
From: Mehrton, Andrew
Sent: Thursday, 10 September 2015 3:25 PM
To: 'dean.seeley@canberrabusiness.com'
Subject: Autonomous vehicles work

Hi Dean,

I was wonder if you'd be free to catchup soon about moving forward with the autonomous vehicle work that we discussed last week?

Tuesday and Thursday mornings aren't great for me but I'm pretty flexible about times otherwise, and happy to come down to your offices if you'd like too.

Cheers.

-Andrew

Andrew Mehrton | Deputy Director, Economic Development Policy | Chief Minister, Treasury and Economic Development Directorate | ACT Government

andrew.mehrton@act.gov.au | ph: (02) 6205 8507 | fax: (02) 6213 0748

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A. 2

From: Mehrton, Andrew
Sent: Friday, 11 September 2015 9:30 AM
To: Cox, Ian; Gilding, Louise
Cc: Keogh, Geoff
Subject: RE: COMMERCIAL IN CONFIDENCE - The Economics of WiFi

Categories: Watch

Last point is particularly interesting for Autonomous Vehicles.
Will get iinet along to the workshop thing that we'll do.

-Andrew

From: Cox, Ian
Sent: Friday, 11 September 2015 8:14 AM
To: Gilding, Louise; Mehrton, Andrew
Cc: Keogh, Geoff
Subject: FW: COMMERCIAL IN CONFIDENCE - The Economics of WiFi

His guy knows his stuff / some interesting reflections

From: Stuart Adam [<mailto:s.adam@staff.iinet.net.au>]
Sent: Thursday, 10 September 2015 4:36 PM
To: McCredie, Andrew
Cc: Cox, Ian; Embleton, Ilsa; Hassett, Glen; Williamson, David
Subject: RE: COMMERCIAL IN CONFIDENCE - The Economics of WiFi

Hi Andrew et al

1. The relative size of the CBRfree deployment. Some public documents state when finished it will be the largest free public WiFi deployment in Australia. Is this still the case?

Adelaide (337) is still in the lead right now. Melbourne (2) will overtake Canberra (172) at some stage, but their own planning approval delays mean that this hasn't happened yet. Telstra's whole Canberra deployment is 45 hotspots at the moment. Bendigo and Ballarat have about 70 each, and will publicly announce soon.

2. What locations have similar sized deployments?

Adelaide, Melbourne, Newcastle and Sydney will be the cities to watch. Perth's deployment is still not in the same league (~30, with 30 more planned). Brisbane have awarded \$1.1M to Telstra for a WiFi network, which is unlikely to have a similar scope to CBRfree.

3. What are these locations doing to monetise their networks?

Leveraging the networks for smart parking looks to be the clear winner, followed by energy savings from smart lighting.

4. The value of data offload for WiFi network owners, see for example - Juniper Research (2015), "Mobile Data Offload & Onload: Wi-Fi, Small Cell & Network Strategies 2015-2019". Does iiNet/TPG see any value in data offload via WiFi?

No. The often-proposed model of data offload for mobile phones is unproven globally, it exists primarily in white papers. WiFi in smart phones is not yet reliable enough to be a significant commercial substitute for LTE.

It will have applications in delivering data to public transport, iiNet is conducting such a pilot in Canberra as part of the CBRfree network.

5. There is emerging interest among property owners in establishing WiFi networks. Is this also an opportunity [to monetise network]?

Shopping centres and retailers are taking an interest in WiFi analytics, and big data initiatives. The Telecommunications Act and the Australian Privacy Principles are at odds with raw data sharing which is where most of the current commercial activity lies. iiNet itself plans some commercial activities in this space that protect the privacy of end users, with a view to making sure that its public WiFi networks are commercially sustainable.

Westfield and Optus have partnered with Skyfii to monetise WiFi networks. The SKF financial reports to the ASX imply that this form of monetisation may not be commercially viable.

6. Transport applications. ACT Government is exploring smart parking but there are other potential applications in managing traffic/congestion and probably in the longer-term working with autonomous vehicles. What are iiNet's thoughts about this?

Only WiFi has the bandwidth density to support vehicle-to-vehicle sharing of information such as events or imminent road hazards (i.e.: new potholes or ducklings) among Autonomous vehicles. It is likely that the 5.9ghz 802.11p radios proposed to support transport communications will be able to share antennas or even signals with 802.11n WiFi deployed in the ACT.

Interest is growing from public transport operators. iiNet has recently deployed 150 access points at stations for Metro trains in Victoria.

Kind regards
Stuart

From: McCredie, Andrew [<mailto:Andrew.McCredie@act.gov.au>]
Sent: Thursday, 10 September 2015 11:26 AM
To: Stuart Adam
Cc: Cox, Ian; Embleton, Ilsa; Hassett, Glen; Williamson, David
Subject: FW: COMMERCIAL IN CONFIDENCE - The Economics of WiFi

Hi Stuart

Many thanks for the attached document – it is a great start in stimulating our thinking about the future of CBRfree.

An issue that is raised with us on occasion is about the relative size of the CBRfree deployment. In some of our public documents we state when finished it will be the largest free public WiFi deployment in Australia. Is this still the case? What locations have similar sized deployments? What are these locations doing to monetise their networks?

I mentioned the value of data offload for WiFi network owners, see for example - Juniper Research (2015), "Mobile Data Offload & Onload: Wi-Fi, Small Cell & Network Strategies 2015-2019". Does iiNet/TPG see any value in data offload via WiFi? You haven't discussed this in your paper.

There is emerging interest among property owners in establishing WiFi networks. Is this also an opportunity?

You don't mention transport applications. Obviously the ACTG is exploring smart parking but there are other potential applications in managing traffic/congestion and probably in the longer-term working with autonomous vehicles. What are iiNet's thoughts about this?

Kind regards

Andrew

From: Stuart Adam [<mailto:s.adam@staff.iinet.net.au>]
Sent: Thursday, 3 September 2015 2:33 PM
To: McCredie, Andrew
Subject: COMMERCIAL IN CONFIDENCE - The Economics of WiFi

Hi Andrew

Following a conversation between Glenn Hassett and yourself, please find the attached economic paper worked up by the iiNet government team here in the ACT.

I hope it passes muster at your end. At least it's food for thought. There are some cited articles which might provide further insight.

Kind regards

Stuart Adam
Manager Government Business

TransACT an iiNet company

470 Northbourne Ave, Dickson ACT 2602
transact.com.au

AGIMO endorsed supplier of Mobile Voice, Mobile Data, Internet-based Network Connection Services & Data Centre Services

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What is the value of CBRfree?

GDP Growth

In 2014, in their report to Facebook¹, the consulting company Deloitte, cited a number of studies regarding the relationship between Internet penetration and economic growth and suggested that a 10% increase in Internet penetration in the form of a switch from 2G to 3G technology has a 0.15% impact on growth rate².

In addition, ITU studies estimate a 1% increase in broadband penetration leads to an increase in annual GDP growth of between 0.015 to 0.13 percentage points³.

Ericsson reports that “doubling broadband speeds for an economy can add 0.3% to GDP growth”.⁴

The ACT economy is worth approximately \$34.4Billion (per annum) with an annual growth of 2.7%⁵.

It follows that supplying broadband services in areas where there are currently no broadband services (such as town centres in the case of CBRfree), may potentially increase ACT GDP value up to \$103.2Million per annum.

There are many reasons offered for this increase in GDP. For example, working employees and students buy coffee at a value of \$3.50 per cup and spend time in a commercial premises, market or public place using free WiFi.

If one assumes there are in the order of ~100,000 working employees and students in the ACT buying an additional coffee per day (\$3.50) equates to \$350,000 per day. Based on 220 working days per year this equates to GDP growth in the local economy of \$77 Million.

This benefit can be weighed against CBRfree WiFi coverage in the ACT. If we assume, once deployed, that the WiFi coverage represents even 10% of the marketplaces, open spaces, malls, shopping centres and other commercial locations in the ACT; this represents economic growth of ~\$7.7 Million per annum, attributable to WiFi.

Would these users have bought an extra cup of coffee over and above their normal purchases? While this is debatable, the temptation to purchase food or drink once in a bar or café is powerful.

¹ Deloitte. Value of connectivity Economic and social benefits of expanding Internet access. Report for Facebook. United Kingdom. February 2014

² Deloitte, GSMA and Cisco, “What is the Impact of mobile telephony on economic growth?”, 2012

³ International Telecoms Union, “The impact of Broadband on the Economy: Research to date and policy issues”, 2012

⁴ Ericsson, Arthur D. Little and Chalmers University of Technology. Socioeconomic Effects of Broadband Speed, September 2013. Research Paper available at <http://www.ericsson.com/res/thecompany/docs/corporate-responsibility/2013/ericsson-broadband-final-071013.pdf>. Accessed 4.26pm 16/07/15

⁵ SGS Economics & Planning. GDP growth: how are Australia’s major cities performing? Online resource available at <http://www.sgsep.com.au/insights/urbecon/gdp-growth-how-are-australias-major-cities-performing/>. Accessed at 4.31pm 16/7/15

iiNet has a video case study of “O’Malley’s”, a bar in Civic in the ACT which testifies to a significant increase in business hours patronage when workers armed with laptops and mobile devices wile away the hours and remain connected and productive using CBRfree in the establishment. This opinion from O’Malley’s is re-enforced in a survey undertaken by iGR in the US where businesses providing free Wi-Fi, saw an increase of up to 62% in the time spent by patrons on premises and an increase in spending.⁶

In addition, if these same 100k employees and students save only 1MB of mobile internet data in 1 year of CBRfree use, this will add an additional ~\$392,000 of savings (read hospitality spendings) to the local economy. Normally, the \$392,000 of savings would be paid to a 4G mobile carrier such as Telstra, Optus or Vodafone and the money would move outside of the ACT region. Using CBRfree, this saving is likely to be spent locally in the ACT economy.

Such GDP improvements are re-enforced by Grimes et al who claim business productivity increases up to 11.1% where slow broadband replaces no broadband.⁷

Productivity Improvement

An increase in public WiFi bandwidth reduces time spent online waiting for downloads in public environments. This allows workers to improve their productivity out of the office. It has a twofold effect. It allows workers to quickly move on to the next business topic when using free public WiFi thereby contributing to the effect observed by Grimes et al, and secondly, it allows workers to use free public networks for private data use.

An ACT Government future scenario is postulated as an example. This approaches the issue from the perspective of the monthly mobile network data cost to the ACT Government as follows:

1. Strict data policies are enforced on ACT Government mobile devices. This action redirects ACT Government mobile data users towards CBRfree for social media instead of 4G mobile services in the office.
2. Assuming 10 minutes of social networking (face-book, twitter) time is saved per day per mobile device, this generates an effective saving of ~73 FTEs or 2% ((3500 FTEs (devices) X 10 minutes X 220 working days = 73 FTEs equivalent). Average working hours per FTE is 1,760 (220 working days X 8 hours)

⁶ iGR: Increased Spending by Customer Using Free Wi-Fi Seen by 50% of Retailers. Reported by Andrew Burger, Last updated on 6/11/2014 at 2.35pm. Web resource available at <http://www.telecompetitor.com/igr-increased-spending-by-customers-using-free-wi-fi-seen-by-50-of-retailers/>. Accessed 12.55pm, 19/8/15

⁷ Grimes et al, Oct 2009. The Need for Speed. Impacts of Internet Connectivity on Firm Production. Motu Economic and Public Policy Research. The University of Waikato. Working Paper available at http://motu-www.motu.org.nz/wpapers/09_15.pdf. Accessed 4.51pm 16/7/15

3. This suggests a direct productivity improvement of \$6.2M per annum in the ACT where average user salary is \$85,000⁸.

If the same policy enforcement means that ACT Government employees are encouraged to spend the above 20 minutes per day browsing social media sites outside the office and in range of a CBRfree node instead of at their desks, the productivity impact is amplified.

Most consumers understand that 4G data (mobile) data is expensive. If, in a perfect world, a WiFi network such as CBRfree delivered say 1 Mbps of traffic to a mobile device (in reality CBRfree is typically much faster), the same 10 minutes outlined above represents in the order of 5MB of traffic. Using the same logic as above and substituting 5MB for each 10 minutes, we obtain the following traffic usage:

1. 3500 (devices) x 5 (MB) x 220 (days per annum) equals 3.8TB of data traffic carried over the free public WiFi network instead of 4G mobile networks.
2. Assuming a standard commercial plan of \$11,000 per TB realises a potential cost savings of \$41K per annum.

Please note: This is a conservative figure. The ACT Government may receive more economical data services than a typical 4G commercial consumer.

Finally, where does that \$41k per annum go? In the case of government, it goes into other public services. In the case of the general public, as mentioned previously such savings typically find themselves in the local economy as meals and coffee and other consumer services, all of which ultimately benefit the local economy and the ACT government.

What is the value of a single network SSID?

A single network may create a so-called "network effect".⁹ This is where "the value of a product or service is dependent on the number of others using it". As described in the cited Wikipedia article, "a classic example is the telephone. The more people who own telephones, the more valuable the telephone is to each owner." So too social media sites. This in turn leads to a type of "bandwagon effect"¹⁰ "whereby the rate of uptake of beliefs, ideas, fads and trends increases the more they've already been adopted by others. In other words, the bandwagon effect is characterized by the

⁸ The Canberra Times, ACT News. Average Canberra wage now \$85,000. Published February 21, 2013. Online newspaper article available at <http://www.canberratimes.com.au/act-news/average-canberra-wage-now-85000-20130221-2et00.html> accessed at 3.52pm on 22/7/2015.

⁹ Wikipedia contributors. Network effect. *Wikipedia, The Free Encyclopaedia*. Last updated 16 June 2015 23:12 UTC. Online resource available at following URL: https://en.wikipedia.org/w/index.php?title=Network_effect&oldid=667268339 . Accessed 22 July 2015 05:13 UTC

¹⁰ Wikipedia contributors. Bandwagon effect. *Wikipedia, The Free Encyclopedia*. Last updated 4 July 2015 12:42 UTC. Online resource available at following URL: https://en.wikipedia.org/w/index.php?title=Bandwagon_effect&oldid=669911940

probability of individual adoption increasing with respect to the proportion who have already done so.¹¹

In the case of CBR*free*, iiNet data proves people like it, they use it and they trust it. A small bespoke network built on the side somewhere else (such as on the Metro Rail project for example) is less likely to be used or trusted compared to one which is experiencing the so-called bandwagon effect.

In addition, a single network ID (such as CBR*free*) can be customised specifically to end customer (in this case the ACT Government) needs. Such customisation requires core network management equipment which is extremely expensive (in the order of millions as opposed to thousands of dollars). Growing CBR*free* involves a small incremental access point cost compared to many hundreds of thousands to millions of dollars for a new network customised to the extent of CBR*free*.

¹¹ Wikipedia contributors. Bandwagon effect. *Wikipedia, The Free Encyclopedia*. Last updated 4 July 2015 12:42 UTC. Online resource available at following URL:
https://en.wikipedia.org/w/index.php?title=Bandwagon_effect&oldid=669911940

Subject: Autonomous vehicle discussion
Location: CBC offices, Northbourne Ave

Start: Thu 17/09/2015 2:00 PM
End: Thu 17/09/2015 2:30 PM
Show Time As: Tentative

Recurrence: (none)

Meeting Status: Not yet responded

Organizer: Mehrton, Andrew
Required Attendees: dean.seeley@canberrabusiness.com

Hi Dean,
Thanks for agreeing to meet. See you on Thursday.
-Andrew

Subject: Autonomous vehicle discussion
Location: CBC offices, Northbourne Ave
Start: Wed 23/09/2015 3:00 PM
End: Wed 23/09/2015 4:00 PM
Show Time As: Tentative
Recurrence: (none)
Meeting Status: Not yet responded
Organizer: Mehrton, Andrew
Required Attendees: dean.seeley@canberrabusiness.com

Hi Dean,

No worries. See you next week.

-Andrew

AGENDA ITEM 3

A Community Discussion on Transport Reform

Self Driven Cars

The importance of independence, freedom and safety for women with disabilities in the ACT.

- Autonomous Vehicles (AVs) provide transport functions requiring limited or no human intervention. The degree of autonomy within vehicles ranges from technology already in use, such as crash avoidance technology and self parking features, to near-fully AVs under development by Google, Mercedes, Audi, BMW/Bosch, Volvo, Tesla and others.
- Development of AVs is already in production by many major automotive and IT companies. For example, Google have prototype vehicles driving in California and Texas. There are different views on when AVs will become widely used although it seems that most car manufacturers believe that *fully* autonomous driving is about 25 years away.
- Along with community acceptance there are various regulatory issues that governments will need to consider for the successful deployment of self driving cars.
- AVs present a wide array of economic and social opportunities for cities and their residents. They can improve road safety; provide positive environmental outcomes; as well as make more efficient use of public infrastructure such as roads and parking.
- Importantly, AVs also promise to increase mobility for people who may be unable to drive themselves, including groups such as the elderly or people with a disability. The opportunity to improve mobility for these groups could mean increased social inclusion, more independence and other social benefits.

- The ACT Government is cognisant of the role that AVs could play in providing independence, freedom and safety for people with disabilities or mobility issues. The Government is currently exploring ways to support this type of development to occur in Canberra, but acknowledges that these types of services may still be some time away.

BRIEFING NOTE

Meeting/Event/Activity:	Meeting with Seeing Machines
Date:	Monday, 5 October 2015
Meeting Time:	10:00am – 11:00am
Travel time:	1 ½ hour drive from the hotel
Venue:	148 Castro St, Ste A2., Mountain View CA
Contact details of who will meet the delegates:	Nick Langdale-Srr
Role:	Participant
Meeting Protocol:	Standard Australian Accent Protocol
Participants/Attendees:	Nick L-S, David Nagy, Buzz Dean
Order of Proceedings:	Meet'n'greet, quick company intro, in-vehicle demo.

Meeting Objective [followed by 2 returns]

To promote Canberra as a centre of knowledge and expertise relevant to the business operations of Seeing Machines, with high levels of education, relevant research institutions (NICTA and ANU), supportive business development institutions (CBR Innovation Network), productive business environment (highly skilled labour force) and supportive and adaptable Government (Uber and Segways).

Targeted Outcomes [followed by 2 returns]

- ACT to be the location for testing, research and development activities undertaken by Seeing Machines.
- Promote investment in AV technology in Canberra to increase safety, provide employment opportunities, increased productivity, improve social inclusion and contribute to an improved urban environment and liveable city status.
- Promotion of the ACT Government policies and policy initiatives, including the CBR Innovation Network, Confident & Business Ready and the upcoming transport reform statement.

Key Messages [followed by 2 returns]

The Government's business development strategy, *Confident & Business Ready*, promotes the development of the skills and human capital. The technology underpinning autonomous vehicles is closely aligned with these aims and existing skills and aspirations of various Canberra businesses and organisations including NICTA, Seeing Machines and Locata.

AVs rely on digital infrastructure, both vehicle-to-vehicle and vehicle-to-infrastructure. The ACT Government is already delivering through initiatives such as free wifi networks and smart parking, the infrastructure to assist in the successful testing and roll-out of AVs. Moreover, Canberra, as a planned city, with its high quality road network and ubiquitous mobile broadband coverage is an excellent testing and demonstration platform for this technology.

As an emerging technology, AVs require jurisdictions that are agile and supportive of legislative and regulatory reform. The Government is demonstrating its willingness to adopt new modes of doing business, such as proactive regulatory changes to enable the operation of companies like Uber in the Territory. Previously, where Australian Road rules have not facilitated the roll-out of new technology, the ACT Government has used our provisions with our legislative framework to allow the roll-out. For example, the ACT Government facilitated the Segway hire and operation around key tourist attractions in the ACT.

Aside from legislative/regulatory changes, the ACT Government could potentially facilitate development and operation of AV technology through access to Government-held spatial data, access to government owned infrastructure (e.g. leveraging municipal wifi networks) or adopting digital standards and practices that better support emerging AV technology. For any of this to happen, we need to partner with companies like Seeing Machines.

Sensitivities/Issues [followed by 2 returns]

Nil.

Background [followed by 2 returns]

Seeing Machines is a Canberra headquartered company that develops smart camera-based technologies for detecting driver fatigue and distraction behind the wheel. After success in the mining industry, Seeing Machines is providing solutions to the commercial on-highway trucking, automotive, aviation and rail markets. Seeing Machines technology is a critical underpinning of semi-autonomous vehicles, where for both safety and legal reasons, the vehicle itself must make a determination of the driver's ability to resume control.

The technology works by tracking drivers' eye and facial movement to provide an objective way of detecting and responding to driver fatigue and distraction events in real time. For our commercial after-market customers, the moment a threat is detected, the system alerts the driver and the monitoring staff through in-vehicle alarms and seat vibrations while sending an information to the central monitoring team for further analysis and action. In an automotive context, the same technologies will power advanced driver assistance systems (ADAS) in intelligent, self-driving vehicles.

Seeing Machines was awarded the ACT Chief Minister's Exporter of the Year in 2014, BRW's Most Innovative Product & Medium-sized Business in 2015, and by Gartner as one of their "Cool Vendors" and has secured alliance partners including Caterpillar, Boeing, and Samsung. The technology is currently being used by mining, road transport and bus customers globally and is expected to appear in private passenger cars as early as 2016. Seeing Machines has shipped more than 4,000 units of its driver safety system worldwide, with customers reporting, at minimum, a 71 percent reduction in fatigue and distraction related driving events.

Developing AV technology positively contribute to a broad spectrum of existing Government priorities. In addition to the direct economic benefits (i.e. new business opportunities) and indirect economic benefits (i.e. signalling that Canberra is a forward thinking and innovative city that supports new business; diversifying the economy), AVs can:

Page 2 of 5

- improve safety and reduce fatalities on Canberra roads;
- improve social inclusion by increasing mobility for people with a disability;
- make more efficient use of Canberra’s transport infrastructure;
- improve the urban environment; and
- provide tangible examples of Canberra’s ‘smart city’ credentials.

To facilitate AV testing and implementation, ACT Government has the legislative capability to exempt vehicles or persons from road transport legislation under section 13 of the Road Transport (General) Act 1999. JACS have advised that this would be the most appropriate way of facilitating AVs on ACT roads—prior to the outcome of the Austroads research project, where a nationally consistent framework could be adopted. Longer-term, Austroads, the Australian and New Zealand association of road transport and traffic agencies is undertaking a project to identify and assess the key issues that might arise from the introduction of automated vehicles, including licensing and registration issues. The key deliverable will be guidance to agencies on measures to facilitate testing and mass-market deployment AVs in the future. The guidance will also assess liability and insurance issues.

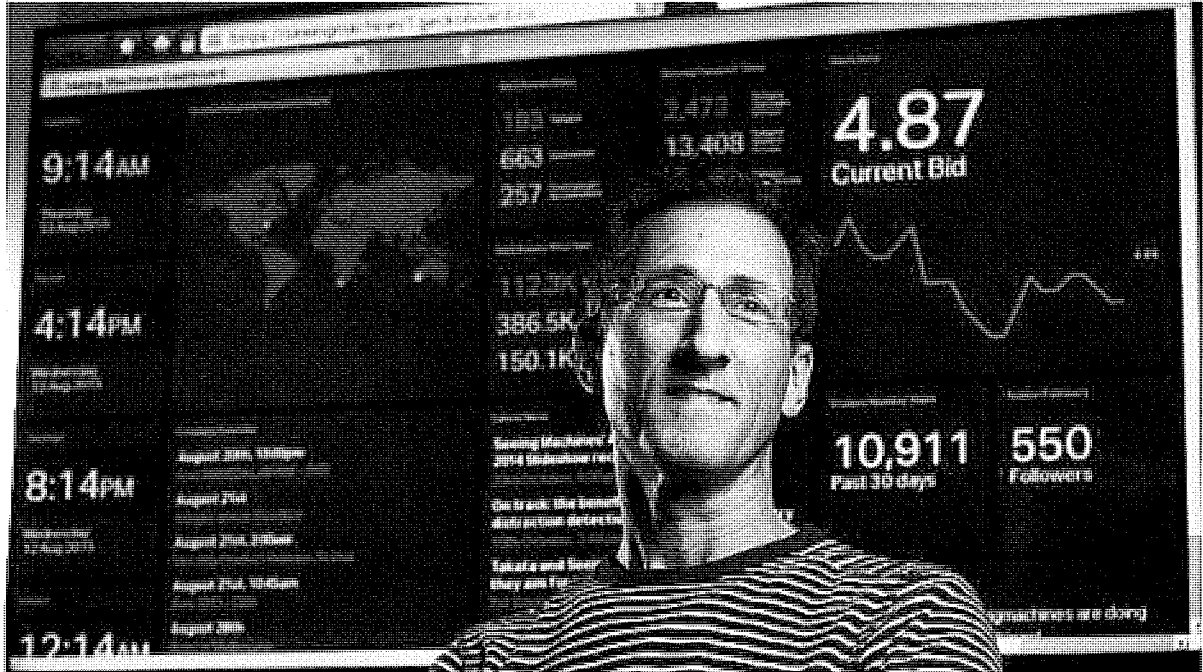
Attachments [followed by 2 returns]

- BRW Article on Seeing Machines - **Attachment A**



Why Seeing Machines may have stopped 112,000 truck accidents this year in Australia alone

Published 17 August 2015 17:46, Updated 18 August 2015 07:00



"Since midnight in Australia alone there's been 205 fatigue events, 704 distraction events and someone's broken the speed limit 274 times," says Seeing Machines CEO Ken Kroeger. His company's fatigue and distraction management system is trying to deal. **Rohan Thomson**

Spun out of a robotics laboratory at the Australian National University, Seeing Machines was founded in 2000 by four researchers who had tried to give robots the ability to see.

Chief executive Ken Kroeger freely admits this venture was a failure, but instead the researchers (Timothy Edwards, Sebastian Rougeaux, Alex Zalinsky and Jochen Heinzmann) had managed to give computers the ability to know what a person was seeing.

This innovation back in 2000 was the first stepping stone to where the business is today - a profitable listed company on London's Alternative Investment Market with a turnover of \$23 million, major partners and customers such as Caterpillar, Boeing and Takata, and a number 6 ranking on the [BRW Most Innovative Companies list for 2015](#).

But it hasn't been an easy ride.

After working with car manufacturers developing safety products in Europe, the business took a hit during the global financial crisis.

After coming home from Europe with next to nothing, the company decided it would approach on-road trucking companies in the United States to see if there was any interest in implementing its

technology, which is able to identify if a driver of a vehicle is falling asleep or losing concentration based on their eye movements.

But they hit a snag when US company Halliburton sent all the devices back.

"They said from a legal perspective that they didn't want to know how tired their drivers were," Mr Kroeger said.

Despite this roadblock the company struck gold when it signed its first road transport customer, Toll, raised £16 million in capital and decided to target the mining industry.

"That's what we've been executing for the past 16 months now," Mr Kroeger said. "We're just days off signing a final agreement with Caterpillar for the fourth phase of alignment where they will take ownership of the off-road intellectual property... But our resources will remain to support them."

Seeing Machines uses smart cameras and algorithms to track drivers' face, eyes and eyelids to monitor their attention and alertness levels in real-time and provide feedback when needed.

The cameras are placed in a car's dashboard and are no bigger than an iPhone's. If it detects a driver is falling asleep, the seat vibrates and an alarm sounds to wake them up.

Currently there are 4000 trucks used in the mining industry with the equipment installed in them, spread equally between Australia, Latin America and North America.

There are another 500 on-road trucks with the safety device in Australia.

Mr Kroeger said in four years there had only been one accident involving a truck with Seeing Machine's safety camera installed.

"That accident was in a big mining truck and the system didn't work because the driver was slouched so low that it couldn't even tell there was a person in the truck," he said.

The business has a series of monitors showing the state of drivers around the world in real-time.

"Right now we have 23 drivers operating in a critical condition when they've had at least two fatigue events (where they've fallen asleep for 2.3 seconds or more)," Mr Kroeger said.

"Since midnight in Australia alone there's been 205 fatigue events, 704 distraction events and someone's broken the speed limit 274 times."

Since January, in Australia Seeing Machines has recorded 112,000 times a truck driver has drifted off behind the wheel, equating to 1.4 million seconds of driving time when a driver has been asleep and 25.6km.

The business is also working with Boeing Research and Technology Australia on a second innovation, creating pilot-training technology which is more efficient, effective and smarter.

The tool is designed to monitor a pilot's situational awareness, based on their eye movements during a simulated flight.

"This will flow from training into real aircraft," Mr Kroeger said. "This technology makes sure there is a person who is alert enough to fly the plane... but it will also feed data back into the black box to provide more feedback about what pilots were doing in emergency situations."

International Driverless Car Conference

Context

- 1 ½ days plenary. ½ day demo of technologies. Approx 220 delegates
- Significant media coverage. TV and newspapers.
- Strong political support with the SA Premier opening the conference and the Minister for Transport and Infrastructure addressing delegates at two events.
- Seen as an opportunity for South Australia to be a leader and create the jobs and opportunities of the future.
- The Premier was quoted as saying SA wanted to be at the forefront of this paradigm shift towards an industry which is anticipated to be worth more than AU\$90 billion globally by 2030.
- The conference preceded a trial of autonomous vehicles on Adelaide's Southern Expressway on Saturday morning. Shane Rattenbury participated in the trial (but did not attend the conference)
- The trial was part of the Australian Driverless Vehicle Initiative (ADVI) which was established and is coordinated by ARRB Group.
- ARRB Group Ltd (ARRB) provides research, consulting and information services to the road and transport industry. ARRB's member organisations include federal, state and local government bodies responsible for managing the nation's transport and road networks. Tony Gill is the ACT Government contact for ARRB.
- The main focus of the ADVI at present is community engagement and particularly acceptance and trust in the concept of driverless cars.

Australian Driverless Vehicle Initiative

The aim of the Driverless Vehicle Initiative is to build momentum by rapidly exploring the impacts and requirements of this new technology in an Australian context and making recommendations on ways to safely and successfully bring self-driving vehicles to Australian roads.

To do this ARRB will raise public awareness through live demonstrations involving government, industry, research entities and the media. The intention is to provide an avenue to showcase the involvement and contributions of collaborating partners involved in this important initiative.

A staged program of activity is planned

0. Preparatory Phase

1. Initial Demonstration Trial and Awareness Raising

2. Full Scale Industry Field Operation Tests, Research, Development and Investigation

3. Policy, Legislative, Regulatory and Operational Changes for Widescale Adoption

4. The Staged Introduction of Driverless Vehicles onto the Public Road Network

- Whilst led by ARRB, the ADVI is based on a partnership model. There are currently 36 partners. The aim is for there to be 50 by the end of the year and 100 by mid 2016.
- There are different tiers of membership for partners. The most expensive is \$100K over three years which gives a seat at the decision making table. I am not certain how many of these there are. Alternatively, it seems alot of partners are providing in-kind support. This can take many forms including arranging and managing trial sites.
- The partner list is not on the website but was displayed a number of times during the conference. I noted at least two companies with links to the ACT. These are Seeing Machines and SMEC.
- I spoke with the SMEC delegates and they are keen to continue the momentum in the ACT.

Technology

Volvo

Volvo has announced a public pilot program which will see 100 self driving cars being tested by common people on certain roads in Gothenburg, Sweden.

Volvo are taking a human centric focus to the development of AV's and believe their emphasis on safety will differentiate them from other car makers.

Tesla

Their vision is to assist the world's transition to sustainable transport. Emphasised electric vehicles (EVs) as much as AVs.

Bosch Mobility Solutions

Bosch is the world's largest independent parts supplier to the automotive industry and therefore sees significant opportunity for growth with the advent of AVs. The speaker particularly focused on sensors, driver monitoring, map data, and cyber security.

Navya

A French company which has developed an electric driverless shuttle which can transport up to 15 passengers and safely drive up to 45 km/h mostly on private sites. Road rules currently prevent it being used on public roads at present. Suggested uses are: 1st/last mile; university campuses; and health precincts.

Cohda Wireless

A South Australian company with expertise in connected vehicles (CVs). That is, vehicle-to-vehicle (V2V) and vehicle-to-infrastructure (V2I) communications which are collectively called V2X. This enables cooperation between vehicles and road infrastructure to allow them to talk to each other and so avoid accidents, reduce congestion and be more efficient.

UK Trials

- Shuttle bus service
- Valet parking (using smart phone app)
- Urban deliveries

Research

A lot of research is focused on safety. This includes:

- Driver handback. ie. What happens when a car in autonomous mode hands back control of the vehicle to the driver.
- Interaction with pedestrians, bikes etc
- Operation and implications of platooning

Impact on cities and communities

A change in transport mode leads to a change in city design.

- There will be less of a need for car parks/garages which frees up the footprint of a house.
- Fewer car lanes will be needed. Could convert to proper bike lanes or improved tree scaping.
- Frees up expensive land in cities (previously used for parking).
- Change design of retail environments and malls
- Could actually lead to more urban sprawl.

Summary

- ARRBS are keen for there to be more trials at other sites in Australia. There are a number of ways that the ACT Government could help progress this.
- There is an ARRBS manager for NSW/ACT who could help plan a way forward.
- SMEC are keen to be involved in further discussions and activities. They are an ADVI partner.
- Seeing Machines are an ADVI partner (but were not at the conference).
- Of course, we should probably liaise with other Directorates as we progress in this space, especially TAMS which is the major contact point into ARRBS.

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Sent: Wednesday, 18 November 2015 1:27 PM
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From: Mehrton, Andrew
Sent: Thursday, 26 November 2015 12:55 PM
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Subject: RE: AV Forum

Thanks, Dean.
Have contacted thinkplace and they'll be fine for the new date/time

-Andrew

From: Dean Seeley [mailto:dean.seeley@canberrabusiness.com]
Sent: Thursday, 26 November 2015 12:09 PM
To: Mehrton, Andrew
Cc: Kate Holland; Erika Laurente
Subject: RE: AV Forum

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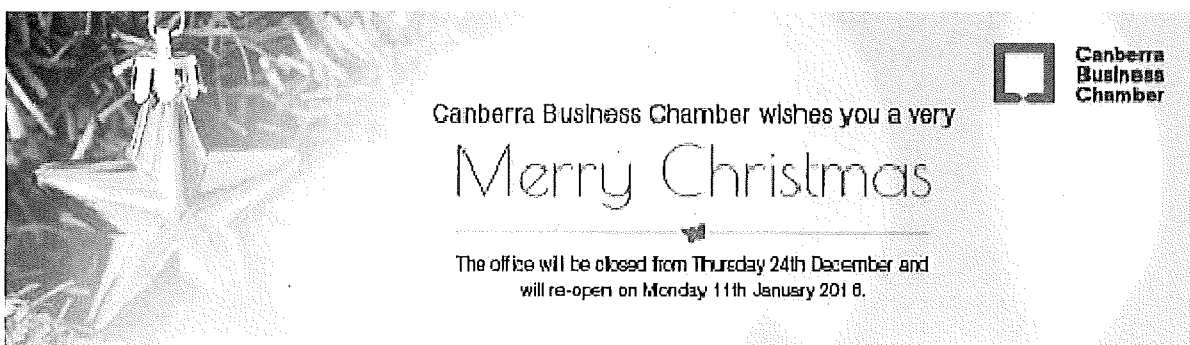
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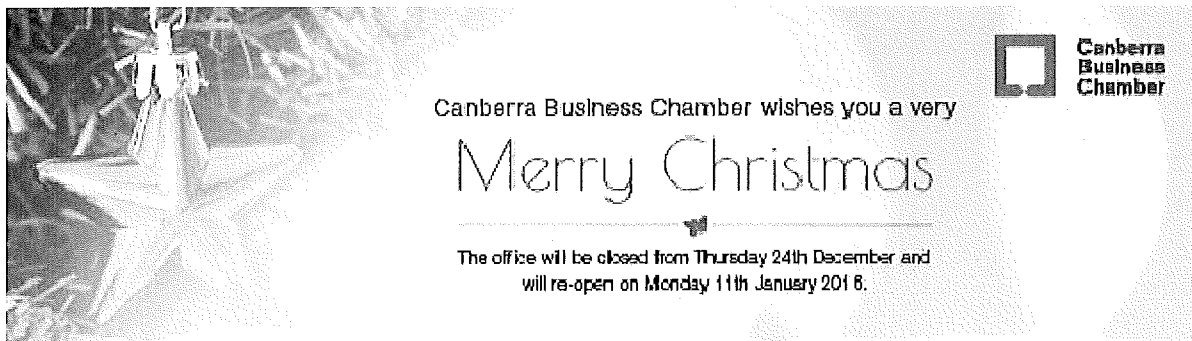
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www.smec.com

9th December 2015

Mr Andrew Barr

Chief Minister and Minister for Economic Development

Dear Mr Barr,

Autonomous vehicles ...an economic opportunity for Canberra

I am writing to advise you that the Canberra office of SMEC is now actively involved in trials to facilitate the introduction of autonomous vehicles onto Australia's roads. We believe there could be huge social, economic and safety benefits if the ACT were to become an "early adopter" of these new technologies.

By way of background, major car-makers and other companies, such as Google, are now actively developing "autonomous" or self-driven vehicles. Once fully developed, these vehicles will be capable of travelling on our roads without the need for a driver. As these vehicles are introduced to the world's roads, there will be a revolution in the way people and freight move across the country, and notably within cities. This is an exciting prospect, which could have enormous social, economic and safety benefits, especially for jurisdictions which are "early adopters".

The potential benefits are summarized in Attachment 1 to this letter.

You will be aware that SMEC has a proud record of designing and delivering infrastructure for the Canberra region, including major transport projects. Most of our work on Canberra projects is delivered by our regional office in Northbourne Avenue, along with projects for much of south east NSW.

I am now pleased to advise you that our regional office is actively contributing to trials to facilitate the introduction of autonomous vehicles onto Australia's roads. This work is being coordinated by the Australian Driverless Vehicle Initiative (ADVI), of which SMEC is a contributing partner. Further details on the ADVI are included in Attachment 2.

ADVI has coordinated the first on-the-ground trials, conducted in and around Adelaide during November 2015, but it could be very beneficial for Canberra to also become involved in these early trials.

I am aware that members of the Canberra Business Chamber are eager for the ACT to become actively involved in autonomous vehicle investigations and have commenced planning for a Canberra roundtable / workshop to discuss autonomous vehicles and the implications for Canberra. I also understand that your officers have commenced some exploratory studies.

I would be very pleased to arrange a briefing for you and your senior officers about the ADVI and SMEC's involvement. In the first instance I ask your office make contact with Ms Karen Duck, Office Manager for SMEC Canberra o

I have also written to the Canberra Business Chamber, offering a similar briefing to senior Chamber members.

Yours Sincerely

Tim Chapman
Regional Manager ACT and Southern NSW

Attachment 1

SMEC Canberra and Southern NSW Region

Benefits of Autonomous vehicles

Social

Improved mobility by providing low cost transport to people who cannot use cars or public transport, including:

- elderly people,
- young people/children,
- people with a temporary or permanent disability,
- people who do not own a car (by choice or economic circumstance)

Safety

- Major opportunities to reduce accidents through reduced human error
- Human error is a contributing factor in 90% of road crashes

Economic

- Much higher "vehicle throughput per hour" for existing roads, reducing the need for further huge investments in roads.
- Reduced accident costs (which cost Australia \$27 billion annually, on top of the cost of human lives)
- Reduced need for expensive parking structures
- Savings to individuals who may choose to no longer own a car, but simply rent one when required

Environmental

- Reduced new road construction, especially in urban areas
- Likely reduction in total numbers of cars
- Driverless vehicles can help reduce congestion which is projected to cost \$53 billion by 2031 (Infrastructure Australia 2015)

.....the above benefits are in addition to the environmental benefits of emerging energy sources for vehicles (such as new batteries).....

For Further information phone Mark Barrett on Tel 02 6234 1914

From: Mehrton, Andrew
Sent: Monday, 14 December 2015 10:21 AM
To: 'Kate Lundy'
Subject: RE: autonomous car draft outline

ADVI:
<https://www.arrb.com.au/Transport/Self-Driving-Vehicles.aspx>

From: Kate Lundy ~~[redacted]~~
Sent: Monday, 14 December 2015 10:14 AM
To: Robertson, DavidG <DavidG.Robertson@act.gov.au>; Mehrton, Andrew <Andrew.Mehrton@act.gov.au>
Subject: autonomous car draft outline

Draft Program

AUTONOMOUS CAR FORUM

Canberra

September/October 2015

Aim

To position Canberra as potential location for autonomous vehicle pilot programs.

Strategy

Host and web-cast a public forum to canvass and promote the opportunities for autonomous vehicle use in the aged and disability service sectors in Canberra.

Description

2.5 hour event. Facilitated forum, allowing 2 hours for presentations, panel discussion and q&a from forum/social media. Refreshments afterwards.

Date

To be determined based on availability of panellists.

Venue

NICTA room preferred. Live stream essential, run applied social media live via twitter# Post production package via you tube. Create page for CBC website carrying event details, vid, outcomes to create digital footprint w SEO.
(Note: Possibly Marcus to do vid/post production)

Time

For discussion: 3-6pm means drinks after. Morning (9-12) means more likely to attract media attention.

Host

Canberra Business Chamber
Event expenses: NRMA
NICTA to provide venue

Official opening

To be determined? Richard Rolfe? ACT Govt Minister (Chief?)

Facilitator

To be determined: Robyn Hendry? Allan Hawke?

Panelists

Glenn Keys
Kate Lundy/Chris Siorokos NRMA

Matsui
Google
Seeing Machines
ACT Govt
Richard Rolfe

Audience/participants

COTA
NDIA
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ACTCOSS
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Indicative program

2pm – Set up

3pm – Start – register.

3.15 – Official Opening – Facilitator introduces Panelists.

Then Guest opener(TBC)

Focus on Canberra's suitability for pilots, economic and social opportunity.

3.25 – Video on the cars (supplied by google?)

3.30 – Facilitator asks each panellists a leading question rather than 'presentations'. It has the same effect in that everyon gets to give a short presentation but feels more interactive from the start. Dataviz possible if panellists choose.

4/4.15 Facilitator explores issues, directing questions to different panellists, building the narrative, emphasising disability and aged sector opportunities. Elicit recommendation through this conversation.

5.00 – Move to questions from audience participants and social media questions. Facilitator to summarise and capture 'recommendations'

5.30 – break for drinks.

6.00 – conclude

Post event.

Publish and post an event report on CBC website, include recommendations.

Create and link an edited video of the forum.

Promote this content via social media.

CBC to advocate to government next steps, seek to build a collective view from sector arising out of forum.

From: Mehrton, Andrew
Sent: Tuesday, 15 December 2015 11:23 AM
To: 'John Metcal'
Cc: Robertson, DavidG
Subject: ACT driverless car workshop

Contacts: John Metcalfe

Hi John,

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I'd like to get an invite sent to ARRB Group and just wanted to check whether that should be sent to yourself or someone else. I vaguely recall you mentioned that there was a project manager for the ADVI that would be interested in attending?

Can you let me know by the end of this week who we should invite and their contact details? The workshop will be from 3pm on Tuesday, 19 January at the CBC's offices on Northbourne Avenue.

Regards.
-Andrew

Andrew Mehrton | Deputy Director, Economic Development Policy | Chief Minister, Treasury and Economic Development Directorate | ACT Government
andrew.mehrton@act.gov.au | ph: (02) 6205 8507 | fax: (02) 6213 0748
Please consider the environment before printing this email

From: John Metcalfe
Sent: Tuesday, 15 December 2015 6:31 PM
To: Mehrton, Andrew
Subject: RE: ACT driverless car workshop

Hi Andrew

I will be overseas at the time, but I will circulate your email to the relevant people and get back to you with a name (s). I certainly mentioned the workshop to a couple of ARRB people and it is in their diary.

