

Contract No. TD 100/2002

# Cycling Study



Final Report

April 2004









### Division of responsibility for handling cycling related matters

### A. Cycle tracks outside Country Parks or LCSD's Facilities

Cycling related matter	Responsible Department
Records of accidents involving cyclists	RSSD, TD
2. Design standard for cycle tracks and associated facilities	RSSD, TD
3. Management of existing cycle tracks	TE Divisions, <b>TD</b>
4. Maintenance of cycle tracks and associated facilities	District & Maintenance Divisions, HyD
5. Lighting of cycle tracks	Lighting Division, <b>HyD</b>
6. Enforcement	Police
7. Any other matters relating to cycling not covered by the above.	TTSD, <b>TD</b>

### B. Cycle tracks inside Country Parks

The cases should be referred to AFD

### C. Cycle tracks inside LCSD's facilities like playground, park

The cases should be referred to LCSD.



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#### 1. INTRODUCTION AND PURPOSE

#### 1.1 Introduction and Purpose of this Report

- 1.1.1 This Final Report presents the findings of the Cycling Study which commenced in January 2003.
- 1.1.2 The objectives of the Study were as follows:
  - To identify the current role of cycling in Hong Kong.
  - To compare the cycling situation in Hong Kong with that in other similar cities
    of the world.
  - To review and update the current standards, guidelines, manuals and other publications relating to cycling.
  - To recommend a new approach as necessary.
  - To recommend the way forward.
- 1.1.3 Following this introduction, the layout of the report is as follows:
  - Chapter 2 identifies the current role of cycling in Hong Kong.
  - Chapter 3 sets out the main findings from comparisons between cycling in Hong Kong and overseas.
  - Chapter 4 sets out the conclusions reached from the Study and recommendations on the way forward and the approach to be adopted.

#### 1.2 Definition of Terms and Full Page Versions of Figures

1.2.1 Appendix I gives a more detailed definition of the terms used in this document while Appendix II sets out the various figures in the document at full page size.





# 2. THE CURRENT ROLE OF CYCLING IN HONG KONG'S INTEGRATED TRANSPORT SYSTEM

#### 2.1 General Overview

- 2.1.1 In Hong Kong there are approximately 12.3 million mechanised trips a day of which about 62,000 are cycle trips<sup>1</sup>. Thus cycling accounts for about 0.5% of the daily weekday mechanised trips in Hong Kong overall. This average figure however covers major variations in the amount of daily cycling which takes place in different parts of the Hong Kong Special Administrative Region (HKSAR).
- 2.1.2 It is found that 97% of the daily cycle trips take place in the New Territories and Outlying Islands while only 3% take place on Hong Kong Island and in the urban areas of Kowloon<sup>2</sup>. Figure 1 sets out the per capita distribution of weekday cycling trips.

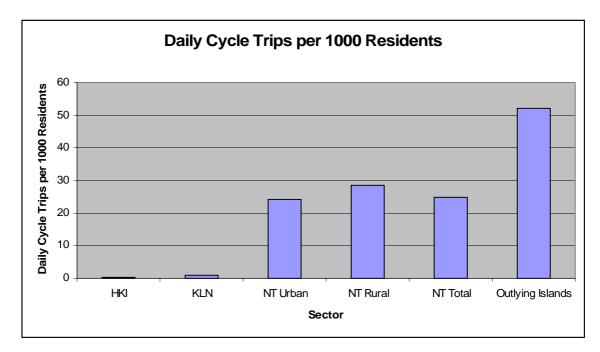


Figure 1 - Daily Cycle Trips per Capita

- 2.1.3 It can be observed that cycling is a far less popular mode of transport on Hong Kong Island and in Kowloon than it is in the New Territories and Outlying Islands and also that cycling is almost as popular in the urban New Territories, which represents the new towns, as it is in the rural New Territories.
- 2.1.4 The share of the 12.3 million daily passenger trips undertaken by bicycle can be evaluated from the Travel Characteristics Survey, 2002 (TCS2002) data and has also been disaggregated into the 5 sectors as shown in Table 1. The percentage

Note on sectors: For the purposes of analysis of the TCS2002 data Hong Kong has been split into 5 broad sectors: Hong Kong Island, Kowloon, NT Urban, NT Rural and Outlying Islands. NT Urban is the new towns such as Shatin, Fanling, Sheung Shui, Tai Po etc. These sectors are based on the normal Planning Department definitions except that Tsuen Wan District and Kwai Tsing District are included as part of Kowloon as part of the metro area since the characteristics will be similar to the metro area rather than the New Territories.



<sup>&</sup>lt;sup>1</sup> Based on the Travel Characteristics Survey (TCS) 2002.



cycling has to be rounded to the nearest unit percentage to reflect the overall accuracy of the disaggregated figures<sup>3</sup>.

Sector Daily Cycle Mode Share

Hong Kong Island 0% (0.01%)

Kowloon 0% (0.03%)

Urban NT 2%

Rural NT 2%

Outlying Islands 2%

Territory Wide 0.5%

Table 1 - Distribution of Cycling Mode Share

- 2.1.5 Since the new towns have a level of cycling similar to that in the more rural areas it is clear that urbanisation as such does not serve to deter cycling and that there are other underlying reasons why cycling on Hong Kong Island and in Kowloon is at such a low level.
- 2.1.6 The first of these reasons is considered to be the provision of cycle routes in the form of cycle tracks which provide, on the whole, a pleasant and safe environment for cycling. Additionally in the rural New Territories there are networks of village roads with relatively little motor traffic on them.
- 2.1.7 Plan 1 shows the location of the existing cycle tracks in the HKSAR and it can be seen that they are all located in the New Territories. There are currently about 170kms of cycle track in the HKSAR of which about 140kms are in the new towns and there is little doubt that for the average person these tracks are an important prerequisite for consideration of cycling.
- 2.1.8 Table 2 shows the broad location of the existing lengths of cycle track which it can be seen are mainly located in the urban areas of the New Territories in towns such as Shatin, Fanling and Sheung Shui.

Table 2 - Location of Existing Cycle Tracks

Sector	Track Length (km)
Rural NT	30.5
Urban NT	139.5

2.1.9 Also shown on Plan 1 are the flatter areas of the HKSAR, with gradients of 5% or less which are suitable for cycling. The average cyclist will not cycle on gradients steeper than 4-5% for any distance and will generally get off the cycle and walk. Those cyclable areas in the New Territories are coloured pale green while those on Hong Kong Island and in Kowloon are coloured orange.

<sup>3</sup> The figures in brackets are given to show there is some cycling mode share in the urban areas of Hong Kong Island and Kowloon even though this is very small and is not intended to imply figures are accurate to 2 decimal places.



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- 2.1.10 If steep slopes and inland bodies of water are omitted then only about 30% of the land area of the HKSAR is suitable for cycling and this still includes major areas of reclaimed land such as Chek Lap Kok airport and the container ports where the opportunities for cycling are very limited. If these restricted areas are omitted then the area available for cycling reduces to about 27% of the land area of Hong Kong. Most of the major cities<sup>4</sup> investigated during the course of the Study were fairly flat and therefore suitable for cycling over virtually all the city. Only Taipei, at 55% suitable for cycling, came close to Hong Kong in terms of the area deducted due to waterways and mountains.
- 2.1.11 The second reason why cycling is much less popular on Hong Kong Island and Kowloon is considered to be the real and perceived levels of safely since cyclists in these areas are required to cycle on the road in competition with vehicular traffic because there are no cycle tracks. Figure 2 shows the greatly increased vulnerability of cyclists on Hong Kong Island and in Kowloon compared to their New Territories counterparts.

