



EastLink
Time better spent.

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EASTLINK SUSTAINABILITY REPORT

FY2018 (YEAR ENDED 30 JUNE 2018)



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1. OUR GUIDING SUSTAINABILITY PRINCIPLES

We adopt sustainable practices in all that we do at EastLink. This includes recognising the whole-of-life requirements for maintaining and enhancing the quality of our assets.

We protect and enhance the surrounding environment and actively engage as a responsible member of the communities in which we operate.

One of our four corporate values is “Custodianship - We protect and enhance our assets and the environments in which we operate, recognising the interests of our stakeholders.”

2. SUSTAINABILITY REPORTING

2.1 OVERVIEW

In addition to publishing our annual Sustainability Report (this document), we also participate in the GRESB Infrastructure Assessment each year.

2.2 GRESB INFRASTRUCTURE ASSESSMENT

The internationally recognised GRESB (Global Real Estate Sustainability Benchmark) Infrastructure Assessment covers the environmental, social and governance (ESG) performance of 280 infrastructure reporting entities located around the world.

Each year we submit to GRESB highly detailed reports on EastLink's ESG sustainability performance.

In the 2018 GRESB Infrastructure Assessment:

- > EastLink has been rated GRESB's maximum rating of 5 Stars for the third year in a row
- > EastLink's overall GRESB asset score was 88, up from 80 the previous year
- > EastLink was the highest ranked private road operator in the world
- > EastLink was the fifth highest ranked infrastructure entity in the world (covering all types of infrastructure)
- > EastLink's individual GRESB ESG ratings were:
 - Environment 92
 - Social 98
 - Governance 83



Table 1: EastLink's GRESB Infrastructure Assessment for ESG Sustainability

EastLink's GRESB Infrastructure Assessment	2018	2017	2016
GRESB Star rating (up to 5 Stars)	5 Stars	5 Stars	5 Stars
Overall GRESB asset score (score / 100)	88	80	75

More about GRESB

GRESB is an industry-driven organisation committed to assessing the ESG performance of real assets globally, including real estate portfolios and infrastructure assets. More than 75 institutional investors use GRESB data and analytical tools to engage with investment managers to enhance and protect shareholder value. GRESB Investor Members represent over USD 18 trillion in institutional capital. GRESB members benefit by being able to apply a single, globally recognized ESG framework to all their real assets. For more details about GRESB, visit www.gresb.com

3. SAFETY

3.1 OVERVIEW

EastLink continues to maintain its excellent safety record, both on and off the road.

3.2 ROAD SAFETY

We operate our own 24/7 traffic control room dedicated to EastLink (image right), and normally have two EastLink incident response vehicles on duty. A range of intelligent transport systems (ITS) monitor traffic and help with incident management.

There were fewer motor vehicle accidents (MVAs) on EastLink in FY2018 compared to recent years.

The average time to respond and attend at MVAs was consistent with previous years.

Another measure we use to benchmark our safety performance relative to other roads is the casualty crash rate, which is the number of motor vehicle accidents resulting in injury per 100 million (10⁸) vehicle kilometres travelled.



The casualty crash rate for EastLink remains consistently lower than for the other freeways in Melbourne.

Table 2: Motor vehicle accidents

Motor vehicle accidents (MVAs)	FY2018	FY2017	FY2016
Number of MVAs on EastLink	302	336	332
Average time to respond and attend at MVAs	4.72 minutes	4.14 minutes	5.18 minutes
Casualty crash rate (per 100 million vehicle km)	1.59	2.46	2.63

3.3 WORKPLACE SAFETY

The safety of our customers, staff and contractors is of primary importance to EastLink.

EastLink takes a proactive approach to employee safety, and we have implemented a number of safety improvements even though there was no Lost Time Injury this year.

Within the office environment, safety initiatives included the provision of a number of sit/stand employee desks, and the introduction of next generation ergonomic mouse and wireless keyboards.

On the freeway, a number of new safe work procedures have been implemented, which have improved the safety of our workforce who work in a live, high speed traffic environment.

Table 3: Workplace safety

Workplace safety	FY2018	FY2017	FY2016
Lost Time Injury (LTI)	0	3	2
Medically Treated Injury (MTI)	1	1	1

4. EMPLOYEES AND WORKPLACE DIVERSITY

EastLink recognises that maintaining a diverse workforce is critical to our organisational capability. Diversity includes origin, age, gender, race, cultural heritage, lifestyle, education, physical ability, appearance, language or other factors.

We are committed to employing the best people and recognise the importance of reflecting the diversity of our customers and markets in our workforce. Above all, we are committed to ensuring that all employees are treated fairly and with respect and dignity. Managing diversity at EastLink is a responsibility vested in everyone within our workplaces.

Equal employment opportunity exists throughout the term of the employment relationship and includes recruitment, selection, promotion, transfers, training and professional development. The recruitment and selection of all employees and their promotion through the organisation is based upon the principle of merit.

Table 4: Workplace diversity profile (as at 30 June 2018)

Workplace diversity	Women			Men			Total staff
	Full-time	Part-time	Casual	Full-time	Part-time	Casual	
Management	2			12			14
Professional	10	3		31	1	1	46
Sales	34	16	9	15		3	77
Clerical/ administrative	23	6	7	13	4	1	54
Totals	69	25	16	71	5	5	181
		110			81		

During FY2018, key areas of focus for the organisation were:

- > **Ensuring employee health and wellbeing:** In the modern workplace, employee health and wellbeing is more than an employee benefit. Progressive organisations who value their employees provide a range of activities and services that genuinely care for and support their workers. Our Employee Health and Wellbeing program draws on a range of personal health, financial health and wellbeing activities that support employees. These activities engage employees within the workplace, and provide a positive return on investment as evidenced by our organisation's low levels of attrition rates, personal (sick) leave statistics and workers compensation claims. Management views these as important factors that contribute to making a successful organisation.

Our Employee Health and Wellbeing program includes:

- Skin checks
- Flu vaccinations
- Health appraisals
- Bone density testing
- Monthly seated massage
- Corporate discount for memberships at Aquanation aquatic and leisure centre
- Corporate group gym classes at Aquanation (partially subsidised)
- Employee assistance program for counselling and advice (includes assistance for family members).

