

Handling of Traffic Installations During Road Works

1. Introduction

During road works involving road opening, roadwork contractors or utilities undertakers (UUs) may encounter traffic installations, such as loops, cables or ductworks installed in public roads and footpaths. Where necessary, such installations will have to be diverted or disconnected on site and the roadwork contractors or UUs may wish to ascertain their ownership or managing agents because the traffic installations are not necessarily managed by the Transport Department (TD) alone. They may be managed by others. The following will provide guidelines for identifying and handling the installations, either managed by TD or not, that are found in public highways, both during normal road works situation and emergencies. Emergency situations are those incidents involving significant consequences that need immediate attention.

At present, some public roads are designated as Tunnel Areas and Control Areas, such as Tsing Ma Control Areas, etc. In the Tunnel Areas and Control Areas, incidents are handled by the Operators of the Tunnel Areas and Control Areas, whilst Government Departments will handle incidents outside the Tunnel Areas and Control Areas. Therefore Section 2 below will describe how to deal with the installations inside Tunnel Areas and Control Areas, and Section 3 will deal with the installations outside Tunnel Areas and Control Areas.

Where appropriate, the descriptions will be illustrated by photos showing the various traffic installations that may be encountered. In general, the roadwork contractors or UUs should first refer to the photos for initial recognition of the particular type of traffic installations found on site. If necessary, further enquiries should be made to the Tunnel Area and Control Area Operators or relevant Government Departments where appropriate. TD's First Contact Point (TDFCP) at 2410 0066 (24 hours) can assist in identification of installations outside Tunnel Areas and Control Areas in case of emergencies. The enquirers should indicate the name of the streets or junctions where the installations are found and briefly describe the installations (like loops, cables, ductworks, road side cabinets) in order for the responsible person to check against the records.

2. Traffic installations inside Tunnel Areas and Control Areas

The operators of the Tunnel Areas and Control Areas keep their own records of all those traffic installations within their areas. The roadwork contractors or UUs should contact the relevant Operators for assistance before they commence any works associated with the installations under any circumstances. A list of Tunnel Areas and Control Areas and the details of contact are given in **Appendix I**. The operators can be contacted at any time (24 hours).

3. Traffic installations outside Tunnel Areas and Control Areas

(a) Managed by TD

(i) Inductive Loop Detector System for Traffic Survey

Identification on Site

The system comprises of inductive loops installed on carriageway and a roadside cabinet. The loop is a series of wire buried just below the road surface (50mm for concrete

pavement and 90mm for bituminous pavement). The loop is connected to a roadside cabinet in the form of metal housing seated on the footpath. Sometimes a draw-pit with a cover marked “ATC” may also be found in the vicinity. The system is owned and managed by the Traffic Survey and Support Division (TSSD) of TD and maintained by a contractor. The details including contact telephone number 9831 8709 (24 hours) can be found on the wall of the cabinet. Photos showing a typical loop cable, a roadside cabinet, and a draw-pit cover are given in **Annex A of Appendix II**.

Procedures

(1) For normal road works

Requests for information and temporary diversion/relocation should be submitted in writing to TSSD. Facsimile enquiries should be made to TSSD at 2723 7472 (24 hours).

For normal road opening works under planning, the contractors or UUs should circulate their road opening proposals to the various divisions of TD for identification of installations to be affected. The proposals should also be circulated to other concerned government departments for comments before implementation.

(2) For emergency repairs involving significant consequences

The contractors or UUs can remove the loops during emergency without prior notice to TD. They need to inform TD’s First Contact Point at 2410 0066 (24 hours) and TD’s survey contractor at 9831 8709 (24 hours) for such removal afterwards for record purpose. The contractors or UUs shall arrange to reinstate the loop system at their own cost to the satisfaction of TD and EMSD as soon as the roadwork is completed.

If it is unavoidable that the roadside cabinet needs to be relocated for the emergency works, the contractors or UUs shall inform the TD’s contractor at 9831 8709 (24 hours) immediately for relocation of equipment inside the cabinet, and inform TD’s First Contact Point at 2410 0066 (24 hours) of the course of action. As some of the equipment are powered by electricity, the contractors or UUs should handle them with care to avoid electric shocks and arrange the power company for such disconnection prior to relocation. The cabinet shall be reinstated by the contractors or UUs afterwards at their own cost to the satisfaction of TD. Also, the contractors or UUs shall at their own cost arrange the power company for re-connection of power supply to the cabinet.

(ii) *Rubber Tube Detector System for Traffic Survey*

Identification on Site

The system comprises of rubber tubes installed on carriageway and a roadside cabinet. The tube is a thick walled rubber tube stretched across the carriageway and held in position by clamps nailed into the pavement. The tubes are connected to a roadside cabinet in the form of metal housing seated on footpath. The system is not associated with or installed at road junctions. The system is owned and managed by TSSD of TD and maintained by a contractor. The details including contact telephone number 9831 8709 (24 hours) can be found on the wall of the cabinet. This system is not powered by

electricity. Photos showing a typical roadside cabinet and rubber tube detector are given in **Annex B of Appendix II**.

Procedures

(1) For normal road works

Facsimile requests for information and temporary diversion/relocation should be directed to TSSD at 2723 7472 (24 hours).

(2) For emergency repairs involving significant consequences

The contractors or UUs can remove the tubes during emergency without prior notice to TD. They need to inform TD's First Contact Point at 2410 0066 (24 hours) and TD's survey contractor at 9831 8709 (24 hours) for such removal afterwards for record purpose. The tubes shall be reinstated by the TD's contractor at the cost of the contractors or UUs.

If it is unavoidable that the roadside cabinet needs to be relocated for the emergency works, the contractors or UUs shall inform the TD's contractor at 9831 8709 (24 hours) immediately for collection of the cabinet, and inform TD's First Contact Point at 2410 0066 of the course of action.