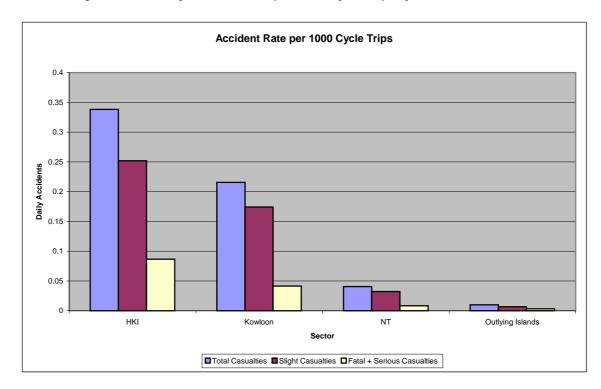


Figure 2 - Weekday Accident Rate per 1000 Cycle Trips by Sector

2.1.12 The reason for this vulnerability, when cyclists mix with road traffic in Hong Kong, can be put down to driver attitudes, vehicle speeds, traffic volumes and lack of cyclists training. These are all factors which the cyclists themselves agree with.

<sup>4</sup> Taipei, Shenzhen, Shanghai, London, Toronto, Amsterdam, Singapore and Glasgow







- 2.1.13 A further point to note is that notwithstanding the good network of cycle tracks in the New Territories, nearly 75% of all cycling casualties occur on the road presumably where cyclists use the road network to either cycle to and from the cycle tracks or where the network does not extend to the final destination. Consequently the problem of cyclists and driver behaviour also exists in the New Territories although there is in a lower rate of accidents there. Due to the accident problems of cyclists, a territory wide safety campaign was undertaken by the Police in the summer of 2003 in order to improve cyclists riding habits.
- 2.1.14 In London, the London Cycle Network Design Guide clearly demonstrates the envelope of traffic speed and flow for which on-street cycling is not recommended and where traffic calming is needed if on-street cycling is to be encouraged. This design guide would, when applied to Hong Kong, recommend traffic calming on many roads as an important prerequisite to encouraging additional on-street cycling activities.
- 2.1.15 A possible third reason why cycling is more popular in the New Territories may be that the New Territories may have had historically high levels of cycling arising from the more rural past.

#### 2.2 Different Types of Cyclist and Cycling Purpose

- 2.2.1 In designing cycling facilities, most cities differentiate between types of cyclist and the purpose for which the cycling trip is made since these create different wants and needs. The Study has identified that in Hong Kong, as elsewhere, the cyclists can be split into two types. These have been classified as Type A and Type B where Type A cyclists are more experienced and cycle more frequently and Type B cyclists are less experienced and feel less confident about cycling on the road. A fuller description is given in Appendix I. The exact proportions of each type in Hong Kong are unknown but it is considered that Type B cyclists predominate.
- 2.2.2 The general overview in Section 2.1 reveals that the daily, weekday cycle trips observed in the 2002 Travel Characteristics Survey (TCS) were mainly for functional purposes and that 60% of the trips were related to work or school. The TCS data is useful in that it allows the weekday accident rate to be compared with the number of weekday trips as in Figure 2 but it does not give an indication of the trip purpose of the average cyclist and was not intended to identify weekend leisure trips. However a more detailed survey of 6000 households<sup>5</sup> found that, of those people aged 15 and over who had cycled in the past 3 months, the trip purposes were as stated in Figure 3.

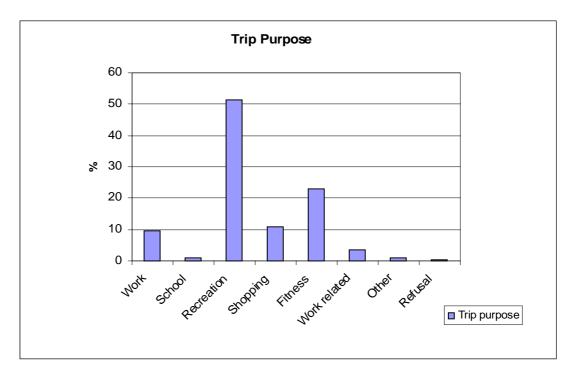
<sup>&</sup>lt;sup>5</sup> As part of the Travel Characteristics Survey 2002, 6000 households were surveyed to gain a more detailed insight into factors affecting walking and cycling. All the findings relate to persons aged 15 and over and are the result of household interviews of those people who knew how to cycle.



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Figure 3 - Trip Purpose



- 2.2.3 It can be seen that over 70% of the trips were for recreation or fitness purposes. Work, work related and school trips accounted for about 14% of trips overall. It is also worth noting that, overall, of those people aged 15 and over, who knew how to cycle (but had not necessarily cycled in the past 3 months), only 3.5% had cycled to work or school in the past 3 months.
- 2.2.4 The trip purpose of cyclists identified in the 6000 household interviews gives a broader picture of the general cycling population. It is apparent that whilst the trip purpose of those cyclists who cycle on weekdays is mainly functional, as identified in the main TCS 2002 surveys, overall the trip purpose of most cyclists is for recreational, fitness or leisure purposes.

#### 2.3 Planned Cycle Tracks in Hong Kong

2.3.1 Studies are currently underway to investigate the feasibility of substantially increasing the cycle track network in the New Territories. The two main studies are the "Preliminary Feasibility Study on the Provision of Cycle Track and Related Supporting Facilities Between Tuen Mun and Tsuen Wan" and "Cycle Track Network in the New Territories – Feasibility Study." Additionally substantial lengths of new cycle track are proposed as part of the new town proposals for the Northeast and North-west New Territories. If these proposals are all implemented then the length of cycle tracks in the New Territories will be increased by about 50%.





#### 2.4 Views of Hong Kong Cyclists

#### 2.4.1 Consultations Held During the Course of the Study

2.4.1.1 Three sets of consultations were held during the course of the Study with representatives from cycling organisations <sup>6</sup> and selected individuals who had previously contacted the Transport Department. Their views are summarised in Table 3.

Table 3 - Summary of the Views of Hong Kong Cyclists

# Comments from Cyclists 1) Creation of Safe On-street Routes • The cyclists were of the view that any measures to promote cycling should be accompanied by measures to reduce the number of vehicles on the roads in corridors where cycling takes place and that

traffic calming and lower (e.g. 30kph) speed limits should be more widespread in the urban areas.

