Level Crossing Removal Project Sustainability Snapshot

June 2023

LEVEL CROSSING REMOVAL PROJECT

levelcrossings.vic.gov.au

MAJOR TRANSPORT INFRASTRUCTURE AUTHORITY

Contents

'Journey Across Three Countries' by Robert Kelly, signifying the You Yangs, Macedon and Dandenong Ranges over Port Phillip Bay.

Acknowledgment of Country

The Level Crossing Removal Project respectfully acknowledges the Wadawurrung, the Wurundjeri Woi-wurrung and the Bunurong Traditional Owners on whose Country our projects are located. We pay respect to their Elders, past, present, and emerging.

Introduction

The Major Transport Infrastructure Authority (MTIA) is delivering one of the most significant investments in transport infrastructure in Victoria's history.

The program, which includes projects undertaken by the Level Crossing Removal Project (LXRP), is more than just road or rail projects; it is a city-shaping program that will create a lasting legacy for Victoria.

The Victorian Government, through LXRP, is removing dangerous and congested level crossings across Melbourne, as well as undertaking other infrastructure projects to improve safety for rail and road users, pedestrians and cyclists. It's a once-in-a-generation opportunity to transform how people live, work and travel. Our goal is to deliver great, environmentally sustainable places for the Victorian community.

Sustainability is at the forefront of everything we do. When considering sustainability in our projects, we focus on areas where we can have the greatest influence on sustainable outcomes such as reducing materials and energy use, building climate resilient infrastructure, and creating places that support liveability.

Every decision made, from design to construction, is carefully considered. Leading the way in innovation, reusing good practices and applying the lessons we learn as we move from one project to another.

About this Snapshot

The Sustainability Snapshot presents a summary of innovation and achievements on our projects that are helping to deliver sustainable infrastructure.

This publication focuses on why sustainability matters and how we are making our projects more sustainable.

The following pages outline our achievements across the entire project, with some project specific highlights outlined in the next section.

We receive sustainability data from our alliance partners at the completion of each project.

The data is drawn from modelling and reporting from the Infrastructure Sustainability Council (ISC), Green Building Council of Australia (GBCA), and LXRP Self Assessment ratings.

All data has been reviewed and independently verified.

Sustainability Achievements

Targets for our projects often based on the ISC and GBCA ratings schemes.

These projects aim to achieve a score of 'excellent' under the Infrastructure Sustainability rating tool and a minimum of '4 stars' under the Green Star rating tool.

We are committed to developing Victoria's rail and construction industries. We are extremely proud to be recognised by ISC and Green Star for improving for improving sustainability outcomes over time.

The projects below were able to achieve new record ratings within Australia (and several other of our projects followed closely behind).

High Street, Reservoir Station

First train station in Australia to receive a 5 star As Built Certification[1]

Bell Street, Coburg Station

First train station in Australia to receive a 6 star As Built Certification[1]

Edithvale Road, Edithvale Station

Second train station on the Level Crossing Removal Project to receive a 6 star As Built Certification[1]

Caulfield to Dandenong

Received 'Leading' ISC rating score of 90 for As Built, the highest level awarded in Victoria at that time

Bell to Moreland

Received 'Leading' ISC rating score of 98 for As Built, the highest level awarded in Australia

Clyde Road, Berwick

Received 'Leading' ISC rating score of 94 for As Built, the second highest level awarded on the Level Crossing Removal Project

1. Using Green Star Custom – Melbourne Metro Rail Authority rating tool

Definitions

Level Crossing Removal Project operates in a close partnership with our alliance delivery partners.

'We' in this report refers to the LXRP and the five Alliances as specified below:

- Southern Program Alliance (SPA)
- North Western Program Alliance (NWPA)
- South Eastern Program Alliance (SEPA)
- Metropolitan Road Program Alliance (MRPA)
- Western Program Alliance (WPA)

Carbon emissions or greenhouse gas emissions are measured as kilotonnes of carbon dioxide equivalence (CO_2e).

Sustainability achievements

Program to date – Data as of June 2023

704,670t (34%) *of CO_2e emissions reduced[2] by choosing sustainable materials and using energy more efficiently during the infrastructure lifecycle[2]*

Equivalent to ***348,812*** *car emissions for a year or the amount of* ***annual transport emissions for 180,685 Australians***

71 *level crossings removed (as of June 2023)*

432,362t (45%) *of CO_2e in energy saved[3] in construction and over the infrastructure lifecycle[2]*

263.5kL *of water tank capacity installed for construction*

341,198t (94%) *of total waste recycled[4]*

Equivalent to ***1077*** *High Capacity Metro Trains*

337,65ML (46%) *reduction in potable water use during construction[5]*

Equivalent to ***135*** *Olympic swimming pools or the energy consumption of* ***2082 three-person households*** *in one year*

272,308t (25%) *of CO_2e saved[2] by choosing more sustainable materials[2]*

Equivalent to ***134,793*** *car emissions for a year or the amount of* ***annual transport emissions for 69,823 Australians***

52,583t *of total asphalt recycled*

Equivalent to ***25.4km*** *worth of road, which is more than* ***9 x the length of the West Gate Bridge***

2,798,045t (94%) *of total spoil diverted from landfill*

Equivalent to ***8829*** *High-Capacity Metro Trains*

468kW *of solar installed, which is expected to generate* ***517,885kWh of annual energy***

Equivalent to the energy consumption of ***112 three-person households*** *in one year*

