

An aerial photograph of a city skyline, likely Sydney, Australia, with a highway interchange in the foreground. The image is partially obscured by a large orange semi-transparent shape that contains the main title. The background is a dark grey/black gradient on the left side.

Austrroads

John Wall

Program Manager

Connected & Automated Vehicle



**Connected & Automated Electric
Vehicle Program
Review Update
July 2019**

Get Smart – where to begin?



Get Smart – where to begin?



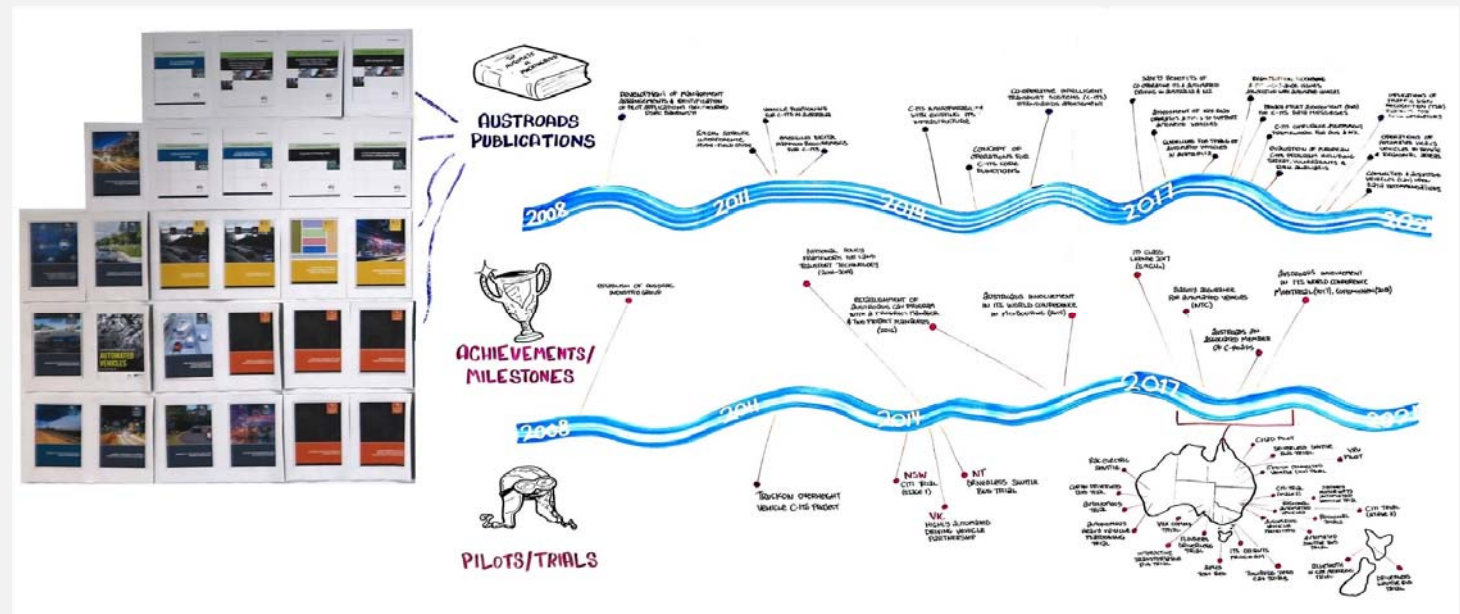
Get Smart – where to begin?