- 2) Proficiency Training, Enforcement and Safety Generally
- The Road Safety Council should have at least one experienced cycling representative.
- The Road Users' Code should be more proactive in highlighting the needs of cyclists.
- There should be at least one location for cycling proficiency training. Hong Kong Cyclists Association
  used to have one and run courses and training for both adult and child cyclists. There is a lack of places
  to practice cycling.
- Motor vehicle driver training/ advice/ publicity should include the need for increased awareness of cyclists similar to the measures overseas. e.g. Toronto's SPACE etc.
- There should be a better law enforcement on driving behaviour and existing laws such as speeding need to be enforced more rigorously and a targeted driver education programme should help to improve the behaviour of certain group of drivers.
- It was suggested that a hotline number be attached at the back of vehicles similar to that adopted by some overseas cities. This can help companies to monitor the driver's behaviour. These measures are only on a voluntary basis in the overseas countries such as Australia and the UK. This will help both cyclists and other road uses to report bad driving behaviour.
- Cycle tracks are used for non-cycling activities forcing cyclists onto the road and the mandatory rule that cyclists must use the cycle track if adjacent to the road should be changed. It is not relevant for experienced, higher speed cyclists and creates conflicts with other users on the cycle track.
- Safe cycling is the main concern such that it is suitable for cyclist of all ages.
- 3) Creation and Design of Cycle Track Networks
- There was a general concern on how to access the cycle track and that the cycle tracks are not connected together.
- There should be some way to allow cyclists to take their bicycles / to cycle across the harbour.
- No consultation is undertaken before cycle tracks and cycling facilities are put in place.
- There should be an investigation into connecting the cycle tracks to the outlying islands. If possible

<sup>&</sup>lt;sup>6</sup> Hong Kong Cycling Association, Hong Kong Cyclists Club, Hong Kong Mountain Bike Association, Hong Kong Triathlon Association, Hong Kong Sport Development Board, Hong Kong Cycling Alliance.



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#### **Comments from Cyclists**

cyclists should be allowed to use the bridge to Lantau – possibly the lower deck.

- The cycle track should be separated from the ordinary road to enhance safe cycling.
- Bollards and bollard bases are not needed and are dangerous to cyclists. The space between bollards is not wide enough to get the bicycle through.
- Crossing the road can be dangerous due to lack of dropped kerbs at some locations.
- There are no lighting facilities provided along cycle tracks.
- 4) Institutional Arrangements
- Government should appoint a permanent cycling officer for coordination etc. (preferably a cyclist).
- There should be a cross-government committee to co-ordinate the promotion of cycling in HK as there is no central cycling policy.
- The responsibilities of the Government Departments are complex and not clear to the public.
- 5) Sports and Recreational Cycling
- It is difficult to approach government for road closure for cycling activities. It seems unreasonable that government will close the highway for marathons and cross country running but refuse to do so for cycle activities.
- Government should be more helpful in closing roads for competitive cycling.
- Allow cyclist to cycle along the trails in the country park to add to the attractiveness of the country parks.
   AFCD and the Hong Kong Mountain Bike Association are keen to develop the country parks into an international tourist spot.
- Taking bicycles across the border should be made easier.
- Cycle tracks should connect to other tourist spots, e.g. BBQ site, scenery spot. This will also enhance the local economy.
- 6) Bicycles and Public Transport
- Cyclists are not allowed to take their cycles onto most of the public transport in HK. If allowed, cyclists will be charged a higher fare.
- There is a double standard in the by-law enforcement by the transport operators. It is confusing to cyclists.
- Bicycles should be allowed on public transport generally. It was noted that folded bicycles in carrier bags could be taken on public transport.
- Need more parking at key locations such as railway stations. Provision is patchy and generally not enough. There should be secure covered parking since some bicycles are very expensive.
- 2.4.1.2 Additionally, the Honourable Leung Fu Wah conducted an outdoor questionnaire interview survey among cyclists on Sunday 1<sup>st</sup> September 2002 at cycle tracks in Shatin area near the Shing Mun River. In this questionnaire interview, a total of 558 cyclists were interviewed who would be mainly recreational cyclists. Of the cyclists interviewed it was found that:
  - 90% preferred to cycle on cycle tracks.
  - 7% preferred to cycle on the road.





- 80% thought Government should provide a well organised cycle track network.
- 60% thought that Government should provide more facilities to support cycling (cycle parking etc).
- 67% thought that Government should provide more recreational facilities (barbeque sites etc).

#### 2.5 Cycles and Public Transport

2.5.1 A review of whether cycles are allowed to be carried on public transport has been undertaken as part of the Study and the findings are summarised in the Table 4.

Mode	Conditions for Carriage of Bicycles
Ferries	In 2001, ferries carried about 1% of all daily passenger boardings. Based on a recent survey by the Transport Department, of the 26 ferry routes in operation, 17 permitted the carriage of bicycles and a further 6 routes permitted the carriage of bicycles provided they were folded. That is to say 23 of the 26 routes permitted the carriage of bicycles in some form or other.
	One of the key routes, Star Ferry from Central to Tsim Sha Tsui does not permit the carriage of bicycles unless they are folded.
	A trial is currently underway to permit the carriage of bicycles on the Wanchai to TST route of the Star Ferry
Trains	The KCRC permits bicycles to be transported in the guards van of East Rail trains and the MTRC and KCRC West Rail also permits bicycles to be carried provided they are in some form of carrier bag and are either of the foldable type or have the front wheel removed. Both organisations reserve the right to prohibit folded bicycles which exceed the normal size limitations.
Buses	Folded bicycles are generally permitted provided they do not exceed bulky luggage size limitations.

Table 4 - Carriage of Bicycles on Public Transport

2.5.2 In 1996 the KCRC commissioned boarding surveys at East Rail stations where it was found that Sheung Shui, Fanling, Tai Wo, Tai Po and Tai Wai stations were all observed to have about 1% of boarding passengers arriving by bicycle in one or more of the am peak hours whereas Fo Tan, Shatin, Mong Kok, Kowloon Tong and Hung Hom stations had negligible boarding passengers arriving by bicycle.

#### 2.6 Design Guidance for On-Street Cycling Facilities in Hong Kong

2.6.1 The Transport Planning and Design Manual (TPDM) makes reference to on-street cycling facilities such as cycle lanes, contra-flow cycle lanes and cyclists using bus only lanes. However TPDM cautions that these types of facilities are not suitable for conditions in Hong Kong and in consequence there are no known facilities of this type in the HKSAR.

#### 2.7 Summary of the Existing Cycling Situation in Hong Kong

2.7.1 The distribution of cycling in Hong Kong is varied and ranges from quite a high level (2% of daily trips) in the New Territories and Outlying Islands to a negligible level in the urban areas of Hong Kong Island and Kowloon. 97% of daily cycle trips take





place in the New Territories and Outlying Islands, and of these most take place in the urban parts of the New Territories i.e. the new towns.

- 2.7.2 Comparison of the accident rate in the New Territories with that in the urban areas of Hong Kong and Kowloon indicates that cyclists are far more vulnerable to accidents in the urban areas of Hong Kong Island and Kowloon. It would appear that the unpleasantness and perceived danger of cycling in the urban areas of Hong Kong Island and Kowloon deters cycling.
- 2.7.3 The other explanatory factor in the distribution of cycling is the presence of cycle tracks which are located exclusively in the New Territories and most of which are located in the new towns.
- 2.7.4 The presence of cycle tracks encourages and facilitates cycling by the creation of relatively safe and pleasant routes. However cycle tracks generate cycling accidents on the surrounding road network which cyclists use to access the tracks.
- 2.7.5 The cyclists in Hong Kong recognise that measures are required to reduce traffic speeds if cycling is to be promoted and such measures would involve traffic calming, enforcement and education of motorists. They also recognise that more training of cyclists is needed.
- 2.7.6 The cyclists also have many detailed proposals to improve the existing cycling facilities in Hong Kong for utilitarian cycling purposes and to promote cycling as a recreational and sporting occupation.