Kind regards
John

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Regards.
-Andrew

Andrew Mehrton | Deputy Director, Economic Development Policy | Chief Minister, Treasury and Economic Development Directorate | ACT Government
andrew.mehrton@act.gov.au <<mailto:andrew.mehrton@act.gov.au>> | ph: (02) 6205 8507 | fax: (02) 6213 0748 Please consider the environment before printing this email

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Driverless car workshop – intent meeting

19 January 2016, CBC Offices, 216 Northbourne Avenue

Desired outcomes

1. Shared understanding of where we are now.
 - o What are our (CBR's) existing capabilities? How much activity is already here and what kind? E.g. research? Software development? Hardware development? AV operation? infrastructure/smart city? Connected vehicles?
2. Shared understanding of where we want to get to and by when.
 - o What are our aspirations? Do we see CBR being a testing city? Exporting tech? Just R&D? Do we need to move immediately or is this a longer term development?
3. High level understanding of what would need to happen to get from where we are now to where we want to get to by when.
 - o What do we collectively focus on/what are the priorities? E.g. regulatory change, community engagement, infrastructure programs etc.?
 - o Are there obvious barriers/opportunities or do we need to investigate/consider further?

Possible outline

Time	Item	Intention	Description	Who
3:00pm	Introductory remarks			Glenn Keys
3:10pm	Presentation 1: Scene setting	Ensure there is a minimum level of awareness and understanding of what 'driverless cars' are/mean.	Overview of what driverless vehicles are and how they benefit communities (socially, economically, environmentally). Brief overview of the Australian Driverless Vehicle Initiative and what is already happening in Australia.	ARRB Group
3:20pm	Session 1: Opportunities	Get participants personally engaged with the issues and possibilities.	Participants to discuss issues and opportunities that driverless cars might present in a local context.	All

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<p>Groups asked to identify how driverless cars might impact them and their constituents (emphasis on benefits but allow room for possible risks too).</p> <p>E.g. increased safety for road users; lower insurance costs; improved social outcomes for people with mobility issues; ability to attract investment for businesses, etc.</p>		
3:40	<p>Session 1 report back</p> <p>Exchange of knowledge/ideas and establish common frame of reference for further discussion.</p>	<p>Each group provides quick summary of Session 1 discussion.</p> <p>Recurring/common themes carried forward as the key outcomes that we would like to pursue.</p> <p>All</p>
3:50	<p>Presentation 2: Technologies</p> <p>Build on the understanding of what driverless cars are, specifically what is possible and what is required to make them work. Provide some broad boundaries in which the next discussion can take place.</p>	<p>High level overview of the different ways driverless cars can/could operate. Touch on what is needed to make them work in the real world (e.g. good roads, communications network, community acceptance etc.)</p> <p>Google?</p>
4:00	<p>Session 2: What would we like to see happen?</p> <p>Explore how much interest/appetite there is to actively move this issue forward.</p>	<p>Groups asked to discuss what they would like to see happen in the near and far term. E.g. do they think we should let this take its course naturally? Do they think we should allow restricted trials under specific conditions? Would they like to make this a reality as soon as possible?</p> <p>All</p>
4:20	<p>Session 2 report back</p> <p>Exchange of knowledge/ideas and establish common frame of reference for further discussion.</p>	<p>Each group provides quick summary of Session 2 discussion.</p> <p>Recurring/common themes carried forward as the key outputs that we would like to pursue.</p> <p>All</p>
4:30	<p>Session 3: What needs to happen?</p> <p>Help to prioritise what might actually be undertaken and by whom.</p>	<p>Groups to explore what practical steps would need to be undertaken to make their desired output a reality. Discussion to include who would need to be involved these steps.</p> <p>E.g. government would need to change laws/regulations; community groups would need to raise awareness and education; business would need to invest in operations etc.</p> <p>All</p>
4:50	<p>Session 3 report</p> <p>Exchange of knowledge/ideas and</p>	<p>Each group provides quick summary of Session 3 discussion.</p> <p>All</p>

back	establish common frame of reference for further discussion.	Recurring/common themes carried forward as key actions to consider.	Think Place Glenn Keys
5:00	Summary	Facilitator summarises discussions	
5:05	Closing remarks	Overview of next steps	
5:10pm	Event end	Attendees free to mingle	

FORBIDDEN

f. 23

From: Dean Seeley [dean.seeley@canberrabusiness.com]
Sent: Wednesday, 13 January 2016 2:24 PM
To: Dean Seeley
Subject: IMPORTANT UPDATE - CBC Autonomous Vehicle Forum

We have had a fantastic response for Canberra Business Chambers Autonomous Vehicle Forum to be held on Tuesday 19th January.

As an invited guest we require confirmation of your attendance and any dietary requirements by CONFIRMING YOUR COMPLIMENTARY ATTENDANCE HERE

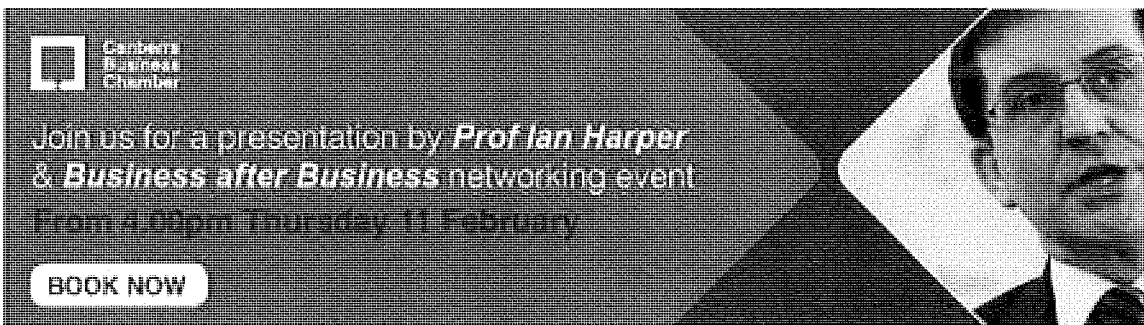
This exclusive forum has attracted industry leaders, Government representatives and peak bodies. NRMA has confirmed their support for the forum and ongoing discussions regarding Canberra becoming a pilot city for Autonomous Vehicles in the future.

Kate Lundy will also share insights of NRMA's vision for the future and how Canberra can lead the way.

On behalf of Glenn Keys Chair Canberra Business Chamber, we look forward to your valuable contribution at this forum.

Regards

Dean Seeley
Director of Programs | Canberra Business Chamber
Gnd Floor | 216 Northbourne Ave | Braddon | ACT | AUSTRALIA | 2612
P: +61 2 6247 4199 | L: _____
dean.seeley@canberrabusiness.com
www.canberrabusiness.com



The banner features the Canberra Business Chamber logo on the left. The main text reads: "Join us for a presentation by *Prof Ian Harper* & *Business after Business* networking event From 4:00pm Thursday 11 February". On the right side, there is a black and white portrait of Prof Ian Harper. At the bottom left, there is a white button with the text "BOOK NOW".

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From: Mehrton, Andrew
Sent: Thursday, 14 January 2016 2:20 PM
To: 's.adam@staff.iinet.net.au'
Subject: FW: IMPORTANT UPDATE - CBC Autonomous Vehicle Forum

Hi Stuart,

Good to talk to you earlier. Below is an invite to attend the forum on driverless cars in the ACT that I mentioned.

The workshop is being hosted by the Canberra Business Chamber in partnership with NRMA and the ACT Government. We're expecting 40 or so people from a wide range of backgrounds including businesses, industry associations, government and community groups.

The agenda hasn't been finalised yet but the intention is to workshop what the opportunities and possibilities might be for having driverless cars operating in Canberra (even on a trial basis). One of the interesting connections that would be worth investigating is whether Canberra's investment in public wifi infrastructure can enhance this type of work, for example vehicle to vehicle communications or for vehicles to communicate with other 'smart city' infrastructure. I don't expect the discussions will get overly technical but it would be good to have a rough idea what might or might not be possible.

If you're interested and available, it'd be great to have you or a colleague come along, and it's also fine if you'd both like to come along. My apologies for the short notice too.

Feel free to give a call if you have any questions.

Regards.

-Andrew

Andrew Mehrton | Deputy Director, Economic Development Policy | Chief Minister, Treasury and Economic Development Directorate | ACT Government
andrew.mehrton@act.gov.au | ph: (02) 6205 8507 | fax: (02) 6213 0748
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On behalf of Glenn Keys Chair Canberra Business Chamber, we look forward to your valuable contribution at this forum.

Regards


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Join us for a presentation by *Prof Ian Harper*
& *Business after Business* networking event
From 4.00pm Thursday 11 February

BOOK NOW



From: Dean Seeley [dean.seeley@canberrabusiness.com]
Sent: Thursday, 14 January 2016 9:15 AM
To: Mehrton, Andrew
Subject: AV Forum attendees to date

Hi Andrew,

Ok here is the RSVP list as of this morning. We are continuing to follow up on invites.

Feel free to send direct emails to your contacts with this link [PLEASE RSVP BY CLICKING HERE](#) for them to register.

I will give you another update tomorrow.

cheers

First Name	Surname	Job Title	Company
James	Goodwin	Chief Executive Officer	ANCAP
James	Hodge	Director	HLS Vehicle Customisation
Kevin	Atkinson	Director	HLS Vehicle Customisation
James	Walker	CFO	Seeing Machines
gerard	Waldron	Managing Director	ARRB Group
Kate	Lundy	Director	NRMA
Andrew	Buttsworth	Head of Institutional Banking	Westpac
Vesna	Strika	General Manager	Engineers Australia Canberra Division
Phil	Carter	Urban and Transport Planner	Arup
Robert	Care	Strategic Geographies Leader	Arup Group Australasia
Andrew	Abel	Senior Policy Officer	Economic Development ACT Govt.
Kuga	Kugathas	Senior Manager	ACT Government
Rita	Excell	Regional manager Australuan Driverless Vehicle Ini	ARRB Group
Narina	Dahms	Manager, Regulatory Reform	Chief Minister, Treasury and Economic D
Chris	Siorokos	General Manager Advocacy, Media and Education	NRMA
Lauren	Hendriks	Planning Policy Officer	Major Projects and Transport Planning, A
Ben	Maguire	Light Rail Business Link Program Manager	Canberra Business Chamber
Neil	Greet	Immediate Past President	Engineers Australia
Andrew	Mehrton	Deputy Director, Economic Development Policy	ACT Government
Anne-Marie	Perret	n/a	n/a
Ken	Kroeger	CEO	Seeing Machines
Robert	Nairn	Retired Engineer	Retired
Brand	Hoff	Director	My Taggles Pty Ltd
Craig	Davies	.	CBR Innovation Network
Alan	Thompson	President	Engineers Australia Canberra Division
Robyn	Hendry	CEO	Canberra Business Chamber
Glenn	Keys	Chair	Canberra Business Chamber
Dean	Seeley	Director of Programs	Canberra Business Chamber

Dean Seeley

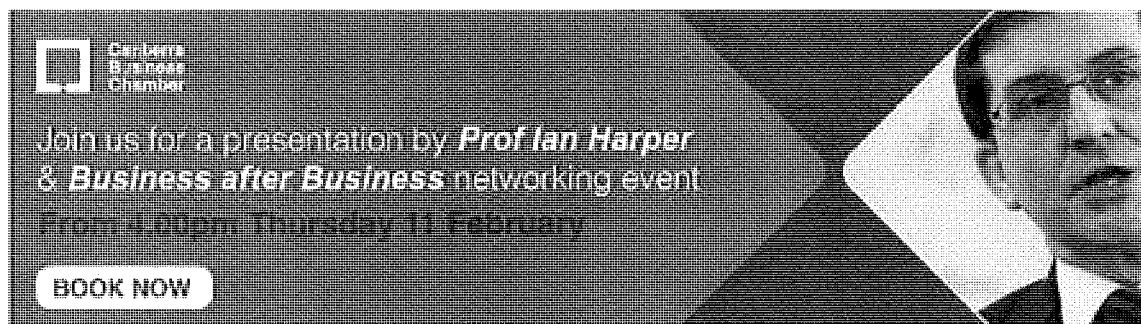
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Gnd Floor | 216 Northbourne Ave | Braddon | ACT | AUSTRALIA | 2612

P: +61 2 6247 4199 |

dean.seeley@canberrabusiness.com

www.canberrabusiness.com



From: Glenn Keys [<mailto:gkeys@aspenmedical.com.au>]

Sent: Wednesday, 13 January 2016 10:59 AM

To: James Willson <james.willson@cre8ive.com.au>; Robyn Hendry <robyn.hendry@canberrabusiness.com>; Dean Seeley <dean.seeley@canberrabusiness.com>

Subject: RE: Mercedes Benz

Thanks James.

Dean, how are we looking for attendance?

Kind regards

Glenn Keys

Executive Director

aspenmedical

Suite 17C, 2 King Street, Deakin ACT 2600

PO Box 231, Deakin West ACT 2600

T +61 (0)2 6203 9500

F +61 (0)2 6232 4738

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From: James Willson [<mailto:james.willson@cre8ive.com.au>]

Sent: Tuesday, 12 January 2016 11:52 AM

To: Robyn Hendry <robyn.hendry@canberrabusiness.com>

Cc: Glenn Keys <gkeys@aspenmedical.com.au>

Subject: Mercedes Benz

Hi Robyn

Could you have a read of the attached article in today's SMH and see if we can engage with them at our event on the 19th?

Regards,

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■ David McCov

The federal gover
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Its lowest in 2-1/2 years

...how the yuan has been sliding in value against the US dollar and that slide accelerated noticeably last week. That came as Chinese

And that could have considerable knock-on effects. China is Australia's biggest trading partner. Problems there are good news for us in any way.

Self-driving cars to take us for a spin

NSW Libs in for \$350,000

David McCowen

The federal government will work with Mercedes-Benz to study the feasibility of self-driving cars on Australian roads.

The German manufacturer revealed plans to facilitate a 12-month trial of semi-autonomous cars in Australia, starting later in 2016, at the launch of its new E-Class sedan in Detroit on Monday.

Mercedes-Benz Australia spokesman David McCarthy said the Department of Infrastructure and Regional Development will examine a state-of-the-art vehicle on local roads for 12 months.

Full details of the trial will be revealed at the Australian Grand Prix in March. Mr McCarthy could not say which vehicle is involved, but it is believed to be the new E-Class sedan, which arrives in Australia in June.

Described by Mercedes as the "most advanced" car on sale, the E-Class is already part of a study in the US in which it became the first

production vehicle to have self-driving tests on Nevada roads without any physical modifications. Rival machines rely on additional sensors to help make sense of their surroundings.

Mercedes-Benz head of research and development, Professor Thomas Weber, said the only difference between a production E-Class and the fully autonomous vehicle on trial in Las Vegas was the removal of software requiring the driver to touch the steering wheel once in a while. "It's only to give back a signal to say 'yes, I am driving still'," Mr Weber said. "Otherwise it's completely a production car."

The degree of autonomy offered by the E-Class varies according to local requirements around the world. US customers will be able to drive for a minute or more without touching the steering wheel. But Australian authorities will limit the cars to just over 10 seconds of autonomous driving.

Set to go on sale locally for about \$80,000, the new E-Class is capable

of braking to avoid collisions, steering around hazardous objects and changing lanes without drivers touching the steering wheel. It can also park itself without anyone sitting inside the car, though local authorities have frowned on the concept of cars moving without having a driver on board to direct the vehicle.

Mercedes-Benz chairman Dieter Zetsche said his company was taking a cautious approach to the progression of self-driving cars.

"We can do much better than we are allowed to do, but I think this is OK, this has to be a process," he said. "You do not want governments to say, 'Do what you want', we have to learn what is doable and reasonable at that time, and then work together with government to define these limitations."

"The potential of this car goes well beyond what is allowed at this time."

David McCowen travelled to Detroit as a guest of Mercedes-Benz.

Sean Nicholls, James Robertson

Weeks after respect Tony Nott quit as N director to run the fed the party is preparing replacement, with a s es need to be in the s \$250,000-a-year job

A push to imitate Baird's director of Blunden, was G Blunden kneel

But the party I processed Scott, successfully tri position in 201 director Mark strategy and l Texton

Mr Briggs state directo give with a Network an be Prime b built pref Mr Bie

James

James Willson
Managing Director
CRE8IVE

T | 02 61751888

www.c8.com.au

Level 10
40 Marcus Clarke Street
GPO Box 924
Canberra ACT 2601

Run Sheet

f. 26

Canberra Business Chamber Autonomous Vehicle Forum

Canberra Business Chamber
Ground Floor, 216 Northbourne
Avenue Braddon ACT 2612



**Canberra
Business
Chamber**

Tuesday 19 January 2016

Time	Item
2:30pm	Room Ready Presentations loaded on TV, Water and mints available in room, coffee available in foyer, afternoon tea in room
3:00pm	Guests Arrive
3:10pm	Glenn Keys welcomes guests, brief overview of opportunities around AV in ACT Introduce sponsor NRMA (representative TBC - Kate Lundy or Ron Collins)
3:15pm	NRMA speech
3:20pm	Glenn Keys to introduce ACT Government representative and to hand over to Thinkplace
3:25pm	ACT Gov brief overview and introduce Thinkplace
3.30	Think place facilitated forum
5.25pm	Glenn Keys thanks guests and speakers, then welcomes guests to enjoy refreshments in the foyer
5.30pm	Beverages and canapes served in the building foyer
6.30pm	finish

From: Mehrton, Andrew
Sent: Monday, 18 January 2016 11:39 AM
To: 'Kate Presutto'
Cc: 'Rita Excell'
Subject: RE: Autonomous Vehicles Forum

Categories: Watch

Hi Kate,

Sorry for not keeping you in the loop re: the agenda.

I've discussed the possibility of an ARRB/ADVI presentation with Rita Excell in the South Australian office. We've tentatively scheduled about 10 minutes for Rita (or Gerard) to give an overview of the ADVI, similar to what is presented in the ADVI prospectus. This is being scheduled prior to the workshop/discussion component of the forum to help set the scene.

We'll be finalising the agenda with our facilitators this afternoon, so will have a better idea of the exact timings for the day by COB.

If you have any questions please feel free to get in touch.

Rita, for your information too, the list of confirmed attendees is included below.

Regards.
 -Andrew

Andrew Mehrton | Deputy Director, Economic Development Policy | Chief Minister, Treasury and Economic Development Directorate | ACT Government
andrew.mehrton@act.gov.au | ph: (02) 6205 8507 | fax: (02) 6213 0748
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From: Dean Seeley [mailto:dean.seeley@canberrabusiness.com]
Sent: Monday, 18 January 2016 11:28 AM
To: Kate Presutto
Cc: Mehrton, Andrew
Subject: RE: Autonomous Vehicles Forum

Hi Kate,

Thanks for your email.

Please find below a list of attendees and run sheet attached. I believe Andrew from ACT Government has confirmed someone to speak from your South Australian office. I have CC'd Andrew who can confirm these details.

First Name	Surname	Job Title	Company
Dean	Seeley	Director of Programs	Canberra Business Chamber
James	Goodwin	Chief Executive Officer	ANCAP
James	Hodge	Director	HLS Vehicle Customisation
Kevin	Atkinson	Director	HLS Vehicle Customisation
James	Walker	CFO	Seeing Machines
gerard	Waldron	Managing Director	ARRB Group
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Vesna	Strika	General Manager	Engineers Australia Canberra Division
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Kuga	Kugathas	Senior Manager	ACT Government
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Glenn	Keys	Chair	Canberra Business Chamber
Craig	Davis	CEO	GRIFFIN Accelerator
Greg	Castle	Managing Partner	CanChina
Buzz	Dean	Sr VP, Emerging Technology	Seeing Machines
Louise	Gilding	Executive Director Policy, Projects and Legislatio	CMTEDD ACT Government
Mark	Barrett	Manager Transport	SMEC
Tim	Chapman	Regional Manager	SMEC
Jerome	Catbagan	Traffic & Transport Planning Manager	SMEC
Keith	Cantlie	Managing Director	Cantlie
Brook	Dixon	Director, LDA	ACT Government
Stuart	Adam	Manager Government Business	iiNet Limited
Mathew	Webb	Senior Radio Engineer	iiNet
Lynette	Pinder	ACT State Manager	Australian Institute of Company Director:

We look forward to welcoming Gerard tomorrow.

Regards

Dean Seeley

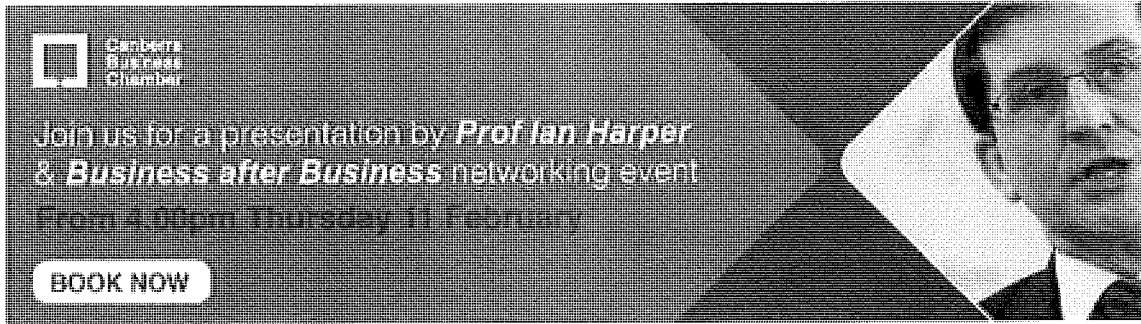
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Gnd Floor | 216 Northbourne Ave | Braddon | ACT | AUSTRALIA | 2612

P: +61 2 6247 4199

dean.seeley@canberrabusiness.com

www.canberrabusiness.com



From: Kate Presutto [<mailto:kate.presutto@arrb.com.au>]
Sent: Monday, 18 January 2016 10:24 AM
To: Dean Seeley <dean.seeley@canberrabusiness.com>
Subject: Autonomous Vehicles Forum

Hi Dean

I am contacting you on behalf of Gerard Waldron – ARRB Group, who will be attending the forum noted above tomorrow.

Gerard, is hoping that you may be able to kindly provide him with a copy of the Agenda and who will be attending the event so he has background information.

Also , there was apparently some discussion that there may be a requirement for Gerard to give an update on ADVI (Australian Driverless Vehicle Initiative, however we have not had this confirmed.

Dean , look forward to your response to these questions and thank you in advance for assisting with these requests.

Kind regards

Kate Presutto
Personal Assistant
Managing Directors Office

ARRB Group Ltd
500 Burwood Hwy
Vermont South VIC 3133
AUSTRALIA

|| F: +61 3 9887 9820

kate.presutto@arrb.com.au
www.arrb.com.au



ARRB is pleased to announce our 27th ARRB Conference will be held in Melbourne, 16 - 18 November 2016. The ARRB Conference and the 37th ATRF will run parallel with one another at the same venue to create greater opportunities for delegates. Call for abstracts will open shortly!

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From: Mehrton, Andrew
Sent: Monday, 18 January 2016 2:18 PM
To: 'Rita Excell'
Subject: RE: Autonomous Vehicles Forum

Hi Rita,

There are two main outcomes we're looking for.

First, we want to gauge how much industry interest (local or otherwise) there is in having driverless vehicles in Canberra and where that interest is strongest. For example, to what extent does industry think driverless vehicles are realistic and worthwhile for Canberra to actively pursue rather than just staying abreast of broader trends and developments? If there is interest, is it mainly about making our economy more productive, or the business opportunities for our tech companies, or something else?

Following on from that, we'd like to gather views on what attendees think the priority actions are. For example, to what extent do we work on things like the regulatory environment, community education, supporting infrastructure, business attraction and collaboration etc.?

The views that we capture will inform advice that we take back to the government on the implications and opportunities of driverless vehicles for the ACT.

Hope that helps a bit. Let me know if you need more.

Cheers.

-Andrew

From: Rita Excell [mailto:rita.excell@arrb.com.au]
Sent: Monday, 18 January 2016 12:33 PM
To: Mehrton, Andrew; Kate Presutto
Subject: RE: Autonomous Vehicles Forum

Thanks Andrew

An impressive list of attendees.

It would also be useful to know what your outcomes for the workshop are, so that I can tailor our presentation accordingly.

No problem about the presentation, between Gerard and I we will work out who will present.

Rita Excell
Regional Manager
South Australia

ARRB Group Ltd
Level 7, Suite 713
147 Pirie St
Adelaide SA 5000
Australia

P: +61 8 8235 3302 | f

rita.excell@arrb.com.au
www.arrb.com.au

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From: Mehrton, Andrew [<mailto:Andrew.Mehrton@act.gov.au>]
Sent: Monday, 18 January 2016 11:09 AM
To: Kate Presutto <kate.presutto@arrb.com.au>
Cc: Rita Excell <rita.excell@arrb.com.au>
Subject: RE: Autonomous Vehicles Forum

Hi Kate,

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andrew.mehrton@act.gov.au | ph: (02) 6205 8507 | fax: (02) 6213 0748
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Sent: Monday, 18 January 2016 11:28 AM
To: Kate Presutto
Cc: Mehrton, Andrew
Subject: RE: Autonomous Vehicles Forum

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Kevin	Atkinson	Director	HLS Vehicle Customisation
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Gerard	Waldron	Managing Director	ARRB Group
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Andrew	Abel	Senior Policy Officer	Economic Development ACT Govt.
Kuga	Kugathas	Senior Manager	ACT Government
Rita	Excell	Regional manager Australian Driverless Vehicle Ini	ARRB Group
Narina	Dahms	Manager, Regulatory Reform	Chief Minister, Treasury and Economic D.
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Alan	Thompson	President	Engineers Australia Canberra Division
Robyn	Hendry	CEO	Canberra Business Chamber
Glenn	Keys	Chair	Canberra Business Chamber
Craig	Davis	CEO	GRIFFIN Accelerator
Greg	Castle	Managing Partner	CanChina
Buzz	Dean	Sr VP, Emerging Technology	Seeing Machines
Louise	Gilding	Executive Director Policy, Projects and Legislatio	CMTEDD ACT Government
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Tim	Chapman	Regional Manager	SMEC
Jerome	Catbagan	Traffic & Transport Planning Manager	SMEC
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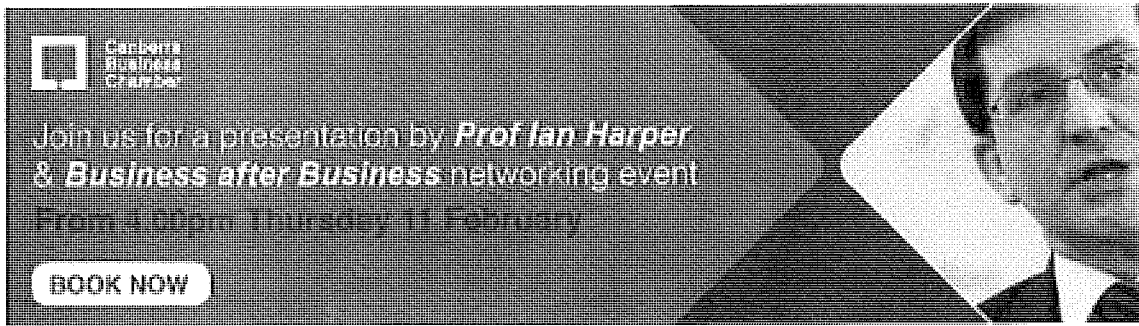
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www.canberrabusiness.com



From: Kate Presutto [<mailto:kate.presutto@arrb.com.au>]

Sent: Monday, 18 January 2016 10:24 AM

To: Dean Seeley <dean.seeley@canberrabusiness.com>

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Sent: Monday, 18 January 2016 11:28 AM
To: Kate Presutto
Cc: Mehrton, Andrew
Subject: RE: Autonomous Vehicles Forum
Attachments: Run sheet - AV Forum 19jan2016.doc

Categories: Attachment Scheduled (FOI)

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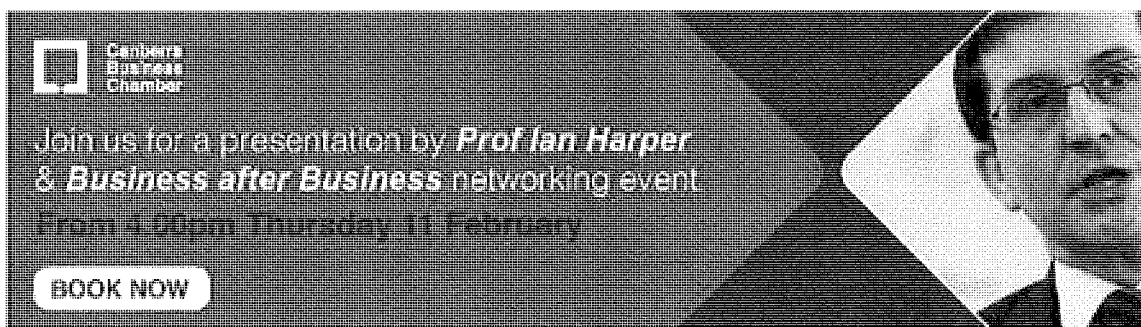
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From: Kristen Connell [kristen@talkforcemedia.com.au]
Sent: Monday, 18 January 2016 5:00 PM
To: Mehrton, Andrew
Subject: Autonomous Vehicle Forum - media

Hi Andrew,

As discussed earlier, I am engaged by Canberra Business Chamber to assist with media and have been asked to let the media know about tomorrow's Forum.

I plan to get in touch with the Canberra Times, ABC, 106.3/104 and 2CC/2CA tomorrow morning to inform them of the event and invite them to capture images/ do interviews at the beginning of the Forum (3 pm or slightly before).

WIN News contacted us today to ask to take some footage and do interviews with key spokespeople. They have arranged to come to the Chamber offices at 2.30 pm to interview Glen Keys. They will then stay until 3 pm to film the start of the Forum. If there is someone from the ACT Government who would like to make themselves available for interview while WIN is at the offices, they are welcome to come in at this time (between 2.30 and 3 pm).

Any questions, please give me a call.

Regards,
Kristen

Kristen Connell
Director
Talkforce Media and Communications Strategists

From: Rita Excell [rita.excell@arrb.com.au]
Sent: Monday, 18 January 2016 12:33 PM
To: Mehrton, Andrew; Kate Presutto
Subject: RE: Autonomous Vehicles Forum

Thanks Andrew

An impressive list of attendees.

It would also be useful to know what your outcomes for the workshop are, so that I can tailor our presentation accordingly.

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Rita, for your information too, the list of confirmed attendees is included below.

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Andrew Mehrton | Deputy Director, Economic Development Policy | Chief Minister, Treasury and Economic Development Directorate | ACT Government
andrew.mehrton@act.gov.au | ph: (02) 6205 8507 | fax: (02) 6213 0748
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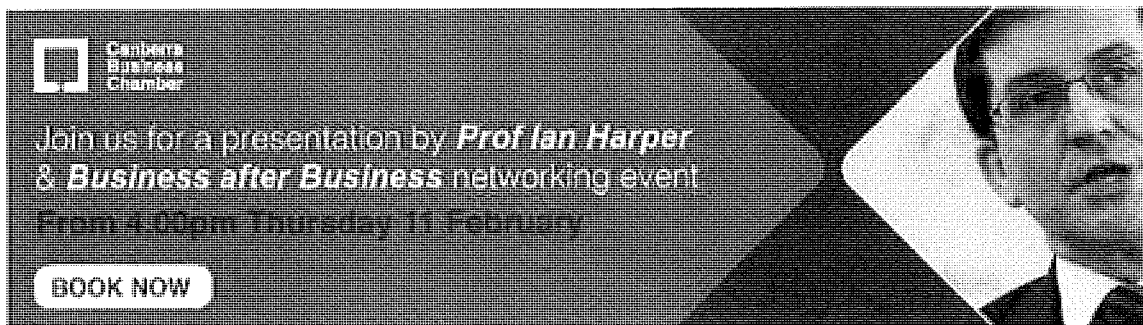
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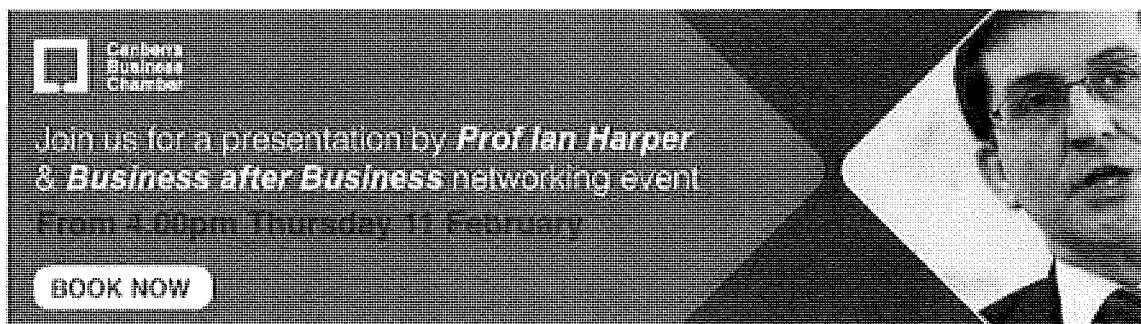
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Sent: Tuesday, 19 January 2016 9:37 AM
To: 'Rita Excell'
Subject: RE: Autonomous Vehicles Forum

Thanks, Rita.

If you have a powerpoint presentation to accompany your talk, would you be able to email it through to Dean Seeley at the Canberra Business Chamber? Dean will integrate it into the master file for the day to minimise switching around during the session.

Dean's email is dean.seeley@canberrabusiness.com

Thanks again

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Regards.
-Andrew

Andrew Mehrton | Deputy Director, Economic Development Policy | Chief Minister, Treasury and Economic Development Directorate | ACT Government
andrew.mehrton@act.gov.au | ph: (02) 6205 8507 | fax: (02) 6213 0748
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From: Dean Seeley [<mailto:dean.seeley@canberrabusiness.com>]
Sent: Monday, 18 January 2016 11:28 AM
To: Kate Presutto
Cc: Mehrton, Andrew
Subject: RE: Autonomous Vehicles Forum

Hi Kate,

Thanks for your email.

Please find below a list of attendees and run sheet attached. I believe Andrew from ACT Government has confirmed someone to speak from your South Australian office. I have CC'd Andrew who can confirm these details.

First Name	Surname	Job Title	Company
Dean	Seeley	Director of Programs	Canberra Business Chamber
James	Goodwin	Chief Executive Officer	ANCAP
James	Hodge	Director	HLS Vehicle Customisation
Kevin	Atkinson	Director	HLS Vehicle Customisation
James	Walker	CFO	Seeing Machines
gerard	Waldron	Managing Director	ARRB Group
Kate	Lundy	Director	NRMA
Andrew	Buttsworth	Head of Institutional Banking	Westpac
Vesna	Strika	General Manager	Engineers Australia Canberra Division

Phil	Carter	Urban and Transport Planner	Arup
Robert	Care	Strategic Geographies Leader	Arup Group Australasia
Andrew	Abel	Senior Policy Officer	Economic Development ACT Govt.
Kuga	Kugathas	Senior Manager	ACT Government
Rita	Excell	Regional manager Australuan Driverless Vehicle Ini	ARRB Group
Narina	Dahms	Manager, Regulatory Reform	Chief Minister, Treasury and Economic D
Chris	Siorokos	General Manager Advocacy, Media and Education	NRMA
Lauren	Hendriks	Planning Policy Officer	Major Projects and Transport Planning, A
Ben	Maguire	Light Rail Business Link Program Manager	Canberra Business Chamber
Neil	Greet	Immediate Past President	Engineers Australia
Andrew	Mehrton	Deputy Director, Economic Development Policy	ACT Government
Anne-Marie	Perret	n/a	n/a
Ken	Kroeger	CEO	Seeing Machines
Robert	Nairn	Retired Engineer	Retired
Brand	Hoff	Director	My Taggles Pty Ltd
Alan	Thompson	President	Engineers Australia Canberra Division
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Stuart	Adam	Manager Government Business	iiNet Limited
Mathew	Webb	Senior Radio Engineer	iiNet
Lynette	Pinder	ACT State Manager	Australian Institute of Company Director:

We look forward to welcoming Gerard tomorrow.

Regards

Dean Seeley

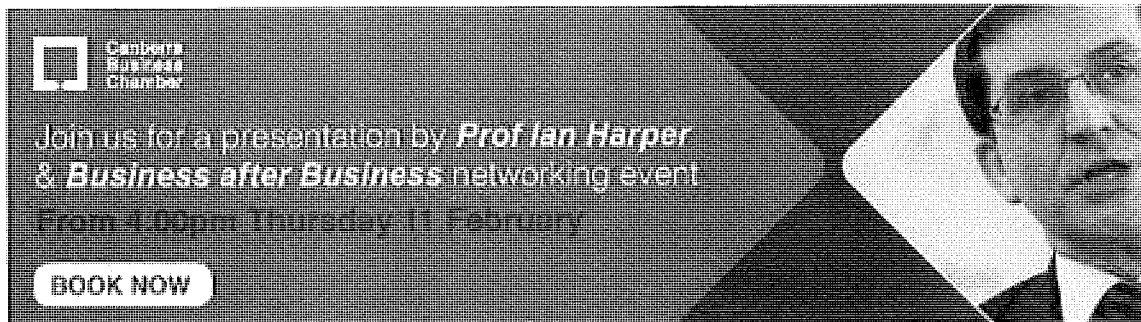
Director of Programs | Canberra Business Chamber

Gnd Floor | 216 Northbourne Ave | Braddon | ACT | AUSTRALIA | 2612

P: +61 2 6247 4199

dean.seeley@canberrabusines.com

www.canberrabusines.com



From: Kate Presutto [<mailto:kate.presutto@arrb.com.au>]
Sent: Monday, 18 January 2016 10:24 AM
To: Dean Seeley <dean.seeley@canberrabusiness.com>
Subject: Autonomous Vehicles Forum

Hi Dean

I am contacting you on behalf of Gerard Waldron – ARRB Group, who will be attending the forum noted above tomorrow.

Gerard, is hoping that you may be able to kindly provide him with a copy of the Agenda and who will be attending the event so he has background information.

Also, there was apparently some discussion that there may be a requirement for Gerard to give an update on ADVI (Australian Driverless Vehicle Initiative, however we have not had this confirmed).

Dean, look forward to your response to these questions and thank you in advance for assisting with these requests.

Kind regards

Kate Presutto
Personal Assistant
Managing Directors Office

ARRB Group Ltd
500 Burwood Hwy
Vermont South VIC 3133
AUSTRALIA

kate.presutto@arrb.com.au
www.arrb.com.au



ARRB is pleased to announce our 27th ARRB Conference will be held in Melbourne, 16 - 18 November 2016. The ARRB Conference and the 37th ATRF will run parallel with one another at the same venue to create greater opportunities for delegates. Call for abstracts will open shortly!

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From: Mehrton, Andrew
Sent: Tuesday, 19 January 2016 11:51 AM
To: 'Rita Excell'
Subject: RE: Autonomous Vehicles Forum

Hi Rita,
That's probably the next best thing. We'll be there from about 2:30 setting up, so sometime between then and 3 would be good.

Thanks.

-Andrew

-----Original Message-----

From: Rita Excell [mailto:rita.excell@arrb.com.au]
Sent: Tuesday, 19 January 2016 10:02 AM
To: Mehrton, Andrew
Subject: Re: Autonomous Vehicles Forum

The file is large as it has two short videos embedded could I perhaps come in earlier and lead it instead

Sent from my iPhone

On 19 Jan 2016, at 9:37 am, Mehrton, Andrew
<Andrew.Mehrton@act.gov.au<mailto:Andrew.Mehrton@act.gov.au>> wrote:

Thanks, Rita.

If you have a powerpoint presentation to accompany your talk, would you be able to email it through to Dean Seeley at the Canberra Business Chamber? Dean will integrate it into the master file for the day to minimise switching around during the session.

Dean's email is dean.seeley@canberrabusiness.com<mailto:dean.seeley@canberrabusiness.com>

Thanks again

-Andrew

From: Rita Excell [mailto:rita.excell@arrb.com.au]
Sent: Tuesday, 19 January 2016 8:19 AM
To: Mehrton, Andrew
Subject: RE: Autonomous Vehicles Forum

Thanks Andrew

I am proposing to give a background to what driverless vehicles are, the benefits, when they are likely to be on our roads, impacts on current and future business models and what the ADVI program of works is going to be, including trials and informing regulatory reforms required.

Rita Excell
Regional Manager
South Australia

ARRB Group Ltd

Level 7, Suite 713
147 Pirie St
Adelaide SA 5000
Australia

rita.excell@arrb.com.au<mailto:rita.excell@arrb.com.au>
www.arrb.com.au<http://www.arrb.com.au>

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From: Mehrton, Andrew [mailto:Andrew.Mehrton@act.gov.au]
Sent: Monday, 18 January 2016 1:48 PM
To: Rita Excell <rita.excell@arrb.com.au<mailto:rita.excell@arrb.com.au>>
Subject: RE: Autonomous Vehicles Forum

Hi Rita,

There are two main outcomes we're looking for.

First, we want to gauge how much industry interest (local or otherwise) there is in having driverless vehicles in Canberra and where that interest is strongest. For example, to what extent does industry think driverless vehicles are realistic and worthwhile for Canberra to actively pursue rather than just staying abreast of broader trends and developments? If there is interest, is it mainly about making our economy more productive, or the business opportunities for our tech companies, or something else?

Following on from that, we'd like to gather views on what attendees think the priority actions are. For example, to what extent do we work on things like the regulatory environment, community education, supporting infrastructure, business attraction and collaboration etc.?

The views that we capture will inform advice that we take back to the government on the implications and opportunities of driverless vehicles for the ACT.

Hope that helps a bit. Let me know if you need more.

Cheers.

-Andrew

From: Rita Excell [mailto:rita.excell@arrb.com.au]
Sent: Monday, 18 January 2016 12:33 PM
To: Mehrton, Andrew; Kate Presutto
Subject: RE: Autonomous Vehicles Forum

Thanks Andrew

An impressive list of attendees.

It would also be useful to know what your outcomes for the workshop are, so that I can tailor our presentation accordingly.

No problem about the presentation, between Gerard and I we will work out who will present.

Rita Excell
Regional Manager
South Australia

ARRB Group Ltd
Level 7, Suite 713
147 Pirie St
Adelaide SA 5000
Australia

rita.excell@arrb.com.au<mailto:rita.excell@arrb.com.au>
www.arrb.com.au<http://www.arrb.com.au>

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From: Mehrton, Andrew [mailto:Andrew.Mehrton@act.gov.au]
Sent: Monday, 18 January 2016 11:09 AM
To: Kate Presutto <kate.presutto@arrb.com.au<mailto:kate.presutto@arrb.com.au>>
Cc: Rita Excell <rita.excell@arrb.com.au<mailto:rita.excell@arrb.com.au>>
Subject: RE: Autonomous Vehicles Forum

Hi Kate,

Sorry for not keeping you in the loop re: the agenda.

I've discussed the possibility of an ARRB/ADVI presentation with Rita Excell in the South Australian office.

We've tentatively scheduled about 10 minutes for Rita (or Gerard) to give an overview of the ADVI, similar to what is presented in the ADVI prospectus. This is being scheduled prior to the workshop/discussion component of the forum to help set the scene.

We'll be finalising the agenda with our facilitators this afternoon, so will have a better idea of the exact timings for the day by COB.

If you have any questions please feel free to get in touch.

Rita, for your information too, the list of confirmed attendees is included below.

Regards.
-Andrew

Andrew Mehrton | Deputy Director, Economic Development Policy | Chief Minister, Treasury and Economic Development Directorate | ACT Government
andrew.mehrton@act.gov.au<mailto:andrew.mehrton@act.gov.au> | ph: (02) 6205 8507 | fax: (02) 6213 0748 Please consider the environment before printing this email

From: Dean Seeley [mailto:dean.seeley@canberrabusiness.com]
Sent: Monday, 18 January 2016 11:28 AM
To: Kate Presutto
Cc: Mehrton, Andrew
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Canberra Business Chamber

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Chief Executive Officer

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Planning Policy Officer

Major Projects and Transport Planning, ACT Government

Ben

Maguire

Light Rail Business Link Program Manager

Canberra Business Chamber

Neil

Greet

Immediate Past President

Engineers Australia

Andrew

Mehrton

Deputy Director, Economic Development Policy

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Anne-Marie

Perret

n/a

n/a

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Kroeger

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Nairn
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Director
My Taggles Pty Ltd
Alan
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President
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Robyn
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Glenn
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Stuart
Adam
Manager Government Business

iiNet Limited

Mathew

Webb

Senior Radio Engineer

iiNet

Lynette

Pinder

ACT State Manager

Australian Institute of Company Directors

We look forward to welcoming Gerard tomorrow.

