

CHAPTER 11

**Transport Department
Highways Department**

Provision of footbridges and subways

**Audit Commission
Hong Kong
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PROVISION OF FOOTBRIDGES AND SUBWAYS

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PART 1: INTRODUCTION

1.1 This PART describes the background to the audit and outlines its objectives and scope.

Pedestrian crossing facilities

1.2 Road traffic in Hong Kong is very busy in terms of both vehicular and pedestrian flows. There is a need for adequate and safe pedestrian crossing facilities to minimise road accidents and facilitate smooth traffic flows. With a view to maximising their use and achieving their objectives, pedestrian crossing facilities should be provided at locations convenient to users. Otherwise, there is a risk that pedestrians may jaywalk instead of using the crossing facilities provided, reducing the effectiveness of the facilities and sometimes causing traffic accidents.

At-grade crossing facilities

1.3 Most pedestrian crossing facilities are provided at grade (at the same level of the road), including:

- (a) zebra crossings (where pedestrians have the priority to cross the road);
- (b) signal-controlled crossings (commonly referred to as “Green Man” crossings);
- (c) cautionary crossings at signal-controlled junctions (with signals for drivers only but not for pedestrians); and
- (d) cautionary crossings (no signals for either pedestrians or drivers).

1.4 Pedestrians like at-grade crossings because they are direct and convenient. In areas with high vehicular flows, signal-controlled crossings are often provided. In determining the type of crossing to be provided, the Transport Department (TD) takes into account vehicular and pedestrian flows and accident records at the location.

Grade-separated crossing facilities

1.5 Footbridges and subways are grade-separated crossings (constructed at a level different from that of the road) which are usually provided at roads with heavy vehicular traffic and pedestrian flows. Compared to at-grade crossings, grade-separated ones provide better safety protection to pedestrians and cause less disruption to traffic. However, some pedestrians have reservations (some are even reluctant) about using footbridges or subways,

as they have to go up and down staircases or ramps. Therefore, the building of grade-separated facilities should be carefully planned.

1.6 To facilitate access by the elderly and the disabled, footbridges and subways built in recent years are provided with ramps or lifts. Some with high pedestrian flows are installed with escalators. In some areas, they are connected to form walkway systems providing enhanced convenience and safety to pedestrians.

Increase in number of footbridges and subways

1.7 The TD's Transport Planning and Design Manual stipulates that, because of the potential danger to pedestrians crossing at grade, wherever possible, grade-separated crossings should be constructed in order to segregate pedestrians from vehicular traffic. Under this guideline, footbridges and subways are usually provided for main roads with busy traffic. In so doing, the TD takes into account the cost effectiveness of the facilities and the availability of land. The number of footbridges and subways had increased significantly over the past 20 years (see Table 1).

Table 1
Number of footbridges and subways
(1986 to 2006)

| | 1986 | 2006 | Increase |
|--------------------|--------------|--------------|-----------------------------------|
| | (No.) | (No.) | (%) |
| | (a) | (b) | (c) = [(b)–(a)]/(a) × 100% |
| Footbridges | 257 | 658 | 156% |
| Subways | 165 | 407 | 147% |
| Total | 422 | 1,065 | 152% |

Source: TD records

Improvement in pedestrian safety

1.8 Over the twenty years from 1986 to 2006, the population in Hong Kong increased by 25% from 5.5 million to 6.9 million, and the number of vehicles doubled from 267,000 to 553,000. Over the same period, the number of pedestrian accidents per year decreased by 39% from 6,699 to 4,116. The TD considers that there is a clear correlation between the increase in the number of grade-separated crossings and the reduction in pedestrian accidents.

Constructing footbridges and subways

1.9 The TD has the overall responsibility for providing pedestrian crossings, including footbridges and subways. In response to public demand for such facilities, the TD conducts studies to determine the suitable type to be provided. For new development or re-development projects, the Planning Department (PlanD) and the Civil Engineering and Development Department (CEDD) are sometimes involved in planning of footbridges and subways. The TD also provides advice from the transport perspective. The Highways Department (HyD) or the CEDD implement projects for constructing footbridges and/or subways (Note 1). Upon completion, the HyD normally takes over the facilities for maintenance.

Audit review

1.10 The Audit Commission (Audit) has recently conducted a review of the economy, efficiency and effectiveness in the provision of footbridges and subways. The review focused on the following areas:

- (a) monitoring of footbridge and subway utilisation (PART 2);
- (b) a subway in Sai Wan Ho (PART 3);
- (c) five footbridges with nearby at-grade crossings (PART 4);
- (d) two subways and a footbridge connecting to sites pending development (PART 5);
- (e) a footbridge built by a subvented organisation (PART 6); and
- (f) a partly demolished footbridge (PART 7).

Audit has found that there are areas where improvements can be made in the planning, provision and monitoring of the utilisation of footbridges and subways. Audit has made a number of recommendations to address the issues.

Acknowledgement

1.11 Audit would like to acknowledge with gratitude the full cooperation of the staff of the TD, the HyD, the CEDD, the PlanD, the Home Affairs Department (HAD), the Lands Department and the Hong Kong Baptist University during the course of the review.

Note 1: *Some footbridges and subways are constructed by other government departments (e.g. the Housing Department), subvented organisations or private developers.*

PART 2: MONITORING OF FOOTBRIDGE AND SUBWAY UTILISATION

2.1 This PART examines the TD's monitoring of the utilisation of footbridges and subways.

Construction and maintenance of footbridges and subways

2.2 From the funding perspective, a footbridge or subway may be constructed:

- (a) as part of a large-scale development project (e.g. a major roadworks project or a new town development project) funded under the Capital Works Reserve Fund (CWRF). Approval of the Finance Committee (FC) of the Legislative Council (LegCo) for the whole project is required;
- (b) under a separate capital works project funded under the CWRF requiring the FC's approval if the project costs more than \$15 million; or
- (c) under a separate capital works project funded under a CWRF block vote if the project costs \$15 million or below. The block vote is approved by the FC on an annual basis.

2.3 The number of footbridges and subways increased from 422 in 1986 to 1,065 in 2006 (see Table 1 in para. 1.7). The majority of new footbridges and subways were constructed under large-scale development projects (Note 2). The remaining ones were constructed under separate capital works projects. From 1996 to 2006, 21 footbridges and subways were built under separate capital works projects at a total cost of \$1,180 million. Besides construction cost, the HyD and other government departments also incur considerable recurrent costs on operating and maintaining footbridges and subways.

Utilisation of footbridges and subways

2.4 In December 2006, in response to Audit's request for the utilisation information of some footbridges in the Sham Shui Po District, the HyD and the TD said that:

Note 2: *The cost of footbridges and subways constructed under a large-scale development project is subsumed into the total project cost.*

- (a) the construction of a new footbridge or subway was not usually justified by quantitative criteria in terms of pedestrian utilisation. Each case would be considered on its own merits, taking into account the following factors in the area concerned:
 - (i) the anticipated pedestrian utilisation;
 - (ii) the characteristics and layout of the road concerned;
 - (iii) the volume and speed of the traffic;
 - (iv) road safety and capacity considerations;
 - (v) the desired pedestrian path;
 - (vi) the availability and location of alternative crossings;
 - (vii) the connectivity of the facility with nearby developments and walkway systems; and
 - (viii) public opinions;
- (b) since the construction of a grade-separated facility was not justified on the sole basis of pedestrian utilisation, the TD did not have a standing practice of conducting a post-implementation review of the facility after its construction; and
- (c) for the footbridges in the Sham Shui Po District, the TD had not recently conducted pedestrian flow surveys to gauge their utilisation. It had conducted site observations at the footbridges.

Pedestrian flows to justify new projects

2.5 For some recent footbridge and subway projects, the Administration had included the estimated pedestrian flows in the papers submitted to the FC to justify the funding applications. Two examples are cited below.

Example A

**Footbridge at the junction of Po Kong Village Road
and Tsz Wan Shan Road**

In April 2004, in a paper submitted to the Public Works Subcommittee (PWSC) of the FC seeking endorsement for constructing the above footbridge, it was stated that:

- (a) the at-grade crossing facilities provided in the area were unable to cope with the anticipated increase in pedestrian demand; and
- (b) in February 2004, the TD's pedestrian survey found that the hourly pedestrian flow across the road was about 1,700 persons during peak hours. The TD estimated that, by September 2004, the hourly pedestrian flow would reach 3,000 persons, exceeding the capacity of the at-grade crossing facilities.

The FC approved \$22 million for constructing the footbridge.

Example B

**Footbridge system at the junction
of Argyle Street, Tong Mi Road and Ferry Street**

In July 1995, in a paper submitted to the PWSC seeking endorsement for constructing the above footbridge system, it was stated that:

- (a) the at-grade crossing facilities provided in the area were unable to cope with increase in vehicular and pedestrian traffic arising from new developments in the West Kowloon Reclamation area; and
- (b) it was estimated that the peak hourly pedestrian flow across the junction would grow from 4,000 persons in 1995 to 11,000 persons by 1997.

The FC approved \$57.6 million for constructing the footbridge system.

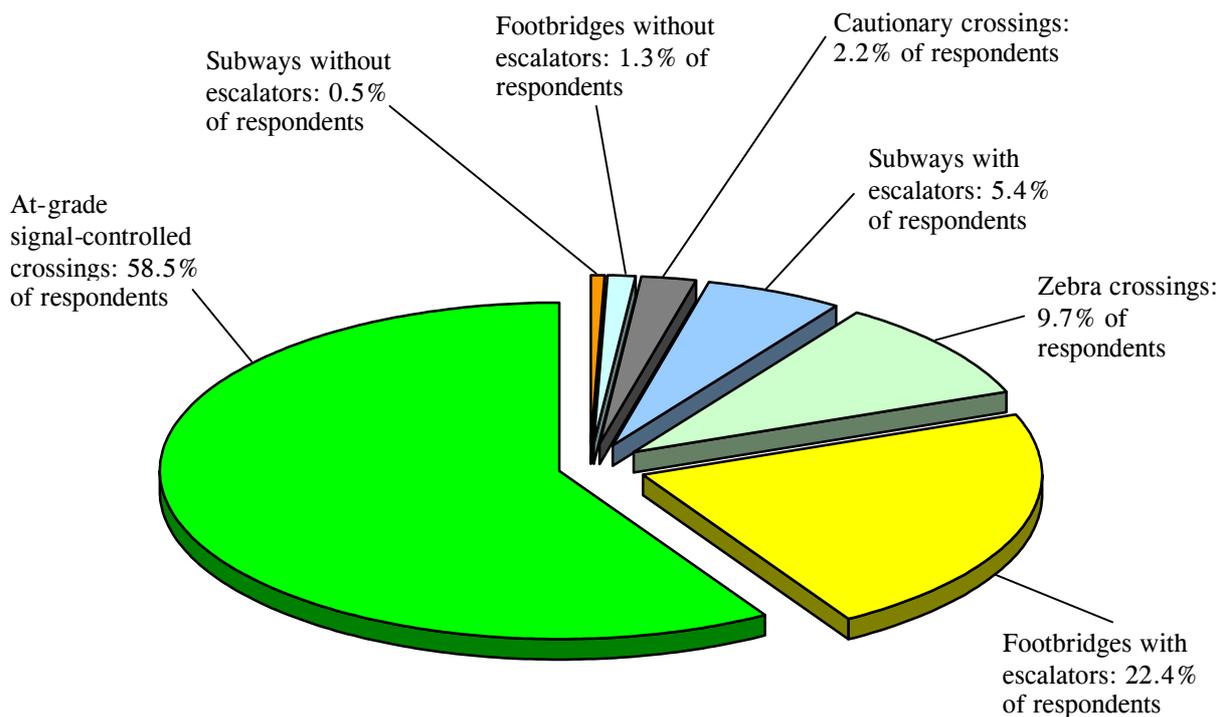
Audit observations

Need to monitor utilisation of footbridges and subways

2.6 Although footbridges and subways provide better safety protection to pedestrians and facilitate more efficient traffic flows, some pedestrians do not like using them owing to the need to walk longer distance (and to climb staircases). In 2003, the Census and Statistics Department found in a survey (covering 9,200 households) that 58.5% of the respondents selected at-grade signal-controlled crossings as the most preferred type of pedestrian crossing (see Figure 1).