Approximately ***2,860,304 million*** *grasses and small shrubs planted[6]*

Approximately ***16,979*** *trees planted*

3312 *bike parking spots installed*

47,602m *of shared user path built*

2. Data includes construction and 50 years of operation (depending on the modelled design life for a project)
3. When compared to a reference project using industry standard practices
4. Excludes spoil
5. Construction phase includes the physical process of building and all other associated activities
6. Understorey shrubs, taller than 1.5 metres

Project Highlights

Highlights from some of our completed projects are represented below

Bell to Moreland

12,713t (29%) *of CO_2e reduced[7] by choosing more sustainable materials and using less[8]*

90t *of carbon saved by using recycled plastic fibres in concrete*

7000L *of permanent water tanks installed at Coburg Station*

2.5km *of active transport connections and bike facilities*

103% *enhancement of ecological value[9]*

21kw *of solar panels and passive design elements*

Carrum, Seaford and Kananook Stabling Yard

9,131t (24%) *of CO_2e reduced[7] by choosing sustainable materials and using less[8]*

16,342t (98%) *of waste recycled[10]*

27,571t (46%) *of CO_2e emissions reduced during construction*

About ***33,400kWh*** *of annual solar energy generation installed at Kananook*

176,628kWh *of green power used during construction*

50,000L *of permanent water tanks installed*

7. When compared to a reference project using industry standard practises
8. Data includes construction and 50-100 years of operation (depending on the modelled design life for a project)
9. Compared to 'before construction', using the GBCA Ecological Calculator
10. Excludes spoil as the large quantities of reused spoil would dwarf other waste streams.

Moreland Station

Bell to Moreland comes out on top

The Bell to Moreland Level Crossing Removal Project transformed a divisive rail corridor in Melbourne's inner north into a vibrant and active urban precinct.

The new precinct benefits the wider community from both health and environmental perspective, promoting active recreation, inclusion, and a sustainable connection to nature.

Bell to Moreland
Industry Leader Award in the Premier's Sustainability Awards 2022

Sustainability Award
Sustainable places and destinations category
Winning entry

Project Highlights

Highlights from some of our completed projects are represented below

Edithvale, Chelsea and Bonbeach

23,344t (24%) *of CO_2e emissions reduced during construction*

26,786t (81%)
of waste recycled[10]

18,000L *of permanent water tanks installed*

830 *trees and* ***89,00*** *shrubs, ground-covers and grasses planted along the rail corridor and new station precincts*

30 *nest boxes and artificial hollows built and installed around trees*

49,758 kWh *of annual solar energy generation installed*

Edithvale Station

Edithvale, Chelsea and Bonbeach celebrate end of works

The Edithvale, Chelsea and Bonbeach Level Crossing Removal Project saw five level crossing removed by lowering the rail line under the local road network into three rail trenches, each around 1km long and up to 7-metres deep.

Three new stations also opened in Edithvale, Chelsea and Bonbeach, featuring better station facilities and all-abilities access for commuters improving commuters' experience on the Frankston Line.

Infrastructure Sustainability Council Awards
Achievement in Design Outcome
Winner

Excellence in Social Outcomes
Shortlisted

Bentley, The year in infrastructure and Going Digital Award
Construction – SYNCHRO 4D Systems
Winner

Sustainability Award
Australasian Railway Association Infrastructure Project Excellence Award

Sustainability and Environmental Excellence Award

Nominated

5-star Green Star ratings
Chelsea and Bonbeach Stations

7. When compared to a reference project using industry standard practises
8. Data includes construction and 50-100 years of operation (depending on the modelled design life for a project)
9. Compared to 'before construction', using the GBCA Ecological Calculator
10. Excludes spoil as the large quantities of reused spoil would dwarf other waste streams.

Project Highlights

Highlights from some of our completed projects are represented below

Ferguson Street

7,801t (35%) *of CO_2e reduced[7] by choosing more sustainable materials and using less[8]*

658t (84%) *of waste recycled[10]*

4,831t (39%) *of CO_2e emissions reduced during construction*

3,319 kWh *of annual solar energy generation installed*

67% *reduction of potable water use during construction*

Cranbourne Line Upgrade (CLU)

5,143t (21%) *of CO_2e reduced[7] by choosing sustainable materials and using less[8]*

2,539t (97%) *of waste recycled[10]*

2,099t (13%) *of CO_2e emissions reduced during construction*

49,549kWh *of annual solar energy generation installed*

5,000L *of permanent water tanks installed*

27% *reduction of potable water use during construction*

7. When compared to a reference project using industry standard practises
8. Data includes construction and 50-100 years of operation (depending on the modelled design life for a project)
9. Compared to 'before construction', using the GBCA Ecological Calculator
10. Excludes spoil as the large quantities of reused spoil would dwarf other waste streams.

Reservoir Station wins awards

The Reservoir level crossing was removed with a rail bridge over High Street and the construction of a new Reservoir Station in 2020.

The new station was presented with the 'Special Prize Exterior' award in the Passenger Stations category by the World Judges Panel at the 2021 Prix Versailles.