- > **Achieving a completely smoke-free workplace:** Following staff feedback, we announced to staff that EastLink's operations centre and two maintenance depots (including exteriors) were to become completely smoke-free with effect 1 July 2017. To assist with this transition, all four members of the Human Resources Team were trained as QUIT Educators, and we held a voluntary education session for smokers (delivered by QUIT) on the quitting process and support available. A \$300 incentive was available to smokers to contribute to the cost of purchasing QUIT approved / recommended smoking aids. As a result of this initiative, half the smokers have quit smoking.

5. CUSTOMER SERVICE

5.1 OVERVIEW

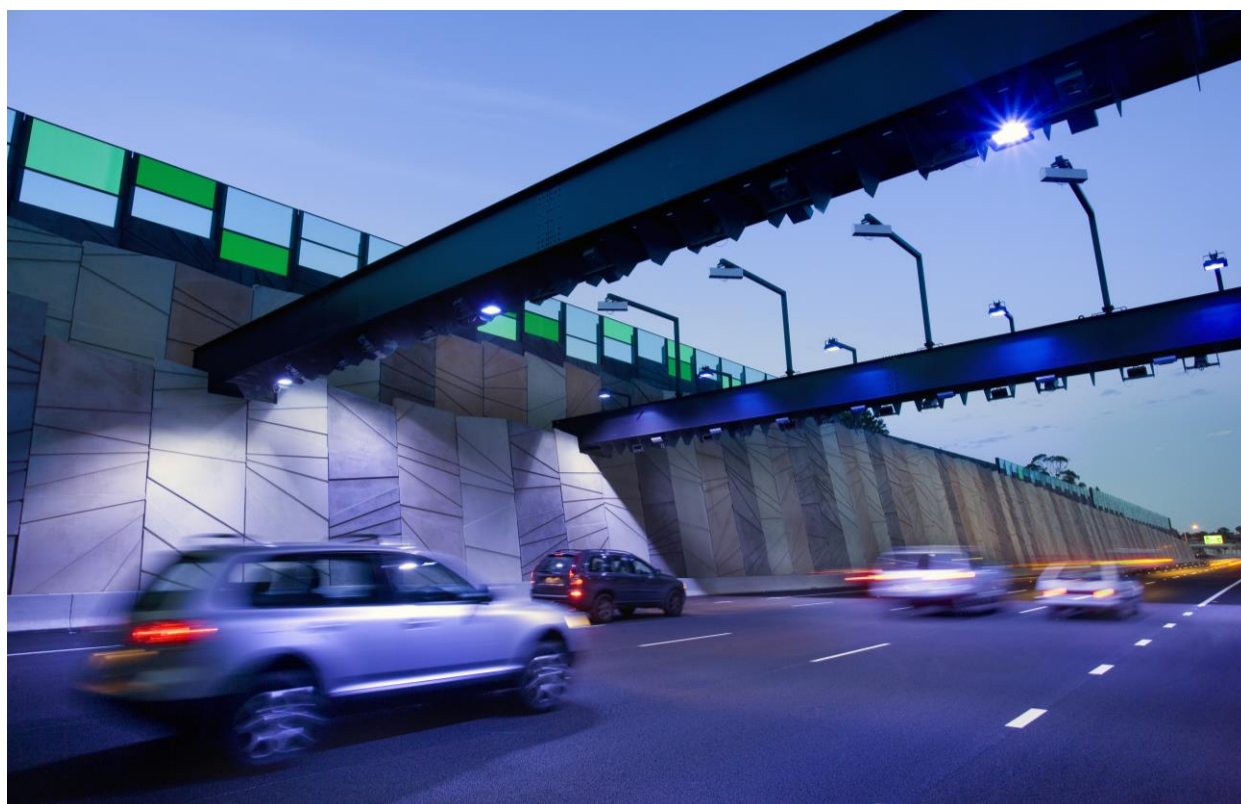
EastLink is committed to delivering high standards of customer service at an affordable price.

5.2 AVERAGE SPEED

As an indicator of the level of service provided by the freeway to our customers, we measure the average speed of every vehicle that uses EastLink. Average speed has not changed significantly over the past three years, and remains close to the speed limit. EastLink is the quickest freeway in Melbourne.

Table 5: Average speed of vehicles using EastLink

Average speed	FY2018	FY2017	FY2016
Open road sections (speed limit 100 km/h)	95 km/h	95 km/h	96 km/h
Tunnel section (speed limit mostly 80 km/h)	84 km/h	83 km/h	84 km/h



5.3 TOLL PRICES

On 1 July each year, we change EastLink toll prices in line with CPI (the Consumer Price Index). In the event of deflation, we would reduce EastLink toll prices by the same amount. This ensures that EastLink toll prices are index linked to CPI and do not change in real terms. CPI, and therefore EastLink toll price increases, have been consistently less than 2% in recent years.

EastLink continues to offer the lowest toll prices in Australia. A comparison with CityLink toll prices is shown as an example.

Table 6: Toll prices

Toll prices	1 July 2018	1 July 2017	1 July 2016
EastLink toll price change (CPI)	+1.9%	+1.5%	+1.7%
EastLink price per km (full length car trip)	16.0 cents weekdays 12.8 cents weekends	15.7 cents weekdays 12.6 cents weekends	15.5 cents weekdays 12.4 cents weekends
Comparison CityLink price per km (car)	42.0 cents	41.1 cents	39.5 cents

5.4 TOLL DISCOUNTS

EastLink is the only tollway in Australia to provide toll discounts to motorists. The main discount is a 20% discount on weekends and public holidays for car tolls. Our systems provide this discount automatically to all eligible customers – there is no requirement for customers to opt-in or apply for the discount.

Table 7: Weekend & public holiday car toll discounts provided to customers

Weekend & public holiday car toll discounts	FY2018	FY2017	FY2016
Total value of discounts provided to customers	\$13.4M	\$12.2M	\$12.1M

5.5 CUSTOMER SERVICE CONTACTS

The majority of customer contacts to EastLink are serviced online via our website.