(iii) *Traffic Light Control System at Junctions or Crossings not Related to Light Rail Transit*

Identification on Site

The system comprises of inductive loops, traffic lights with poles, controller cabinet and underground cables. The loops are of the same construction as for the traffic surveys mentioned in (a) (i) above. They are connected to a roadside cabinet in the form of metal housing seated on footpath and are located at road junctions or pedestrian crossings not related to Light Rail Transit (LRT). The traffic light poles are installed near kerb side of footpaths or at central islands. They are connected to each other and to the roadside cabinet by underground cables inside ducts across the junction. Photos showing typical traffic light posts and roadside cabinets are given in **Annex C of Appendix II**.

Procedures

(1) For normal road works

Requests for information and temporary diversion/relocation should be submitted in writing to the Traffic Control Division (TCD) of TD. Telephone enquiries should be made to TCD at 3842 6109 (office hours) or Electrical and Mechanical Services Department (EMSD) at 2333 3762 (24 hours).

For normal road opening works under planning, the contractors or UUs should circulate their road opening proposals to the various divisions of TD for identification of installations to be affected. The proposals should also be circulated to other concerned government departments for comments before implementation.

(2) For emergency repairs involving significant consequences

For loop detectors, the contractors or UUs can remove these during emergency without prior notice to TD. However, they should inform EMSD at 2333 3762 (24 hours) and TD's First Contact Point at 2410 0066 (24 hours) as soon as practicable as TD will need to adjust traffic plans if appropriate. The contractors or UUs shall arrange to reinstate the loop system at their own cost to TD's and EMSD's satisfaction as soon as the roadwork is completed.

If it is unavoidable that the roadside cabinet or traffic light posts need to be relocated for the emergency works, the contractors or UUs shall inform TD's First Contact Point at 2410 0066 (24 hours) immediately and contact EMSD at 2333 3762 (24 hours) for relocation of traffic signals or equipment inside the cabinet. As some of the equipment are powered by electricity, the contractors or UUs should handle them with care to prevent electric shocks and arrange the power company for such disconnection prior to relocation works by EMSD. The cabinet and signal posts should be reinstated by the contractors or UUs afterwards at their own cost to the satisfaction of TD and EMSD. Also, the contractors or UUs shall at their own cost arrange the power company for re-connection of power supply to the system.

For underground cables, they normally carry electricity. The contractors or UUs should take precautions to prevent electric shocks when handling any cables discovered underground. The cables, whether armoured or not, can be supported temporarily to allow emergency works to be carried out. The contractors or UUs should plan their emergency repairs to avoid disconnection of the cables as far as possible. In case that disconnection of cables is inevitable, the contractors or UUs should first notify the concerned power company for arranging disconnection. It is however not necessary to give prior notice to TD before carrying the works. However, they need to report to TD's First Contact Point at 2410 0066 (24 hours) immediately upon disconnection. Also, the contractors or UUs shall at their own cost arrange the power company for re-connection of power supply to the system, and such works can only be made under the supervision of TD and EMSD.

In case the contractors or UUs expect that their works will disrupt the operation of the traffic lights, they should first inform the Traffic Police. Before the Traffic Police arrive on site to control the road junction manually, the contractors or UUs should not commence any the works that may affect the traffic light operations.

(iv) *Traffic Light Control System at Junctions with Light Rail Transit*

Identification on Site

This system is similar to that described in (a) (iii) above, except that it is located at a road junction with Light Rail Transit. For normal and emergency repairs in the 'vicinity' of the Light Rail¹, the contractors or UUs should obtain consent from the Mass Transit Railway Corporation (MTRC) before carrying out repair works.

¹ The 'vicinity' of the Light Rail is defined as (1) below, inside or within the airspace above the Light Rail Reserve; (2) within 6 m of any MTRC Light Rail track or equipment; (3) within 50 m of any MTRC Light Rail/Road junction; (4) within 2 m of any overhead electrical equipment, including support poles; and (5) any deep excavation, piling, dewatering and/or major works within 50 m of any MTRC Light Rail track.

Procedures

(1) For normal road works

Requests for information and temporary diversion/relocation should be submitted in writing to the Traffic Control Division (TCD) of TD. Telephone enquiries should be made to TCD at 3842 6109 (office hours) or EMSD at 2333 3762 (24 hours) or MTRC at 2468 7700 (24 hours).

For normal road opening works under planning, the contractors or UUs should circulate their road opening proposals to the various divisions of TD and MTRC for identification of installations to be affected. The proposals should also be circulated to other concerned government departments for comments before being implemented.

(2) For emergency repairs involving significant consequences

The procedures to deal with this system during emergency are similar to those mentioned in (iii) above, except that both MTRC at 2468 7700 (24 hours) and EMSD at 2333 3762 (24 hours) are to be contacted first before any action to be taken to remove the system or disconnect the cables. TD's First Contact Point at 2410 0066 (24 hours) should also be informed of the course of action. The system should be reinstated by the contractors or UUs at their own cost to the satisfaction of TD, EMSD and MTRC afterwards. The contractors or UUs shall arrange to reinstate the loop system at their own cost to TD's and EMSD's satisfaction as soon as the road work is completed.