Sustainability Award
Australasian Railway Association
Winning entry

Public Architecture, Sustainable Architecture and Urban Design,
Victorian Architecture Awards
Finalists

Superior Sustainability Award
Consult Australia Awards
Finalist

Reservoir

41% *Reduction of electricity demand during peak times compared to a standard train station*

33% *Reduction in Portland cement through the inclusion of Fly Ash and Slag (both recycled waste products)*

South Gippsland Highway

180t *of CO_2e saved over the construction period by using biodiesel/solar with battery hybrid generator*

8.9t *of CO_2e will be saved over the lifetime of an asset by installing hybrid solar lighting*

Evans Road

12 *solar light towers were used for* ***4380*** *hours in total during construction, saving* ***271.63t*** *CO_2e*

Approx. ***30*** *red gum seedlings were propagated and then replanted in the Parks Victoria*

Cardinia Road

10 *solar light towers were used for 1080 hours during construction, saving 55.81t CO_2e*

28 *Smart Solar lights installed along the shared user path that will save 69t CO_2e over the lifetime of the asset*

Wyndham Vale Stabling Yard and Aviation Road

2840t ***(35%)*** *of CO_2e emissions reduced over the infrastructure lifecycle*

60,755kWh *of green power used during construction*

9824m³ ***(90%)*** *of construction waste recycled*

8% *of CO_2e emissions saved during construction by choosing high-efficient project office, LED lights and fuel savings*

Cheltenham and Mentone

82% *of construction waste recycled*

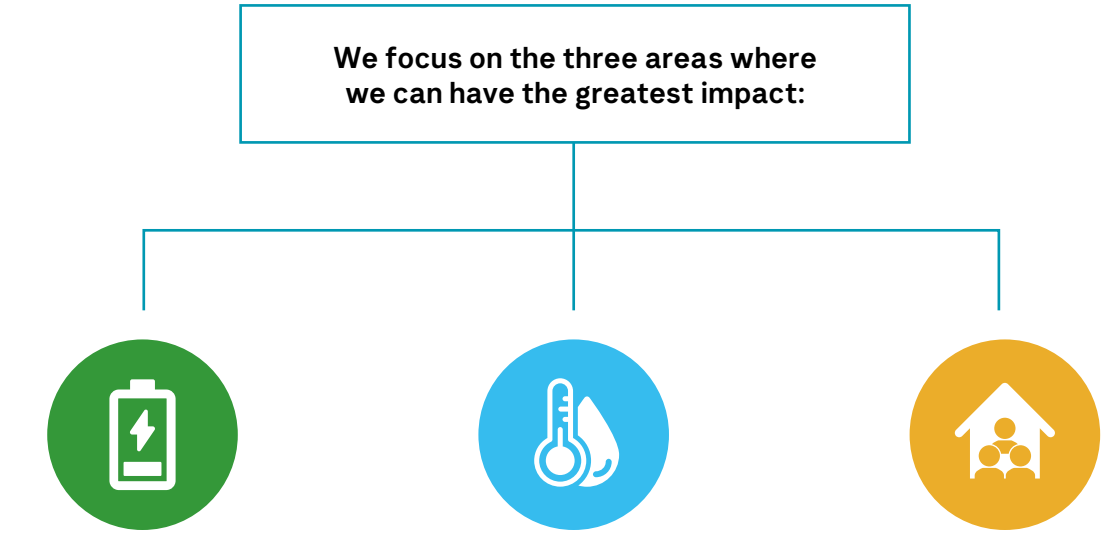
12% *increase of ecological value by planting native vegetation and reducing impact on existing vegetation*

61% *of office waste recycled during construction*

-87% *reduction of potable water use during construction*

Our sustainability approach

Our vision is to achieve excellent environmental, social and economic outcomes across all phases of our projects in order to deliver an integrated program of works that connects the community in an environmentally sustainable manner.



Our sustainability strategy is based on the principle that embedding sustainability practices into our projects delivers a fundamental good for our local and global communities.

Our commitment to sustainability is outlined in our Policy.

To read our Sustainability policy see the Appendix

Our sustainability initiatives

Adopting and undertaking sustainability initiatives during project development is our key focus.

This aligns with our goal to deliver sustainable infrastructure that continues to support the Victorian community into the future.

In recognition of Australia's adoption of the United Nations (UN) 2030 Agenda for Sustainable Development, we have aligned our work to the UN Sustainable Development Goals (SDGs).

These SDGs together with our focus areas help us to target our innovation on the areas where we can have the biggest influence.

Since 2015, we have integrated several new sustainability initiatives into our projects in collaboration with private industry and universities.

We're proud to share some of our initiatives implemented across projects in our first Sustainability Snapshot.

The three SDGs where LXRP has the greatest ability to influence the achievement of the goals are:

Goal 9

Industry, innovation & infrastructure
Build resilient infrastructure, promote inclusive and sustainable industrialisation and foster innovation

Goal 11

Sustainable cities & communities
Make cities and human settlements inclusive, safe, resilient, and sustainable

Goal 12

Responsible production & consumption
Ensure sustainable consumption and production patterns

Broader government policies

Zero Carbon emissions by 2050
Victorian State Government Climate Change Act 2017

Optimising use of recycled materials
Victorian State Government Recycled First Policy

Reducing materials and energy use

Major infrastructure projects are material and energy intensive. When delivering our projects, we consider the pressure we put on future resource availability as well as the emissions we generate that contribute to climate change.

By minimising program-wide material and energy use, we can significantly reduce resource extraction and greenhouse gas emissions.

We do this by:

- using materials and energy more efficiently through smart design and good construction practices
- reducing material use, reusing materials and replacing traditional materials with more sustainable alternatives where available and as they become available
- implementing renewable energy solutions.

Edithvale level crossing removal

Achievements as of June 2023

126,927t
(96%) *of concrete recycled*

31,627t
(98%) *of metal recycled*

Equivalent to the metal from ***29,284*** *cars*

1,757t
(53%) *of office waste recycled*

Environmentally friendly alternative to steel mesh

Footpath at the Mooroolbark station

The widespread use of steel in concrete releases large quantities of carbon into the atmosphere.