# 3. SUMMARY OF FINDINGS FROM OVERSEAS AND APPLICABILITY TO HONG KONG

- 3.1 Overseas Strategies, Policies and Justifications for the Promotion of Cycling
- 3.1.1 Strategies and Policies
- 3.1.1.1 There are several policy and strategy documents which have been implemented at the state or local level overseas which can serve as a guide should it be decided to increase the promotion of cycling in Hong Kong. Typical contents include:
  - Justification and policy statement.
  - Goals and targets.
  - Integrated approach (engineering, planning, education, safety, publicity, enforcement).
  - Local initiatives e.g. cycle to school/work.
- 3.1.1.2 In general, America, Canada, Europe and Australia are currently promoting cycling with national and local strategies. China recognises the benefits of cycling but appears to be promoting public transport as a more efficient mode in terms of road space usage.
- 3.1.1.3 Toronto and London have very clear and extensive policies and strategies to promote cycling as set out in their policy documents (Toronto Bike Plan and The National Cycling Strategy). Amsterdam similarly has a committed policy of improving conditions for cyclists. Taipei's policy is mainly focussed on leisure with a commitment to construct 80 km of cycle track by 2006 in parks. Taipei's policy or approach is similar to the current approach of Hong Kong.
- 3.1.1.4 By contrast, both Shenzhen and Shanghai appear to want to restrict the role of cycling to shorter distance trips or to leisure and obtain a switch from bicycle to public transport. Both cities want to control cycling to reduce the conflicts with motorized transport and Shanghai is seeking to increase the segregation of cyclists.
- 3.1.1.5 Singapore has no policies to increase cycling.
- 3.1.2 Other Initiatives to Promote Cycling
- 3.1.2.1 In addition to the general policies and strategies on cycling, there are other initiatives undertaken by the above mentioned cities which are listed in Appendix III as examples of what can be done.
- 3.1.3 Justifications for Cycling
- 3.1.3.1 Table 5 sets out the main standard justifications for promoting cycling used overseas and these are reviewed in the Hong Kong context. The promotion of cycling sets out to increase the amount of cycling which takes place.





Table 5 - Review of Standard Justifications for Promoting Cycling

Tuble 6 Review of Standard Sustained from Frontiering Systing		
Justifications for Promoting Cycling (From UK National Cycling Strategy)	Comments in Relation to Hong Kong	
Health - cycling can improve health by lowering the risk of heart disease, shedding excess weight, and increasing fitness. Tests have shown that after 4 to 5 months of regular cycling, aerobic fitness improves by an average of 13 % and body fat falls by an average of two to three Kg. Regular exercise reduces stress and contributes to mental well being.	The British Medical Association concluded that for the UK, the overall health benefits to society outweighed the overall risk of personal injury to individual cyclists. No similar study has been done for Hong Kong but since the majority of additional cycling which would take place would be in the urban areas of Hong Kong Island and Kowloon, one would need to be very certain of the benefits before undertaking a programme of promotion in these areas based on health benefits alone.	
Environment – increasing cycling benefits the environment by cutting carbon dioxide emissions and reducing noise.	This would be true in Hong Kong only if it resulted in less mechanised traffic in the urban areas. It is anticipated that most new cyclists in Hong Kong would in fact switch from public transport, not private cars.	
Congestion – promoting cycling can have benefits in reducing traffic congestion.	There seems to be no circumstance in which increases in the level of cycling in the urban areas would reduce traffic congestion in Hong Kong. This is because, unlike other developed economies, Hong Kong has a very low level of car ownership and a very high level of public transport usage. In practice due to the need for traffic calming in order to introduce onstreet cycling facilities there would be a tendency for traffic congestion to increase which could contradict the environmental aims.	
Education – the establishment of safer routes to schools and cycle training should increase awareness of road safety issues and improve road safety. Up to date knowledge of what schools, colleges and universities are doing to provide facilities for cyclists forms a valuable part of the overall picture.	This is unlikely to be applicable to Hong Kong since public transport and private coaches are widely used to take children to and from school. In any event routes would need to be in place first and the underlying safety problems resolved.	
Access to Employment - by making it easier for people to get to work by bicycle employers increase the potential labour force available to them.	It is unlikely that given the generally affordable public transport fares and high frequency of service that there are many employers who cannot find workers and at this point in time there is currently ample labour available in Hong Kong.	
Sustainable Tourism – The development of more widespread cycle routes will enhance access to the countryside and open up new opportunities for tourism. Rural economies will benefit from the increase in passing trade.	It is agreed that this is applicable to Hong Kong and is currently being pursued under the cycle track studies for the New Territories. (see para. 4.4.4.1)	

### 3.2 Other Overseas Surveys of Cyclists and Cycling

3.2.1 As part of the strategies to promote cycling overseas, various surveys of cyclists have been undertaken. In general the requirements of cyclists overseas are found to be similar to those in Hong Kong in that they feel more comfortable cycling on quiet residential streets and cycle tracks and want more and better facilities





including more safe routes, parking and better training of both cyclists and motorists.

- 3.2.2 Most countries differentiate between types of cyclist and Toronto uses the term utilitarian to describe cyclists who cycle frequently for work purposes and recreational to describe those cyclists who cycle less frequently and mainly for recreational purposes. In general experienced utilitarian cyclists are more comfortable cycling on the street and tend to want on-street cycle lanes to enable them to reach their final destination.
- 3.2.3 In surveys of the distances cycled by cyclists, it has been found that a typical average distance is about 4-5kms which is similar to that found in Hong Kong for daily trips. Longer distances can be expected for weekend recreational trips.
- 3.2.4 Table 6 shows the cycling mode share in selected cities for comparison with Hong Kong. The cycling mode share is the proportion of daily passenger trips undertaken by bicycle. It can be seen that Hong Kong has a low mode share overall but the mode share in the New Territories compares well with other cities except Amsterdam which has a very high usage of bicycles and Shenzhen. In general most western cities are now in the process of attempting to increase the share of daily passenger trips undertaken by bicycle by means of the policies and initiatives indicated in Section 3.1.

Table 6 - Cycling Mode Share

City	% Daily Passenger Trips
Hong Kong Overall	0.5
Hong Kong New Territories	2
Taipei	2
Shenzhen	N/A (Residents make 0.25 cycle trips per capita per day)
London	1
Toronto	3
Amsterdam	28
Singapore	N/A (assumed negligible)
Glasgow	0.8 (to work)





# 4. CONCLUSIONS AND RECOMMENDATIONS FOR CYCLING POLICY IN HONG KONG

#### 4.1 Introduction

4.1.1 Based on the findings of the Study we have arrived at the conclusions and the recommendations set out in the following sections.