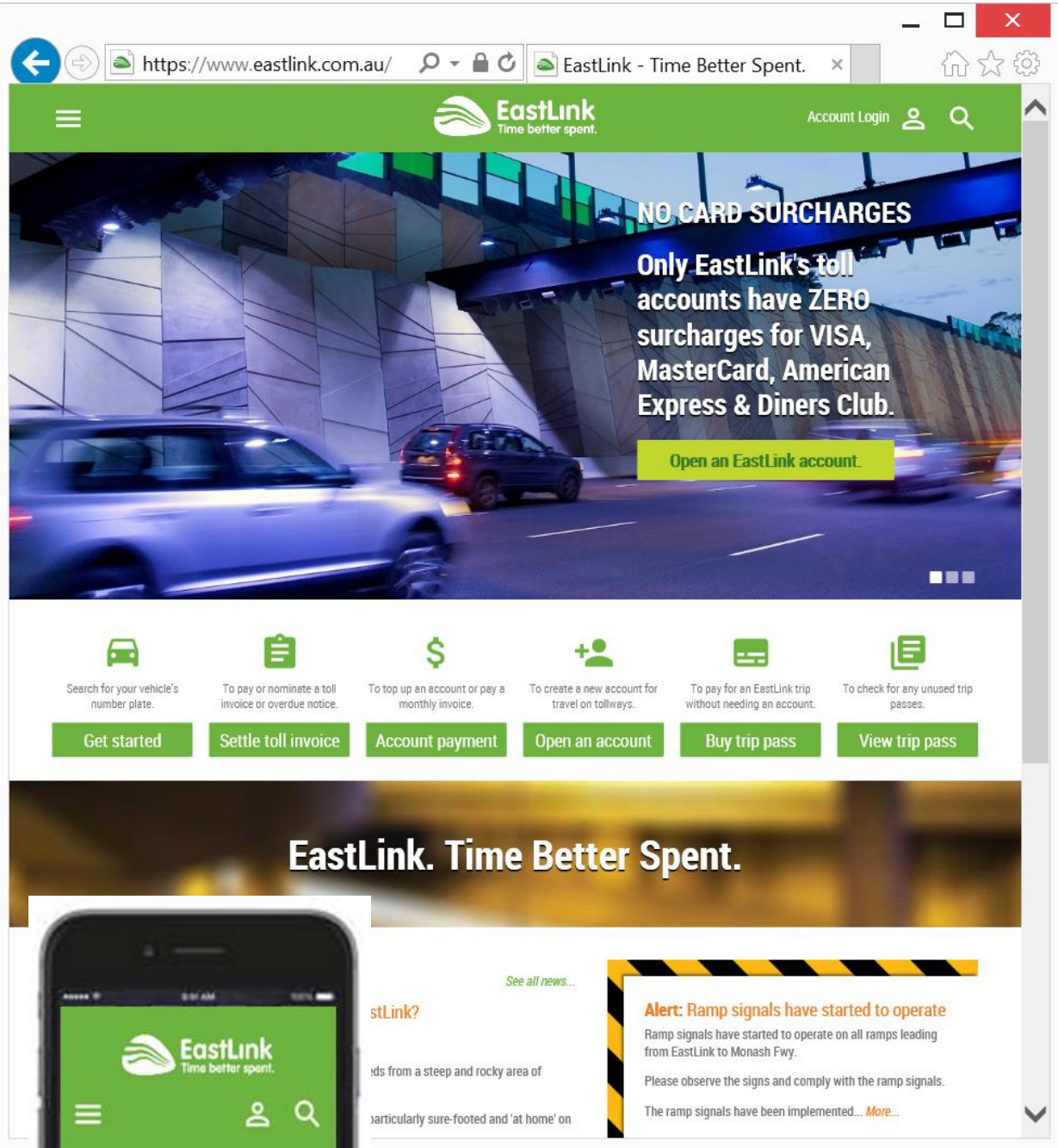
Credit and debit card details are not held within EastLink's website or any of our other systems.

Instead, EastLink's bank holds these details very securely on EastLink's behalf, and EastLink's systems use tokens provided by the bank to charge payments to customers. Tokenisation improves data security for customers making one off payments, as well as for customers making recurring automatic payments to their accounts.

During FY2018, we received an audit report from a qualified security assessor that confirms our compliance with the Payment Card Industry Data Security Standard (PCI DSS).

Table 8: Customer service contacts

Customer service contacts	FY2018	FY2017	FY2016
Customer visits to EastLink.com.au	8,980,034 total 24,600 per day	Not previously reported	
Customer calls to (03) 9955 1400 (includes self-service calls using our automated system as well as calls with an operator)	1,890,750 total 5,180 per day	Not previously reported	



The EastLink website is device independent.
It resizes automatically for smaller mobile device screen sizes.

5.6 KEY PERFORMANCE INDICATORS

Under the terms of our Concession Deed, we assess EastLink's performance in delivering a satisfactory level of customer service using a comprehensive set of key performance indicators (KPIs). Failure to meet any KPI incurs KPI points.

EastLink can accrue up to 500 KPI points in any calendar year before a financial penalty (known as a KPI Credit) is imposed on EastLink. KPI Credit penalties have the potential to escalate quickly if controls are not managed effectively.

EastLink incurred 50 KPI points in calendar year 2017. Therefore no KPI Credit penalty was imposed.

Since EastLink opened in 2008, no KPI Credit penalties have ever been imposed.

Table 9: KPI points and penalties

KPI points and penalties	2017	2016	2015
KPI points incurred	50	87.5	100
Maximum KPI points allowed before penalties	500	500	500
KPI credit penalties imposed	\$0	\$0	\$0

5.7 CUSTOMER SATISFACTION

During Q1 2018, we conducted our fourth annual customer satisfaction survey.

This year, the number of survey respondents decreased by 11,000 to 24,723. Although lower than last year, this is still a large number of respondents for a customer satisfaction survey, and ensures statistical significance for the results. We believe the reduction in respondents is due to our introducing the inaugural Annual Victorian Self-Driving Vehicle Survey, which attracted more than 15,000 respondents, and which we conducted four months prior to the customer satisfaction survey.

Our Net Promoter Score (NPS) remained stable with the average score similar to previous years. The level of satisfaction with EastLink is also similar to previous years.

Our survey also measures the level of satisfaction with the other toll roads and freeways in Melbourne's east, and EastLink continues to achieve the highest level of satisfaction.