Figure 1

**Respondents' most preferred type of pedestrian crossing
(2003)**



Source: Census and Statistics Department

2.7 The survey indicated that at-grade signal-controlled crossings were the most preferred type of crossing, and footbridges and subways without escalators were the least preferred. Therefore, the utilisation of some footbridges and subways might be adversely affected by the presence of nearby at-grade crossings and other factors. **As constructing and maintaining footbridges and subways involve substantial costs, Audit considers that there is a need for the TD to monitor the utilisation of these facilities. Audit also considers that the inclusion of estimated pedestrian flows in recent PWSC papers seeking funding for footbridge and subway construction (see para. 2.5) is a good practice, which should be adopted for similar projects in future.**

2.8 As there are over 1,000 footbridges and subways (see Table 1 in para. 1.7), it may not be cost-effective to conduct utilisation surveys for all of them. In this regard, the TD may consult District Councils and the HAD District Offices to identify those with indications of low utilisation for conducting surveys. The surveys should also seek to identify the reasons for low utilisation.

2.9 In this audit review, Audit selected eight footbridges and three subways with indications of low utilisation for review (see PARTs 3 to 7). Audit found that the utilisation of the facilities was low, due to one or more of the following factors:

- (a) the facilities were not convenient to pedestrians, who preferred to use nearby at-grade crossings (see Subway X in PART 3, Footbridges A to E in PART 4 and Footbridge G in PART 6);
- (b) the facilities were connected to sites pending development (see Footbridge F, and Subways Y and Z in PART 5); and
- (c) a footbridge with its main span demolished (see Footbridge H in PART 7).

2.10 As Audit conducted the review on a sample basis, there may be other such facilities with low utilisation. **There is a need for the TD to conduct a review to identify those with low utilisation.**

2.11 **For those footbridges and subways identified to be having low utilisation, Audit considers that there is a need for the TD to:**

- (a) **take appropriate actions to encourage more pedestrians to use the facilities located in areas where the risk to pedestrian safety is high;**

- (b) **conduct cost-and-benefit reviews of future maintenance (particularly major rehabilitation), especially for those constructed many years ago, taking into account the expected utilisation and the views of the public; and**
- (c) **draw lessons for planning similar facilities in future.**

Audit recommendations

2.12 **Audit has recommended that the Commissioner for Transport should:**

- (a) **conduct a review to identify footbridges and subways with low utilisation and ascertain the underlying reasons (see para. 2.10);**
- (b) **take appropriate actions to deal with footbridges and subways with low utilisation (see para. 2.11); and**
- (c) **regularly monitor the utilisation of footbridges and subways (see para. 2.7).**

2.13 **Audit has recommended that the Secretary for Development should remind works departments of the need to provide the PWSC and FC with estimated pedestrian flow information in future funding applications for constructing footbridges and subways (see para. 2.7).**

Response from the Administration

2.14 **The Commissioner for Transport** agrees with the audit recommendations in paragraph 2.12. He has said that:

- (a) in view of the fairly large number of facilities, the TD will conduct the review in stages. It will initially focus on the facilities with very low utilisation, and extend the work depending on resources; and
- (b) the TD will continue to provide input to works departments in implementing the audit recommendation in paragraph 2.13. In future funding applications for constructing footbridges and subways, it will provide the estimated utilisation as far as possible. In most cases, it could only provide a broad indication of the projected pedestrian demand.

2.15 **The Secretary for Development** agrees with the audit recommendation in paragraph 2.13.

PART 3: A SUBWAY IN SAI WAN HO

3.1 This PART examines the provision of a subway in Sai Wan Ho across Oi Shun Road near Tai On Street (hereinafter referred to as Subway X).

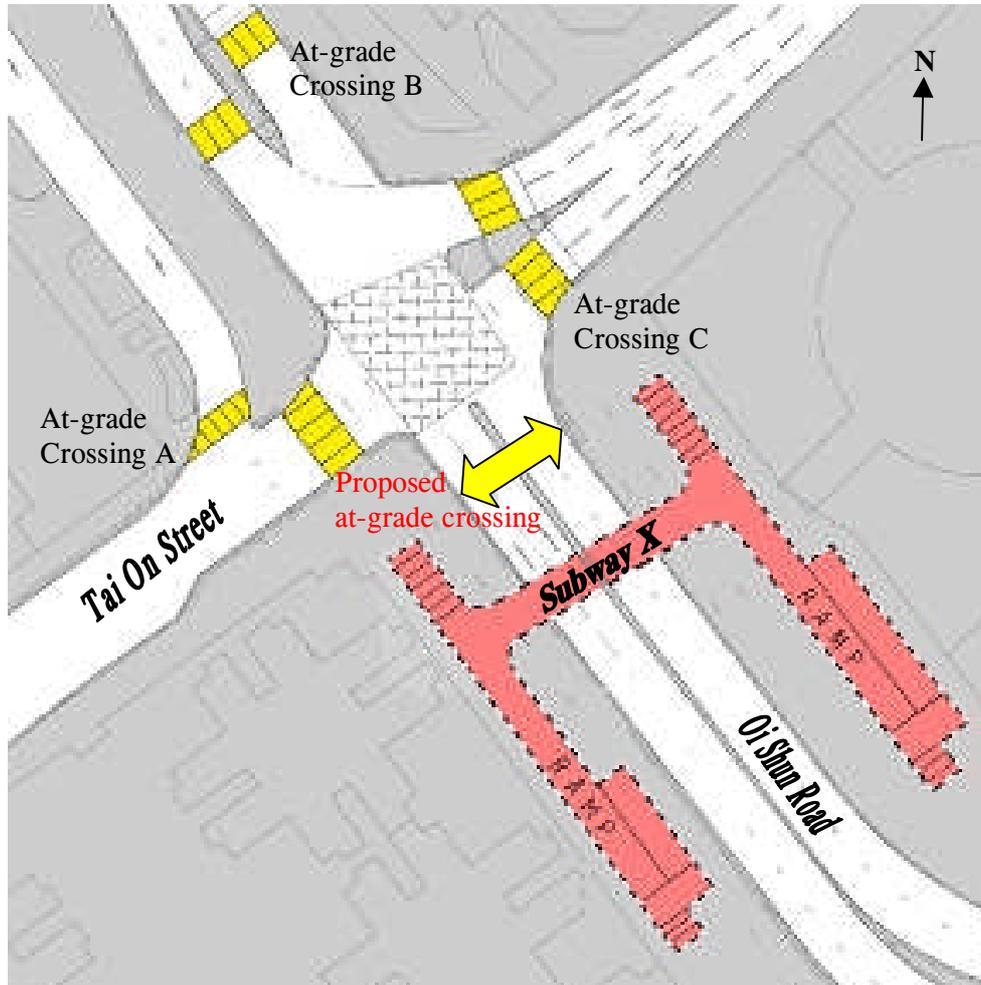
Provision of the subway

3.2 In April 1997, the TD and the HyD consulted the Eastern District Council on the project “Roadworks in Aldrich Bay reclamation area”. The project was for developing transport infrastructure (including Subway X) in the area. While the Eastern District Council supported its overall scope, some members raised reservations about the provision of Subway X. They said that:

- (a) local residents were accustomed to using at-grade crossings at the location; and
- (b) Subway X might be replaced by an at-grade pedestrian crossing which could also save the construction cost.

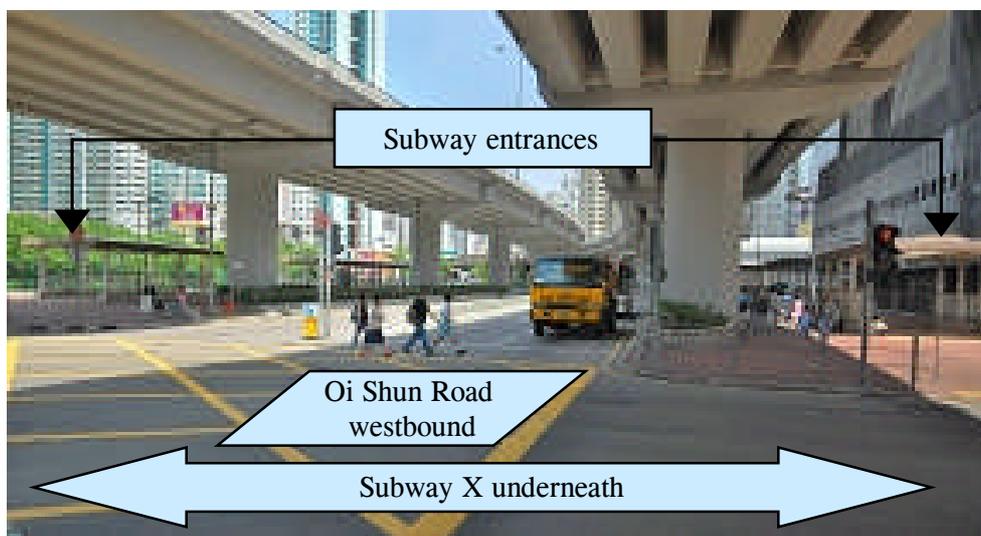
3.3 In December 2003, Subway X was constructed at a cost of \$7.3 million. It is 192 metres long, with a staircase and a ramp at each end. At the junction of Oi Shun Road and Tai On Street, there are also three sets of at-grade signal-controlled pedestrian crossings (Crossings A to C — see Figure 2 and Photograph 1).

Figure 2
Subway X in Sai Wan Ho



Source: TD records

Photograph 1
Subway X in Sai Wan Ho



Source: Photograph taken by Audit in July 2007

Local residents' views

3.4 Since the opening of the subway in December 2003, residents in the area had expressed concerns over its provision. In November 2004, some members of the Eastern District Council expressed the following views:

- (a) the utilisation of the subway was low;
- (b) local residents (especially the elderly) found the subway inconvenient to use because of the need to walk up the staircases or ramps. Some residents even jaywalked instead of using the subway to cross the road;
- (c) as the vehicular flow at Oi Shun Road was low, there was no need for the subway; and
- (d) local residents strongly requested the provision of an at-grade pedestrian crossing along the subway alignment.

3.5 In response, the TD informed the Eastern District Council that:

- (a) as new housing developments in the Aldrich Bay area would increase traffic and pedestrian flows, it would not be appropriate to install an at-grade pedestrian crossing; and
- (b) if local residents preferred to use at-grade pedestrian crossings, they could use the three sets of signal-controlled crossings at the junction (Crossings A to C in Figure 2).

In the light of the TD's response, the Eastern District Council urged the TD to review the feasibility of providing an at-grade pedestrian crossing.

3.6 In September 2006, the TD informed the Eastern District Council that it would review the provision of pedestrian crossings at the junction of Oi Shun Road and Tai On Street after the housing developments in the Aldrich Bay area had been fully occupied. An Eastern District Councillor expressed dissatisfaction over the TD's response. He considered that, as the traffic volume on Oi Shun Road had been persistently low, the TD should expedite action to review the traffic condition there. In November 2006, a District Councillor and resident representatives of the Sai Wan Ho District made a petition (signed by 3,000 local residents) to the TD requesting the provision of the at-grade pedestrian crossing.

- 3.7 In January 2007, the TD informed the Eastern District Council that:
- (a) based on the 2006 transport statistics, it was feasible to provide a signal-controlled crossing across Oi Shun Road (along the subway alignment) on a temporary basis; and
 - (b) the long-term arrangements for pedestrian crossing facilities would be further reviewed upon the full occupation of the housing developments in the Aldrich Bay area.

The Eastern District Council welcomed the TD's decision. As at September 2007, the TD was planning the installation of the signal-controlled pedestrian crossing, which was scheduled for completion in early 2008.

TD's views

- 3.8 In July and August 2007, in response to Audit's enquiry, the TD said that:
- (a) during the planning of the Aldrich Bay reclamation project in 1986, it was planned that Oi Shun Road would be a major road with heavy traffic. As such, a subway (which was the safest form of pedestrian crossing without reducing the road capacity) was provided across Oi Shun Road;
 - (b) the provision of Subway X was based on the forecast utilisation available at the project planning stage;
 - (c) the low traffic flow observed at Oi Shun Road was probably due to the fact that the housing developments in the Aldrich Bay area had not yet been fully occupied; and
 - (d) in January 2007, after considering the local residents' request and the results of a traffic survey, the TD decided to add a signal-controlled pedestrian crossing as a temporary measure for the convenience of the public, particularly the disabled and the elderly, and for addressing the jaywalking problem. The TD would review this arrangement after the full occupation of the housing developments.

Audit observations

Audit field visits

3.9 In April and July 2007, Audit conducted two field visits to Subway X and the nearby areas. Audit noted that:

- (a) the traffic flow along Oi Shun Road was low;
- (b) there were traffic signs in the area guiding pedestrians to use Subway X to cross Oi Shun Road (see Photograph 2);
- (c) very few pedestrians crossed Oi Shun Road using the subway; and
- (d) some pedestrians jaywalked to cross Oi Shun Road (see Photograph 1 in para. 3.3 and Photograph 2).

