (strip footings?) should be placed deep enough to allow for the laying of utilities like telephone cables and the like on top. | Noted. |
| (b) | In some occasions, trench work may necessitate temporary removal of some noise screening structures. To make it more practical and economical, the screening panels should be designed for dismantling and reinstating. Simple panel to panel and panel to foundation joints such as bolt and nut connections are encouraged. This will also enable their future reusage. | Noted. |
| (c) | Some very tall noise screening structures (e.g. in Fig 16) are tilting sensitive. As they almost run parallel to our drainage alignment, protection to them during pipe-laying will be expensive. Suggest, design provisions be made to allow for their temporary removal and subsequent reinstatement. | Noted. |

Electrical & Mechanical Services Department

Ref. (2) in L/M 72-79-1994 dated 23 November 1994

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|----|--|--------|
| 2. | I have no comments on the above captioned subject. | Noted. |
|----|--|--------|

Comments

Responses

Environmental Protection Department, Air Policy Group
Ref. EP 22/N3/1 dated 28 November 1994

Basically 3 different main types of noise mitigation measures have been identified by you as appropriate noise abatement options to be compatible with Hong Kong's environment. These are conventional plain barriers, semi-enclosures and full enclosures. It is considered that all three types of noise mitigation structures, in particular the semi-enclosures and full enclosures can have significant impacts on local air quality. The extent of these impacts depends on factors such as local land and building usage, location of air sensitive receivers and weather condition.

Noted.

These factors will affect the aerial dispersion and may cause an adverse air quality impact on both the sensitive receivers in the vicinity of the road as well as the air quality inside the 'enclosure'. Furthermore, ventilation from the portals or 'stacks' will result in concentrated air pollutant emissions.

Noted.

Other than a very brief discussion on ventilation requirement (last paragraph on page 5), the paper appears to have not addressed the above air quality problem. Therefore, you are requested to review the implications on air quality due to the proposed noise mitigation measures. Modelling packages which enable air flow simulation such as those employing Computational Fluid Dynamics techniques should be used. In particular, individual simulations to examine the effects on air flow and hence pollutant dispersion of different road and barrier configurations (s.5) should be carried out. The results will be useful in assisting you in the drawing up of requirements, guidelines and constraints for implementing noise mitigation measures.

Noted. Air quality impacts associated with the erection of noise mitigation measures will be fully assessed during Phase 2 review which will focus on the detailed engineering and design aspects of the mitigation measures.

Comments

Responses

Environmental Protection Department, Noise Policy Group
Ref. (58) in EP 42/T6/1 dated 28 December 1994

Section 4.1

(a) 1st para

In general, plain barrier is effective for low-rise building. However, its effectiveness should be assessed on individual merit since factors like traffic flow, topographic conditions and separation distance affecting it would vary from case to case.

Noted.

(b) 2nd para

It is strongly supported that wherever existing infrastructure permits, a proper located semi-enclosure should be considered to protect nearby high-rise sensitive buildings.

Noted.

(c) 3rd para

From our previous experience, except for the sightline (i.e. safety for road users), other mentioned issues could be overcome by careful design.

Noted.

(d) Table 2

Recently, ACE has endorsed the EIA reports of road 3/2 in Tsuen wan and Smithfield Extension which recommended use of enclosures and barriers on appropriate locations on local roads to mitigate noise due to new roads. These provide examples illustrating that enclosures and barriers could also be erected on local roads, of course, careful design is needed.

Noted

Comments

Responses

Section 4.2

Safety

- | | | |
|-----|---|--------|
| (e) | There is no dispute that safety should always come first in considering erecting direct mitigation measures on roads including existing roads. However, it must be emphasized that previous experience indicated that, except the sightline (i.e. safety for road users), other problems could be overcome by careful design. | Noted. |
| (f) | Recent EIA study on Route 5 Extension in Tsuen Wan provides good examples of how sightline affects the consideration of mitigation measures. | Noted. |
| (g) | Maintenance of adequate emergency access or provision of alternative access should have high priority in considering erecting direct mitigation measures. Also, the design of direct measures should not cause implication on safety. | Noted. |

Structural Consideration

- | | | |
|-----|---|--------|
| (h) | This is entirely the ambit of Highways Department. | Noted. |
| (i) | There are quite a number of examples in Japan illustrating self-supported noise screening structures for noise mitigation purpose. | Noted. |
| (j) | Barrier protrusion and deterioration should be factors affecting the detailed barrier/enclosure design rather the evaluation of potential of erecting such direct mitigation measures (last sentence of 2nd para referred). | Noted. |

Comments

Responses

Ventilation and sunlight

- (k) In the feasibility study of TKO Area 137, it was identified by the consultant and endorsed by FSD that for any tunnel longer than 230m, extraction fan is required; for any tunnel longer than 450m, fire fighting equipment must be installed. Noted.
- (l) Notwithstanding the ventilation and sunlight problem, noise screening structures shall be erected in such manner that adverse effects on buildings are minimized. Noted.