Regards

Dean Seeley

Director of Programs | Canberra Business Chamber Gnd Floor | 216 Northbourne Ave |
Braddon | ACT | AUSTRALIA | 2612

P: +61 2 6247 4199 |

dean.seeley@canberrabusiness.com<mailto:dean.seeley@canberrabusiness.com>

www.canberrabusiness.com<http://www.canberrabusiness.com/>

<image001.jpg><https://www.eventbrite.com.au/e/back-to-business-presentation-by-ian-harper-of-deloitte-followed-by-networking-drinks-tickets-20681515971C:/Users/deans/Documents/Add-in%20Express>

From: Kate Presutto [mailto:kate.presutto@arrb.com.au]

Sent: Monday, 18 January 2016 10:24 AM

To: Dean Seeley

<dean.seeley@canberrabusiness.com<mailto:dean.seeley@canberrabusiness.com>>

Subject: Autonomous Vehicles Forum

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Gerard, is hoping that you may be able to kindly provide him with a copy of the Agenda and who will be attending the event so he has background information.

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Dean, look forward to your response to these questions and thank you in advance for assisting with these requests.

Kind regards

Kate Presutto
Personal Assistant

Managing Directors Office

ARRB Group Ltd
500 Burwood Hwy
Vermont South VIC 3133
AUSTRALIA

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From: Mehrton, Andrew
Sent: Tuesday, 19 January 2016 9:58 AM
To: 'Charlie Mere'
Cc: Abel, Andrew; 'Louisa Osborne'
Subject: RE: Autonomous Vehicles Forum

Thanks, Charlie.

All going to schedule, the ARRB presentation should be started by 3:30 and run for about 10 minutes. If that crunches the timings, I'd be inclined to crunch the 'opportunities' session a little. Between Glenn and ARRB I suspect we'll have already identified what a lot of the general opportunities are, and so the group activity might just need to put transpose those general issues into a local context?

-Andrew

From: Charlie Mere [<mailto:Charlie.Mere@thinkplace.com.au>]
Sent: Tuesday, 19 January 2016 9:44 AM
To: Mehrton, Andrew
Cc: Abel, Andrew; Louisa Osborne
Subject: RE: Autonomous Vehicles Forum

Hi Andrew

Great to meet you both yesterday. Louisa and I have attached an agenda – please take a look and let us know what you think.

Just to clarify – when is the ARRB presentation?

We will be providing four large (A0 size) worksheets for each table/group, that help them to think about the right questions and design their trail. There is an emphasis on the worksheets on topics such as regulation changes required and the overall effect that the trial had on the landscape.

The participant list looks great. I hope it's not only productive but enjoyable for the participants.

Cheers
Charlie

Charlie Mere
Senior Executive Designer

THINKPLACE

Address: Unit 4 Mezzanine Level 55 Wentworth Avenue Kingston ACT 2604
Postal: PO Box 5249 Kingston ACT 2604 Australia
www.thinkplaceglobal.com

Please consider our environment before printing this e-mail.

From: Mehrton, Andrew [<mailto:Andrew.Mehrton@act.gov.au>]
Sent: Monday, 18 January 2016 3:23 PM
To: Charlie Mere <Charlie.Mere@thinkplace.com.au>; Louisa Osborne <Louisa.Osborne@thinkplace.com.au>

Cc: Abel, Andrew <Andrew.Abel@act.gov.au>

Subject: FW: Autonomous Vehicles Forum

Charlie and Louisa,

Just for info, attached is the run sheet (which doesn't show the ARRB presentation, which will come out of the workshop block).

Below is a list of attendees who have RSVPed so far too.

-Andrew

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Sent: Tuesday, 19 January 2016 10:02 AM
To: Mehrton, Andrew
Cc: Abel, Andrew; Louisa Osborne
Subject: RE: Autonomous Vehicles Forum
Attachments: ThinkPlace Agenda - ACT Gov Economic Policy Driverless Cars 19 Jan v2.docx

Categories: Attachment Scheduled (FOI)

OK no worries Andrew, agreed. We can ask the groups to think on what they have heard as inspiration for that first activity. I've updated that in the attached.

Cheers
Charlie

From: Mehrton, Andrew [mailto:Andrew.Mehrton@act.gov.au]
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Senior Executive Designer

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Agenda

Autonomous Vehicle Forum

Purpose: To identify opportunities around autonomous vehicles in the ACT

Location: Canberra Business Chamber

Date: Tuesday 19 January 2016

Start time: 3.00pm **Finish time:** 5.30pm

Time	Session theme	Key questions	Who
3.00pm	Introduction	Why are we here today?	Glenn Keys, NRMA representative, ACT Government representative, ARRB
3.40pm 15mins	Opportunities	What are some opportunities and challenges for autonomous vehicles in the ACT? What are the priorities for action?	Group conversation
3.50pm 25mins	Design the ideal trial	What could an autonomous vehicle trial look like? What needs to happen? And who is involved? What does the timeline of action look like?	Group design activity
4.20pm 25mins	Back casting	Thinking forward one year, the trial has been implemented, what made it a success? What problems were avoided? What made the trial feasible?	Group activity
4.45pm 40mins	Pitching the trials	Each team designs a short pitch for their trial and then presents. Audience members fill out their feedback responding to the question: Do you think your organisation would be involved in this idea?	Group activity, then each group presents in turn
5.25pm	Closing remarks		Glenn Keys

From: Mehrton, Andrew
Sent: Tuesday, 19 January 2016 10:45 AM
To: 'Dean Seeley'
Subject: FW: Autonomous Vehicles Forum

Hi Dean,

Rita may not be able to send her presentation through in advance due to the size of the file.

If we load it up beforehand perhaps we could just switch over either while I'm saying a few words or when Charlie is outlining the format for the group work? The ARRB pres will lead straight into the first breakout session so there shouldn't be too much of a disruption to switch back to your main file at that point?

Let me know your thoughts.

Cheers.

-Andrew

-----Original Message-----

From: Rita Excell [<mailto:rita.excell@arrb.com.au>]
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Subject: Re: Autonomous Vehicles Forum

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Sent from my iPhone

On 19 Jan 2016, at 9:37 am, Mehrton, Andrew
<Andrew.Mehrton@act.gov.au<<mailto:Andrew.Mehrton@act.gov.au>>> wrote:

Thanks, Rita.

If you have a powerpoint presentation to accompany your talk, would you be able to email it through to Dean Seeley at the Canberra Business Chamber? Dean will integrate it into the master file for the day to minimise switching around during the session.

Dean's email is dean.seeley@canberrabusiness.com<<mailto:dean.seeley@canberrabusiness.com>>

Thanks again

-Andrew

From: Rita Excell [rita.excell@arrb.com.au]
Sent: Tuesday, 19 January 2016 10:02 AM
To: Mehrton, Andrew
Subject: Re: Autonomous Vehicles Forum
Attachments: image001.jpg; image002.jpg; image003.jpg; image004.jpg; image005.jpg; image002.jpg; image003.jpg; image004.jpg; image005.jpg

Categories: Attachment Scheduled (FOI)

The file is large as it has two short videos embedded could I perhaps come in earlier and lead it instead

Sent from my iPhone

On 19 Jan 2016, at 9:37 am, Mehrton, Andrew
<Andrew.Mehrton@act.gov.au<mailto:Andrew.Mehrton@act.gov.au>> wrote:

Thanks, Rita.

If you have a powerpoint presentation to accompany your talk, would you be able to email it through to Dean Seeley at the Canberra Business Chamber? Dean will integrate it into the master file for the day to minimise switching around during the session.

Dean's email is dean.seeley@canberrabusiness.com<mailto:dean.seeley@canberrabusiness.com>

Thanks again

-Andrew

From: Rita Excell [mailto:rita.excell@arrb.com.au]
Sent: Tuesday, 19 January 2016 8:19 AM
To: Mehrton, Andrew
Subject: RE: Autonomous Vehicles Forum

Thanks Andrew

I am proposing to give a background to what driverless vehicles are, the benefits, when they are likely to be on our roads, impacts on current and future business models and what the ADVI program of works is going to be, including trials and informing regulatory reforms required.

Rita Excell
Regional Manager
South Australia

ARRB Group Ltd
Level 7, Suite 713
147 Pirie St
Adelaide SA 5000
Australia

rita.excell@arrb.com.au<mailto:rita.excell@arrb.com.au>
www.arrb.com.au<http://www.arrb.com.au>

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you receive this email in error, please advise us by return email immediately. Please also disregard the contents of the email, delete it and destroy any copies immediately.

From: Mehrton, Andrew [mailto:Andrew.Mehrton@act.gov.au]
Sent: Monday, 18 January 2016 1:48 PM
To: Rita Excell <rita.excell@arrb.com.au<mailto:rita.excell@arrb.com.au>>
Subject: RE: Autonomous Vehicles Forum

Hi Rita,

There are two main outcomes we're looking for.

First, we want to gauge how much industry interest (local or otherwise) there is in having driverless vehicles in Canberra and where that interest is strongest. For example, to what extent does industry think driverless vehicles are realistic and worthwhile for Canberra to actively pursue rather than just staying abreast of broader trends and developments? If there is interest, is it mainly about making our economy more productive, or the business opportunities for our tech companies, or something else?

Following on from that, we'd like to gather views on what attendees think the priority actions are. For example, to what extent do we work on things like the regulatory environment, community education, supporting infrastructure, business attraction and collaboration etc.?

The views that we capture will inform advice that we take back to the government on the implications and opportunities of driverless vehicles for the ACT.

Hope that helps a bit. Let me know if you need more.

Cheers.

-Andrew

From: Rita Excell [mailto:rita.excell@arrb.com.au]
Sent: Monday, 18 January 2016 12:33 PM
To: Mehrton, Andrew; Kate Presutto
Subject: RE: Autonomous Vehicles Forum

Thanks Andrew

An impressive list of attendees.

It would also be useful to know what your outcomes for the workshop are, so that I can tailor our presentation accordingly.

No problem about the presentation, between Gerard and I we will work out who will present.

Rita Excell
Regional Manager
South Australia

ARRB Group Ltd
Level 7, Suite 713
147 Pirie St
Adelaide SA 5000
Australia

rita.excell@arrb.com.au<mailto:rita.excell@arrb.com.au>
www.arrb.com.au<http://www.arrb.com.au>

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From: Mehrton, Andrew [mailto:Andrew.Mehrton@act.gov.au]
Sent: Monday, 18 January 2016 11:09 AM
To: Kate Presutto <kate.presutto@arrb.com.au<mailto:kate.presutto@arrb.com.au>>
Cc: Rita Excell <rita.excell@arrb.com.au<mailto:rita.excell@arrb.com.au>>
Subject: RE: Autonomous Vehicles Forum

Hi Kate,

Sorry for not keeping you in the loop re: the agenda.

I've discussed the possibility of an ARRB/ADVI presentation with Rita Excell in the South Australian office.

We've tentatively scheduled about 10 minutes for Rita (or Gerard) to give an overview of the ADVI, similar to what is presented in the ADVI prospectus. This is being scheduled prior to the workshop/discussion component of the forum to help set the scene.

We'll be finalising the agenda with our facilitators this afternoon, so will have a better idea of the exact timings for the day by COB.

If you have any questions please feel free to get in touch.

Rita, for your information too, the list of confirmed attendees is included below.

Regards.
-Andrew

Andrew Mehrton | Deputy Director, Economic Development Policy | Chief Minister, Treasury and Economic Development Directorate | ACT Government
andrew.mehrton@act.gov.au<mailto:andrew.mehrton@act.gov.au> | ph: (02) 6205 8507 | fax: (02) 6213 0748 Please consider the environment before printing this email

From: Dean Seeley [mailto:dean.seeley@canberrabusines.com]
Sent: Monday, 18 January 2016 11:28 AM
To: Kate Presutto
Cc: Mehrton, Andrew
Subject: RE: Autonomous Vehicles Forum

Hi Kate,

Thanks for your email.

Please find below a list of attendees and run sheet attached. I believe Andrew from ACT Government has confirmed someone to speak from your South Australian office. I have CC'd Andrew who can confirm these details.

First Name

Surname

Job Title

Company

Dean

Seeley

Director of Programs

Canberra Business Chamber

James

Goodwin

Chief Executive Officer

ANCAP

James

Hodge

Director

HLS Vehicle Customisation

Kevin

Atkinson

Director

HLS Vehicle Customisation

James

Walker

CFO

Seeing Machines

gerard

Waldron

Managing Director

ARRB Group

Kate

Lundy

Director

NRMA

Andrew

Buttsworth

Head of Institutional Banking

Westpac

Vesna

Strika

General Manager

Engineers Australia Canberra Division

Phil

Carter

Urban and Transport Planner

Arup

Robert

Care

Strategic Geographies Leader

Arup Group Australasia

Andrew

Abel

Senior Policy Officer

Economic Development ACT Govt.

Kuga

Kugathas

Senior Manager

ACT Government

Rita

Excell

Regional manager Australian Driverless Vehicle Ini

ARRB Group

Narina

Dahms

Manager, Regulatory Reform

Chief Minister, Treasury and Economic Development Directorate

Chris

Siorokos

General Manager Advocacy, Media and Education

NRMA

Lauren

Hendriks

Planning Policy Officer

Major Projects and Transport Planning, ACT Government

Ben

Maguire

Light Rail Business Link Program Manager

Canberra Business Chamber

Neil

Greet

Immediate Past President

Engineers Australia

Andrew

Mehrton

Deputy Director, Economic Development Policy

ACT Government

Anne-Marie

Perret

n/a

n/a

Ken

Kroeger

CEO

Seeing Machines

Robert

Nairn

Retired Engineer

Retired

Brand

Hoff

Director

My Taggles Pty Ltd

Alan

Thompson

President

Engineers Australia Canberra Division

Robyn

Hendry

CEO

Canberra Business Chamber

Glenn

Keys

Chair

Canberra Business Chamber

Craig

Davis

CEO

GRIFFIN Accelerator

Greg

Castle

Managing Partner

CanChina

Buzz

Dean

Sr VP, Emerging Technology

Seeing Machines

Louise

Gilding

Executive Director Policy, Projects and Legislatio

CMTEDD ACT Government

Mark

Barrett

Manager Transport

SMEC

Tim

Chapman

Regional Manager

SMEC

Jerome

Catbagan

Traffic & Transport Planning Manager

SMEC

Keith

Cantlie

Managing Director

Cantlie

Brook

Dixon

Director, LDA

ACT Government

Stuart

Adam

Manager Government Business

iiNet Limited

Mathew

Webb

Senior Radio Engineer

iiNet

Lynette

Pinder

ACT State Manager

Australian Institute of Company Directors

We look forward to welcoming Gerard tomorrow.

Regards

Dean Seeley

Director of Programs | Canberra Business Chamber Gnd Floor | 216 Northbourne Ave |
Braddon | ACT | AUSTRALIA | 2612

P: +61 2 6247 4199 |

dean.seeley@canberrabusiness.com<mailto:dean.seeley@canberrabusiness.com>

www.canberrabusiness.com<http://www.canberrabusiness.com/>

<image001.jpg><https://www.eventbrite.com.au/e/back-to-business-presentation-by-ian-harper-of-deloitte-followed-by-networking-drinks-tickets-20681515971C:/Users/deans/Documents/Add-in%20Express>

From: Kate Presutto [mailto:kate.presutto@arrb.com.au]

Sent: Monday, 18 January 2016 10:24 AM

To: Dean Seeley

<dean.seeley@canberrabusiness.com<mailto:dean.seeley@canberrabusiness.com>>

Subject: Autonomous Vehicles Forum

Hi Dean

I am contacting you on behalf of Gerard Waldron - ARRB Group, who will be attending the forum noted above tomorrow.

Gerard, is hoping that you may be able to kindly provide him with a copy of the Agenda and who will be attending the event so he has background information.

Also, there was apparently some discussion that there may be a requirement for Gerard to give an update on ADVI (Australian Driverless Vehicle Initiative, however we have not had this confirmed.

Dean, look forward to your response to these questions and thank you in advance for assisting with these requests.

Kind regards

Kate Presutto

Personal Assistant

Managing Directors Office

ARRB Group Ltd

500 Burwood Hwy

Vermont South VIC 3133

AUSTRALIA

kate.presutto@arrb.com.au<mailto:kate.presutto@arrb.com.au>

www.arrb.com.au<http://www.arrb.com.au>

[facebook]<<http://www.facebook.com/ARRBGroup>>[twitter]<<http://www.twitter.com/ARRBGroup>>[youtube]<<http://www.youtube.com/user/ARRBGroup>>[linkedin]<<http://www.linkedin.com/company/arrb-group>>

ARRB is pleased to announce our 27th ARRB Conference will be held in Melbourne, 16 - 18 November 2016. The ARRB Conference and the 37th ATRF will run parallel with one another at the same venue to create greater opportunities for delegates. Call for abstracts will open shortly!

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From: Mehrton, Andrew
Sent: Friday, 22 January 2016 5:39 PM
To: 'Louisa Osborne'; 'Charlie Mere'
Cc: Abel, Andrew
Subject: RE: Autonomous Vehicles Forum - Conversation Tracker
Attachments: ACT Autonomous Vehicle Forum Conversation Tracker v1 0 (2).pdf
Categories: Attachment Scheduled (FOI)

Thanks, Louisa.

It's looking good. I've added a few comments in the attached version. Probably looks like a lot, but they're mainly editorial requests that will make it easier when we discuss the document with the Chamber or other stakeholders. Let me know if you have any questions or issues re: the comments.

Thanks again to yourself and Charlie for your work.

Cheers.

-Andrew

From: Louisa Osborne [<mailto:Louisa.Osborne@thinkplace.com.au>]
Sent: Friday, 22 January 2016 11:02 AM
To: Mehrton, Andrew; Abel, Andrew
Cc: Charlie Mere
Subject: Autonomous Vehicles Forum - Conversation Tracker

Hello Andrew and Andrew,

Charlie and I have pulled together a Conversation Tracker recording the workshop on Tuesday. We've included an initial synthesis of what came out of the workshop, as well as a summary of each of the group's ideas, the worksheets and the feedback forms.

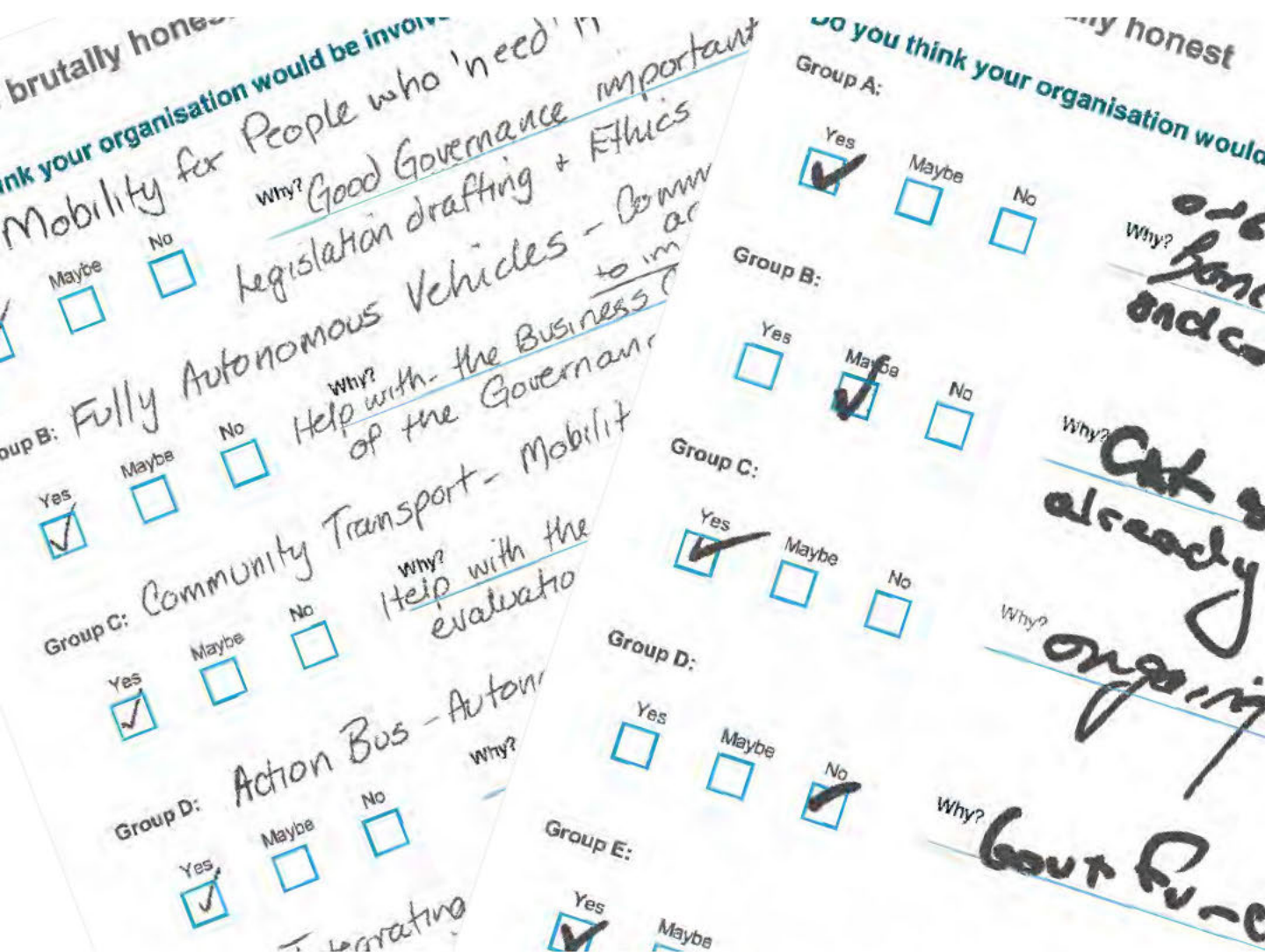
Hope it all looks good on your end,

Regards,
Louisa

Louisa Osborne
Business Designer

THINKPLACE

Address: Unit 4 Mezzanine Level 55 Wentworth Avenue Kingston ACT 2604, Australia
Postal: PO Box 5249 Kingston ACT 2604, Australia
www.thinkplaceglobal.com



Autonomous Vehicle Forum

Conversation Tracker

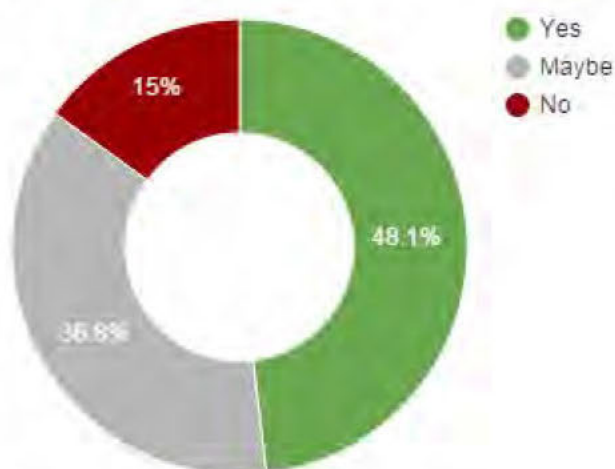


The Canberra Business Chamber and the ACT Government held an industry discussion forum on Autonomous Vehicles on 20 January 2016. The forum was sponsored by NRMA and around 40 people participated from various interested parties in the field. Participants took part in a rapid workshop to design the trial, that in their view, would advance this field for Canberra, paying particular attention to the role that the ACT government can play as a catalyst. This conversation tracker records the outputs of the forum, in order to be interpreted and used as raw data, from which a course of action and more detailed recommendations could be made. Targets for the session were to answer the following questions.

What level of interest does industry have to take part in a trial of autonomous vehicles in Canberra?

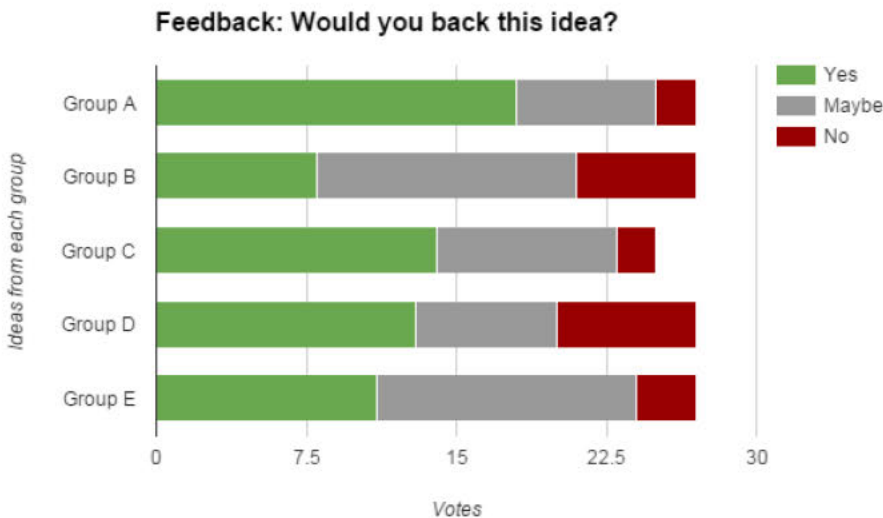
The participants in the event were particularly positive about the idea of a trial, however it should be noted that they were self selected participants in the conversation. Participants were asked to honestly rate whether they believe their organisation would back the ideas that each group in the workshop designed. As an aggregate score, 48% said yes and 36.8% said maybe to ideas that were generated in the two hour workshop. It is likely that taking the core intent of these ideas and giving them more detail could convert more of the 'maybe' votes to 'yes'.

Feedback: general sentiment towards the ideas



What might a trial look like?

Participants raised many opportunities and problem areas in the workshop and designed solutions to potential problems with their trials. The detail of the notes is captured in this document. Overall, however, the top candidate (Group A) was to create a trial for 'Mobility for those who need it', focusing on using autonomous vehicles to assist in aged care and for people with a disability. The second place went to a group with a similar trial idea (Group C, 'Mobility for life'). It may be that this topic area brings together many aspects that excite and entice involvement in a trial: it is publicly accessible and invites community involvement, has social benefit, is easy to explain, is likely to give positive returns to its backers in terms of public profile and perhaps revenue (e.g. via NDIS), and has the potential to directly affect the ACT Government's service delivery efficiency.



*Extra comments: The Tech is available
Bring it on*

Thank you for your participation today

Mobility for those who need it

Our trial is going to be around providing mobility for people who need it: aged care, disability, medication, people who don't have a licence.

It will take a phased approach – e.g. 3 vehicles initially, clear routes, one sector – e.g. partner with Goodwin group, go from a Goodwin aged facility to a medical centre using clearly designated vehicles. We need to create legislation up front and then change legislation as we learn. Create a framework and environment to operate in. Allow legislation for private use and open up market forces.

The trial should be visible and transparent. Get community involvement – could use government crowd funding by providing shares in a company via rates notice – 10-20 million dollars. Canberra can become the silicon valley for Autonomous Vehicles. Success will be: it will start things going.

The trial has to engage with a whole range of stakeholders – ACT government can help with this, particularly other community stakeholders – e.g. Action, Uber, NRMA – NRMA, for example, could have role in facilitating a community reference group. We'll also need an ethics reference group.

We need a marketing strategy – specifically have routes marked and highlighted cars so its noticeable in community. Focus on good news stories, e.g. grandma hasn't been out of the house in 5 years. Could run a social media reality show with broader benefit to community!

Local government can have a leadership role and lead the community. This is better than the triple bottom line. Productive environment friendly and provides safety.





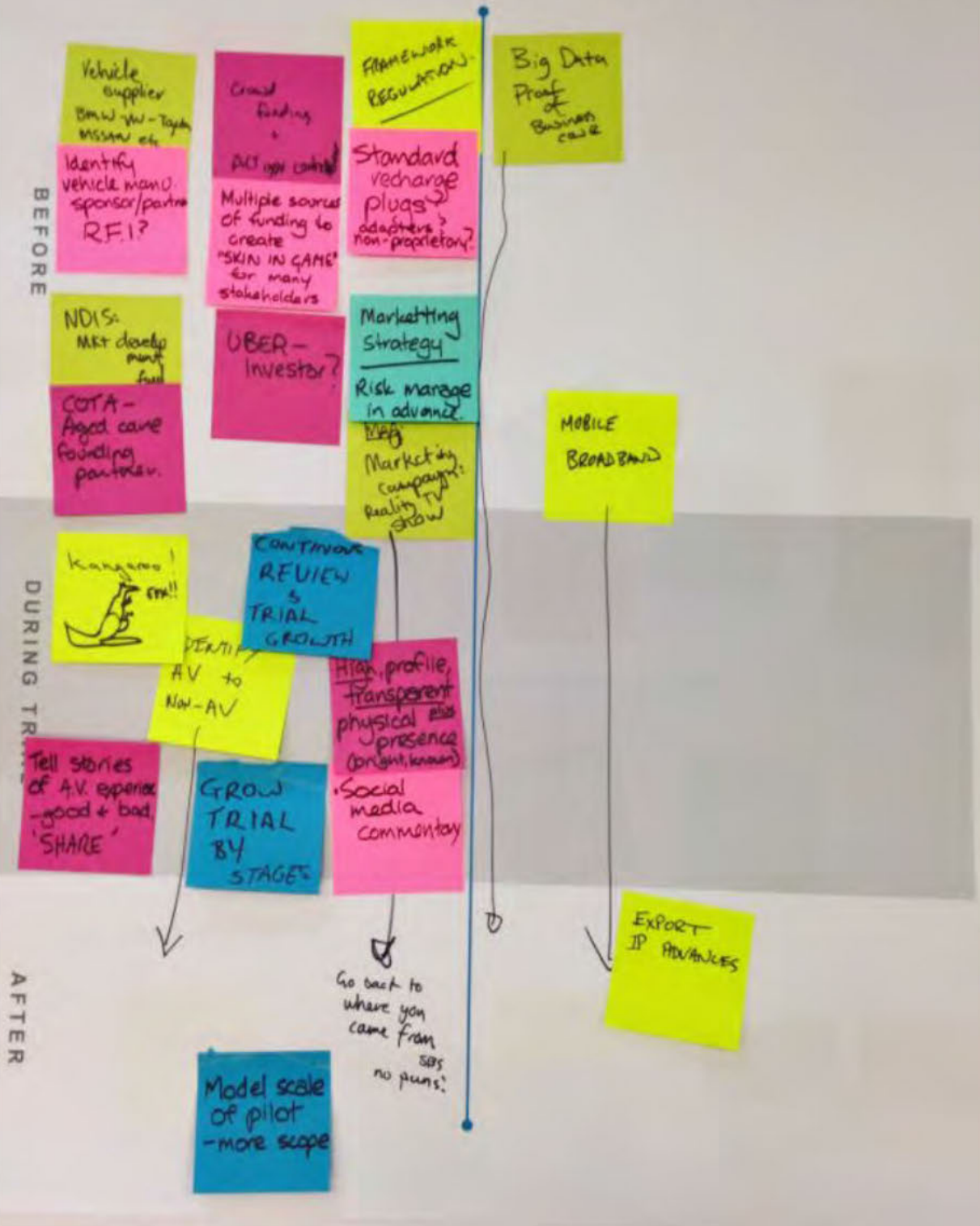
Timeline: how it worked

(A)

THINKPLACE

Make a timeline of all the actions required before, during and after your trial, including what needs to be done and who is involved.

Think about technology, infrastructure, regulation change, publicity, engagement, participation, etc.



GP 4

(A)

Back casting

THINKPLACE

First feedback

Issues

Improvements and solutions

Stigma to spread vehicles

SAFETY OF PASSENGERS

PATIENT TRANSPORT

Funding from off set of taxis or other funded services?

The trial was a success because ...

Because we knew what data needed to be collected at the start

Must use model for all planning for transport

Private owners can buy/use AV's during trials

lots of journeys

Got private car sellers (Tesla, etc) involved

FUNDING
Grant/loans
200,000,000 pa.
ALL NOT REIMBURSED ON A SHARE.
BY REVOLVING AV ~~SHARE~~
\$100 ✓

IPO RAISED \$200m

We did a health cost analysis up-front

Mutual or Company to manage trial -

The ACT government made these important things happen ... (e.g. regulation changes)

LEGISLATION

MOVE QUICKLY

Bankable funding

ensured participation of community transport, local Merit (voluntary) & public transport

We avoided these problems ...

PUBLIC RESISTANCE

SUSPICION CONCERN BY BEING TOTALLY TRANSPARENT

SHORTAGE OF FUNDING

HECK OF FUNDS

We react well to minor glitches

Post-pilot paralysis

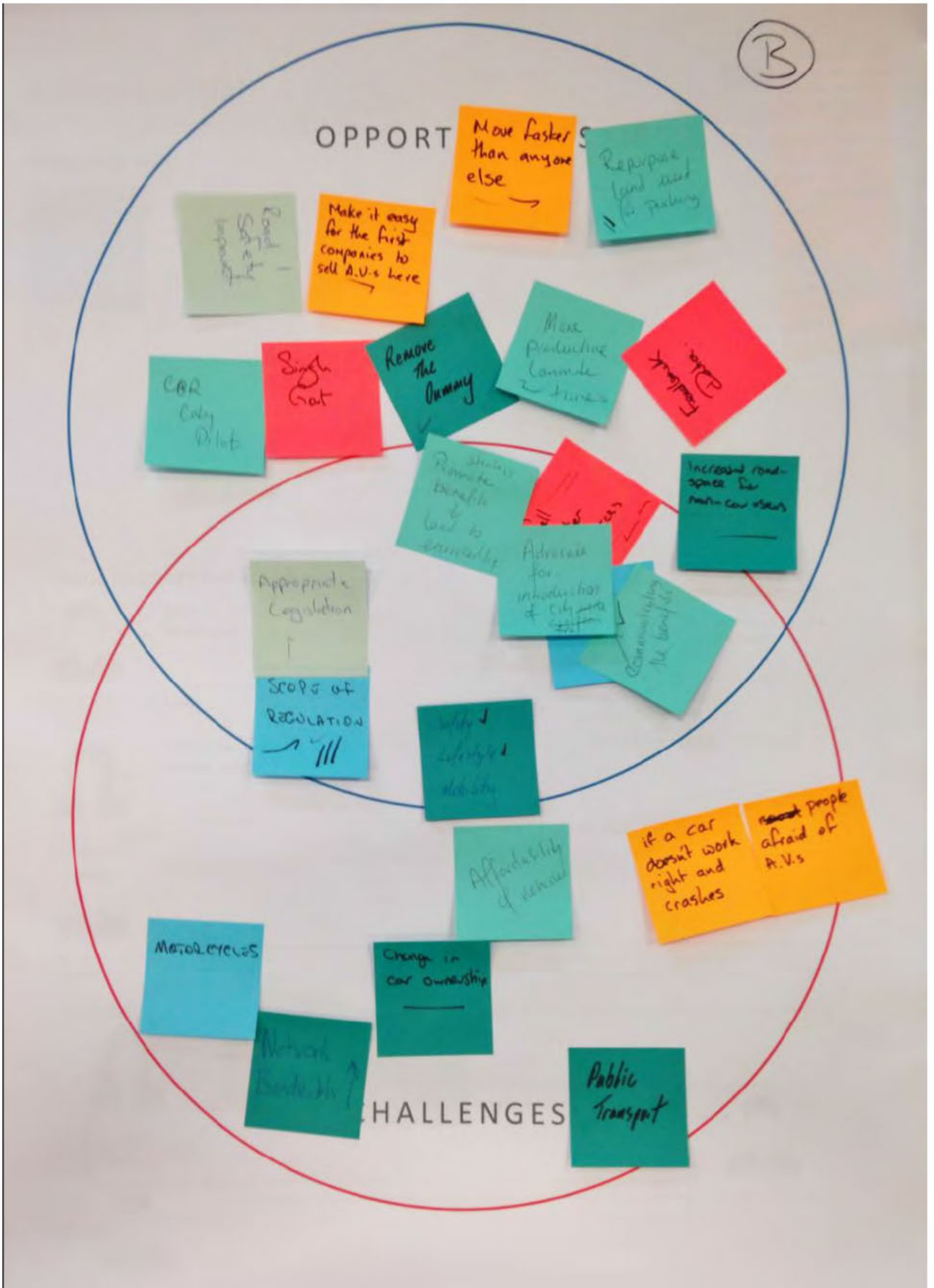
Autonomous community service vehicles

A similar side and similar customer base, with a similar set-up to the previous group, but with fully autonomous vehicles. The technology has been proven. We'll use pod vehicles and use the trial to get community acceptance, engagement and usage as part of the norm.

We will target the section of the community where driving is something that people cannot do or don't want to do. People who can get themselves to the car e.g. impaired vision people. It is a growing market of people, so we want to make it accessible to those people. We want people to be able to press a button on their phone, have the vehicle turn up outside. Use it as a social access service, building on that as well.

This can open up livelihoods. We want true community acceptance as a norm, and get the most social value in the environment in Canberra.

We need legislation to allow level 4 vehicles. Then have private companies to step into that market. This will drive down a lower price. We want to focus on the gap in the market, and deliver service through this technology.



Design the trial

(B)

THIN

I want to skip the trial phase - let carmakers sell if they can show its safe somehow else (eg ANCAP criteria?)

however - good as "first customer" a good idea - eg for disability transport v taxis.

Uber, Google, Volvo, Google, Apple, whatever to launch + sell their products - making transport - etc that will they out

What is the trial?

COMMODITY SERVICE
VEHICLE FOR
THOSE WHO CAN'T
DRIVE BORED
GET THEMSELVES
A BIT OF FUN

Who is involved? And why?



AMEND LEGISLATION TO ALLOW BUSINESS VEHICLE

Name: REGULATOR
Involvement: _____



NEED TRANSPORT NOT CURRENTLY AVAILABLE AS WORK RELATED SERVICE

Name: USERS
Involvement: _____



NEED TO EXTEND COVERAGE TO WHERE THERE IS NO 'BARRED'

Name: INSURER
Involvement: _____



BUILD / TEST / TRIAL VEHICLES

Name: MANUFACTURERS
Involvement: _____



COORDINATE SERVICE

Name: SERVICE PROVIDER
Involvement: _____



Name: _____
Involvement: _____

People said ...



"I can do my grocery shopping more easily"

I can get some when I couldn't before.



Back casting

(B)

THINKPLACE

First feedback

Issues

frustrated changes

indirect need for Taxi Service

Jobs & User

Improvements and solutions

Do I really need a car? Should I have a car?

mobility = Technology for All

The trial was a success because ...

Transparent & Socialized Visible

access + usage without ownership

Reduced Cost to Gov.

community means "shared" becoming the norm

consistency of service - presentation of vehicle

The ACT government made these important things happen ... (e.g. regulation changes)

regulation → work force relations → application under other uses

We avoided these problems ...

privacy

Non-bering usage during trial

Mobility for life

Mobility for life: community transport with existing groups, such as Anglicare, to go to community activities, shops etc. A trial over a few months, depending on scope by organisations involved.

We will target at people who can get in and out of car, with participants identified by partner organisations. We need a company interested in getting vehicles into the market.

Give the message to the broader ACT community, demonstrating benefits before rolling it out. With assistants and call centres to provide support service.

There are many longer term economic benefits – nationally the community transport budget is large, governments can then use health facilities more efficiently e.g. appointment times that are outside office hours, not paying drivers overtime.

Ultimately we want to create a good user experience, with happy clients where we meet their needs. We need a strong focus on safety and protocols. Communicate that this is being trialled in Canberra, time to start rolling out wider trials, with the community brought along and being part of the message.

Design the trial

(C)

THINKPLACE

What is the trial?

Mobility 4 Life

-Transport to Health apps and shops



-Access to care
-More efficient health system
-Community Inclusion
-Self-managed care.


Community Leap


IDENTIFY NEED AREAS FROM DATA


Get to know the community


Scope
-Geography
-Duration
-People.


Who is involved? And why?


 We need to collect and take people to hospital, and events. Staff, costs and time are always a problem.
Name: Community Leap
Involvement: end user

 We support innovation in transport, health & community inclusion.
Name: ACT Govt (MTEPO) Health EPO
Involvement: Policy, Regulation, Service Design.



Name:
Involvement:

 **VEHICLE MANUFACTURER (Vaux, etc)**
Name:
Involvement:

 **Local businesses, academics, tech compis**
Name:
Involvement:

 A landmark trial in the ACT
Name: Canberra Times journalism
Involvement: reporting

People said ...





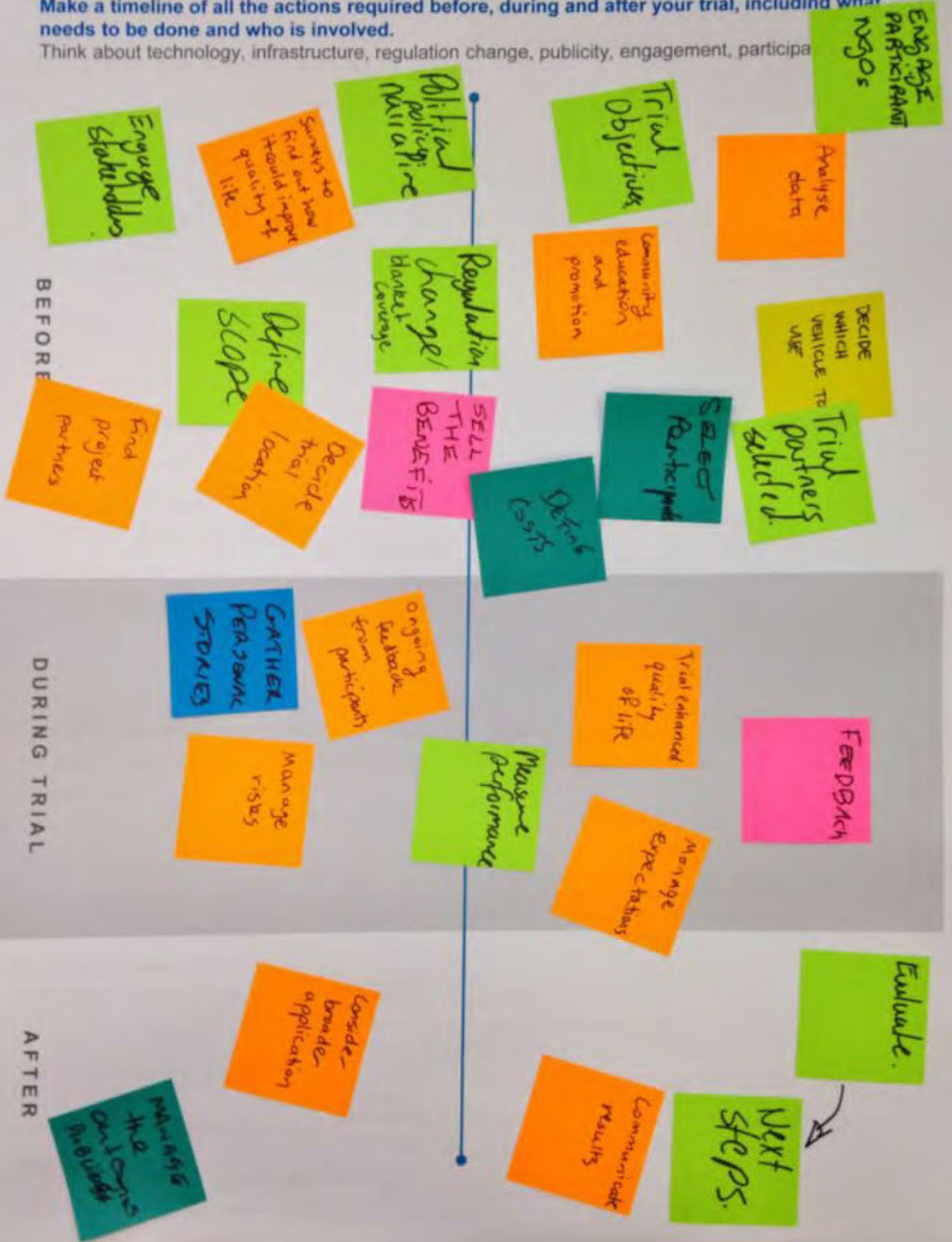


Timeline: how it worked

THINKPLACE

Make a timeline of all the actions required before, during and after your trial, including what needs to be done and who is involved.