Also, steel used in concrete can often corrode, which can significantly reduce its lifespan.

As a solution we added eMesh to the concrete used in footpaths and cycling paths on our sites.

Recycled plastic or macro synthetic fibre also knows as eMesh is an environmentally sustainable alternative to steel mesh reinforcement or virgin polypropylene fibres.

eMesh arrives on site already mixed into the concrete, reducing costs. The use of 100 per cent recycled fibres also doesn't require steel cutting and tying, improving safety.

Benefits and achievements

100% *recycled plastic – reducing landfill*

90% *reduction in carbon emissions compared to steel mesh*

90% *reduction in water consumption during manufacturing*

At least ***106.4t*** *of carbon emission saved for some of the sites below*

Equivalent to ***582,000km*** *driven by an average vehicle for a year*

Sites

- Cranbourne Line Upgrade (WPA, SEPA)
- Manchester Road, Mooroolbark (SEPA)
- Maroondah Highway, Lilydale (SEPA)
- Bell to Moreland (NWPA)
- Glenroy Road, Glenroy (NWPA)

Energy efficient lighting

Solar lights along the footpath at Cardinia Road

The removal of the Cardinia Road level crossing created a new community space underneath the road bridge.

Extra lighting was needed to allow people to use the space safely at night.

We worked with local council to implement a 'smart' lighting initiative to reduce energy use and ensure public safety was not compromised.

Solar powered lights and motion sensors automatically adjust lighting levels.

During times of low activity, the lights will dim to 20 per cent but return to full luminosity if the motion sensors detect people in the area, saving energy and avoiding light spill into neighbouring properties.

Benefits and achievements

Can be remotely controlled

650t *of carbon emissions savings in 50-year lifetime*

12,000kWh *of energy saved each year, equivalent to 2.6x the annual energy use of a three-person household*

Light spill is reduced

Less light pollution at night-time

Site

– Cardinia Road, Pakenham (MRPA)

Reducing cement use for a cleaner future

Ready-mix concrete pouring at Old Geelong Road

Ready-mix concrete is widely used in construction.

Typically it makes up one-third of a project's carbon emissions due to the high amount of emissions generated in the manufacturing of portland cement.

To address this issue, we implemented a concrete mix with a high proportion of Supplementary Cementitious Materials (SCM). SCM are typically waste materials used to replace some of the cement content in ready-mix batches, significantly reducing their carbon footprint.

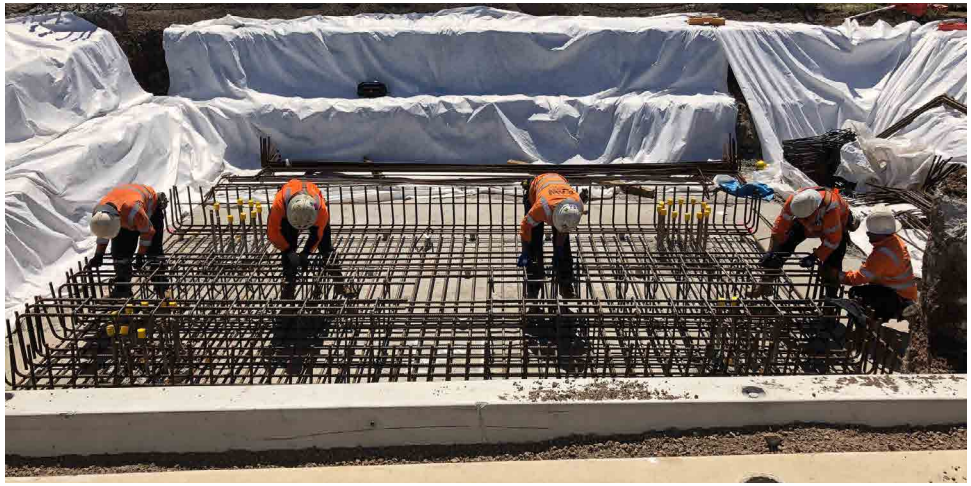
Our successful collaboration with stakeholders such as VicRoads led to the approval of ready-mix concrete with significantly higher SCM levels than previously allowed. This paved the way for future projects to use the newly approved mixes and reduce their emissions.

Benefits and achievements

634t *of CO_2e emissions reduced, compared to a reference project using standard industry practices*

No major cost impact

Successful broad collaboration has produced VicRoads approved mixes with SCM content between 50-60%



Site

– Old Geelong Road, Hoppers Crossing (WPA)

Saving power through revised controls

Edithvale Substation

Substations helping to power our train network need to be kept in a certain temperature range.

Air conditioners are used to keep the substations within the required temperature range throughout the year.

Overcooling of substations causes excessive energy consumption, with some affected substations cooled by greater than 10°C below the maximum allowable temperature.

Our engineers assessed whether the equipment could function at different temperatures with no performance changes. As a result, we adopted initiatives to improve control and the operation of cooling systems, resulting in a reduction of about 30 per cent in energy consumption.

These initiatives were approved by Metro Trains Melbourne (MTM) and included into MTM Substation Standards.

Benefits and achievements

- ***30%*** *reduction in energy consumption*
- *Reduced time of operation at lower temperatures*
- *Reduced wear on AC units*
- *Updated MTM Substation Standard*

Site

– Edithvale Substation (SPA)

Replacing diesel with solar energy

Solar powered site sheds at Hallam

Temporary site offices often use diesel generators for power, resulting in higher carbon emissions and poor air quality.

Solar powered site sheds have lithium-ion batteries, a backup generator for storing power, and are engineered to run for up to eight hours a day.