Photograph 2

Traffic signs guiding pedestrians to use Subway X



Source: Photograph taken by Audit in April 2007

Room for improvement in planning crossing facilities

3.10 In view of the present low traffic flow along Oi Shun Road, an at-grade pedestrian crossing may be a preferred option, instead of a subway. In this regard, the TD's Transport Planning and Design Manual has laid down a guideline that:

- (a) in planning for pedestrian crossings, an important factor for ensuring their maximum use is that they should be located in areas convenient to pedestrians; and
- (b) for a crossing located too far away from pedestrian routes, some pedestrians may create their own crossing points (to the detriment of their own and other road users' safety), despite any railings installed to prevent this.

Based on this guideline, and because many pedestrians did not use Subway X, Audit considers that there is room for improvement in the planning of footbridges and subways in future.

Need for a review of Subway X

3.11 The TD will install an at-grade pedestrian crossing across Oi Shun Road, and will conduct a review of the arrangement after the full occupation of the housing developments in the Aldrich Bay area (see para. 3.8 (c)). **Audit considers that there is a need for the TD to draw up a timetable for conducting this review.**

3.12 When the at-grade pedestrian crossing along the alignment of Subway X is open for use (see para. 3.8(d)), there is a possibility that the utilisation of Subway X would further decrease. Audit notes that footbridges and subways with low utilisation are prone to management problems, e.g. illegal occupation by street sleepers (see Footbridge A in PART 4 and Subway Y in PART 5). **Audit considers that there is a need for the TD to monitor the use of Subway X.**

Audit recommendations

3.13 **Audit has recommended that the Commissioner for Transport should:**

- (a) **in planning footbridges and subways in future, take into account:**
 - (i) **local residents' views and their preferred type of crossing facility;**
and

- (ii) **the pedestrian and traffic flows in the area (see para. 3.10);**
- (b) **draw up a timetable for reviewing the provision of pedestrian crossing facilities at the junction of Oi Shun Road and Tai On Street (see para. 3.11); and**
- (c) **conduct a review of the use of Subway X, taking into account the pedestrian needs, the maintenance cost, potential management issues and alternative beneficial uses of the facility (see para. 3.12).**

Response from the Administration

3.14 The **Commissioner for Transport** agrees with the audit recommendations in paragraph 3.13. He has said that the TD will:

- (a) continue to take into account the factors mentioned in paragraph 3.13(a) in planning footbridges and subways in future. While the views of local residents are important, the TD has the duty and the professional knowledge to recommend the option that represents the best balance between the interests of pedestrians and drivers;
- (b) draw up a timetable for reviewing the arrangement of pedestrian crossing facilities at the junction of Oi Shun Road and Tai On Street; and
- (c) review the use of Subway X in liaison with the government departments concerned. In doing so, it will take public views into consideration.

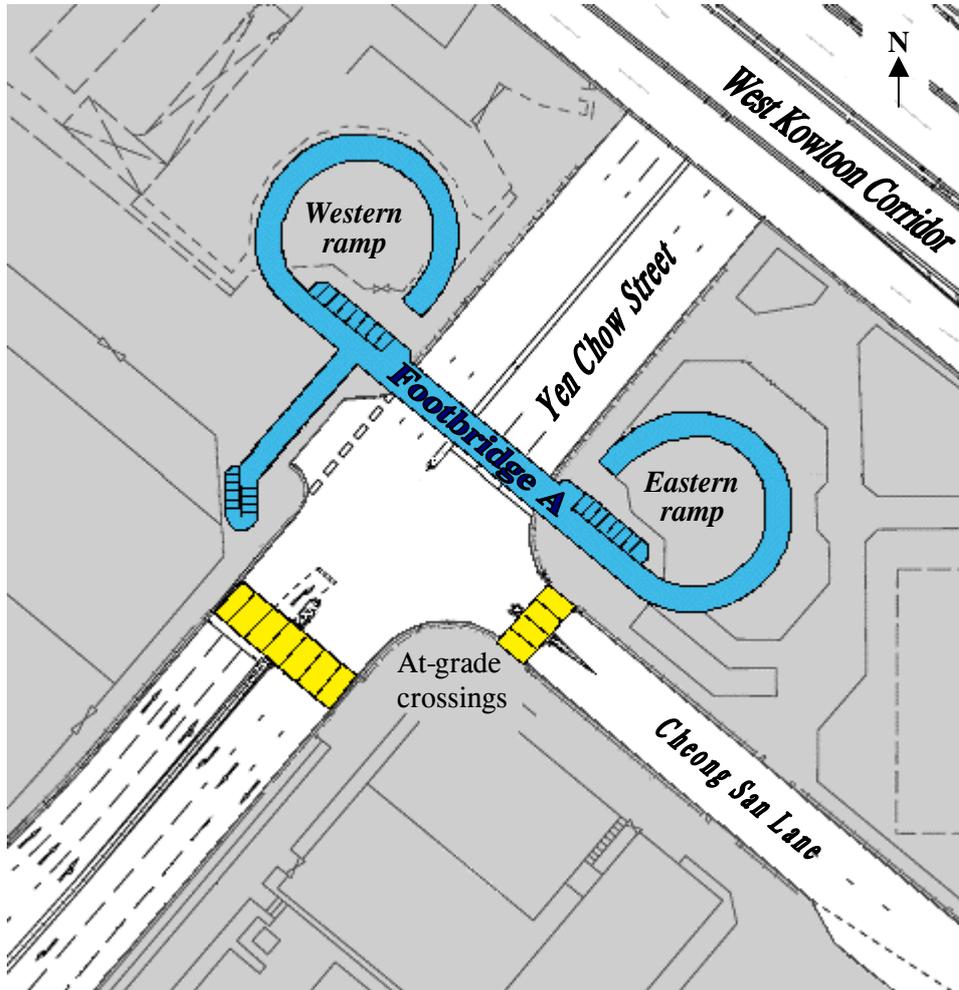
PART 4: FIVE FOOTBRIDGES WITH NEARBY AT-GRADE CROSSINGS

4.1 This PART examines the provision of a footbridge across Yen Chow Street in Sham Shui Po (hereinafter referred to as Footbridge A), and four footbridges in the Eastern District (hereinafter referred to as Footbridges B, C, D and E).

A footbridge across Yen Chow Street

4.2 In 1990, the HyD constructed Footbridge A under the project “Footbridge across Yen Chow Street near Sham Shui Po Ferry Concourse”. This footbridge is 217 metres long, with a staircase and a circular ramp at each end. It spans across Yen Chow Street near Cheong San Lane. The nearby residential developments include Nam Cheong Estate (completed in 1989) and Fu Cheong Estate (completed in 2001). Close to Footbridge A, there are two sets of at-grade signal-controlled pedestrian crossings for crossing Yen Chow Street and Cheong San Lane respectively (see Figure 3 and Photograph 3).

Figure 3
Footbridge A in Sham Shui Po



Source: TD records

Photograph 3
Footbridge A in Sham Shui Po



Source: Photograph taken by Audit in July 2007

Closure of the eastern ramp

4.3 In May 2001, the Sham Shui Po District Office (DO) of the HAD wrote to the government departments concerned:

- (a) stating that Footbridge A had long caused an environmental problem. Some street sleepers were living on and under the footbridge, causing environmental nuisance, hygiene problems and security hazard; and
- (b) requesting their assistance to resolve the problem.

4.4 Thereafter, the Sham Shui Po DO, together with the Food and Environmental Hygiene Department, the Lands Department, and the Hong Kong Police Force conducted several joint operations against illegal occupation at Footbridge A. However, the problem persisted. In September 2003, the Sham Shui Po District Council urged the Government to demolish the footbridge if the street-sleeper problem could not be resolved.

4.5 In March 2004, having regard to the seriousness of the matter, and the financial and staffing resources in sustaining enforcement action, it was decided that the **eastern ramp** of Footbridge A should be temporarily closed, initially for 2 months, with effect from 8 March 2004. The purpose was to force the street sleepers to leave the footbridge. The eastern ramp was fenced off with a locked gate at each end of the ramp.

Rehabilitation works

4.6 In December 2006, the HyD informed the Sham Shui Po DO and the TD that:

- (a) its staff noted that there was illegal occupation at the **western ramp** of Footbridge A during a maintenance inspection; and
- (b) it had a concern over the temporary closure of the eastern ramp. Users on wheelchairs might be misled by going up the western ramp only to find that the eastern ramp had been closed, with no way to descend to the street level.

In response, the TD said that it was still desirable to open the ramp on one side. A notice had been posted at the entrance of the eastern ramp informing wheelchair users to call for assistance, if necessary.

- 4.7 During the maintenance inspection (see para. 4.6(a)), the HyD also found that:
- (a) Footbridge A's conditions had been deteriorating, with cracks on the paint of the steel and concrete surfaces. There was also corrosion at the steel railings; and
 - (b) it was necessary to carry out major rehabilitation from both the maintenance and aesthetics points of view.

In March 2007, the rehabilitation works commenced. In July 2007, the works were completed at a cost of \$0.48 million.

TD's views

- 4.8 In July and August 2007, in response to Audit's enquiry, the TD said that:
- (a) the installation of the at-grade crossings in 1982 and the construction of Footbridge A in 1990 were partly related to the opening of a connecting road (which was later closed) from the West Kowloon Corridor, and the public housing developments in the area;
 - (b) Footbridge A was provided to minimise the conflict between the heavy traffic coming from the West Kowloon Corridor and the pedestrian flows from/to the then Sham Shui Po Ferry Pier and bus terminus;
 - (c) there had been significant changes in the traffic pattern as a result of the removal of the Sham Shui Po Ferry Pier and the completion of the new housing developments. The traffic passing through the junction of Yen Chow Street and Cheong San Lane would increase following the development (e.g. residential development above the West Rail Nam Cheong Station) in the coming years; and
 - (d) Footbridge A could enhance road safety, minimise delay to road traffic and improve the capacity of the road junction.

Audit observations

Audit field visits

- 4.9 In May and July 2007, Audit conducted two field visits to Footbridge A and the nearby areas. Audit noted that:

- (a) the utilisation of Footbridge A was low, as the majority of pedestrians used the nearby at-grade signal-controlled pedestrian crossings;
- (b) the **western ramp** was blocked by loaded trolleys and debris (apparently street sleepers' personal belongings — see Photograph 4); and

Photograph 4

Trolleys and debris at western ramp of Footbridge A



Source: Photograph taken by Audit in July 2007

- (c) the **eastern ramp** was closed with a public notice stating that:

“Members of the public are advised that the ramp of pedestrian footbridge is temporarily closed with effect from 9:00 a.m. on 8 March 2004 until further notice. The public can consider using other pedestrian crossing facilities. Wheelchair user who needs using the above ramp of pedestrian footbridge may telephone (Note) during 7:30 a.m. to 7:30 p.m. for assistance. The normal waiting time for such service is about 10 minutes”.

(Note: A phone number was provided.)

Need for a maintenance strategy

4.10 According to the HyD, the annual maintenance cost of Footbridge A was \$78,000. In 2007, the HyD incurred \$0.48 million for rehabilitation (see para. 4.7). **Having regard to the low utilisation of Footbridge A and the maintenance cost involved, Audit considers that there is a need for the TD to formulate a strategy for the future maintenance of Footbridge A, taking into account the pedestrian needs, the cost of maintenance and the street-sleeper problem.**

4.11 Audit shares the HyD's view (see para. 4.6(b)) that the arrangement of only closing the eastern ramp of Footbridge A is undesirable. Users on wheelchairs or carrying trolleys going up the western ramp will be inconvenienced upon finding that the eastern ramp is closed. If ramp closure is required to tackle the street-sleeper problem, consideration should be given to closing both ramps. In the event that the western ramp is to remain open whereas the eastern ramp is closed, a public notice (see para. 4.9(c)) should also be posted at the western ramp. **Audit considers that there is scope for improvement in this area.**

4.12 With reference to the street-sleeper problem at the western ramp of Footbridge A (see para. 4.9(b)), in September 2007, in response to Audit's enquiry, the HAD said that:

- (a) the street-sleeper problem was a complicated issue. Joint operations coordinated by DOs might not be able to solve the problem. Social workers took prolonged discussions with street sleepers to persuade them to accept accommodation and refrain from sleeping on the street;
- (b) the Social Welfare Department had been actively following up with two street sleepers at Footbridge A. As a result, they moved to a public housing unit; and
- (c) the street-sleeper problem at Footbridge A had been resolved. The Sham Shui Po DO would continue monitoring the situation.

Four footbridges in the Eastern District

4.13 Of the footbridges in the Eastern District, Audit identified four (Footbridges B, C, D and E) for review. The utilisation of these four footbridges is adversely affected by nearby at-grade pedestrian crossings (see Table 2).

