

Closed Circuit Television (CCTV)



Transport
Roads & Maritime
Services

Procedural Guideline

ILC-ITS-TP0-002-G13

Introduction

This guideline is intended to complement procedure ILC-ITS-TP0-002 which is a generic description of processes for installation of Intelligent Transport System devices and systems.

When working on an installation of Closed Circuit Camera Television camera (CCTV) systems it is advisable to refer to both documents to provide the minimum installation information required.

Description of Device

Closed Circuit Television Camera Systems (CCTVs) are of fundamental importance in traffic management and planning.

There are approximately 1600 CCTVs in use throughout NSW motorways– these include a combination of standard analog and web cameras. Monitoring offices control the cameras and are present in both metropolitan and regional areas.

The Transport Management Centre (TMC) is the main operator followed by the regional offices such as in Newcastle and Woy Woy. The TMC has approximately 32 operators who monitor CCTV camera feeds – respond to incidents accordingly.

Various agencies share information gained from the CCTVs and camera feeds for the purpose of incident management, enforcement, emergency management, and major events management, these include:

- NSW Police
- Sydney Rail Railways
- State Emergency Services
- Sydney Olympic Park
- City of Sydney
- Private Motorway Operators

Optical fibre communication is used as the main transport medium from the CCTV camera transmitter to the TMC, majority of this network is owned by Roads and Maritime Services. ADSL communication medium as a broadband service is also used to transmit the video feeds to TMC in cases which Fibre Optics cannot be used.

On the field where analogue cameras are used, the video feed is digitalised using digital video encoders compliant with MPEG 2, MPEG 4 (part 2 and part 10) and MJPEG standards enable high-quality video to be transmitted over the network.

Information of the two different categories of cameras used is given below:

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- **Web Cameras:** This category of cameras transmit JPEG snapshots of the live traffic to an FTP server. Images are available to public to monitor traffic conditions using LiveTraffic website. The video is viewed at CIF resolution at approximately 1fps.
- **Standard Cameras:** The video feeds from these cameras are used for monitoring road transport and incident management. The video is viewed at 4CIF at approximately 25fps.

The cameras are procured commercial-off-the-shelf (COTS) and installed in consultation with the client and the infrastructure (e.g. Routers switches etc.) for the retrieval of the camera feeds is managed by Roads and Maritime Services.

At present the TMC use analog Video Control System (VCS). The VCS, which controls the cameras and assists in the administration is expected to be upgraded to a digital base system by end of 2014.

Operating and Maintenance Manual

Refer to Operating and Maintenance Manuals provided by Supplier(s).

References and Related Documents

Related Documents:	
Policies	• A Code for the use of Traffic Management Closed Circuit Television (CCTV) Systems
Standards and Specifications	• IC-QA-TS106 - ITS Video Surveillance Camera Site • Australian Standard AS 4806.2-2006 Closed Circuit Television (CCTV) – Application Guidelines
Procedure	• ILC-ITS-TP0-002 ITS Project Life Cycle • Site specific and dependent on the design.
Technical Directions	• TDT 2011/07 Attachment of Equipment to Traffic Facilities Assets • TDT2012/10 Energy Management for New Traffic Assets • TDT 2012/03 Economic Analysis of Closed Circuit Television Cameras
Guidelines	• ITS-11ITS7 APC Selection Guidelines – Alternative Power & Communications for ITS Installations. • TSI-SP-006-DCM General Spec for the Design, Supply, Installation, Testing and Commissioning of CCTV Systems For Motorways
Maintenance Specifications	As per manufacturers O&M Manuals

Factory Acceptance Testing (FAT)	As per manufacturers O&M Manuals
Site Acceptance Testing (SAT)	As per manufacturers O&M Manuals

Acronyms, Abbreviations and Definitions

Term	Definition
ADSL	Asymmetric digital subscriber line
CCTV	Closed Circuit Television camera
CIF	Common Interface Format
COTS	Commercial-off-the-shelf
fps	Frames Per Second
ITS	Intelligent Transport Systems
MJPEG	Motion JPEG video format
O&M	Operations and Maintenance
QA	Quality Assurance
TMB	Traffic Management Branch
TMC	Transport Management Centre
VCS	Video Control System
Web	World Wide Web

About this release

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Note: The issue date is normally considered to be the date on which a document is authorised or signed off. Under the ILC Management System, authorisation is indicated by the signature of the authorising manager on the document register. For simplicity then, the date of writing or revising a document is used as the issue date.

This document is published under the Infrastructure Life Cycle Management System and is subject to review and continual improvement. The current version of this procedure is that published on the Roads and Maritime Services intranet.

Note: The Infrastructure Lifecycle Management System complies with the requirements of the ISO9001 standard. This standard is revised every four years (2008, 2012, 2016). While system procedures within the ILC Management System are revised as necessary, to meet any changed requirements of the standard, references within the procedures refer only to ISO9001.

It should be confidently assumed by users that the term ISO9001 within a procedure refers to the most current version of the standard.

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