Glossary of terms and acronyms

Ipswich Connected Vehicle Pilot (ICVP)

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Document control options

Contact for enquiries and proposed changes

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Departmental approvals

Refer to the appropriate Risk Assessment Tool for relevant reviewer and approver

Date	Name	Position	Action required *(Review/endorse/approve)*	Due

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Contents

1 Introduction

The Cooperative and Automated Vehicle Initiative (CAVI) is a '*one*TMR Major Project' to prepare for, and accelerate the emergence of, advanced vehicle technologies onto Queensland roads, to maximise benefits for road users now and in the future.

CAVI comprises four components:

- Ipswich Connected Vehicle Pilot (ICVP)

- Cooperative and Highly Automated Driving (CHAD) Pilot

- Vulnerable Road User (VRU) Pilot

- Change Management.

Several terms and acronyms were used throughout the development and implementation of CAVI's components. Some of these are industry standard whereas others emerged during delivery and were became common reference.

This document provides a comprehensive list of terms and acronyms used for the ICVP. It is not a standalone document and is intended as a reference when reviewing other project documentation.

2 Ipswich Connected Vehicle Pilot

The ICVP, Australia's largest pilot of Cooperative Intelligent Transport Systems (C-ITS), was delivered by the Department of Transport and Main Roads', Cooperative and Automated Vehicle Initiative (CAVI).

The ICVP was intended to prepare for, and accelerate, the emergence of connected vehicle technologies onto Queensland roads, to maximise benefits for road users now and in the future. C-ITS allows vehicles, infrastructure, and other users to communicate in real-time, which is used to provide road users with information or warnings relevant to their current situation. C-ITS support a range of applications (or use cases) that provide drivers with warnings that can positively impact safety, congestion, and emissions.

Industry expectations is that Australia will align with the European C-ITS standards, which if deployed, would require governments to enhance digital and physical infrastructure. In Queensland, this can be achieved by modernising the Department of Transport and Main Roads' roadside infrastructure, back-office systems, processes, and data.

In response to the emerging C-ITS deployment, TMR conducted an on-road Field Operational Test (FOT) of C-ITS technologies in Ipswich, South East Queensland. The FOT assisted Transport and Main Roads in understanding the benefits and deployment needs; readying deployment partners; and exposing the department's customers to the technology through six safety use cases.

The ICVP assessed six safety use cases in 355 participants' vehicles retrofitted with a European compliant C-ITS vehicle station (V-ITS-S) and a human machine interface (HMI). Once installed in the vehicle, the participants used the equipment for nine months. Data was shared between the V-ITS-S, roadside stations (R-ITS-S), and the central station (C-ITS-S), which was used to generate warnings that were displayed to the driver as visual or audible advice. The response to the warning was not automated in the vehicle - the driver was always in control of the vehicle. Data collected through the pilot will be used for a safety evaluation to estimate the likely impacts on crashes.

3   Terms and acronyms

Table 3 – Terms and acronyms list (alphabetical)

Acronym / Term	CAVI preferred (by exception)	Term	Definition
3G/4G LTE	3G/4G	3G is the 3rd generation data network, 4G the fourth and LTE stands for Long Term Evolution.	Cellular wireless network provided through a telecommunications company.
3PCM		Portfolio, Program, Project and Contract Management	TMR Corporate Management Tool
5.9	ITS G5		Dedicated wireless communication using 5.9GHz bandwidth communication.
5G			Next generation wireless communications through telecommunications provider
AA		Authorisation Authority	A Security Credential Management System (SCMS) component
AAA		Automobile Association Australia	
AADT		Annual Average Daily Traffic	
ACMA		Australian Communications and Media Authority	
ADAS		Advanced Driver Assistance Systems	
ADR		Advanced Data Recovery	Cohda Wireless V-ITS-S log
ADR		Australian Design Rules	
ADSL		Asymmetric Digital Subscriber Line	
ADVI		Australian Driverless Vehicle Initiative	
AES		Advanced Encryption Standard	
AID		Application Identifier	
ANCAP		Australian New Car Assessment Program	
AOO		Acknowledgement of obligations	Confidentiality and conflict of interest deeds
API		Application programming interface	
APN		Access Point Name	
ARLW		Advanced Red Light Warning	
AS		Australian Standard	

