

Good Practices in Preparation of Temporary Traffic Management Submissions

Transport Department

1 November 2012



Presentation Outline (1)

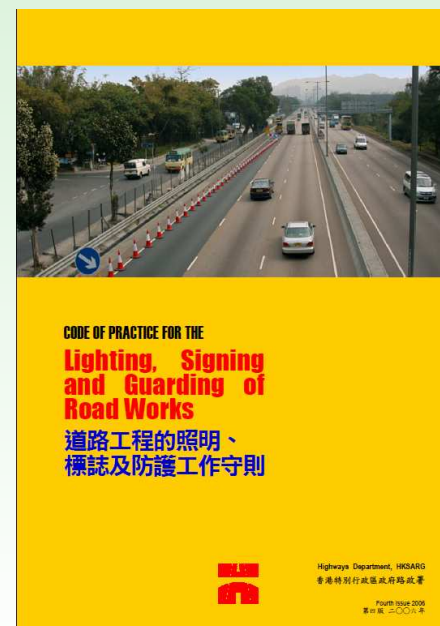
- Brief introduction to *Code of Practice for the Lighting, Signing and Guarding of Road Works*
 - Legal requirements
 - The need for consultation with the Police and TD
 - Basics of traffic management devices for road works

Presentation Outline (2)

- Overview of traffic related considerations in preparation of **Temporary Traffic Arrangements (TTAs)**
 - The need for maintaining vehicular flows
 - The need for maintaining pedestrian flows
 - The need of traffic consultant for preparation of TTAs
- Examples of TTAs commonly encountered in building works

Brief Introduction to

CODE OF PRACTICE FOR THE LIGHTING, SIGNING AND GUARDING OF ROAD WORKS



Legal Requirements (1)

- Road Traffic Ordinance (CAP 374)
 - This is the principal Ordinance concerning road traffic matters, and from this stems the Road Traffic (Traffic Control) Regulations (Cap. 374G) which contain the particular regulations pertaining to the lighting, signing and guarding of road works.
 - The Ordinance empowers the Director of Highways to prescribe a **code of practice for the lighting, signing and guarding of road works (COP)**.

Legal Requirements (2)

- Road Traffic (Traffic Control) Regulations (CAP 374G)
 - **Regulation 20** on provision of lights and signs at road works places
 - the person responsible for road works shall erect and maintain prescribed lanterns, traffic signs and road markings and to locate them in the manner set down in the **COP**.

Consultation (1)

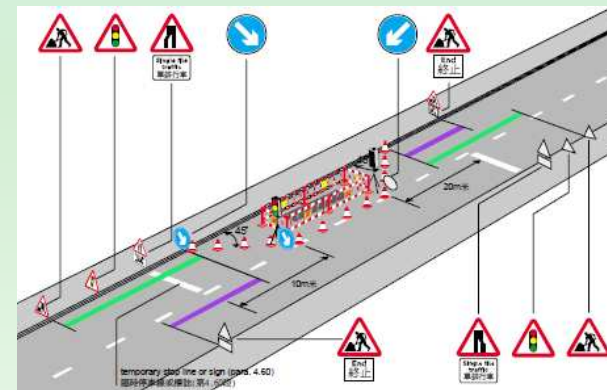
- Para. 3.2 of the COP refers
- Where **disruption** to traffic, either vehicular or pedestrian, could occur as a result of the works,
 - consultation with the Police, the Transport Department and the Highways Department should take place well in advance of the commencement of any works.
 - Failure to do this may result in the works being stopped.
- Such consultation should take place regardless of whether or not an excavation permit is required.
 - The proposed TTAs and implementation hours

Consultation (2)

- Desirable lead time of each TTA submission to TD
 - 3-4 weeks in general
 - Assessment duration highly depends on the quality and complexity of the proposed TTA
- Traffic Management Liaison Group (TMLG) Meeting
 - A platform for discussion of proposed TTAs amongst the applicant, TD and the Police

Consultation (3)

- Consultation with **stakeholders** to be affected by the works is necessary, including but not limited to: -
 - nearby residents and tenants
 - For example, shops of which loading/unloading activities and/or customers would be affected by the works
 - nearby schools; particularly when school activities would be affected
 - Pick-up/drop-off activities and/or walking paths of students would be affected by the works
 - District Council members if appropriate