Reviewing the Austroads CAV Program



- The need
- The history
- The customer
- The value proposition
- Co-designing the future
- The new program
 - Vision
 - Mission
 - Values
 - Themes



The need for a review

- Program has evolved
 - Originally part of the Austroads Network Program
 - Co-operative ITS
 - Automated Vehicles
- Increasing scope
 - Low & Zero Emission Vehicles
 - Remotely piloted aircraft
- Recognition as a formal Austroads Program
- Maturing our understanding of technologies (C-ITS, AVs)
- Appointment of new program manager and “fresh eyes”



Owner focused program



- Focus on members' employees & their needs
 - Understand the different roles within member organisations
 - Understand the “pains” members have in working in the CAV space
 - Understand the “gains” members are trying to achieve with CAVs



Customer Profile Map

Understanding our existing and future business models



- Build a new “business” model for the program
 - Define the value proposition of the CAV Program
 - Pain relievers
 - Gain creators
 - Products & Services



Value Map

Understanding our customers



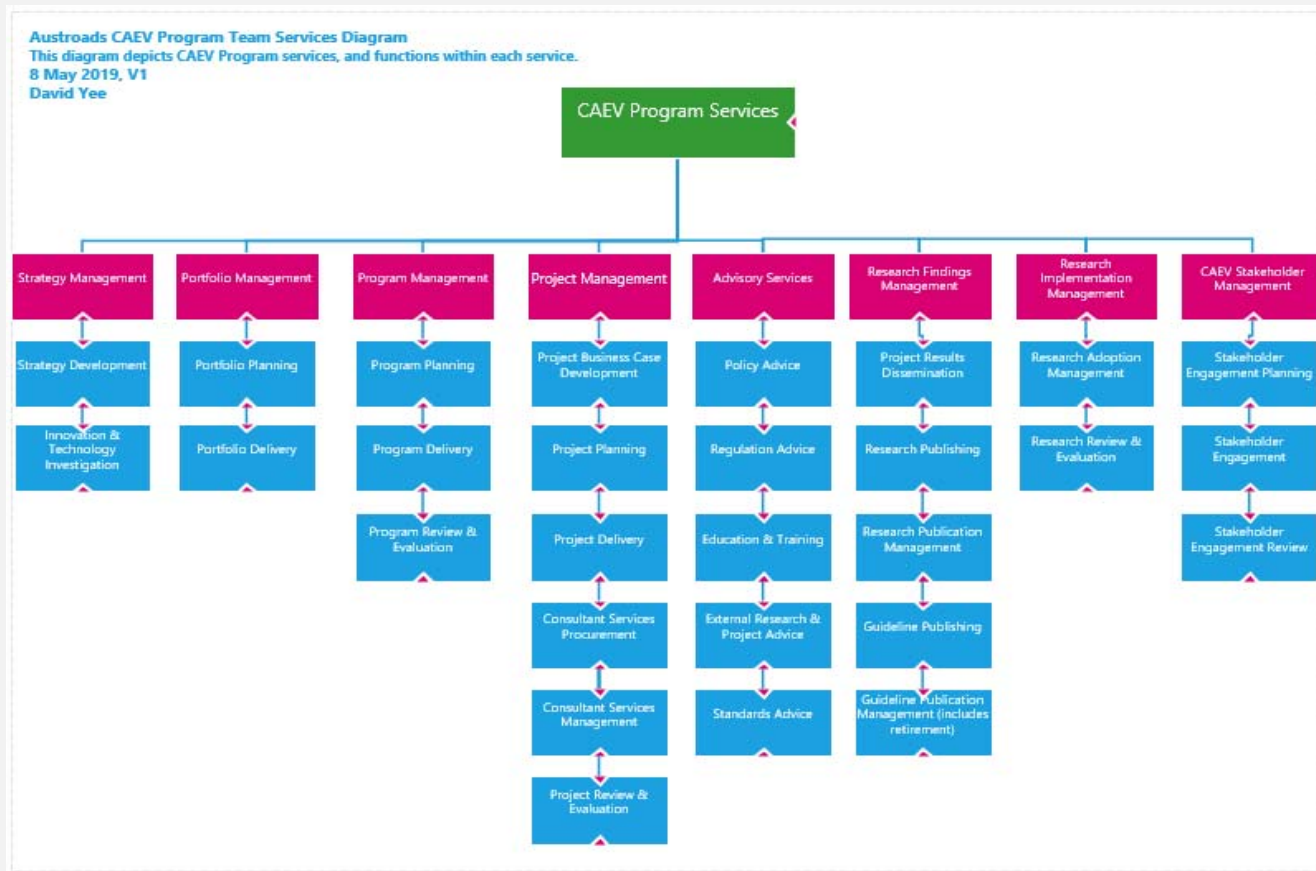
Co-designing our new program



- Broad range of member employees in numerous roles
 - Vision
 - Mission
 - Values
 - Objectives
 - Guiding principles