#### 4.2 Expansion of the Role of Cycling

- 4.2.1 Although the current cycling policy direction in Europe, the USA, Canada and Australia is to enhance and promote cycling there are obstacles to adopting such a course of action in Hong Kong. These are:
  - (i) Many of the existing cyclists in Hong Kong are generally poorly trained and have poor riding habits. Many appear to have no understanding of what it is like to drive a vehicle.
  - (ii) Similarly vehicle drivers in Hong Kong have little regard for the needs of cyclists.
  - (iii) Any proposals to expand the role of cycling in the urban areas of Hong Kong and Kowloon must first remedy the very vulnerable condition of cyclists in these areas which arises due to high traffic flows and speeds on many roads as well as items (i) and (ii) above. The cyclists recognise that traffic calming is required on many roads before cycling can be considered.
  - (iv) Steep terrain in some areas.
  - (v) The high density of traffic makes the provision of continuous on-street routes extremely difficult because many roads in Hong Kong lie outside the safe speed-flow envelope adopted by the London Design Guide among others.
  - (vi) The high level of kerbside activities renders the implementation of bicycle lanes difficult in many streets but even if this were possible the use of such lanes by inexperienced cyclists would be hazardous.
  - (vii) An extensive period of experimentation and survey would be required before any network of routes could be established other than for off-street cycle tracks.

<u>Recommendation 1</u> – The expansion of the role of cycling is not advisable at this point in time due to poor underlying safety conditions. The initial focus should be to assist cyclists by enhancement of the New Territories cycle track network and to improve safety by better education, training and enforcement.

#### 4.3 Education, Training and Enforcement

4.3.1 The Study has identified that the cyclists in Hong Kong are generally considered to be poorly trained and that motorists and cyclists have little appreciation of the needs of the other party. Consequently the following recommendations are made:





<u>Recommendation 2</u> – That the Government works together with the cycling associations of Hong Kong to devise and institute appropriate cycle training schemes.

Recommendation 3 – An information pack including safety literature should be made available at suitable locations such as cycle hire shops and schools, and should be targeted at the appropriate audience. Such literature should not however be regarded as a substitute for proper training programmes especially for schoolchildren. Other information to be included in the information pack could cover the location of cycle tracks, cycle parks, training schemes etc.

Recommendation 4 – Education and enforcement schemes should be coordinated to maximise their impact. In particular the driving habits of motorists as well as cyclists should be subject to scrutiny in any enforcement campaign. Further territory-wide safe cycling campaigns, similar to the one organised by the Police in July/August 2003 should be considered to deliver the message.

- 4.4 Meeting the Needs of Existing Cyclists
- 4.4.1 Public Information
- 4.4.1.1 The roles and responsibilities of the various departments with regard to cycling are considered to be confusing to the public and need to be clearly identified on the relevant Government websites. General fact sheets on cycling may also be a useful supplement to the information supplied by the Integrated Call Centre.

<u>Recommendation 5</u> – The Integrated Call Centre and Government websites should be updated to make the roles and responsibilities clear. The Transport Department Website should contain a summary of the relevant roles and responsibilities of each department and could also direct enquirers to the relevant approved cycling associations.

- 4.4.2 Maintenance of Existing Cycle Tracks
- 4.4.2.1 The cyclists report that there are maintenance issues on some sections of cycle track. However the Highways Department routinely checks the condition of cycle tracks and responds quickly to any specific complaints made. It is considered that there may be a lack of knowledge on the part of cyclists as to how to report problems.

<u>Recommendation 6</u> – That the cyclists or interested parties be urged to report any specific defects to the Government via the existing channels of communication and the Integrated Call Centre.

- 4.4.3 Cycle Parking
- 4.4.3.1 The Second Parking Demand Study has identified that many cycle parking facilities near railway stations are used for long term parking by nearby residents and recommends that periodic impounding of cycles and other enforcement measures





are also required. Additionally the cyclists have identified that there are insufficient cycle parking facilities at some locations. Also the standards of parking required under HKPSG are lower than those required overseas although it must be recognised that there is less space available in Hong Kong for cycle parking and the demands are different.

Recommendation 7 – Enforcement action against overstayers in public parking areas should be initiated to free up spaces. Follow up action should then be undertaken in conjunction with the cycling organisations to identify specific public locations where there is under provision of cycle parking spaces and new parking facilities can be installed.

Recommendation 8 – That when circumstances permit surveys be undertaken to identify the general need for parking facilities to be provided at new developments such as shopping centres and residential developments in the long term to satisfy the need for cycle parking at the current levels of cycling use in Hong Kong. It is noted that the need for parking will be significantly higher in the new towns and the New Territories generally than in the urban areas of Hong Kong and Kowloon.

<u>Recommendation 9</u> – That when circumstances permit and in conjunction with the private sector (possibly operators of nearby car parks), studies be undertaken to explore the commercial viability and demand for secure, weather proof cycle lockers at public transport interchanges and shopping centres.

- 4.4.4 New Cycle Tracks
- 4.4.4.1 Two major studies have been commissioned investigating the feasibility of new cycle tracks in the New Territories. These are NTW 1/2001 Preliminary Feasibility Study on Provision of Cycle Track and Related Supporting Facilities Between Tuen Mun and Tsuen Wan and CE 52/2002 Cycle Track Network in the New Territories Feasibility Study. These cycle tracks would primarily be for recreational and tourism uses.
- 4.4.4.2 When opportunities arise, expansion and review of the cycle track network in the New Territories should be taken forward in conjunction with studies for further development of the New Towns.

Recommendation 10 – That in the event that the expansion of the cycle track network in the New Territories is found to be feasible, affordable and desirable then the works should be undertaken as soon as possible.

- 4.4.5 Cycles on Public Transport
- 4.4.5.1 The carriage of cycles on public transport is desirable to facilitate recreational cycling and enables those cycle owners dwelling in the urban areas of Hong Kong and Kowloon to take their bicycles to the rural areas for recreational cycling purposes in the absence of urban cycle tracks giving connections to the rural hinterland. The ferries also give access to the outlying islands. KCRC East Rail and most outlying island ferries permit the carriage of bicycles and nearly all public





transport, including KCRC West Rail, MTRC and buses permit the carriage of bicycles provided they are bagged either with the front wheel removed or they are of the foldable type and do not exceed luggage size restrictions. As an alternative cyclists may simply hire bicycles at their destination.

Recommendation 11 – That the Transport Department continues in its efforts to persuade the transport companies to maximise the extent to which bicycles can be carried on public transport.

- 4.5 Changes to Design Standards and other Cycling Related Publications
- 4.5.1 Hong Kong Planning Standards and Guidelines (HKPSG)
- 4.5.1.1 The parking standards in this document may need to be revised subject to the outcome of the surveys contained in Recommendation 8. Otherwise no changes to the document are proposed.

Recommendation 12 – That the cycle parking standards be reviewed following the findings of the cycle parking requirements survey set out in Recommendation 8.

- 4.5.2 Transport Planning and Design Manual (TPDM)
- 4.5.2.1 The treatment of cyclists at the end of cycle tracks and where cycle tracks cross side roads needs to be reviewed and in particular the use of closely spaced bollards is a source of great inconvenience to cyclists although the need for cyclists to dismount is sometimes required for their safety and that of pedestrians. Additionally a new absolute minimum width for 2 way cycle tracks of 2m is proposed to facilitate the introduction of cycle tracks in urban areas where space may be restricted. A new system of signage for long distance routes is also recommended.
- 4.5.2.2 Whilst TPDM (Volume 3, Chapter 6, 6.6 Other Cyclist Facilities) mentions some types of on-street cycling facilities which could be introduced in Hong Kong, it also advises that these are not generally applicable to the conditions in Hong Kong. The Study has considered whether these types of facilities should be made available generally but finds that:
  - The underlying safety conditions are such that it would be premature to introduce these facilities which would tend to encourage more on-street cycling.
  - These facilities should not be introduced in isolation except as part of an agreed on-street cycling route. However it would be extremely difficult to define worthwhile continuous lengths of on-street cycle route particularly in the urban areas.
  - In general, the introduction of such facilities would have an adverse impact on other street activities such as parking and loading and unloading. While this may be acceptable, the number of cyclists, particularly in the urban areas of Hong Kong and Kowloon, is so small that the adverse impact would be difficult to defend.
  - In any event, the traffic flows and speeds on a large number of streets in Hong Kong lie outside the safe speed-flow envelope adopted by other cities and





incorporated in design guidance for traffic engineers. An example of this design guidance is the London Design Guide.