Table 10: Customer survey results

EastLink account holders	Q1 2018	Q1 2017	Q1 2016
Survey respondents	24,723	35,854	29,800
EastLink NPS	+39%	+40%	+31%
EastLink NPS (average score / 10)	7.66	7.70	7.56
Satisfaction with EastLink (average score / 10)	8.16	8.19	8.06

EastLink's new back office tolling system launched in May 2017. As a result of introducing a brand new software system that is core to billing and customer service provision, a major focus for FY2018 was the implementation of a large number of changes to the new system, including functional improvements as well as defect resolution to further improve the quality of customer service.

The volume of complaints about EastLink was higher this year compared to previous years as a result of changes to business processes and a tightening of debt management – both of which we introduced when our new back office tolling system launched in May 2017.

However, during the last quarter reported by the Ombudsman, the EastLink complaint rate had reduced to average 10.7 per month (128 annualised). This indicates that a return to the longer term average was well underway.

Table 11: Comparison ombudsman complaints

Complaints to ombudsman	2017/18	2016/17	2015/16
EastLink (tolling customer ombudsman)	151	100	103
CityLink (tolling customer ombudsman)	171	200	306
Myki (public transport ombudsman)	n/a at time of publication	990	1,176

5.8 TOLLING INFRINGEMENTS AND CUSTOMER HARDSHIP

Customers, via tolling accounts, trip passes or toll invoices, pay more than 99% of trips on EastLink. Less than 1% of trips remain unpaid, which result in the State of Victoria sending infringements.

The number of EastLink infringements issued in FY2018 was 23% less than the previous year. This reduction is a result of our initiatives, including:

- > Increasing use of email addresses and mobile phone numbers provided via the VicRoads lookup service to remind toll invoice recipients about the need to make payment, and increase the payment rate of toll invoices.
- > The new website that was launched alongside the new back office tolling system lists all the outstanding invoices for a vehicle, and allows them all to be paid in one transaction. The new website also includes new online services for nominating an invoice to another driver and for transferring an invoice to a tolling account. These features help make it easier for a customer to settle their toll invoices.

Table 12: EastLink infringements issued

Infringements issued	FY2018	FY2017	FY2016
For unpaid travel on EastLink	377,361	491,436	518,918

While we expect customers to limit their use of EastLink so that it remains within their ability to pay, we recognise that people can experience real financial hardship and may need additional assistance and flexibility.

During FY2018, we published the [EastLink Hardship Policy](#), which helps to ensure that regardless of a customer's circumstances, the customer will be treated with understanding, dignity and respect.

We assess each application for financial hardship assistance on the customer's individual financial circumstances.

Under our Hardship Policy, options that we may provide to a customer include:

- > Extension of payment terms to provide more time to pay the debt.
- > A payment plan that is realistic and affordable to allow the debt to be paid by instalments over a maximum of 12 weeks (or other timeframe if agreed by us).
- > Our commitment to refrain from debt collection activities (over a timeframe agreed by us).

During FY2018, we commenced work with Peninsula Community Legal Centre (PCLC) on a project to increase awareness of the legal pathways available to those vulnerable people who receive fines for non-payment of tolls as well as other types of fines.

As part of this, we designed and printed a leaflet (image right).

During FY2019 we will insert this leaflet into EastLink overdue notices posted to addresses in specific geographic areas identified by PCLC.

This is a highly targeted initiative, with leaflets to be sent to the people more likely to be at risk of vulnerability:

- > A significant proportion of overdue notices remain unpaid, resulting directly in fines.
- > The geographic areas identified by PCLC have relatively high rates of tolling fines for unpaid EastLink overdue notices as well as relatively high rates of vulnerability.

Do you have multiple outstanding fines and/or penalties?

Are you experiencing difficulties in paying for your fines?

Would you like to consolidate and resolve your fines?

Peninsula Community Legal Centre (PCLC) can help.



Peninsula
Community
Legal Centre

The PCLC Fines Clinic provides free legal advice and assistance. The Fines Clinic can assist with a broad range of fines, including:

- toll road infringements (issued by Fines Victoria after failure to pay toll invoice overdue notices)
- council fines
- public transport fines
- Victoria Police fines.

The Fines Clinic operates twice a week at the PCLC Head Office, 441 Nepean Highway, Frankston:

- Wednesday evenings (by appointment)
- Thursday mornings 9.30 am – 12 noon (drop-in service and by appointment).

PCLC encourages you to come to a Fines Clinic session, if you have a number of outstanding fines, before extra fees and penalties are added to your fines.

For further information or to book an appointment with PCLC, please phone (03) 9783 3600

6. STAKEHOLDER ENGAGEMENT

6.1 OVERVIEW

EastLink contributes to industry policy by actively engaging with groups including:

- > Infrastructure Partnerships Australia
- > Infrastructure Victoria
- > North East Link Authority (the North East Link project will connect with EastLink via an upgrade to the Eastern Freeway)
- > Roads Australia
- > ITS Australia
- > RACV.

EastLink enjoys positive and constructive dialogue with Local, State and Federal Government.

During the year, we supported and helped to promote a range of local municipality events, including:

- > City of Frankston (Frankston's Christmas Festival of Lights)
- > City of Maroondah (Maroondah Festival)
- > City of Monash (Monash Carols by Candlelight Festival)
- > Mornington Peninsula Shire (Main Street Mornington Festival).

As part of our community engagement strategy, EastLink supports organisations based, or doing work, in the geographic corridor of EastLink, from Maroondah in the north of the corridor to Frankston and the Mornington Peninsula in the south.

EastLink partnered with the following organisations in FY2018:

- > Aquanation
- > Frankston Arts Centre
- > Karralyka Centre
- > Mornington Peninsula Tourism
- > Mullum Mullum Festival
- > Parkrun
- > Peninsula Aero Club
- > Road Trauma Support Services Victoria (RTSSV).

6.2 ROAD SAFETY

As the operator of Melbourne's safest freeway, we are committed to promoting safer driving behaviour throughout the community.

Road Trauma Support Services Victoria (RTSSV) is a not-for-profit organisation based locally in Blackburn that provides counselling and support services to people affected by road trauma. EastLink is a founding sponsor of RTSSV's Shine a Light on Road Safety campaign, and once again sponsored the Shine a Light on Road Safety Day on 4 May 2018 and Community Walk on 6 May 2018 at Albert Park Lake. RTSSV asked Victorian motorists to turn on their headlights as a simple, free and highly visible gesture to remember those impacted by road trauma and show commitment to road safety. We used EastLink's Variable Message Signs and customer e-newsletter to promote the events (image below).