For underground cables, they normally carry electricity. The contractors or UUs should take precautions to prevent electric shocks when handling any cables discovered underground. The cables, whether armoured or not, can be supported temporarily to allow emergency works to be carried out. The contractors or UUs should plan their emergency repairs to avoid disconnection of the cables as far as possible. In case that disconnection of cables is inevitable, the contractors or UUs should first report to the MTRC at 2468 7700 (24 hours) and, EMSD at 2333 3762 (24 hours), and notify the concerned power company for arranging disconnection. The contractors or UUs can then carry out the works without further notice to TD, after having taken the necessary precautions. However, they need to report to TD's First Contact Point at 2410 0066 (24 hours), EMSD at 2333 3762 (24 hours) and MTRC at 2468 7700 (24 hours) immediately upon disconnection. When the cables are to be re-connected, the connections can only be made under the supervision of TD and EMSD afterwards. Also, the contractors or UUs shall at their own cost arrange the power company for re-connection of power supply to the system.

In case the contractors or UUs expect that their works will disrupt the operation of the traffic lights, they should first inform the Traffic Police and MTRC. Before the Traffic Police arrive on site to control the road junction manually, the contractors or UUs should not commence any the works that may affect the traffic light operations.

(v) Cables for Closed-circuit Television (CCTV) System

Identification on Site

Power cables and fibre optic telecommunication cables are installed in 100mm diameter PVC cable ducts buried underground along or across roads in the vicinity of CCTV camera kiosks and masts, and are connected to draw-pits with 'ATC' or 'TCS' marked on the covers. The ducts along roads are normally along the edge of the carriageway including hard shoulder. In addition, some ducts which serve CCTV cameras but are not located under roads can be identified by the existence of the camera and kiosk close to each other. A photo showing a typical CCTV is given in **Annex D of Appendix II**.

Procedures

(1) For normal road works

Requests for information and temporary diversion/relocation should be submitted in writing to TCD of TD. Telephone enquiries should be made to TCD at 3842 6109 (office hours) or EMSD at 2333 3762 (24 hours).

For normal road opening works under planning, the contractors or UUs should circulate their road opening proposals to the various divisions of TD for identification of installations to be affected. The proposals should also be circulated to other concerned government departments for comments before being implemented.

(2) For emergency repairs involving significant consequences

The contractors or UUs should contact TD's First Contact Point at 2410 0066 (24 hours) to get agreement for disconnections. They should also inform EMSD at 2333 3762 (24 hours) accordingly. The contractors or UUs should reinstate the cables and draw-pits (if damaged) after the emergency repairs at their own cost to the satisfaction of TD and EMSD.

For underground cables, they normally carry electricity. The contractors or UUs should take precautions to prevent electric shocks when handling any cables discovered underground. The cables, whether armoured or not, can be supported temporarily to allow emergency works to be carried out. The contractors or UUs should plan their emergency repairs to avoid disconnection of the cables as far as possible. In case that disconnection of cables is inevitable, the contractors or UUs should first notify the concerned power company for arranging disconnection. It is however not necessary to give prior notice to TD before carrying out the works. However they need to report to TD's First Contact Point at 2410 0066 (24 hours) immediately upon disconnection. Also, connections can only be made under the supervision of TD and EMSD afterwards. The contractors or UUs shall at their own cost arrange the power company for re-connection of power supply to the system.

(vi) Cables for Emergency Telephone (ET) Systems

Identification on Site

Each of the systems comprises a telephone housed inside a small roadside cabinet mounted on a pole. The systems are no more functional and power supplies to the field equipment had all been terminated. The cables and ducts are reserved for possible installation of the future optical fibre ring network to the Strategic Road Network. Trunk ET cables are normally laid in 100 mm diameter reserved cable duct in dual-duct configuration inside parapets of elevated roads, under verges or footpaths if present, or under carriageways in case of cross road cables. However, there are exceptional cases. For instance, there are some ET ducts in triple-duct configuration and/or of size other than 100 mm diameter. Besides, some draw-pit covers of the ET ducting carry the inscription of “TCS” and some are simply left blank. Photos showing a typical ET system are given in **Annex E of Appendix II**.

Procedures

(1) For normal road works

Requests for information and temporary diversion/relocation should be submitted in writing to MP5 Section of Major Projects Division (MPD) of TD. Facsimile enquiries should be made to MPD at 2827 9237 (24 hours).

For normal road opening works under planning, the contractors or UUs should circulate their road opening proposals to the various divisions of TD for identification of installations to be affected. The proposals should also be circulated to other concerned government departments for comments before being implemented.

(2) For emergency repairs involving significant consequences

The contractors or UUs can temporarily support the cables or to disconnect the cables during emergency. It is however not necessary to give prior notice to TD before carrying out the works. The contractors or UUs should reinstate or divert the facilities after the emergency works at their own cost to the satisfaction of TD, and inform TD’s First Contact Point at 2410 0066 (24 hours) accordingly.

(vii) Traffic Control and Surveillance System (TCSS)

TCSS is a kind of Intelligent Transport System (ITS) with the objectives to increase the efficiency of traffic management, improve the overall capacity of the road system and enhance road safety. The TCSS field facilities outside Control Areas include Variable Message Sign (VMS), Full Variable Message Sign (FVMS), Lane Control Switch (LCS) and Variable Speed Limit Sign (VSLS) on the open highway. Photos showing the typical VMS, FVMS, LCS and VSLS are given in **Annex F of Appendix II**.

Procedures

(1) For normal road works

Requests for information and temporary diversion/relocation should be submitted in

writing to MP5 Section of Major Projects Division (MPD) of TD. Facsimile enquiries should be made to MPD at 2827 9237 (24 hours).

(2) For emergency repairs involving significant consequences

The contractors or UUs should contact TD's First Contact Point at 2410 0066 (24 hours) to get agreement for disconnections. They should also inform EMSD at 2333 3762 (24 hours) accordingly. The contractors or UUs should reinstate the cables, cabinets and draw-pits (if damaged) after the emergency repairs at their own cost to the satisfaction of TD and EMSD.