Acronym / Term	CAVI preferred (by exception)	Term	Definition
ASN.1		Abstract Syntax Notation One	
AT		Authorisation Ticket	A SCMS component
AUSCORS		Australian Continuously Operating Reference Stations.	The Ntrip Broadcaster provided by Geoscience Australia.
AV		Automated vehicle	
AWS		Amazon Web Services	
AWS IoT platform		Internet of Things platform	AWS implementation of MQTT as an IoT protocol
BA		Business analyst	
Baseline Period			Period when in-vehicle C-ITS systems are operational and logging data, but no C-ITS use case information/ warnings are presented to the driver via the HMI
BIC		Build Industry Capability	
BMTMC		Brisbane Metropolitan Transport Management Centre	
BoQ		Back of Queue use case	
BSM		Basic safety message (US)	
BSTM		Brisbane Strategic Transport Model	A computerised transport forecasting model
BTP		Basic Transfer Protocol	
C2CCC		Car to Car Communication Consortium	
C2X	V2X	Vehicle to any other cooperative device	
CA		Certificate Authorities	
CA		Conflict Area	
CA		Cooperative Awareness	
CALM		Communications Access for Land Mobiles	
CAM		Cooperative Awareness Message	Used in European Union
CAN (bus)		Controller Area Network	
CARRS-Q		Centre for Accident Research and Road Safety Queensland	Part of the Queensland University of Technology
CAT		Customer Acceptance Testing	

Acronym / Term	CAVI preferred (by exception)	Term	Definition
CAV		Cooperative and automated vehicle	
CAVI		Cooperative and Automated Vehicle Initiative	
CCMS		Cooperative Credential Management System	
CDOP		Camera Detected Offence Program	
CEN		European committee for standardization	European Committee for Standardization (Comité Européen de Normalisation)
CEN DSRC		5.8GHz Toll Tag	
CIA		Confidentiality, Integrity, Availability	Security attributes of information and information systems spanning from the organisation through business strategy to technical implementation.
CIT		Component Integration Test	
CITI Project		Cooperative Intelligent Transport Initiative Project in Wollongong, NSW	
C-ITS		Cooperative Intelligent Transport Systems	A system for real-time exchange of information between stations in vehicles, roadside infrastructure, back-end centres, and personal devices. Data is shared via dedicated short-range communications (5.9GHz bandwidth) and Cellular communications. There are a range of C-ITS use case applications intended to deliver safety, mobility, and environmental benefits.
C-ITS event			Field Operational Test related term related to tracking C-ITS messages are they are processed by the systems. Events occur on C-ITS-F, C-ITS-S, R-ITS-S and V-ITS-S and include message creation, transmission and receipt, use-case triggers, C-ITS message geometry triggers (for example, start of trace) and Human Machine Interface (HMI) message presentations
C-ITS Pilot system			The C-ITS back-end and field systems and stations, interconnections and supporting systems (for example, SCMS). Stations include C-ITS-S, R-ITS-S and V-ITS-S
C-ITS Pilot system operations manager			The role responsible for maintaining the operation of the C-ITS Pilot system within required operational limits.
C-ITS-F		Central ITS facility (back-end) comprising the integration platform, messaging engine, routing, device	Back-end C-ITS Facility including C-ITS-S (router and SCMS certificate addition), Maintenance tool, spatial service, integration

Acronym / Term	CAVI preferred (by exception)	Term	Definition
		management and databases)	and messaging engine, data capture system and logging service, and monitoring system
C-ITS-F data logging service			A service provided by the C-ITS-F that is used to log data mainly for the FOT evaluation
C-ITS-F manager			Manages the operations and maintenance of the C-ITS back-end system
C-ITS-S		Central ITS station	Abbreviation of "central ITS station" from ETSI EN 302 665 V1.1.1 (2010-09)
CLI		Command Line Interface	A command line program that accepts text input to execute system functions.
CME		C-ITS Message Event	Use case event life cycle (sourced, created, relevant, notified, presented) as either decoded (human readable message) or encoded (or machine readable). - C-ITS-F - DENM and IVIM – sourced and created - V-ITS-S – DENM, IVIM, CAM or SPaT – relevant, notified and presented
CSEM		C-ITS Safety Evaluation Message	All stations collection of relevant transmitted or received CAM, DENM, SPaTEM, MAPEM, IVIM. As either decoded (human readable message) or encoded (or machine readable)
CodePipeline		AWS Code Pipeline	A cloud-based code deployment service provided by Amazon Web Services (AWS)
Comms		Communications	
		Confidentiality	One of the three tenets of information security concerned with preventing the intentional or unintentional unauthorized disclosure of information
Contractor			
Control Group			Participant sub-group that does not experience a Treatment Period.
CPOC		C-ITS Point of Contact	
CPU		Central Processing Unit	
CRC	iMOVE CRC	iMOVE Cooperative Research Centre	