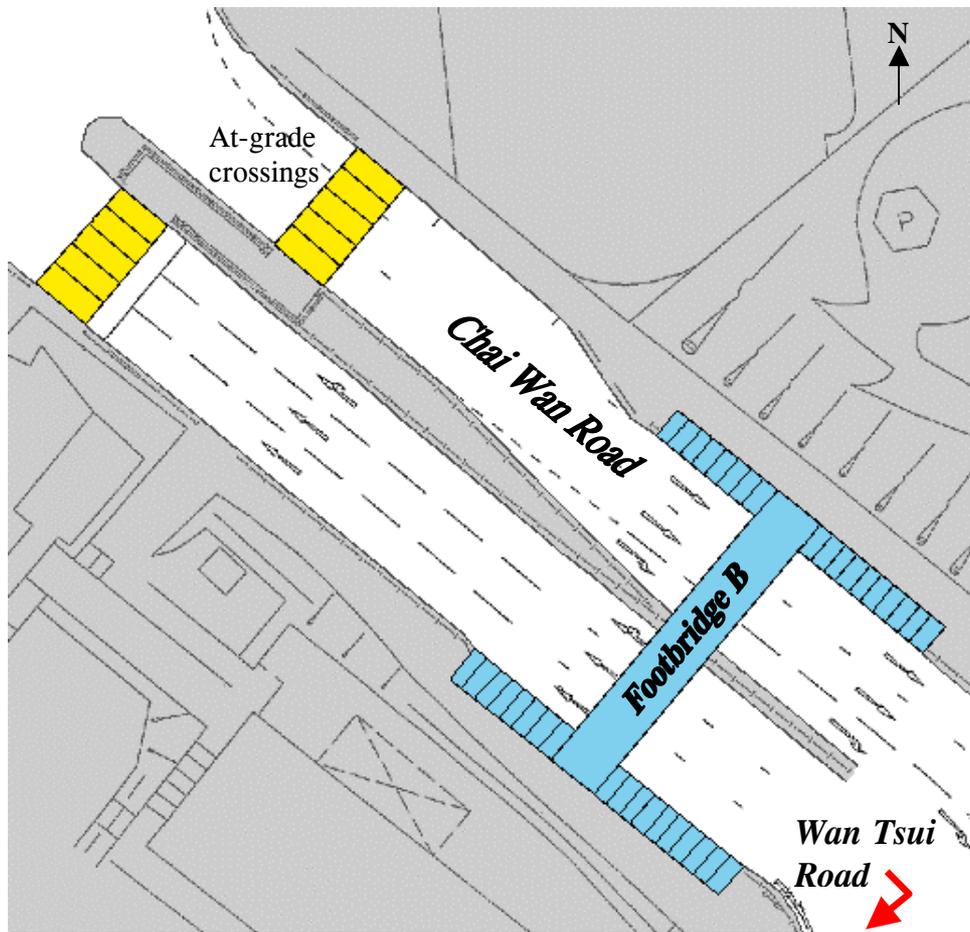
Table 2

The four footbridges in the Eastern District

| Footbridge | Location | Year of construction | Year of installation of nearby at-grade crossing |
|-------------------|---|-----------------------------|--|
| B | Across Chai Wan Road near Wan Tsui Road in Chai Wan (see Figure 4 and Photograph 5) | 1971 | 1982 |
| C | Across Shau Kei Wan Road near Tai On Street in Sai Wan Ho (see Figure 5 and Photograph 6) | 1985 | 2001 |
| D | Across King's Road near Java Road in North Point (see Figure 6 and Photograph 7) | 1985 | 1987 (Across eastbound lanes of King's Road) 1999 (Across westbound lanes of King's Road) |
| E | Across King's Road near Tong Shui Road in North Point (see Figure 7 and Photograph 8) | 1985 | 1993 |

Source: TD and HyD records

Figure 4
Footbridge B in Chai Wan



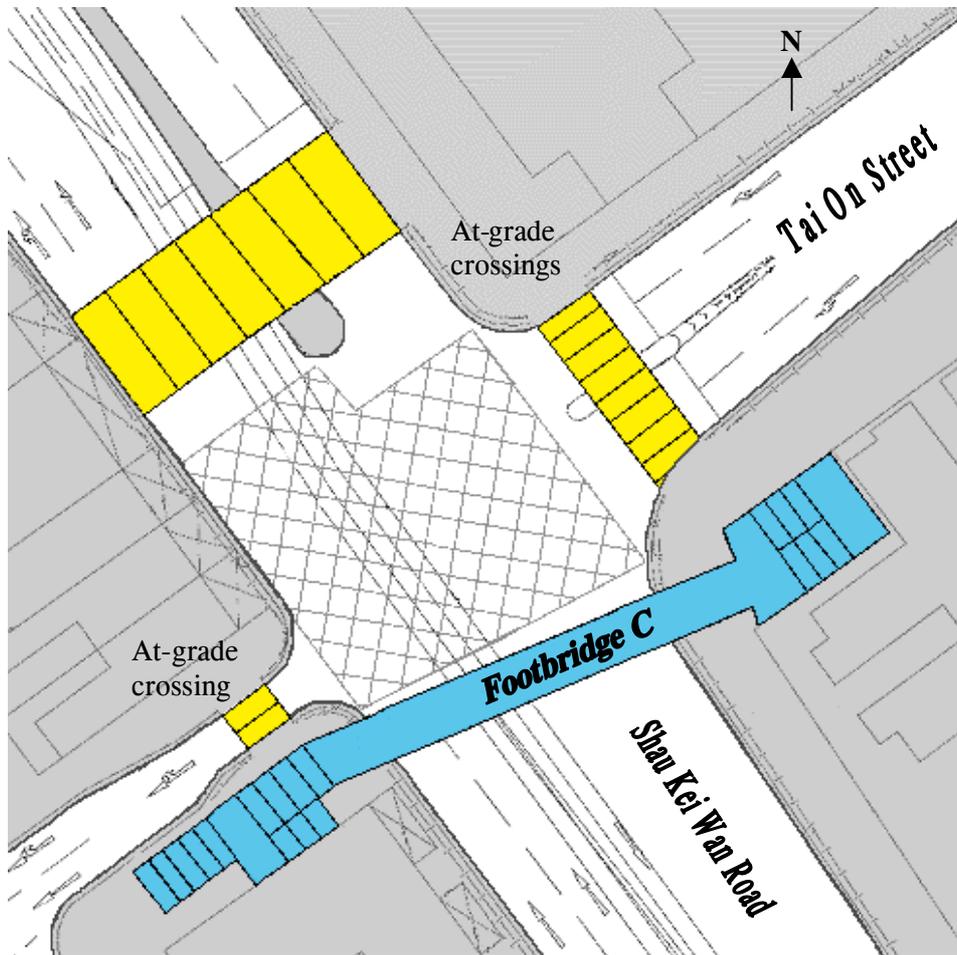
Source: TD records

Photograph 5
Footbridge B in Chai Wan



Source: Photograph taken by Audit in April 2007

Figure 5
Footbridge C in Sai Wan Ho



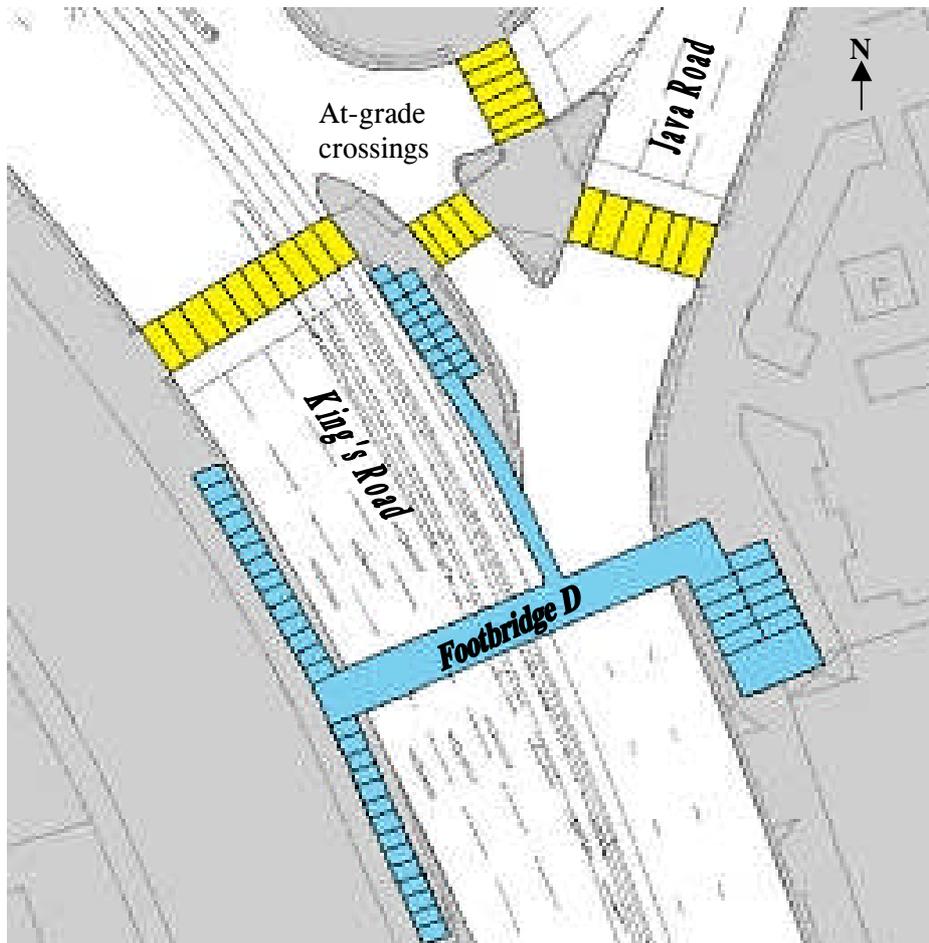
Source: TD records

Photograph 6
Footbridge C in Sai Wan Ho



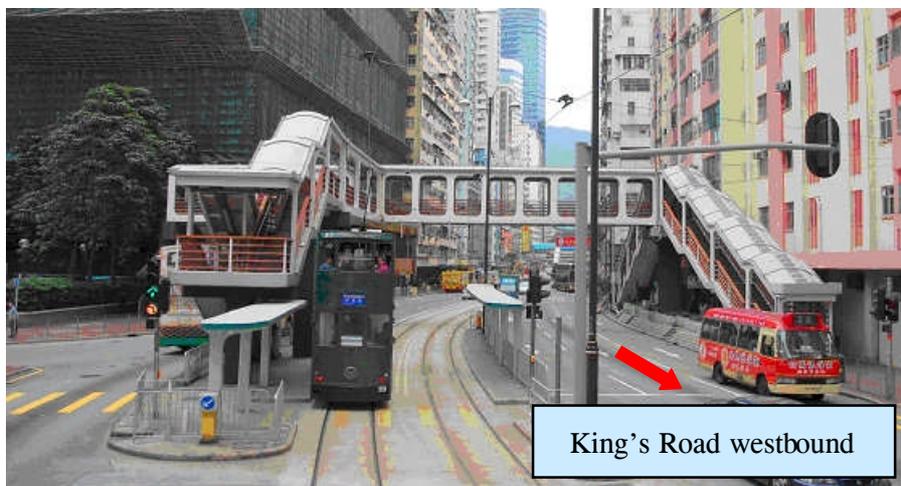
Source: Photograph taken by Audit in April 2007