Multiple projects across the program incorporated solar energy in new and innovative ways reducing costs, emissions and improving liveability of local communities during construction.

Benefits and achievements

- *Carbon emissions reduction*
- *Diesel and cost reduction*
- *Healthier and cleaner air for the community, flora and fauna*
- *Reduced mobilisation and de-mobilisation time*
- *Zero emissions*
- *Reduction in noise pollution and community impacts (not running overnight)*

Hallam achievements

Saved on average ***1949 hours*** *of diesel generator run time*

Saved approximately ***2923L*** *of diesel use*

Saved approximately ***8126kg*** *of CO_2e emissions from entering the atmosphere*

Sites

- Bell to Moreland (NWPA)
- Hallam Road, Hallam (SEPA)
- Edithvale, Chelsea and Bonbeach stations (SPA)
- Old Geelong Road, Hoppers Crossing (WPA)

Relocatable solar power

Redeployable solar power on Old Geelong Road site

Providing renewable energy to site compounds is complex as it requires solutions addressing design, installation, connection, maintenance, and redeployment capability.

We implemented an 80kW system split into two 20-foot containers that can operate as a single system or individually on two sites.

The output from the system easily covers the site requirements with up to 60 per cent of the energy being exported to the grid at times.

This solution provides reliable renewable energy to site compounds, and our involvement contributes to the development of solar technology for construction compounds.

Benefits and achievements

- *Australian first innovation acknowledged by the Clean Energy Council*
- ***100%*** *renewable energy*
- ***38.48MWh*** *of energy provided from June to December 2021*
- *Redeployable at the end of each project*
- *Supports local solar innovation*
- *Minimal maintenance required*
- *Minimised connection costs by locating the solar system as close to 'point of supply' as possible*

Site

– Old Geelong Road, Hoppers Crossing (WPA)

Saving ballast from landfill

Reused ballast on Hallam site

Laying new rail track on old rail lines typically requires large volumes of old ballast to be replaced.

Contaminated ballast is sent to landfill when most of the rock is clean, which results in significant costs as well as potential delays to planned work.

We worked with MTM to develop a ballast reuse process, culminating in a successful trial on a temporary rail track and further changes for MTM specifications.

We also successfully adopted the innovation on other projects and diverted more than 5570m^3 of ballast from landfill. Recycled ballast can now be used under certain conditions along the rail corridor.

Benefits and achievements

Reduced pollution due to the reduced distance to transport the ballast

***90%** reduction of transport emissions*

*Over **20,000t** of ballast reused onsite and saved from landfill*

Cost savings on disposal of waste material to landfill

*About **56t** of CO_2e emissions reduced during construction*

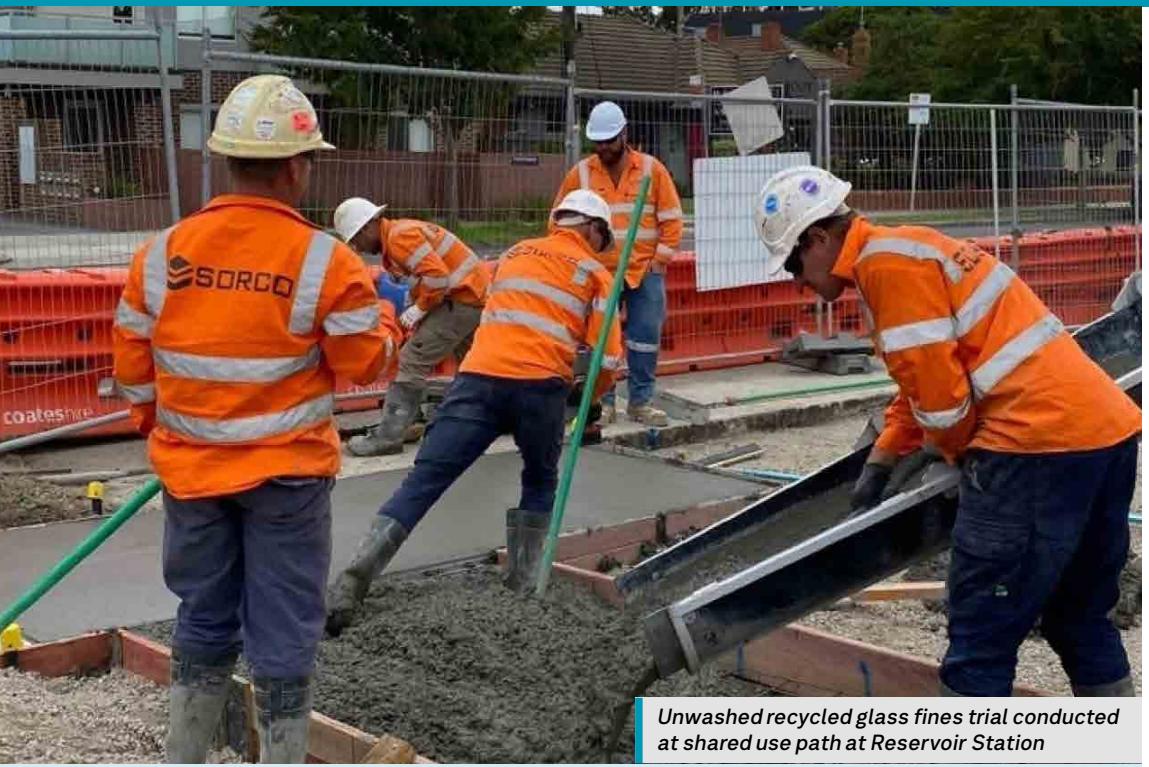
Reduced reliance on finite natural resources

*Equivalent to **926** tree seedlings grown for 10 years*

Sites

- Hallam Road, Hallam (SEPA)
- Carrum, Seaford and Kananook (SPA)

Replacing sand with unwashed recycled glass



Unwashed recycled glass fines trial conducted at shared use path at Reservoir Station

About 1.5 megatonnes of municipal glass waste is generated annually in Australia, of which only about two-thirds is recycled.