Think about technology, infrastructure, regulation change, publicity, engagement, participa



Back casting

©

THINKPLACE

First feedback

Issues

- Engage groups such as Alzheimers Australia & Anglicare
- Who pays?
- Will it interfere with role of community transport? Is this an opportunity for partnership?
- Small on scale?
- Doctors surgeries clients pick up service?

Improvements and solutions

The trial was a success because ...

- Trip generation rate is high
- The human side was communicated improved quality of life
- Great feedback from participants
- Savings to government and community groups
- User experience was positive

The ACT government made these important things happen ... (e.g. regulation changes)

- Indemnify those involved in the trial?
- Government approval to drive on public roads
- Pricing - cheap but not free - government
- Agree to partnerships

We avoided these problems ...

- taxi/uber drivers complaining - meet with industry
 - communicate the benefits to the public
 - retraining programs
- clients not being tech savvy - community organisation to help out & offer a support line
 - explaining the benefits
- Managing expectations - clear scope for the trial
- Accidents - strong focus on safety
- Media - build good media relations

Driverless public buses

We looked at a trial with ACTION buses, recognising that they are currently not-profitable, unreliable, and have poor user take-up, and the system could always be safer. So we looked at what we could do to improve it.

The trial would use stage 3 vehicles – the technology is available now. We would trial how that technology could benefit Canberra. This is not about beta testing technology. We would prove the technology works for Canberra.

We would start by supplementing red rapid services. They have routes with dedicated bus lanes and small numbers of drop off and pick up points, and regular schedules. It would be easy to supplement these routes. There is frequency and good use of those routes.

It would be a free trial for the public, to encourage people to get on the autonomous bus.

An entirely government funded program, understanding that action is already an entirely government funded program. It's a way for action to improve its bottom line.

Stage 1 would be a supplementary trial with 5-10 buses to the routes. Stage 3 would be door to door with smaller buses. With longer term capital costs coming from replacement of traditional buses through stage 2.

We will see a higher usage of public transport in ACT, with buses driven autonomously and on a loop. It delivers on a few government goals: sustainable transport, and 2025 zero emissions.



Design the trial



What is the trial?

Driverless
Public
Buses

Dedicated
Bus
lanes
Only

3 Stage
Trial
1) Rapid
2) Local Suburbs
3) On-demand
to homes

Blue Rapid
Red Rapid

Who is involved? And why?



Name
Involvement:

Transport
Minister
Support

ADVI
to leverage
experience



Name
Involvement:

Cyclists
- did it improve
safety for them

'Normal'
Road
Users
- effect on
their habits



Name
Involvement:

Bus
Drivers
+
TWU
Subsistence



Name
Involvement:

Passengers
- feelings +
experience

Parents
- reassurance
of child
safety



Name
Involvement:

Bus
Manufacturers
Volvo?



Name
Involvement:

Road Network
+ Public Transport
Planners

People said ...



Driver for
comfort of
passengers

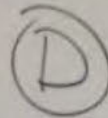
Buses ran
on time
and more
frequently

I always
got a
seat on
the bus

I was curious
so I caught
a bus for
the first time
in years.....



Timeline: how it worked



Make a timeline of all the actions before, during and after your trial, including what needs to be done and who is involved. Think about technology, infrastructure, policy change, publicity, engagement, etc.

BEFORE

MARKETING TO STAKEHOLDERS

Private Sector Involvement

Deploy Technology in Buses

Get the Governance of the project right

ESTABLISH WHAT ARE THE METRICS OF SUCCESS OR FAILURE EVALUATION

Public Awareness Campaign

Enabling Legislation/Regulation

Define Routes - Rules

Business Case - funding - regulation - Governance → Obtain funding

MARKETING + MEDIA

Consultation - Public - workers

Drivers can Intervene during trial opt

Risk Strategy

Fuel Saving 25%

Check out ADVI

DURING TRIAL

Collect Metrics on trip/ passenger numbers

Communications - Your Story - Your Experience - Social Media

HAVE ABILITY TO RESPOND AND ADDRESS ISSUES.

No Driver No Fare

POSITIVE MEDIA

Customers to Sign up for the trial

AFTER

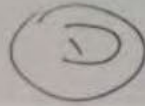
Evaluation

Rollback the Whole Fleet

Debrief/Report critically on outcomes - good + bad

Fine tune program and extend to other locations

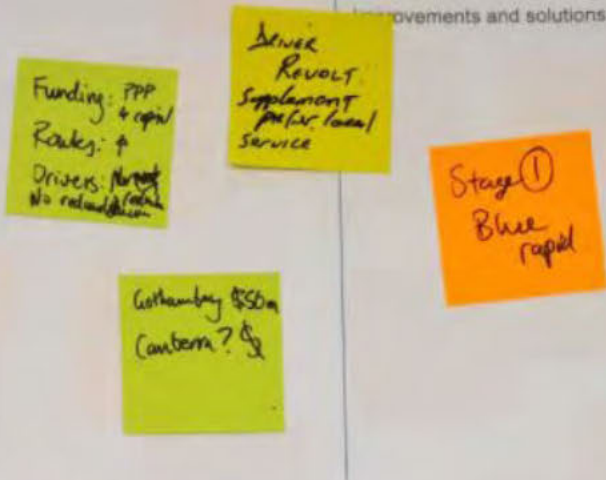
Back casting



THINKPLACE

First feedback

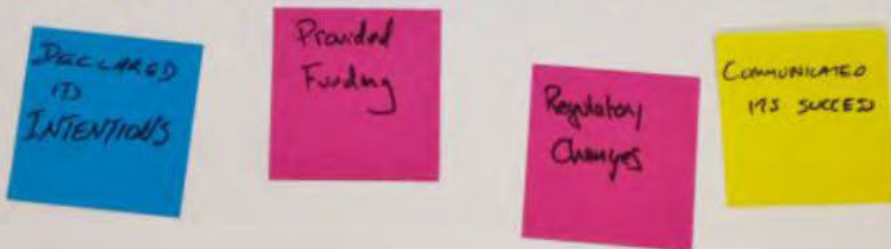
Issues



The trial was a success because ...



The ACT government made these important things happen ... (e.g. regulation changes)



We avoided these problems ...



Testing the last mile

We want to trial the last mile: how things are integrated across multiple agencies – everyone else will be trialling the technology. Local government, federal government and universities to test the last mile – this is a Canberra strength.

We have different roads to test for different periods – peak periods – will involve bringing in high tech stimulation programs, bring in electric vehicles programs. Integrating at regulation level and testing last mile to see how people come together. With regulation, education and awareness, zoning and planning.

We'll have media to promote the CBR story. Engagement throughout the whole timeline.

We'll create mini studies within this trial – e.g. parliamentary triangle with fully autonomous pods. Main commuting lines with stag 3 or 4 autonomous vehicles.

We'll report on and measure everything, to use the data for research purposes. Government will have an open data policy, traffic information, commuter routes, this will combine with private sector algorithms and data sets.

We'll capture successful case studies. Bring the community along with us, and use everyone as a platform for success.

Design the trial

THINKPLACE

What is the trial?

Testing the last mile

Proving the social value

Test Peak Periods

Testing the peak application in the real world

Real world test track

Simulate Environment - Roads

Interaction of Range of Vehicles

Gov + Council + Bus

Integrate with Electric Vehicle Programs

Trucks Freight

Who is involved? And why?

Die support our local innovators and businesses, and getting better social & environmental outcomes for our people.

Name: ACT Government
Involvement: Regulation, Education/business, Infrastructure, City/planning

User groups - Aged, NDIS

Name: Involvement:

Both sides of Politics
Federal Government
Innovation + Agile

Name: Involvement:

Media + Exposure to Public

Name: Involvement:

Universities + CSIRO + other institutions

Name: Involvement:

automotive companies + tech companies

Pedal power

Name: Involvement:

People said ...

at first I was sceptical but autonomous cars are great

Carbena has become a hot bed of innovation

Name: Involvement:

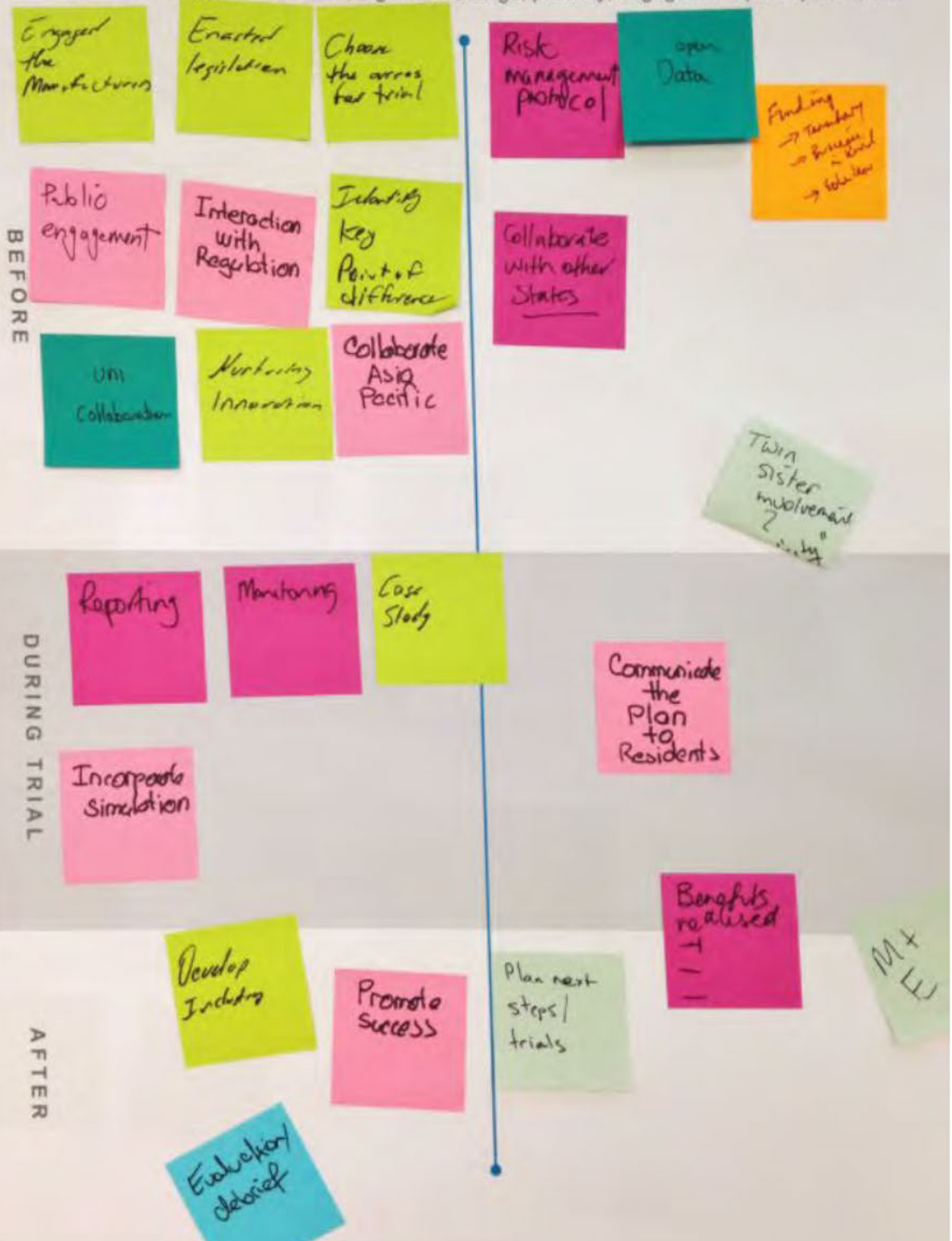
Timeline: how it worked

(E)

THINKPLACE

Make a timeline of all the actions required before, during and after your trial, including what needs to be done and who is involved.

Think about technology, infrastructure, regulation change, publicity, engagement, participation, etc.



Back casting

(E)

THINKPLACE

First feedback

Issues

- Deal with failure
- Limit the scope
- Site availability
- did the costs really come in?
- Attraction Key Stakeholders
- Industrial relations
- Manufacturer & Public participation

Improvements and solutions

- Able to mitigate control effects

The trial was a success because ...

- Exposed trial site issues and resolved them
- Strong communication program
- collaboration with UNIS
- set expectations
- LIMIT POLITICAL EXPOSURE + RISK
- GOVERNANCE STRUCTURE LIMITS GOV'T INPUT + EXPOSURE
- EXCELLENT Planning
- EXCELLENT Communication
- EXCELLENT CONTRACTS
- Business + Community Saw Benefits

The ACT government made these important things happen ... (e.g. regulation changes)

- Political leadership
- changed regulation
- zoning
- bipartisan

We avoided these problems ...

- Public Health
- Costs

Feedback

Please be brutally honest

THINKPLACE

Do you think your organisation would be involved in this?

Group A:

Yes Maybe No

Why? Smart impactful innovative
ambitious practical

Group B:

Yes Maybe No

Why? need pod cars not yet avail
I want to see action now

Group C:

Yes Maybe No

Why? I want to see path for
private industry to find customer
not enough emphasis on legistⁿ up front

Group D:

Yes Maybe No

Why? AVs for busses is a good
application but we should
create the environment for lots
of innovations like this rather
than picking a winner.

Group E:

Yes Maybe No

Why? focus on learning not exciting to
me - enable ~~about~~ new activities don't
plan these.

Extra comments:

Thank you for your participation today

Please be brutally honest

THINKPLACE

Do you think your organisation would be involved in this?

Group A:

Yes Maybe No

Why? A business approach as it's restricted

Group B:

Yes Maybe No

Why? Application development well sold

Group C:

Yes Maybe No

Why? a good news story.

Group D:

Yes Maybe No

Why? Action bus trial awesome idea - makes sense in many ways, what about operating in a suburb taking people to bus interchanges

Group E:

Yes Maybe No

Why? Didn't really know what they were talking about? Let these guys run the show.

Extra comments:

Please be brutally honest

THINKPLACE

Do you think your organisation would be involved in this?

Group A: 4

Yes

Maybe

No

Why?

Great Idea. do meet
needs of Mobility
impaired.

Group B: 2.

Yes

Maybe

No

Why?

Social Access & benefit

Group C: 1

Yes

Maybe

No

Why?

Mobility for life.

Group D: 3

Yes

Maybe

No

Why?

benefit & Confidence - 3 stage
Entry govt funded trial
mayhem.

Group E: 5

Yes

Maybe

No

Why?

Promote to Asia/Pacific
Mini studies within trial
Report / Measure / Communicate

Extra comments:

Thank you for your participation today

Please be brutally honest

Do you think your organisation would be involved in this?

Group A:

Yes

Maybe

No

Why?

Q
good idea. needs clearer scope.
Not sure about funding model?

Group B:

Yes

Maybe

No

Why?

Very broad - some good ideas, not a clear plan

Group C:

Yes

Maybe

No

Why?

My Group

Group D:

Yes

Maybe

No

Why?

Don't support free trial - sdg
Maybe start smaller first

Group E:

Yes

Maybe

No

Why?

last mile, for who, where? Linked to pt?

Extra comments:

Too broad for a first trial? liked different studies approach.

Please be brutally honest

THINKPLACE

Do you think your organisation would be involved in this?

Group A:

Yes Maybe No

Why?

Don't like the funding model - too risky - wasty and game.

Group B:

Yes Maybe No

Why?

Technology doesn't exist yet, first aimed at vehicle manufacturers who can provide the fleet.

Group C:

Yes Maybe No

Why?

Group D:

Yes Maybe No

Why?

My group :-)

Group E:

Yes Maybe No

Why?

Open-ended investment for all ACT businesses in the industry.

Extra comments:

Thank you for your participation today

Please be brutally honest

THINKPLACE

Do you think your organisation would be involved in this?

Group A:

Yes

Maybe

No

Why?

WELL PUNDED ; SOUNDS VIABLE

Group B:

Yes

Maybe

No

Why?

OBJECTIVE WASN'T VERY CLEAR

Group C:

Yes

Maybe

No

Why?

COULD BE FEASIBLE / VIABLE ; LINK W/
GROUP A'S PLAN

Group D:

Yes

Maybe

No

Why?

WILL BE VERY DIFFICULT TO IMPLEMENT DUE
TO UNION RESISTANCE. PROBABLY NOT MUCH
BENEFIT AS BURETS WILL STILL BE SUBJECT
TO THE USUAL CONGESTION

Group E:

Yes

Maybe

No

Why?

UNCLEAR METABOLGY

Extra comments:

Thank you for your participation today

Please be brutally honest

THINKPLACE

Do you think your organisation would be involved in this?

Group A:

Yes Maybe No

Why? SCALABLE FULLY THOUGHT
THROUGHT

Group B:

Yes Maybe No

Why? TOO LIMITED

Group C:

Yes Maybe No

Why? TOO LIMITED

Group D:

Yes Maybe No

Why? NOT CLEAR WHAT IS PROPOSED
ONLY ONE 3 JOURNALS SEEN
RESULTS SEEN

Group E:

Yes Maybe No

Why? DIFFICULT TO ATTEND
GROUPS

Extra comments:

Thank you for your participation today

Please be brutally honest

THINKPLACE

Do you think your organisation would be involved in this?

Group A: **Mobility for People who need it.**

Yes Maybe No

Why? **Very Small**

Group B: **Mobility for People (not wheelchairs)**

Yes Maybe No

Why? **Just requires legislation**

Group C: **Assistance in 12. vehicles**

Yes Maybe No

Why? **- Angerme / Govt.
- cost for govt**

Group D: **Action Buses**

Yes Maybe No

Why? **- Needs significant
Govt. funding
- or PPP**

Group E: **last mile**

Yes Maybe No

Why? **More info needed**

Extra comments:

Please be brutally honest

THINKPLACE

Do you think your organisation would be involved in this?

Group A:

Yes Maybe No

Why?

INCLUDED MOST
OTS + CHALLENGES.

Group B:

Yes Maybe No

Why?

GOOD REDUCTION
IN NEED FOR CARE!

Group C:

Yes Maybe No

Why?

REDUCED
HEALTH COSTS

Group D:

Yes Maybe No

Why?

MAKE PUBLIC
TRANSPORT EFFICIENT

Group E:

Yes Maybe No

Why?

GOOD TECH

Extra comments:

Thank you for your participation today

Please be brutally honest

THINKPLACE

Do you think your organisation would be involved in this?

Group A:

Yes

Maybe

No

Why?

TRANSPORT PLANNER
(RETIRED)

Group B:

Yes

Maybe

No

Why?

EMBRACE TECHNOLOGY

Group C:

Yes

Maybe

No

Why?

IMPROVED ACCESS /
MOBILITY.

Group D:

Yes

Maybe

No

Why?

MORE EFFICIENT AS A
PUBLIC TRANSPORT
FACILITY

Group E:

Yes

Maybe

No

Why?

NEW INDUSTRY FOR
CANBERRA

Extra comments:

Thank you for your participation today

Please be brutally honest

THINKPLACE

Do you think your organisation would be involved in this?

Group A:

Yes Maybe No

Why? Mobility to the disabled is a great opportunity for Drivless Vehicles - However
Legislation must be in place

Group B:

Yes Maybe No

Why? Similar to above

Group C:

Yes Maybe No

Why? Similar to above
Demonstrative effect for
acceptance of drivless vehicles
more broadly.

Group D:

Yes Maybe No

Why? Drivless Buses, could lose
more money than Actem!

Group E:

Yes Maybe No

Why? last mile - good linkage
to Canberra Metro!

Extra comments:

Good to see focus on Mobility for
all ie people with a disability, elderly
etc.

Thank you for your participation today

Please be brutally honest

THINKPLACE

Do you think your organisation would be involved in this?

Group A:

Yes Maybe No

Why? Innovative, adaptive, community involvement

Group B:

Yes Maybe No

Why? Too far in future. Lots of assumptions

Group C:

Yes Maybe No

Why? Well defined/ thought through. Wide range of benefits

Group D:

Yes Maybe No

Why? Cutting edge & well thought through, but union challenges

Group E:

Yes Maybe No

Why? Robust, active, economic connections.

Extra comments:

Thank you for your participation today

Please be brutally honest

THINKPLACE

Do you think your organisation would be involved in this?

Group A:

Yes Maybe No

Why?

(4) Mobility & those in need
FUNDING MODEL?

Group B:

Yes Maybe No

Why?

(2) NOT YET - LATER
STAGE TRIAL

Group C:

Yes Maybe No

Why?

(1) Mobil. & hys
CLEAR, DEFINED
SCOPE. CLEAR
SOCIAL/GOVT
BENEFIT.

Group D:

Yes Maybe No

Why?

PUBLIC BUJES
UNION PUSHBACK?
FUNDING?

Group E:

Yes Maybe No

Why?

INTERESTING
ANGLE
NEEDS A BIT
MORE DEFINITION

Extra comments:

Thank you for your participation today

Please be brutally honest

THINKPLACE

Do you think your organisation would be involved in this?

Group A:

Yes Maybe No

Why? Focused on mobility

Group B:

Yes Maybe No

Why? Focused again

Group C:

Yes Maybe No

Why? Health is an excellent opportunity

Group D:

Yes Maybe No

Why?

Group E:

Yes Maybe No

Why?

Extra comments:

Thank you for your participation today

Please be brutally honest

Do you think your organisation would be involved in this?

Group A:

Yes Maybe No

Why?
phased, community buy in
commercial, social.

Group B:

Yes Maybe No

Why?
lacks detail but level 4 is
a great strength.

Group C:

Yes Maybe No

Why?
- cost benefit upfront
- tight focus, post trial
plan, augments
a known need.
+ service.

Group D:

Yes Maybe No

Why?
creates efficiency in
existing system,
little market stimulus
environment

Group E:

Yes Maybe No

Why?
integration/last mile
strongest point.
too much study

Extra comments:

OPEN DATA great point.
like Brands funding ideas

Please be brutally honest

THINKPLACE

Do you think your organisation would be involved in this?

Group A:

Yes Maybe No

Why? Not sure about shares.

Group B:

Yes Maybe No

Why? Will hang it out. ^{needed}

Group C:

Yes Maybe No

Why? _____

Group D:

Yes Maybe No

Why? Proia b was accepted to
withhold

Group E:

Yes Maybe No

Why? _____

Extra comments:

Thank you for your participation today

Please be brutally honest

THINKPLACE

Do you think your organisation would be involved in this?

Group A:

4

Yes

Maybe

No

Why?

supportive - but
Doesn't fit business
specific drives

Group B:

Yes

Maybe

No

Why?

_____ " _____

Group C:

Yes

Maybe

No

Why?

_____ " _____

Group D:

Yes

Maybe

No

Why?

_____ " _____

Group E:

Yes

Maybe

No

Why?

organisation can
participate

Extra comments:

Thank you for your participation today

Please be brutally honest

THINKPLACE

Do you think your organisation would be involved in this?

Group A:

Yes

Maybe

No

Why?

Staged Solⁿ

Group B:

Yes

Maybe

No

Why?

Not enough detail
- too far off

Group C:

Yes

Maybe

No

Why?

Contained trial
- locally based

Group D:

Yes

Maybe

No

Why?

Immediate impact
& cost saving

Group E:

Yes

Maybe

No

Why?

Love 'last mile' trial

Extra comments:

Thank you for your participation today

Please be brutally honest



THINK PLACE

Do you think your organisation would be involved in this?

disability

Group A:

4 Define routes for people with

Yes

Maybe

No

Why?

Grant, video & commercial edge

Group B:

5 Similar to Sp 4, BUT fully autonomous vehicles

Yes

Maybe

No

Why?

well thought out / through

Group C:

~~4~~ C

Yes

Maybe

No

Why?

Support subject to Govt financial support

Group D:

3

Yes

Maybe

No

Why?

Responds to current great need, but need from Govt

Group E:

~~4~~

Yes

Maybe

No

Why?

Need a bit more clarity

Extra comments:

Please be brutally honest

THINKPLACE

Do you think your organisation would be involved in this?

Group A:

Yes Maybe No

Why? IMPROVED MOBILITY

Group B:

Yes Maybe No

Why? ? Trial Environment.
(Too Big)

Group C:

Yes Maybe No

Why? CONTAINED ENVIRONMENT

Group D:

Yes Maybe No

Why? High level of ~~govt~~
govt involvement.

Group E:

Yes Maybe No

Why? COMPREHENSIVE PLAN

Extra comments:

Thank you for your participation today

Please be brutally honest

THE WORKPLACE

Do you think your organisation would be involved in this?

Group A:

Yes

Maybe

No

Why?

ongoing.
benefit to members,
and community.

Group B:

Yes

Maybe

No

Why?

Can skating model
already there.

Group C:

Yes

Maybe

No

Why?

ongoing commitment.

Group D:

Yes

Maybe

No

Why?

Govt funded.

Group E:

Yes

Maybe

No

Why?

last mile benefits

Extra comments:

The Tech is available
bring it on

Thank you for your participation today

Please be brutally honest

THINKPLACE

Do you think your organisation would be involved in this?

Group A:

Yes

Maybe

No

Why?

↳ accessible to Community Services
• Social inclusion,

Group B:

Yes

Maybe

No

Why?

Social inclusion

Group C:

Yes

Maybe

No

Why?

I

Group D:

Yes

Maybe

No

Why?

Efficient PT, and inflexible

Group E:

Yes

Maybe

No

Why?

↳ It may help manage park
demand & congestion

Extra comments:

An integrator

It depends what is our goal?

If it is Social A or B, if it is
economic/environmental C, if it is

Thank you for your participation today

economic,
probably D.

ACT Govt Employees

Please be brutally honest

Do you think your organisation would be involved in this?

Group A: 4: Mobility

Yes Maybe No

Why? small targeted
But don't expandable
want rates notice \$

Group B:

Yes Maybe No

Why? Govt ZFP? not sure how this works.

Group C:

Yes Maybe No

Why? similar to group A. funding concerns

Group D:

Yes Maybe No

Why? bases not Govt funded. red rapid rates

Group E:

Yes Maybe No

Why? Not sure about how it would work what it would be.

Extra comments:

Please be brutally honest

THINKPLACE

Do you think your organisation would be involved in this?

Group A:

Yes Maybe No

Why? The idea is good, but could have been focused a little more.

Group B:

Yes Maybe No

Why? Relying on customer to engage rather than presenting it to them.

Group C:

Yes Maybe No

Why? Long term profitability not guaranteed

Group D:

Yes Maybe No

Why? Great idea

Group E:

Yes Maybe No

Why? Again, what as the trial, I must really sure.

Extra comments:

Thank you for your participation today

Please be brutally honest

THINKPLACE

Do you think your organisation would be involved in this?

Group A:

Yes

Maybe

No

Why?

BROAD BENEFITS
FUNDING EXPLAINED

Group B:

Yes

Maybe

No

Why?

EXPAND NEEDED ON TARGET

Group C:

Yes

Maybe

No

Why?

FOCUSED SOCIAL BENEFIT

Group D:

Yes

Maybe

No

Why?

ALLOW AT PT. BENEFITS
IN EFFICIENCY.

Group E:

Yes

Maybe

No

Why?

SCOPE A BIT BROAD

Extra comments:

Thank you for your participation today

Please be brutally honest

THINKPLACE

Do you think your organisation would be involved in this?

Group A: Mobility for People who 'need' it

Yes Maybe No

Why? Good Governance important for legislation drafting + Ethics

Group B: Fully Autonomous Vehicles - ^{Community acceptance to improve uptake}

Yes Maybe No

Why? Help with the Business Case + set up of the Governance processes

Group C: Community Transport - Mobility for life

Yes Maybe No

Why? Help with the Governance set-up + evaluation / review of the trial

Group D: Action Bus - Autonomous Bus Trials

Yes Maybe No

Why? This is one that could happen now!

Group E: Integrating + testing the 'last mile'

Yes Maybe No

Why? Needs a strong Vision + Clear focus on what the outcomes required are

Extra comments:

Governance is important across all areas, and good set up helps to reduce red tape as it gives Govt/Public confidence in the processes

Thank you for your participation today

Please be brutally honest

THINKPLACE

Do you think your organisation would be involved in this?

Group A:

Yes Maybe No

Why?

thought out / well planned
need funding model

Group B:

Yes Maybe No

Why?

a bit vague

Group C:

Yes Maybe No

Why?

small scope in
medical accessibility
(good)

Group D:

Yes Maybe No

Why?

Action bus needs
innovation

Group E:

Yes Maybe No

Why?

Extra comments:

Thank you for your participation today



THINKPLACE

Bridging vision and reality

ThinkPlace is a strategic design consultancy focused on helping organisations work out their direction, designing services that deliver on that direction and bringing about the organisational change to deliver those services

Summary

The Canberra Business Chamber and the ACT Government held an industry discussion forum on Autonomous Vehicles on 20 January 2016. The forum was sponsored by NRMA and around 40 people participated from various interested parties in the field. Participants took part in a rapid workshop to design the trial, that in their view, would advance this field for Canberra, pa catalyst. This co interpreted and u recommendation questions.

What level a trial of a

andrew mehrton
11/05/2016 4:45:48 PM

Can we add a list of the organisations that were represented on the day? Would provide a bit of context re: thinking behind the ideas. I would need to confirm final list with CBC, but I think we had ANCAP, ARRB Group, Arup, CBR Innovation Network, Engineers Australia Canberra Division, HLS Vehicle Customisation, iiNet, My Taggles Pty Ltd, NRMA, Seeing Machines, SMEC, Westpac.

The participants in the event were particularly positive about the idea of a trial, however it should be noted that they were self selected participants in the conversation. Participants were asked to honestly rate whether they believe their organisation would back the ideas that each group in the workshop designed. As an aggregate score, 48% said yes and 36.8% said maybe to ideas that were generated in the two hour workshop. It is likely that taking the core intent of these ideas and giving them more detail could convert more of the 'maybe' votes to 'yes'.

Feedback: general sentiment towards the ideas

andrew mehrton
11/05/2016 4:48:22 PM

Could this bit be clarified a bit more? That is, were 48% of the 200 or so votes (5 groups to vote on per 40 or so guests) 'yes' votes, or did 48% of guests vote yes to at least one proposal?

andrew mehrton
22/01/2016 10:23:18 AM

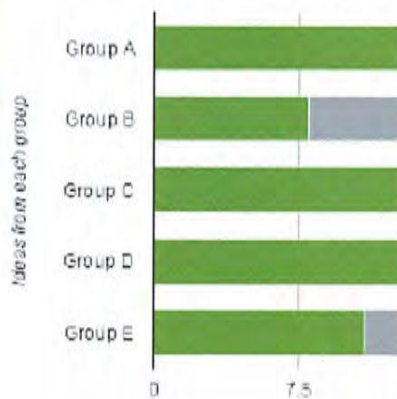
Is it possible to add page numbers, just to assist when we are discussing the document with the other stakeholders?



What might a trial look like?

Participants raised many opportunities and solutions to potential problems in the document. Overall, however, there was a focus for those who need it', focusing on solutions for people with a disability. The most common (Group C, 'Mobility for life'). It was exciting and enticed involvement. Involvement, has social benefits. Backers in terms of public profile and potential to directly affect the future.

Feedback: Would you use it?



andrew mehrton
22/01/2016 2:10:58 PM

Can we add a para or table that captures the common opportunities and challenges that were identified across the groups? From quick review I think the most common were...

Opportunities:

- Canberra is uniquely suited for a trial due to being a compact city/state, having a single level of government and high quality infrastructure.
- AVs could allow us to use our land and infrastructure much more efficiently/productively, including reducing congestion and eliminating or removing car parks from high value areas.
- Improve the quality of life for people with mobility issues (including the elderly and people with a disability).
- Reap the benefits of being an early adopter/first mover (including raising Canberra's profile and ability to attract investment and talent).
- Improve road safety

Challenges:

- The technology is not fully proven
- Could compete with public transport and/or active transport
- Community may not be accepting
- May lack the infrastructure required
- Implications for employment/industrial relations issues

Mixed issues:

- Cost and affordability
- Transitioning and implications for infrastructure and planning
- Implications for vehicular emissions
- Existing presence and/or ability to attract investment/funding and manufacturing/automotive partners.



Extra comments: *THE Tech is over/obscure*
BA

Thank you

andrew mehrton
11/05/2016 4:48:27 PM

Can we include somewhere on this page a name/title/descriptor of what each group's proposal was, so that we can tell quickly from looking at the chart what the level of interest in each concept was? e.g. the text above has Group A as 'mobility for those who need it', group B as 'mobility for life'. Could just include as a bullet list next to/above the chart?

Mobility for those who need it

Our trial is going to be around providing mobility for people who need it: aged care, disability, medication, people who don't have a licence.

It will take a phased approach – e.g. 3 vehicles initially, clear routes, one sector – e.g. partner with Goodwin group, go from a Goodwin aged facility to a medical centre using clearly designated vehicles. We need to create legislation up front and then change legislation as we learn. Create a framework and environment to operate in. Allow legislation for private use and open up market forces.

The trial should be visible and transparent. Get community involvement – could use government crowd funding by providing shares in a company via rates notice – 10-20 million dollars. Canberra can become the silicon valley for

The trial has to engage with a whole range of stakeholders, particularly other community stakeholders. They can have role in facilitating a community trial.

We need a marketing strategy – something that is noticeable in community. Focus on the next 5 years. Could run a social media campaign.

Local government can have a leadership role. Bottom line. Productive environment.

andrew mehrton

Could the first page for each of the groups include the number of yes/no/maybe votes?

Is there scope to include a couple of sentences on the main reactions to the concept based on the feedback forms? Wouldn't need to be full tabulation of comments, but just capture the common threads. Could be something simple, along the lines of "x/40 attendees indicated they would be interested in participating in this type of trial. Those interested in the proposal like the phased introduction and social applications, while those who unsure or not interested were mainly discouraged by the funding model".



Autonomous community service vehicles

A similar side and similar customer base, with a similar set-up to the previous group, but with fully autonomous vehicles. The technology has been proven. We'll use pod vehicles and use the trial to get community acceptance, engagement and usage as part of the norm.

We will target the section of the community where driving is something that people cannot do or don't want to do. People who can get themselves to the car e.g. impaired vision people. It is a growing market of people, so we will press a button on their phone building on that as well.

This can open up livelihood social value in the environment

We need legislation to allow This will drive down a lowe through this technology.

andrew mehrton


Per previous comment re: overview of main reactions or reasons given for/against participating, common threads seem to be:

For: liked the social application and practical benefits. ambitious and embraced the technology.

Against: the tech isn't quite ready and the project would be years into the future - we want something now.




Mobility for life

 **andrew mehrton**
22/01/2016 4:28:11 PM

Per previous comment re: overview of main reactions or reasons given for/against participating, common threads seem to be:

For: good social benefits and supports people with mobility issues. well thought through and a good contained trial.

Against: Very public service focused/likely to be reliant on government to run. Quite restricted/limited.



Mobility for life: community transport with e activities, shops etc. A trial over a few mor

We will target at people who can get in and organisations. We need a company interes

Give the message to the broader ACT com assistants and call centres to provide supp

There are many longer term economic ben governments can then use health facilities office hours, not paying drivers overtime.

Ultimately we want to create a good user e

We need a strong focus on safety and protocols. Communicate that this is being trialled in Canberra, time to start rolling out wider trials, with the community brought along and being part of the message.

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Driverless buses

Public

 **andrew mehrton**
22/01/2016 4:31:39 PM

Per previous comment re: overview of main reactions or reasons given for/against participating, common threads seem to be:

For: Strong support for the possibility of improving public transport. Would be a leap forward but also practical. Could start soon and reduce costs.

Against: Industrial relations issues and heavy government involvement and funding requirement. May be more difficult to secure technology/automotive partners.

We looked at a trial with ACTION buses, recognising that they are currently not-profitable, unreliable, and have poor user take-up, and the system could always be safer. So we looked at what we could do to improve it.

The trial would use stage 3 vehicles – the technology is available now. We would trial how that technology could benefit Canberra. This is not about beta testing technology. We would prove the technology works for Canberra.

We would start by supplementing red rapid services. They have routes with dedicated bus lanes and small numbers of drop off and pick up points, and regular schedules. It would be easy to supplement these routes. There is frequency and good use of those routes.

It would be a free trial for the public, to encourage people to get on the autonomous bus.


An entirely government funded program, understanding that action is already an entirely government funded program. It's a way for action to improve its bottom line.

Stage 1 would be a supplementary trial with 5-10 buses to the routes. Stage 3 would be door to door with smaller buses. With longer term capital costs coming from replacement of traditional buses through stage 2.

We will see a higher usage of public transport in ACT, with buses driven autonomously and on a loop. It delivers on a few government goals: sustainable transport, and 2025 zero emissions.



Testing the last mile

 **andrew mehrton**
22/01/2016 4:34:47 PM

Per previous comment re: overview of main reactions or reasons given for/against participating, common threads seem to be:

For: Lots of opportunities for industry and local businesses. Links with broader transport systems increase benefits. Would be new and leading.

Against: Lack of clarity/scope is very broad.

We want to trial the last mile: how things are integrated across multiple agencies – everyone else will be trialling the technology. Local government, federal government and universities to test the last mile – this is a Canberra strength.

We have different roads to test for different periods – peak periods – will involve bringing in high tech stimulation programs, bring in electric vehicles programs. Integrating at regulation level and testing last mile to see how people come together. With regulation, education and awareness, zoning and planning.

We'll have media to promote the CBR story. Engagement throughout the whole timeline.

We'll create mini studies within this trial – e.g. parliamentary triangle with fully autonomous pods. Main commuting lines with stag 3 or 4 autonomous vehicles.

We'll report on and measure everything, to use the data for research purposes. Government will have an open data policy, traffic information, commuter routes, this will combine with private sector algorithms and data sets.

We'll capture successful case studies. Bring the community along with us, and use everyone as a platform for success.



F.43

Kalleske, Sarah

From: House, Jeff
Sent: Friday, 22 January 2016 9:22 AM
To: Kate Lundy
Cc: Dawes, David
Subject: FW: Autonomous vehicles [SEC=UNCLASSIFIED]
Attachments: image001.jpg; image001.jpg

Hi Kate

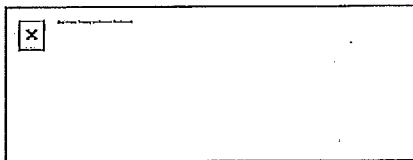
I've sent Gary an initial email and asked to meet. So once I've got a date, I'll let you know and we can go see him together.

Cheers
Jeff

From: Leigh, Kathy
Sent: Wednesday, 20 January 2016 11:01 PM
To: House, Jeff
Subject: Fwd: Autonomous vehicles [SEC=UNCLASSIFIED]

Over to you

Kathy Leigh
Head of Service and Director-General
Chief Minister, Treasury and Economic Development Directorate
Australian Capital Territory Government
Ph: [+61 2 6205 0246](tel:+61262050246)
Level 5 Canberra Nara Centre - GPO [Box 158 Canberra ACT 2601](mailto:Box158@act.gov.au)
www.act.gov.au



Begin forwarded message:

From: "Richards, Gary" <Gary.Richards@industry.gov.au>
Date: 20 January 2016 at 8:05:18 PM AEDT
To: "'Leigh, Kathy'" <Kathy.Leigh@act.gov.au>, "Beauchamp, Glenys" <Glenys.Beauchamp@industry.gov.au>
Subject: RE: Autonomous vehicles [SEC=UNCLASSIFIED]

I look forward to discussing. Pls see my contact details below.

Regards

Dr Gary Richards PhD PSM
Acting Australian Industry Participation Authority
&
General Manager
Advanced Technologies Branch
Sectoral Growth Policy Division

Department of Industry, Innovation and Science

Industry House Level 8
10 Binara Street, Canberra City ACT 2601
GPO Box 9839, Canberra ACT 2601 Australia

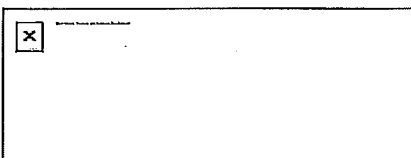
Email: gary.richards@industry.gov.au

Internet: <http://www.industry.gov.au/>
ABN 74 599 608 295

From: Leigh, Kathy [<mailto:Kathy.Leigh@act.gov.au>]
Sent: Wednesday, 20 January 2016 7:00 PM
To: Beauchamp, Glenys
Cc: Richards, Gary
Subject: RE: Autonomous vehicles [SEC=UNCLASSIFIED]

Glenys
Thanks
Kathy

Kathy Leigh
Head of Service and Director-General
Chief Minister, Treasury and Economic Development Directorate
Australian Capital Territory Government
Ph: +61 2 6205 0246
Level 5 Canberra Nara Centre - GPO Box 158 Canberra ACT 2601
www.act.gov.au



From: Beauchamp, Glenys [<mailto:Glenys.Beauchamp@industry.gov.au>]
Sent: Wednesday, 20 January 2016 6:59 PM
To: Leigh, Kathy
Cc: Richards, Gary
Subject: RE: Autonomous vehicles [SEC=UNCLASSIFIED]

Hi Kathy – Gary Richards here is the go to person working on this in the department. I have cc'd him in to this email for ease of contact, cheers, gb

Glenys Beauchamp
Secretary
Department of Industry, Innovation and Science
Ph: "

Email: glenys.beauchamp@industry.gov.au

From: Leigh, Kathy [<mailto:Kathy.Leigh@act.gov.au>]
Sent: Wednesday, 20 January 2016 2:49 PM

To: Beauchamp, Glenys
Subject: Autonomous vehicles

Glenys

You raised autonomous vehicles when we spoke this week.

I said that Glenn Keys the Chair of our Canberra Business Chamber was keen to pursue this issue.
(Indeed the CBC and ACT Government had a forum yesterday on this topic.)

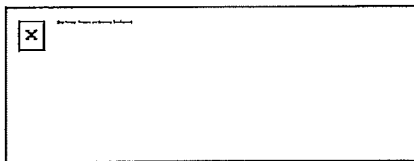
I saw Glenn this morning and mentioned our discussion. He was very interested.

Are you able to give me a contact in your Department that we could liaise with?

Thanks

Kathy

Kathy Leigh
Head of Service and Director-General
Chief Minister, Treasury and Economic Development Directorate
Australian Capital Territory Government
Ph: +61 2 6205 0246
Level 5 Canberra Nara Centre - GPO Box 158 Canberra ACT 2601
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Kalleske, Sarah

From: House, Jeff
Sent: Friday, 22 January 2016 10:45 AM
To: Richards, Gary
Cc: Kalleske, Sarah
Subject: RE: Autonomous vehicles [SEC=UNCLASSIFIED]

Here would be great thanks Gary. Sarah will send you details.

From: Richards, Gary [<mailto:Gary.Richards@industry.gov.au>]
Sent: Friday, 22 January 2016 10:08 AM
To: House, Jeff
Subject: RE: Autonomous vehicles [SEC=UNCLASSIFIED]

2.45 Wednesday is fine – I can come over to you if that suits – otherwise we are just over at Industry House.

Gary

From: House, Jeff [<mailto:Jeff.House@act.gov.au>]
Sent: Friday, 22 January 2016 9:58 AM
To: Richards, Gary
Subject: RE: Autonomous vehicles [SEC=UNCLASSIFIED]

That was 2.45 next Wednesday.

From: Richards, Gary [<mailto:Gary.Richards@industry.gov.au>]
Sent: Friday, 22 January 2016 9:54 AM
To: House, Jeff
Subject: RE: Autonomous vehicles [SEC=UNCLASSIFIED]

Hi Jeff.