Maintenance Considerations

- (m) Maintaining artificial lighting inside an enclosure or semi-enclosure should be similar to that for a normal street lighting. It may well be easier if provision is made to allow access via the structure of the enclosure/semi-enclosure. Noted.

Public Disturbance

- (n) Erecting barriers, semi-enclosure or enclosure will cause significant public inconvenience to certain extent particularly in urban areas. However, there is also counter example (like Road 3/2 in Tsuen Wan) Where enclosures are to be built at 5m ahead of local shops. Noted.

Visual Impacts

- (o) The effects depend on how the barriers, semi-enclosure or enclosure is designed. Noted.

Comments

Responses

Section 5

- | | |
|--|--------|
| (p) There is no explicit typical details describing erection of semi-enclosure behind footway or full enclosure on at-grade road. Please supplement. | Noted. |
| (q) Please also provide case study on erecting such semi-enclosure or full enclosure on at-grade roads and in urban areas. | Noted. |

Conclusion

- | | |
|--|--------|
| (r) We concur that the discussion is on preliminary basis with a view to developing guidelines for further and detailed studies and designs. | Noted. |
|--|--------|

Comments

Responses

Fire Services Department

Ref. (4) in FSD 4/130/94 dated 6 December 1994

The proposed noise mitigation measures irrespective of which type of barriers or enclosures will definitely pose adverse effects on rescue and fire fighting operation. Generally, the following undesirable occurrence will one way or the other come to light in case of emergency if the proposed noise mitigation measures are implemented:

Noted.

- (i) appraisal of situation of fire at road/street level will be obscured or even blocked;
- (ii) external rescue and fire fighting operation by means of ladder will be render impossible;
- (iii) water supply from fire hydrants on roadside will be separated by the proposed barriers and therefore additional fire hydrants will be required to make up for the hindrance caused in obtaining fire fighting water supply;
- (iv) rescue of falling victims will become difficult or even impossible;
- (v) vehicular access to areas on both sides of a main road will be blocked by the proposed barriers especially in Type A configuration;
- (vi) in case the barriers are installed in the central reserve of a carriageway, the emergency crossing may be blocked by the barriers and also fire fighting operation cannot be carried out on the opposite lane in case fire appliances reach the scene on the opposite lane.
- (vii) tenants in the adjoining buildings will be deprived of the existing fire fighting resources means available to them;

Comments

Responses

- (viii) in case the barriers are combustible in nature which do not possess sufficient fire resisting capability, they will impose additional fire risks to the residents fronting the road. Besides, burning debris from aloft may ignite these structures which will aid fire spread;
- (ix) again, the structures will collapse in case the fire resisting period of the proposed barriers are not sufficient and thus added further risk to the road users/passersby;
- (x) for full enclosures, ventilation of smoke from a fire will be difficult if not impossible and therefore will increase life risk to persons being stranded within the enclosures due to traffic accident which may lead to more casualties;
- (xi) full enclosures will resemble a tunnel in which Fire Service Installations may be required;
- (xii) another possible adverse effect is the impact on the radio communication between fire appliances on mobile and the Fire Services Mobilizing and Communication Centre based in Kowloon. The full enclosures or even the semi-enclosures may hinder the telecommunication which will thus affect our operational efficiency.

Noted.

Obviously, the above adverse effects are only a preliminary assessment on the basis of your given information and are not exhaustive. Basically, each case should be considered by its own merit in order to assess to what extent the proposed noise barriers or enclosures will impact on the rescue and fire fighting operation in reality.

Noted.

Comments

In respect of the Case Studies as contained in Section 5 of your paper, I have the following comment on the basis of my para. 2 above:

<u>Case</u>	<u>Possible adverse effect</u>
A	(i), (iii), (ix)
B	(i), (iii), (ix)
C	(i), (ii), (iii), (iv), (vi), (vii), (viii), (ix), (xii)
D	(i), (iii), (vi), (ix), (xii)
E	(i), (ii), (vii), (viii), (ix), (x), (xi), (xii)
F	(i), (iii), (ix)

In respect of Case G to K, as the figures are too brief and without any explanatory statements, comment could not be offered.