(viii) *Traffic bollards*

Identification on Site

The bollards are located at central islands of road junctions. Power cables are connected to the bollards with cable ducts buried underground. A photo showing a typical bollard is given in **Annex G of Appendix II**.

Procedures

(1) For normal road works

Requests for information and temporary diversion/relocation should be submitted in writing to HyD, EMSD or the relevant Regional Office of TD. Telephone enquiries should be made to HyD at 2926 4111 (24 hours), EMSD at 2333 3762 (24 hours) or the relevant Regional Office of TD.

For normal road opening works under planning, the contractors or UUs should circulate their road opening proposals to TD, EMSD and HyD for identification of installations to be affected. The proposals should also be circulated to other concerned government departments for comments before being implemented.

(2) For emergency repairs involving significant consequences

When it is necessary to disconnect any cables, the contractors or UUs should first notify the concerned power company for arranging disconnection. After having provided the necessary temporary lighting and signing on site, the contractors or UUs can disconnect and remove cables or bollards without prior notice to TD. They should inform EMSD at 2333 3762 (24 hours), TD's First Contact Point at 2410 0066 (24 hours) and HyD at 2926 4111 (24 hours) afterwards. The contractors or UUs should reinstate the cables or bollards after the emergency repairs at their own cost to the satisfaction of HyD, TD and EMSD.

For underground cables, they normally carry electricity. The contractors or UUs should take precautions to prevent electric shocks when handling any cables discovered underground. The cables, whether armoured or not, can be supported temporarily to allow emergency works to be carried out. The contractors or UUs should plan their emergency repairs to avoid disconnection of the cables as far as possible. In case that disconnection of cables is inevitable, the contractors or UUs should first notify the concerned power company for arranging disconnection. It is however not necessary to give prior notice to TD before carrying out the works.

The contractor or UUs shall at their own cost arrange the power company for re-connection of power supply to the traffic bollards.

(ix) *Illuminated Traffic Signs*

Identification on Site

The traffic signs are illuminated by lights installed on the same post of the sign. Power cables are connected to the signs with cable ducts buried underground. A photo showing a typical illuminated traffic sign is given in **Annex H of Appendix II**.

Procedures

(1) For normal road works

Requests for information and temporary diversion/relocation should be submitted in writing to HyD or TD's relevant Regional Office. Telephone enquiries should be made to HyD at 2926 4111 (24 hours) or TD's relevant regional office.

For normal road opening works under planning, the contractors or UUs should circulate their road opening proposals to TD and HyD for identification of installations to be affected. The proposals should also be circulated to other concerned government departments for comments before being implemented.

(2) For emergency repairs involving significant consequences

When it is necessary to disconnect any cables, the contractors or UUs should first notify the concerned power company for arranging disconnection. It is not necessary to give prior notice to TD before disconnecting and removing cables or signs. However the contractors or UUs should afterwards inform HyD at 2926 4111 (24 hours) and TD's First Contact Point at 2410 0066 (24 hours). The contractors or UUs should reinstate the cables or signs after the emergency repairs at their own cost to the satisfaction of HyD and TD.

For underground cables, they normally carry electricity. The contractors or UUs should take precautions to prevent electric shocks when handling any cables discovered underground. The cables, whether flexible or armoured, can be supported temporarily to allow emergency works to be carried out. The contractors or UUs should plan their emergency repairs to avoid disconnection of the cables as far as possible. In case that disconnection of cables is inevitable, the contractors or UUs should first notify the concerned power company for arranging disconnection. It is however not necessary to give prior notice to TD before carrying out the works. Also, the contractors or UUs shall at their own cost arrange the power company for re-connection of power supply to the traffic signs.

(x) *Journey Time Indication System (JTIS)*

Identification on Site

The system comprises of journey time indicators and detectors installed at sign gantries and connected to roadside cabinets with power cables and fibre optic telecommunication cables. The cables are installed in 100mm diameter PVC cable ducts buried along or

across roads and are sometimes connected to draw-pits with “JTIS” marked on the covers. A photo showing a typical JTIS is given in **Annex I of Appendix II**.

Procedures

(1) For normal road works

Requests for information and temporary diversion/relocation should be submitted in writing to TSSD of TD. Telephone enquiries should be made to TSSD at 3842 6276 (office hours) or EMSD at 2333 3762 (24 hours).

For normal road opening works under planning, the contractors or UUs should circulate their road opening proposals to the various divisions of TD for identification of installations to be affected. The proposals should also be circulated to other concerned government departments for comments before implementation.

(2) For emergency repairs involving significant consequences

The contractors or UUs should contact TD’s First Contact Point at 2410 0066 (24 hours) to get agreement for disconnections. They should also inform EMSD at 2333 3762 (24 hours) accordingly. The contractors or UUs should reinstate the cables and draw-pits (if damaged) after the emergency repairs at their own cost to the satisfaction of TD and EMSD.

The underground cables, whether armoured or not, can be supported temporarily to allow emergency works to be carried out. The contractors or UUs should plan their emergency repairs to avoid disconnection of the underground cables and relocation of the cabinets as far as possible. If it is unavoidable that the roadside cabinet needs to be relocated or the underground cables needs to be disconnected for the emergency works, the contractors or UUs shall inform the TD’s First Contact Point at 2410 0066 (24 hours) of the course of action. Since some of the equipment inside the cabinets and underground cables normally carry electricity, the contractors or UUs should handle them with care to avoid electric shocks when handling the equipment and arrange the power company for such disconnection prior to relocation. The cabinet and underground cables shall be reinstated by the contractors or UUs afterwards at their own cost to the satisfaction of TD. Also, the contractors or UUs shall at their own cost arrange the power company for re-connection of power supply to the cabinet.

