Pedestrian Detection Systems

Transport Roads & Maritime Services

Procedural Guideline | **ILC-ITS-TP0-002-G10**

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 Pedestrian Detection Systems it is advisable to refer to both documents to provide the minimum installation information required.

Description of Device

Pedestrian detection systems are in use throughout the state of NSW. Depending on the site and requirements the type of sensor(s) used can be different. There are several types of technologies that can be used to detect pedestrians at crossing zones, the first two being commonly used in Australia:

- Pushbutton detection (this is subjective since it relies on pedestrians to push on it)
- A ‘demand’ is registered when the button is pushed and the signal is sent to the controller which in turn provides a ‘right of way’ for the pedestrian to cross the road. This form of detection usually also comes with audio beeps to alert the pedestrian when the ‘right of way’ has been given.
- Optical (IR presence detection via IR camera)
- Overhead Infrared sensors detect pedestrian movement. IR sensing works on the principle of electromagnetic waves being transmitted and reflected back to the sensor when pedestrian movement is detected.
- Pressure sensitive mats
- When pressure is sensed a ‘Walk Signal’ is called to ascertain that a pedestrian has arrived at a crossing zone and that the pedestrian is still waiting at the crossing zone before a ‘right to way’ is granted. This system does not require any input from the pedestrian.
- Microwave Radar Sensors
- Microwave pulses are transmitted, if a pedestrian is at the crossing zone the waves are reflected and the pedestrian is detected. This technology has the added benefit of providing additional time for slower pedestrians to cross the street.

Operating and Maintenance Manual

These are the appropriate Supplier provided operating procedures and maintenance manuals.

References and Related Documents

Related Documents:	
Policies	Nil
Standards and Specifications	• ITS-11ITS7 APC Selection Guidelines – Alternative Power and Communications for ITS Installations. • Traffic Detector Handbook: Third Edition-Volume 1. Publication No.FHWA-HRT-06-108 • AGD 640 Detector Trial Performance Report (Report on AGD 640_FinalD for comments_230112.pdf)
Procedure	• ILC-ITS-TP0-002 ITS Project Life Cycle
Technical Directions	• TDT 2011/07 - Attachment of Equipment to Traffic Facilities Assets • TDT 2012/10 - Energy Management for New Traffic Assets
Guidelines	• ITS-11ITS7 - APC Selection Guidelines – Alternative Power & Communications for ITS Installations.
Maintenance Specifications	For Supplier-specific maintenance documents, refer to those provided by Supplier(s).
Factory Acceptance Testing (FAT)	For Supplier-specific FAT documents, refer to those provided by Supplier(s).
Site Acceptance Testing (SAT)	For Supplier-specific SAT documents, refer to those provided by Supplier(s).

Acronyms, Abbreviations and Definitions

Term	**Definition**
RADAR	Radio Detection And Ranging
IR	Infrared

About this release

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Author:	Ramesh Ekanayake
Technical Authorities	Network Operations

Issue	Date	Revision description
Issue 1	July 2013	Initial Release
Issue 2	September 2013	Updated author and technical authority
Issue 3	November 2013	Removed excess bullet points
Issue 4	January 2014	Added additional reference
Issue 5	March 2015	New logo and template. Updated References and related documents.

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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