Mapping our services to customers

























































Mapping our services to our stakeholders



CAEV Program Team Services – Key Stakeholder Interaction Matrix

This matrix illustrates the CAEV Program services that interact with key stakeholders (indicated by ). Stakeholders are both internal and external to Austroads. Interactions are both one- and two-way, and could include partnering, informing, consulting, and contributing, but these distinctions are not shown.

9 May 2019
David Yee

Stakeholders	CAEV Program Services							
	Strategy Management	Portfolio Management	Program Management	Project Management	Advisory Services	Research Output/Findings Management	Research Implementation Management	Stakeholder Management
Austroads Management								
Austroads Member Agencies								
National Transport Commission (NTC)								
Federal Chamber of Automotive Industries (FCAI)								
Other Austroads Programs								
Truck Industry Council (TIC)								
Department of Infrastructure, Regional Development and Cities (DIRDC)								
Local Govt								
Universities (researchers)								
Professionals (as consumers)								

Mapping “real” work to services model



MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
31 Dec	1 Jan 19	2	3	4
From 21 Dec From 24 Dec			John on leave Niko on leave	
			Chris on leave	
7	8	9	10	11
	Niko on leave	10:00am CAW138 - PM meeting 3_JR-Meeting Rooms Level 10... 10:00am CAW138 - Project Management meeting 3_GoC... 10:00am CAW137 - Go		
14	15	16	17	18
			Detroit Trip: Detroit	
21	22	23	24	25
	2:00pm John Wall's Zoom Meeting Rfp/20pmusj/40738605/ John Wall	11:00am CAW138 - PM meeting 11:00am CAW138 - PM meeting 12:30pm Meet Andrew H. My...	8:00am Call David Yee 10:00am King David Yee	8:00pm Program Manager Monthly Catch Up: Phone Meeting - See Notes: Natalie Lindros
28	29	30	31	1 Feb
Australia Day 12:00am	11:30am Catch up: 84 Crown St, WOLLONGONG, John Wall	Mantra Southbank check in: M... 6:00am Fly to Melbourne, Woll... 6:15am Flight from Wollongong 8:00am System Managers Wor...	Mantra Southbank check out Mantra Southbank (31 City Ra... 11:00am CAW088 mobile 2 stakeholder presentation - Val... 11:00am Initation with note: C...	11:30am National Automated Vehicle Senior Advisory Group... 11:30am National Automated Vehicle Senior Advisory Group... 4:00pm Senior Celebration: The...

- Advisory Services
- Program Management
- Project Management
- Research Output Management
- Research Implementation Management
- Stakeholder Management
- Strategy Management