(xi) *Speed Map Panel (SMP) System*

Identification on Site

The system comprises of speed map panels and detectors installed at sign gantries or masts, and connected to roadside cabinets with power cables and fibre optic telecommunication cables. The cables are installed in 100mm diameter PVC cable ducts buried along or across roads and are sometimes connected to draw-pits with “SMP” marked on the covers. A photo showing a typical SMP is given in **Annex J of Appendix II**.

Procedures

(1) For normal road works

Requests for information and temporary diversion/relocation should be submitted in writing to TSSD of TD. Telephone enquiries should be made to TSSD at 3842 6276 (office hours) or EMSD at 2333 3762 (24 hours).

For normal road opening works under planning, the contractors or UUs should circulate their road opening proposals to the various divisions of TD for identification of installations to be affected. The proposals should also be circulated to other concerned government departments for comments before implementation.

(2) For emergency repairs involving significant consequences

The contractors or UUs should contact TD's First Contact Point at 2410 0066 (24 hours) to get agreement for disconnections. They should also inform EMSD at 2333 3762 (24 hours) accordingly. The contractors or UUs should reinstate the cables and draw-pits (if damaged) after the emergency repairs at their own cost to the satisfaction of TD and EMSD.

The underground cables, whether armoured or not, can be supported temporarily to allow emergency works to be carried out. The contractors or UUs should plan their emergency repairs to avoid disconnection of the underground cables and relocation of the cabinets as far as possible. If it is unavoidable that the roadside cabinet needs to be relocated or the underground cables needs to be disconnected for the emergency works, the contractors or UUs shall inform the TD's First Contact Point at 2410 0066 (24 hours) of the course of action. Since some of the equipment inside the cabinets and underground cables normally carry electricity, the contractors or UUs should handle them with care to avoid electric shocks when handling the equipment and arrange the power company for such disconnection prior to relocation. The cabinet and underground cables shall be reinstated by the contractors or UUs afterwards at their own cost to the satisfaction of TD. Also, the contractors or UUs shall at their own cost arrange the power company for re-connection of power supply to the cabinet.

(xii) *Bus-Bus-Interchange (BBI) display system*

Identification on Site

The system comprises 2 or 3 display panels installed under the covered walkway of the Bus-Bus-Interchange (BBI) near Tai Lam section on Tuen Mun Highway and connected to roadside cabinets with power cables and fibre optic telecommunication cables. The system is being maintained by EMSD. Photos showing typical BBI panels are given in **Annex K of Appendix II**.

Procedures

(1) For normal road works

Requests for information and temporary suspension of service should be submitted in writing to Smart Mobility Division (SMD) of TD. Telephone enquiries should be

made to EMSD at 2333 3762 (24 hours) or SMD at 3842 6236 (Office hours).

For normal road opening works, under planning, the contractors or UUs should circulate their road opening proposals to the various divisions of TD for identifications or installations to be affected. The proposals should also be circulated to other concerned government departments for comments before being implemented.

(2) For emergency repairs involving significant consequences

The contractors or UUs should notify EMSD at 2333 3762 (24 hours) to get agreement for disconnections. They should also inform TD at 3842 6236 accordingly. The contractors or UUs should reinstate the cables and draw-pits (if damaged) after the emergency repairs at their own cost to the satisfaction of TD.

(xiii) Traveller Information kiosk

Identification on Site

There are 18 kiosks installed at 15 locations. The system comprises a metal casing and electricity pillar box connected (usually) via underground conduit. The locations of the kiosks are as follows :

Hong Kong International Airport Terminal 1 Arrival Hall (2 numbers)	Tuen Mun Road Bus-Bus Interchange (both bound)
Yau Lai Arcade	Tsim Sha Tsui Ferry Pier
Sha Tin MTR Station	Ocean Park Entrance
Hong Kong Convention and Exhibition Centre	Municipal Building, Stanley Market
Central Ferry Pier (2 numbers)	Sai Kung Town Centre
Peak Galleria	Arrival Hall, Hung Hom MTR station
Tung Chung near Ngong Ping 360	Opposite to Wong Tai Sin Temple
Footbridge near Exchange Square, Central	

A photo showing a typical kiosk system is given in **Annex L of Appendix II**.

Procedures

(1) For normal road works

Requests for information and temporary suspension/relocation should be submitted in writing to SMD of TD. Telephone enquiries should be made to SMD at 3842 6236 (Office hours) or Autotoll Ltd at 2111 3604 (24 hours)

For normal road opening works, under planning, the contractors or UUs should circulate their road opening proposals to the various divisions of TD for identifications or installations to be affected. The proposals should also be circulated to other

concerned government departments for comments before being implemented.

(2) For emergency repairs involving significant consequences

The contractors or UUs should notify Autotoll Ltd at 2111 3604 (24 hours) to get agreement for disconnections. They should also inform TD at 2829 5395 accordingly. The contractors UUs should reinstate the cables and draw-pits (if damaged) after the emergency repairs at their own cost to the satisfaction of TD.

(b) Managed by Others

(i) ***Red light Camera System***

Identification on Site

The system comprises of inductive loop detectors, a post with a red light camera housing on top, and associated cables buried underground. The configuration of the loops on the road surface is similar to that mentioned in (a) (i) above. They are located at road junctions and are connected to a post on the footpath mounted with a red light camera or a road side cabinet (for RLC3). The cables are installed in 100 mm diameter cable ducts buried underground along footpath in the vicinity of the camera post. They are connected to draw-pits with “HKPF” marked on the covers. The camera is powered by electricity. The system is managed by the Police. Photos showing a typical RLC and its roadside cabinet are given in **Annex A of Appendix III**.

Procedures

(1) For normal road works

Requests for information and temporary diversion/relocation should be submitted in writing to the Traffic Police. Telephone enquiries should be made to the Traffic Police at 3661 5565 (office hours).