Highways Department, Research and Development Division
Ref. HRD 8/1/1 dated 1 December 1994

General Comments

- a) Figure 12 to 16 outlined several configurations for noise barriers and enclosures (Details A to J) but none of these are discussed in detail. The consultants should discuss the limitations of each configuration and the situations in which each configuration could be adopted. It seems from the Paper that any configuration could be adopted.

Responses

Noted.

Noted. Cases G to K have been provided as supplementary case studies to illustrate the possible employment of noise mitigation measures under different road-receiver configurations.

According to the study brief, this scoping study is confined to the development of potential direct technical remedies on existing roads.

Comments

Responses

- b) In considering the limitations of each configuration and also the implementation of noise mitigation measures, more thought should be given to:
- . space problems for barriers/enclosures in urban areas;
 - . technical difficulties due to the presence of underground utilities, particularly supply connections to the frontages;
 - . impact on footway width and surface drainage;
 - . public disruption not only during construction but also long term disruptions to kerbside parking, loading/unloading, provision of vehicular access to buildings, etc;
 - . visual impact on the cityscape and the immense psychological pressure on the populace having to exist in a maze of not only concrete buildings but also noise barriers, enclosures, etc.
 - . objections from the frontagers, particularly commercial operators, if the works have to be gazetted under Roads (Works, Use and Compensation) Ordinance;
 - . obstruction to access for fire-fighting or rescue purpose.
- c) The design of any barriers and enclosures has to be approved by the Advisory Committee on the Appearance of Bridges and Associated Structures (ACABAS), L&WTC No. 11/89 refers. For your information, ACABAS has considered several such proposals and the general comment is unfavourable.
- d) In general existing highway structures are not designed to support the additional loadings from the barriers or enclosures. For light weight barriers or enclosures, the wind loading is still substantial. Any proposal to fix barriers or enclosures to existing highway structures should not be further considered.

Noted.

Noted.

Noted.

Comments

Responses

- e) The size of the foundations for the barriers or enclosures appear to be quite small on the drawings. To resist the horizontal wind loading, the width of the foundation slab would be in the order of 2-3 metres or more. If small acoustic panels are used, the supports will be closely spaced and the foundation is likely to be a continuous slab. An alternative is to provide a continuous ground beam to increase the spacing of the foundation slabs but then the size of the foundation slabs will have to be much bigger to resist the wind load. In any event a continuous underground obstruction will be created. The underground space on almost all of the roads in HK is congested with existing services, in particular the footways. Substantial utility diversions will be required for the foundation works. If the foundation works affect the footway, a number of services will have to be permanently diverted onto the carriageway, which will result in frequent closure of the carriageway for future maintenance and repair of the underground services. In view of the heavy volume of traffic on our roads, such closures will result in significant traffic delay cost to the community.

Noted.

Specific Comments

- f) Section 3, last para. - The choice of materials will depend to a large extent on ease of maintenance in addition to all the other factors mentioned. The use of proprietary products will need to take into account ease of finding replacement parts in future.

Noted.

Comments

Responses

- | | | |
|----|--|---|
| g) | <p>Section 6 - The section failed to highlight the problem associated with the installation of noise barriers/enclosures in the urban area. It is stated in the paper that the installation of noise barrier/enclosures along Nathan Road is impracticable. Nathan Road is quoted as an extreme example. Unfortunately, the urban area is full of such extreme examples, like Shanghai Street, Granville Road, Queen's Road, Des Voeux Road, etc. It is fair to say that over 90% of the urban streets is in the same category.</p> | Noted. Due considerations will be given to the conditions of existing roads in urban area when deriving the selection criteria for noisy roads. |
| h) | <p>Detail 'A' - The foundation slab should be located wholly outside the existing footway to avoid diversion of existing utilities. This detail should not be considered when there are existing services running across the alignment of the proposed barrier.</p> | Noted. |
| i) | <p>Detail 'B' - The nearest edge of the foundation slab should be at least one metre from the edge of the carriageway slab to avoid adverse effect to the carriageway slab during the construction work. Where there is a roadside slope and no alternative vehicular access on the top or bottom of the slope, a replacement vehicular access in the form of a service road may have to be provided at the back of the barrier to facilitate regular slope maintenance work. Similarly the detail should not be considered when there are existing services running across its alignment.</p> | Noted. |
| j) | <p>Detail 'C'- The foundation of the barrier has been omitted from the drawing. The construction of the large foundation slab will unavoidably require closure of both fast lanes. There will be serious effect on traffic flow. All the existing lamp posts and traffic signs along the central barriers will be affected. Since there are always cross roads services running across the alignment of the central barrier, I suggest this detail should not be further considered and deleted from the list of possible measures.</p> | Noted. |