Thanks for getting in touch and certainly happy to meet. Either next Wednesday or Friday afternoon would be best for me – let me know if either suits you.

Best

Gary

From: House, Jeff [<mailto:Jeff.House@act.gov.au>]
Sent: Friday, 22 January 2016 9:21 AM
To: Richards, Gary
Subject: Autonomous vehicles

Hi Gary

Following on from discussions between Kathy Leigh and Glenys Beauchamp regarding autonomous vehicles, your name was provided as the contact point to have a discussion about how the ACT can assist/participate in your efforts in this area.

Can I suggest a meeting so I can get a better understanding of what you're doing and how we might be able to assist?

Kind regards
Jeff

Jeff House
Deputy Director-General
Arts, Business, Events, Sport and Tourism
Phone 02 6207 5564 Email: jeff.house@act.gov.au
Chief Minister, Treasury and Economic Development Directorate ACT Government
Level 5, Nara Centre, 197-207 London Circuit, Canberra City ACT 2600

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From: Mehrton, Andrew
Sent: Wednesday, 27 January 2016 10:46 AM
To: 'Dean Seeley'
Subject: RE: AV Forum next steps
Attachments: ACT Autonomous Vehicle Forum Conversation Tracker v1.1.pdf

Hi Dean,

Attached is a copy of the current version of the conversation tracker from Thinkplace.

You might have seen on Monday that Alistair Coe has released some draft autonomous vehicle legislation ([available here](#)).

I'll be meeting with the legislation area on Monday to discuss that proposal, so perhaps we could regroup after then to discuss the best way to take it forward?

-Andrew

From: Dean Seeley [<mailto:dean.seeley@canberrabusiness.com>]
Sent: Wednesday, 27 January 2016 9:21 AM
To: Mehrton, Andrew
Subject: AV Forum next steps

Good morning Andrew,

I hope you had a great weekend and Australia Day!

Following the forum you had mentioned the next steps where CBC and ACT Gov would come together and assess the report from Thinkplace.

Could you advise of this process and estimated time frame so I can report back to Glenn, he is very keen to get things moving.

Many thanks

Dean Seeley
Director of Programs | Canberra Business Chamber
Gnd Floor | 216 Northbourne Ave | Braddon | ACT | AUSTRALIA | 2612
P: +61 2 6247 4199
dean.seeley@canberrabusiness.com
www.canberrabusiness.com



Join us for a presentation by **Prof Ian Harper**
& **Business after Business** networking event
From 4:00pm Thursday 11 February

BOOK NOW



f.46

Kalleske, Sarah

From: Kate Lundy
Sent: Wednesday, 27 January 2016 8:58 AM
To: House, Jeff
Subject: Re: Canceled: Jeff House/Gary Richards/Kate Lundy re Autonomous Vehicles (on arrival please phone x77279)

Follow Up Flag: Follow up
Flag Status: Completed

Categories: Jeff Action

On 27 Jan 2016, at 8:57 am, House, Jeff <Jeff.House@act.gov.au> wrote:

From: Kate Lundy [<mailto:>]
Sent: Wednesday, 27 January 2016 8:57 AM
To: House, Jeff
Subject: Re: Canceled: Jeff House/Gary Richards/Kate Lundy re Autonomous Vehicles (on arrival please phone x77279)

On 27 Jan 2016, at 8:48 am, House, Jeff <Jeff.House@act.gov.au> wrote:

Hi Kate

Sarah is off today but I should have some time at 3.30 today if that works?

J

From: Kate Lundy
Sent: Tuesday, 26 January 2016 6:36 PM
To: House, Jeff
Subject: Re: Canceled: Jeff House/Gary Richards/Kate Lundy re Autonomous Vehicles (on arrival please phone

Hi Sarah

I wasn't sure if this was the meeting you rang about.

Either way I am available at that time. Perhaps we can talk in the morning. I wanted to catch up with Jeff after 2.30/3 if possible tomorrow anyway.

Kate

Sent from my iPhone

On 25 Jan 2016, at 15:17, House, Jeff <Jeff.House@act.gov.au> wrote:

When: Wednesday, 27 January 2016 2:45 PM-3:15 PM (UTC+10:00)
Canberra, Melbourne, Sydney.
Where: Jeff's Office, Level 5 Nara Centre

Note: The GMT offset above does not reflect daylight saving time adjustments.

~~*~*~*~*~*~*~*~*

Gary as per my email. Jeff will be briefing new Minister's on Wednesday afternoon and then on leave until Friday 12 February. Can you send me a contact number so I can reschedule when Jeff returns from leave.

Regards
Sarah
EA to Jeff House

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<mime-attachment.ics>

A.47

Kalleske, Sarah

Subject: Canceled: Jeff House/Gary Richards/Kate Lundy re Autonomous Vehicles (on arrival please phone x77279)
Location: Jeff's Office, Level 5 Nara Centre
Start: Wed 27/01/2016 2:45 PM
End: Wed 27/01/2016 3:15 PM
Show Time As: Free
Recurrence: (none)
Meeting Status: Not yet responded
Organizer: House, Jeff
Required Attendees: 'gary.richards@industry.gov.au';
Importance: High

Gary as per my email. Jeff will be briefing new Minister's on Wednesday afternoon and then on leave until Friday 12 February. Can you send me a contact number so I can reschedule when Jeff returns from leave.

Regards
Sarah
EA to Jeff House

Kalleske, Sarah

From: Richards, Gary [Gary.Richards@industry.gov.au]
Sent: Friday, 29 January 2016 11:29 AM
To: Kalleske, Sarah
Subject: RE: Reschedule : Autonomous vehicles meeting with Jeff House [DLM=For-Official-Use-Only]

Hi Sarah - Friday morning would be best for me

Gary

Sent with Good (www.good.com)

-----Original Message-----

From: Kalleske, Sarah [Sarah.Kalleske@act.gov.au]
Sent: Friday, January 29, 2016 11:20 AM AUS Eastern Standard Time
To: Richards, Gary
Subject: Reschedule : Autonomous vehicles meeting with Jeff House

Good morning Gary

Apologies again for having to cancel the meeting you had with Jeff this week. I'm hoping to reschedule the week Jeff returns from leave.

Ca you let me know if any of the following times suit you?

Tues 16 Feb – anytime from 9am
 Wed 17 Feb – after 3pm
 Fri 19 Feb – anytime after 9am.

Kind regards
 Sarah

Sarah Kalleske
 Executive Assistant, Deputy Director-General, Jeff House
 Arts, Business, Events, Sport and Tourism
 Phone 02 6207 7279 Email: sarah.kalleske@act.gov.au
Chief Minister, Treasury and Economic Development Directorate ACT Government
 Level 5, Nara Centre, 1 Constitution Avenue, Canberra City ACT 2600

From: Kalleske, Sarah **On Behalf Of** House, Jeff
Sent: Monday, 25 January 2016 3:08 PM
To: 'Richards, Gary'
Subject: RE: Autonomous vehicles [SEC=UNCLASSIFIED]

Hi Gary

Unfortunately Jeff is going to busy on Wednesday afternoon briefing new Minister's after the Chief Minister announced some changes on Friday afternoon, so I need to reschedule the meeting you have with Jeff.

Can you give me your EA's name and phone number so I can reschedule? Jeff is going on leave on Wednesday afternoon and not back into the office until the week commencing 15 February.

Kind regards
Sarah

Sarah Kalleske
Executive Assistant, Deputy Director-General, Jeff House
Arts, Business, Events, Sport and Tourism
Phone 02 6207 7279 Email: sarah.kalleske@act.gov.au
Chief Minister, Treasury and Economic Development Directorate ACT Government
Level 5, Nara Centre, 1 Constitution Avenue, Canberra City ACT 2600

From: Richards, Gary [<mailto:Gary.Richards@industry.gov.au>]
Sent: Friday, 22 January 2016 10:08 AM
To: House, Jeff
Subject: RE: Autonomous vehicles [SEC=UNCLASSIFIED]

2.45 Wednesday is fine – I can come over to you if that suits – otherwise we are just over at Industry House.

Gary

From: House, Jeff [<mailto:Jeff.House@act.gov.au>]
Sent: Friday, 22 January 2016 9:58 AM
To: Richards, Gary
Subject: RE: Autonomous vehicles [SEC=UNCLASSIFIED]

That was 2.45 next Wednesday.

From: Richards, Gary [<mailto:Gary.Richards@industry.gov.au>]
Sent: Friday, 22 January 2016 9:54 AM
To: House, Jeff
Subject: RE: Autonomous vehicles [SEC=UNCLASSIFIED]

Hi Jeff.

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Best

Gary

From: House, Jeff [<mailto:Jeff.House@act.gov.au>]
Sent: Friday, 22 January 2016 9:21 AM
To: Richards, Gary
Subject: Autonomous vehicles

Hi Gary

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Can I suggest a meeting so I can get a better understanding of what you're doing and how we might be able to assist?

Kind regards
Jeff

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Arts, Business, Events, Sport and Tourism
Phone 02 6207 5564 Email: jeff.house@act.gov.au
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P.49

Kalleske, Sarah

From: Kate Lund
Sent: Friday, 29 January 2016 2:32 PM
To: House, Jeff
Subject: Re: Jeff House/Gary Richards/Kate Lundy re Autonomous Vehicles (on arrival please phone x77279)

Follow Up Flag: Follow up
Flag Status: Completed

Categories: EA to Action

Here are the dates I am either out of town or full: 1,2,4, 11, 12, 23, 24, 25 February
And the 19th
Cheers
Kate

On 29 Jan 2016, at 11:36 am, House, Jeff <Jeff.House@act.gov.au> wrote:

When: Friday, 19 February 2016 9:30 AM-10:30 AM (UTC+10:00) Canberra, Melbourne, Sydney.
Where: Jeff House's Office, Level 4, Nara Centre, 1 Constitution Avenue

Note: The GMT offset above does not reflect daylight saving time adjustments.

~~*~*~*~*~*~*~*~*

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<Mail Attachment.ics>

f. 50

Kalleske, Sarah

From: Kalleske, Sarah
Sent: Friday, 29 January 2016 5:27 PM
To: 'Richards, Gary'
Subject: RE: Reschedule : Autonomous vehicles meeting with Jeff House [DLM=For-Official-Use-Only]

Hi Gary

Sorry to be a pain. Kate Lundy needs to be involved in this meeting as well and she is interstate on 19 Feb. Are you free:

Mon 15 Feb – after 2pm
Fri 26 Feb – between 9am and 12.00pm

Kate is away from 22-25 Feb .

Thanks for your patience.

Sarah

Executive Assistant, Deputy Director-General, Jeff House
Arts, Business, Events, Sport and Tourism
Phone 02 6207 7279 Email: sarah.kalleske@act.gov.au
Chief Minister, Treasury and Economic Development Directorate ACT Government
Level 5, Nara Centre, 1 Constitution Avenue, Canberra City ACT 2600

From: Richards, Gary [mailto:Gary.Richards@industry.gov.au]
Sent: Friday, 29 January 2016 11:29 AM
To: Kalleske, Sarah
Subject: RE: Reschedule : Autonomous vehicles meeting with Jeff House [DLM=For-Official-Use-Only]

Hi Sarah - Friday morning would be best for me

Gary

Sent with Good (www.good.com)

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Sent: Friday, January 29, 2016 11:20 AM AUS Eastern Standard Time
To: Richards, Gary
Subject: Reschedule : Autonomous vehicles meeting with Jeff House

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Level 5, Nara Centre, 1 Constitution Avenue, Canberra City ACT 2600

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Sent: Monday, 25 January 2016 3:08 PM
To: 'Richards, Gary'
Subject: RE: Autonomous vehicles [SEC=UNCLASSIFIED]

Hi Gary

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Gary

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Sent: Friday, 22 January 2016 9:21 AM
To: Richards, Gary
Subject: Autonomous vehicles

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Modified:

Tue 05/04/2016 12:24 PM

2016-02-01 - meeting with JACS re: AV draft leg

data capture

can't override national safety requirements

engagement with insurers as nominal defendants/ctp participation/actia

government not liable

lane filtering trial - s13 reg

rattenbury - minister

no obligation to report - need to address

express power to end approval

doesn't expressly require insurance

don't publish addresses

vehicle standards - ADR exemptions - TAMS

reckless driver if trying now - leg only makes offence to do trial without permission

ability fees



ACT
Government

Chief Minister, Treasury and
Economic Development

Ms Glenys Beauchamp PSM
Secretary
Department of Industry, Innovation and Science
GPO Box 9839
CANBERRA ACT 2601

Glenys
Dear Ms Beauchamp

Autonomous Vehicle Testing in Canberra

The ACT Government, in partnership with local and global businesses, as well as industry bodies including the Australian Driverless Vehicle Initiative, Canberra Business Chamber and the NRMA, is currently investigating the potential for the ACT to host autonomous vehicle activities, including the development and trialling of technologies.

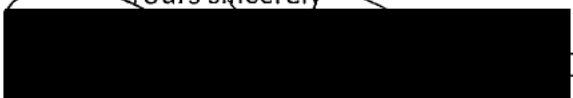
At our recent industry workshop attended by organisations including Arup Consulting, ANCAP, iiNet, SMEC, Seeing Machines and Westpac, stakeholders showed strong interest in a trial of autonomous vehicles in the ACT.

Canberra was identified as an ideal location for autonomous vehicle activities for reasons including: our clearly defined and high quality transport infrastructure; mix of urban, suburban and rural environments; high levels of technological familiarity and utilisation; single level of government with a strong track record of innovation; and the presence of innovative industries and national research institutions.

Given your Department's interest in both the automotive industry and advancing innovation in Australia, I would like to discuss the possibility of DIIS joining us in this work and contributing funding to enable what would be a project of national significance.

Should you wish to discuss this opportunity further, the relevant contact officer in my Directorate is Louise Gilding, who can be contacted on 02 6205 0740 or louise.gilding@act.gov.au. I look forward to your reply.

Yours sincerely



David Dawes
Director-General
Economic Development

27 February 2016

A. 55

From: Mehrton, Andrew
Sent: Tuesday, 2 February 2016 3:27 PM
To: 'Dean Seeley'
Subject: Accepted: Autonomous Vehicle Post Forum Meeting

A. 56

From: Abel, Andrew
Sent: Wednesday, 3 February 2016 8:32 AM
To: Dean Seeley
Subject: Accepted: Autonomous Vehicle Post Forum Meeting

From: Mehrton, Andrew
Sent: Friday, 5 February 2016 1:04 PM
To: 'ron.collins@mynrma.com.au'
Subject: ACT autonomous vehicle legislation

Hi Ron,

Good to see you today. As discussed, the draft legislation regarding AVs in the ACT that Alistair Coe released is [available here](#).

Regards.
-Andrew

Andrew Mehrton | Deputy Director, Economic Development Policy | Chief Minister, Treasury and Economic Development Directorate | ACT Government
andrew.mehrton@act.gov.au | ph: (02) 6205 8507 | fax: (02) 6213 0748
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SUBJECT: **AUTONOMOUS VEHICLES**

ISSUE: Autonomous vehicles trials and supporting legislation

KEY MESSAGES:

- The automation of some or all aspects of vehicle control can provide significant benefits across a range of areas such as increased road safety, less congestion, more efficient infrastructure and social inclusion for people with mobility issues.
 - Various kinds of driver assistance technology are already present in modern cars, with some manufacturers stating that full automation is achievable within 5-25 years depending on public acceptance and legislation.
 - The ACT Government is exploring the opportunities and possibilities for driverless vehicles with local stakeholders and through national partnerships.
-

BACKGROUND INFORMATION

- On 19 January 2016 the ACT Government in partnership with the Canberra Business Chamber and the NRMA hosted a workshop to discuss industry views on autonomous vehicles in the ACT environment. At this session there was strong support for a trial of autonomous vehicles in the ACT due to our: clearly defined high quality road network and high levels of technology utilisation.
- The ACT autonomous vehicle workshop was well attended with approximately 40 industry and Government representatives including: Kate Lundy, Director NRMA; Robyn Hendry and Glenn Keys of the CBC. The event received positive media coverage from WIN News as well as the Canberra Times, including interviews with Glenn Keys and Kate Lundy suggesting Canberra could be a possible test site.
- There was strong interest amongst the group regarding possibilities to use this technology in a real world application to improve transport and social inclusion for people who have mobility issues, including the elderly.
- If implemented, we understand that the ACT would be the first jurisdiction in the Asia Pacific to explicitly legislate for use of autonomous vehicles in real world conditions. (South Australia ran a high controlled trial on closed roads in November 2015). This would also contribute to Canberra's reputation as an innovative, smart, liveable city.
- There is work underway at a national level to support the introduction of driverless vehicle technology through the Australian Driverless Vehicle Initiative, which a number of Canberra businesses are already a part of.
- Austroads is also currently conducting a project to recommend to all Australian road traffic agencies, a nationally coordinated approach to the implementation and adoption of autonomous vehicles.

- On 25 January 2016, the Shadow Minister for Transport, Alistair Coe, put forward draft exposure draft legislation for the testing of autonomous vehicles.
- The Government will consider legislative and policy options for autonomous vehicles operating in the ACT in consultation with local and national stakeholders.

From: Mehrton, Andrew
Sent: Monday, 8 February 2016 3:16 PM
To: 'Dean Seeley'; 'glenn.keys@canberrabusiness.com';
'robyn.hendry@canberrabusiness.com'; 'Kate Lundy'; 'ron.collins@mynrma.com.au';
'Frances.Shannon'; 'John Metcalfe'
Cc: Gilding, Louise; Abel, Andrew
Subject: Autonomous vehicle news: NTC consultation
Importance: Low

Hi all,

As discussed at our last meeting, I'm just passing on some relevant news re: AVs.

Today that the National Transport Commission has released a discussion paper looking at the regulatory barriers to automated vehicles. Some more information and a link to the paper follows.

-Andrew

The National Transport Commission (NTC) is pleased to publish today the issues paper – **Regulatory barriers to more automated road and rail vehicles**.

The issues paper can be accessed on the NTC website at: <http://www.ntc.gov.au/current-projects/preparing-for-more-automated-road-and-rail-vehicles/>

The purpose of this paper is to review regulations in Australia to identify any regulatory barriers associated with the introduction of more automated road and rail vehicles. This paper provides an overview of current rules, identifies issues and potential solutions and scopes the parameters of the project. Key issues for road vehicles relate to:

- clarity over control of the vehicle and compliance with traffic laws
- vehicle standards and safety assurance
- liability and responsibility for the actions of an automated vehicle; and
- data access and privacy protection – including access for enforcement purposes.

We welcome your feedback on the issues. The consultation period closes **Tuesday, 8 March 2016**.

<http://www.ntc.gov.au/current-projects/preparing-for-more-automated-road-and-rail-vehicles/>

Andrew Mehrton | Deputy Director, Economic Development Policy | Chief Minister, Treasury and Economic Development
Directorate | ACT Government
andrew.mehrton@act.gov.au | ph: (02) 6205 8507 | fax: (02) 6213 0748
Please consider the environment before printing this email

F.61

~~MINUTES~~

From: Dean Seeley [dean.seeley@canberrabusiness.com]
Sent: Tuesday, 9 February 2016 11:48 AM
To: Glenn Keys; Robyn Hendry; Ron Collins; Mehrton, Andrew;
Gilding, Louise; Abel, Andrew;
john.metcalfe@arrb.com.au
Cc: Anna Damiano
Subject: AV Working Group - Meeting Minutes
Attachments: MINUTES Autonomous Vehicle Post Forum Mtg 05022016.docx; ACT Autonomous
Vehicle Forum Conversation Tracker v1.1.pdf
Categories: Attachment Scheduled (FOI)

Good morning all,

Please find attached the minutes from last week's Autonomous Vehicle post forum meeting. I have also attached the forum report for your reference.

Please let me know of any changes or points missed.

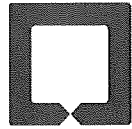
cheers

Dean Seeley

Director of Programs | **Canberra Business Chamber**
Gnd Floor | 216 Northbourne Ave | Braddon | ACT 2612
PO Box 6308 | O'Connor | ACT 2602

| F: 02 6257 4421

Dean.seeley@canberrabusiness.com | www.canberrabusiness.com



**Canberra
Business
Chamber**

AUTONOMOUS VEHICLE POST FORUM MEETING

Friday 5 February 2016

MINUTES

In attendance:

Kate Lundy – Director NRMA

Frances Shannon – Deputy Vice Chancellor Research UC

John Metcalfe – Australian Driverless Vehicle Initiative, ARRB

Andrew Mehrton – Deputy Director, Economic Development Policy, ACT Government

Ron Collins – ACT Corporate Affairs and Regional Policy Specialist, NRMA

Louise Gilding – ACT Government

Andrew Abel – ACT Government

Robyn Hendry – CEO Canberra Business Chamber

Glenn Keys – Chair, Canberra Business Chamber (by phone)

Dean Seeley – Director of Programs, Canberra Business Chamber

Minutes: Anna Damiano, Canberra Business Chamber

Welcome and Opening remarks:

- Robyn Hendry welcomed everyone to the meeting and thanked those who participated in the Autonomous Vehicle Forum. Thanks were added to NRMA

for their sponsorship of the Forum and to the ACT Government for their interest and support.

- A special welcome was given to Frances Shannon from the University of Canberra who had been unable to attend the Forum.
- Glenn Keys joined the meeting by phone and apologised for not being able to be present in person. He also added his thanks to everyone for their attendance at the meeting and their support of the project.
- Robyn Hendry concluded by saying that the success of the Canberra Business Chamber Forum would be measured by a regulatory trial by the end of 2016.

Forum Report:

- Andrew Mehrton spoke to the Forum Report tabled at the meeting.
- He highlighted that responses in the loading exercises at the end of the report were new and that the exercises provided a good insight and would be very useful in identifying key challenges.
- He spoke of the social applications of the trial, funding models and balancing ambitions against tangible achievements.

Discussion:

- Robyn Hendry invited Frances Shannon from UC to speak about her involvement in the meeting.
-

Discussion then centred on the questions raised in the agenda relating to trial options and what should be explored further, legislation and industry partners noting the following:

-
- GK - Federal Government very interested in the project and what the CBC is doing in getting a trial in the ACT. There would be no funding available but they would strongly support the project and this presented a real opportunity to engage with the Federal Government.
- KL - Interest has also come from Department of Prime Minister and Cabinet. Kate Lundy trying to keep federal agencies briefed about the initiative and building momentum. Has encouraged ACT Government to write to the relevant Federal Department to seek funding.
- LG- spoke about the Exposure Draft Bill sponsored by Alistair Coe. No testing of community expectations to date; uncertainty in the community on what it

means and would involve a huge education component in helping get a trial off the ground; would need to know what the trial looks like. The ACT Govt is still considering policy options; would need an exemption clause, what is it that industry wants to do and who is the commercial player?

-
- KL – Need commercial partner to fund trial as this is the least developed component of the project at this stage. NRMA can play a role in facilitating community consultations as they have experience in this area.
- RH – aspirations need to be identified. Glenn Keys added the need to look at different trials and try to capture the attention of Volvo, Nissan, Audi etc.
- The question was raised as to whether we know what these companies are doing? RC explained that there's already a lot of research, funding and trials happening all over the world so this was not about proving the technology. The jurisdiction needs to be available for the trial to take place. Will be very expensive to bring in the vehicles.
- JM – Current core partners could be presented with trial suggestions and John would be happy to pursue this. ACT could link in with what is already happening in Adelaide. Important for this initiative to be coordinated at a national level.
- GK – Adelaide trial has strict parameters; important for us to combine all our efforts and leverage off the work already being done
- RC – could give manufacturers the opportunity to test their vehicles in the ACT.
- LG – The Coe Bill does this and offers the opportunity for collaboration. Need to understand how that Bill can be extended further.
- KL – Best incentive for a partner is open access to a jurisdiction. Need for a bi-partisan approach and to go directly to the Chief Minister to take up at the Federal level.
- FS – There needs to be a two pronged approach – not one or the other
- Legal implications of who is ultimately responsible for the vehicle need to be identified and incorporated into the legislation.
- GK – explained that the licenses granted in California came with certain restrictions ie the driver needed to be able to take control of the vehicle. South Australia is taking a similar approach.
- LG – Approach could be to take draft legislation to a potential commercial partner and based on their feedback, take that back to the government.

ACTIONS:

Four key actions were identified from the discussion:

1. Analysis on what is being done elsewhere – John Metcalfe agreed to take on this action
2. Legislation pathway and the Coe Bill – Kate Lundy agreed to work with the ACT Government (Andrew & Louise) on legislation
3. Commercial opportunity to potential partners – CBC Glenn, Robyn & Dean

From: Mehrton, Andrew
Sent: Wednesday, 10 February 2016 2:23 PM
To: 'Dean Seeley'
Subject: RE: AV Working group - FYI

Thanks, Dean.

If the Chamber puts out a media release about the Coe bill would you be able to send me a copy?

Cheers

From: Dean Seeley [<mailto:dean.seeley@canberrabusiness.com>]
Sent: Wednesday, 10 February 2016 1:20 PM
To: Glenn Keys <glenn.keys@canberrabusiness.com>; Robyn Hendry <robyn.hendry@canberrabusiness.com>;
kate.a.lundy@gmail.com; Gilding, Louise <Louise.Gilding@act.gov.au>; Mehrton, Andrew
 <Andrew.Mehrton@act.gov.au>; Abel, Andrew <Andrew.Abel@act.gov.au>;
john.metcalfe@arrb.com.au; Ron Collins <Ron.Collins@mynrma.com.au>
Cc: Anna Damiano <anna.damiano@canberrabusiness.com>
Subject: AV Working group - FYI

Hi All,

A couple of FYI's

From Andrew M

Attached is the copy of draft bill that Alistair Coe released a few weeks ago. It is possible that the version he presents today may have changed slightly compared to this draft.

The bill would amend the *Road Transport (Safety and Traffic Management) Act 1999* to allow the trial of autonomous vehicles in the ACT.

The bill would allow a person to apply to the Minister for Road Safety for approval to conduct an autonomous vehicle trial. The Minister would be able to refuse or approve the application subject to any conditions or guidelines that would be applied (including public liability insurance and safety considerations).

The bill would require as a condition of any approval, that a licensed driver is in the driver's seat and capable of taking manual control of the vehicle at all times, including an ability to disengage any autonomous systems. Approved trials would also need to be publically notified.

New offences also established for failing to comply with any conditions that would be set on the trial and for persons that interfere with the trial or vehicle.

The bill also stipulates that the government must take reasonable steps to maintain confidentiality regarding any commercially sensitive information.

From Ron C

<http://citynews.com.au/2016/all-sides-of-politics-now-pushing-for-driverless-cars/#pq=3WhkpR>

Continue to email any news, articles or relevant information direct to me and I will distribute to the group.

cheers

Dean Seeley

Director of Programs | **Canberra Business Chamber**
 Gnd Floor | 216 Northbourne Ave | Braddon | ACT 2612
 PO Box 6308 | O'Connor | ACT 2602

| F: 02 6257 4421

Dean.seeley@canberrabusiness.com | www.canberrabusiness.com

From: Mehrton, Andrew
Sent: Wednesday, 10 February 2016 9:40 AM
To: 'robyn.hendry@canberrabusiness.com'
Cc: Gilding, Louise; 'Dean Seeley'
Subject: Coe autonomous vehicle bil
Attachments: Coe-Autonomous-Vehicle-Draft-Legislation.pdf

Categories: Attachment Scheduled (FOI)

Hi Robyn,

Attached is the copy of draft bill that Alistair Coe released a few weeks ago. It is possible that the version he presents today may have changed slightly compared to this draft.

The bill would amend the *Road Transport (Safety and Traffic Management) Act 1999* to allow the trial of autonomous vehicles in the ACT.

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New offences also established for failing to comply with any conditions that would be set on the trial and for persons that interfere with the trial or vehicle.

The bill also stipulates that the government must take reasonable steps to maintain confidentiality regarding any commercially sensitive information.

Let me know if there is more info required.

Regards.
-Andrew

Andrew Mehrton | Deputy Director, Economic Development Policy | Chief Minister, Treasury and Economic Development Directorate | ACT Government
andrew.mehrton@act.gov.au | ph: (02) 6205 8507 | fax: (02) 6213 0748
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EXPOSURE DRAFT

Mr Alistair Coe

(Prepared by Parliamentary Counsel's Office)

Road Transport (Safety and Traffic Management) (Autonomous Vehicle Trials) Amendment Bill 2016

A Bill for

An Act to amend the *Road Transport (Safety and Traffic Management) Act 1999*, and for other purposes

The Legislative Assembly for the Australian Capital Territory enacts as follows:

1 Name of Act

This Act is the *Road Transport (Safety and Traffic Management) (Autonomous Vehicle Trials) Amendment Act 2016*.

2 Commencement

This Act commences on the day after its notification day.

Note The naming and commencement provisions automatically commence on the notification day (see Legislation Act, s 75 (1)).

3 Legislation amended

This Act amends the *Road Transport (Safety and Traffic Management) Act 1999*.

Note This Act also amends the *Road Transport (General) Regulation 2000* (see s 7).

**4 Offences against Act—application of Criminal Code etc
Section 5AA, note 1**

insert

- section 32G (Offence—trial without approval)
- section 32H (Offence—contravene condition)
- section 32I (Offences—hinder approved trial or interfere with equipment)
- section 32J (Offences—fail to keep or supply data)

5 New part 7A

insert

Part 7A Autonomous vehicle trials

32A Definitions—pt 7A

(1) In this part:

approved trial, of an autonomous vehicle, means a trial approved under section 32C (1).

autonomous system, for a motor vehicle, means a system that enables the operation of the motor vehicle without the active physical control of, or monitoring by, a human operator.

autonomous vehicle means a motor vehicle equipped with an autonomous system.

participate, in an autonomous vehicle trial, means—

- (a) undertake the trial; or
- (b) operate an autonomous vehicle in the trial.

(2) For subsection (1), definition of *autonomous vehicle*—a motor vehicle is not equipped with an autonomous system only because it has a system for collision avoidance, electronic blind spot assistance, automated emergency braking, park assist, adaptive cruise control, lane keep assist, lane departure warning or any other similar system that enhances safety or assists drivers.

32B Application—approval to trial autonomous vehicle

- (1) A person may apply, in writing, to the Minister for approval to trial an autonomous vehicle.

Note 1 If a form is approved under the *Road Transport (General) Act 1999*, s 225 for the application, the form must be used.

Note 2 A fee may be determined under the *Road Transport (General) Act 1999*, s 96 for the application.

- (2) The Minister may, in writing, require the applicant to give the Minister additional information or documents that the Minister reasonably needs to decide the application.
- (3) If the applicant does not comply with the requirement, the Minister may refuse to consider the application.

32C Decision—approval to trial autonomous vehicle

- (1) On application for approval to trial an autonomous vehicle the Minister may—
- (a) approve the trial; or
 - (b) refuse to approve the trial.
- (2) The Minister must not approve the trial unless satisfied on reasonable grounds that the applicant is able to comply with—
- (a) any condition of approval about public liability insurance; and
 - (b) any condition of approval about safety standards for the autonomous vehicle; and
 - (c) any other condition of approval; and
 - (d) any guidelines made under section 32F (1).

- (3) Subsection (2) does not limit the matters that the Minister may consider in deciding whether to approve the trial.

32D Form of approval

- (1) An approval to trial an autonomous vehicle must state the following:
- (a) the full name and address of the person approved to undertake the trial;
 - (b) the full name and address of each person who may operate the autonomous vehicle in the trial;
 - (c) the place where the trial is approved to take place;
 - (d) the period during which the trial is approved to take place;
 - (e) the conditions of approval;
 - (f) anything else required by regulation.

Note The power to make the instrument of approval includes the power to amend or repeal the instrument (see Legislation Act, s 46).

- (2) An approval is a notifiable instrument.

Note A notifiable instrument must be notified under the Legislation Act.

- (3) The Minister must give additional public notice of the approval.

Note **Public notice** means notice on an ACT government website or in a daily newspaper circulating in the ACT (see Legislation Act, dict, pt 1). The requirement in s (3) is in addition to the requirement for notification on the legislation register as a notifiable instrument.

32E Conditions—approved trial

- (1) It is a condition of approval of an autonomous vehicle trial that—
 - (a) the operator of the vehicle holds a current licence to drive the vehicle and is capable of taking immediate manual control of the vehicle if there is a failure of the autonomous system or other emergency; and
 - (b) the operator of the vehicle is in the driver's seat of the vehicle during the trial; and
 - (c) the vehicle has a mechanism to engage and disengage the autonomous system that is easily accessible to the operator; and
 - (d) the vehicle has a visual indicator inside the vehicle to indicate when the autonomous system is engaged and when the autonomous system is disengaged; and
 - (e) the vehicle has a failure alert system that—
 - (i) tells the operator when a system failure is detected; and
 - (ii) allows the operator to take immediate manual control of the vehicle (including use of brake, accelerator and steering wheel) when a failure of the autonomous system or other emergency is detected; and
 - (iii) stops the vehicle if the operator does not or cannot take immediate manual control of the autonomous vehicle when a failure of the autonomous system or other emergency is detected; and
 - (f) the vehicle can capture and store sensor data from the vehicle for at least 20 seconds before a collision can happen; and

(g) the trial complies with any guidelines made under section 32F (1).

(2) An approval is also subject to any condition stated in the approval.

Examples—conditions

- 1 level of public liability insurance
- 2 safety standards for the vehicle
- 3 keeping records
- 4 inspection
- 5 road or weather conditions for trial

Note An example is part of the Act, is not exhaustive and may extend, but does not limit, the meaning of the provision in which it appears (see Legislation Act, s 126 and s 132).

32F Minister may make guidelines etc

- (1) The Minister may make guidelines in relation to the operation of this part.
- (2) The Minister must determine the period for which sensor data captured from an autonomous vehicle must be kept.
- (3) A guideline or determination is a notifiable instrument.

Note A notifiable instrument must be notified under the Legislation Act.

32G Offence—trial without approval

A person commits an offence if—

- (a) the person participates in an autonomous vehicle trial at a place; and
- (b) there is no approval in force for the trial of the vehicle at the place.

Maximum penalty: 20 penalty units.

32H Offence—contravene condition

- (1) A person commits an offence if the person—
- (a) participates in an approved trial of an autonomous vehicle; and
 - (b) fails to comply with a condition of the approval.

Maximum penalty: 20 penalty units.

- (2) A person commits an offence if—
- (a) the person participates in an approved trial of an autonomous vehicle; and
 - (b) a declaration is in force in relation to the trial under the *Road Transport (General) Act 1999*, section 13 excluding the person or the vehicle from the road transport legislation or a provision of the road transport legislation; and
 - (c) the person fails to comply with a condition of the declaration.

Maximum penalty: 20 penalty units.

32I Offences—hinder approved trial or interfere with equipment

A person commits an offence if the person, without reasonable excuse—

- (a) hinders or obstructs an approved trial of an autonomous vehicle; or

- (b) interferes with any equipment or device relating to an approved trial.

Maximum penalty: 20 penalty units.

Example—par (b)

interfering with an electronic signal being sent to, or from, the equipment or device

Note An example is part of the Act, is not exhaustive and may extend, but does not limit, the meaning of the provision in which it appears (see Legislation Act, s 126 and s 132).

32J Offences—fail to keep or supply data

- (1) A person commits an offence if the person—
 - (a) undertakes an approved trial of an autonomous vehicle; and
 - (b) fails to keep sensor data captured from the vehicle for the time determined by the Minister under section 32F (2).

Maximum penalty: 20 penalty units.

- (2) A person commits an offence if—
 - (a) the person trials an autonomous vehicle in an approved trial; and
 - (b) during or in relation to the trial a collision involving the autonomous vehicle happens; and
 - (c) the person fails to give the Minister sensor data captured from the vehicle within 10 days of the collision.

Maximum penalty: 20 penalty units.

32K Confidentiality

Without limiting section 32D (1), the Minister must (unless the Minister considers it inappropriate to do so) take reasonable steps to prevent the following information being published or otherwise made public under this part:

- (a) information that is commercially sensitive in nature;
- (b) information that an applicant for approval for the trial of an autonomous vehicle, or a person connected with an approved trial, has asked to be kept confidential.

32L Review—pt 7A

- (1) The Minister must review the operation of this part and present a report of the review to the Legislative Assembly within 2 years after this part commences.
- (2) The review must consider any legislative change or regulatory action required for the trialling and safe operation of autonomous vehicles.

6 Dictionary, new definitions

insert

approved trial, of an autonomous vehicle, for part 7A—see section 32A.

autonomous system, for a motor vehicle, for part 7A—see section 32A.

autonomous vehicle, for part 7A—see section 32A.

participate, in an autonomous vehicle trial, for part 7A—see section 32A.

**7 Road Transport (General) Regulation 2000
Schedule 2, new part 2.1A**

before part 2.1, insert

**Part 2.1A Road Transport (Safety and
Traffic Management) Act 1999**

column 1 item	column 2 provision	column 3 decision
1	32C (1) (b)	Minister—refuse to approve trial
2	32E (2)	Minister—place condition on approval

Endnotes

- 1 Presentation speech**
Presentation speech made in the Legislative Assembly on 2016.
- 2 Notification**
Notified under the Legislation Act on 2016.
- 3 Republications of amended laws**
For the latest republication of amended laws, see www.legislation.act.gov.au.

A. 67

From: Dean Seeley [dean.seeley@canberrabusiness.com]
Sent: Wednesday, 10 February 2016 2:36 PM
To: Glenn Kevs; Robvn Hendrv
john.metcalfe@arrb.com.au; Mehrton, Andrew;
Abel, Andrew; Gilding, Louise; Ron Collins
Cc: Anna Damiano
Subject: FW: Media Release: SPEEDY AUTONOMOUS VEHICLES LEGISLATION WELCOMED

FYI

Dean Seeley

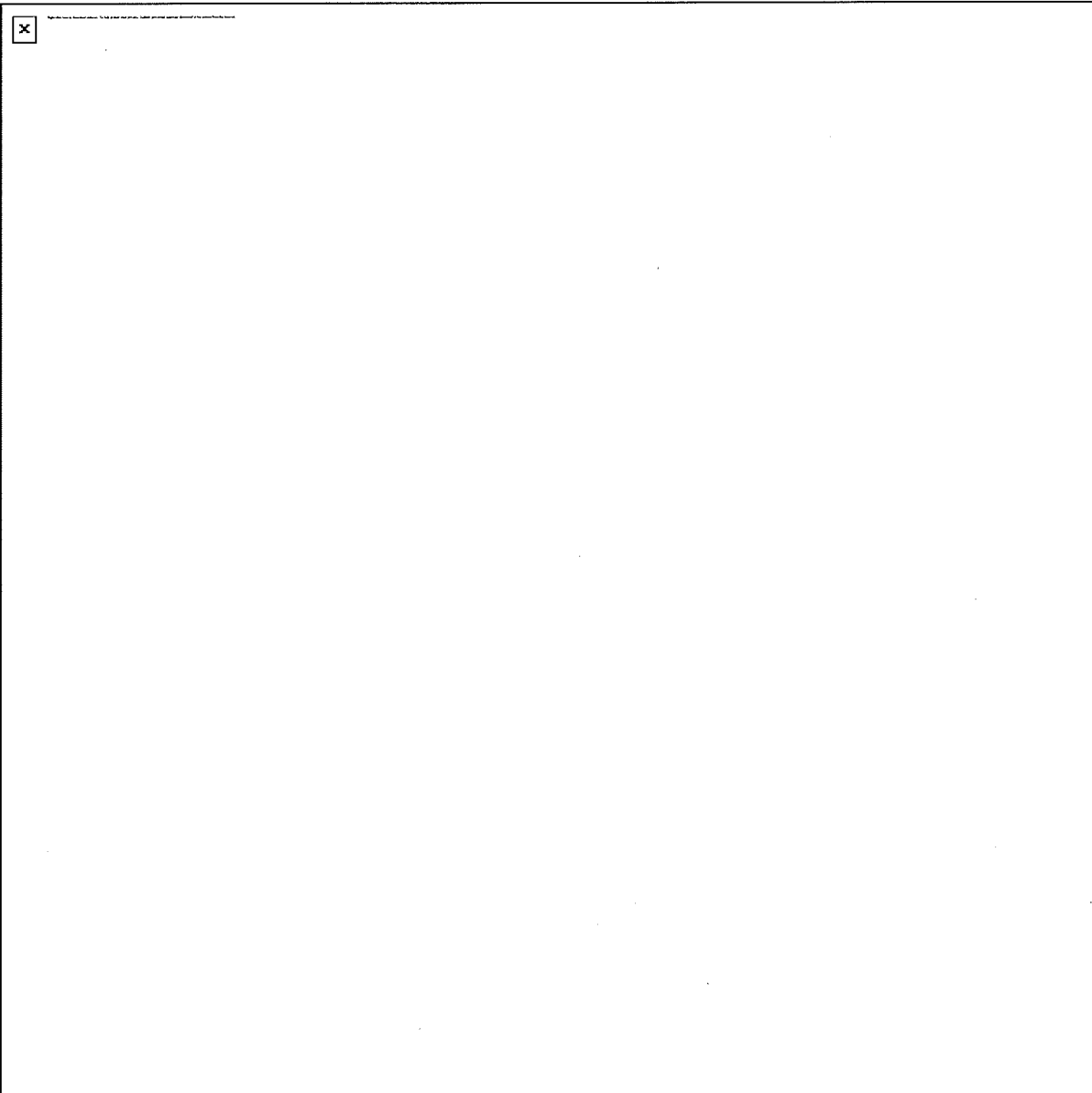
Director of Programs | **Canberra Business Chamber**
Gnd Floor | 216 Northbourne Ave | Braddon | ACT 2612
PO Box 6308 | O'Connor | ACT 2602

T: 02 6247 41 | F: 02 6257 4421
Dean.seeley@canberrabusiness.com | www.canberrabusiness.com

From: Canberra Business Chamber [mailto:info=canberrabusiness.com@mail43.atl111.rsgsv.net] **On Behalf Of**
Canberra Business Chamber
Sent: Wednesday, 10 February 2016 2:29 PM
To: Dean Seeley <dean.seeley@canberrabusiness.com>
Subject: Media Release: SPEEDY AUTONOMOUS VEHICLES LEGISLATION WELCOMED

MEDIA RELEASE: Speedy autonomous vehicles legislation welcomed

[View this email in your browser](#)



MEDIA RELEASE

10 February 2016

SPEEDY AUTONOMOUS VEHICLES LEGISLATION WELCOMED

Canberra Business Chamber congratulates Alistair Coe for moving swiftly to establish the ACT as a leading jurisdiction in the autonomous vehicles field.

Mr Coe tabled a bill in the Legislative Assembly this morning to allow the trial of autonomous vehicles (AV) in the ACT.

Canberra Business Chamber believes the ACT is well placed to be a principal location for trials of autonomous vehicles and recently brought together key stakeholders to begin looking at how the Territory could move into this space.

The Chamber would like to see the regulatory framework in Canberra attract commercial interest and enable an autonomous vehicle 'social application' trial to commence this year.

"Canberra is in the perfect position to take full advantage of our first class road amenity to be a leader in the Asia Pacific region for the applied social use of AV," Canberra Business Chamber Chair, Glenn Keys said.

"Having globally successful organisations like Seeing Machines headquartered here and a research capacity second to none, the ACT provides an eco-system conducive to industry establishment and growth in this area. We are also highly skilled in the area of research and evaluation and could support such a trial."

"Canberra Business Chamber welcomes the Coe Bill as a major step in the right direction, and believes the legislation could go further. What this legislation will provide is a reasonable basis from which to do something quickly when opportunities arise."

The Chamber is encouraging the Assembly to examine possible amendments to enhance the bill even further. The Chamber would support further review of the bill by private sector industry leaders in the AV sector to ensure the final result is conducive to the future generation of AV use.

"Canberra must have the appropriate regulation in place this year with a trial underway before the end of the year if we are to capitalise on this opportunity, which potentially has huge social benefits in an aging population, could be a revolution in road safety and offers enormous benefits for social inclusion, particularly for the disability sector," Mr Keys argued.