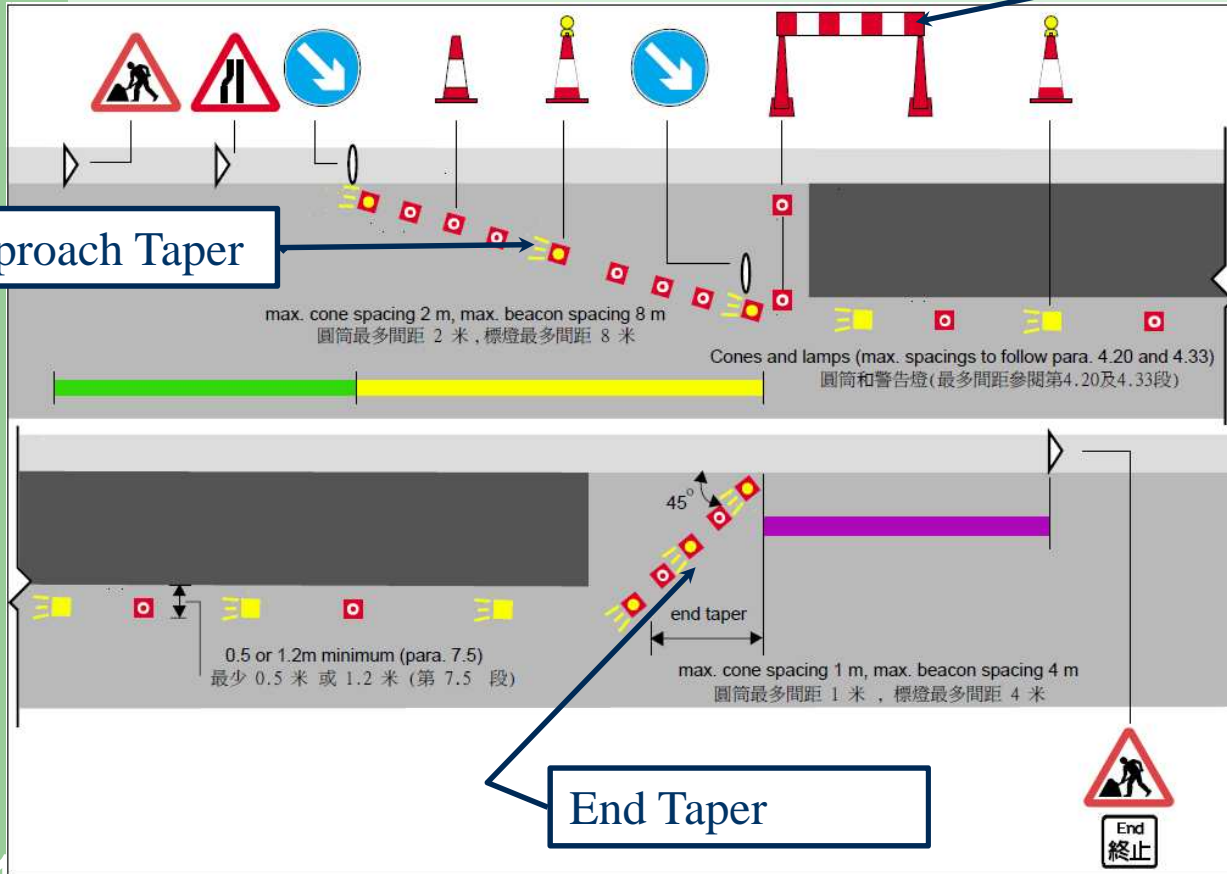


BASICS OF TRAFFIC MANAGEMENT DEVICES FOR ROAD WORKS

Basic Layout of Traffic Management Devices for Road Works

Barricade (路障)

Approach Taper



Key 索引

- See Table 5.2 for distance of first sign
請參看表 5.2 所示的第一個標誌的距離
- See Table 5.3 for distance of "End of Road Works" Sign after road works
請參看表 5.3 所示道路工程之後的「道路工程終止」標誌的距離
- See Table 5.4 for taper length
請參看表 5.4 所示的楔形路段長度
- Works area
施工地區
- Low intensity battery operated lamps
低亮度電池警告燈
- High intensity battery operated beacons
高亮度電池標燈

Siting of temporary signs (1)