Recommendation 13 – That new methods of control and warnings to cyclists and motorists be considered at the ends of cycle tracks and where they cross side roads. This could be based on the findings of the UK Department for Transport studies. Closely spaced bollards should be used sparingly since these can be hazardous and encourage cyclists to ride on the road or the footway. Alternative treatments include improved signage and coloured road markings or, where cyclists must dismount, the use of railings.

Recommendation 14 – That the absolute minimum width for 2 way cycle tracks of 2 metres be used at those locations where a segregated cycle track would otherwise not be possible due to site constraints. Wherever possible the minimum width of 3.5 metres or more should be used.

<u>Recommendation 15</u> – That for long distance cycle tracks a new system of signage be adopted based on a distinctive sign face and colour. The signing system used by the UK's SUSTRANS for the signing of long distance routes would be appropriate.

- 4.5.3 Road Users' Code, Cycling Safety Pamphlets and Transport Department Web Site
- 4.5.3.1 There are a number of modifications which can be made to the information given to cyclists and a number of possibilities have been put forward for consideration based on overseas practice during the course of the Study. These include for example encouraging cyclists to adopt an assertive riding position in the carriageway and to ride well clear of the kerb. The three leaflets "Safe Cycling", Safety Tips for Cyclist" and "Tips for Safe Cycling" can all be amalgamated into one leaflet "Tips for Safe Cycling".

<u>Recommendation 16</u> – That consideration be given to including updated advice for cyclists identified in this Study in any future review of the Road Users' Code and the Transport Department's web site and that one single leaflet "Tips for Safe Cycling" be produced in future.





# Appendix I

# **Definition of Terms**





#### Type A Cyclists

A Type A cyclist is a cyclist who has normally had many years experience of cycling and who is able to cycle safely in traffic. That is to say the cyclist is able to survive in fairly busy traffic conditions and feels relatively comfortable in such conditions. Such a cyclist is usually (but not necessarily) fully aware of traffic rules and regulations, the need to maintain the bicycle and how to conduct himself in busy streets. He or she regularly cycles for utilitarian purposes making functional trips such as for work or school purposes.

These cyclists may include recreational cyclists (e.g. members of the HK Cycling Association, Mountain Bike Association and Cyclists Club) or may be individuals who simply cycle regularly to work or for other purposes such as members of the HK Cycling Alliance and other cyclists who cycle regularly for utilitarian purposes.

A key feature of Type A cyclists are that they often prefer to cycle on the roads and feel that they have a right to do so. They do not want to be constrained to cycle tracks although they will use them if they are reasonably long routes and are not interrupted by frequent junction crossings.

Type A cyclists often cycle faster than other cyclists and are therefore hampered by them if constrained to using cycle tracks. They are also more capable of tackling steep gradients due to their generally higher levels of fitness.

In Toronto these cyclists are termed *Utilitarian*.

#### Type B Cyclists

For this Study we have used the term to describe all other cyclists including children. Typically they only cycle occasionally and usually for recreational purposes at the weekends. They are characterised by generally poor road sense and discipline (but not all) and are vulnerable on the road. They are less likely to own bicycles and less likely to maintain them properly or to have an understanding of proper riding techniques.

This type of cyclist is most comfortable cycling on segregated tracks or quiet streets. It is recognised that it would be impractical to differentiate between Type A and Type B cyclists and therefore any facilities should be designed for the least experienced cyclist i.e. Type B cyclists.

#### Assisting Cyclists and Cycling

This is the act of providing assistance and support to those people who choose to take up cycling with or without any encouragement from Government. Hong Kong does provide quite a lot of assistance to cyclists mainly in the NT by the provision of cycle tracks. In fact (based on overseas and HK surveys) *all cyclists want more and better assistance* but then this is true of users of all modes of transport.

Providing assistance is a more passive and reactive measure than promotion and is done in response to *demand*. Assistance can come in many forms such as the provision of *facilities* like cycle tracks and parking or simply *making it easier* to organise road races and gain access to mountain bike trails. Encouraging ferry operators and train operators to take bicycles is also assistance.





#### **Promoting Cycling**

This is the act of actively pursuing a policy of getting more people to take up cycling or of existing cyclists to cycle more. The main objective of promoting cycling is to improve health and to gain environmental benefits by reducing the amount of motorised traffic. In Hong Kong the environmental benefits of promoting cycling will be minimal because there are very few people to switch from cars to bicycles due to the low levels of car ownership and high quality of public transport. The promotion of cycling overseas is often allied to other issues such as pedestrianisation and traffic calming.

The promotion of cycling is an overt act and is active rather than passive or merely reactive and must include some of the **assistance** issues discussed above if it is to be safe and successful.

#### **Cycling Routes**

These are routes which are appropriate for all types of cyclist. They would consist of off-road cycle tracks, quiet residential streets and village roads.

Any other on-street routes would generally only be suitable for Type A cyclists.

The existence of cycling routes in a neighbourhood will significantly affect the number of observed cyclists in that neighbourhood. Thus the New Territories, which has a fairly high density of routes (mainly made up of cycle tracks), has a far higher level of cycle usage than the urban areas of Hong Kong and Kowloon which have no cycle track facilities.

The relatively few cyclists observed in the urban areas of Hong Kong and Kowloon are thought to be mainly experienced Type A cyclists.

#### Traffic Calming

Traffic calming is a series of measures along a street, route or in an area designed to ensure that motorists drive in a considerate manner at suitable speeds appropriate to the situation. As stated on the Transport Department's website on pedestrianisation "There is no restriction to vehicular access. However, vehicles are slowed down through the use of traffic calming measures, such as narrower traffic lanes and speed tables etc".

The degree to which vehicles are slowed down will depend on the individual circumstances. In many cases simply ensuring that maximum vehicle speeds cannot exceed the current speed limit will be adequate. In other cases lower speed limits may be required. Traffic calming measures are not appropriate for major roads.





#### On-Street Cycling Facilities

On-street cycling facilities are designed to assist cyclists and are used extensively in Europe and elsewhere. They consist typically of the types of measures indicated below:

- Cycle lanes these are road markings similar to bus lanes, usually adjacent to the kerb which reserve part of the carriageway for cyclists and give a clear indication to motorists that the cycle lane is used by cyclists.
- Contra-flow cycle lanes these are cycle lanes which run in the opposite direction to traffic flow on one way streets enabling cyclists to avoid lengthy detours.
- Advanced stop lines these are often provided at traffic signal controlled junctions to enable cyclists to queue at the junction ahead of motor vehicles and are particularly helpful where the cyclists want to turn right at a junction.