Figure 6
Footbridge D in North Point



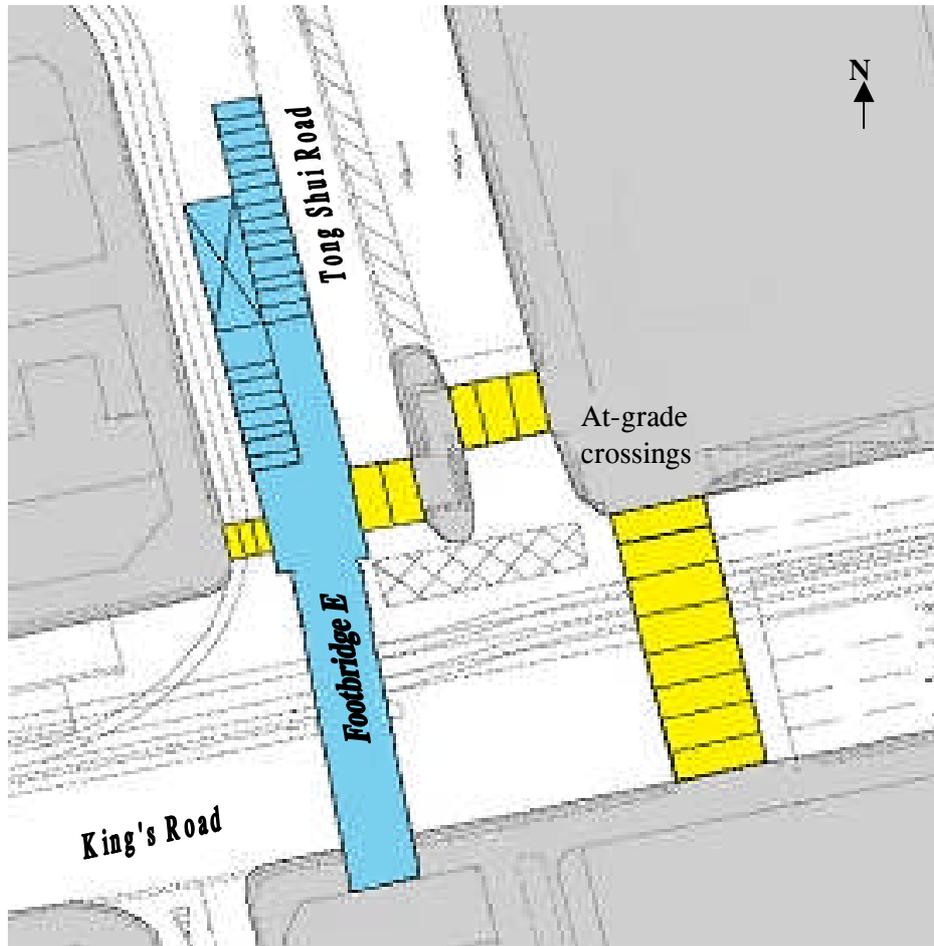
Source: TD records

Photograph 7
Footbridge D in North Point



Source: Photograph taken by Audit in April 2007

Figure 7
Footbridge E in North Point



Source: TD records

Photograph 8
Footbridge E in North Point



Source: Photograph taken by Audit in July 2007

Provision of footbridges and installation of at-grade crossings

4.14 Regarding the four footbridges and the subsequent installation of at-grade pedestrian crossings, in mid-2007, the TD informed Audit that:

General

- (a) in the early 1980s (before the completion of the Island East Corridor and the Mass Transit Railway Island Line), there was serious traffic congestion in Hong Kong Island East, particularly along King's Road. Footbridges C to E were built at that time as part of the measures to address the traffic congestion problem. The high volume of vehicular flows did not allow the provision of at-grade pedestrian crossings. With the development of the transport infrastructure on Hong Kong Island, notably the phased completion of the Island Eastern Corridor from 1984 to 1989, the volume of vehicular traffic flows had decreased. It became feasible to install at-grade pedestrian crossings at the locations of the three footbridges;
- (b) the four footbridges were constructed many years ago and were provided with staircases only. The at-grade crossings were necessary for the disabled and the elderly;

Footbridge B

- (c) Footbridge B was constructed in 1971 and the nearby pedestrian crossing was installed in 1982. In the 1970s, Chai Wan Road was the main road access to Chai Wan with a high traffic flow. The speed of vehicles going downhill at the location was high and a number of serious accidents occurred in the past. The footbridge was constructed to connect Hing Wah Estate with a bus stop;

Footbridge C

- (d) for Footbridge C, in 1998, the Eastern District Board requested the provision of a tram stop near the junction of Shau Kei Wan Road and Shing On Street. A pedestrian crossing had to be provided for access to the tram stop. At that time, there was also a jaywalking problem at the junction leading to traffic accidents and slowing of vehicular traffic. The at-grade crossing also served as an alternative crossing facility to resolve the jaywalking problem. In 2001, the at-grade crossing was completed;

Footbridge D

- (e) Footbridge D was connected to a tram stop in the middle of a carriageway. It was only provided with staircases. In 1987, an at-grade pedestrian crossing was installed to connect the pedestrian walkway along the eastbound lane of King's Road with the tram stop and to provide a more direct and convenient crossing, especially for the elderly. For the westbound lane, since 1996, there had been concerns over jaywalking at the location and the elderly's difficulties to use Footbridge D. In 1999, an at-grade crossing was installed to address the problems; and

Footbridge E

- (f) for Footbridge E (which was only provided with staircases), in June 1992, the Eastern District Council raised concern over the serious problem of jaywalking at the location, and requested the TD to improve the pedestrian crossing facilities. In 1993, an at-grade crossing was installed to resolve the jaywalking problem and to serve the elderly and the disabled.

Concerns over low utilisation

4.15 In recent years, there were concerns over the low utilisation of the footbridges as exemplified below:

Footbridge B

- (a) in 1992, the HyD conducted a study of the need for installing a cover for Footbridge B. A survey revealed that the majority of pedestrians used the nearby at-grade crossing. As the utilisation of Footbridge B was low, the HyD did not install the proposed cover;

Footbridge C

- (b) in May 1992, the Eastern DO of the HAD informed the HyD that:
 - (i) many pedestrians were unwilling to use Footbridge C to cross Shau Kei Wan Road. The main reason was that pedestrians, especially the elderly, found the footbridge very high to walk up. Many pedestrians jaywalked to cross the road and risked the danger involved. This gave rise to a road safety problem; and
 - (ii) if escalators were installed, pedestrians would be very willing to use Footbridge C.

Owing to insufficient space, escalators were not installed for Footbridge C. In September 2007, the HAD informed Audit that, apart from site constraint, it was not cost effective to carry out substantial improvement works to Footbridge C due to its age and deteriorated conditions; and

Footbridge E

- (c) in August 2006, the joint office of two LegCo members raised the following concerns with the HyD:
 - (i) Footbridge E had been in use for a long time and had served its function well. However, subsequent to the opening of the nearby at-grade crossing, only a few local residents used the footbridge for crossing King's Road. It had become a gathering place for the elderly; and
 - (ii) there was a need to review the function of the footbridge and consider installing sitting benches on it.

The HyD and TD considered that installing sitting benches would affect the pedestrian flow and might lead to safety problems.

Audit observations

Audit field visits

4.16 In April and July 2007, Audit conducted two field visits to these four footbridges and the nearby areas. Audit noted that the majority of pedestrians used the at-grade crossings nearby.

Need to encourage pedestrians to use Footbridge E

4.17 For Footbridge E, Audit noted that, from 2002 to 2006, there were 24 traffic accidents involving pedestrians at the location. **With a view to enhancing pedestrian safety, there is a need for the TD to take measures to encourage more pedestrians to use Footbridge E.**

Need for a maintenance strategy

4.18 The four footbridges were built 22 to 36 years ago. They require substantial recurrent operation and maintenance costs. For example, in 2002, the HyD spent \$1.4 million on major rehabilitation of Footbridge E to deal with the water leakage and

rusting problems. As mentioned in paragraphs 4.15 and 4.16, the utilisation of these footbridges was low. In July 2007, in response to Audit's enquiry, the TD agreed that there might be scope to consider discontinuing the maintenance of some underutilised footbridges in the long term. **Audit considers that there is a need for the TD to formulate a strategy for the future maintenance of these footbridges.**

Audit recommendations

4.19 **Audit has recommended that the Commissioner for Transport and the Director of Highways should formulate a strategy for the future maintenance of the five footbridges mentioned in this PART, taking into account expected utilisation, pedestrian needs, the street-sleeper problem and the cost of maintenance (see para. 4.18).**

4.20 **Audit has also recommended that the Commissioner for Transport should:**

- (a) **review the arrangement of closing the eastern ramp of Footbridge A (see para. 4.11); and**
- (b) **take measures to encourage more pedestrians to use Footbridge E (see para. 4.17).**

Response from the Administration

4.21 **The Commissioner for Transport** agrees with the audit recommendations in paragraphs 4.19 and 4.20. He has said that the TD will:

- (a) review the use of the five footbridges, taking into account public opinions and in liaison with the government departments concerned;
- (b) review the desirability of closing both Footbridge A's eastern and western ramps. Meanwhile, the TD will post a public notice at the western ramp similar to that at the eastern ramp; and
- (c) take measures as far as possible to encourage more pedestrians to use Footbridge E.

4.22 **The Director of Highways** agrees with the audit recommendation in paragraph 4.19.

PART 5: TWO SUBWAYS AND A FOOTBRIDGE CONNECTING TO SITES PENDING DEVELOPMENT

5.1 This PART examines the provision of a subway across Ferry Street near Ching Ping Street in Yau Ma Tei (hereinafter referred to as Subway Y), and a subway and a footbridge across Wetland Park Road in Tin Shui Wai (hereinafter referred to, respectively, as Subway Z and Footbridge F).

Provision of a subway in Yau Ma Tei

5.2 In January 1997, the HyD completed constructing Subway Y at a cost of \$6.8 million as part of the project “West Kowloon Corridor — Yau Ma Tei Section, Phase II and associated footbridge and subway systems”. The subway is 96 metres long. It spans across Ferry Street, connecting Ching Ping Street (near Prosperous Garden) to sites in a reclamation area pending development (see Figure 8 and Photograph 9).

Figure 8
Subway Y in Yau Ma Tei

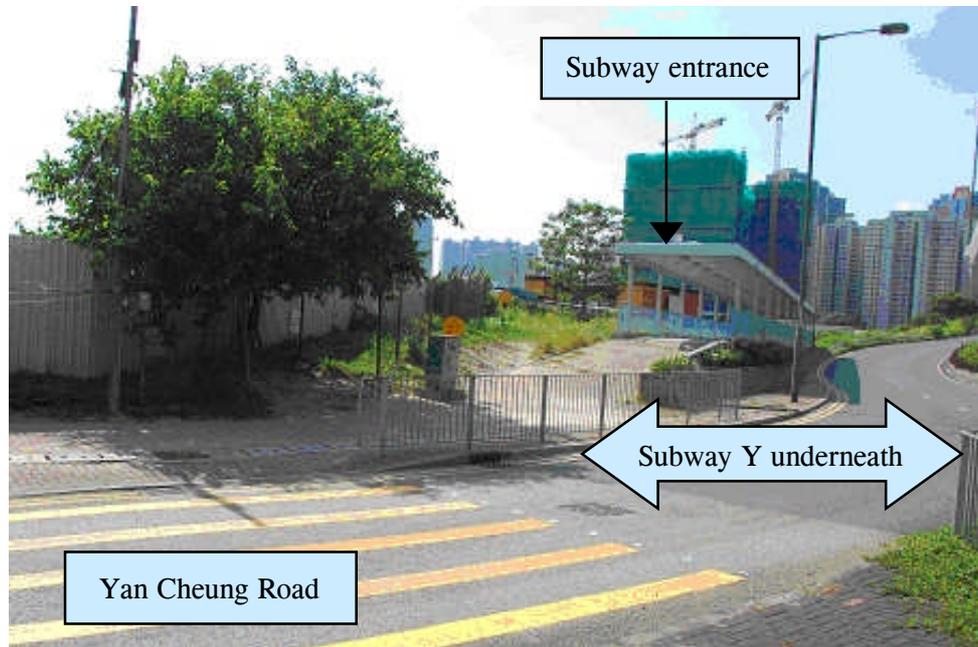


- Legend:
-  Sites pending development
 -  At-grade pedestrian crossing
 -  Indicative alignment of the proposed Central Kowloon Route shown in the HyD's project profile of September 2006

Source: Records of the TD, the HyD and the PlanD

Photograph 9

Subway Y in Yau Ma Tei



Source: Photograph taken by Audit in July 2007

Proposed closure of subway

5.3 In June 2000, the HyD noted during an inspection that many street sleepers had occupied Subway Y, polluting the walls and causing blockage of the subway drains. In August 2000, the HyD requested the Yau Tsim Mong DO to take appropriate action. The DO carried out operations jointly with the Food and Environmental Hygiene Department, the Social Welfare Department, the Lands Department and the Hong Kong Police Force. Despite several operations, the problem persisted. Gambling and drug abuse activities were noted inside this subway, giving rise to public complaints. The departments conducted joint operations on a weekly basis. In June 2001, the Yau Tsim Mong DO wrote to the government departments concerned:

- (a) stating that the ultimate solution to tackle the street-sleeper problem was to close Subway Y; and
- (b) inviting comments on the closure proposal.

5.4 In response, in June 2001, the TD said that:

- (a) the utilisation of the subway was low because of the presence of street sleepers and the existence of alternative (although not direct) at-grade crossings at the junction of Ferry Street and Yan Cheung Road;
- (b) it was not advisable from the traffic management viewpoint to close the subway simply because of the social problem;
- (c) frequent joint operations against the street sleepers required resources from various government departments;
- (d) on balance, it had no strong views on the proposed temporary closure of the subway, but it reserved the right to re-open the subway as and when required; and
- (e) it anticipated that the pedestrian demand for crossing Ferry Street would increase once the sites to the west of Ferry Street commenced development.