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
4	5	6	7	8
12:00am I 8:00am RMT Workshop - Sydney Network Readiness for EV & AV (Sydney) RMT, Video Conference Room 5, 20-44 En...	7:00pm LTTWG Draft Agenda and Meeting Invite 3 MARCH (DEC-UNCLASSIFIED), Telecon...	11:00am CAV meeting MeetingRoom2, John Wall	5:30am Pick up by Taxi 6:00am Fly Corporate WOL... 9:00am Review of Austroads C... 11:00am L29 FCAL Technical C...	2:00pm L2E Working group Post Meeting Catchup: Skype Meeting, John Wall
11	12	13	14	15
10:00am RE L2E Working Group Meeting, Skype Meeting John Wall	8:30am Placeholder - R & L T... 11:00am RE IT meeting - AV... 2:00pm Catch up with John Wall	11:30am Design Team Meeting Automated Connected & Electric Vehicle Strategy, Syd...	10:00am CAV & EV Modelling 4:30pm Austroads Stakeholder 5:15pm TS Australia Business ... 5:15pm TS Australia Business ...	8:00am Wollongong Office All Day 12:00pm Lunch with CRS 2:15pm Dr. appointment Gerrigong
18	19	20	21	22
2:00pm March Staff Meeting Austroads Boardroom - Level 9, 287 Elizabeth Street Sydney S...	10:30am Coffee with 477 PB S... 11:30am Place Holder - Day... 12:30pm Confirmation: Devel...	CAW138 - FCAL & OEM Cont... 7:45am Confirmation: Develo... 8:30am Place Holder - Day Te... 8:30am Placeholder - Austro...	12:00pm Leave	2:00pm Program Manager Monthly Catch Up: Phone Meeting - See Notes: Natalie Lindros
25	26	27	28	29
12:30pm Lunch with John Austroads 6:00pm Teleconference - Assessment of potential CAV deployment models (DEC+LNL)	2:00pm RE Upcoming Land Transport Working Group Meeting (DXM-For-Official-Use-Only) Teleconference	10:00am Updated - Caw138 Project Catchup Meeting: Skype Meeting, John Wall	8:00am Australia/Michigan MOU Working Group Planning Call - Call in Info Changed: See Call... 10:30am Guest Lecture: Building 35, Room G45: Gimu Ryan	

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
28 Jan	29	30	31	1 Feb
Australia Day 12:00am	11:30am Catch up: 84 Crown St, WOLLONGONG, John Wall	Mantra Southbank check in: M... 6:00am Fly to Melbourne, Woll... 6:15am Flight from Wollongong 8:00am System Managers Wor...	Mantra Southbank check out Mantra Southbank (31 City Ra... 11:00am CAW088 mobile 2 stakeholder presentation - Val... 11:00am Initation with note: C...	11:30am National Automated Vehicle Senior Advisory Group... 11:30am National Automated Vehicle Senior Advisory Group... 4:00pm Senior Celebration: The...
4	5	6	7	8
Cancelled meeting (Linda) to be... Oaks WRAP on Southbank che... 6:15am Flight from Wollongong 6:15am Flight to Melbourne...	Oaks WRAP on Southbank che... 8:30am Catch up (M Austroads... 8:30am 10:00am CAW138 Project Co...	12:45pm Dr 3:30pm Review of Austroads Initiative, Austroads National Office Board Room, Level 9, 287 Elizabeth St, Ross Guppy		10:00am Public & Finance Training, National Office, John Wall
11	12	13	14	15
11:00am Catch up: Call to Shorex TSC & VolvoBus, CAV L... 1:00pm Catchup with John W... David, Austroads National Off... 3:00pm National EV Govern...	8:00am Wollongong Office - all day 8:30am Catch up (M Austroads... 8:30am 10:00am CAW138 Project Co...	11:00am Austroads MCV Stage 3 Project - Inception Meeting Webconference, Carole Stone 2:00pm February Staff Meeting JMS Room 200m - Level 9 287A	2:00pm Hardware meeting Skype Meeting, Chris Stone	Chris' last day 8:30am Booking at Gerrigong Family Medical Practice, 129 R... 1:30pm Skpping meeting Government access to C-ITS A...
18	19	20	21	22
National Office All Day 10:00am Catchup with David Austroads National Office 2:00pm Austroads CAV Review Meeting, MeetingRoom2, Lev...	8:15am Austroads CAV Review Meeting, MeetingRoom2, Lev... 11:00am EV meeting planch...	Hotel Grand Chancellor Bribis... National Office all day 10:00am RE Infrastructure ME...	Hotel Grand Chancellor Bribis... National Office all day 9:00am Austroads CAV Meetin... 11:00am Catch up with John W...	8:00am
25	26	27	28	1 Mar
Annual Leave Jacinta's Birthday	4:00pm LGAQ smart tech relative discussion, By phone Michelle Oyam	7:00am Registration Confirmation, U.S. DOT Work Zone Data Exchange Project Webinar, Webinar	10:00am RA CAs for the Future - Learning from our neighbours (Sydney) Level 3, 26-22 Fernside Road, PIRRAMONT, NSW, 2000, AUSTRALIA, Rachel Rooney	11:30am National Automated Vehicle Senior Advisory Group 2023 Forward schedule (DEC... 2:00pm RE, Austroads CAW138, AV Education and T...