There are strict rules governing the implementation of these types of measures and in particular the speed and flow of motorised traffic, the impacts on parking and loading and unloading and the numbers of cyclists likely to use the facilities needs to be taken into account.

There are currently no on-street cycling facilities in Hong Kong. Although some of the above facilities are discussed in the TPDM, the advice is that they are considered unsuitable for Hong Kong conditions. There are no proposals to change this advice.

#### Off-Street Cycling Facilities

These facilities include cycle tracks which are segregated from the highway and provide relatively safe conditions for cyclists. Cycle parking is also another type of off-street cycling facility.

In Hong Kong, assistance to cyclists is almost exclusively restricted to the provision of off-street facilities.





# Appendix II

# **Full Page Copies of Figures**





Figure 1 Daily Cycle Trips per Capita

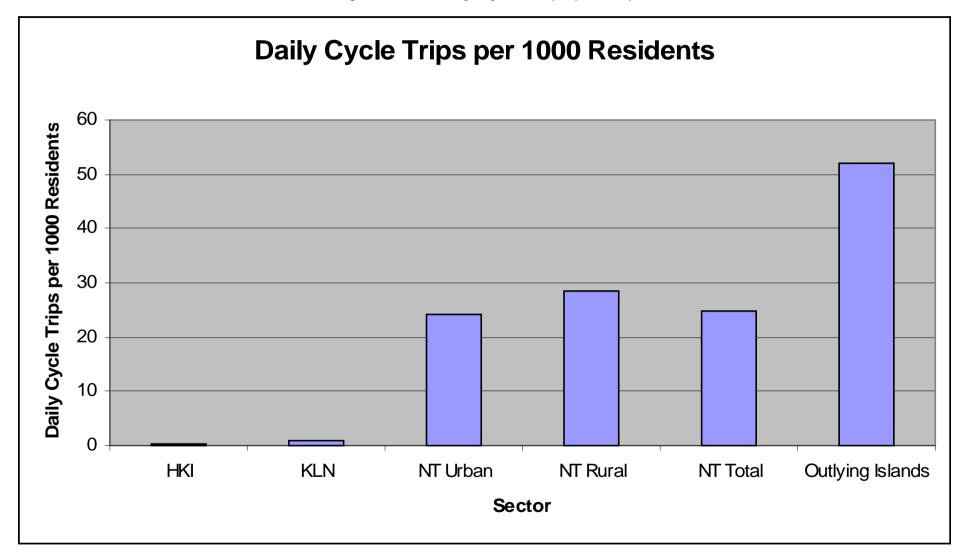






Figure 2 Weekday Accident Rate per 1000 Cycle Trips by Sector

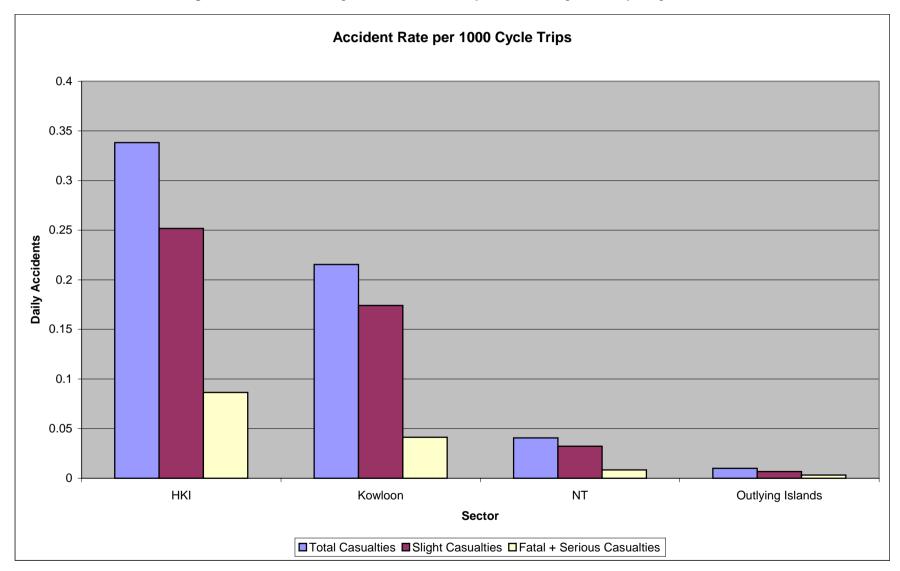
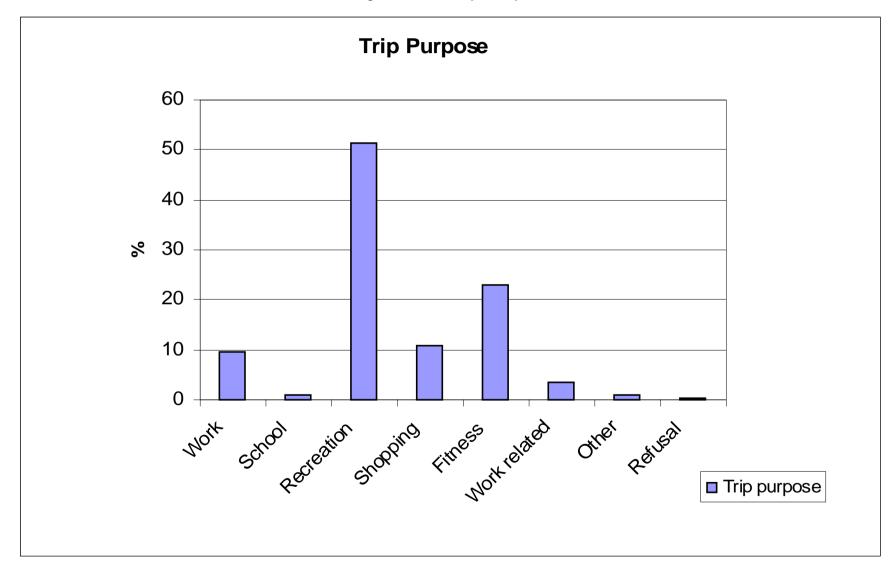






Figure 3 Trip Purpose







# **Appendix III**

# Other Overseas Cycling Initiatives





City	Promotions	
Hong Kong	• The feasibility of extensive network of tourist and recreational routes is being considered for the New Territories. There are altogether about 94km of planned cycle tracks including the above routes and those planned for the new towns in the North-east and North-west New territories.	
Taipei	None known other than to construct 80km of cycle tracks along riverside parks.	
Shenzhen	None known.	
Shanghai	None known.	
London	Measures to allow cycling in parks and along canal towpaths.	
	The London Cycle Network – maps and proposed extensions and improvements.	
	Cycle to Work (part of National Cycling Strategy).	
	- User Groups.	
	- Parking and Shower facilities.	
	- Financial Incentives.	
	<ul> <li>School Travel Plans and Safe Routes to School (part of National Cycling Strategy).</li> </ul>	
	- Routes to 5 schools in London.	
	- Information packs on how to make the journey safer.	
Toronto	The Road & Trail Safety Ambassadors	
	The Road & Trail Safety Ambassador program promotes road safety through community educational events directed at all road and trail users. The Cycling Ambassadors are a team of cycling experts who reach out to communities across Toronto with programs and campaigns to deliver safety messages and to encourage cycling. The Toronto Bike Plan recommends "that the City continue to maintain the Cycling Ambassadors Program as a cost-effective vehicle to deliver educational and promotional campaigns."	
	• Cyclometer	
	<ul> <li>Cyclometer is a City of Toronto newsletter that acts as the voice of the Toronto Cycling Committee and is used as a forum to educate, inform and increase awareness on matters concerning cyclists in the city such as transportation, health and economic issues and encourages citizen involvement.</li> </ul>	
	Bicycle Friendly Business Awards	
	- The Bicycle Friendly Business Awards presented to local bicycle friendly businesses.	
	Bike Week	
	- Bike Week is an annual event that celebrates cycling and cycling culture in Toronto.	
	Bicycle User Groups	
	<ul> <li>The Bicycle User Group (BUG) Network encourages cyclists at a workplace, in a neighbourhood, community or a school to work together to improve conditions for cyclists, or just to enjoy going on rides together.</li> </ul>	
	Cycling Safety	
	- Develop innovative ways, such as public/private partnerships, to fund and sustain safety education programs.	
	- Expand the CAN-BIKE program, including developing a unit for drivers.	
	- Establish a protocol in response to cycling collisions; and work co-operatively with outside	