Acronym / Term	CAVI preferred (by exception)	Term	Definition
CRL		Certificate Revocation List	
C-ROADS		C-ROADS platform working towards interoperable C-ITS services for European travellers	
CSEM		CAVI Safety Evaluation Message	
CSIRO		Commonwealth Scientific and Industrial Research Organisation	
CSM		Contextual speed message	
CSSR		TMR's Customer Services, Safety and Regulation division	
CT		Commissioning Test	
CTL		Certificate Trust List	
CV2X		Cellular Vehicle-to-Everything	
CVRIA		Connected Vehicle Reference Implementation Architecture	
CZ		Conflict Zone	
Data lake			A managed, collection of data stored in its raw format
DAZ		Driver Awareness Zone	
DC		Direct Current	
DCC		Decentralised Congestion Control	
DD		Detailed Design (C-ITS)	
DE		Data Element	
DEN	DENM	Decentralised environmental notification	DEN is the ETSI "Basic Service". DENM is the message this is used to implement the basic service
DENM		Decentralised environmental notification message (EU)	
Deployment			An ICVP project construction describing an instance of the ICVP system that is deployed within an ICVP system Environment
DF		Data frame	
DITRDC		Department of Infrastructure, Transport, Regional	Australian Federal Department

Acronym / Term	CAVI preferred (by exception)	Term	Definition
		Development and Communications	
DMP		Data Management Plan	
DMS		Dynamic message sign (includes variable message sign)	
DMS		Document Management System	
DNS		Domain Name System	
DP		Deployment Plan	
DSD		Defence Signals Directorate	
DSRC		Dedicated short range communications	5.9Ghz (approx. 300m range) US terminology.
DWT		Driver Warning Trigger	
DZ		Detection Zone	
DZ		Dilemma Zone	
EA		Enrolment Authority	A SCMS component
EA		Enterprise Architect	
EAL		Evaluation Assurance Level	
EC		Enrolment Certificate	
eCAV		Electric Cooperative and Automated Vehicle	
ECo-AT		European Corridor - Austrian Testbed for Cooperative Systems	
EE		End Entity	The SCMS component in the V-ITS, R-ITS and C-ITS
EEBL		Emergency Electronic Break Light use case	
Eh		Event History	
EOI		Expression of Interest	
Environment			An ICVP project construct use to facilitate pipeline deployment of an ICVP system instance. An ICVP system environment may contain multiple Deployments
Ep		Event Position	
ERTICO		European Road Transport Telematics Implementation	ITS Europe is a public/private Partnership for development and

Acronym / Term	CAVI preferred (by exception)	Term	Definition
		Coordination	deployment of ITS in Europe
ETL		Extract Transform Load	
ETSI		European Telecommunications Standards Institute	
ETSI EN		European Telecommunications Standards Institute European Norm	
ETSI TR		European Telecommunications Standards Institute Technical Report	
ETSI TS		European Telecommunications Standards Institute Technical Standard	
EU		European Union	
EVI		Early Vendor Involvement	
EVP		Emergency Vehicle Priority	
FAT		Factory Acceptance Test	
FCAI		Federal Chamber of Automotive Industries	
FAKRA		A Radio Frequency connector complying with Fachkreis Automobil, a German standard organisation.	
FESTA		Field opErational teSt supporT Action	
FOT		Field operational test	The period when the in-vehicle C-ITS systems are operational and logging data
FOT manager			Manages the execution of the FOT
FOT participant manager			Manages the FOT participant interactions
FOT safety evaluator			Uses logged data to evaluate the FOT safety hypotheses
FP		Field processor	For traffic signals
FRAME		European Intelligent Transport Systems (ITS) Framework Architecture	
FTP		File Transfer Protocol	
G5		5.9 GHz 802.11 WiFi in the 5.9 GHz band following the	