5.5 Between 2001 and 2003, there were discussions among the government departments concerned on the proposed closure of Subway Y. In September 2003, the Yau Tsim Mong District Management Committee (chaired by the Yau Tsim Mong District Officer) considered that:

- (a) the utilisation of Subway Y was very low. If it was closed temporarily, government resources for regular operations and enforcement actions against the street sleepers could be deployed to other priorities;
- (b) the recent visit found neither street sleepers nor their personal belongings; and
- (c) as the situation had improved, closer surveillance should continue for three months before deciding the closure of the subway.

5.6 In April 2004, the Yau Tsim Mong District Management Committee said that:

- (a) the street-sleeper problem at Subway Y had been contained and the hygiene condition of the subway was satisfactory; and
- (b) as local residents had different views on the proposed closure, there was no need to proceed with the proposal.

Uses of sites pending development

5.7 A reclaimed land of 34,640 square metres is located on the western side of Ferry Street, with an entrance to Subway Y. The area comprises three sites for development (see Figure 8 in para. 5.2). Table 3 shows the uses of the sites and proposed future development.

Table 3
Uses of sites adjoining Subway Y
(July 2007)

| Site (see Figure 8) | Area (square metres) | Existing use | Planned use |
|---------------------|----------------------|---|---|
| A | 1,950 | Liquefied petroleum gas filling station (in operation since October 2000) | Liquefied petroleum gas filling station |
| B | 8,100 | The site was leased for use as a fee-paying car park under a short-term tenancy until February 2007. On 8 May 2007, the site was sold by auction. The new development would be completed by June 2012. | Residential development |
| C | 24,590 | The uses of different parts of the site included: (a) car parks and loading areas under three short-term tenancies (with different expiry dates, the last one was in June 2009); and (b) temporary use as a site office (up to September 2007) by the CEDD and a works area (up to June 2010) by the HyD. | The site was planned for the following uses: (a) an area for Government, Institution or Community use; (b) an open space area; and (c) a reserved area for tunnel ramps, a tunnel portal and a ventilation building of the proposed Central Kowloon Route (CKR — Note). |
| Total area | 34,640 | | |

Source: Records of the PlanD, the HyD and the Lands Department

Note: The proposed CKR is a dual 3-lane trunk road (with a tunnel) linking the West Kowloon Reclamation and the proposed Kai Tak Development in East Kowloon. Based on an indicative alignment, the project included the construction of tunnel ramps, a tunnel portal and a ventilation building at Site C (see Figure 8 in para. 5.2). As at July 2007, the design and alignment of the CKR was under planning. The expected year of completion is 2016.

Audit observations

Audit field visits

5.8 In April and July 2007, Audit conducted two field visits to Subway Y and the nearby areas. Audit observed that:

- (a) no pedestrians used this subway;
- (b) a few pedestrians used the at-grade crossings nearby; and
- (c) there were no street sleepers inside it.

Street-sleeper problem under control

5.9 As a result of the efforts of the government departments concerned (see paras. 5.3 to 5.6), the street-sleeper problem at Subway Y was under control. To prevent the recurrence of the problem, there is a need for the Yau Tsim Mong DO, in coordination with the relevant government departments, to continue monitoring the situation.

Constructing a subway before site development

5.10 The construction of Subway Y was completed in January 1997. However, up to September 2007, ten years after its construction, its utilisation was still low (see paras. 5.5(a) and 5.8). The reasons for the low utilisation included the following:

- (a) the sites in the reclamation area had not yet been developed. The temporary uses of the sites included a gas filling station, car parks, loading areas, a site office and a works area (see Table 3). These facilities did not lead to high pedestrian flows; and
- (b) pedestrians preferred to use the nearby at-grade crossings (see paras. 5.4(a) and 5.8).

5.11 According to a paper submitted to the PWSC in February 2007 for funding support for site investigation and design of the CKR, part of the indicative tunnel alignment (see Note to Table 3 in para. 5.7) would overlap with the western ramp of Subway Y (see Figure 8 in para. 5.2). As at July 2007, the alignment of the CKR was under planning, and it was not clear whether Subway Y would be affected.

5.12 Audit considers it undesirable to construct a subway for providing a pedestrian crossing to **sites pending development many years later** for the following reasons:

- (a) with low utilisation, there may be illegal occupation of the subway by street sleepers, and substantial government resources may be required to tackle the problem (see paras. 5.3 to 5.6);
- (b) operation and maintenance costs are required;
- (c) the capital cost for constructing the subway is incurred prematurely;
- (d) the location of the subway may not best suit the future and eventual developments (see para. 5.11); and
- (e) there may be changes in the land use of the sites pending development, thus adversely affecting the future use of the subway.

5.13 In August 2007, in response to Audit's enquiry, the TD said that:

- (a) Subway Y was originally intended to replace two subways (which had been demolished due to the construction of the West Kowloon Corridor) at the location;
- (b) the subway was to cater for use by pedestrians coming from the Yau Ma Tei Mass Transit Railway Station;
- (c) the subway was intended to serve the developments on the western side of Ferry Street which were subsequently deferred for various reasons beyond the TD's control. The subway could provide a direct route for pedestrians to cross Ferry Street, instead of six at-grade crossings. This helped enhance road safety; and
- (d) it would be easier and less costly for the subway to be constructed as part of the West Kowloon Corridor project. Adverse traffic impact and technical difficulties might be encountered in constructing the subway at a later stage.

5.14 The TD's Transport Planning and Design Manual states that:

“If grade-separated facilities cannot be justified initially as part of new development consideration should be given to whether space should be reserved for later construction of a footbridge or subway.”

Audit considers that the construction of Subway Y could have been deferred (by reserving land for its construction) until plans for development of the adjoining sites are finalised.

A footbridge and a subway across Wetland Park Road

Provision of Footbridge F and Subway Z

5.15 Along Wetland Park Road in Tin Shui Wai, there are two footbridges and two subways. There are a footbridge and a subway located in the northern section of Wetland Park Road. Another footbridge (Footbridge F) and another subway (Subway Z) are located in the southern section of the road near Tin Yip Road. The construction of Footbridge F and Subway Z was completed in May 2004 by the CEDD at the costs of \$39.5 million and \$10.3 million respectively, as part of the transport infrastructure provided under the project “Tin Shui Wai further development — road junction improvement, site formation and main engineering infrastructure”. Footbridge F is 470 metres long, and Subway Z is 194 metres long. Footbridge F connects to a vacant site (Area 115), and Subway Z connects to the southern edge of the site and a work area of the Hong Kong Wetland Park (HKWP — see Figure 9 and Photograph 10).

Figure 9
Footbridge F and Subway Z in Tin Shui Wai



Source: Records of the TD and the PlanD

Photograph 10

Footbridge F in Tin Shui Wai



Source: PlanD records

Future development of Area 115

5.16 Area 115 in Tin Shui Wai was originally planned for residential and commercial developments with a plot ratio of 2. In May 2005, in response to an objection to the planned developments, the Town Planning Board suggested that the land use of the two sites (Area 115 and Area 112) should be reviewed. In April 2007, the PlanD decided to reduce the plot ratio of the two sites from 2 to 1.5. As at September 2007, the PlanD was preparing the Planning Brief (scheduled for completion by early 2008) for the two sites.

Audit observations

Constructing a footbridge and a subway before site development

5.17 In April and July 2007, Audit conducted two field visits to Footbridge F and Subway Z and the nearby areas. Audit observed that:

- (a) many visitors to the HKWP travelling on the Light Rail used the footbridge and the subway in the northern section of Wetland Park Road;

- (b) very few pedestrians used Footbridge F and Subway Z to cross Wetland Park Road;
- (c) Area 115 was a vacant site covered by grass; and
- (d) the vehicular flow along Wetland Park Road was low.

5.18 In August 2007, in response to Audit's enquiry, the CEDD said that:

- (a) it was responsible for the infrastructure development in Tin Shui Wai new town. An implementation programme for the infrastructure development was formulated after comprehensive planning and engineering studies, which was agreed among all government departments concerned;
- (b) in 1998, Areas 112 and 115 were programmed for sale in 2002-03. At that time, it was considered necessary to construct Footbridge F and Subway Z to tie in with the development programme; and
- (c) there was a slippage in the planned development programme of Area 115 which was outside the CEDD's control.

5.19 In August 2007, in response to Audit's enquiry, the TD said that:

- (a) there might be benefits in constructing a footbridge or a subway earlier than the site development, depending on the time between constructing the facility and developing the adjoining sites;
- (b) grade-separated facilities were often constructed together with road construction projects to minimise disturbance to traffic and nearby residents in future; and
- (c) for footbridges and subways, unless the required amount had been included in the funding application for the whole development, it would take longer time for subsequent applications if they were to be constructed at a later stage.

5.20 It may take some years before Area 115 is developed (see para. 5.16). As such, Footbridge F and Subway Z have been provided long before the development of the adjoining site. **Audit considers that there is room for improvement in this respect in planning future projects.**

Audit recommendations

5.21 **Audit has recommended that, for provision of footbridges or subways at sites pending development, the Commissioner for Transport, the Director of Highways and the Director of Civil Engineering and Development should, in collaboration with other relevant government departments:**

- (a) **take measures to match the timing of provision of footbridges or subways with that of the development of the sites as far as practicable (see paras. 5.14 and 5.20); and**
- (b) **consider the feasibility of deferring the provision of the footbridges or subways and requiring developers to construct the facilities, if the sites are intended for private development.**

Response from the Administration

5.22 The **Commissioner for Transport** agrees with the audit recommendations in paragraph 5.21. He has said that, in implementing future works projects involving footbridges and subways, the TD will:

- (a) continue to work with the government departments concerned to minimise the mismatch of the timing of the provision of footbridges and subways with that of the adjacent developments. In many cases, there are benefits (such as expediency and lower costs) in constructing the facilities in conjunction with a roadworks project. Moreover, there are practical difficulties (such as unforeseeable factors) in ensuring firm dates in the planning process;
- (b) continue to refine the planning process in consultation with the government departments concerned and provide traffic engineering advice based on the best planning parameters available; and
- (c) endeavour to provide the facilities at the best timing, taking into account the circumstances of each individual case and the above-mentioned factors.

5.23 The **Director of Highways** agrees with the audit recommendations in paragraph 5.21. He has said that grade-separated facilities are often constructed together with roadwork projects during development stages to minimise disturbance to nearby residents and the traffic in future, and obviate the need to divert utilities if the facilities were to be provided at a later stage.

5.24 The **Director of Civil Engineering and Development** agrees with the audit recommendations in paragraph 5.21.

PART 6: A FOOTBRIDGE BUILT BY A SUBVENTED ORGANISATION

6.1 This PART examines the provision of a footbridge across Junction Road near the Hong Kong Baptist University (HKBU) in Kowloon Tong (hereinafter referred to as Footbridge G).