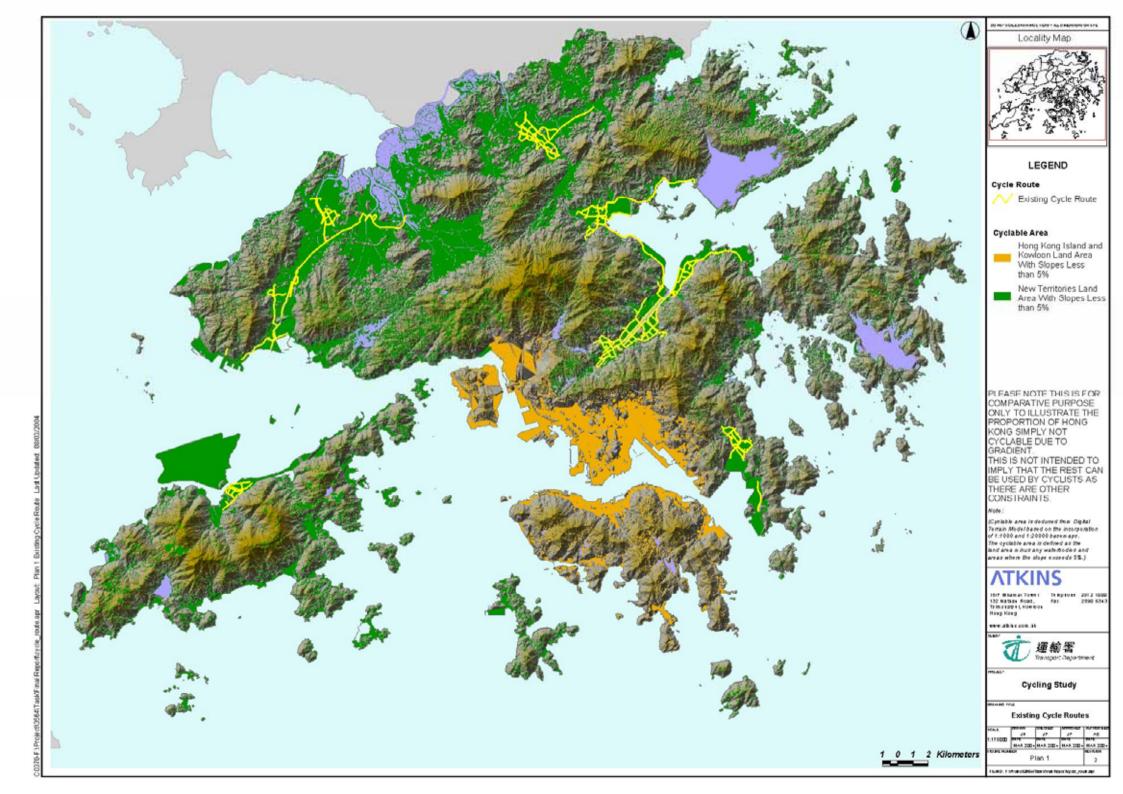
City	Promotions	
	agencies to deliver messages about safe cycling in Toronto.	
Amsterdam	Dedicated bicycle co-ordinator	
	<ul> <li>Amsterdam has a dedicated bicycle co-ordinator who co-ordinates the city's bicycle policy, is the contact person for the government and provincial authorities, consults with the Cyclists Association and the local councils and gives information.</li> </ul>	
	Bicycle routes for both locals and tourists	
	<ul> <li>Amsterdam has various special bicycle routes. These boast separate bicycle paths and/or streets which are wide enough for bike-riders and offer other attractive features. These routes are sign-posted (the signs are usually attached to lampposts).</li> </ul>	
	Bicycle map of Amsterdam	
	<ul> <li>In various places, including the offices of the Amsterdam Tourist Office, you can buy a city map for cyclists. This map includes recommended cycle routes, information on bicycle sheds, rental companies, repair workshops, important buildings, etc.</li> </ul>	
	Bicycle excursions	
	<ul> <li>Numerous bicycle excursions are offered in and around Amsterdam, with multilingual guides. All excursions below can be booked at the offices of the Amsterdam Tourist Office.</li> </ul>	
	Yellow Bike offers guided excursions, including:	
	- Jordaan Tour, for groups: a ride through the Jordaan quarter.	
	- Maritime Tour: a bicycle tour with the theme shipping through the Shipping Quarter.	
	<ul> <li>Waterland Bicycle tour: a bicycle tour through the protected nature reserves north of Amsterdam. Includes a visit to a windmill and a clog factory.</li> </ul>	
	Bicycle & train	
	<ul> <li>When buying a train ticket you can also buy a day or week ticket for a rental bicycle. This ticket entitles to a discount on hiring a bicycle from a bicycle shop at central railway stations.</li> </ul>	
	Cycling events. Various cycling events take place in Amsterdam throughout the year.	
	- Velodrome Gala.	
	<ul> <li>A biennial bicycle fair, held in March, presents all new developments in cycling, accessories and bicycle holidays.</li> </ul>	
	- An annual cycling-event in Amsterdam-Zuid.	
	<ul> <li>National Cycling Day. The National Cycling Day is held every second Saturday in May.     Hundreds of thousands of enthusiasts ride one of the mapped out routes on this day. They     are presented with a memento upon completion.</li> </ul>	
Singapore	None known	
Glasgow	Safe routes to school	





# **Plans**





### Division of responsibility for handling cycling related matters

### A. Cycle tracks outside Country Parks or LCSD's Facilities

Cycling related matter	Responsible Department
Records of accidents involving cyclists	RSSD, TD
2. Design standard for cycle tracks and associated facilities	RSSD, TD
3. Management of existing cycle tracks	TE Divisions, <b>TD</b>
4. Maintenance of cycle tracks and associated facilities	District & Maintenance Divisions, HyD
5. Lighting of cycle tracks	Lighting Division, <b>HyD</b>
6. Enforcement	Police
7. Any other matters relating to cycling not covered by the above.	TTSD, <b>TD</b>

### B. Cycle tracks inside Country Parks

The cases should be referred to AFD

### C. Cycle tracks inside LCSD's facilities like playground, park

The cases should be referred to LCSD.

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