Acronym / Term	CAVI preferred (by exception)	Term	Definition
		EU profile.	
GIS		Geographical Information Systems	
GNSS		Global navigation satellite system	
GPS		Global Positional System	
GTM		Geo-Tile Message	A message generated and published by the C-ITS-S to allow the dissemination of ETSI C-ITS messages to a limited geographical area.
GUI		Graphical User Interface	A form of user interface that allows users to interact with electronic devices through graphical icons instead of text-based user interfaces
HAD		Highly Automated Driving	
HDCP		High-Bandwidth Digital Content Protection	
HLD		(C-ITS) High-Level Design	
HMI		Human machine interface	
HMI Presentation manager			Function of the V-ITS-S that arbitrates the information presentation requests to the HMI device
HMI Presentation handler			The presentation handler controls the content displayed and audio alerts generated on the HMI. The presentation handler is the interface to the HMI Presentation Manager and the displays required when the HMI does not have a connection to the HMI Presentation Manager.
HMI message notification			Messages from the V-ITS-S platform (e.g. start-up, software update, error) and use-case warnings sent to the HMI message manager
HMI message presentation			Messages sent to the HMI device from the V-ITS-S HMI presentation manager to present to the driver. Presentations includes a pictogram with text and/or graphic components and an optional sound
HPM		HMI Presentation Manager	
HREC		Human Research Ethics Committee	
HSM		Hardware Security Module	

Acronym / Term	CAVI preferred (by exception)	Term	Definition
HTTPS		Hyper-Text Transfer Protocol Secure	
I2V		Infrastructure to Vehicle	
IA		Infrastructure Australia	
IAM		Identity and Access Management	Manages access to AWS services and resources securely.
IAT		Installation Acceptance Test	
ICT		Information and Communication Technologies	
ICVP		Ipswich Connected Vehicle Pilot	
ID		Identifier	
IEC		International Electrotechnical Commission	
IEEE		Institute of Electrical and Electronic Engineers	
IF		Interface	
IME		Integration and Messaging Engine	
Installer			The installer of vehicle ITS stations. The installer for the C-ITS Pilot is RoadTek which is a commercial business arm of TMR.
Integrity			One of the three tenets of information security concerned with preventing the modification of information assets by unauthorized personnel or processes
IoT		Internet of things	
IP		Ingress Protection	
IP Act		Information Privacy Act 2009 (Qld)	
IPPs		Information Privacy Principles	Found in the IP Act
IPRT		Internet protocol remote telemetry	ITS network Telstra solution for TMR
IPv4		Internet protocol version 4	
IPv6		Internet protocol version 6	
ISA		Intelligent speed adaptation / assistance / assist / advisor	
ISC		Information and System Committee	
ISO		International Organization for Standardization	

Acronym / Term	CAVI preferred (by exception)	Term	Definition
ISO/TR		International Organization for Standardization Technical Report	
ISO/TS		International Organization for Standardization Technical Standard	
IT		Information Technology	
ITA		International Telegraph Alphabet	
ITB		TMR's Information Technology Branch	
ITIS		Permits the use of ISO 14823:2017 and general containers. Excludes IT IS and Vienna codes	
ITS		Intelligent transport systems	
ITS-AID		ITS Application object Identifier.	An ITS application object is a generic term for either ITS application class, or ITS application, or ITS message set. Identifiers are unique and assigned by an ITS registration authority.
ITS-G5			Wireless Radio communications based on IEEE 802.11p and defined by ETSI EN 302 663 Intelligent Transport Systems (ITS); Access layer specification for ITS operating in the 5 GHz (5.9GHz) frequency band
ITS-S		ITS station	Includes C-ITS-S, R-ITS-S and V-ITS-S
ITU-T		International Telecommunication Union	Telecommunication Standardisation Sector
IVI		In Vehicle Information	Includes IVS / CSM
IVIM		In Vehicle Information Message	Includes IVS / CSM
IVN		In vehicle Network	
IVS		In Vehicle Signage	
JSEA		Job safety environment assessment	TMR assessment that needs to be completed before staff attend a media event on site
KPI		Key Performance Indicator	
LAN		Local Area Network	
LCD		Liquid Crystal Display	