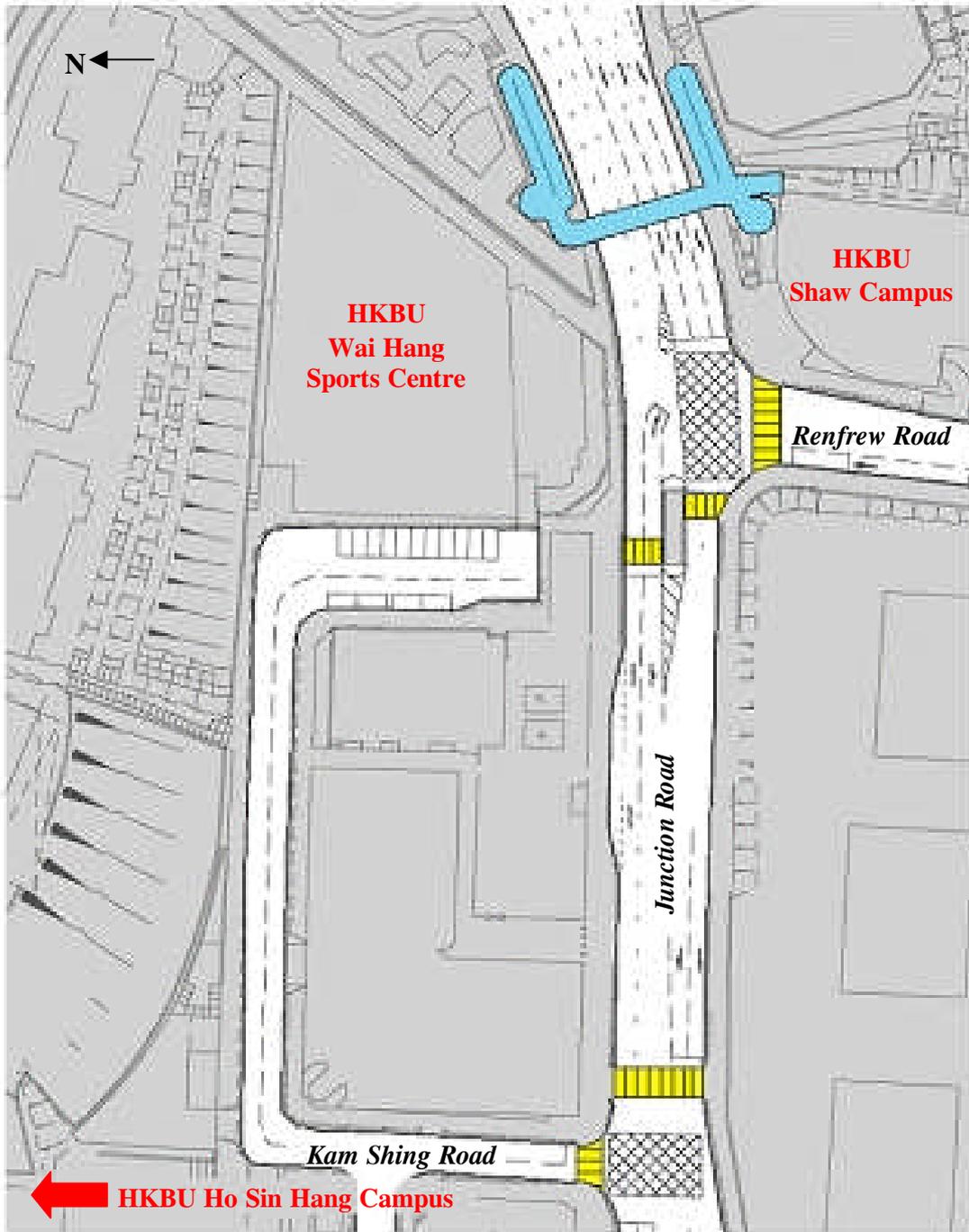
A footbridge across Junction Road

6.2 The HKBU is a subvented organisation funded by the Government through the University Grants Committee. In March 1992, the FC approved funding, under the CWRP, for constructing Phase I of the new campus of the HKBU at Renfrew Road. Under the land grant conditions:

- (a) the HKBU was required to:
 - (i) construct a covered footbridge (i.e. Footbridge G) at the junction of Renfrew Road and Junction Road for public use; and
 - (ii) manage and maintain Footbridge G after its completion; and
- (b) the Government may take over Footbridge G, free of cost, upon giving three months' notice.

Before constructing Footbridge G, there were two sets of at-grade signal-controlled pedestrian crossings at the junction of Renfrew Road and Junction Road. In October 1998, Footbridge G was completed at a cost of \$17.7 million, with a staircase and a ramp at both ends. The two at-grade pedestrian crossings at the road junction were retained (see Figure 10 and Photograph 11).

Figure 10
Footbridge G in Kowloon Tong

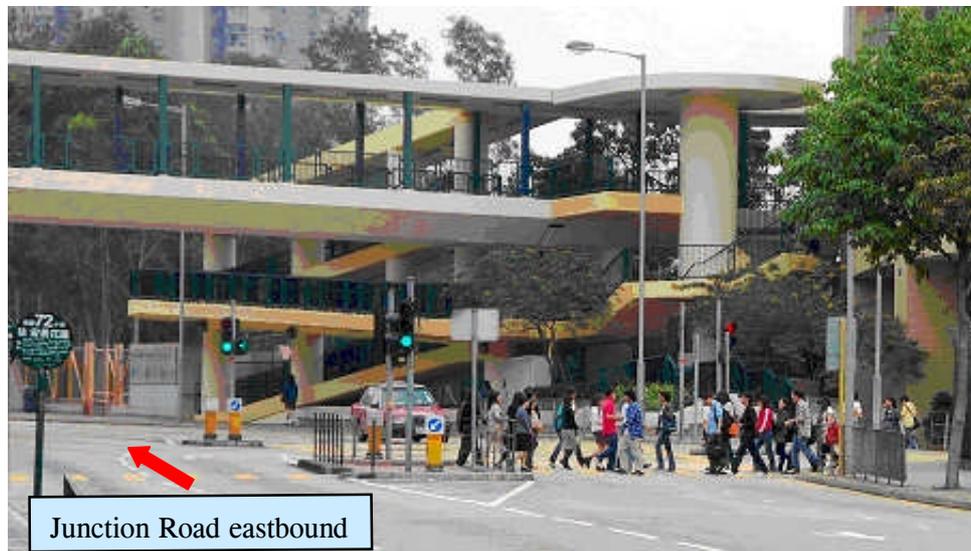


Legend: Footbridge G
 At-grade signal-controlled pedestrian crossing

Source: TD records

Photograph 11

Footbridge G in Kowloon Tong



Source: Photograph taken by Audit in March 2007

HKBU's efforts to improve footbridge utilisation

6.3 The utilisation of Footbridge G has been low since its opening in October 1998. In June 1999, the HKBU asked the TD whether the at-grade pedestrian crossing across Junction Road near Renfrew Road could be deleted as Footbridge G was available. In reply, the TD said that:

- (a) while Footbridge G would provide convenience to people walking between the Ho Sin Hang Campus and Shaw Campus of the HKBU, other pedestrians along the western footpath of Renfrew Road would find it less attractive as they had to walk uphill and use staircases; and
- (b) since the junction of Renfrew Road and Junction Road could still cope with the traffic at that time, the TD would retain the at-grade crossing but would keep the matter under review.

6.4 In November 1999, a traffic accident occurred in the evening near the at-grade crossing, in which a pedestrian was killed. In view of the accident, in December 1999, the HKBU wrote to the TD:

- (a) expressing concerns over pedestrian safety in the area;

- (b) saying that pedestrians (including HKBU students and staff) standing on the footpath at the southern end of the pedestrian crossing and on the pedestrian island in the middle of Junction Road were at high risk, due to the high-speed traffic at Junction Road;
- (c) requesting the TD to re-consider deleting the signal-controlled pedestrian crossing, so that all HKBU staff and students would use Footbridge G in the interest of safety; and
- (d) saying that there was another at-grade crossing at the western side of Junction Road (at the junction with Kam Shing Road — see Figure 10) that would provide a crossing to pedestrians who did not wish to use Footbridge G.

6.5 In response, in January 2000, the TD said that:

- (a) the traffic accident in November 1999 was most likely caused by human errors and not due to the junction layout or signal timing;
- (b) although the accident could have been avoided if pedestrians and vehicular traffic had been grade separated, the closure of the at-grade crossing would tempt more pedestrians to jaywalk and hence induce a higher accident rate; and
- (c) it agreed to review the widening of the pedestrian island in the middle of the crossing to increase its capacity.

6.6 In December 1999 and January 2000, the HKBU organised a “Millennium BU Bridge Walk Campaign” to encourage its staff and students to use Footbridge G for commuting between campuses. During the period, the HKBU staff and students crossing Footbridge G had their trips recorded by electronic means. Prizes were presented to the most-frequent users of Footbridge G. During the two-month period, the HKBU recorded about 1,200 trips from its staff and students using Footbridge G.

Audit observations

Audit field visits

6.7 In March and July 2007, Audit conducted two field visits to Footbridge G and the nearby areas. Audit noted that:

- (a) the majority of pedestrians used the at-grade crossings to cross Junction Road; and
- (b) very few people used Footbridge G.

Need to review crossing facilities at Junction Road

6.8 Although Footbridge G was built by the HKBU, it is a public crossing facility because:

- (a) the HKBU constructed it as a condition of the land grant; and
- (b) Footbridge G was funded by the Government and is open to the public at all times.

6.9 In August 2007, the TD informed Audit that:

- (a) in the past few years, the traffic condition at the junction of Junction Road and Renfrew Road was satisfactory (with no complaints received). Furthermore, in the past 24 months, no serious accidents occurred at the junction; and
- (b) deleting the at-grade crossing would bring about inconvenience to the public, who would need to be consulted.

6.10 **The low utilisation of Footbridge G (see paras. 6.6 and 6.7) was mainly attributable to the availability of the nearby at-grade crossings. The TD needs to take measures to improve its utilisation. Meanwhile, the HKBU should continue to encourage its staff and students to use Footbridge G (see para. 6.6).**

Need to provide directional signs

6.11 Audit noted that, during peak hours at lunch time, the two pedestrian crossings at the junction of Renfrew Road and Junction Road were very busy. However, there were no directional signs guiding pedestrians to use Footbridge G. In August 2007, the TD informed Audit that Footbridge G and its ramps and staircases were visible by pedestrians at the junction of Junction Road and Renfrew Road. The TD said that, if necessary, directional signs could be installed. **Audit considers that the TD and HyD could make improvement in this regard.**

Need to widen the walkway leading to Footbridge G

6.12 Audit noted that a section of the walkway alongside Junction Road leading to Footbridge G was very narrow. The walkway section was about 30-metre long but was only about 1.1 to 1.9 metres wide. There was a section in the middle of it where a signal controller box further narrowed the walkway (see Photographs 12 and 13).

Photograph 12

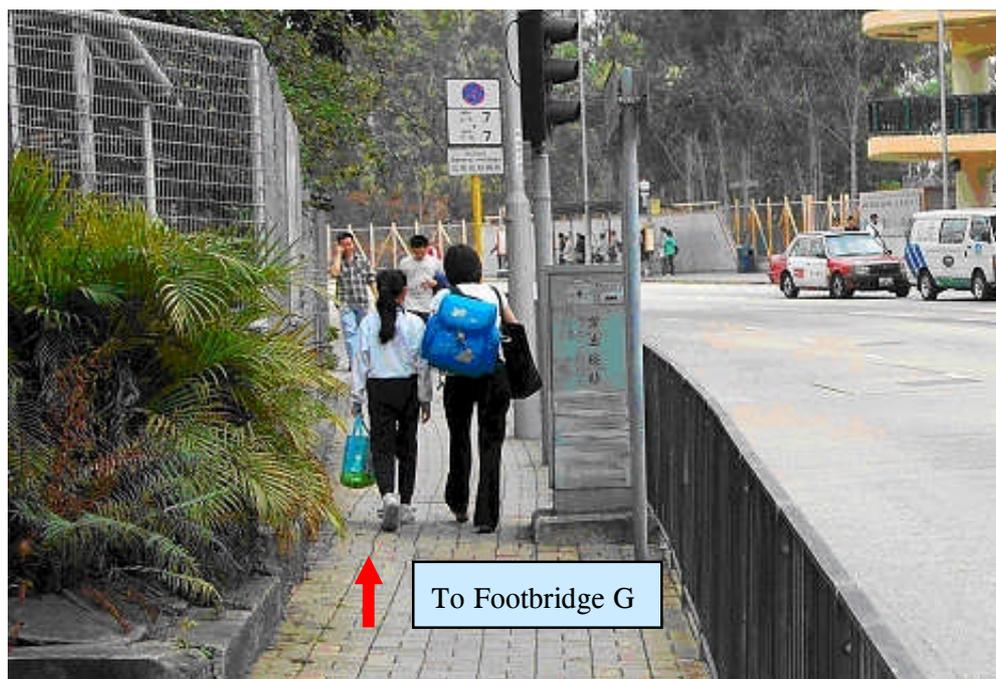
Narrow walkway leading to Footbridge G



Source: Photograph taken by Audit in March 2007

Photograph 13

The narrow section of the walkway



Source: Photograph taken by Audit in March 2007

6.13 In August 2007, in response to Audit enquiry, the TD said that the width of the walkway was acceptable for the present pedestrian flow, and that the condition of the walkway could be further improved by relocating the signal controller box. **Audit considers that this narrow walkway limits the pedestrian flow capacity and may deter pedestrians from using Footbridge G. There is a need to consider widening this walkway section.**

Need to expedite action to integrate Footbridge G into a new walkway system

6.14 In July 2007, the HKBU informed Audit that:

- (a) it was undergoing a campus expansion plan to accommodate 1,200 additional students by 2012 (due to the extension of the normative length of undergraduate study from three years to four years);
- (b) a preliminary feasibility study for constructing a pedestrian walkway system to link up the Ho Sin Hang Campus with Shaw Campus had been completed. The walkway system would comprise some covered escalators and sheltered walkways, with Footbridge G providing a crossing across Junction Road;
- (c) the pedestrian walkway system would provide a safe and convenient route for commuting between the HKBU campuses and would facilitate the best use of Footbridge G; and
- (d) subject to funding approval in 2008, it estimated that the pedestrian walkway system could be completed by 2012.