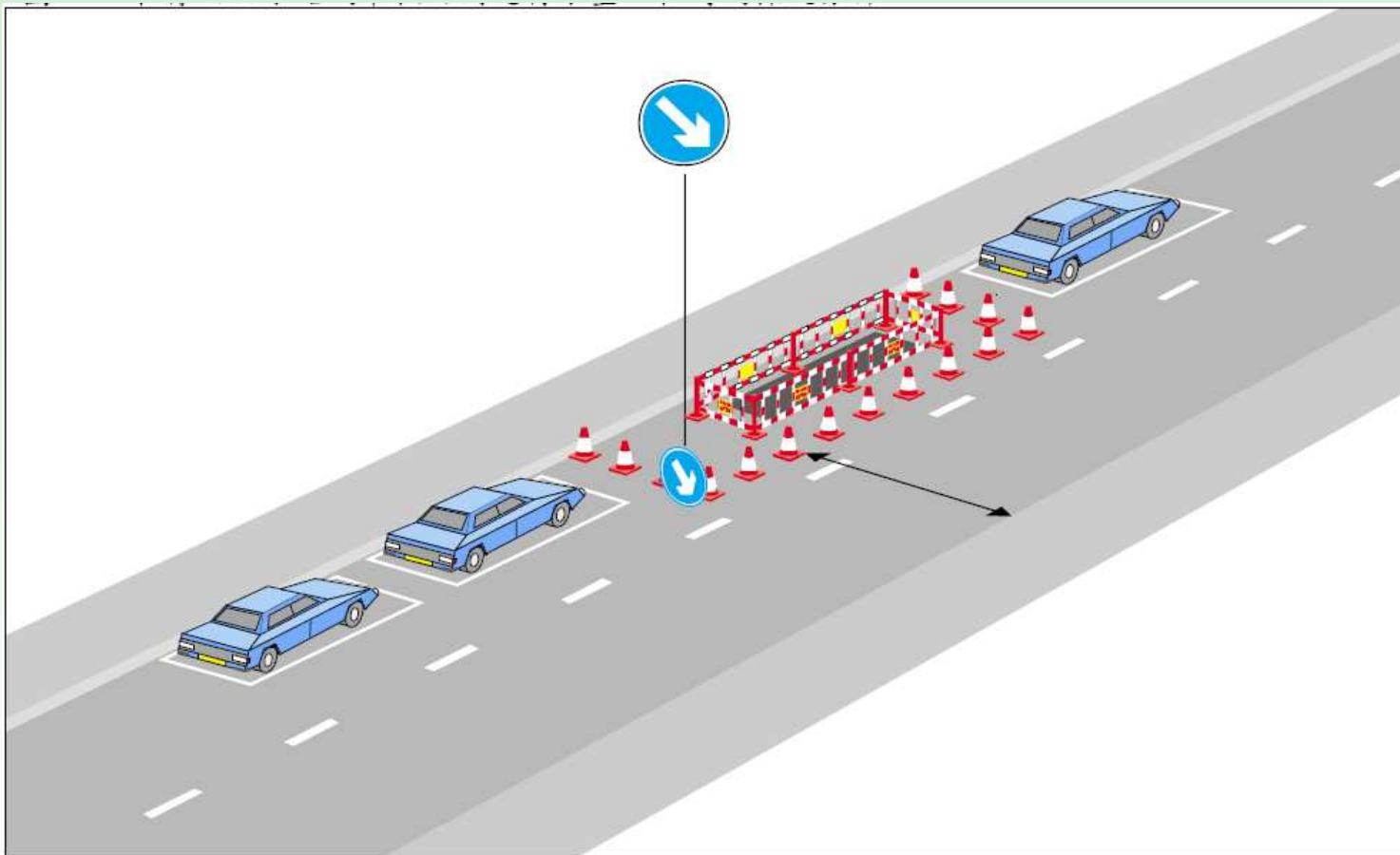
Table 5.2 Siting of Advance Warning Signs		表 5.2 設置預先警告標誌的位置	
Estimated Approach Speed of Vehicles (km/h) 估計來車時速 (公里)	Distance of First Sign in Advance of Road Works (m) 道路工程與前面第一個標誌的距離 (米)	Minimum Number of Signs in Advance of Road Works 道路工程前面設置標誌的最少數目	Minimum Visibility Distance of Driver to First Sign (m) 駕駛人士應能在這距離之前看到第一個標誌 (米)
Up to 50 50 或以下	Not less than 40 不少於 40	2	50
50 to 70 50 至 70	40-100	2	60
70 to 85 70 至 85	100-300	3	70
Over 85 超過 85	300-600	3	80
Expressways 快速公路	600	3	80

Table 5.3 Siting of "End of Road Works" Sign		表 5.3 設立「道路工程終止」標誌的位置	
Estimated Approach Speed of Vehicles (km/h) 估計來車時速 (公里)	Distance beyond the Works (m) 工程範圍之後的距離 (米)		
Up to 50 50 或以下	10-30		
50 to 85 50 至 85	30-35		
Over 85 超過 85	45-90		