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
1 Apr	2	3	4	5
				Niko on leave
8	9	10	11	12
8:30am Connected Vehicle/OT Working - Heli VIC, S.U. & Bureau - 4:00pm 6:1 May - HSG2 Conference Room 2, 270, John Latham	12:30pm PMAC meetings - Knowledge Sharing on Road Network Operations/Development Transportation Systems, JMS	10:00am PMAC meetings - K... 8:00am Welcome address to P... 11:00am Austroads Stage 2 H...		10:00am Catch up with Helen... 11:30am Traps and Scales 1:00pm WMA Meeting - Ph...
15	16	17	18	19
			Niko on leave	
10:30am Pre Meeting with Rita Evered - AVN, Austroads Office Rita Evered 10:00am Quarterly Update Liam B. Smith CEM Coaches...	10:00am Automated vehicle inf... 2:00pm RE NTC-C-RT and AV... 10:00am RE LTT Working Grou...	11:00am Drivers Future Austroads CAV Industry Reference Group with PAAC management review	8:30am Del Points for this week Good Friday: Australia	
25	26	27	28	29
			Annual leave	
			Annual Day: Australia	
29	30	1 May	2	3
10:00pm Pre EV report 2:00pm RE NTC, C-RT and AV data paper - Austroads video (DEC+UNCLASSIFIED)	8:00am Update Rita 10:00am Review report to RADC... 11:00am Austroads CAW138... 2:00pm Caw138 Progress Re...	10:00am LTT Working Group Webconference - 1 May 2018 (DEC+UNCLASSIFIED) 2:00pm LTTWG meeting week 2 & 3 (DEC+UNCLASSIFIED) Tr...	2:00pm Review NTC Working papers for Friday's meeting	11:30am Working Paper week update 10:00am Official Use-Only 1:30pm LTTWG meeting follow up (DEC+UNCLASSIFIED)