Acronym / Term	CAVI preferred (by exception)	Term	Definition
LDM		Local dynamic map	
LGAQ		Local Government Association Queensland	
LSB		Least Significant Bit	
LTE	3G/4G	Long Term Solution	
LTS		TMR's Land Transport Safety branch	
LUMS		Lane use management system	
LxWxH		Length x Width x Height	
M2M		Machine to Machine	
MAIC		Motor Accident Insurance Commission	
MAP			Cooperative ITS message, broadcasting geography/topology of intersection
MAPEM		MAP Extended Message	
MAT		Minimum Action Time	
Mcity or MTC		Mobility Transformation Facility	In Michigan, USA
MDRT		Maximum Driver Reaction Time	
Message			Message (image, audio and metadata) for presentation via the HMI
Message audio			The audio associated with the message to be presented via the HMI speaker
Message image			The image (including pictograms and text) associated with the message to be presented via the HMI screen
MFA		Multi-Factor Authentication	A security system that requires more than one method of authentication from independent categories of credentials to verify the user's identity for a login or other transaction.
Monitoring system			Sub-system of the C-ITS-F that monitors the operation of the C-ITS Pilot system
MQTT		Message Queueing Telemetry Transport	MQTT is a machine-to-machine (M2M)/"Internet of Things" connectivity protocol (mqtt.org), a lightweight messaging protocol for small sensors and mobile devices, optimized for high-latency

Acronym / Term	CAVI preferred (by exception)	Term	Definition
			or unreliable networks
MRTS		Transport and Main Roads' Technical Specification	
MRS		C-ITS Pilot Monitoring and Reporting Service	The MRS supports analysis, dashboards and visualisations of the pilot, source, and validation data. The MRS extracts data from the AWS datalake, using Amazon Athena for querying and Tableau for dashboards, reporting, and visualisation.
MSB		Most Significant Bit	
MTAQ		Motor Trade Association Queensland	
MUTCD		Manual of Uniform Traffic Control Devices (Queensland)	
NCMT		National Connected Multi-modal Transport test bed (led by University of Melbourne)	
NIAF		National ITS Architecture Framework	
NICTA		National ICT Australia, now Data61 (part of CSIRO)	
NMHTP		ITS Network Management and Hosting Transition Project	
Non-participant			Driver who has not consented to participate in the C-ITS Pilot (IE has not signed a Participant Agreement with QUT or undergone training).
NOP		Network operations plan	
NTP		Network Time Protocol	
NTRIP		Networked Transport of RTCM via Internet Protocol	
NTU		Network terminal / termination unit	
NZS		New Zealand Standard	
O&M		Operations and Maintenance	
OBD-II		On-board diagnostics II (port)	
OBE	V-ITS-S	On-board equipment	
OBU	V-ITS-S	On-board unit	
OEM		Original equipment manufacturer	
OSI		Open Systems Interconnection	

Acronym / Term	CAVI preferred (by exception)	Term	Definition
OTA		Over-the-air	
P50, P90..		P50 is defined as 50% of estimates exceed the P50 estimate, P90 is 90% of estimates exceed the P90 estimate and so on.	
PA		Policy Authority	Head decision maker of the SCMS
PAF		Project Assessment Framework	
Participant			Driver who is a consenting participant of the C-ITS Pilot (IE signed a Participant Agreement with QUT and undergone training)
PD		Power Devices	
PDP		Pilot Deployment Plan (C-ITS)	
PDTS		Public Transport Data System	
PDU		Protocol Data Unit	A specific block of information transferred over a network.
PED		Pedestrian	
PER		Packet Encoding Rules (for ASN.1)	
Personal information			As taken from the IP Act; "information or an opinion, including information or an opinion forming part of a database, whether true or not, and whether recorded in a material form or not, about an individual whose identity is apparent, or can reasonably be ascertained, from the information or opinion".
PIA		Privacy Impact Assessment	
PII		Personally Identifying Information	
PIP		Portfolio Investment and Planning	
P-ITS-S		Personal ITS station	Abbreviation of "personal ITS station" from ETSI EN 302 665 V1.1.1 (2010-09)
PKI		Public Key Infrastructure	
PMP		Project Management Plan (CAVI)	
PoE		Power over Ethernet (IEEE802.3af)	
PPP		Precise Point Positioning	