During the glass recycling process, tiny pieces of contaminated broken glass, called fines, have previously been stockpiled or sent to landfill.

In collaboration with the University of Melbourne and other stakeholders, we trialled replacing sand with unwashed recycled glass fines in concrete.

Samples from the concrete poured on the shared use path at the Reservoir site were analysed and only minor property differences were found between the sand and glass fines.

This trial resulted in an update to the Department of Transport standards, allowing up to 10 per cent unwashed glass fines in general concrete paving.

Benefits and achievements

*Up to **10%** unwashed recycled glass fines in general concrete paving*

*These findings also support the **Victorian Government's Recycled First Policy**, by reducing demand for sand while facilitating a new use for the problematic glass waste stream*

The Department of Transport has approved this new use of unwashed recycled glass and has updated the relevant specification (Section 703 – General Concrete Paving).

Reservoir Station

Site

– High Street, Reservoir (NWPA)

Building climate resilient infrastructure

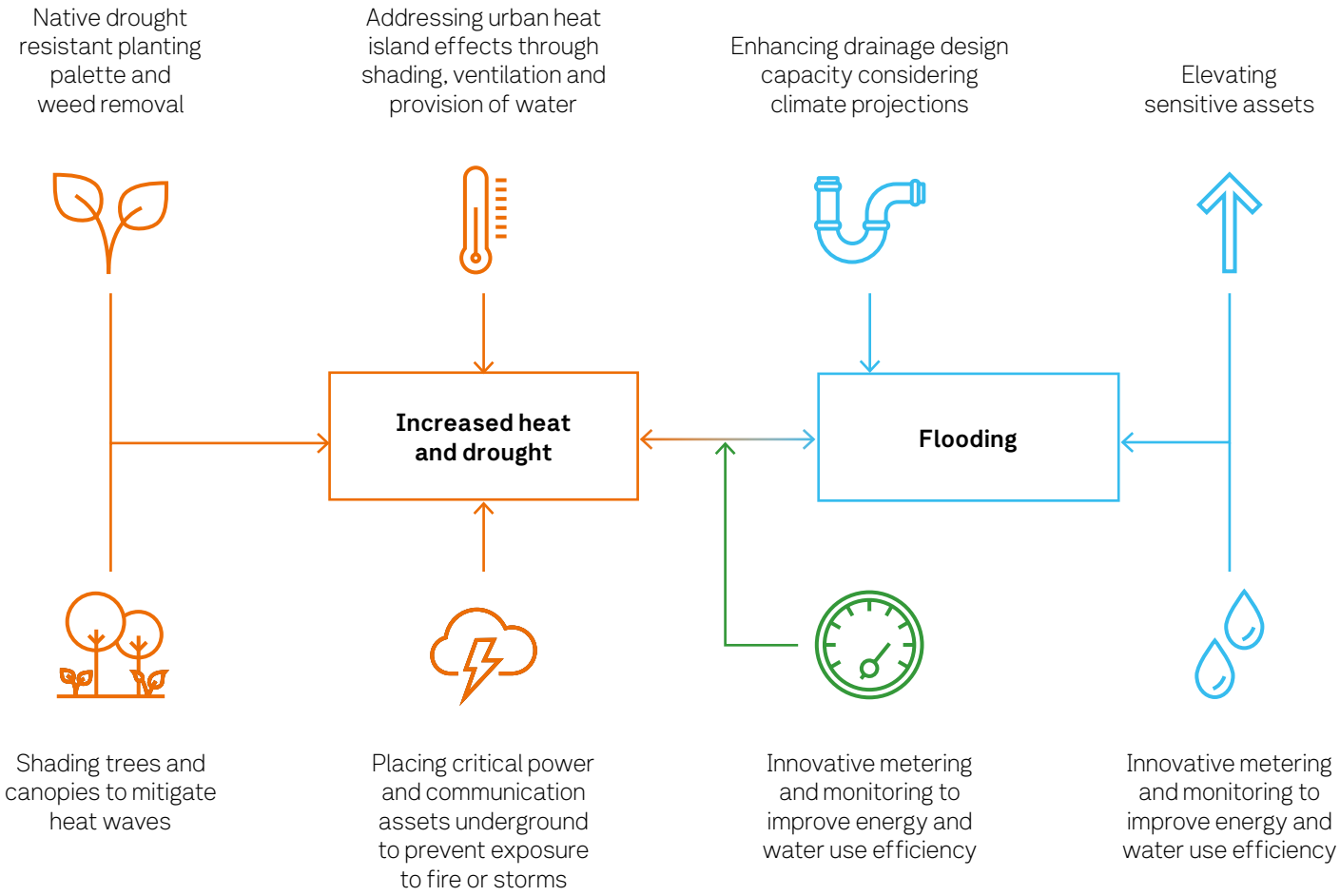
Climate resilient infrastructure is planned, designed, built, and operated in a way that anticipates, prepares for and adapts to changing climate conditions.

It can withstand, respond to and recover rapidly from disruption caused by changing climate conditions.