In lieu of a location fee, we ask for a cash donation to RTSSV from production companies wishing to film television advertisements on EastLink.

EastLink once again partnered with Channel 7 to provide content for a new series of "Surveillance Oz". Our objective is to raise awareness of road safety, EastLink traffic control room and incident response services, and our close coordination with the emergency services.



6.3 ARTS AND CULTURE

During the year, EastLink partnered with and helped to promote some of the major cultural festivals and events in our road corridor, for example via free billboards on EastLink and emails to customers:

- > [Frankston Arts Centre](#)
- > [Frankston's Christmas Festival of Lights](#) (image below)
- > [Karralyka Spiegelteit](#)
- > [Main Street Mornington Festival](#)
- > [Maroondah Festival](#) (image right)
- > [Monash Carols by Candlelight](#)
- > [Mullum Mullum Festival](#)
- > [Tyabb Air Show](#).



6.4 SPORT AND RECREATION

During the year, EastLink partnered with and helped to promote Aquanation, which is City of Maroondah's municipal aquatic and leisure centre (image right).

We also encouraged EastLink employees to use Aquanation facilities. As part of this we arranged corporate group classes in the Aquanation gym, which occurred twice a week and were well attended.

EastLink also partnered with Parkrun to enable the Mullum Mullum Parkrun event to take place on the EastLink Trail every Saturday at 8am. Mullum Mullum Parkrun is a free, timed 5km run – part of the Parkrun global phenomenon. On average, 173 runners participate in Mullum Mullum Parkrun each Saturday.



6.5 TOURISM

EastLink partnered with the Mornington Peninsula Tourism peak body and Frankston City Council to help promote the Mornington Peninsula regional tourism area to our customers.

This year's activities included a joint marketing campaign with billboard banners, emails to EastLink customers and promotional flags on EastLink (image below). The promotional flags are strategically located on EastLink between two tourism signs – the first is a "Welcome to Mornington Peninsula" tourism gateway sign and the second is a Frankston tourism services sign.



7. ENVIRONMENTAL SUSTAINABILITY INITIATIVES

7.1 OVERVIEW OF ENVIRONMENTAL STANDARDS

EastLink's operations are required to meet stringent environmental standards under the Concession Deed, our EastLink Environmental Management Plan and a tunnel ventilation operating licence issued by EPA Victoria.

7.2 AIR QUALITY

During FY2018 all air quality objectives were met. There were two incidents in relation to the EPA Victoria tunnel ventilation operating licence, involving airflow from the tunnel portals being above the permitted limit. However no environmental impact occurred.

By introducing the new Ventilation on Demand system (see below) during FY2018, we closed the open incident from the previous year in relation to ventilation system noise.

7.3 ENERGY

As a result of our implementing an innovative Ventilation on Demand (VoD) system in the EastLink tunnels, our overall electricity usage in FY2018 decreased by 15% compared to the previous year, and is set to reduce further next year:

- > We upgraded EastLink's ten large exhaust fans (image below left) with new variable speed drives as well as new impellers that are more efficient.
- > We implemented a new ventilation control system (image below right). The new system is a closed-loop system using real-time data from airflow sensors to control dynamically the speed and number of fans required to meet traffic demand. Every few seconds, the new control system adjusts the speed of each operating fan to ensure fan operation is fine-tuned.

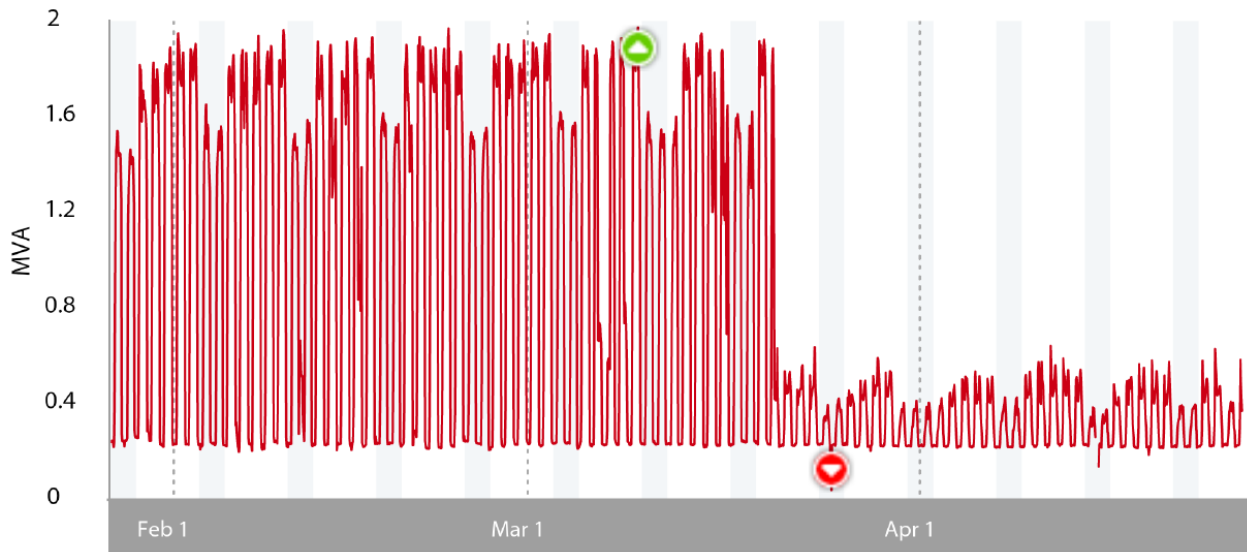


To achieve the greatest energy savings, an amendment to the EPA tunnel ventilation operating licence was made to permit partial portal emissions throughout the day.

We fully commissioned the new VoD system in March 2018, which has achieved the following results:

- > Electrical power used by tunnel ventilation reduced by 68%, saving approximately 6.2 GWh each year (chart overleaf).
- > This electricity usage reduction will reduce greenhouse gas (GHG) emissions from power stations by an estimated 9,000 tonnes CO₂-e annually.
- > Audible noise from the ventilation stacks has halved, confirmed by noise measurements, reducing noise for local residents.