"This initiative, if handled well, will also significantly contribute to the continued diversification of the CBR Region economy.

"We call on all political parties in the ACT to work together to achieve this aim as it is an important opportunity for the community, business and Canberra as a whole."

The Chamber has formed a steering group to consider and inform the next steps leading up to the commencement of a trial and will also work with legislators to ensure the legislative framework for the ACT is appropriate.

Media Contact: Robyn Hendry, CEO Canberra Business Chamber 0418 462 151

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F. 68

Kalleske, Sarah

Subject: Jeff House/Gary Richards/Kate Lundy re Autonomous Vehicles (on arrival please phone x77279)
Location: Jeff House's Office, Level 4, Nara Centre, 1 Constitution Avenue
Start: Mon 15/02/2016 4:00 PM
End: Mon 15/02/2016 4:30 PM
Show Time As: Tentative
Recurrence: (none)
Meeting Status: Not yet responded
Organizer: House, Jeff
Required Attendees: 'gary.richards@industry.gov.au';

Gary/Kate

Please let me know if this date and time doesn't suit. Jeff returns from leave on this date.

Sarah

A. 69

Kalleske, Sarah

Subject: Canceled: Jeff House/Gary Richards/Kate Lundy/Glenn Keys re Autonomous Vehicles (on arrival please phone x77279)
Location: Jeff House's Office, Level 4, Nara Centre, 1 Constitution Avenue
Start: Mon 15/02/2016 4:00 PM
End: Mon 15/02/2016 4:30 PM
Show Time As: Free
Recurrence: (none)
Meeting Status: Not yet responded
Organizer: House, Jeff
Required Attendees: 'gary.richards@industry.gov.au';
glenn.keys@canberrabusiness.com
Optional Attendees: 'Atkinson, Darren'
Importance: High

Kalleske, Sarah

Subject: Jeff House/Gary Richards/Kate Lundy re Autonomous Vehicles (on arrival please phone x77279)
Location: Jeff House's Office, Level 4, Nara Centre, 1 Constitution Avenue
Start: Fri 19/02/2016 9:30 AM
End: Fri 19/02/2016 10:30 AM
Show Time As: Tentative
Recurrence: (none)
Meeting Status: Not yet responded
Organizer: House, Jeff
Required Attendees: 'gary.richards@industry.gc

Subject: Catchup re: autonomous vehicles
Location: Transact house, Dickson?
Start: Thu 25/02/2016 3:00 PM
End: Thu 25/02/2016 3:30 PM
Show Time As: Tentative
Recurrence: (none)
Meeting Status: Not yet responded
Organizer: Mehrton, Andrew
Required Attendees: 'Kate Lundy'; Gilding, Louise

Hi Kate,
Left a voicemail earlier. Hoping we can have a short catchup re: where autonomous vehicle things are up to in the next few days.
Thursday after 2pm is good for Louise and I. Can you let me know if you'd be able to fit something in around then?

Cheers.
-Andrew

Subject: Catchup re: autonomous vehicles
Location: Transact house, 470 Northbourne Ave, Dickson

Start: Fri 26/02/2016 9:00 AM
End: Fri 26/02/2016 10:00 AM
Show Time As: Tentative

Recurrence: (none)

Meeting Status: Not yet responded

Organizer: Mehrton, Andrew
Required Attendees: 'Kate Lundy'; Gilding, Louise

Hi Kate,
Rescheduled to 9am on Friday.

If you come up to level 6 in TransACT House give me a buzz o and I'll show you in.

Cheers.

-Andrew

Subject: FW: Automous vehicles
Location: Assembly

Start: Thu 25/02/2016 4:30 PM
End: Thu 25/02/2016 5:00 PM
Show Time As: Tentative

Recurrence: (none)

Meeting Status: Not yet responded

Organizer: Hodges, Tony

-----Original Appointment-----

From: Hodges, Tony
Sent: Tuesday, 23 February 2016 5:35 PM
To: Hodges, Tony; Mehrton, Andrew; Cook, Michael; Alderson, Karl; Dixon, Brook; Gilding, Louise
Subject: FW: Automous vehicles
When: Thursday, 25 February 2016 4:30 PM-5:00 PM (UTC+10:00) Canberra, Melbourne, Sydney.
Where: Assembly

-----Original Appointment-----

From: Hodges, Tony
Sent: Tuesday, 23 February 2016 5:34 PM
To: Hodges, Tony; Cook, Michael; Alderson, Karl; Dixon, Brook; Gilding, Louise
Subject: Automous vehicles
When: Thursday, 25 February 2016 4:30 PM-5:00 PM (UTC+10:00) Canberra, Melbourne, Sydney.
Where: Assembly

Hi all – this looks like the soonest time everyone might be free for a chat about next steps on autonomous vehicles.

Let me know if this time won't be possible.

Cheers,
Tony

Modified:

Tue 05/04/2016 12:23 PM

2016-02-25 - avs/cmo

leg is symbolic but not practical

how to deal with safety of other road users without leg

shape leg in partnership with proponent - how to make it active approach

industry engagement is key - ED lead

brief - more detail re: what path of industry engagement looks like

A. 81

From: Abel, Andrew
Sent: Monday, 29 February 2016 9:25 AM
To: Dean Seeley
Subject: Accepted: Autonomous Vehicle Working Group Meeting

P. 82

Kalleske, Sarah

From: Kalleske, Sarah on behalf of House, Jeff
Sent: Tuesday, 1 March 2016 10:49 AM
To: 'Gary White'; House, Jeff
Cc: Richards, Gary; Atkinson, Darren; Ian Christensen; Kate Lundy
Subject: RE: Introduction to Ian Christensen (iMOVE CRC bid lead) [SEC=UNCLASSIFIED]

Gary

As discussed Jeff and Kate can meet at 4.30pm this afternoon – I will forward an invitation with the location and contact details.

Regards
Sarah

Sarah Kalleske
Executive Assistant, Deputy Director-General, Jeff House
Arts, Business, Events, Sport and Tourism
Phone 02 6207 7279 Email: sarah.kalleske@act.gov.au
Chief Minister, Treasury and Economic Development Directorate ACT Government
Level 5, Nara Centre, 1 Constitution Avenue, Canberra City ACT 2600

From: Gary White [<mailto:gwhite@excellerateaustralia.com>]
Sent: Tuesday, 1 March 2016 7:13 AM
To: Kate Lundy ; House, Jeff
Cc: Richards, Gary; Atkinson, Darren; Ian Christensen
Subject: Re: Introduction to Ian Christensen (iMOVE CRC bid lead) [SEC=UNCLASSIFIED]

Dear Ms Lundy and Mr House,
I will be working in Canberra Tuesday and Wednesday. Today, I am based at the Realm Hotel, so I can easily come to you for a planning discussion. Wednesday, I will be in Parliament House and will only be available after 4pm.
As our CEO has said, we can help facilitate your mobility related projects through our current automotive research programs.
Let me know your availability, and I will make arrangements.

Sincerely,

Gary

Dr Gary White
Research Director
AutoCRC is now Excellerate Australia. Watch our [launch video](#) to find out why.

EXCELLERATE
AUSTRALIA

P [+61 3 9948 0457](tel:+61399480457)

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Suite 57, Building 2, [574 Plummer Street](#),
PO Box 231, Port Melbourne,
VIC 3207, Australia
excellerateaustralia.com

On 29 Feb 2016, at 17:47, Ian Christensen
<IChristensen@excellerateaustralia.com> wrote:

Dear Kate and Jeff
I am writing to follow up your recent discussion with Darren Atkinson (Dept Ind Innov & Sci) regarding the prospective use of autonomous vehicles for transporting disabled people. We at Excellerate Australia (formerly AutoCRC) may be able to assist you to implement these

ideas and it is certainly an interesting subject for the development of the new iMOVE CRC which will be focused on smart transport and mobility.

My colleague, Dr Gary White, will be in Canberra tomorrow and Wednesday and this presents a good opportunity to explore how we could progress your ideas. Please let me know when you would be available for a discussion.

Best Regards

Ian Christensen

Chief Executive Officer

AutoCRC is now Excellerate Australia. Watch our [launch video](#) to find out why.

<image002.png>

P +61 3 9948 0454

E IChristensen@excellerateaustralia.com

Suite 57, Building 2, 574 Plummer Street,

PO Box 231, Port Melbourne,

VIC 3207, Australia

excellerateaustralia.com

jeff.house@act.gov.au

Cc: Richards, Gary <Gary.Richards@industry.gov.au>; Gary White

<gwhite@excellerateaustralia.com>; 'Atkinson, Darren' <Darren.Atkinson@industry.gov.au>

Subject: RE: Introduction to Ian Christensen (iMOVE CRC bid lead) [SEC=UNCLASSIFIED]

From: Ian Christensen

Sent: Wednesday, 17 February

2016 4:46 PM

To: Kate Lundy

Dear Kate and Jeff

I was pleased to learn about your ideas to improve the mobility of disabled people by utilising autonomous or highly automated vehicles. We believe this offers major advances in personal mobility for disabled people generating large improvements in quality of life. This idea fits very well with the intent and direction of the iMOVE Co-operative Research Centre that we are developing and we are keen to find a way to engage with you and support your initiative.

I understand from Darren that you are keen to get started. To facilitate this I would like to introduce into this conversation the Research Director of the "Automotive Australia 2020 CRC" (AutoCRC), Dr Gary White, to explore what can be done in this immediate period before the iMOVE CRC has been fully established.

The bid process for new CRC's requires us to submit our bid by 31 March. At that time we are required to indicate which organisations will participate in the CRC and what level of investment each one is willing to make. This participant commitment determines the scale of the Commonwealth co-contribution that can be sought so it is important for us to discuss the ACT's project aspirations in the medium and longer term as well as the immediate opportunity.

For this reason it would be good to have a meeting and or discussion relatively soon. What is your availability in the next two weeks?

I look forward to hearing from you.

Best regards

Ian Christensen

Bid Lead

<image004.png>

Chief Executive Officer
<image005.png>
Driving automotive Innovation

Excellerate Australia Ltd
Suite 57, Level 2, Building 2, Port Park, 574 Plummer Street
Port Melbourne, VIC 3207, Australia
W: www.autocrc.com; www.imovecrc.com
T: +61 3 9948 0454
E: ian.christensen@autocrc.com
E: ichristensen@imovecrc.com

From: Atkinson, Darren [<mailto:Darren.Atkinson@industry.gov.au>]
Sent: Tuesday, 16 February 2016 10:06 AM
To: Kate Lundy; jeff.house@act.gov.au
Cc: Ian Christensen <Ian.Christensen@autocrc.com>; Richards, Gary
<Gary.Richards@industry.gov.au>
Subject: Introduction to Ian Christensen (iMOVE CRC bid lead) [SEC=UNCLASSIFIED]

Kate and Jeff,

This is to introduce you to Ian Christensen who is the bid lead for the proposed Intelligent Mobility & Vehicle Evolution (iMOVE) CRC. I have spoken to Ian this morning and he is keen to engage with the ACT Government on your work in this space.

Over to you guys ☺.

Regards,

Darren Atkinson
Manager
Advanced Manufacturing Section
Advanced Technologies Branch
Sectoral Growth Policy Division

Department of Industry, Innovation and Science
Industry House, Level 8
10 Binara Street
Canberra City ACT 2601
GPO Box 9836 Canberra ACT 2604
Ph: 61-2-6213
Email: Darren.Atkinson@industry.gov.au
Internet: <http://www.industry.gov.au/>
ABN 74 599 608 295

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Modified:

Tue 05/04/2016 12:22 PM

2016-03-01 - AV meeting

bid for crc on AVs - iMove - adaptation an utility of tech - not just whether tech works

accelerate aust ltd - tech manufacturer

meeting with bid lead this afternoon

dd sending letter to glenys giving outline of trial we would look to have in ACT - not to replicate activity in other states, social application

letter from CM would follow successful discussion between departments

make it from CMTEDD rather than specific teams

shape our own regulatory regime

karl - coapprove

Page redacted.

S 36(1)



AUTONOMOUS VEHICLES HAVE LIMITED SUPPORT

- There is good support for the safety benefits delivered by technology like adaptive cruise control and parking assist, particularly the notion of removing the reliance on human intervention and replacing it with automated processes which counter emergency and other potential crash situations a human might not respond to so quickly, or at all.
- However, **some cannot get over their unease about too much reliance on technology.** What if it fails? What if it gets hacked? What about drivers losing their skills because they let the machine do all the work and then no longer have the skill to respond if the machine fails? What about becoming complacent when the machine is doing all the work?
- The Google driverless car was mentioned by a few and some were aware of an autonomous vehicle trial in South Australia, where they were happy for this trial to continue (rather than in Canberra).

“People expect a high level of perfection from computers but they still have faults and flaws.”

“Technology can fail and when it does it can be catastrophic. We can't rectify it.”



SENSITIVE: CABINET

TRIM: BM16/352

To: Chief Minister

cc: Head of Service

Subject: Development of Government position regarding autonomous vehicles

Critical date and reason

1. **3 March 2016**, to support development of a government policy position ahead of possible debate in the Legislative Assembly in the March sitting period.

Recommendations

2. That you:

- agree we will prepare an Autonomous Vehicle Roadmap (strategic framework) to guide the attraction and support for autonomous vehicles in the ACT as outlined in this brief;

AGREED/NOT AGREED/PLEASE DISCUSS

- agree the ACT's regulatory regime should be developed in consultation with industry partners;

AGREED/NOT AGREED/PLEASE DISCUSS

- sign the correspondence at Attachment B to the Canberra Business Chamber noting the Government's position;

AGREED/NOT AGREED/PLEASE DISCUSS

- note that further advice will be provided about the iMove Cooperative Research Centre proposal and the required Government support;

NOTED/PLEASE DISCUSS

- note advice will be prepared for Cabinet on this matter in line with your decisions regarding this brief.

NOTED/PLEASE DISCUSS

Andrew Barr MLA / /2016

Supporting Reasoning

Background

3. 'Autonomous Vehicles' (AVs), or 'driverless cars', broadly refer to technology that automates one or more aspects of vehicular control. There are different levels of automation, with many modern vehicles already capable of automating some functions using technology such as parking assist, lane assist and adaptive cruise control. Benefits of the technology include:
 - a. Facilitating personal independence for people with mobility issues;
 - b. Dramatically improving road safety; and
 - c. More efficient use of land and other infrastructure.An overview of AVs including the benefits of and barriers to the technology is included at Attachment A.
4. As part of its transport reform agenda, Cabinet requested in September 2015 that you bring forward a submission in the first half of 2016 proposing a policy and way forward for AVs (decision #15/438).
5. In preparing a policy position regarding autonomous vehicles we have been investigating the possibilities for having AVs in Canberra and what would be required to realise these benefits. This has included preliminary consultation with internal and external stakeholders, including the Canberra Business Chamber (CBC), who has a strong interest in bringing AVs to Canberra.

Coe Amendment Bill

6. On 10 February 2016 Alistair Coe MLA presented the *Road Transport (Safety and Traffic Management) (Autonomous Vehicle Trials) Amendment Bill 2016* (the Bill) to the Legislative Assembly. The Bill establishes a legislative framework enabling the trialing of AVs subject to ministerial approval. Mr Coe could potentially move to debate the Bill on 9 March 2016.
7. A government response to the Bill is being prepared by JACS in consultation with CMTEDD, which has carriage of the relevant legislation. The proposed response is to oppose the Bill due to a number of severe constraints that it would impose.

Proposed Autonomous Vehicle Roadmap (strategic framework)

8. Using exemption powers granted under section 12 and 13 of the *Road Transport Act (1999)* will minimise red tape and maximise flexibility in the type of activities that proponents could undertake in the ACT. However, this needs to be complemented by an active approach to attract AV activities given international competition and the relatively small pool of vehicle manufacturers/trial operators.
9. An active Autonomous Vehicle Roadmap (strategic framework) will guide efforts to attract and manage AV activities. Key components will include:
 - a. a policy statement by the Government outlining a commitment to AV activities and the development of principles to guide regulation of a trial;
 - b. industry engagement;

- c. Commonwealth engagement; and
- d. community engagement.

Policy statement and principles

10. A ministerial statement regarding the Government's policy position on AVs will provide a clear signal that the Government is engaged with this issue and is working to bring AVs to Canberra. This statement will be prepared by 8 March 2016, so that the Government's alternative plan can be outlined should the Coe Bill be debated on 9 March 2016. Key propositions of the statement will include:
 - a. the Government is actively engaged with this issue;
 - b. the Government opposes the approach of the Coe Bill; and
 - c. the Government instead prefers to work with industry partners to shape the regulatory environment.
11. Concurrently, regulatory principles will be developed outlining the matters to be considered when operating AVs in the ACT using exemption powers. This would address considerations such as public safety, use of public assets and infrastructure, protection of commercial interests without requiring prescriptive 'one size fits all' regulations.
12. It is recommended that you write to the CBC informing them of the Government's position not to support the introduction of legislation regarding AV trials and putting forward the Government's alternative position, including an invitation for the CBC to be involved with this program of work. Correspondence to this effect has been prepared for your signature at Attachment B.

Industry engagement

13. The industry engagement components would address how the Government and/or other advocates (such as CBC or the Australian Driverless Vehicle Initiative¹ (ADVI)) will engage and attract potential commercial partners.
14. The ADVI has offered to work with the ACT Government to design a specific trial that could be undertaken here. Leveraging the expertise, credibility and connections of the ADVI will be highly valuable and it is recommended that this invitation be accepted. However, this does not necessarily guarantee the participation of an AV operator.
15. Concurrently, direct approaches to AV operators to 'sell' Canberra as an attractive location for undertaking AV activities will also be undertaken. These approaches can put forward a specific proposal to the operators², but should also invite the operator to shape their own trial in partnership with the ACT Government, recognising that different operators may be seeking different outcomes from trials and can easily go

¹ The ADVI is a national collaboration between small and large businesses, researchers and government to coordinate efforts to introduce AVs in Australia. Further information on the ADVI is included at Attachments C and D.

² Stakeholder consultation suggests that a real world use of the technology to improve social inclusion for people with a mobility issue has wide appeal.

elsewhere. In effect, this would resemble working with the operator to shape the regulation of AVs in the ACT.

16. Ministerial correspondence to automotive companies may assist to open communications with larger automotive companies. Example correspondence to the Director of Google's driverless car program is included at Attachment E and could be reproduced for circa 10 other manufacturers known to be undertaking or preparing to undertake public AV trials.
17. Innovation, Trade and Investment will incorporate AVs into their investment attraction program, including actively engaging potential industry partners. Other proponents (such as the CBC, ADVI and NRMA) will be supported to undertake coordinated advocacy on Canberra's behalf when possible.

Commonwealth engagement

18. The Director-General, Economic Development has written to the Secretary of the Australian Government Department of Industry, Innovation and Science inviting a discussion on opportunities for collaboration regarding AVs.
19. The Deputy Director-General, ABEST and the Local Industry Advocate have met with DIIS and industry proponents regarding a bid to establish a Cooperative Research Centre (CRCs)³. A proposal has been put forward by iMove (Intelligent Mobility & Vehicle Evolution) and provides an opportunity for a trial of social adaptations of AVs. Advice from DIIS suggests that formal participation in the bid as a partner would represent the best opportunity for the ACT Government to access federal funding for a trial. Preliminary discussions with iMove have occurred and we will continue to engage the Australian Government regarding potential opportunities to partner with this work and contribute funding. Further advice will be provided.
20. The ACT Government is also participating in national programs of work to identify and resolve regulatory issues associated with AVs through the National Transport Commission and AustRoads. In the longer term, these projects will support the resolution of legislative and regulatory issues in a consistent and coordinated manner across jurisdictions. The regulatory regime used during trials may evolve over time as national reforms progress. It is proposed that JACS will maintain responsibility for these relationships in consultation with CMTEDD as appropriate.

Community engagement

21. Community engagement will be required, at appropriate points, to understand and inform local attitudes regarding AV technology. Assessing and assuaging any concerns about AVs in the community will be important for assuring potential operators that there would be low reputational/public relations risks associated with bringing AVs to Canberra.

³ CRCs are an Australian Government industry development initiative aimed at supporting research collaborations between industry, researcher and the community

SENSITIVE: CABINET

22. The subject of AVs was canvassed during recent public consultation regarding transport reform. Results from those surveys will inform what further consultation may be required and when.

Project coordination

23. Implementation of this work will be overseen jointly by the Deputy Directors-General of ABEST and Policy and Cabinet with representatives from JACS, the Transport Canberra transition team, EPD and TAMS.

Consultation and Communication

24. This advice has been prepared in consultation with JACS, EPD, Capital Metro and CMTEDD.
25. Targeted consultation has occurred with CBC, ADVI and NRMA. A forum was co-hosted in January 2016 to discuss interest in and options for AV activities to occur in Canberra with a wider range of industry representatives. The forum was well attended by representatives from a range of businesses, industry groups and ACT Government directorates. A summary of the forum is included at [Attachment F](#).
26. Aside from the high level of interest in bringing AVs to Canberra, a particular theme emerging from the forum was the desire to leverage the technology for a real-world social application that would improve transport options and social inclusion for people with mobility issues, such as persons with a disability and/or older persons.

Financial

27. At this stage it is not envisaged (nor has it been requested) that the Government would provide a financial contribution to any AV activities. However, in the event that a trial is secured resources may be required (circa of 1 FTE) to administer the program (coordinating activities within government, ensuring compliance with any conditions imposed on trials etc.).
28. If the Territory were to take up the CRC partnership opportunity an appropriate financial contribution would be required. Any funding provided by the ACT Government would be match by the CRC.

Management of Other Risks

29. Nil.

Director-General: David Dawes

Executive Clearance: Jeff House and Karl Alderson

Date: 2 March 2016

Action Officers: Louise Gilding x 50740 and Andrew Mehrton x58507

SENSITIVE: CABINET

The Potential for Autonomous Cars in Canberra

Summary

- The rollout of autonomous cars is not a question of if, but when. The technology underpinning the production of autonomous cars is well advanced. There are differing views on the timeframe for fully autonomous cars to be ubiquitous on our roads but it seems clear that driving will become increasingly automated in the next five to ten years.
 - To date, self-driving vehicles have already made an impact in the mining sector in Australia, where fleets of autonomous trucks have offered a safe and efficient alternative to risky driving scenarios.
 - The technology seems likely to be ready before all the questions of regulation and liability have been sorted out. A number of American states and European cities have passed laws governing the testing of driverless cars on public roads. Early this year, South Australia stated its intention to review its transport legislation to identify obstacles that would prevent the introduction of self-driving and highly automated cars on that state's roads.
 - There is existing research and academic interest in autonomous cars in Australia. The main research area has been robotics and automated systems. The UNSW has teamed up with car share service GoGet to develop an Integrated Intelligent Vehicular System which will contribute towards a broader framework for Intelligent Transport Systems. NICTA is investigating the role of sensors and big data for intelligent transport systems. Other academics are beginning to look at the legal and liability issues.
 - In Canberra, there are at least two companies with links to the development of autonomous cars. 'Seeing machines' is a leading supplier of Driver/Operator Safety Monitoring technology and services now developing technology for next-generation Advanced Driver Assistance Systems (ADAS). This company is a spin-off from research undertaken at the Australian National University. 'Locata' is a precise positioning company whose technology has been chosen to underpin future crash avoidance research in the USA.
 - The roll out of autonomous cars aligns with many of the policy goals of the ACT Government including;
 - Road Safety Strategy 2011-20 – the strategy, influenced by the Swedish Government's Vision Zero policy, ultimately aims for no one being killed or seriously injured within the road transport system. Autonomous cars are likely to be significantly safer.
 - Canberra Social Plan 2011 aims for Canberra to be a place where all people reach their potential, make a contribution and share the benefits of an inclusive community. Autonomous cars will provide a means for greater mobility and connectedness for the elderly and disabled allowing these people to more easily contribute and participate in society.
-

The Potential for Autonomous Cars in Canberra

- Digital Canberra aims to capitalise on the opportunities of the digital age to help increase productivity leading to economic growth and the provision of better services. Autonomous cars will ultimately rely on vehicle to vehicle, and vehicle to infrastructure communications, the principle of which is similar to the proposed use of sensors and real time data information flows using the city's Wi-Fi network. Research, development and implementation of these types of systems are well aligned with the desire for Canberra to become a dynamic and prosperous Smart City in the 21st century.

Introduction

Autonomous cars are no longer the realm of science fiction. Cars with basic autonomous capability are in showrooms today; semiautonomous cars will be available in the next few years; and, it is anticipated that completely autonomous cars are set to be available by 2025.

Considering how central the car is to modern life everywhere, the social and economic implications are enormous. Autonomous cars will offer better safety features and more efficiency. They will transform the auto industry business model, pivoting from engines, gears and wheels to software, content and 'user experience.'

Related businesses, such as telecoms, software, media, freight transportation, semiconductors and insurance, will also face disruption and opportunity. There will undoubtedly be bumps in the road, including the issues of liability, infrastructure and consumer acceptance. However, none of these issues appears insurmountable.

What is an autonomous car?

The term autonomous car is currently used very broadly to describe cars with varying capabilities. The most commonly used system to categorise levels of vehicle autonomy is the SAE Levels of Driving Automation system. The SAE International Standard defines a six-level scale, ranging from no automation (level 0) to full automation (level 5). The following table reproduces this scale.

The Potential for Autonomous Cars in Canberra

SAE level	Name	Narrative Definition	Execution of Steering and Acceleration/Deceleration	Monitoring of Driving Environment	Fallback Performance of Dynamic Driving Task	System Capability (Driving Modes)
Human driver monitors the driving environment						
0	No Automation	The full range performance by the non-automation of all aspects of the dynamic driving task, even when equipped with warning or intervention systems.	Human driver	Human driver	Human driver	N/A
1	Driver Assistance	The driving mode-specific execution by a driver assistance system of either steering or acceleration/deceleration functions, with the expectation that the human driver performs all remaining aspects of the dynamic driving task.	Human driver and system	Human driver	Human driver	Some driving modes
2	Partial Automation	The driving mode-specific execution by an automated driver assistance system of both steering and acceleration/deceleration functions, with the expectation that the human driver monitors all remaining aspects of the dynamic driving task.	System	Human driver	Human driver	Some driving modes
Automated driving system ("system") monitors the driving environment						
3	Conditional Automation	The driving mode-specific performance by an automated driving system of all aspects of the dynamic driving task, with the expectation that the human driver will respond appropriately to a request to intervene.	System	System	Human driver	Some driving modes
4	High Automation	The driving mode-specific performance by an automated driving system of all aspects of the dynamic driving task, even if a human driver does not respond appropriately to a request to intervene.	System	System	System	Some driving modes
5	Full Automation	The full range performance by an automated driving system of all aspects of the dynamic driving task under all roadway and environmental conditions that can be managed by a driverless car.	System	System	System	All driving modes

Figure 1: The six categories of the SAE International Standard, 2014¹

Note that while highly automated vehicles are still at the prototype stage, many automated systems are familiar to us, for example antilock brakes, cruise control, electronic stability control and parking assistance.

What are the benefits?

Safety – autonomous cars will dramatically reduce accidents.

Congestion and environmental issues – there is potential to reduce congestion and fuel consumption through improved driving patterns as well as car sharing and reduced requirements for parking.

Community mobility – autonomous vehicles can facilitate personal independence and mobility for the elderly and the disabled.

Productivity – there is potential for higher economic productivity from shorter commute/delivery times. A reduced number of accidents will also increase productivity from less lost days of work.

¹ Source: SAE International J3016, 2014

The Potential for Autonomous Cars in Canberra

Infrastructure – autonomous vehicles may reduce strain on infrastructure, as they could be programmed to place less strain on roads than human drivers (for example, by avoiding ruts). Roads built for autonomous vehicles may also cost less than conventional roads (for example, by narrowing lanes).

Cost of transport – autonomous vehicles can make car-sharing schemes more efficient and effective. This will lower the cost of private transport to consumers.

Freight Transportation – in the same way that mining companies such as Rio Tinto now use self driving trucks for their operations, freight companies will look to autonomous vehicles to improve the efficiency of their operations.

Business development – opportunities exist for the develop autonomous vehicle technology and consumer platforms.

What are the barriers?

Costs – initial high prices may slow market growth. Initial market penetration will most likely occur at the higher end of the market as has been the case with new automotive technologies in the past. A number of reports suggest that autonomous vehicles will be priced at around \$10,000 higher than the price of the same car without fully autonomous features when they come to market in around 2025.

Legislation and licensing – the development of autonomous cars to be road ready will require agreed standards and legislative framework to be in place. This will require coordination between state, territory and Commonwealth agencies. Further, autonomous vehicles are likely to be produced for the international market. A system of international standards will need to be developed between governments and industry. At a local level, licensing systems and regulatory frameworks require amendment.

Liability - primary liability for accidents currently rests with the user of the car regardless of whether their actions cause the accident or not. A car or truck driven by a computer on public roads opens up the possibility of many insurance and liability issues.

Security and privacy – systems need to be secure against any potential hacking which could cause collisions and traffic disruptions. People will also have concerns about data sharing.

Perception (or public acceptance) –there is likely to be an initial perception that autonomous cars are potentially unsafe because the lack of a human driver.

Safety Risks – autonomous vehicles are a new technology, so it is impossible to rule out risks to physical safety though malfunction or interference.

Competition for trials – many governments are enthusiastic about the potential benefits of autonomous vehicles, so competition to host trials is strong.

The Potential for Autonomous Cars in Canberra

Timeframe

Vehicles with a varying level of self driving capability – ranging from single lane highway driving to autonomous valet parking to traffic jam autopilot – will start to become available to consumers as soon as mid-2015 or early 2016. Vehicles capable of urban autopilot could be ready in 2022, paving the way for fully autonomous vehicles by 2025. (BCG, 2015). It is anticipated that it will take a generation (15 to 20 years) after the introduction of the first autonomous car to reach a global market penetration rate of 25%. These forecasts are consistent with Accenture report (2015) which suggests that by 2040, four out of every 10 vehicles on the road could be autonomous.

Whilst the remaining technological barriers to achieving such a revolution are lower than many may realise, this does not mean that entirely self-driving cars are expected to become commonplace on our roads in the short, or even medium-term future. Obstacles remain for the full implementation of completely autonomous cars, such as adequate regulation, achieving reliable safety standards, and public resistance to handing over personal safety and responsibility to a machine (Lloyds, 2014).

The role of government – what needs to be done?

Government is responsible for establishing and regulating the framework in which autonomous cars will operate. Regulators will have to work with the manufacturers, insurance companies, and safety authorities to design and enact legislation that will define the infrastructure necessary for autonomous cars, specify liability for accidents and technical failures, and specify minimum standards.

Government will also have a direct interest in the development and use of autonomous cars in respect of: the social and economic benefits of improved road safety; productivity increases from reduced traffic congestion; environmental gains as a result of more efficient traffic patterns; as well as, the positive social outcomes resulting from greater mobility and connectedness for the elderly and disabled.

The ARRB Group (2015) suggest that a lot of what road agencies currently do will have to be done very differently. Not only will road and transport infrastructure requirements be different but so will licensing and policing requirements, data and technology needs, management protocols, internal processes and so on. Given this, they argue that government should satisfy itself that driverless vehicles are an economic priority and quickly define policy supporting early adoption in the national interest. In this context governments can play a valuable role by providing timely and appropriate regulatory reform that supports introduction and development of driverless fleets and the infrastructure to support it. Note this includes removing regulatory barriers and putting in place appropriate infrastructure planning processes.

The Potential for Autonomous Cars in Canberra

Can Canberra be a player?

According to Larry Burns, former Corporate Vice President of Research and Development at General Motors, Australia offers the ideal market to test and refine autonomous vehicles. In an interview with Accenture he is quoted as saying “Australia’s population densities are perfectly suited ... and one city in particular that stands out is Canberra.” He also noted that Australia has the technical and manufacturing expertise – in locations such as Adelaide – to be a key player in developing the cameras, lasers and software required for these autonomous vehicles (Accenture, 2014).

Canberra advantages

- The ACT has the benefit of an established and well designed road system, a general urban environment and a small, well defined geographic area.
- Being a small jurisdiction will facilitate discussion and negotiation among stakeholders to progress the amendments to legislation which will be required.
- The Digital Canberra strategy provides an existing framework in which to develop and deploy communication technologies and smart systems which will form an important component of the overall autonomous vehicles infrastructure. Furthermore, autonomous vehicles have the potential to improve city planning and underpin the creation of an intelligent city.
- There are several private and public sector organisations with expertise or interest in autonomous vehicles already located in Canberra. These include:
 - ‘Seeing machines’ is a supplier of Driver/Operator Safety Monitoring technology and services now developing technology for next-generation Advanced Driver Assistance Systems (ADAS).
 - ‘Locata’ is a precise positioning company whose technology has been chosen to underpin future crash avoidance research in the USA.
 - NICTA is playing a central role in the application of ICT to intelligent transport systems.
 - Geoscience Australia has expertise in positioning systems and the associated infrastructure framework.
 - The Australian Government has an over arching role in related areas such as the Australian Design Rules which set standards for vehicle safety, anti-theft and emissions for new road vehicles, whether manufactured in Australia or imported as new or second hand vehicles.

The Potential for Autonomous Cars in Canberra

Canberra disadvantages

Underpinning many of the potential benefits of autonomous cars is the assumption that there will be fewer cars on the road as a result of a growing consumer preference for car sharing. The business model for car sharing services depends on population densities and it is notable that car share firms have initially focused their operation on higher density suburbs of Sydney and Melbourne, and to a lesser degree Brisbane, Adelaide and Perth. It is yet to be seen whether Canberra has areas with a high enough population density to make car sharing viable, however, there are reports that car sharing firm GoGet will operate from the new Element apartment complex in Kingston.

Commentary

Most people's immediate vision of autonomous cars is very futuristic with a continuous flow of AVs driving themselves around the city moving people to where they need to be and running errands that a delivery driver currently does. This may well be the end game but I think such a transformation is a long way off and may lead to scepticism about AVs which could impede government involvement to facilitate this transport issue. Whilst some authors do hold this vision, most literature on the topic suggests that it is semi-autonomous cars that will have the most significant impact in the short to medium term. I sit with this view and can see at least three areas where semi-autonomous cars still under the control of humans will have a positive social and economic impact. These are:

1. ***Increased safety*** – aligns with goals of the transport strategy as noted above in this paper.
2. ***Assisting elderly and disabled drivers stay mobile*** – at the time of writing several news articles on elderly drivers were published stemming from a conference paper delivered at the *Australian and New Zealand College of Anaesthetists' annual scientific meeting* in Adelaide in early May 2015. For example <http://www.smh.com.au/national/elderly-drivers-as-dangerous-as-young-hoons-says-geriatrician-20150503-1myys4.html>
3. ***Reducing lost productivity from congestion and crashes*** – whilst Canberra generally has relatively short and mild 'peak hour' traffic it takes just one crash for everything to grind to a halt. The technology fitted to semi-autonomous cars prevents many of the types of crashes (rear-enders) common in Canberra and hence the productivity losses etc. The communications technologies intended to be fitted to AVs will also help manage traffic flows and assist emergency services.

<http://www.canberratimes.com.au/act-news/four-car-crashes-and-a-bus-fire-cause-chaos-on-canberra-roads-20150505-ggu3le.html>

Whilst these outcomes focus on semi-autonomous cars and their impact in the short to medium term, it is still worth thinking about the future of transport once fully autonomous cars are operating on our roads. So, for example, would fully AVs make public transport redundant? There is a good discussion on this on the

The Potential for Autonomous Cars in Canberra

CityLab blog. <http://www.citylab.com/commute/2015/04/how-the-microtransit-movement-is-changing-urban-mobility/391565/>

The position that resonates with me at present is the idea that *“microtransit providers would become the feeders to public transportation's core routes. They'd address what experts call the 'first-mile, last-mile' problem—that gap at the start and end of every trip that's difficult for traditional transit operators to serve in a cost-effective way.”*

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ANDREW BARR MLA
CHIEF MINISTER OF THE AUSTRALIAN CAPITAL TERRITORY

Treasurer
 Minister for Economic Development
 Minister for Urban Renewal
 Minister for Tourism and Events

Member for Molonglo

Mr Glenn Keys
 Chair, Canberra Business Chamber
 PO Box 6308
 O'Connor ACT 2612

Dear Mr. Keys

I would like to commend the Canberra Business Chamber for its recent work to champion the attraction of autonomous vehicles to the ACT. The immense social, economic and environmental benefits flowing from autonomous vehicles are promising and I welcome your efforts to encourage their adoption in Canberra, as well as the collaborative nature with which you have undertaken this work.

Supporting and encouraging innovation has been a core part of this government's economic development agenda for many years. Alongside our support for innovation is our commitment to creating the right business environment, including the elimination of unnecessary red tape.

To this end, you are no doubt aware that the Minister for Road Safety and I recently announced that we would not be supporting draft legislation prepared by Mr Alistair Coe regarding autonomous vehicle trials in the ACT.

Well-meaning but overly prescriptive or inflexible regulation could do more harm than good for efforts to attract this technology to Canberra. Furthermore, this would risk the technology being placed out of reach from those who arguably need it the most.

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I have asked the Chief Minister, Treasury and Economic Development Directorate to prepare a roadmap to bring autonomous vehicles to Canberra, including a flexible principle-based approach to regulating any trials. Engagement with industry partners and the community will also be key to attracting autonomous vehicles to Canberra.

The Directorate will continue to undertake this work in partnership with the Chamber and I look forward to working together to achieve this important outcome for our city.

Yours sincerely

Andrew Barr MLA
Chief Minister

Background on ARRB and ADVI

What is ARRB?

- The Australian Roads Research Board (“ARRB Group Ltd”) is an organisation founded by the state, territory and federal road agencies to pool members’ resources for the development of shared research, consulting and information services.

What is ADVI?

- The Australian Driverless Vehicle Initiative (“ADVI”) is a program coordinated by ARRB “to accelerate the safe and successful introduction of driverless vehicles onto Australian roads”.¹
- ADVI conducts research on driverless vehicles and raises public awareness of their potential benefits. It also organises conferences, meetings and demonstrations.
- ADVI organised the driverless car trial in South Australia in November 2015.
- ADVI has core members including the Government of South Australia, the Government of Western Australia, Volvo, Telstra and Suncorp Group and a larger group of non-core members (see below).



- Members include major manufacturers, insurers, finance providers, technology firms and higher education and research institutions. Canberra based firm Seeing Machines is a member and engineering consultants SMEC have based their ADVI resources in Canberra.
- Members and partners collaborate on research and knowledge exchange as well as provide national coordination of efforts to introduce AVs

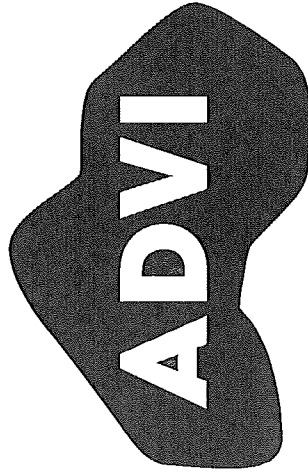
ACT Government Association with ADVI

- Representatives from the ACT Government have met with ADVI five times:
 - December 2015: Introductory meeting with Professor John Metcalf, ADVI’s representative in Canberra. Prof Metcalf welcomed potential ACT Government involvement in ADVI, either as a core or non-core member.
 - January 2015: ACT Government co-hosted a forum on autonomous vehicles (AVs) with CBC. ADVI was represented by Gerard Waldron, Managing Director, ARRB Group and Rita Excell,

¹ ADVI Vision Statement, <https://www.arrb.com.au/Transport/Self-Driving-Vehicles.aspx>, accessed 17/2/2016.

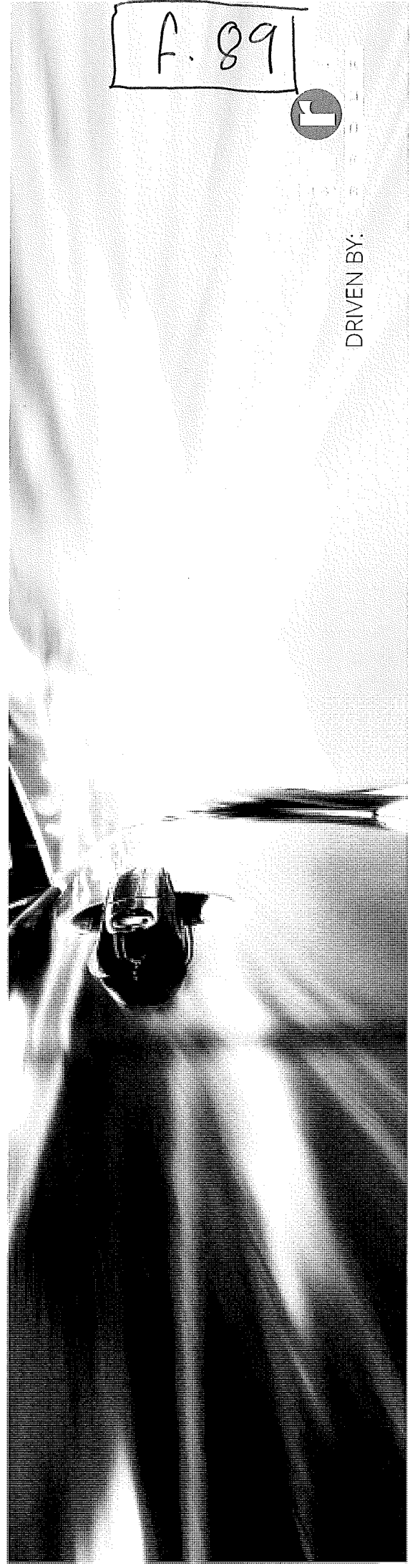
ARRB Regional Manager for South Australia. Ms Excell gave a presentation during the forum on the ADVI and emphasising the benefits of working stakeholders collaborating on this complex issue.

- January 2015: Follow-up meeting with Ms Excell after the forum. Representatives discussed the possibility of a social mobility-based trial of AVs. Ms Excell offered support for such a trial and stated it would not conflict with any of ADVI's current projects.
- February 2015: Joint meeting between ACT Government, CBC, higher education partners and John Metcalf (ADVI) after the forum. ACT Government and ADVI representatives affirmed their ongoing relationship.
- February 2015: Representatives from your office and Economic Development met with SMEC who strongly advocated joining ADVI. SMEC are an infrastructure and professional services firm SMEC is an ACT-based non-core member of ADVI.



AUSTRALIAN
DRIVERLESS VEHICLE INITIATIVE

The most significant program of cooperative activity in the transport space this century. Australia's policies and regulations arising from this work will dictate our international competitiveness for many decades to come.