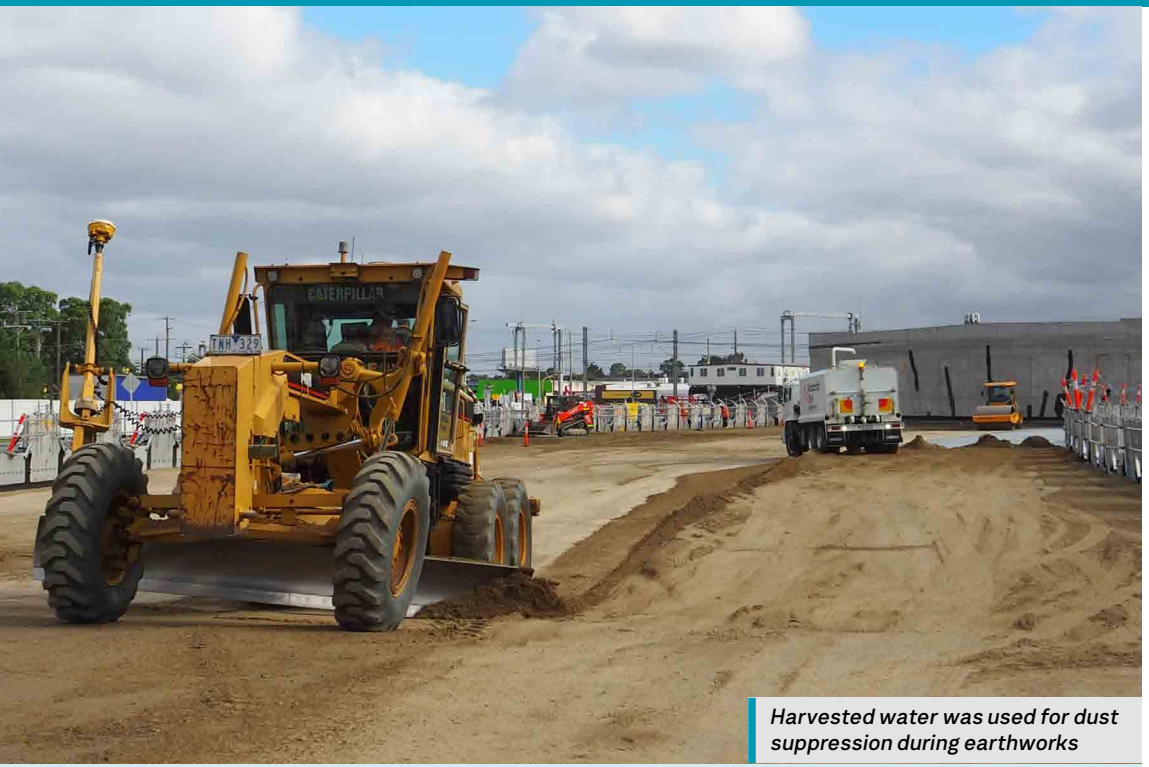
Infrastructure that prepares for changes in climate will have a longer lifespan and lower economic and environmental impacts arising from the need to upgrade or replace the infrastructure.

We work with experts and community to conduct climate risk assessments for each project to identify risks and develop mitigation measures for the design.

An example of climate change mitigation and adaptation measures adopted across our project.



Harvesting rainwater for construction



Harvested water was used for dust suppression during earthworks

Water use is a key focus of major infrastructure projects as it is used for dust suppression and irrigation for landscaping.

The current, business-as-usual approach to sourcing water for construction activities is for water carts to fill their tanks at a nearby hydrant.

Site compounds often have limited capacity to harvest enough rainwater for use on site. The benefits of purchasing recycled water are often negated by the increase in emissions and cost associated with transport to site.

At South Gippsland Highway, we installed two 50,000L rainwater tanks to harvest rainwater throughout the project for use in dust suppression, irrigation and site establishment.

Benefits and achievements

*Two **50,000L** rain tanks*

*More than **1,280,500L** saved with the tanks*

***34%** of total non-potable water substitution*

*This is the equivalent of **60** household backyard pools*

Site

– South Gippsland Highway, Dandenong (MRPA)

Drought resistant Woody Meadows Project

Woody Meadows on Old Geelong Rd, Hoppers Crossing site

Urban greening makes our cities more liveable, but the high costs associated with maintaining vegetation on public landscapes can often translate to simplistic, low diversity and less visually appealing landscapes.

We partnered with the University of Melbourne on a landscaping works initiative, the Woody Meadows Project. The project was implemented along the open space corridor across multiple sites. We planted native Australian shrubs that were strategically chosen to improve the area's appearance with the ability to reshoot, maximising floral display.

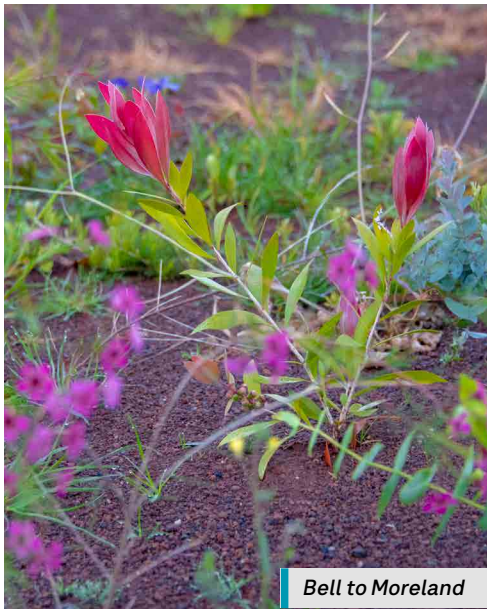
Maintenance inputs are also reduced by increasing plant density and coppicing treatments (hard pruning of stems close to the ground) every two to four years.