Chart 1: Power used by the EastLink tunnels Feb-April 2019



To verify that the introduction of these changes has not compromised air quality standards in the local community, we have located a temporary air quality monitoring station in a nearby residential area close to one of the tunnel portals (image right).

In FY2018, we also started work on improving the efficiency of tunnel lighting. We are conducting trials of different types of LED lighting in short sections of the EastLink tunnels. These LED lights use less electricity while being brighter with a more natural white light.

If these trials are successful and demonstrate there is no negative impact on tunnel safety, we will be able to replace all tunnel lighting with LED lights.



In the summer of FY2018, we again participated in the 'demand response program' run by our energy service provide. We achieved 100% of our response goal. On nominated days of peak demand, we disconnect the EastLink operations centre from the grid and generate our own electricity using our on-site diesel generator (at centre of image below). This helps the electricity



retailer reduce peak power demand and eases the load on the electricity network. In return, we receive some tariff savings as well as opportunities to test our on-site generator.

Natural gas usage has decreased by 4% this year. Gas is used at the EastLink operations centre. We review and optimise our building control settings (e.g. thermostat and time settings for heating) twice a year.

Overall consumption of transport fuels has remained similar to last year. Petrol, diesel and LPG are used in our vehicles when performing maintenance and incident response activities. Diesel is also used to operate our on-site electricity generator at the EastLink operations centre, when required.

Table 13: Energy usage for EastLink

Energy usage	FY2018	FY2017	FY2016
Electricity (kWh)	11,166,387	13,141,719	13,462,111
Natural Gas (MJ)	1,660,939	1,728,526	1,647,175
Diesel (L)	138,747	137,949	129,494
Petrol (L)	1,912	2,144	7,772
LPG (L)	8,372	10,702	9,715

Following the implementation of the new Ventilation on Demand system and resulting reduction in electricity usage, greenhouse gas (GHG) emissions during FY2018 decreased by almost 15% compared to the previous year, and are set to reduce further next year.

Table 14: GHG emissions attributable to EastLink energy usage

CO2-e (tonnes)	FY2018	FY2017	FY2016
Electricity	13,176	15,507	15,885
Natural Gas	85	89	85
Diesel	371	368	346
Petrol	4	5	18
LPG	13	17	15
Total (tonnes)	13,650	15,986	16,349

Based on NGA Factors as published Dec 2014. Vehicles fuels are calculated for transport and stationary energy purposes and the totals combined for reporting.

7.4 WATER

Rainwater tanks provide the majority of water for maintenance activities, including cleaning vehicles and nursery watering.

The majority of EastLink's potable water use occurs within our offices. Potable water usage in FY2018 was significantly higher than in FY2017 due to an underground water leak at the EastLink operations centre, which we detected and have now repaired.

We have reduced the volume of potable water used at our Bangholme maintenance depot by installing a closed loop 'Waste to Water' recycling system for washing our maintenance vehicles. All water from vehicle washing is treated with biological media ready to be used in washing again. With this initiative, we are re-using wastewater as a resource.

Table 15: Potable water usage for EastLink

Water use	FY2018	FY2017	FY2016
Potable water (kL)	8,585	2,135	3,442

The volume of tunnel wastewater discharged to the trade waste system is similar to previous years. This wastewater is primarily groundwater, which infiltrates the tunnel lining in very small volumes. Rainwater run-off that enters the tunnels is treated through our natural water treatment system instead of being discharged to the trade waste system (which is what used to occur during EastLink's early years of operation).

Table 16: Wastewater discharge to sewer for EastLink

Wastewater discharge	FY2018	FY2017	FY2016
Tunnel trade waste water discharged (kL)	3,781	3,548	3,385

7.5 WETLANDS

To achieve Water Sensitive Urban Design principles, we continue to direct all rainwater run-off from EastLink through our natural water treatment system comprising grass swales, sediment ponds, ponded wetlands and bio-filtration ponds.

There are more than 60 wetlands and ponds in this system, and they are well established (image right).

We assess all EastLink wetlands using a condition rating system to assist with identifying maintenance needs and ensure wetland function.

Periodic wetland maintenance has occurred during FY2018 to maintain the excellent condition of the wetlands.

We rehabilitated two wetland areas during 2017. Our monitoring has shown that they are establishing well with good plant growth providing habitat (image below).



7.6 LANDSCAPE

In FY2018, we continued to manage the existing EastLink landscape with a focus on remediation of garden beds, and restoring plant densities in focus areas.

We spread 1,413m³ of bush blend mulch in roadside areas of EastLink between Boronia Road and Burwood Highway (southbound), between Burwood Highway and Ferntree Gully Road (southbound), from the BP service centre to Wellington Road (southbound), and around the Dandenong Bypass interchange. The benefits of mulching include weed suppression and therefore less reliance on herbicide, as well as moisture retention for plant establishment.

FY2018 planting (image below) included:

- > 8,500 indigenous shrubs roadside in the vicinity of EastLink's interchanges with Boronia Road, High Street Road, Princes Highway, Dandenong Bypass and Thompson Road.
- > 4,000 indigenous trees as infill planting roadside in the vicinity of EastLink's interchanges with Boronia Road, High Street Road, Monash Freeway and Thompson Road.



A collaboration between EastLink and Swinburne University commenced this year with a project to re-design and re-develop the garden area on the rooftop of the eastern tunnel portal in Donvale. This area of landscaping has not performed well over the years and, with safe access, provided a great opportunity for Swinburne University landscape design students to create designs for a real application as part of their coursework. The project included a survey of local residents and users of the space to provide input into the students' design process.