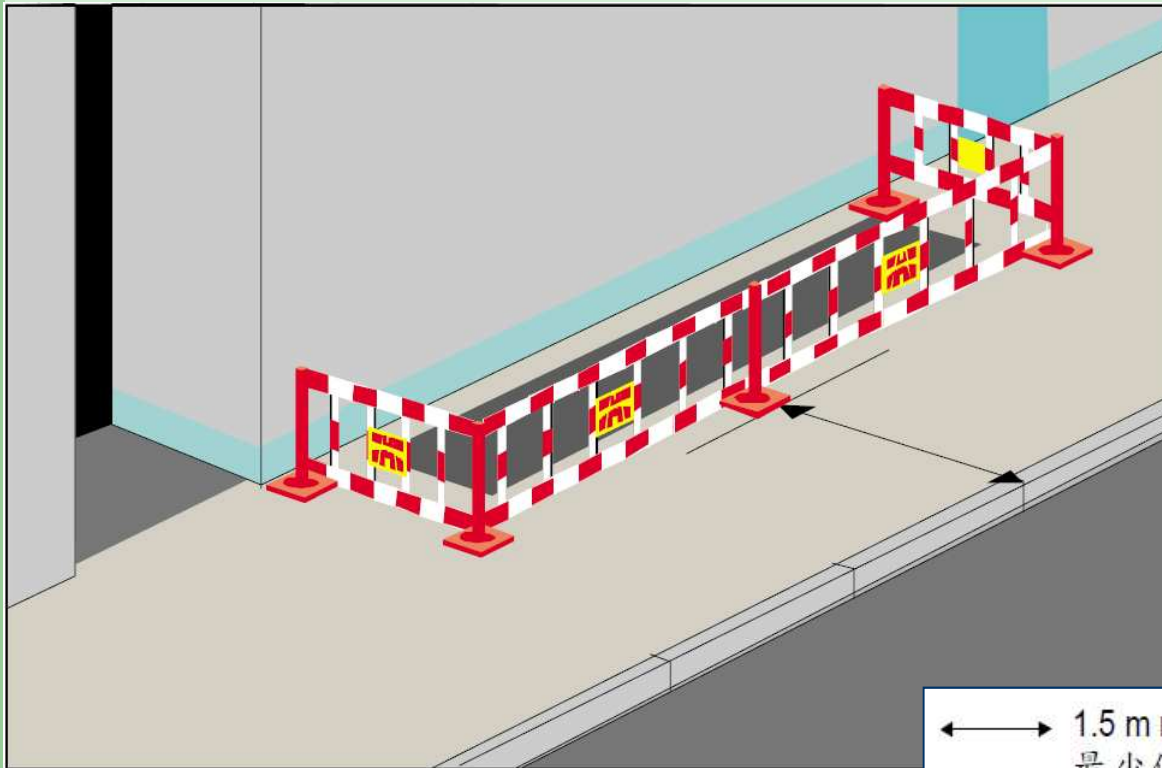
Siting of temporary signs (2)

Table 5.4 Length of Approach Tapers (m)		表 5.4 楔形引入路段長度 (米)			
Width of Hazard (m) 危險處闊度 (米)	Estimated Approach Speed of Vehicles (km/h)				
	估計來車時速 (公里)				
	Up to 50 50 或以下	50-70 50 至 70	70-85 70 至 85	Over 85 超過 85	
2.4	20	30	45	60	
2.7	23	34	51	69	
3.0	26	38	58	76	
3.4	29	42	63	84	
3.7	32	46	69	91	
4.3	36	52	78	108	
4.9	40	60	90	122	
5.5	44	68	102	138	
6.1	49	76	114	152	
6.7	54	84	126	168	
7.3	60	90	138	182	
Minimum Height of Traffic Cones/Cylinder (mm) 交通圓筒／圓柱的最小高度 (毫米)	750	750		1000	
Maximum Spacing of Traffic Cone/Cylinder (m) 交通圓筒／圓柱的最大間距 (米)	2	2		2	