Acronym / Term	CAVI preferred (by exception)	Term	Definition
PSE		Power Sourcing Equipment	
PSID		Physical Security ID	
PSID		Provider Service Identifier	
PSTS		Project Specific Technical Specification	
QD		Queue Detection	
QFES		Queensland Fire and Emergency Services	
QFleet			Queensland vehicle leasing and strategic fleet management service
QGEA		Queensland Government Enterprise Architecture	The Queensland Government Enterprise Architecture information standards provides guidelines for Queensland based government agencies
QITC Framework		Queensland Information Technology Contracting Framework	
Qld		Queensland	
QPS		Queensland Police Service	
QR		Queensland Rail	
QTRAF		Quality Traffic Systems	Queensland's version of Traffic Software as installed in Traffic Signal Controllers
QTRIP		Queensland Transport and Roads Investment Program	
QUT		Queensland University of Technology	
RA		Root Authority	(see also RCA, an SCMS component)
RACQ		Royal Automobile Club of Queensland	
RACI		Responsible, accountable, consulted and informed.	A RACI chart is a matrix of all the activities or decision making authorities undertaken in an organisation set against roles.
RAID		Risks, Assumptions, Issues and Dependencies log	
RCA		Root Certificate Authority	A SCMS component
RCD		Residual Current Device	
RCF		Risk context profile	

Acronym / Term	CAVI preferred (by exception)	Term	Definition
RD		Relevance Distance	
Redcrab			The name of the TMR developed road works management tool
Region			Defined area of the HMI screen for presentation of a message
REST		Representational State Transfer	
Road infrastructure			Which includes roadside intelligent transport systems, such as traffic signals, that enable real-time management of traffic (for example, detection of traffic conditions, control of traffic in response, and provision of information to road users).
RHS		Road Hazard Signalling	
RHW		Road Hazard Warning	
R-ITS-S		Roadside ITS station	Abbreviation of "roadside ITS station" from ETSI EN 302 665 V1.1.1 (2010-09)
RLT		Road and Lane Topology	
RLV		Red light violator use case	
RLW		Red light warning use case	
RMS		Roads and Maritime Services (NSW)	
RMS		TMR Corporate Risk Management System, utilises PAN Software	
RO		TMR's Road Operations group	
RPEQ		Registered Professional Engineer of Queensland	
RSE	R-ITS-S	Road side equipment	
RSSI		Received signal strength indication	
RSU	R-ITS-S	Road side units	
RTA		Right Turn Assist use case	
RTCM		Radio Technical Commission for Maritime Services	
RTI		Right to Information	
RTK		Real-Time Kinematic	

Acronym / Term	CAVI preferred (by exception)	Term	Definition
RTMF		Road Trauma Mitigation Fund	
RTPPP		Real Time Precise Point Positioning	
RWW		Road work warning use case	
RZ		Relevance zone	
S3		AWS Simple Storage Service	
SA		Solution architect	
SAE		Society of Automotive Engineers	
SAP		Service access point	
SCM		Station Configuration Message	A message sent by the C-ITS-S to R-ITS-S and V-ITS-S when data changes are detected in the system configuration.
SCMS		Security credential management system	
SCP		Secure Copy Protocol	
SDK		Software development kit	
SEQ		South East Queensland	
Service arrangement			A contract or other arrangement entered into after the commencement of this section under which an entity other than an agency (the contracted service provider) agrees or otherwise arranges with an agency (the contracting agency) to provide services.
SFTP		Secure File Transfer Protocol	
SIAT		Systems Integration Acceptance Testing	testing in the field, example Mt Cotton
SIB		Security Information Base	
SIL		Safety Integrity Level	
SIT		System integration testing	Bench testing
SME		Subject matter expert	
SME		Small and medium-sized enterprises	
SNS		Simple Notification Service	A web service that coordinates and manages the delivery of sending of messages to subscribing endpoints or clients.