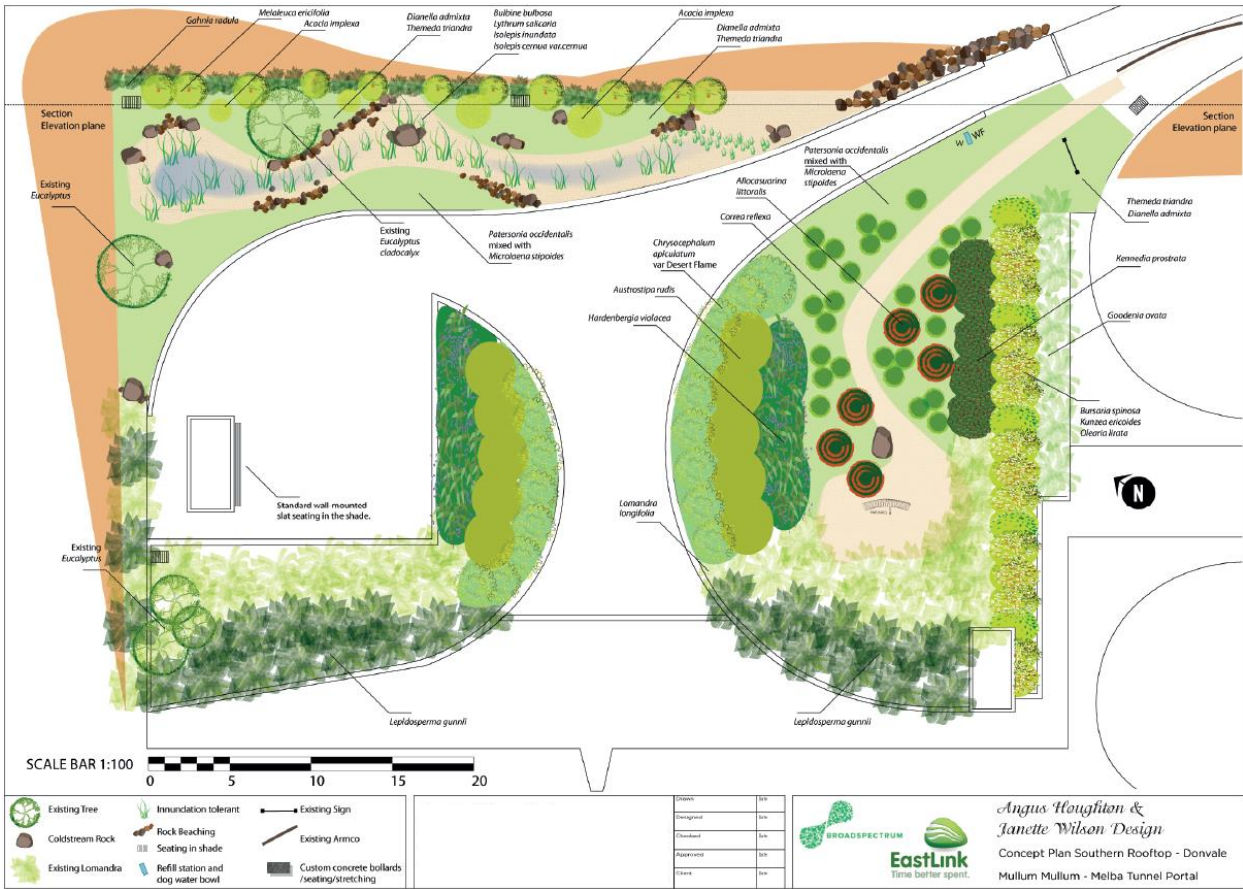
Eight students submitted designs. We shortlisted three of the student designs for a vote by users of the garden area and other stakeholders. The two joint-winning concepts were quite similar, and the two winning students have worked together to combine their landscape design concepts into a single detailed design. We plan to implement the new design in FY2019, with continued involvement from Swinburne University landscaping students.

The garden area located at the roof of the eastern tunnel portal, Donvale (image below left), which will be redeveloped.

Swinburne University landscape design students, Angus Houghton and Janette Wilson (image below right), created the winning landscaping design for the garden area.



The Swinburne University students' winning design for the garden area (image below), which we plan to implement in FY2019.



The initiative of utilising a herd of goats to manage woody and noxious weeds on areas of EastLink landscaping has continued this year (image below). The goats clear the weeds in a safe and environmentally friendly manner in areas of steep and rocky terrain, which are difficult for personnel and equipment to access. This is one element in our exploration of alternative methods to reduce reliance on herbicides.



7.7 EASTLINK TRAIL

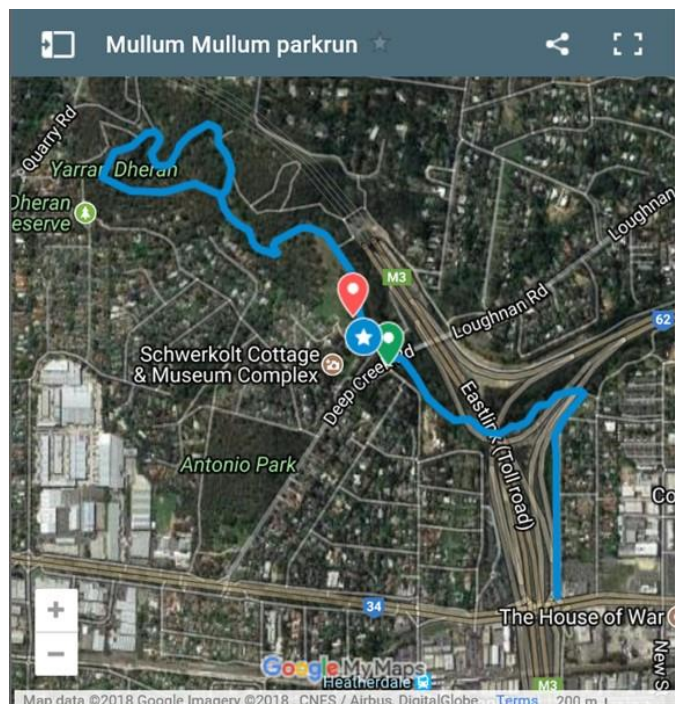
During FY2018, we continued to maintain the 35km EastLink Trail shared use path for cyclists, runners and pedestrians.

During FY2018, we provided a section of the EastLink Trail to Parkrun Australia for the weekly Mullum Mullum Parkrun (image right).

Mullum Mullum Parkrun is a free, timed 5km run, which is held in the Mullum Mullum valley every Saturday at 8am.

On average, 173 runners participate in Mullum Mullum Parkrun each Saturday, with up to 20 volunteers running each event.

More details are available at www.parkrun.com.au/mullummullum.



7.8 RECYCLING AND WASTE

We continue to recycle a wide range of materials.