Layout for minor works on minor roads between parked vehicles

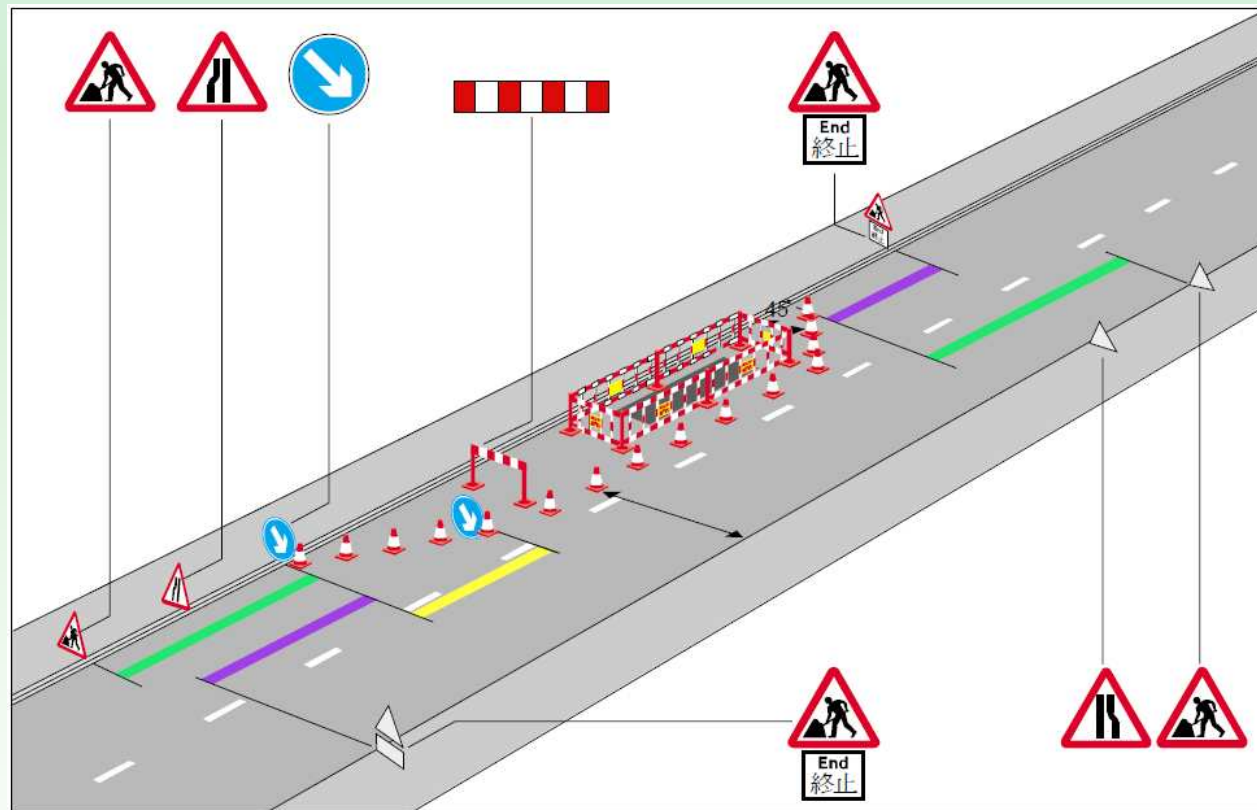


Layout of signs for works on footways



←→ 1.5 m minimum unobstructed width (para 6.1)
最少保持 1.5 米闊的通道暢通無阻 (第 6.1 段)

Layout of signs for works on single carriageway roads



←→ 5.5 m minimum unobstructed width
最少保持 5.5 米闊的車路暢通無阻

Traffic Control Equipment (1)

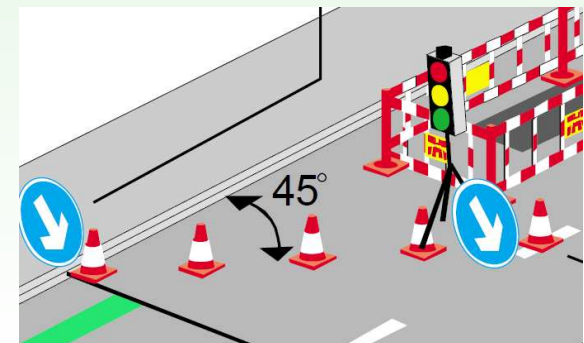


- Normal minimum width of a single carriageway for **two way** traffic is 5.5m, subject to site conditions
- If the width cannot be provided, the carriageway must be reduced to a width not less than 3m but not more than 3.7m and traffic control equipment used to operate alternate **one way** working
- Traffic control equipment
 - Portable light signal
 - “Stop/Go” signs