Mapping project type, project name to road agency services and program themes



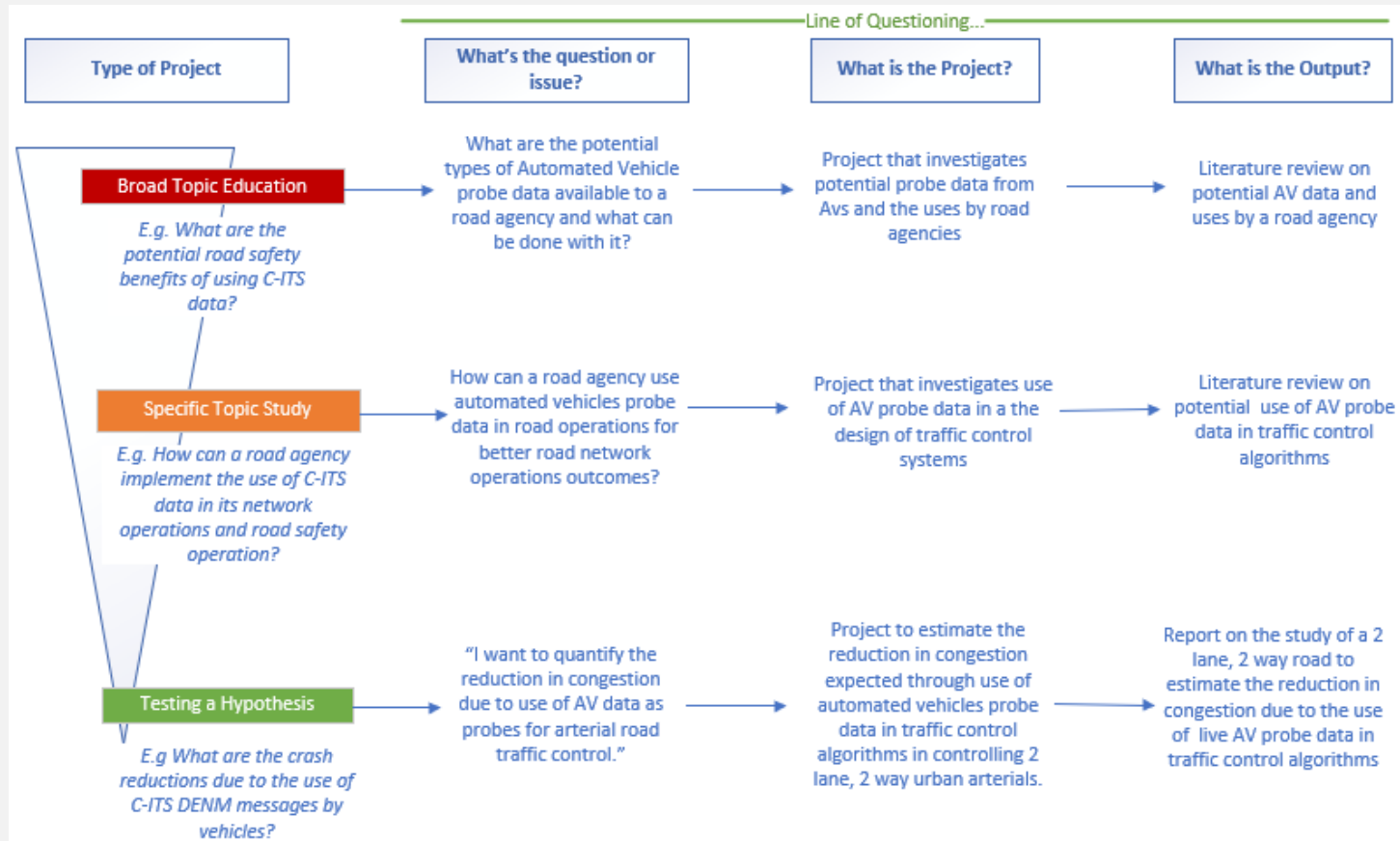
CAEV Program - Portfolio of Projects Mapping against Business Services and CAEV Domain
 This diagram depicts the coverage of Road Agency Business Services by Austroads CAEV Projects, and each CAEV domain area (C-ITS, AV, EV).
 8 May 2019, v0.2
 David Yee

Key to the classification of Project type

- Broad Topic Education
- Focused topic or Themed Investigation
- Specific Investigation with hypothesis testing

Coverage of Road Agency Business Services by Austroads CAEV Projects							
	Licensing	Vehicle Regulation	Asset Management	Road Safety	Network Management	ITS Management	
C-ITS	Examination of policy issues relating to C-ITS ('11)					DSRC Interop. Study ('11)	Benefits Eval of DSRC Collision Avoidance ('11)
						5.9GHz Report ('12)	5.9GHz Interference Study ('13)
						Mapping Rqts for C-ITS ('13)	Vehicle Positioning for C-ITS ('13)
	Conops for C-ITS Core ('15)						C-ITS Interop. Study ('14)
	C-ITS Standards assessment ('15)						
	Safety benefits of CITS & AVs in ANZ ('17)						C-ITS CAF for ANZ ('18)
AVs	CAV6216 – RADCAV ('19)						
	Reg. Lic. & CTP issues w Avs ('17)		Operations of AHVs in Remote areas ('18)				
	Assessment of Key Road Operator Actions to Support Avs ('18)						
	Implications of Traffic Sign Recognition systems for Road Operators ('18)						
EVs	Infrastructure Requirements for AVs ('19)						
	Key Road Operator Actions to Support Evs ('19)						

Understanding the types of project we deliver




Bringing it together on a page




Approach

Our Vision
All employees of our members have an understanding of how connected, automated and electric vehicles can be used to improve the capacity of their organisation to deliver services that improve the lives of the communities they serve.