Comments

Responses

- | | | |
|----|---|---|
| k) | Detail 'D' - The footway should not be separated from the carriageway by a barrier to avoid the creation of criminal black spots. As there are always existing services at the edge of the carriageway, I suggest this detail should not be further considered and deleted from the list of possible measures. Detail 'A' or 'B' should be adopted instead. | Noted. |
| l) | Detail 'E' - This option should not be further considered, paragraph (d) refers. | Noted. |
| m) | Detail 'F' - This option should not be further considered, paragraph (i) refers. | Noted. |
| n) | Detail 'G' - This option should not be further considered, paragraph (j) refers. | Noted. |
| o) | Detail 'H' - This option should not be further considered, paragraph (d & j) refers. | Noted. |
| p) | Detail 'I' - This option should not be further considered, paragraph (d) refers. | Noted. |
| q) | Detail 'J' - Piled foundation may be required to support this substantial structure. While availability of space for the structural supports is unlikely, the cost-effectiveness of this option should be seriously considered. Direct remedy may be more cost-effective. | Noted. Cost-effectiveness will be assessed against the specific site conditions when conducting detailed mitigation design. |

Comments

Responses

Hong Kong Housing Authority

Ref. HD(P) 8/1/4/1 dated 29 November 1994

- (i) In explaining the definition of noisy roads, (Para. 1), the terms "nominal facade" and "typical separation" should be elaborated. The "angle of view" should also be considered;
- (ii) The opportunity should be taken to investigate the appropriateness of adopting 1m outside an external window as the reception point;
- (iii) Presumably, the feasibility study on the use of friction course on low speed road by HyD will be more on the construction and maintenance aspects. Their effectiveness, as far as noise mitigation is concerned, should be investigated for low speed roads, steep gradients and curved roads;
- (iv) The nominal facade for typical public housing blocks should be carefully chosen as they may have different "angle of view" exposure to traffic noise; and

For the purpose of identification of existing noisy roads, "nominal facade" means a building facade at a distance from a carriage such that the separation between the building facade and the edge of carriage is typical for a particular road class (i.e. expressways, trunk roads, primary distributors, district distributors, local distributors and rural roads). "Typical separation" is the average of the normal range of distance of building facades from the edges of carriages for a particular road class.

An angle of view of 160° has been assumed for noise prediction to generally represent the worst-case scenario. Actual angle of view will be used for the detailed design of noise mitigation measures in Phase 2 review.

According to the study brief, all traffic noise calculations should follow the procedures contained in "Calculation of Road Traffic Noise" (CRTN) published by the Department of Transport, UK. It is the requirement of the CRTN that traffic noise shall be assessed at a reception point located 1 metre in front of the sensitive building facade. As such, the "1 metre" reception point will be adopted for noise impact assessment.

As advised by the Highways Department, a separate feasibility study will soon commence on the use of friction course on low speed roads. Therefore, this noise mitigation option will be excluded from the list of possible measures in this study.

Noted. Representative sensitive facades and the associated angle of views will be carefully determined for the detail design of noise mitigation measures during Phase 2 review.

Comments

- (v) Traffic management measures should also be considered as an option to abate road traffic noise.

Lands Department, Headquarters

Ref. (6) in LD 5/5060/94 dated 29 November 1994

I refer to your letter of 15 November 1994 and write to advise that I have no comment on the First Consultation Paper.

Planning Department

Ref. (60) in TS C/PSSC/901 dated 30 November 1994

- (a) Apart from the short introduction given in Section 1, the objective, scope, necessary tasks and programme of the Study should be clearly explained. This will enable the reader to have a better understanding on the Study and the inputs required.
- (b) Re. Section 4.1, line 3, the word 'suite' should be 'suit'.
- (c) Re. the Case Studies in Section 5, cross sections should be given for understanding the disposition of the proposed noise mitigation measures vis-a-vis the general setting in question. Moreover, with reference to expected/hypothetical traffic flow data and the associated noise level, the effectiveness of the proposed measures should be given for reference purpose.
- (d) Re. Case C of Section 5, I have reservation on the effectiveness of the proposed measures on existing urban roads in densely populated areas. Moreover, the visual effect of the proposal to use a 2-sided semi-enclosures of 5.5m in height in the middle of a distributor road should also be addressed.