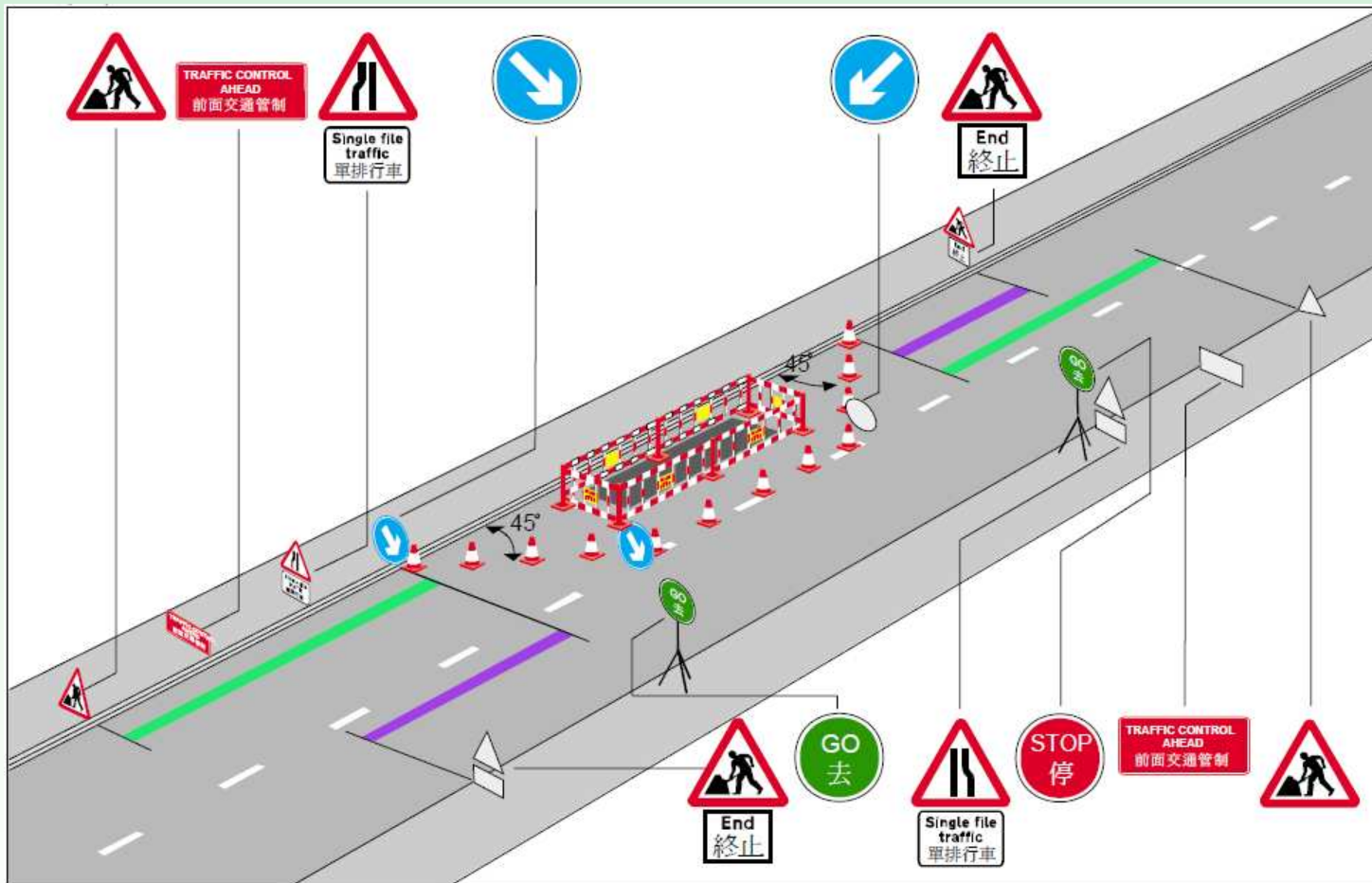


Traffic Control Equipment (2)