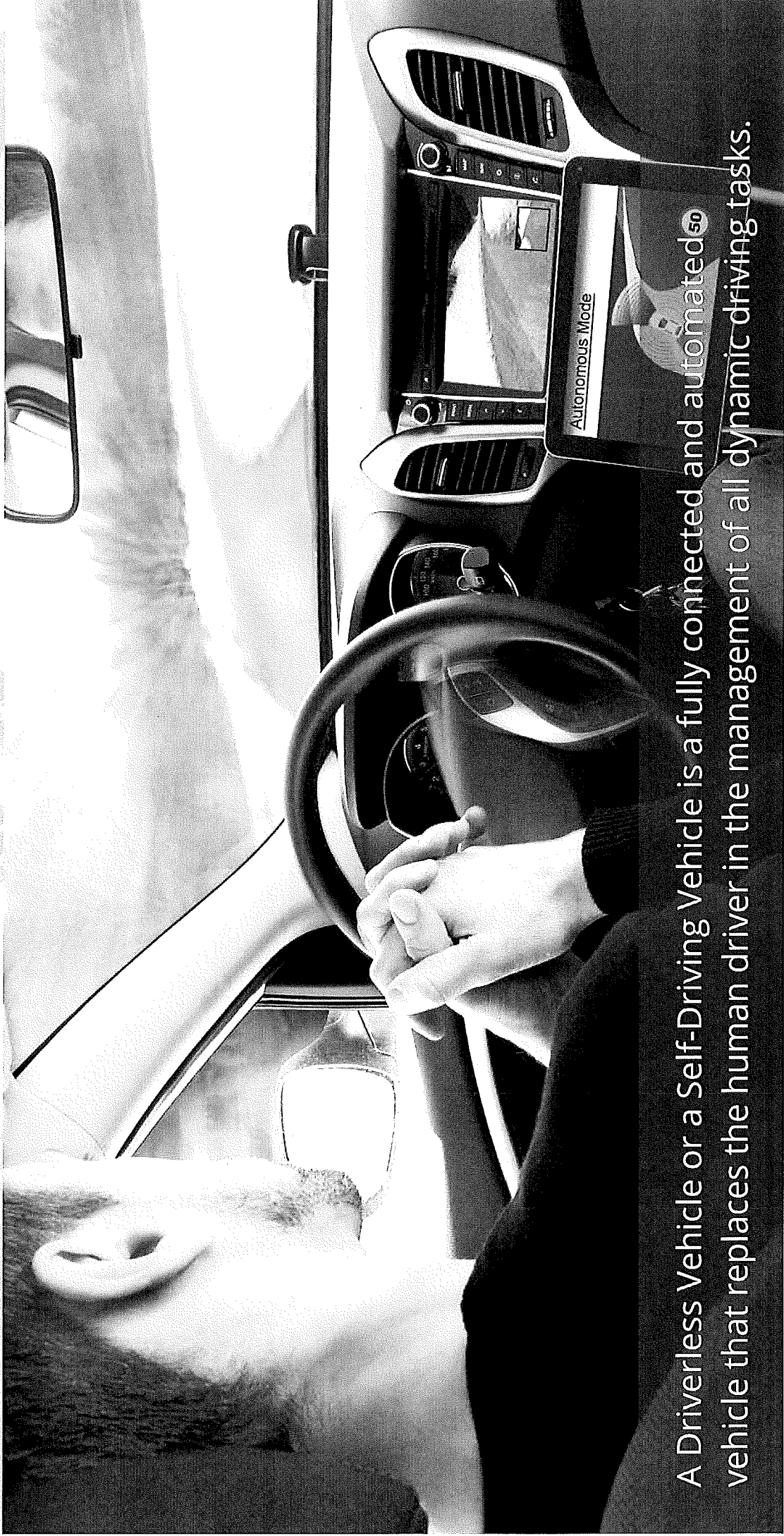


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WHAT IS A DRIVERLESS VEHICLE?



A Driverless Vehicle or a Self-Driving Vehicle is a fully connected and automated ⁵⁰ vehicle that replaces the human driver in the management of all dynamic driving tasks.

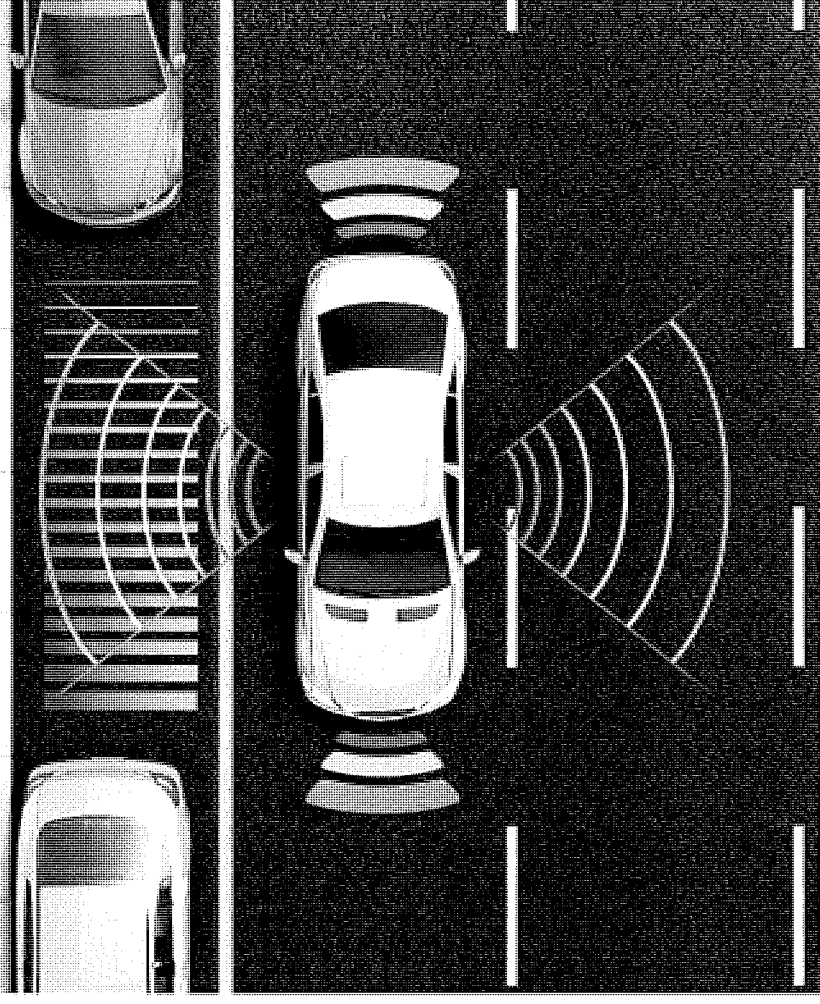
WHERE DOES AUSTRALIA SIT?

- Australia is not prepared for self-driving vehicles
- Other countries are rapidly progressing towards bringing driverless vehicles to market
- Australia spends twice as much on transport than the average OECD country. Falling behind the world in adopting automated vehicle technology will keep Australia uncompetitive in terms of transport costs
- New business models will be required for car manufacturers and infrastructure providers to remain relevant and responsive to community needs
- Australian law and policy needs to adapt and keep up with the rapid changes in transportation and infrastructure



WHAT ARE THE BENEFITS?

- Increased economic competitiveness and the attraction of new investment
- Road capacity could more than triple if cars are able to communicate with each other and safely negotiate their speed and distance
- Enormous savings to the cost structure of mobility:
 - less cars will be required (because of car sharing)
 - vehicles will be cheaper to make
 - vehicles will be cheaper/more fuel efficient
 - less traffic infrastructure will be required to operate vehicles, e.g. less roads, narrower road lanes, less signage and signals, and so on
- Immense community benefits. This is hugely important for a country that spends twice as much on transport as the average OECD country/\$ of GDP:
 - improved road safety leading to a significant reduction in the \$27 billion cost of road trauma per year
 - reduced road congestion leading to a substantial saving in the approx. \$20 billion it costs the economy each year
 - positive environmental impacts from less greenhouse gas emissions
 - increased freedom and mobility for the elderly and people with disabilities, etc.
- Travel can be faster and time previously used to commute will become productive and more meaningful



WHERE DO THINGS STAND AT THE MOMENT?

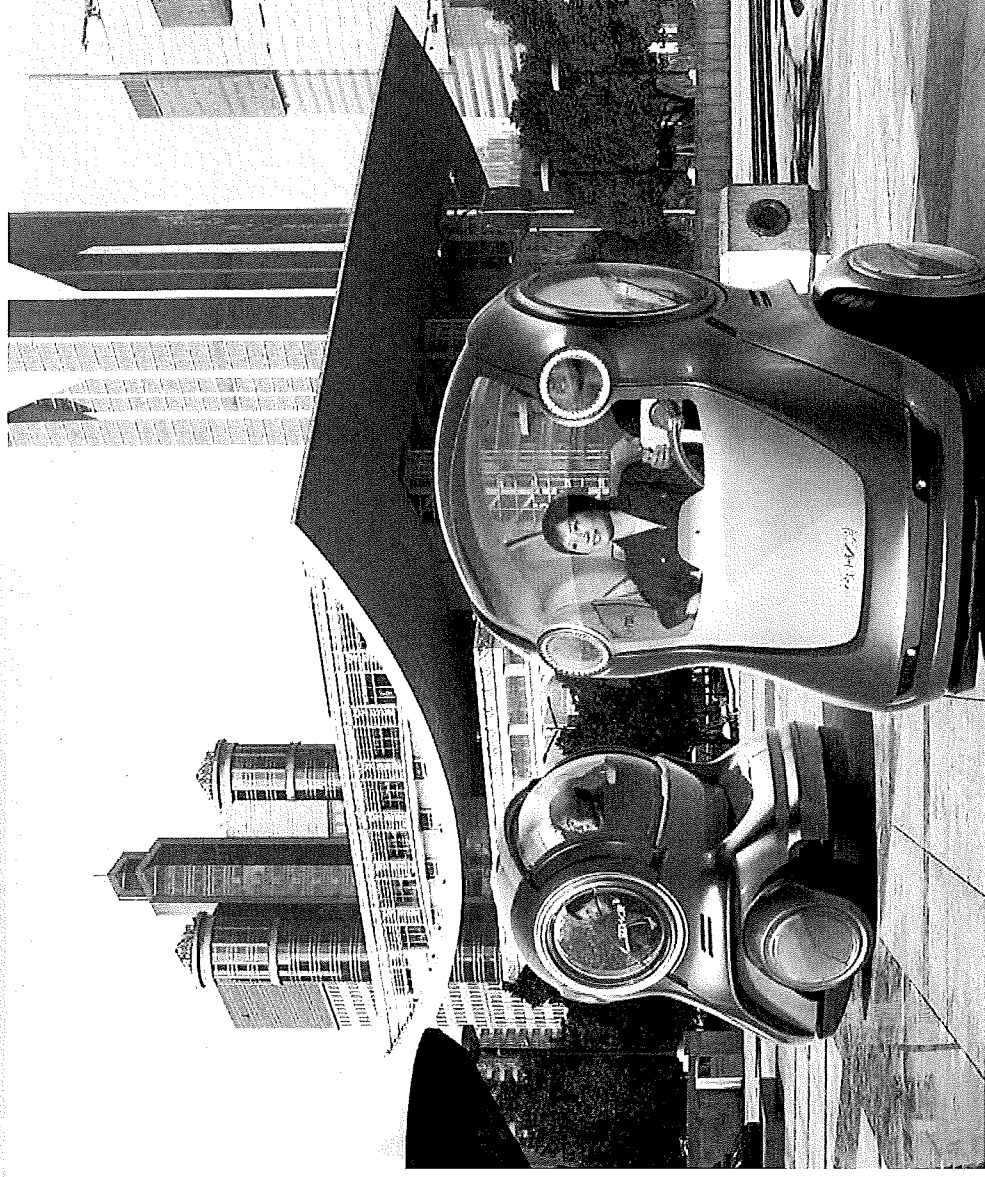
Developments in the automated vehicle space are moving very rapidly across the globe. Australia needs to move quickly so as not to be left behind.

International automotive and technology companies have been piloting their technology overseas in real life traffic situations and in some cases logging large travel distances.

Current forecasts suggest that vehicle technology levels will increase exponentially over the next few years.

This means a movement from semi-automated to fully driverless technology occurring within a few short years.

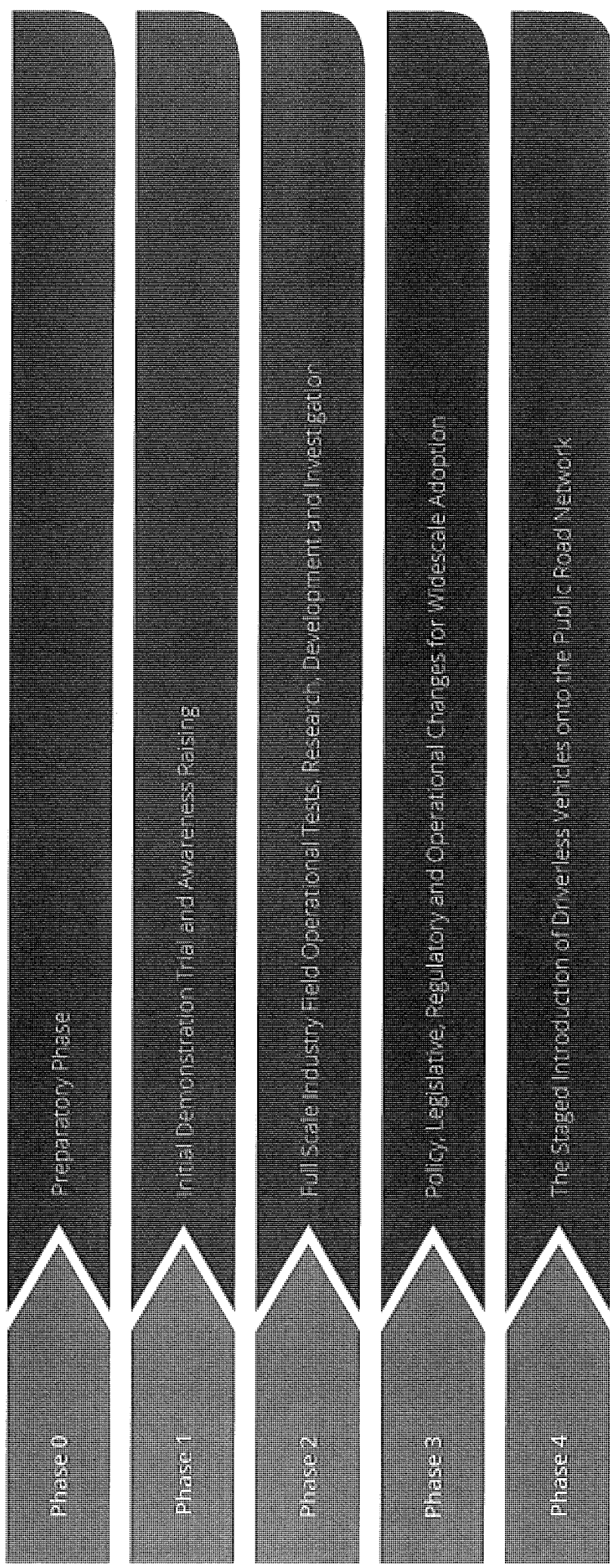
Imagine 75% of all cars on our roads being fully automated within two decades. And while the existing vehicle fleet will take many years to phase out of operation, new enabling infrastructure, legislation, policy and processes will need to be implemented much sooner.



HOW WILL IT HAPPEN?

As a cooperative of its members, ARRB will work with government, industry and academia to investigate and ultimately identify options and outcomes to help inform the development of robust national policy, legislation, regulation, facilities and operational processes to bring self-driving vehicles safely to Australian roads.

A staged program of activity is planned, which will deliver valuable outcomes within agreed timeframes. The major process is as follows:



WHY ARRB?

- ARRB has a deep insight into the challenges and benefits that these new technologies will bring, has a good working knowledge of relevant agency issues, and has the necessary technical expertise internally to both lead and evaluate the required activities to enable the transition to driverless vehicles in Australia
- ARRB has mobilised a local and international network of the 'who's who' of relevant industry organisations and experts, and is able to take advantage of many long standing existing relationships
- ARRB is the 'national road and transport research institute of Australia' – ultimately owned and directed by federal, state and local government
- ARRB is experienced in developing and delivering effective outcomes drawing upon the benefits of multidisciplinary, multinational teams





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ANDREW BARR MLA
CHIEF MINISTER OF THE AUSTRALIAN CAPITAL TERRITORY

Treasurer
Minister for Economic Development
Minister for Urban Renewal
Minister for Tourism and Events

Member for Molonglo

Mr Chris Urmson
Director, Self-Driving Cars
Google
[email address]

Dear Mr Urmson

The Australian Capital Territory Government is excited about the future of self driving cars and we are actively seeking a partner to work with us to lead testing of this innovation in Australia's capital city, Canberra.

Canberra is uniquely placed to be a test bed for technological innovation. We have a wide range of world class research institutions. This includes two world ranked universities, the Australian National University and University of Canberra, the national scientific and technology research organisation, CSIRO. We have a community that is well educated and early adopters of technology. We are also the home of the Commonwealth Government.

As a city state government, we have the potential to be flexible and move quickly. For example, the ACT Government recently worked with Uber and other ridesharing operators to be the first jurisdiction to devise a regulatory framework ridesharing in the Asia-Pacific region.

I now want the ACT to be the first jurisdiction to run meaningful driverless car trials in the Asia Pacific. Single-day and controlled-condition testing is useful, but long-term, real-world usage is essential for self-driving cars to become a positive, accepted and everyday part of our lives.

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The third chapter of your *The View from the Front Seat of the Google Self-Driving Car* series captures one of the great benefits self-driving cars could bring: giving mobility to people unable to drive.

I am keen for the development of a future proof regulatory framework that facilitates fully automated 'hands off' vehicles that could service this community need. I invite you to take part in this work in its early days to help shape our direction of travel and to hopefully bring Google self driving vehicles to Canberra.

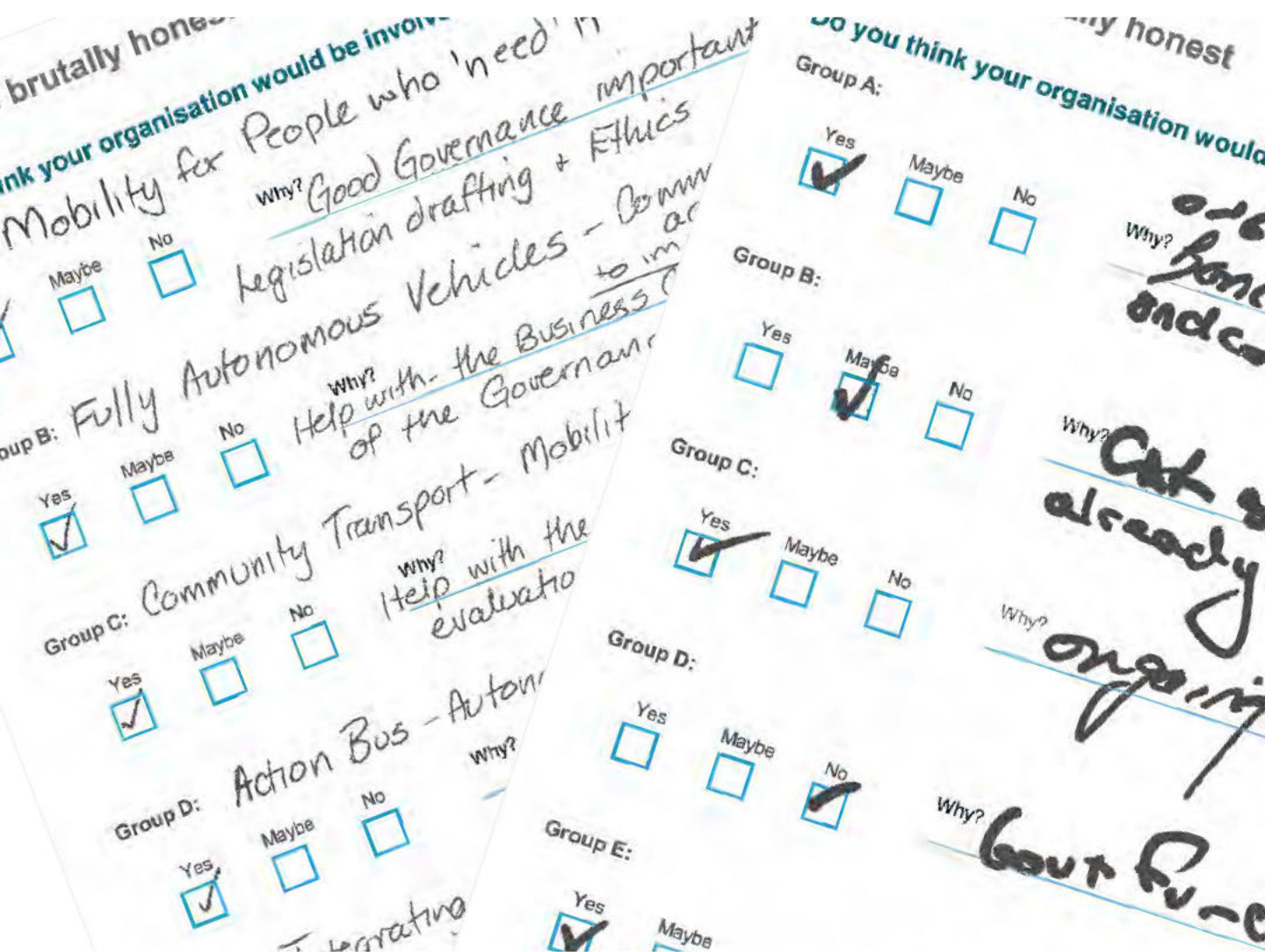
The ACT Government have a successful track record of working with commercial partners in the co-design of approval supportive regulatory arrangements.

If you are interested in exploring the potential of the ACT as a trial site, the best point of contact for your team are Michael Cook (michael.cook@act.gov.au) and Tony Hodges (tony.hodges@act.gov.au) in my office. They will coordinate the ACT's readiness to get driverless cars on our roads.

I look forward to further discussions with Google.

Yours sincerely

Andrew Barr MLA
Chief Minister



Autonomous Vehicle Forum

Conversation Tracker



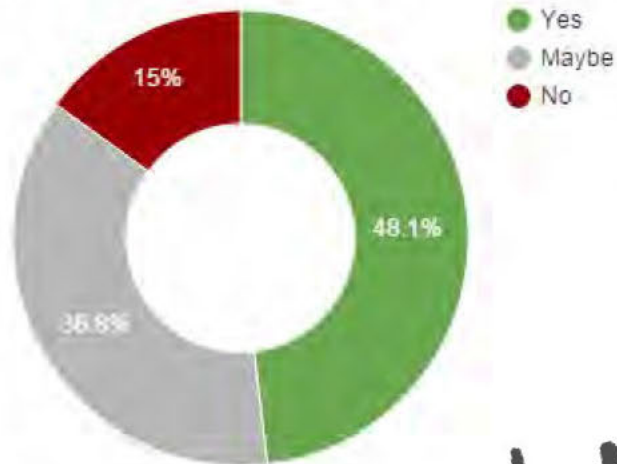
The Canberra Business Chamber and the ACT Government held an industry discussion forum on Autonomous Vehicles on 20 January 2016. The forum was sponsored by NRMA and around 40 people participated from various interested parties in the field. Organisations represented included: ANCAP, ARRB Group, Arup, CBR Innovation Network, Engineers Australia Canberra Division, HLS Vehicle Customisation, iiNet, My Taggles Pty Ltd, NRMA, Seeing Machines, SMEC, Westpac.

Participants took part in a rapid workshop to design the trial, that in their view, would advance this field for Canberra, paying particular attention to the role that the ACT government can play as a catalyst. This conversation tracker records the outputs of the forum, in order to be interpreted and used as raw data, from which a course of action and more detailed recommendations could be made. Targets for the session were to answer the following questions.

What level of interest does industry have to take part in a trial of autonomous vehicles in Canberra?

The participants in the event were particularly positive about the idea of a trial, however it should be noted that they were self selected participants in the conversation. Participants were asked to honestly rate whether they believe their organisation would back the ideas that each group in the workshop designed. As an aggregate score, 48% of the total votes were supportive and 36.8% said maybe to ideas that were generated in the two hour workshop. It is likely that taking the core intent of these ideas and giving them more detail could convert more of the 'maybe' votes to 'yes'.

Feedback: general sentiment towards the ideas

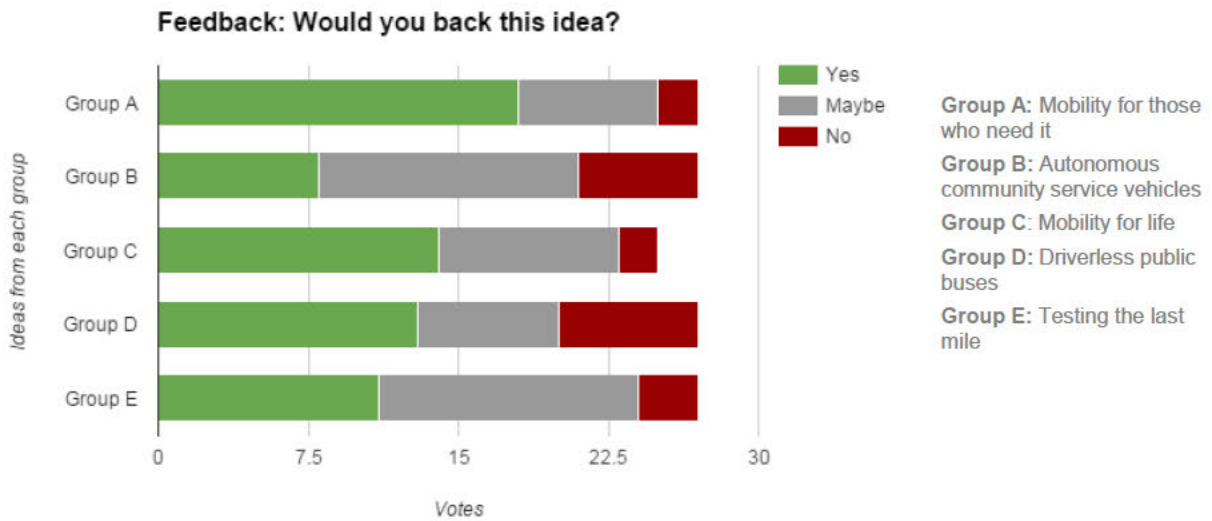


Extra comments: *The Tech is available
Bring it on*

icipation today

What might a trial look like?

Participants raised many opportunities and problem areas in the workshop and designed solutions to potential problems with their trials. The detail of the notes is captured in this document. Overall, however, the top candidate (Group A) was to create a trial for ‘Mobility for those who need it’, focusing on using autonomous vehicles to assist in aged care and for people with a disability. The second place went to a group with a similar trial idea (Group C, ‘Mobility for life’). It may be that this topic area brings together many aspects that excite and entice involvement in a trial: it is publicly accessible and invites community involvement, has social benefit, is easy to explain, is likely to give positive returns to its backers in terms of public profile and perhaps revenue (e.g. via NDIS), and has the potential to directly affect the ACT Government’s service delivery efficiency.



Opportunities

- Canberra is uniquely suited for a trial due to being a compact city, having a single level of government and high quality infrastructure.
- Allow us to use land and infrastructure much more efficiently, including reducing congestion and removing car parks from high value areas.
- Improve the quality of life for people with mobility issues, including the elderly and people with a disability.
- Reap the benefits of being an early adopter/first mover, including raising Canberra's profile and ability to attract investment and talent.
- Improve road safety
- Reduce vehicular emissions

Challenges

- The technology is not fully proven
- Could compete with public transport and/or active transport
- Community may not be accepting
- May lack the infrastructure required
- Implications for employment/industrial relations issues
- Cost and affordability
- Transitioning and implications for infrastructure and planning
- Existing presence and/or ability to attract investment/funding and manufacturing/automotive partners.

Mobility for those who need it

Our trial is going to be around providing mobility for people who need it: aged care, disability, medication, people who don't have a licence.

It will take a phased approach – e.g. 3 vehicles initially, clear routes, one sector – e.g. partner with Goodwin group, go from a Goodwin aged facility to a medical centre using clearly designated vehicles. We need to create legislation up front and then change legislation as we learn. Create a framework and environment to operate in. Allow legislation for private use and open up market forces.

The trial should be visible and transparent. Get community involvement – could use government crowd funding by providing shares in a company via rates notice – 10-20 million dollars. Canberra can become the silicon valley for Autonomous Vehicles. Success will be: it will start things going.

The trial has to engage with a whole range of stakeholders – ACT government can help with this, particularly other community stakeholders – e.g. Action, Uber, NRMA – NRMA, for example, could have role in facilitating a community reference group. We'll also need an ethics reference group.

We need a marketing strategy – specifically have routes marked and highlighted cars so its noticeable in community. Focus on good news stories, e.g. grandma hasn't been out of the house in 5 years. Could run a social media reality show with broader benefit to community!

Local government can have a leadership role and lead the community. This is better than the triple bottom line. Productive environment friendly and provides safety.

Feedback



Those interested in the proposal liked the phased introduction and social applications, while those who were unsure or not interested were mainly discouraged by the funding model.





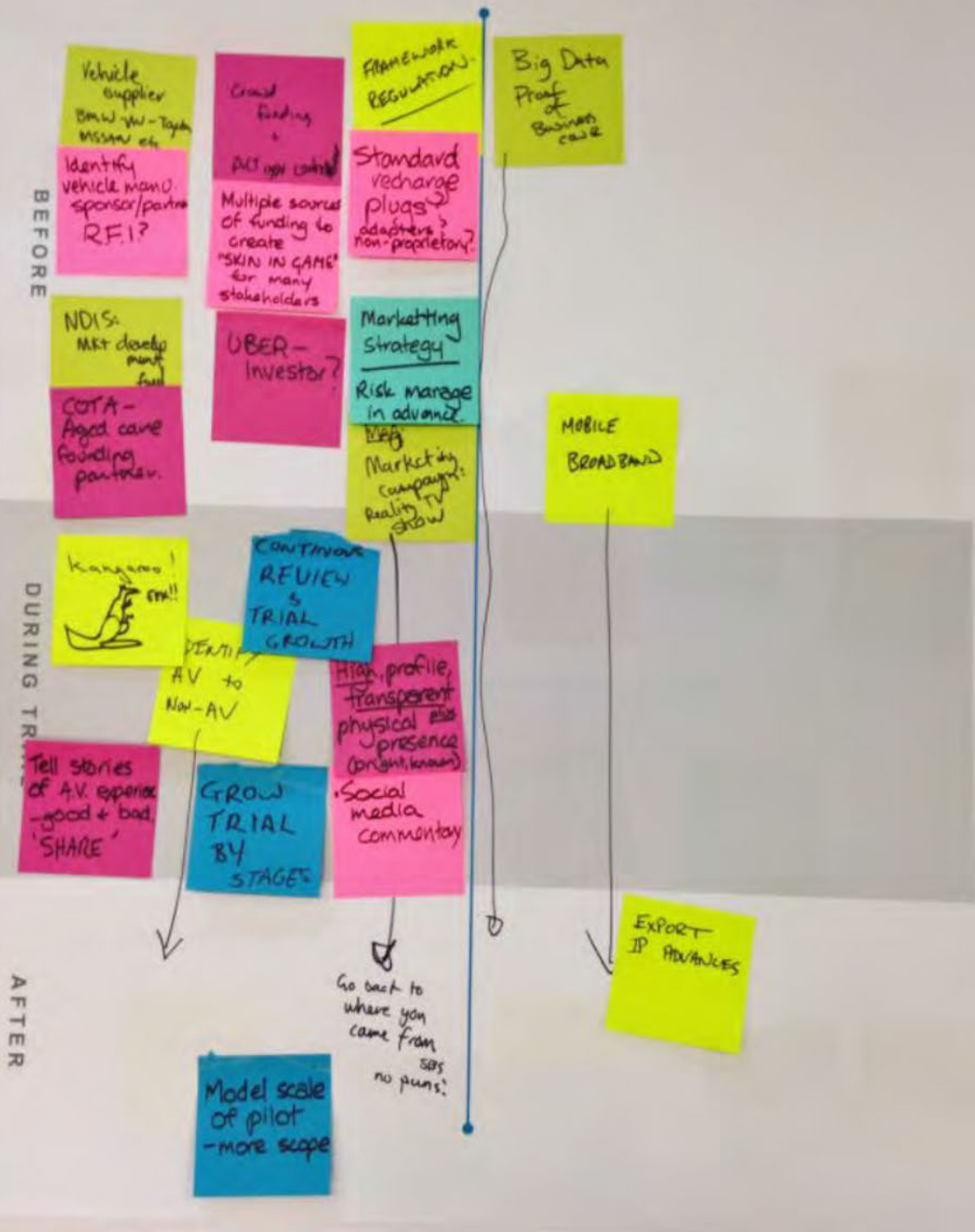
Timeline: how it worked

(A)

THINKPLACE

Make a timeline of all the actions required before, during and after your trial, including what needs to be done and who is involved.

Think about technology, infrastructure, regulation change, publicity, engagement, participation, etc.



GP 4

(A)

Back casting

THINKPLACE

First feedback

Issues	Improvements and solutions
<p>Stigma to spread vehicles</p> <p>SAFETY OF PASSENGERS</p> <p>PATIENT TRANSPORT</p>	
<p>Funding from off set of taxis or other funded services?</p>	
<p>The trial was a success because ...</p> <p>FUNDING Govt/grants 200,000,000 pa. ALL NOT REIMBURSED ON A SHARE. BY REVOLVING AV SHARE \$100 ✓</p> <p>IPO RAISED \$200m</p> <p>Because we knew what data needed to be collected at the start</p> <p>We did a health cost analysis up-front</p> <p>Must use model for all planning for transport</p> <p>lots of journeys</p> <p>Private owned can buy/use AV's during trials</p> <p>Got private car sellers (Tesla, etc) involved</p>	
<p>The ACT government made these important things happen ... (e.g. regulation changes)</p> <p>LEGISLATION</p> <p>MOVE QUICKLY</p> <p>Bankable funding</p> <p>ensured participation of community transport, social enterprises, public transport</p>	
<p>We avoided these problems ...</p> <p>PUBLIC RESISTANCE</p> <p>Suspicion, concern by being totally transparent</p> <p>SHORTAGE OF FUNDING</p> <p>lack of funds</p> <p>We react well to minor glitches</p> <p>Post-pilot paralysis</p>	

Autonomous community service vehicles

A similar side and similar customer base, with a similar set-up to the previous group, but with fully autonomous vehicles. The technology has been proven. We'll use pod vehicles and use the trial to get community acceptance, engagement and usage as part of the norm.

We will target the section of the community where driving is something that people cannot do or don't want to do. People who can get themselves to the car e.g. impaired vision people. It is a growing market of people, so we want to make it accessible to those people. We want people to be able to press a button on their phone, have the vehicle turn up outside. Use it as a social access service, building on that as well.

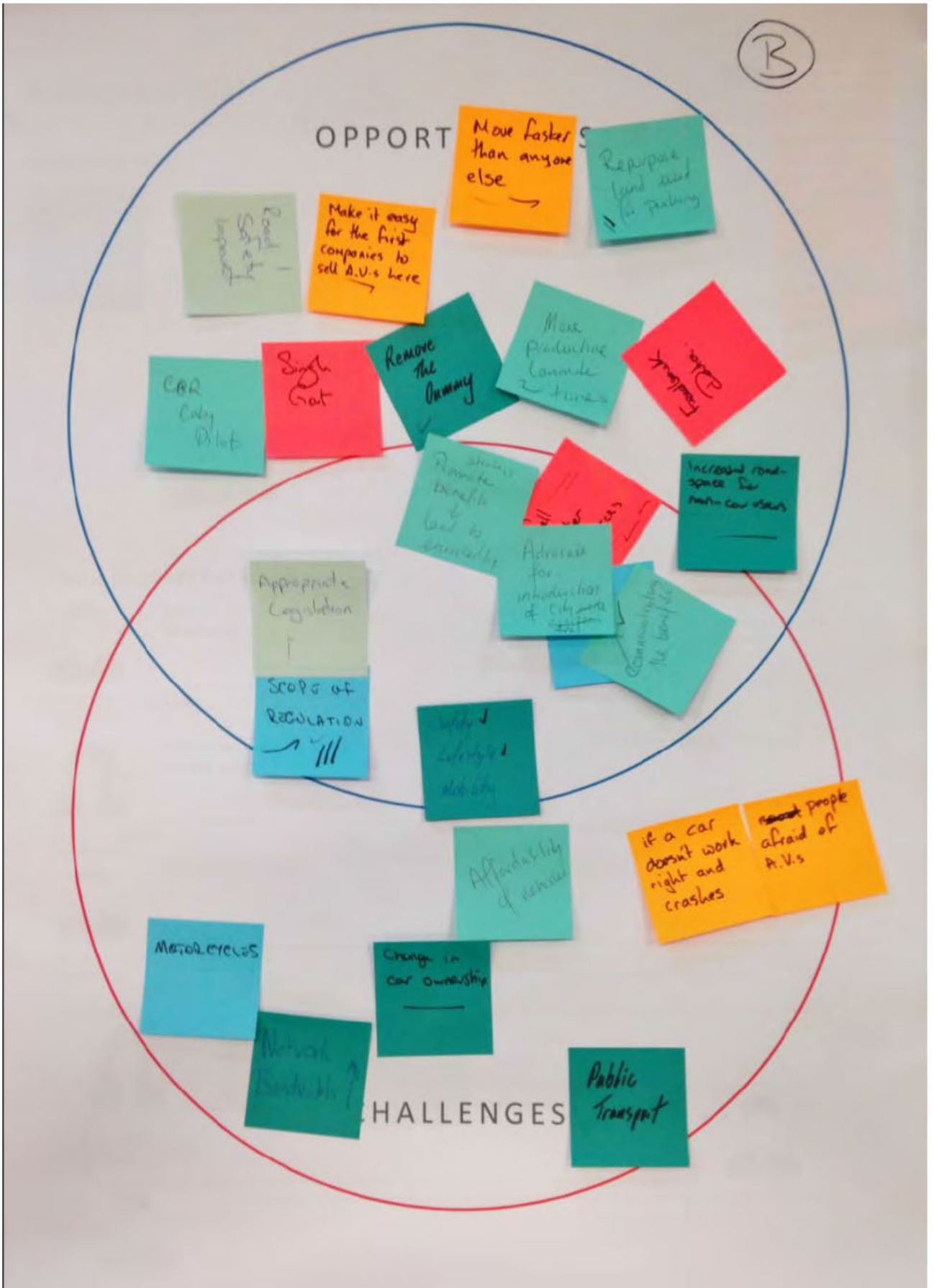
This can open up livelihoods. We want true community acceptance as a norm, and get the most social value in the environment in Canberra.

We need legislation to allow level 4 vehicles. Then have private companies to step into that market. This will drive down a lower price. We want to focus on the gap in the market, and deliver service through this technology.

Feedback



Those interested in the liked the social application and practical benefits, its ambition and embrace of the technology, while those who were unsure or not interested felt that the technology isn't quite ready and the project would be years into the future, saying 'we want something now'.



Design the trial

(B)

THIN

I want to skip the trial phase - let carmakers sell if they can show its safe somehow else (eg ANCAP criteria?)

however - good as "first customer" a good idea - eg for disability transport v taxis.

Uber, Google, Volvo, Google, Apple, whatever to launch + sell their products - making (explain) or - etc that will they out

What is the trial?

COMMODITY SERVICE
VEHICLE FOR
THOSE WHO CAN'T
DRIVE OR CAN
GET THEMSELVES
A DRIVERS LICENSE

Who is involved? And why?



AMEND LEGISLATION TO ALLOW DRIVERSLESS VEHICLE

Name: REGULATOR
Involvement: _____



NEED TRANSPORT NOT CURRENTLY AVAILABLE AS NO OF PRIVATE SERVICE

Name: USERS
Involvement: _____



NEED TO EXTEND COVERAGE TO WHERE THERE IS NO 'BARRIER'

Name: INSURER
Involvement: _____



BUILD / TEST / TRIAL VEHICLES

Name: MANUFACTURERS
Involvement: _____



COORDINATE SERVICE

Name: SERVICE PROVIDER
Involvement: _____



Name: _____
Involvement: _____

People said ...



"I can do my grocery shopping more easily"

I can get some when I couldn't before.



(B)

Back casting

THINKPLACE

First feedback

Issues

- frustrated changes
- Jobs & User
- Individual need for Taxi Service

Improvements and solutions

- Do I really need a car? Should I have a car?
- Mobility = Technology for All

The trial was a success because ...

- Transparent & Socialized Visible
- access + usage without ownership
- Reduced Cost to Gov.
- community acceptance? becoming the norm
- consistency of service - presentation of vehicle

The ACT government made these important things happen ... (e.g. regulation changes)

- regulation → work force relations → application under other uses

We avoided these problems ...

- privacy
- Non-keeping usage during trial

Mobility for life

Mobility for life: community transport with existing groups, such as Anglicare, to go to community activities, shops etc. A trial over a few months, depending on scope by organisations involved.

We will target at people who can get in and out of car, with participants identified by partner organisations. We need a company interested in getting vehicles into the market.

Give the message to the broader ACT community, demonstrating benefits before rolling it out. With assistants and call centres to provide support service.

There are many longer term economic benefits – nationally the community transport budget is large, governments can then use health facilities more efficiently e.g. appointment times that are outside office hours, not paying drivers overtime.

Ultimately we want to create a good user experience, with happy clients where we meet their needs. We need a strong focus on safety and protocols. Communicate that this is being trialled in Canberra, time to start rolling out wider trials, with the community brought along and being part of the message.

Feedback



Those interested in the proposal liked the good social benefits and supports people with mobility issues, that it was well thought through and is a good contained trial, while those who were unsure or not interested were mainly discouraged by the fact it was very public service focused and likely to be reliant on government to run.

Design the trial

(C)

THINKPLACE

What is the trial?

Mobility 4 Life

-Transport to Health apps and shops



-Access to care
-More efficient health system
-Community Inclusion
-Self-managed care.

Community Leap

IDENTIFY NEED AREAS FROM DATA

Get to know the community

Scope
-Geography
-Duration
-People.

Who is involved? And why?



We need to collect and take people to hospital, and events. Staff, costs and time are always a problem

Name: Community Leap
Involvement: end user



We support innovation in transport, health & community inclusion.

Name: ACT Govt (MTEPO) Health EPO
Involvement: Policy, Regulation, Service Design.



[Empty speech bubble]

Name:
Involvement:



VEHICLE MANUFACTURER (VAVO, ETC)

Name:
Involvement:



[Empty speech bubble]

Name:
Involvement:

Local businesses, academics, tech compis



A landmark trial in the ACT

Name: Canberra times journalism
Involvement: reporting

People said ...



[Empty speech bubble]

[Empty speech bubble]



[Empty speech bubble]

Timeline: how it worked

THINKPLACE

Make a timeline of all the actions required before, during and after your trial, including what needs to be done and who is involved.

Think about technology, infrastructure, regulation change, publicity, engagement, participa



Back casting

©

THINKPLACE

First feedback

Issues

- Engage groups such as Alzheimers Australia & Anglicare
- Who pays?
- Will it interfere with role of community transport? Is this an opportunity for partnership?
- Small on scale?
- Doctors surgeries clients pick up service?

Improvements and solutions

The trial was a success because ...

- Trip generation rate is high
- The human side was communicated improved quality of life
- Great feedback from participants
- Savings to government and community groups
- User experience was positive

The ACT government made these important things happen ... (e.g. regulation changes)

- Indemnify those involved in the trial?
- Government approval to drive on public roads
- Pricing - cheap but not free - government
- Agree to partnerships

We avoided these problems ...

- taxi/uber drivers complaining - meet with industry
 - communicate the benefits to the public
 - retraining programs
- clients not being tech savvy - community organisation to help out & offer a support line
 - explaining the benefits
- Managing expectations - clear scope for the trial
- Accidents - strong focus on safety
- Media - build good media relations

Driverless public buses

We looked at a trial with ACTION buses, recognising that they are currently not-profitable, unreliable, and have poor user take-up, and the system could always be safer. So we looked at what we could do to improve it.

The trial would use stage 3 vehicles – the technology is available now. We would trial how that technology could benefit Canberra. This is not about beta testing technology. We would prove the technology works for Canberra.

We would start by supplementing red rapid services. They have routes with dedicated bus lanes and small numbers of drop off and pick up points, and regular schedules. It would be easy to supplement these routes. There is frequency and good use of those routes.

It would be a free trial for the public, to encourage people to get on the autonomous bus.

An entirely government funded program, understanding that action is already an entirely government funded program. It's a way for action to improve its bottom line.

Stage 1 would be a supplementary trial with 5-10 buses to the routes. Stage 3 would be door to door with smaller buses. With longer term capital costs coming from replacement of traditional buses through stage 2.

We will see a higher usage of public transport in ACT, with buses driven autonomously and on a loop. It delivers on a few government goals: sustainable transport, and 2025 zero emissions.

Feedback



Those interested in the proposal showed strong support for the possibility of improving public transport, and thought it could start soon and reduce costs, while those who were unsure thought industrial relations issues, heavy government involvement and funding requirements, and difficulty in securing technology/automotive partners would make it hard to implement.



