



CCTV Traffic Observation Cameras

Practice Note 01

1. General

Auckland Transport operates a closed-circuit television (CCTV) camera network on the road network. These cameras are utilised to provide real-time images of traffic conditions and assist the following objectives:

AT uses CCTV systems to support its powers, functions, and duties under the Local Government (Auckland Council) Act 2009 or otherwise delegated to it, in the following ways:

- a) to support the safety and security of AT staff, AT customers and the general public using AT-controlled premises and the Auckland transport system;
- b) to provide travel information;
- c) to support the protection and security of public assets and facilities;
- d) to support inspections and remote working;
- e) to support the prevention, detection, investigation, and enforcement prosecution of offences for which AT holds enforcement powers;
- f) to support effective resolution of issues and complaints involving public services;
- g) to support effective management and optimisation of the Auckland transport system through monitoring of traffic (including pedestrian traffic) on the road network and the operation of public transport services;
- h) to monitor and manage events and operations such as construction projects and sporting events, that have an impact on the transport network to effectively manage the impacts and support smooth running of the network;
- i) to support statistical analysis and research as part of AT's transport planning function; and;
- j) to support development of systems to improve the management, safety and optimisation of the Auckland transport system.



2. Purpose

- a) This Practice Note (PN) identifies the requirements for the supply and installation of traffic observation CCTV cameras (Fixed and PTZ cameras) for use by Auckland Transport at signalised intersections, midblock pedestrian and/or cycle crossings, and roundabout metering signals, referred to as a signalised site(s) in this document.
- b) Auckland Transport requires one or two PTZ CCTVs at each signalised site to be provided, depending on site conditions.
- c) The CCTV cameras are now required to be used at all signalisation projects, including but not limited to the following works:
 - i) AT approved works programme/project involving new or upgrading any traffic signals works;
 - ii) Land Development Engineering Approval process that involves any traffic signals works;
 - iii) Third-party developed roads and other infrastructure to be vested to AT that involves any traffic signal works; and
 - iv) Any other Auckland Council or AT approval process involving traffic signals works.
- d) AT Traffic Signal Design Guidelines can be found at [Transport Design Manual](#). This Note supplements the Guidelines.

3. Scope

This Practice Note applies to:

- a) All AT projects initiated after the implementation of this PN.
- b) All consents or Land Development Engineering Approval lodged after the implementation of this PN.
- c) Any AT project commenced but not yet constructed or any Consent or Land Development Engineering lodged with Auckland Council.

Implementation comes into effect immediately on the signed date shown at the end of this PN.



4. CCTV Cameras Requirements

4.1 Design and Specifications

- a) All cameras, associated hardware, and installation works shall conform to the relevant AT specifications and related specifications and standards as indicated throughout this document.
- b) Submit the design which needs to be reviewed by ATOC Reviews (atoc.dr@nzta.govt.nz). The ATOC team can engage with AT Technology Department if needed.
- c) The contractor shall supply and install PTZ or Fixed CCTV Cameras from only the AT-approved Standard Range of CCTVs or those pre-approved by the AT Security team and CCTV Product Owner if they are non-standard.
- d) Typical CCTV camera installation consists of the following:
 - i) CCTV Camera; PTZ and/or Fixed
 - ii) Housing (Weatherproof)
 - iii) Pole on which to mount the CCTV Camera and the housing
 - iv) Control cabinet including camera power supply, communication network equipment and electrical switchboard.
- e) CCTV cameras installed at signalised sites shall be located as far as is practicable to provide:
 - i) Clear and unimpeded view of all approaches to the signalised site of at least 50m on each approach, including pedestrian and cycle crossings.
 - ii) Easy access for maintenance works.
 - iii) Minimal impact on traffic during maintenance activities.
 - iv) In some locations, in order to meet the requirements of the above items, two cameras may be required.
 - v) If the above is not achievable, the camera needs to be located on a suitable pole away from the intersection. In most cases, ATOC will advise a preferred location.
 - vi) Guidance can be obtained from the ATOC design review for this requirement.
 - vii) Minimum Fibre Permanent Connection for CCTV (No Wi-Fi Hop) is required before the intersection is completed and commissioned.
- f) The preferred mounting arrangement for cameras is on joint-use traffic signal poles:
 - i) Joint Use Signal Pole (JUSP)
 - ii) Joint Use Mast Arm (JUMA)
 - iii) outreach extension brackets only on JUMA
- g) The standard arrangements for communications for CCTV cameras in order of preference are:
 - i) Ultra-Fast Broadband (UFB)
 - ii) AT Private network



- iii) 4G/5G (This is a temporary solution until the UFB connection becomes available; the project shall bear all associated costs)

4.2 Installation and Commissioning

- a) Engage with the approved AT Signal Maintenance Contractor (incumbent for the region) to initiate the CCTV Installation Process.
- b) The Signal Maintenance Contractor shall contact 0800 AT Assist – 0800 28277478, requesting IP address and adding a new CCTV to Milestone (Video Management System).
- c) CCTV Cameras shall be ready for handover only after:
 - i) CCTV connected to a permanent network connection onsite, such as UFB;
 - ii) It is fully functioning and connected back to Milestone (Video Management System); and
 - iii) CCTV Asset data collection sheet has been completed entirely by the installer and provided before commissioning.

5. Definitions

Term	Definition
AT	Auckland Transport
CCTV	A Closed-Circuit Television (CCTV) camera used for traffic observation on the Auckland Transport roading network.
CCTV Fixed and PTZ cameras	CCTV cameras that are either stationary (remain pointed in a single fixed direction) or capable of pan, tilt, and zoom (PTZ) functions for dynamic monitoring of traffic conditions.
ATOC	Auckland Transport Operations Centre.
Milestone	A Video Management Software (VMS) platform used by Auckland Transport to monitor, record, and analyse CCTV footage.
IP address	Internet Protocol Address- a unique numerical identifier assigned to each CCTV camera for network communication and remote access
Ultra-Fast Broadband (UFB)	A high-speed fibre-optic internet service in New Zealand, capable of delivering faster data transmission for video, data, and communication system.
Joint Use Signal Pole (JUSP)	A traffic signal pole designed to support multiple devices such as traffic lights, CCTV cameras, or other equipment to reduce the need for multiple poles.
Joint Use Mast Arm (JUMA)	A mast arm structure attached to a traffic pole that extends over the roadway, designed to hold both traffic lights and other equipment like CCTV cameras or other devices.



4G/5G	Fourth and Fifth Generation mobile network technologies that provide wireless internet access, with 5G offering faster speeds, lower latency, and higher capacity than 4G
Wi-Fi Hop	The process of transmitting data from one wireless access point (or device) to another in a sequence, extending network coverage or linking multiple network segments without using physical cables. Often used in wireless backhaul or mesh networks to connect remote devices such as CCTV cameras in areas where direct wired or Fiber connections (like UFB) are unavailable or impractical.

6. Supporting Information

Supporting documents	1. AT CCTV Policy
	2. AT CCTV Installation Process

7. Approval

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AT reserves the right to review, amend or add to this Practice Note at any time upon reasonable notice to users of the Transport Design Manual and related documents.