Responses

According to the study brief, this study is confined to the development of potential direct technical remedies on existing roads. Traffic management will not be included in the list of possible measures in this study.

Noted.

A copy of the study brief and the study target dates were sent to the Planning Department on 30 November 1994. Copies of the response letter and the study brief are provided in Appendices A and B respectively.

Noted.

Cross sections have already been provided in the consultation paper to illustrate the road-receiver configurations for each case study. Please refer to Figures 17 to 22.

Mitigation effectiveness will be assessed when conducting detailed barrier/enclosure design.

Noted.

Comments

Responses

Royal Hong Kong Police, Traffic Headquarters

Ref. (17) in CP/T/TMB 216/61 dated 22 November 1994

This H.Q. supports the assessments in the text of the report, particularly in respect of road safety.

Noted.

We will be interested to see any proposals affecting street furniture at the conclusion of your study.

Noted.

Territory Development Department

Ref. (64) in TDD 4/6/84 Pt.2 dated 18 November 1994

Without the benefit of viewing the consultants' brief, the following are general observations on the First Consultation Paper. It would be useful if both the brief and the programme of submission of papers, if any, could also be circulated.

A copy of the study brief and the study target dates were sent to the Territory Development Department on 28 November 1994. Copies of the response letter and the study brief are provided in Appendices A and B respectively.

The Paper appears to be rather limited in scope and in the choice of mitigation measures, some of which require heavy construction and may be impractical for existing conditions. Mitigation measures at source (vehicles), at reception and other locations, if applicable, could be included in the study, as well as planning considerations and cost comparisons. It is appreciated that the subject at issue is rather involved and requires both pragmatic and innovative approaches.

Noted. According to the study brief, this study is confined to the development of potential direct technical remedies on existing roads. Mitigation measures at source, at reception and other locations will not be included in the list of possible measures in this study.

Planning considerations and cost comparisons will be carried out when conducting detailed noise mitigation design.

Comments

Responses

Territory Development Department

Ref. (68) in TDD 4/6/84 Pt.2 dated 30 November 1994

It would be useful to consider additional forms of technical measures to mitigate road traffic noise. Landscaping/roadside planting could be considered, where space permits. Experimenting with sound absorbing central dividers and parapets/crash barriers is among the other possibilities.

From the noise mitigation point of view, landscaping/roadside planting would be much less effective in noise reduction than that provided by noise barriers and enclosures. Despite this, the potential use of landscaping/roadside planting will be addressed where space and the required degree of noise reduction permit.

The possibility of experimenting with sound absorbing central dividers and parapets/cash barriers will be discussed with the relevant departments.

Transport Department, Traffic & Transport Survey Division

Ref. TTS 171/180/1 dated 28 November 1994

(a) The major disadvantages of full enclosures are:-

- (i) The resulting tunnel effect causes a sudden change in light conditions and is consequently a safety hazard.
- (ii) Sightlines are detrimentally affected, particularly on bends.
- (iii) The efficient and effective use of traffic aids is affected.
- (iv) Maintenance and utility works are adversely affected.
- (v) Future road widening is more difficult and expensive.
- (vi) The visual environment is adversely affected.

These disadvantages may be alleviated to some extent by the use of semi enclosures and plain barriers.

(c) The problems can be completely avoided by applying noise mitigation measures at the receiver end, e.g. double glazing. This point is not covered at all in the Report.

Noted.

According to the study brief, this study is confined to the development of potential direct technical remedies on existing roads. Mitigation measures at receiver will not be included in the list of possible measures in this study.

Comments

Responses

Water Supplies Department

Ref. (73) in WWO 654/72 IV dated 30 November 1994

As your study appears to address mainly on noise mitigation measures applicable to existing public roads, I presume that the mitigation measures will not apply to waterworks access roads which are private roads with light traffic and distant from population.

Agreed.

We usually impose conditions when development and construction activity is proposed in the vicinity of existing waterworks installations including water mains to protect their integrity. Please ensure that the noise barriers do not obstruct the access to and the normal operation of waterworks installations e.g. valves and fire hydrants. The noise barrier should be set back as required and measures such as removable noise barrier panels should be considered in providing access for the operation and maintenance of waterworks installations.

Noted.

As this report does not go into details of the design and construction of the noise barrier, we can only give you our general comments. We shall comment in greater depth for the erection of noise screening structures in specific site locations when we have such details from you.

Noted.