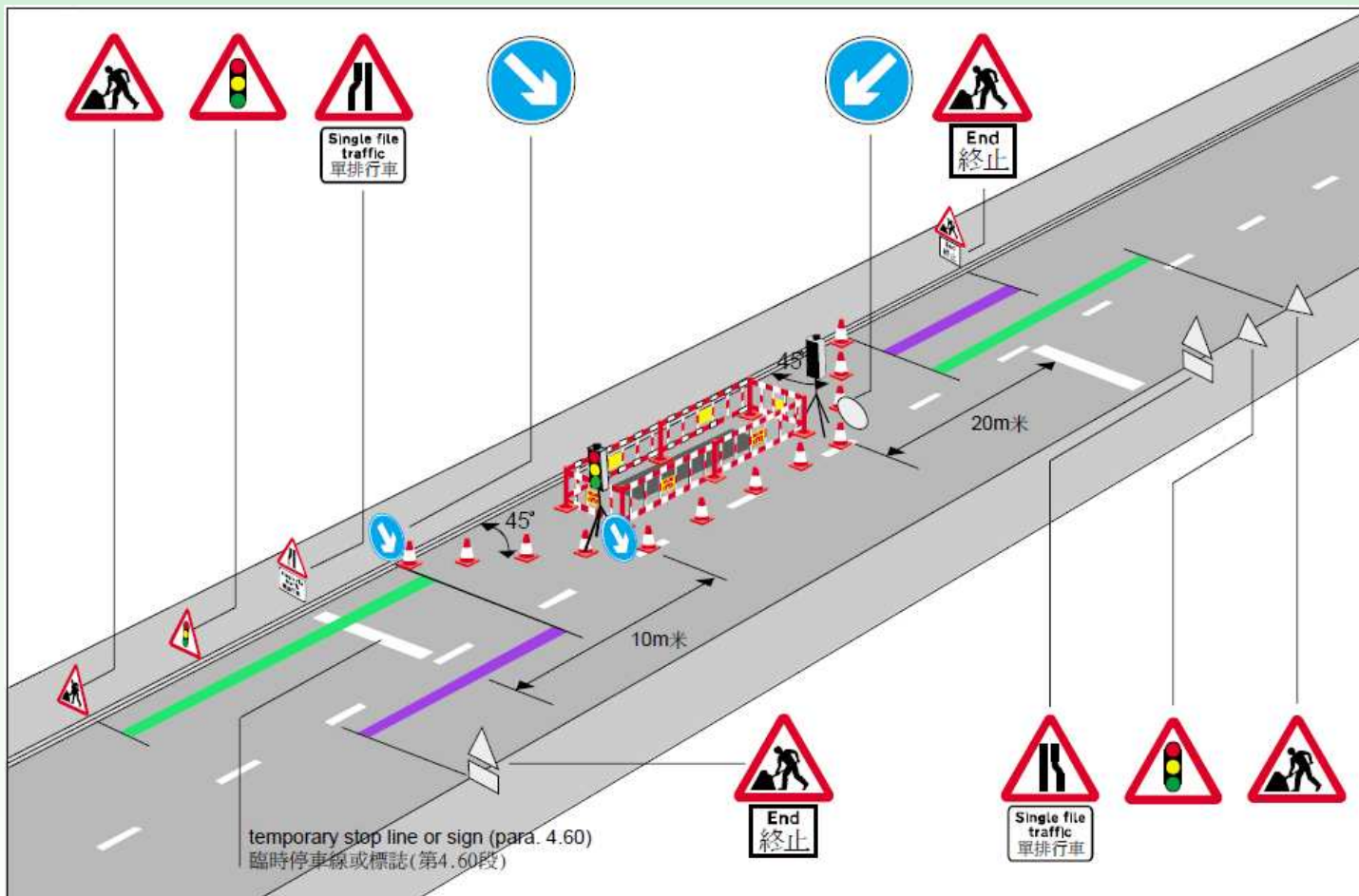
- **Portable light signals** are the preferred means of traffic control and must be used :
 - where the length of control exceeds 30 m,
 - where the length of control is less than 30 m and the view of oncoming traffic is obscured, or
 - during the **hours of darkness**, irrespective of the length of control.



Layout of signs for road works on single lane carriageway roads with “Stop/Go” Signs

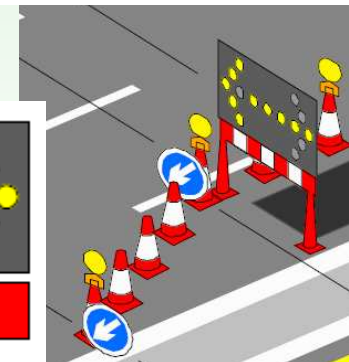
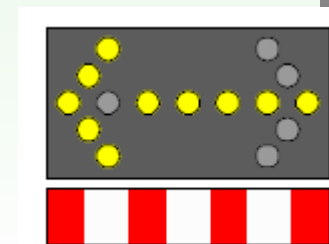
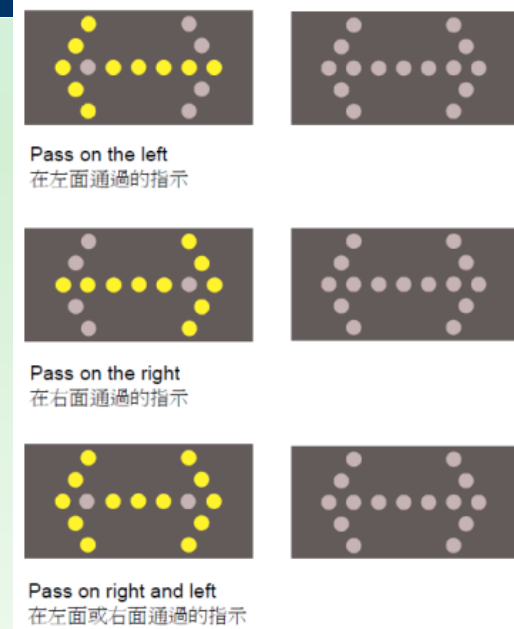


Layout of signs for road works on single lane carriageway roads with portable light signals



Flashing Arrow Sign (FAS)

- Used to warn drivers to take special care of
 - the presence of stationary or slowly moving works vehicles on an expressway;
 - works front on roads of relatively high vehicle speed; or
 - works front where its visibility to drivers may be poor, for example, works front present at night.