For normal road opening works under planning, the contractors or UUs should circulate their road opening proposals to the Traffic Police for identification of installations to be affected. The proposals should also be circulated to other concerned government departments for comments before being implemented.

(2) For emergency repairs involving significant consequences

The loops and cables can be removed first and inform the Police traffic headquarters afterwards at 3661 5565 (office hours). The contractors or UUs should arrange the relevant power company for power disconnection if necessary. The responsible party, contractors or UUs should ensure that the cables are re-installed and power supply re-connected at their own cost after the emergency repairs to normal operation status and to the satisfaction of the Police.

For the reinstatement of loops, the contractors or UUs shall arrange to reinstate the loop system at their own cost to the Police’s and EMSD’s satisfaction as soon as the roadwork is completed.

For underground cables, they normally carry electricity. The contractors or UUs

should take precautions to prevent electric shocks when handling any cables discovered underground. The cables, whether armoured or not, can be supported temporarily to allow emergency works to be carried out. The contractors or UUs should plan their emergency repairs to avoid disconnection of the cables as far as possible. In case that disconnection of cables is inevitable, the contractors or UUs should first notify the concerned power company for arranging disconnection. It is not necessary to give prior notice to the Traffic Police before carrying out the works.

(ii) *Speed Enforcement Camera System*

Identification on Site

The system comprises of a post with a speed enforcement camera housing on top and another pole with the radar located on footpath, and cables buried underground in 100 mm diameter cable ducts. The cables are connected to draw-pits with “HKPF” marked on the covers. The camera and the radar are powered by electricity. The system is managed by Police. Photos showing a typical speed enforcement camera system and road side cabinet are given in **Annex B of Appendix III**.

Procedures

(1) For normal road works

Requests for information and temporary diversion/relocation should be submitted to the Traffic Police or telephone enquiries should be made to the Traffic Police at 3661 5565 (office hours) if the contractors or UUs consider that their works on site have affected or may affect the speed enforcement camera systems.

For normal road opening works under planning, the contractors or UUs should circulate their road opening proposals to the Traffic Police for identification of installations to be affected. The proposals should also be circulated to other concerned government departments for comments before being implemented.

(2) For emergency repairs involving significant consequences

The cables can be removed or the camera or radar system relocated first and the Police traffic headquarters informed afterwards at 3661 5565 (office hours). The contractors or UUs should arrange the relevant power company for power disconnection if necessary. The responsible party, contractors or UUs should ensure that the cables and camera and radar system are re-installed and power supply re-connected at their own cost after the emergency repairs to normal operation status and to the satisfaction to the Police.

For underground cables, they normally carry electricity. The contractors or UUs should take precautions to prevent electric shocks when handling any cables discovered underground. The cables, whether armoured or not, can be supported temporarily to allow emergency works to be carried out. The contractors or UUs should plan their emergency repairs to avoid disconnection of the cables as far as possible. In case that disconnection of cables is inevitable, the contractors or UUs should first notify the concerned power company for arranging disconnection. It is however not necessary to give prior notice to the Traffic Police before carrying out the works.

(iii) *Obsolete ERP Loop Detector*

Identification on Site

The loops were installed on a concrete slab spanning the entire width of the carriageway. These are now not connected to any roadside cabinets. There are a total of 18 numbers located in Central and Admiralty area. The contractors or UUs can contact TD's First Contact Point at 2410 0066 (24 hours) for confirmation. A photo showing a typical road pavement with ERP loops installed is given in **Annex C of Appendix III**.

Procedures

As they are already obsolete, they can be taken as non-existent and works could be carried out as for any road slabs maintained by HyD.

4. Summary of Emergency Procedures for Handling Installations outside Tunnel Areas and Control Areas

For easy reference by the roadwork contractors or UUs, a summary of the procedures for handling traffic installations outside Tunnel Areas and Control Areas during emergency situations is shown in **Appendix IV**.

Tunnel Areas and Control Areas
Control Room Telephone Numbers (24 hours)

Tunnel Areas / Control Areas	Control Room Telephone Numbers
Aberdeen Tunnel	2555 3559
Kai Tak Tunnel	2755 8126
Cross Harbour Tunnel	2333 4141
Lion Rock Tunnel	2336 0078
Shing Mun Tunnels	2494 3666 / 2494 3622
Tseung Kwan O Tunnel	2772 8666
Eastern Harbour Crossing	2379 2317 / 2775 5910
Tai Lam Tunnel	2483 8733 / 2483 8722
Tate's Cairn Tunnel	2635 5218 / 2635 5219
Western Harbour Crossing	2302 5760 / 2302 5759
Discovery Bay Tunnel	2980 6812 / 2980 6813
Lung Shan Tunnel and Cheung Shan Tunnel	2945 3138
Central-Wan Chai Bypass Tunnel	2406 7688
TMCA – Tsing Yi Control Room	2436 5461
TMCA – Lantau Control Room	2436 5326
TMCA – Cheung Tsing Control Room	2436 5475
TSCA – Sha Tin Administration Building	3140 1218 / 3140 1219
TSCA – Nam Wan Administration Building	3148 2318 / 3148 2319