Audit considers that the HKBU needs to monitor closely implementation of its proposed walkway system, including the connection to Footbridge G.

Audit recommendations

6.15 **Audit has recommended that the Commissioner for Transport should:**

- (a) **in planning for a footbridge or a subway to be constructed by a subvented organisation, take into account the expected utilisation of the facility; and**
- (b) **consult the HKBU and the local residents on measures for improving the utilisation of Footbridge G (see para. 6.10).**

6.16 **Audit has also recommended that the Commissioner for Transport and the Director of Highways should consider:**

- (a) **installing directional signs to guide pedestrians to cross Junction Road by using Footbridge G (see para. 6.11); and**
- (b) **widening the narrow walkway leading to Footbridge G (see para. 6.12).**

6.17 **Audit has recommended that the President and Vice-Chancellor, Hong Kong Baptist University should:**

- (a) **continue to encourage the HKBU staff and students to use Footbridge G (see para. 6.10); and**
- (b) **seek funding approval for the timely development of the proposed pedestrian walkway system to tie in with the 2012 campus expansion plan (see para. 6.14).**

Response from the Administration

6.18 **The Commissioner for Transport** agrees with the audit recommendations in paragraphs 6.15 and 6.16. He has said that the TD will:

- (a) continue to take into account the estimated utilisation and the effect of nearby at-grade crossings in planning the provision of a footbridge or a subway;
- (b) devise measures with a view to improving the utilisation of Footbridge G and pursue implementation as far as possible; and
- (c) provide support to the HKBU on improving the utilisation of Footbridge G as required.

6.19 **The President and Vice Chancellor, Hong Kong Baptist University** agrees with the audit recommendations in paragraph 6.17. He has said that the HKBU will liaise closely with the TD and the HyD on measures to improve the safety of pedestrians crossing Junction Road.

6.20 The **Secretary-General, University Grants Committee** welcomes the audit recommendation in paragraph 6.17(a). He has said that the University Grants Committee:

- (a) considers that the TD has the overall responsibility for ensuring the effectiveness of Footbridge G (which is a public facility) although it was constructed by the HKBU under the land grant conditions;
- (b) is glad to see that the HKBU has taken initiatives to promote the use of Footbridge G; and
- (c) will consider the proposed pedestrian walkway system according to the established criteria and the merits of the proposal upon receipt of the HKBU's funding application.

6.21 The **Director of Highways** agrees with the audit recommendations in paragraph 6.16.

PART 7: A PARTLY DEMOLISHED FOOTBRIDGE

7.1 This PART examines the utilisation of a footbridge across Western Street in Sai Ying Pun (hereinafter referred to as Footbridge H). A portion of the footbridge had been demolished.

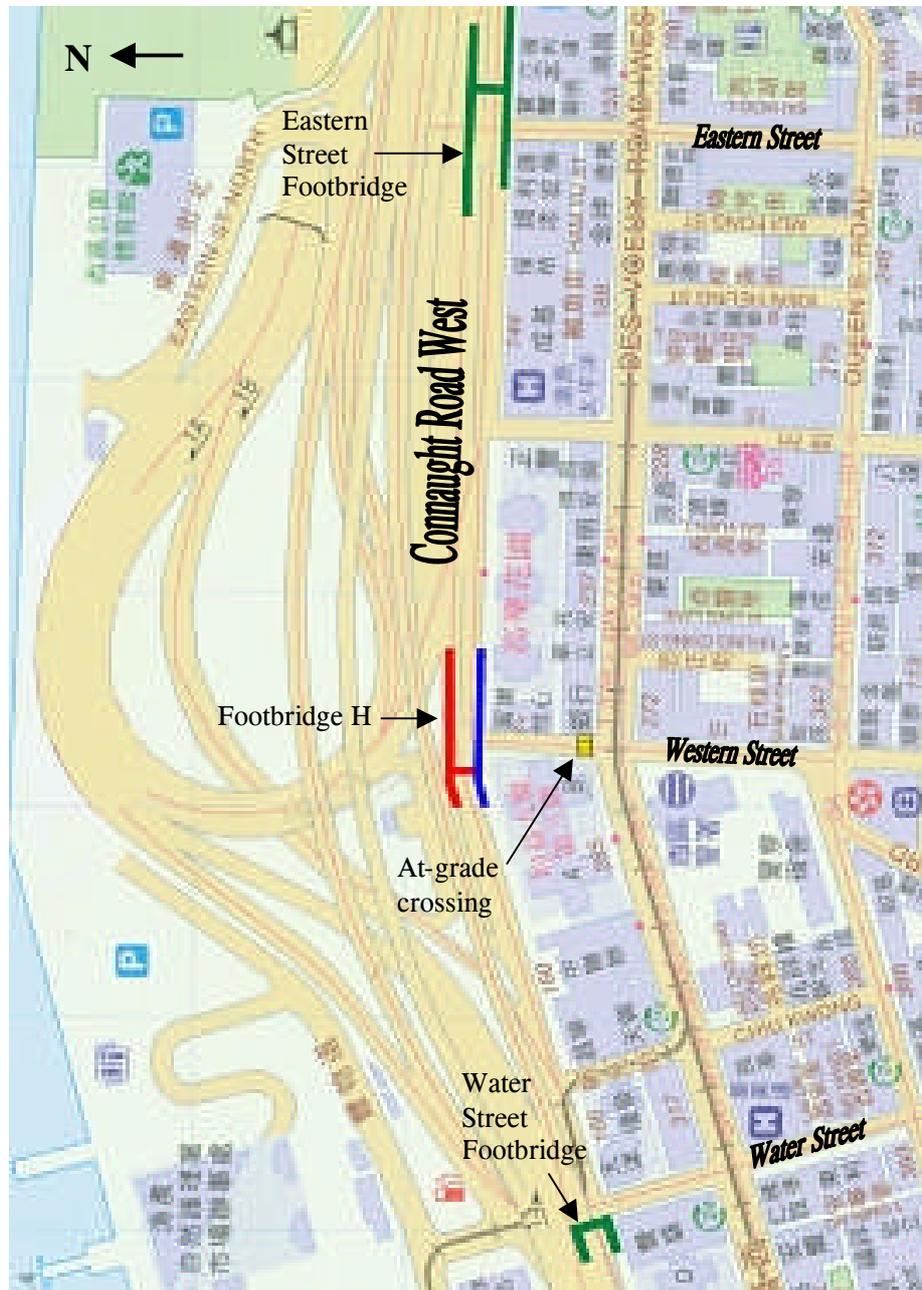
Provision of footbridges in Sai Ying Pun

7.2 In early 1990, Footbridge H and two other footbridges located at Eastern Street and Water Street were constructed. These three footbridges were provided under the HyD project “Upgrading and dualling of Connaught Road and ancillary roadworks” for crossing Connaught Road West. The costs of constructing the three footbridges were as follows:

- (a) Footbridge H — \$13.5 million;
- (b) Eastern Street Footbridge — \$9.3 million; and
- (c) Water Street Footbridge — \$4.9 million.

7.3 In the late 1980s, the Government decided to construct the Western Harbour Crossing, with the Hong Kong side entrance located in Sai Ying Pun. In mid-1993, after a consultancy study, the Government decided to demolish the Eastern Street Footbridge, the Water Street Footbridge and the northern portion of Footbridge H to make way for constructing the Western Harbour Crossing interchange (see Figure 11).

Figure 11
Footbridge H in Sai Ying Pun



- Legend:
- Remaining portion of Footbridge H
 - Demolished portion of Footbridge H
 - Demolished footbridge
 - An at-grade signal-controlled pedestrian crossing near Footbridge H

Source: Records of the TD and the HyD

7.4 The remaining portion of Footbridge H is 257 metres long, with a ramp on the eastern side and a staircase on the western side (see Photograph 14).

Photograph 14

Footbridge H in Sai Ying Pun



Source: HyD records

7.5 In March 2003, some members of the Central and Western District Council informed the Council that:

- (a) Footbridge H was partially demolished to make way for constructing the Western Harbour Crossing and was no longer spanning across Connaught Road West. The remaining part of Footbridge H could only be used for crossing Western Street;
- (b) few pedestrians used Footbridge H because there was a nearby at-grade signal-controlled crossing for crossing Western Street; and
- (c) the footbridge obstructed the walkways and building entrances, and blocked the view of the apartments on the lower floors of the nearby buildings;

In view of the low utilisation and the impact on the environment, the members requested the TD to provide information about utilisation. They also proposed that consideration should be given to demolishing the footbridge, or installing lifts if it was to be retained.

7.6 In May 2003, the TD informed the Central and Western District Council that:

- (a) there was no utilisation information on Footbridge H;
- (b) it might not be appropriate to demolish it because it was better than an at-grade crossing in terms of pedestrian safety;
- (c) some pedestrians might still use it for crossing Western Street; and
- (d) the Government was examining the feasibility of installing lifts for footbridges to facilitate the disabled and the elderly.

7.7 In June 2003, the Central and Western DO conducted an opinion survey on whether Footbridge H should be demolished. The survey collected the views of 355 pedestrians. The survey indicated that 41% of the respondents were in favour of demolishing it, and 50% were against the proposal (the remaining 9% had no views).

7.8 During the three-day period of the opinion survey (covering eleven hours), it was found that the average utilisation of Footbridge H was 9 persons an hour. The Central and Western DO considered that there were advantages and disadvantages on the proposed demolition of Footbridge H. For advantages, the DO considered that the proposed demolition would lead to:

- (a) improvements to the view of the lower floor apartments of the nearby buildings and enhancement to the privacy of the residents;
- (b) release of useful land space for landscaping and other uses; and
- (c) saving in maintenance cost.

7.9 For disadvantages, the DO considered that:

- (a) the proposal was not timely in view of the substantial cost involved and the then financial situation of the Government;
- (b) some pedestrians still used Footbridge H. The proposal might lead to jaywalking; and

- (c) the nearby at-grade crossing at Des Voeux Road West might not be convenient to pedestrians coming from Connaught Road. There might be technical difficulties in installing an at-grade crossing at the original location of the footbridge.

7.10 As there was no consensus and no pressing need, the Central and Western DO considered that the proposed demolition should be deferred. In July 2003, the Central and Western District Council:

- (a) concluded that, in view of the Government's financial situation, it was not opportune to demolish Footbridge H; and
- (b) proposed that the Government should consider carrying out the demolition works when there were other works projects near the footbridge.

Audit observations

Need to demolish the whole footbridge

7.11 The main function of Footbridge H was for providing a grade-separated crossing across Connaught Road West. The demolition of its span across Connaught Road West had rendered this function obsolete. The utilisation of the remaining portion of Footbridge H (for crossing Western Street) was low (see para. 7.5(b)). As mentioned in paragraph 7.9(a), it may involve substantial cost to demolish this portion.

7.12 In August 2007, in response to Audit's enquiry, the TD said that:

- (a) at the time of the planning of the Western Harbour Crossing, various options had been considered for Footbridge H, including total and partial demolition;
- (b) taking into account the traffic situation at that time, it was considered that the portion of Footbridge H across Western Street should be retained;
- (c) the remaining portion of Footbridge H served pedestrians crossing Western Street along Connaught Road West without impeding the traffic flow from Connaught Road West to Western Street; and
- (d) the traffic passing through the junction of Western Street and Connaught Road West was very heavy. It was undesirable to install an at-grade crossing at the junction as it would lead to traffic congestion on Connaught Road West.

Audit recommendations

7.13 **Audit has *recommended* that the Commissioner for Transport and the Director of Highways should:**

- (a) conduct a review of the costs and benefits of retaining Footbridge H, taking into account:**
 - (i) the pedestrian flow;**
 - (ii) the recurrent costs of operation and maintenance;**
 - (iii) the obstruction caused to the view of nearby buildings; and**
 - (iv) the cost of demolishing the footbridge (see paras. 7.8 and 7.9); and**

- (b) in future footbridge demolition works, consider the option of demolishing the whole footbridge instead of leaving behind a portion which has a limited function as a crossing facility.**

Response from the Administration

7.14 **The Commissioner for Transport and the Director of Highways agree with the audit recommendations in paragraph 7.13.**

Acronyms and abbreviations

| | |
|-------|--|
| Audit | Audit Commission |
| CEDD | Civil Engineering and Development Department |
| CKR | Central Kowloon Route |
| CWRF | Capital Works Reserve Fund |
| DO | District Office |
| FC | Finance Committee |
| HAD | Home Affairs Department |
| HKBU | Hong Kong Baptist University |
| HKWP | Hong Kong Wetland Park |
| HyD | Highways Department |
| LegCo | Legislative Council |
| PlanD | Planning Department |
| PWSC | Public Works Subcommittee |
| TD | Transport Department |