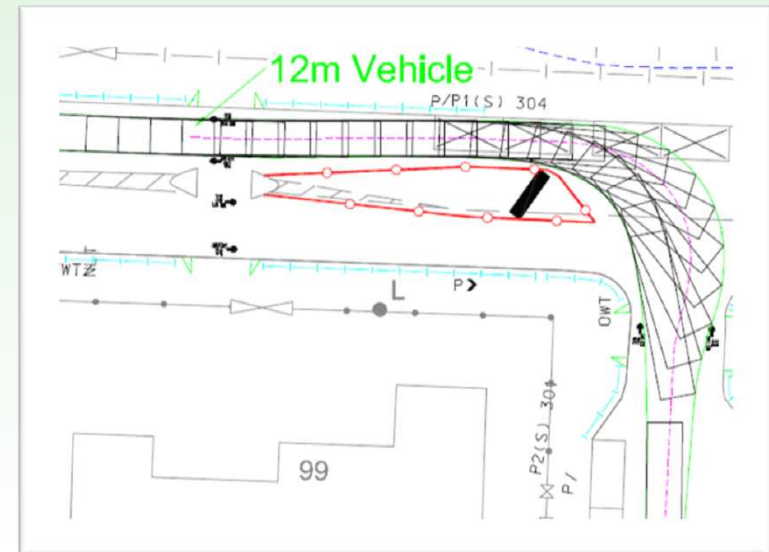
OVERVIEW OF TRAFFIC RELATED CONSIDERATIONS IN PREPARATION OF TTAS

TTA Submissions – Basic Requirements

- You should provide on-scale plans clear presentation of
 - Existing traffic signs and road markings
 - The extent of works area
 - Temporary traffic signs and road markings as proposed
 - Clear widths of at critical sections of remaining carriageways and temporary footpaths
 - Stages of road works
 - Temporary no-stopping restriction and the extent
 - Closure of metered parking spaces
 - Proposed banning of turns
 - Temporary vehicle length prohibition
 - Temporary speed limit
 - Restriction to implementation hours of road works
 - Anticipated duration of works, and programme of works

Traffic-related Considerations for Works on Carriageway (1)

- Impact to one-way/two-way traffic
 - Impact of the TTA to vehicle weavings
 - Shortening length of merging lane
 - The combined effect of the TTA and existing double white lines
- Checks of vehicle maneuverings, for example, by swept path analysis



Traffic-related Considerations for Works on Carriageway (2)

- Assessment of junction/road capacity during the implementation of TTAs
 - Restriction to implementation hours of TTAs
 - Decking over of works area during peak hours
- Selection of traffic diversion route
- Arrangement on carriageway reinstatement
 - Curing time for concrete carriageway
- Loading/unloading arrangements for road works

Traffic-related Considerations for Works on Carriageway (3)

- Obstructions to sightlines of motorists/ pedestrians
- Impacts to traffic flows arising from temporary changes of existing traffic signs and road markings
- Impact to public transport routes
 - Bus routes, GMB routes

Traffic-related Considerations for Works on Footpath (1)

- Clear width for temporary footpaths
 - Normally, a minimum clear footway width of **1.5m** should be maintained for pedestrians.
 - The footway width may be reduced to less than 1.5m with the prior permission of the authorities, but **barrier-free access** requirement for footpath should be attained whenever practical.
- Sightlines of pedestrians
 - Should not be obstructed at pedestrian crossings
 - Stored plant and materials should be kept as far back as possible from the edge of the carriageway and in such a position that sightlines, particularly at junctions, are not obstructed.

Traffic-related Considerations for Works on Footpath (2)

- Pedestrian crossings and its associated waiting area should be maintained whenever possible
- Level-of-Service (LOS) of temporary footpath
 - The crowded condition of temporary footpath can be examined through the LOS assessment

The Need for Traffic Consultant (1)

- Layouts shown in the COP are **not** universal solutions for road works, but typical illustrations
- Traffic expertise from a professional traffic consultant is necessary for duly deriving TTAs in some occasions
 - **Complicated, medium to large scale** TTAs, such as TTAs associated with long detouring paths
 - TTAs at heavily trafficked roads
 - TTAs requiring measurement and assessment of **traffic flows**, such as calculation of junction capacities/ road capacities, Level-of-Service (LOS) study of footways
 - TTAs requiring **Traffic Impact Assessment (TIA)**

The Need for Traffic Consultant (2)

TIA Requirement

2.1 Objective

The main objectives of TIA are

- a) to assess the anticipated traffic implications of carrying out road works;
- b) to devise appropriate temporary traffic management measures to ameliorate the traffic impact of the road works.

2.2 List of roads affected

The list of roads where TIA requirements shall apply is given in Appendix 1 and includes Red Routes and Pink Routes and some other traffic sensitive routes.



HIGHWAYS DEPARTMENT

GUIDELINES
ON
TRAFFIC IMPACT ASSESSMENT
&
DAY-TIME BAN REQUIREMENTS
FOR
ROAD WORKS ON TRAFFIC SENSITIVE ROUTES

Research & Development Division

RD/GN/021
July 1995

Thank You