Inductive Loop Detector System for Traffic Survey



ATC Loop and Roadside Cabinet



Close-up of Roadside Cabinet



Close-up of Loop

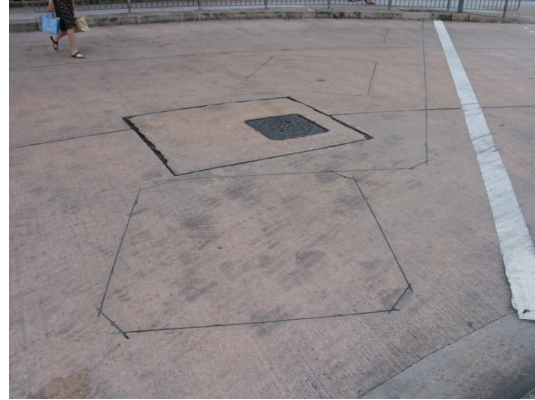
Rubber Tube Detector for Traffic Survey



Traffic Light Control System at Junctions or Crossings



Traffic Light Post and Roadside Cabinet
at junction



Loop



Notice on Roadside Cabinet



Drawpit Cover

Closed-circuit Television (CCTV) System



Emergency Telephone System



Telephone mounted on a post



Close-up of Emergency Telephone

Traffic Control and Surveillance System (TCSS)



VMS



FVMS



LCS



VSLs

Traffic Bollard



Illuminated Traffic Sign



Journey Time Indication System (JTIS)



Speed Map Panel (SMP) System



Bus-Bus-Interchange (BBI) display system



Traveller Information kiosk



Red Light Camera System



Camera



Loop at junction



Roadside Cabinet

Speed Enforcement Camera



Camera and Radar



Roadside Cabinet



Drawpit

Obsolete ERP Loop Detector



Loop Detector installed in concrete slab

Summary of Procedures to Handle TD's Installations Outside Tunnel Areas and Control Areas During Emergency

	Installations	Description	Procedures
(a) Managed by TD			
(i)	Inductive Loop Detector System for Traffic Survey	<u>Loops</u> – series of wire buried just below road surface, and connected to a roadside cabinet.	Can be removed without prior notice. Inform TDFCP and TSSD's contractor later for record. Arrange/carry out reinstatement of loops afterwards.
		<u>Cabinet</u> – metal housing seated on footpath connected to loops, and powered by electricity. Details including contact telephone number of TSSD's contractor on the wall of cabinet.	Handle with care to avoid electric shocks. Contact TSSD's contractor immediately for relocation of equipment inside the cabinet. Arrange disconnection of power supply to the cabinet. Inform TDFCP for record. Reinstatement of the cabinet afterwards.
(ii)	Rubber Tube Detector System for Traffic Survey	<u>Rubber Tube</u> – thick wall rubber tube installed on carriageway by clamps nailed into pavement. Connected to a roadside cabinet. Located away from road junction.	Can be removed without prior notice. Inform TDFCP and TSSD's contractor later for record. Reinstatement of rubber tubes by TSSD's contractor at the UUs cost.
		<u>Cabinet</u> – small metal housing seated on footpath connected to rubber tubes. Not powered by electricity. Details including contact telephone number of TSSD's contractor on the wall of the cabinet.	Contact TSSD's contractor immediately for collection of the cabinet. Inform TDFCP for record. Reinstatement of the cabinet afterwards by TSSD's contractor.

	Installations	Description	Procedures
(iii)	Traffic Light Control System at Junctions or Crossings not Related to LRT	<u>Loops</u> – series of wire buried just below road surface, connected to a roadside cabinet. Located at junctions or pedestrian crossings, and associated with traffic lights.	Can be removed in emergency without prior notice to TD. Inform TDFCP as soon as practicable for TD to adjust traffic plan. Arrange/carry out reinstatement of loops to TD's and EMSD's satisfaction as soon as the roadwork is completed.
		<u>Cabinet</u> – metal housing seated on footpath, connected to loops and cables. Powered by electricity.	Handle with care to avoid electric shocks. Contact TDFCP for EMSD to relocate equipment inside the cabinet. Arrange disconnection of power supply to the cabinet. Reinstatement of the cabinet afterwards to TD's and EMSD's satisfaction as soon as the roadwork is completed. Police's assistance to control traffic when necessary.
		<u>Signal Post</u> – circular post with signal installed near kerbside of footpath or at central islands	Ask the traffic police to control the junction manually. Contact TDFCP for EMSD to relocate the posts. Reinstatement of the posts to TD's and EMSD's satisfaction as soon as the roadwork is completed.
		<u>Cables</u> – across road junctions or pedestrian crossing in connecting roadside cabinet and signal posts, in cable ducts. Carry electricity.	Handle with care to avoid electric shocks. Can be supported temporarily. If disconnection is inevitable, they can be disconnected without prior notice. Inform TDFCP immediately upon disconnection. Connection to be carried out under supervision of TD and EMSD afterwards.
(iv)	Traffic Light Control System at Junctions with LRT	System similar to that in (a) (iii) above, except that this is located at road junction with LRT.	Consult MTRC about works within Light Rail protection area. Similar to that in (a) (iii) above, except that both MTRC and EMSD are contacted first before any action to be taken to remove the system or disconnect cables. TDFCP be informed of the course of action. System to be reinstated to the satisfaction of TD, EMSD and MTRC afterwards. Police's assistance to control traffic when necessary.