Design the trial

(D)

THINKPLACE

What is the trial?

Driverless
Public
Buses

Dedicated
Bus
lanes
Only

3 Stage
Trial
1) Rapid
2) Local Suburbs
3) On-demand
to homes

Blue Rapid
Red Rapid

Who is involved? And why?



Name
Involvement:

Transport
Minister
Support

ADVI
to leverage
experience



Name
Involvement:

Cyclists
- did it improve
safety for them

'Normal'
Road
Users
- effect on
their habits



Name
Involvement:

Bus
Drivers
+
TWU
Subsistence



Name
Involvement:

Passengers
- feelings +
experience

Parents
- reassurance
of child
safety



Name
Involvement:

Bus
Manufacturers
Volvo?



Name
Involvement:

Road Network
+ Public Transport
Planners

People said ...



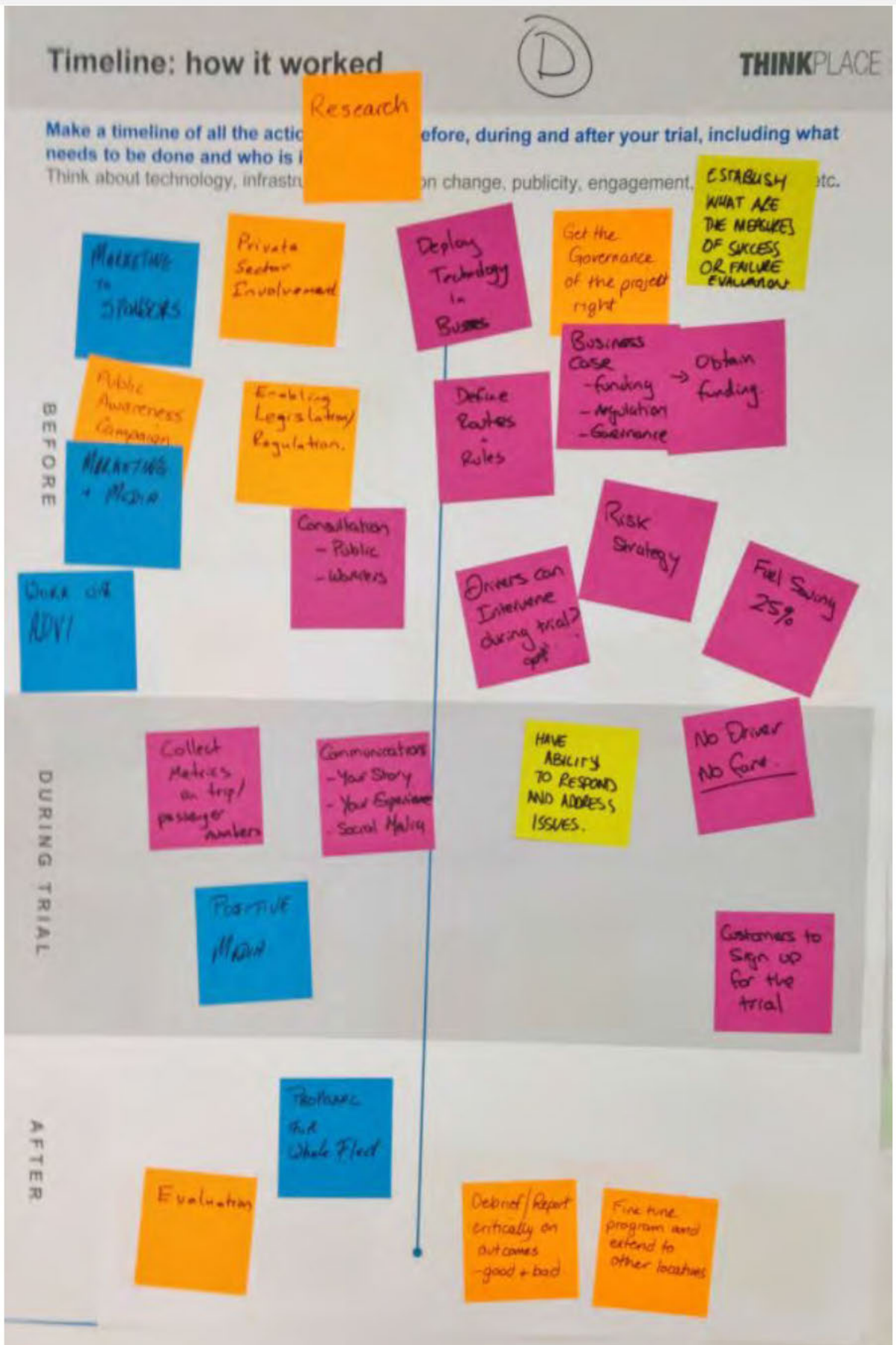
Driver for
comfort of
passengers

Buses ran
on time
and more
frequently

I always
got a
seat on
the bus

I was curious
so I caught
a bus for
the first time
in years.....





Back casting THINKPLACE

(D)

First feedback

Issues

Improvements and solutions

- Funding: PPP + rapid
- Roads: +
- Drivers: ~~More~~ No rational driver
- Driver Revolt
- Supplement for local service
- Stage 1 Blue rapid
- Gothamby BSSM Canberra?

The trial was a success because ...

- NEW BUDES
- Community Acceptance
- Whole Community Benefits
- Better Service
- Lower DPEY for Govt

The ACT government made these important things happen ... (e.g. regulation changes)

- DECLARED ITS INTENTIONS
- Provided Funding
- Regulatory Changes
- COMMUNICATED ITS SUCCESS

We avoided these problems ...

- REINVESTING IN OREEL by involving ADVI
- Reliable Public Transport
- TWU Strikes
- Driver Shortage
- Loss of Public Trust
- Accident
- Over competition

Testing the last mile

We want to trial the last mile: how things are integrated across multiple agencies – everyone else will be trialling the technology. Local government, federal government and universities to test the last mile – this is a Canberra strength.

We have different roads to test for different periods – peak periods – will involve bringing in high tech stimulation programs, bring in electric vehicles programs. Integrating at regulation level and testing last mile to see how people come together. With regulation, education and awareness, zoning and planning.

We'll have media to promote the CBR story. Engagement throughout the whole timeline.

We'll create mini studies within this trial – e.g. parliamentary triangle with fully autonomous pods. Main commuting lines with stag 3 or 4 autonomous vehicles.

We'll report on and measure everything, to use the data for research purposes. Government will have an open data policy, traffic information, commuter routes, this will combine with private sector algorithms and data sets.

We'll capture successful case studies. Bring the community along with us, and use everyone as a platform for success.

Feedback



Those interested in the proposal thought there were lots of opportunities for industry and local businesses, liked the links with broader transport systems, and thought it would be new and leading, while those who were unsure thought there was a lack of clarity and too broad a scope.



THINKPLACE

Design the trial

What is the trial?

Testing the last mile

Proving the social value

Test Peak Periods

Testing the trial application in the real world

Real world test track

Tracks Freight

Simulate Environment - Roads

Interaction of Range of Vehicles

Gov + Comm + Res

Integrate with Electric Vehicle Programs

Who is involved? And why?

Person 1:
 We support our local innovators and businesses, and getting better social & environmental outcomes for our people.
 Name: ACT Government
 Involvement: Regulation, Education/business, Infrastructure, City/planning

Person 2:
 User groups - Aged, NDIS
 Name: _____
 Involvement: _____

Person 3:
 Both sides of Politics
 Federal Government
 Innovation + Agile
 Name: _____
 Involvement: _____

Person 4:
 Media + Exposure to Public
 Name: _____
 Involvement: _____

Person 5:
 Universities + CSIRO + other institutions
 Name: _____
 Involvement: _____

Person 6:
 automotive companies + tech companies
 Pedal power
 Name: _____
 Involvement: _____

People said ...

at first I was sceptical but autonomous cars are great

Carshare has become a hot bed of innovation

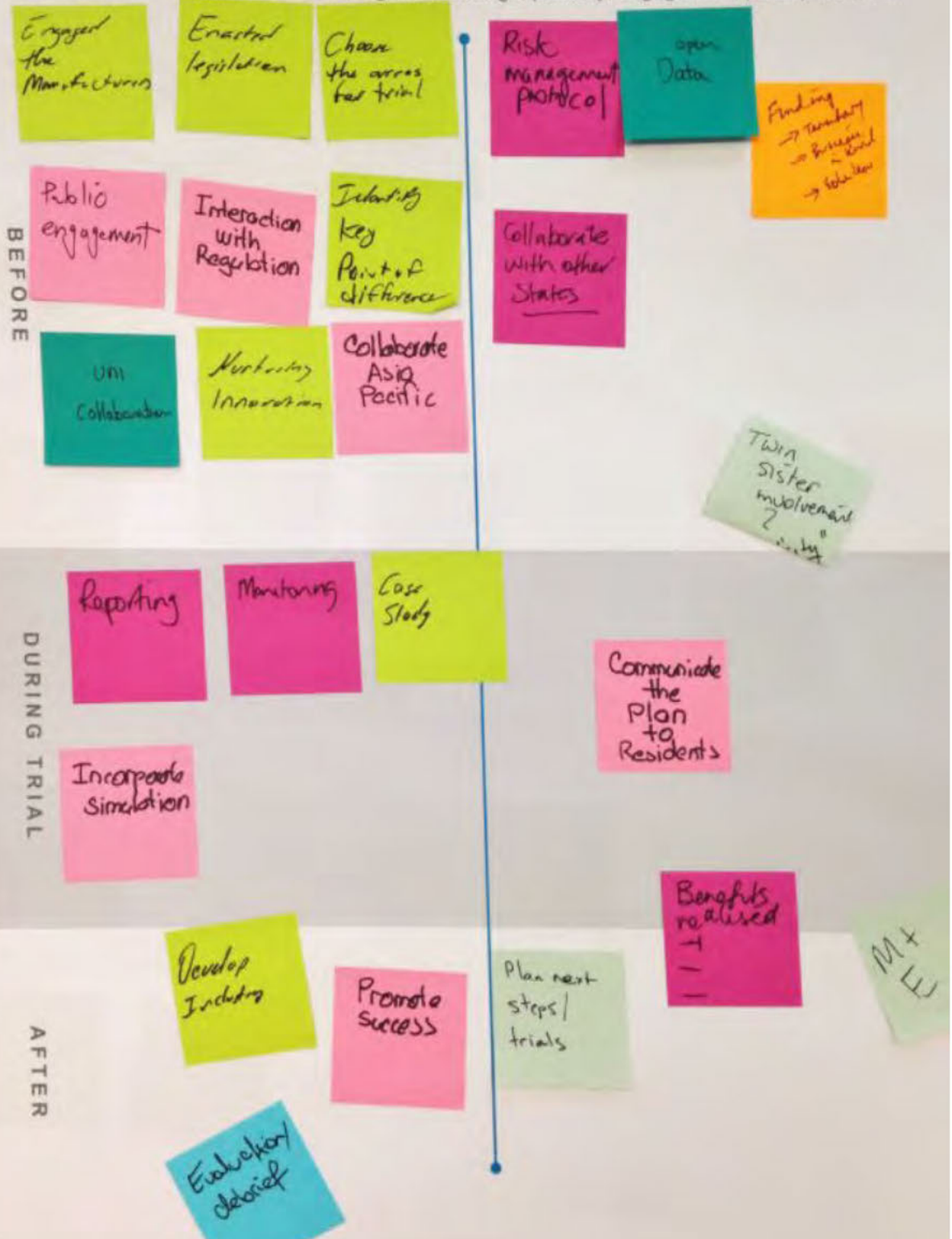
Timeline: how it worked

(E)

THINKPLACE

Make a timeline of all the actions required before, during and after your trial, including what needs to be done and who is involved.

Think about technology, infrastructure, regulation change, publicity, engagement, participation, etc.



Back casting

(E)

THINKPLACE

First feedback

Issues

- Deal with failure
- Limit the scope
- Site availability
- did the costs really come in?
- Attraction Key Stakeholders
- Industrial relations
- Manufacturer & Public participation

Improvements and solutions

- Able to mitigate control effects

The trial was a success because ...

- Exposed trial site issues and resolved them
- Strong communication program
- collaboration with UNIS
- set expectations
- LIMIT POLITICAL EXPOSURE + RISK
- GOVERNANCE STRUCTURE LIMITS GOV'T INPUT + EXPOSURE
- EXCELLENT Planning
- EXCELLENT Communication
- EXCELLENT CONTRACTS
- Business + Community Saw Benefits

The ACT government made these important things happen ... (e.g. regulation changes)

- Political leadership
- changed regulation
- zoning
- bipartisan

We avoided these problems ...

- Public Health
- Costs

Feedback

Please be brutally honest

THINKPLACE

Do you think your organisation would be involved in this?

Group A:

Yes Maybe No

Why? Smart impactful innovative
ambitious practical

Group B:

Yes Maybe No

Why? need pod cars not yet avail
I want to see action now

Group C:

Yes Maybe No

Why? I want to see path for
private industry to find customer
not enough emphasis on legistⁿ up front

Group D:

Yes Maybe No

Why? AVs for busses is a good
application but we should
create the environment for lots
of innovations like this rather
than picking a winner.

Group E:

Yes Maybe No

Why? focus on learning not exciting to
me - enable ~~about~~ new activities don't
plan these.

Extra comments:

Thank you for your participation today

Please be brutally honest

THINKPLACE

Do you think your organisation would be involved in this?

Group A:

Yes Maybe No

Why? A business approach as it's restricted

Group B:

Yes Maybe No

Why? Application development well sold

Group C:

Yes Maybe No

Why? a good news story.

Group D:

Yes Maybe No

Why? Action bus trial awesome idea - makes sense in many ways, what about operating in a suburb taking people to bus interchanges

Group E:

Yes Maybe No

Why? Didn't really know what they were talking about? Let these guys run the show.

Extra comments:

Please be brutally honest

THINKPLACE

Do you think your organisation would be involved in this?

Group A: 4

Yes Maybe No

Why? Great Idea. do meet
needs of Mobility
impaired!

Group B: 2

Yes Maybe No

Why? Social Access & benefit

Group C: 1

Yes Maybe No

Why? Mobility for life

Group D: 3

Yes Maybe No

Why? benefit & Confidence - 3 stage
Entry point & Judicial trial
mayhem.

Group E: 5

Yes Maybe No

Why? Promotion to Asia/Pacific
Mini studies within trial
Report / Measure / Communication

Extra comments:

Please be brutally honest

Do you think your organisation would be involved in this?

Group A:

Yes Maybe No

Why?

good idea. needs clearer scope.
Not sure about funding model?

Group B:

Yes Maybe No

Why?

Very broad - some good ideas, not a clear plan

Group C:

Yes Maybe No

Why?

My Group

Group D:

Yes Maybe No

Why?

Don't support free trial - sdg
Maybe start smaller first

Group E:

Yes Maybe No

Why?

last mile, for who, where? Linked to pt?
Too broad for a first trial? liked different studies approach.

Extra comments:

Please be brutally honest

THINKPLACE

Do you think your organisation would be involved in this?

Group A:

Yes Maybe No

Why?

Don't like the funding model - too risky - wasty and game.

Group B:

Yes Maybe No

Why?

Technology doesn't exist yet, first aimed at vehicle manufacturers who can provide the fleet.

Group C:

Yes Maybe No

Why?

Group D:

Yes Maybe No

Why?

My group :-)

Group E:

Yes Maybe No

Why?

Open-ended important for all ACT businesses in the industry.

Extra comments:

Thank you for your participation today

Please be brutally honest

THINKPLACE

Do you think your organisation would be involved in this?

Group A:

Yes

Maybe

No

Why?

WELL PUNDED ; SOUNDS VIABLE

Group B:

Yes

Maybe

No

Why?

OBJECTIVE WASN'T VERY CLEAR

Group C:

Yes

Maybe

No

Why?

COULD BE FEASIBLE / VIABLE ; LINK W/
GROUP A'S PLAN

Group D:

Yes

Maybe

No

Why?

WILL BE VERY DIFFICULT TO IMPLEMENT DUE
TO UNION RESISTANCE. PROBABLY NOT MUCH
BENEFIT AS BURETS WILL STILL BE SUBJECT
TO THE USUAL CONGESTION

Group E:

Yes

Maybe

No

Why?

UNCLEAR METABOLGY

Extra comments:

Thank you for your participation today

Please be brutally honest

THINKPLACE

Do you think your organisation would be involved in this?

Group A:

Yes Maybe No

Why? SCALABLE FULLY THOUGHT
THROUGHT

Group B:

Yes Maybe No

Why? TOO LIMITED

Group C:

Yes Maybe No

Why? TOO LIMITED

Group D:

Yes Maybe No

Why? NOT CLEAR WHAT IS PROPOSED
ONLY ONE 3 JOURNALS SEE
RESULTS NEWS

Group E:

Yes Maybe No

Why? DIFFICULT TO ATTEND
GROUPS

Extra comments:

Thank you for your participation today

Please be brutally honest

THINKPLACE

Do you think your organisation would be involved in this?

Group A: **Mobility for People who need it.**

Yes Maybe No

Why? **Very Small**

Group B: **Mobility for People (not wheelchairs)**

Yes Maybe No

Why? **Just requires legislation**

Group C: **Assistance in 12. vehicles**

Yes Maybe No

Why? **- Angerme / Govt.
- cost for govt**

Group D: **Action Buses**

Yes Maybe No

Why? **- Needs significant
Govt. funding
- or PPP**

Group E: **last mile**

Yes Maybe No

Why? **More info needed**

Extra comments:

Please be brutally honest

THINKPLACE

Do you think your organisation would be involved in this?

Group A:

Yes Maybe No

Why?

INCLUDED MOST
OTS + CHALLENGES.

Group B:

Yes Maybe No

Why?

GOOD REDUCTION
IN NEED FOR CARE!

Group C:

Yes Maybe No

Why?

REDUCED
HEALTH COSTS

Group D:

Yes Maybe No

Why?

MAKE PUBLIC
TRANSPORT EFFICIENT

Group E:

Yes Maybe No

Why?

GOOD TECH

Extra comments:

Thank you for your participation today

Please be brutally honest

THINKPLACE

Do you think your organisation would be involved in this?

Group A:

Yes

Maybe

No

Why?

TRANSPORT PLANNER
(RETIRED)

Group B:

Yes

Maybe

No

Why?

EMBRACE TECHNOLOGY

Group C:

Yes

Maybe

No

Why?

IMPROVED ACCESS /
MOBILITY.

Group D:

Yes

Maybe

No

Why?

MORE EFFICIENT AS A
PUBLIC TRANSPORT
FACILITY

Group E:

Yes

Maybe

No

Why?

NEW INDUSTRY FOR
CANBERRA

Extra comments:

Thank you for your participation today

Please be brutally honest

THINKPLACE

Do you think your organisation would be involved in this?

Group A:

Yes

Maybe

No

Why?

Mobility to the disabled is a great opportunity for Drivless Vehicles - However
Legislation must be in place

Group B:

Yes

Maybe

No

Why?

Similar to above

Group C:

Yes

Maybe

No

Why?

Similar to above
Demonstrate effort for
acceptance of drivless vehicles
more broadly

Group D:

Yes

Maybe

No

Why?

Drivless Buses, could lose
more money than Actem!

Group E:

Yes

Maybe

No

Why?

last mile - good linkage
to Canberra Metro!

Extra comments:

Good to see focus on Mobility for
all ie people with a disability, elderly
etc

Thank you for your participation today

Please be brutally honest

THINKPLACE

Do you think your organisation would be involved in this?

Group A:

Yes Maybe No

Why? Innovative, adaptive
community involvement

Group B:

Yes Maybe No

Why? Too far in future.
Lots of assumptions

Group C:

Yes Maybe No

Why? Well defined/ thought
through.
Wide range of benefits

Group D:

Yes Maybe No

Why? Cutting edge & well
thought through.
but union challenges

Group E:

Yes Maybe No

Why? Robust, active,
economic connections.

Extra comments:

Thank you for your participation today

Please be brutally honest

THINKPLACE

Do you think your organisation would be involved in this?

Group A:

Yes Maybe No

Why?

(4) Mobility & those in need
FUNDING MODEL?

Group B:

Yes Maybe No

Why?

(2) NOT YET - LATER
STAGE TRIAL

Group C:

Yes Maybe No

Why?

(1) Mobil. & hys
CLEAR, DEFINED
SCOPE. CLEAR
SOCIAL/GOVT
BENEFIT.

Group D:

Yes Maybe No

Why?

PUBLIC BUJES
UNION PUSHBACK?
FUNDING?

Group E:

Yes Maybe No

Why?

INTERESTING
ANGLE
NEEDS A BIT
MORE DEFINITION

Extra comments:

Thank you for your participation today

Please be brutally honest

THINKPLACE

Do you think your organisation would be involved in this?

Group A:

Yes Maybe No

Why? Focused on mobility

Group B:

Yes Maybe No

Why? Focused again

Group C:

Yes Maybe No

Why? Health is an excellent opportunity

Group D:

Yes Maybe No

Why?

Group E:

Yes Maybe No

Why?

Extra comments:

Thank you for your participation today

Please be brutally honest

THINKPLACE

Do you think your organisation would be involved in this?

Group A:

Yes Maybe No

Why? phased, community buy-in commercial, social.

Group B:

Yes Maybe No

Why? lacks detail but level 4 is a great strength.

Group C:

Yes Maybe No

Why? - cost benefit upfront fight focus, post trial plan, augments a known need. + service.

Group D:

Yes Maybe No

Why? creates efficiency in existing system, little market stimulus environment

Group E:

Yes Maybe No

Why? integration/last mile strongest point. too much study

Extra comments:

OPEN DATA great point. like Brand's funding ideas

Thank you for your participation today

Please be brutally honest

THINKPLACE

Do you think your organisation would be involved in this?

Group A:

Yes Maybe No

Why? Not sure about shares.

Group B:

Yes Maybe No

Why? Will hang it out. ^{needed}

Group C:

Yes Maybe No

Why? _____

Group D:

Yes Maybe No

Why? Proia b was accepted to
withhold

Group E:

Yes Maybe No

Why? _____

Extra comments:

Thank you for your participation today

Please be brutally honest

THINKPLACE

Do you think your organisation would be involved in this?

Group A:

4

Yes

Maybe

No

Why?

supportive - but
Doesn't fit business
specific drives

Group B:

Yes

Maybe

No

Why?

_____ " _____

Group C:

Yes

Maybe

No

Why?

_____ " _____

Group D:

Yes

Maybe

No

Why?

_____ " _____

Group E:

Yes

Maybe

No

Why?

organisation can
participate

Extra comments:

Thank you for your participation today

Please be brutally honest

THINKPLACE

Do you think your organisation would be involved in this?

Group A:

Yes

Maybe

No

Why?

Staged Sol'n

Group B:

Yes

Maybe

No

Why?

Not enough detail
- too far off

Group C:

Yes

Maybe

No

Why?

Contained trial
- locally based

Group D:

Yes

Maybe

No

Why?

Immediate impact
& cost saving

Group E:

Yes

Maybe

No

Why?

Love 'last mile' trial

Extra comments:

Thank you for your participation today

Please be brutally honest



THINK PLACE

Do you think your organisation would be involved in this?

Group A:

Yes

Maybe

No

Why?

Grant, video & commercial edge

Group B:

Yes

Maybe

No

Why?

well thought out / through

Group C:

Yes

Maybe

No

Why?

Support subject to Govt financial support

Group D:

Yes

Maybe

No

Why?

Responds to current great need, but need from Govt

Group E:

Yes

Maybe

No

Why?

Need a bit more clarity

Extra comments:

Thank you for your participation today

Please be brutally honest

THINKPLACE

Do you think your organisation would be involved in this?

Group A:

Yes Maybe No

Why? IMPROVED MOBILITY

Group B:

Yes Maybe No

Why? Q ? Trial Environment.
(Too Big)

Group C:

Yes Maybe No

Why? CONTAINED ENVIRONMENT

Group D:

Yes Maybe No

Why? High level of ~~govt~~
govt involvement.

Group E:

Yes Maybe No

Why? COMPREHENSIVE PLAN

Extra comments:

Thank you for your participation today

Please be brutally honest

THE WORKPLACE

Do you think your organisation would be involved in this?

Group A:

Yes

Maybe

No

Why?

ongoing.
benefit to members,
and community.

Group B:

Yes

Maybe

No

Why?

Can skating model
already there.

Group C:

Yes

Maybe

No

Why?

ongoing commitment.

Group D:

Yes

Maybe

No

Why?

Govt funded.

Group E:

Yes

Maybe

No

Why?

last mile benefits

Extra comments:

The Tech is available
bring it on

Thank you for your participation today

Please be brutally honest

THINKPLACE

Do you think your organisation would be involved in this?

Group A:

Yes

Maybe

No

Why?

↳ accessible to Community Services
• Social inclusion,

Group B:

Yes

Maybe

No

Why?

Social inclusion

Group C:

Yes

Maybe

No

Why?

I

Group D:

Yes

Maybe

No

Why?

Efficient PT, and inflexible

Group E:

Yes

Maybe

No

Why?

↳ It may help manage park
demand & congestion

Extra comments:

An integrator

It depends what is our goal?

If it is Social A or B, if it is
economic/environmental C, if it is

Thank you for your participation today

economic,
probably D.

ACT Govt Employees

Please be brutally honest

Do you think your organisation would be involved in this?

Group A: 4: Mobility

Yes Maybe No

Why? small targeted
But don't expandable
want rates notice \$

Group B:

Yes Maybe No

Why? Govt ZFP? not sure how this works.

Group C:

Yes Maybe No

Why? similar to group A. funding concerns

Group D:

Yes Maybe No

Why? bases not Govt funded. red rapid rates

Group E:

Yes Maybe No

Why? Not sure about how it would work what it would be.

Extra comments:

Please be brutally honest

THINKPLACE

Do you think your organisation would be involved in this?

Group A:

Yes Maybe No

Why? The idea is good, but could have been focused a little more.

Group B:

Yes Maybe No

Why? Relying on customer to engage rather than presenting it to them.

Group C:

Yes Maybe No

Why? Long term profitability not guaranteed

Group D:

Yes Maybe No

Why? Great idea

Group E:

Yes Maybe No

Why? Again, what as the trial, I must really sure.

Extra comments:

Thank you for your participation today

Please be brutally honest

THINKPLACE

Do you think your organisation would be involved in this?

Group A:

Yes

Maybe

No

Why?

BROAD BENEFITS
FUNDING EXPLAINED

Group B:

Yes

Maybe

No

Why?

EXPAND NEEDED ON TARGET

Group C:

Yes

Maybe

No

Why?

FOCUSED SOCIAL BENEFIT

Group D:

Yes

Maybe

No

Why?

ALLOW AT PT. BENEFITS
IN EFFICIENCY.

Group E:

Yes

Maybe

No

Why?

SCOPE A BIT BROAD

Extra comments:

Thank you for your participation today

Please be brutally honest

THINKPLACE

Do you think your organisation would be involved in this?

Group A: Mobility for People who 'need' it

Yes

Maybe

No

Why? Good Governance important for
legislation drafting + Ethics

Group B: Fully Autonomous Vehicles - ^{Community acceptance} to improve uptake

Yes

Maybe

No

Why? Help with- the Business Case + set up
of the Governance processes

Group C: Community Transport - Mobility for life

Yes

Maybe

No

Why? Help with the Governance set-up +
evaluation / review of the trial

Group D: Action Bus - Autonomous Bus Trials

Yes

Maybe

No

Why? This is one that could happen now!

Group E: Integrating + testing the 'last mile'

Yes

Maybe

No

Why? Needs a strong Vision + Clear focus
on what the outcomes required are

Extra comments:

Governance is important across all
areas, and good set up helps to reduce red tape as
it gives Govt/Public confidence in the processes

Thank you for your participation today

Please be brutally honest

THINKPLACE

Do you think your organisation would be involved in this?

Group A:

Yes Maybe No

Why?

thought out / well planned
need funding model

Group B:

Yes Maybe No

Why?

a bit vague

Group C:

Yes Maybe No

Why?

small scope in
medical accessibility
(good)

Group D:

Yes Maybe No

Why?

Action bus needs
innovation

Group E:

Yes Maybe No

Why?

Extra comments:

Thank you for your participation today



THINKPLACE

Bridging vision and reality

ThinkPlace is a strategic design consultancy focused on helping organisations work out their direction, designing services that deliver on that direction and bringing about the organisational change to deliver those services

Page redacted.

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SUBJECT: **AUTONOMOUS VEHICLES**

ISSUE: Autonomous vehicles trials and supporting legislation

KEY MESSAGES:

- Autonomous vehicles can provide significant benefits across a range of areas including road safety, infrastructure requirements, social inclusion for people with mobility issues and industry development.
 - The Government does not support the Opposition's bill to create legislation to regulate autonomous vehicle trials in the ACT as it is overly prescriptive and would prevent the technology being utilised by those who could benefit from it the most.
 - Instead, the Government's approach is to engage with industry partners to shape regulation that works and makes the ACT an attractive location for trials while balancing community expectations about safety.
-

BACKGROUND INFORMATION:

ACT industry forum

- On 19 January 2016 the ACT Government, in partnership with the Canberra Business Chamber (CBC) and the NRMA, hosted a workshop to discuss industry views on autonomous vehicles in the ACT. At this session there was strong support for a trial of autonomous vehicles in the ACT due to our clearly defined high quality road network and high levels of technology utilisation.
- The workshop was well attended with approximately 40 industry and Government representatives including: Kate Lundy, Director NRMA; Robyn Hendry and Glenn Keys of the CBC.
- There was strong interest amongst the group regarding the possibility of using this technology in a real world application to improve transport and social inclusion for people who have mobility issues, including the elderly.

National work

- There is work underway at a national level to support the introduction of driverless vehicle technology through the Australian Driverless Vehicle Initiative (ADVI), which a number of Canberra businesses are already a part of. Representatives from the Chief Minister's office and Economic Development met with Canberra firm SMEC in February 2016, which strongly advocated ACT Government joining ADVI.
- Austroads is also currently conducting a project to recommend a nationally coordinated approach to the implementation and adoption of autonomous vehicles to all Australian road traffic agencies,

Coe legislative amendments

- On 10 February 2016, the Shadow Minister for Transport, Alistair Coe, introduced legislation for the testing of autonomous vehicles. The Government has stated they will not support Mr Coe's bill as testing can already occur with less red tape under existing legislation.
- The Government can already allow trials of autonomous vehicles by disallowable instrument using existing provisions in the *Road Transport (General) Act 1999*.
- Using this approach means that we do not need to impose arbitrary or unnecessary conditions on a proponent that would seek to bring autonomous vehicles here.
- Well-meaning but overly prescriptive or mis-timed regulation could cripple the potential of this technology.
- We need clever regulation to support the trialling of this technology and, importantly, ensure that it is actually available to those who need it the most.

Government strategy

- The Government will work with potential trial partners to understand how we can best support a trial within a regulatory framework that ensures safety and meets community expectations.
- Principles-based regulation will allow considerations of public safety, use of public assets and infrastructure and protection of commercial interests to be balanced and tailored appropriately to individual circumstances.
- We are also engaging the Australian Government regarding their interests in this subject. Obviously as significant as the benefits are for Canberra the national possibilities are even larger.
- Community engagement also forms a large part of our plans. Education about the safety and benefits of this technology will support the smooth introduction of autonomous vehicle technology, but we must also work transparently and consultatively as we move forward.
- We will continue this work in partnership with the CBC and other industry bodies that we have been working with so far.

Subject: Autonomous vehicles group
Location: Nara Conference Room Level 4 South Red Hill

Start: Thu 31/03/2016 10:00 AM
End: Thu 31/03/2016 11:00 AM
Show Time As: Tentative

Recurrence: (none)

Meeting Status: Not yet responded

Organizer: Mehrton, Andrew
Required Attendees: Alderson, Karl; House, Jeff; Cox, Ian; Greenland, Karen; Dixon, Brook; Konovalov, Alexander; Carmichael, Tony; Edghill, Duncan; Gilding, Louise

As discussed last week, we will aim to convene this group about every four weeks to coordinate work regarding autonomous vehicles.

Any agenda items or papers will be circulated closer to the date.

Regards.
-Andrew

From: Mehrton, Andrew
Sent: Tuesday, 8 March 2016 4:18 PM
To: 'Dean Seeley'
Cc: Gilding, Louise
Subject: RE: Autonomous vehicle news

Thanks, Dean.

We'll send through a copy of the Chief Minister's statement either this afternoon or tomorrow.

Cheers.

-Andrew

From: Dean Seeley [mailto:dean.seeley@canberrabusiness.com]
Sent: Tuesday, 8 March 2016 4:17 PM
To: Mehrton, Andrew; Glenn Keys; Robyn Hendry; 'Kate Lundy'; ron.collins@mynrma.com.au; Frances.Shannon; John Metcalfe; Abel, Andrew; Gilding, Louise
Subject: Autonomous vehicle news


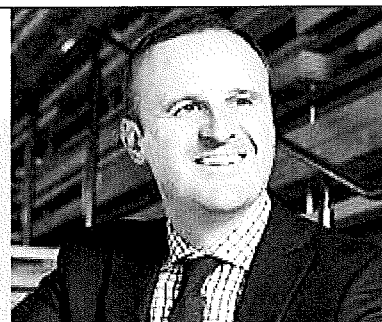
<http://www.abc.net.au/news/2016-03-08/canberra-should-be-test-site-for-driverless-cars-act-government/7229524>

<http://www.canberratimes.com.au/act-news/barr-wants-canberra-to-be-test-site-for-driverless-cars-20160308-gndam3.html>

Dean Seeley

Director of Programs | **Canberra Business Chamber**
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 <p><i>Chief Minister's</i> "State of the Territory" Business Address</p> <p>Thursday 31 March at Hyatt Hotel Canberra</p> <p>BOOK NOW</p>	
---	--

f. 100

From: Mehrton, Andrew
Sent: Tuesday, 8 March 2016 4:43 PM
To: 'Barrett, Mark'
Subject: Autonomous vehicle news

Hi Mark,

You might hear today that the Chief Minister has made some comments about Canberra's aspirations to host autonomous vehicle trials.

<http://www.abc.net.au/news/2016-03-08/canberra-should-be-test-site-for-driverless-cars-act-government/7229524>

<http://www.canberratimes.com.au/act-news/barr-wants-canberra-to-be-test-site-for-driverless-cars-20160308-gndam3.html>

I was wondering if you'll have some time in the next week or so to catch up about the work we discussed a couple of weeks ago to start shaping a trial proposal?

This Thursday isn't great for me but otherwise I can be pretty flexible this week and next. Let me know what would be good for you.

Cheers.

-Andrew

Andrew Mehrton | Deputy Director, Strategy and Program Design | Chief Minister, Treasury and Economic Development Directorate | ACT Government

andrew.mehrton@act.gov.au | ph: (02) 6205 8507 | fax: (02) 6213 0748

Please consider the environment before printing this email

f. 101

From: Dean Seeley [dean.seeley@canberrabusiness.com]
Sent: Tuesday, 8 March 2016 4:17 PM
To: Mehrton, Andrew; Glenn Keys; Robyn Hendry; 'Kate Lundy'; ron.collins@mynrma.com.au; Frances.Shannon; John Metcalfe; Abel, Andrew; Gilding, Louise
Subject: Autonomous vehicle news




<http://www.abc.net.au/news/2016-03-08/canberra-should-be-test-site-for-driverless-cars-act-government/7229524>

<http://www.canberratimes.com.au/act-news/barr-wants-canberra-to-be-test-site-for-driverless-cars-20160308-gndam3.html>

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Subject: Autonomous vehicle news

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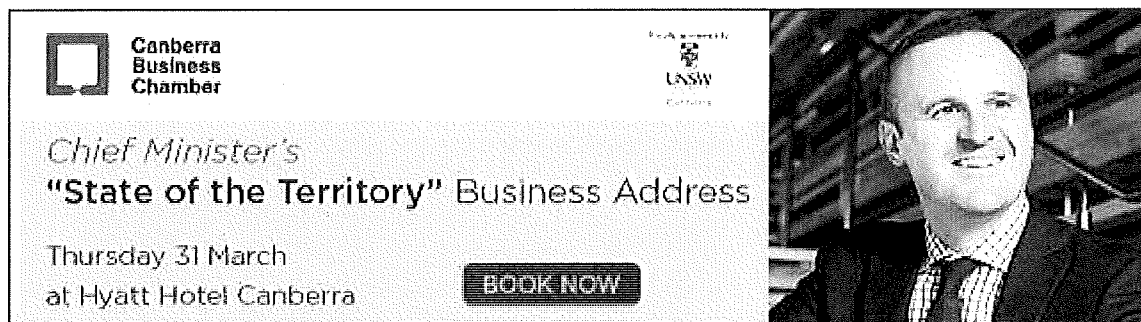
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Thursday 31 March
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A-103



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Leederville WA 6903
Australia

P: +61 8 9227 3000
F: +61 8 9227 3030

driverlesscars@arrb.com.au
www.arrb.com.au

9 March 2016

In reply please quote.

Andrew Mehrton
Deputy Director Economic Development and Data
ACT Government
PO Box 158
Canberra ACT 2601

Dear Mr Mehrton,

Invitation to join the Australian Driverless Vehicle Initiative (ADVI)

I am pleased to extend an invitation to the ACT Government to become a partner of the Australian Driverless Vehicle Initiative. ARRB Group, on behalf of ADVI has been pleased to lend support to the ACT Government at various meetings in Canberra this year, and I look forward to formalising ADVI's relationship with the ACT Government's acceptance of this invitation.

Membership of ADVI will provide the ACT Government with access to a collaboration of over 50 organisations across both government and industry that have a common vision to accelerate the safe and successful introduction of driverless vehicles to Australia.

Our initial Phase 1 program has successfully attracted the attention of stakeholders and achieved significant cooperation and in kind contributions culminating in the first driverless vehicle conference and on-road trials in Adelaide, in November 2015, in which ADVI led a demonstration of automated vehicle technologies in Volvo XC90 cars on the Southern Expressway.

It has also obtained commitments to fund the ADVI Partnership Program over the next 3 years, so as to coordinate and deliver the subsequent Phase 2 program. Phase 2 will include the deployment of full-scale field operational tests (on public roads) and associated research and development programs – this will spread across a variety of use cases.

The work to be undertaken by the ADVI Partnership Program includes:

- Hosting information sessions and an industry summit for participating organisations
- Workshopping issues of relevance to the core partners
- Establishing demonstration projects and field investigations trials in several states, many will be high profile and several are well progressed.
- Progressing arrangements for trial technology and facilities.
- The preparation of position papers and related documentation to provide informed guidance for required updates to policy, legislation, practices, and procedures to enable implementation of demonstration projects and wider-scale implementation of automated transport systems.

ADVI has a clearly defined and differentiated role from other programs. Some highlights include:

- ADVI is a partnership where all of the partners influence its direction, and all partners contribute to its success. The value from this approach is that all contributing partners take ownership, and the cost of ADVI activities are shared by many, reducing the cost to both government and industry.
- In ADVI we are advancing trials of multiple use cases including heavy vehicles, shared passenger transport, valet parking, etc. to position Australia at the forefront of activity in many different areas. Many of these will commence in 2016 and the ACT has the opportunity to get involved and play a lead role.
- ADVI aims to compliment rather than duplicate the work done by others such as the NTC, Austroads, and many others.



- ADVI aims to include interested industry partners from a wide range of sectors including those outside the technology space. This includes the insurance sector, the banking sector, the mining sector, the agricultural sector, the defence sector, the education sector, the retail sector and so forth. It therefore provides a very wide community and industry engagement platform.
- ADVI has established direct linkages to other country automated and connected vehicle programs in the UK, Sweden, Holland, Singapore and the United States. It also aims to establish further international linkages to strengthen Australia's international position, and to benefit from the work of other country programs. By seeking to work with all affected industry sectors in collaboration we can all be better informed of the challenge in front of us.

The ADVI Partnership Program has two partnership levels; core partners and supporting partners

1. Core Partners are financial members of the initiative and include those partner organisations that commit a significant financial and in-kind contribution to ADVI through support of the ADVI National Centre for Excellence and ADVI field trial projects. In return they are offered more substantial involvement and benefits including a seat on the Executive Steering Committee and the voting rights that come with it. Core partners have the ability to set the strategic and scientific direction of ADVI and influence the form and location of demonstration and field trial projects. A financial investment for 3 years is encouraged in addition to assisting with in-kind support.
2. Supporting Partners are inclusive of all other partners and they contribute to the initiative by way of in-kind support through actions such as promotion, investment of knowledge and technology, production of position papers, underwriting of events, and so forth. Supporting partners are acknowledged for their contributions, are kept informed of the activities of the partnership, and can contribute to the direction of the initiative.

A copy of the Australian Driverless Vehicle Initiative Prospectus is attached to this letter. I encourage you to liaise with John Metcalfe, our Canberra representative, to explore which partnership level is most suited to your requirements.



Yours sincerely

Peter Damen
Chair – Executive Steering Committee ADVI

c.c. John Metcalfe, ARRB Group
Rita Excell, ARRB Group

From: Dean Seeley [dean.seeley@canberrabusiness.com]
Sent: Wednesday, 9 March 2016 4:16 PM
To: Mehrton, Andrew; Glenn Keys; Robyn Hendry; 'Kate Lundy'; ron.collins@mynrma.com.au; Frances.Shannon; John Metcalfe; Abel, Andrew; Gilding, Louise
Subject: RE: Autonomous vehicle news
Attachments: Ministerial statement on autonomous vehicles March 2016 FINAL.DOCX
Categories: Attachment Scheduled (FOI)

Following on from yesterday's news, attached is the Chief Ministers speech and link below to CBC's media release.

<http://us7.campaign-archive2.com/?u=7f48517697226849f8f81651f&id=488f75dfee&e=ac21fbc1eb>




cheers

Dean Seeley

Director of Programs | **Canberra Business Chamber**
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<p><i>Chief Minister's</i> "State of the Territory" Business Address</p>			
<p>Thursday 31 March at Hyatt Hotel Canberra</p>			<p>BOOK NOW</p>

From: Dean Seeley

Sent: Tuesday, 8 March 2016 4:17 PM

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cheers

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Canberra Business Chamber logo | LASW logo

Chief Minister's
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Thursday 31 March
 at Hyatt Hotel Canberra

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Photo of a man in a suit and tie smiling.

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Subject: Autonomous vehicle news

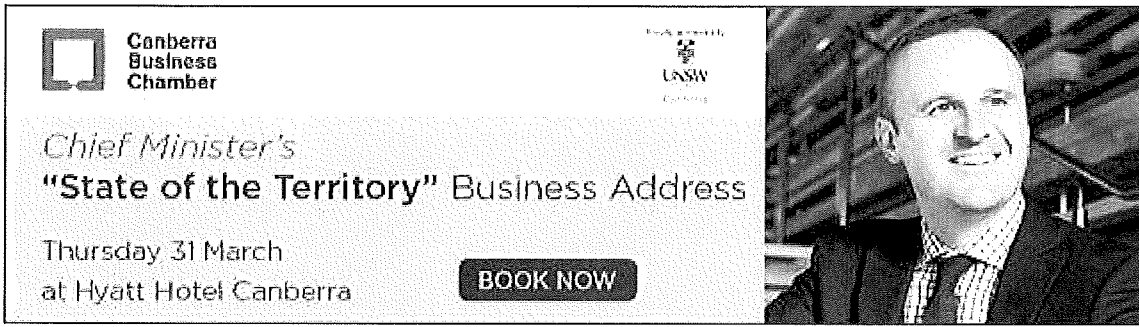
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The advertisement features a white background with a grey dotted pattern. On the left, the Canberra Business Chamber logo is displayed. In the top right corner, the text 'Proud Sponsor of' is positioned above the UNSW Canberra logo. The main title is 'Chief Minister's "State of the Territory" Business Address'. Below this, the date and location are given as 'Thursday 31 March at Hyatt Hotel Canberra'. A dark button with the text 'BOOK NOW' is located at the bottom right of the text area. On the right side of the advertisement, there is a black and white photograph of a man in a suit and tie, smiling.

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