Our Mission
To provide members with practical, impartial advice & guidance to support future mobility solutions



Our Values





- Member Centred
- Big Issue Focused
- Evidence Based
- Impartiality
- Collaboration
- Quality Products





Austroads
Connected and Automated Vehicle Program

Themes

Connected & Automated Mobility

The Big Issues
When, where & how should agencies deploy or approve deployment?
How do we manage safety, security & other risks associated with CAVs?
How do we manage & use the data for and from CAVs?

Projects & Activities
CAV 6138—Integrating advanced driver assistance systems in driver education. Due Sep 2020.

Outcomes
Agencies have guidance materials available to assist in deployment.
Agencies can effectively manage risks associated with CAVs
Agencies understand how to manage & use CAV data

Physical & Digital Infrastructure

The Big Issues
How does current infrastructure support CAVs?
What is needed in the near future?
What is the cost & return?
How do we collect, manage & store data from CAVs & protect privacy?

Projects & Activities
CAV 6119—Pavement markings for machine vision. Due Sep 2019.
CAV 6216—Road Authority Data for Connected & Automated Vehicles (RADCAV). Due Aug 2020.

Outcomes
Agencies can rate the readiness of their current infrastructure for CAV operation.
Agencies have guidance materials to allow them to build physical & digital infrastructure that will support future CAV deployment.
Agencies can use data to improve public mobility whilst protecting private information.

Low & Zero Emission Vehicles

The Big Issues
What do agencies need to do to support the introduction and uptake of LZEVs?
What changes will be agencies need to make to manage LZEVs on their networks?

Projects & Activities
CAV 6171—Assessment of key operator actions to support electric vehicles. Due Jan 2020.

Outcomes
Agencies have access to information that guides them in supporting the uptake of LZEVs in Australia and New Zealand.
Agencies have access to guidance materials that will assist them to manage LZEVs on their network.

Capacity Building

The Big Issues
How much do employees consider CALZEVs in planning their future work?
How can Austroads build the level of CALZEVs knowledge of our member employees?
How does Austroads build its capacity to support members & related national organisations in CALZEVs projects?

Projects & Activities
XX

Outcomes
All members employees can readily access appropriate information on how CALZEVs will influence their future work.
Austroads have expert staff that can support member organisations and related national organisations on CALZEVs projects and working groups.

April 2019

Thank you

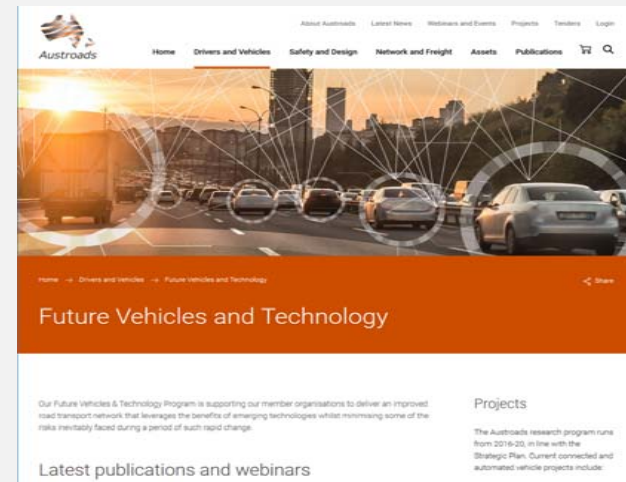
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