Benefits and achievements

- *Improved wellbeing (human connection to nature)*
- *Reduction of weed spread*
- *Increased aesthetics and a greater variety of plants*
- *Robust and drought adapted plants (more resilience to a changing climate)*
- *Greater biodiversity*
- *Low maintenance (once every two to four years coppicing treatment required)*

Sites

- Abbotts Road, Dandenong (WPA)
- Glenroy Road, Glenroy (NWPA)
- Old Geelong Road, Hoppers Crossings (WPA)
- Bell to Moreland (NWPA)
- South Gippsland Highway, Dandenong (MRPA)



Bell to Moreland

Creating places that support liveability

As one of Victoria's biggest transport projects, the infrastructure we build now must address not only the needs of current communities but leave a strong legacy for future generations by contributing to people's quality of life and wellbeing.

Our transport system must be integrated and sustainable to ensure an inclusive and prosperous system that is fair to all users.

We're building infrastructure that supports safe, healthy and liveable communities in a climate-affected future

- **Prioritise the enhancement and protection of vegetation to support a cooler and greener Melbourne**
- **Promote biodiversity values by protecting habitat and its connectivity**
- **Provide end-of-trip active transport solutions to promote public health and wellbeing**
- **Promote design that integrates Crime Prevention Through Environmental Design (CPTED) principles to increase public safety**

Protecting endangered species

Eumemmerring Creek bridge construction

Eumemmerring Creek is home to two endangered freshwater fish known as the dwarf galaxias and the Australian grayling or the ‘cucumber mullet’.

Traditional construction practices would have posed a great risk to these protected species in the creek.

As part of works to duplicate eight kilometres of track, a 63 metre bridge was successfully assembled and slid over Eumemmerring Creek. Temporary steel walkways and fiberglass grating were used to allow site access without disturbing flora and fauna.

We established environmental no-go zones through clear delineation, signage, and education.

The design and construction formed part of a substantial effort to minimise impact upon the creek or any sensitive vegetation.

Benefits and achievements

*Over **10 tonnes** of steel successfully reused on other projects*

Significant portions of native river red gum retained

*A fully assembled **63m** bridge was launched*

162t** launch nose was reused from another project, saving over **300t of carbon emissions

Site

– Cranbourne Line Upgrade (WPA)

What's next

As one of Australia's largest infrastructure projects, it is important that we achieve great sustainability outcomes as well as lift an entire industry standard.

Doing so will create not only a more liveable, climate resilient state, but also a forward-looking, socially responsible and sustainable infrastructure sector.

There are exciting plans for the next year as we continue to develop new initiatives targeted for the upcoming projects and others under development.

Some of our key sustainability goals:

- expand our innovation and initiatives to keep up with world-class research and development
- review our Sustainability Policy to ensure our best practices remain up to date
- continue to work with our stakeholders and communities to form partnerships and deliver great places that respect the past and leave a legacy for future generations.

Coburg Station

Appendix

Sustainability policy

In 2015, the Level Crossing Removal Project (LXRP) adopted a Sustainability Policy to ensure the principles of environmental, social and economic sustainability were included in all our projects.

LXRP has become a member of the Infrastructure Sustainability Council of Australia, requiring LXRP projects to obtain an independent Infrastructure Sustainability Rating. In doing this, our projects will:

- be undertaken by contractors that have accreditation to ISO 14001 (Environment), ISO 9001 (Quality) and AS/NZS 4801 (OH&S) and who regularly monitor their performance
- undertake a climate change risk assessment and respond to any extreme or high priority climate change risks
- reduce Greenhouse Gas Emissions by 15 to 25 per cent
- minimise the use of potable water wherever possible
- minimise waste by using the waste hierarchy of avoidance, reduction, reuse and recycling.

Our Sustainability Vision is to achieve excellent environmental, social and economic outcomes across all phases of the level crossing removal project in order to deliver an integrated project that connects the community in an environmentally sustainable manner.

To achieve this Sustainability Vision, the Level Crossing Removal Project is committed to:

Optimising LXRP's design to ensure it is delivered to operate sustainably.

Managing resources efficiently through embedding energy, water and material saving initiatives into the design, construction and operation of the project.

Avoiding, minimising and offsetting harm to the environment and the loss of biodiversity.

Protecting and conserving the natural environment.

Preparing for the challenges presented by climate change.

To give effect to this Policy, our people will:

- Demonstrate leadership in the commitment to a prosperous and integrated economic, social and environmental sustainable future.
- Demonstrate commitment to sustainable procurement.
- Protect and maintain vegetation, the functioning of ecosystems and biological diversity, while seeking opportunities to enhance the value of these natural systems within the context of our works.
- Facilitate economic prosperity and development and provide a resilient local workforce.
- Support and enhance social, cultural and community wellbeing.
- Encourage the pioneering of innovation in sustainable design, process or advocacy that seeks continuous improvement to promote new ideas and thinking.
- Embed environmental and sustainability outcomes by establishing robust sustainability objectives and targets.
- Report on sustainability performance and be accountable for meeting environmental and social responsibilities.

The CEO of LXRP fully endorses this policy.

For the latest policy and more visit:
levelcrossings.vic.gov.au/about/sustainability-policy

levelcrossings.vic.gov.au

contact@levelcrossings.vic.gov.au

For languages other than English, please call 9209 0147.

1800 105 105 (call anytime)

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