Acronym / Term	CAVI preferred (by exception)	Term	Definition
SPaT		Signal phase and timing (cooperative message)	
SPATEM		Signal Phasing and Timing Extended Message	
SPM		Station Platform Message	All stations health data such as CPU and error logs
SS		Static Speed	
SSH		Secure Shell	
SSP		Security Service Provider	
SSV		Slow/stopped vehicle use case	
STO		Validity end time	
STR		Support TMR Readiness	
STRC		Smart Transport Research Centre	
STREAMS			TMR's integrated ITS operating platform
SV		Subject vehicle	
SW		Software	
SWUP		Software Update	
TAC		Transport Accident Commission (Victoria)	
TBAT		Test Bed Acceptance Test	
TCA		Transport Certification Australia	
TCC		Traffic Coordination Centre	
TCP		Transmission Control Protocol	
TCP/IP		Transmission Control Protocol/Internet Protocol	
TGS		Traffic guidance scheme	
TIC		Truck Industry Council	
TIC		Transport and Infrastructure Council	
TISA		Traveller Information Services Association	
TISOC		Transport and Infrastructure Senior Officials' Committee	

Acronym / Term	CAVI preferred (by exception)	Term	Definition
TLM		Trust List Manager	
TLS		Transport Layer Security	
Tmax		Transmax	Transmax - Transmax is the solutions provider of the international award-winning ITS platform STREAMS.
TMC		Traffic management centre	
TMR		Department of Transport and Main Roads (Queensland)	
TOGAF		The Open Group Architecture Framework	
TPEG		Transport Protocol Expert Group	
TRAFF			Traffic Software as installed in a standard Australian Traffic Signal Controller
Transurban			Transurban manages and develops urban toll road networks in Australia and North America.
TRB		Transport Regulation Branch	
Treatment Group			Participant sub-group that experience both a Baseline Period and Treatment Period
Treatment Period			Period when in-vehicle C-ITS systems are operational and logging data, and C-ITS use case information/ warnings are presented to the driver via the HMI
TRL		Transport Research Laboratory (UK)	
TRSP		Targeted Road Safety Program	
TSC		Traffic Signal Controller	
TSRU		Traffic Systems and Road Use	
TSS & TP		Test Suite Structure and Test Purposes	
TTA		Time to Action	
TTC		Time to Collision	
TTE		Time to Event	
TTI		Traffic and traveller information	
TTL		Time to Live	

Acronym / Term	CAVI preferred (by exception)	Term	Definition
TTT		Transformative Transport Technologies (relates to new TMR coordination group)	
TV		Target vehicle	
TWG		(CAVI) Technical Working Group	
TWVul/TWVR		Turning warning - vulnerable road users use case	
UC		Use Case	
UCDATA		Use Case Data	
UDP		User Datagram Protocol	
UI		User Interface	
UMTRI		University of Michigan Transport Research Institute	USA
UPER		Unaligned Packed Encoding Rules	
US		United States of America	
US DOT		United States Department of Transport	
USB		Understand Safety Benefits	
USB		Universal Serial Bus	
		Use Case Warning	A warning presented by the HMI when use-case applications are trigged
USER			
UTC		Coordinated Universal Time	
UTIMS		Unplanned Traffic Incident Management System	
V2I		Vehicle to infrastructure	
V2P		Vehicle to personal device	
V2V		Vehicle to vehicle	
V2X		Vehicle to any other cooperative device	
VANET		Vehicular ad hoc network	
V-ITS-S		Vehicle ITS station	Abbreviation of "vehicle ITS station" from ETSI EN 302 665 V1.1.1 (2010-09)

Acronym / Term	CAVI preferred (by exception)	Term	Definition
VMS		Variable message sign	
VRU		Vulnerable road user	
VSL		Variable speed limit	
WAVE		Wireless access in vehicular environments (US only)	
WBS		Work Breakdown Structure	
WLAN		Wireless local area network	
WPA		WiFi Protected Access	
WSP-PB		WSP-Parsons Brinckeroff	
XER		XML Encoding Rules (for ASN.1)	
XML		eXtensible Markup Language	
YAML		A recursive acronym for YAML Ain't Marking Language	A human-readable data-serialisation language predominately used for AWS CloudFormation within the ICVP system