During FY2018, this included more than twelve tonnes of steel (primarily the result of motor vehicle accident damage) and ten cubic metres of tyres. Fluorescent light tubes, HPS light globes, herbicide drums, electronic equipment, batteries, cardboard and general office co-mingled materials were also recycled.

We refurbish most of the tolling tags returned to us by customers, for re-issuing to other customers.

In some cases however, a tolling tag may not be suitable for refurbishment and re-issue. For example, if a tag is damaged, has a technical failure, or the built-in battery has expired.

We dispose of these unusable tags via a specialist provider in Melbourne that delivers safe, secure, ethical and environmentally sound electronic and battery recycling solutions. The provider we use is ISO 9001, ISO 14001, AS 4801, AS 5377 and OHSAS 18001 certified, and operates under an environmental licence from EPA Victoria.

The volume of tag recycling increased during FY2018 because more of the tags issued during EastLink's first few operating years (2008-2010) have reached battery life expiry.

We continue to mulch plant material from pruning and re-use on site wherever possible. In FY2018, this resulted in zero green waste needing to be disposed off-site.

Our solid waste and general landfill waste volumes remained consistent with the previous year.

Table 17: Waste and recycling volumes

Waste and recycling	FY2018	FY2017	FY2016
Steel recycling (kg)	12,589	15,553	14,995
Recyclables excluding steel (m ³)	227	116	108
Tag recycling (tags)	59,150	15,000	17,500
Green waste disposed off-site (m ³)	0	43	10
Solid waste streams total excluding steel (m ³)	3,639	3,596	2,815
General landfill waste (m ³)	3,412	3,437	2,697

During FY2018, we re-configured one of our semi-retired incident response vehicles as a dedicated spill response vehicle.

The spill response vehicle (image right) is now on standby with equipment and materials to contain and clean up spills from motor vehicle incidents. This includes bags of absorbent material that can eat fuels and oils, booms to protect drains and stop spills from reaching EastLink wetlands, and floating booms to protect waterways.

The dedicated spill response vehicle enables our team to provide a quicker response to road incidents involving spills of fuels or other materials, which helps us clean up accident sites faster, and get traffic moving again sooner.



8. AUTONOMOUS VEHICLE TECHNOLOGIES

8.1 CONNECTED-AUTONOMOUS VEHICLE (C-AV) TRIALS

We anticipate that hands-free driving will become possible on EastLink and other freeways in the next few years, subject to legislative changes, and using vehicles with the latest C-AV technologies. These technologies will improve road safety, and over time will increase the capacity of existing freeways.

To prepare for this, during FY2018 EastLink conducted trials of the latest automated vehicle technologies with our partners VicRoads, ARRB, LaTrobe University and RACV.

Our trials focus was on SAE Level.2 automated driving features, with a wide range of vehicles including Audi, BMW, Honda (image below), Hyundai, Lexus, Mazda, Mitsubishi, Mercedes-Benz, Tesla, Volkswagen and Volvo.

The purpose of these trials was to determine opportunities to improve the performance of automated driving applications on EastLink and other Victorian freeways. We have provided feedback to the vehicle manufacturers about these opportunities, helping to give a voice to Victoria's specific needs.



Among other findings, the trial results indicated that good quality line markings – including reflectivity and luminosity – on both sides of the lane are essential to avoid dropouts of the lane keeping assist function of automated vehicles. Partly driven by these results, we completed the repainting of EastLink's line markings this year.

With ARRB, we presented the detailed final report about these trials to VicRoads at a workshop on 16 May 2018 (images below). After the workshop, VicRoads stakeholders had the opportunity to drive a range of SAE Level.2 vehicles.



In the future, freeway operators will need to communicate directly to connected-autonomous vehicles, for example to communicate a change in conditions or operating environment (e.g. emergency incident, congestion event, or lane closure).

We have installed a connected vehicle transceiver at one of EastLink's tolling gantries, to create a short section of EastLink for trialling V2X communications (image right).

The first priority of these trials is to ensure that the 5.9GHz DSRC V2X communications do not interfere with the existing 5.8GHz DSRC tolling tag communications.

During FY2019, we will install additional transceivers at additional tolling gantries, and commence trials of delivering messages to vehicles for a range of use cases.

These trials will inform our future strategy for supporting V2X communications. For example:

- > Where should we locate transceivers to achieve the optimum coverage?
- > What types of messages should EastLink deliver to vehicles, and with what parameters? How will our systems trigger these messages?
- > What messages should EastLink accept from vehicles? What will our systems do when each of these messages is received, and what actions will be initiated?



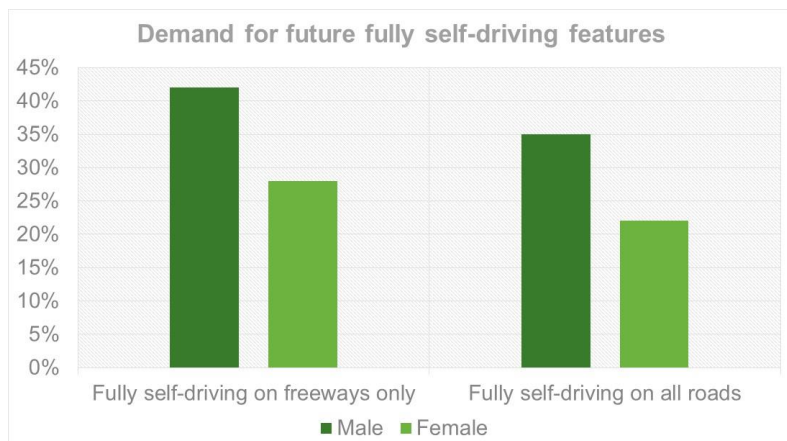
8.2 ANNUAL VICTORIAN SELF-DRIVING VEHICLE SURVEY

Supporting the C-AV trials, we have created the Annual Victorian Self-Driving Vehicle Survey with the assistance of ARRB.

The purpose of the survey is to track market readiness, from the Victorian motorist's perspective, of a range of self-driving vehicle features (example question result right).

More than 15,000 motorists responded to the inaugural survey in October 2017, making this one of the largest self-driving vehicle surveys ever conducted.

We published the results of the Annual Victorian Self-Driving Vehicle Survey.



We do not print the EastLink Sustainability Report. We publish it digitally.

For further information:
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