	Installations	Description	Procedures
(v)	Cables for CCTV System	Power cables and fibre optic telecommunication cables installed in 100mm diameter cable ducts buried underground along roads in the vicinity of CCTV camera kiosks and masts. Either along roads (edge of carriageway including hard shoulder) or across road. Connected to draw-pits with 'ATC' or 'TCS' marked on the covers. Some ducts not located under roads can be identified by existence of camera and kiosk close to each other.	Handle with care to avoid electric shocks. Contact TDFCP to get agreement for disconnections. Also inform EMSD accordingly. Reinstall the cables and draw-pits (if damaged) after the emergency repairs.
(vi)	Cables for Emergency Telephone Systems	Power supplies terminated. Trunk ET cables normally laid in 100 mm diameter reserved cable duct in dual-duct configuration inside parapets of elevated roads, under verges or footpaths if present, or under carriageways in case of cross road cables, or in triple-duct configuration and/or of size other than 100 mm diameter. Besides, some draw-pit covers of the ET ducting carry the inscription of "TCS" and some are simply left blank.	Can temporarily support the cables or to disconnect the cables during emergency. Reinstall or divert the facilities after the emergency works and inform TDFCP accordingly.
(vii)	Cables for TCSS field facilities on the open highway	The TCSS field facilities outside Control Areas include Variable Message Sign (VMS), Full Variable Message Sign (FVMS), Lane Control Switch (LCS) and Variable Speed Limit Sign (VSLS) on the open highway. They are connected to roadside cabinets and draw-pit with power cables and fibre optic telecommunication cables in cable ducts. Some cabinets and draw-pit covers of the TCSS carry the inscription of "TCS" and some are simply left blank.	Handle with care to avoid electric shocks. Contact TDFCP to get agreement for disconnections. Also inform EMSD accordingly. Reinstall the cables, cabinets and draw-pits (if damaged) after the emergency repairs.

	Installations	Description	Procedures
(viii)	Traffic Bollard	Located at central islands of road junctions. Power cables are connected to the bollards with cable ducts buried underground.	Handle with care to avoid electric shocks. Can disconnect and remove cables or bollards first and inform TD, EMSD and HyD. Reinstate the cables or bollards after the emergency repairs. To provide necessary signing and lighting prior to removal of bollards.
(ix)	Illuminated Traffic Sign	Traffic signs illuminated by lights installed on the same post of the sign. Power cables are connected to the signs with cable ducts buried underground.	Handle with care to avoid electric shocks. Can disconnect and remove cables or signs first and inform TD and HyD afterwards. Reinstate the cables or signs after the emergency repairs.
(x)	Journey Time Indication System	Journey time indicators and detectors installed at sign gantries are connected to roadside cabinets with power cables and fibre optic telecommunication cables. The cables are installed in 100mm diameter PVC cable ducts buried along or across roads and are sometimes connected to draw-pits with "JTIS" marked on the covers.	Handle with care to avoid electric shocks. Contact TDFCP to get agreement for disconnections and inform EMSD accordingly. Reinstate the cables and cabinets after the emergency repairs to the satisfaction of TD and EMSD.
(xi)	Speed Map Panel System	Speed map panels and detectors installed at sign gantries or masts are connected to roadside cabinets with power cables and fibre optic telecommunication cables. The cables are installed in 100mm diameter PVC cable ducts buried along or across roads and are sometimes connected to draw-pits with "SMP" marked on the covers.	Handle with care to avoid electric shocks. Contact TDFCP to get agreement for disconnections and inform EMSD accordingly. Reinstate the cables and cabinets after the emergency repairs to the satisfaction of TD and EMSD.
(xii)	Bus-Bus-Interchange display system	Display panels are connected to roadside cabinets with power cables and fibre optic telecommunication cables. The cables are installed in 50mm diameter PVC cable ducts buried along the Bus-bus-interchange area (both Tuen Mun bound and Kowloon bound)	Handle with care to avoid electric shocks. Arrange with power company for power disconnection. Reinstate the cables after the emergency repairs to the satisfaction of TD & EMSD
(xiii)	Traveller Information kiosk	Kiosk casing connected to power by conduit and the connection is site specific. There is no fibre optic cable connected to the system.	Handle with care to avoid electric shocks. Contact Autotoll Ltd. to get agreement for disconnections and inform TD accordingly. Reinstate the cables and cabinets after the emergency repairs to the satisfaction of TD .

	Installations	Description	Procedures
(b) Managed by Others			
(i)	Red Light Camera System – Managed by Police	Comprises of inductive loop detectors; a post with a red light camera hosting on top, and associated cables buried underground. Loops on the road surface similar to that mentioned in (a) (i) above, and are located at road junctions connected to a post on the pavement mounted with a red light camera. Cables are installed in 100 mm diameter cable ducts buried underground along footpath in the vicinity of the camera post. They are connected to draw-pits with “HKPF” marked on the covers. Camera powered with electricity.	Handle with care to avoid electric shocks. Cables and loops can be removed first and inform Police traffic headquarters afterwards. Arrange with power company for power disconnection. Reinstate after the emergency repairs. Arrange/carry out reinstatement of loops to the satisfaction of Police and EMSD.
(ii)	Speed Enforcement Camera System – Managed by Police	Comprises of a post with a speed enforcement camera housing on top and another pole with the radar and located on footpath, and cables buried underground in 100 mm diameter cable ducts. Cables connected to draw-pits with “HKPF” marked on the covers. Camera powered by electricity.	Handle with care to avoid electric shocks. The cables or camera or radar can be removed first and inform Police traffic headquarters afterwards. Arrange with power company for power disconnection. Reinstate the cables or camera or radar after the emergency repairs.
(iii)	Obsolete ERP Loop Detector	The loops installed on a concrete slab spanning the entire width of the carriageway, but not connected to any roadside cabinets. Total of 18 numbers located in Central and Admiralty area. Can contact TDFCP for confirmation.	Can be taken as non-existent and works could be carried out as for any road slabs maintained by HyD.

- Note :
1. TSSD’s Contractor – contract telephone number – 9831 8709 (24 hours)
 2. TDFCP – TD’s First Contact Point telephone number – 2410 0066 (24 hours)
 3. EMSD – EMSD’s contact telephone number – 2333 3762 (24 hours)
 4. MTRC – MTRC’s contact telephone number – 2468 7700 (24 hours)
 5. HyD – HyD’s contact telephone number – 2926 4111 (24 hours)
 6. Traffic Police – Traffic Police’s contact telephone number – 3661 5565 (office hours)
 7. Autotoll – contact telephone number – 2111 3604 (24 hours)