Level Crossing Removal Project Sustainability Snapshot

2nd Edition

LEVEL CROSSING REMOVAL PROJECT

Preston Station facade and landscaping

levelcrossings.vic.gov.au

VICTORIAN INFRASTRUCTURE DELIVERY AUTHORITY

Introduction

The Victorian Infrastructure Delivery Authority (VIDA) is delivering one of the most significant investments in transport infrastructure in Victoria's history through the Level Crossing Removal Project (LXRP) which will see 110 dangerous and congested level crossings removed by 2030.

The Sustainability Snapshot provides a short summary of our innovations and achievements that are helping to deliver sustainable infrastructure.

Much like the 1st Edition (published in June 2023), this 2nd Edition of the Sustainability Snapshot also focuses solely on the level crossing removal program.

Sustainability considerations on our projects include

- reducing materials and energy use
- building climate resilient infrastructure
- creating places that support liveability

Data is received from our alliance partners at the completion of each project, as well as drawn from modelling and reporting from the Infrastructure Sustainability Council (ISC), Green Building Council of Australia (GBCA) and LXRP Self-Assessment Ratings.

The projects transform how people live, work and travel, while providing a legacy for the Victorian community. Part of this legacy is our goal to deliver great, environmentally sustainable places – with sustainability at the forefront of everything we do.

All data has been reviewed and independently verified.

To view the 1st Edition (June 2023) snapshot visit:

levelcrossings.vic.gov.au/sustainability-snapshot-2023

Planting at Preston Station

Sustainability Highlights

Program to date – Data as of March 2024

828,479t
(31%) of CO_2-e emissions reduced[1] by choosing sustainable materials and using energy more efficiently over the infrastructure lifecycle[1]

Equivalent to the annual transport emissions of ***241,809*** *Australians*

330,099t
(22%) CO_2-e saved[1] by choosing more sustainable materials and efficient design[1]

498,380t
(43%) of CO_2-e in energy saved[2] in construction and over the infrastructure lifecycle[1]

302kL
of water tank capacity installed for operations

585,308t
(95%) of total waste recycled[3]

Equivalent to ***1,847*** *High Capacity Metro Trains*

396,760kL
(42%) reduction in potable water use during construction[4]

Equivalent to ***158*** *Olympic swimming pools*

34,609t
(97%) of metal recycled

Equivalent to the metal from ***32,045*** *cars*

59,908t
of total asphalt recycled

Equivalent to ***29km*** *worth of road, which is more than* ***11 x the length of the West Gate Bridge***

5,079,284t
(97%) of total spoil diverted from landfill

Equivalent to ***15,685*** *high-capacity metro trains*

666kW
of solar installed which is expected to generate ***766,841kWh of annual energy***

Equivalent to the energy consumption of ***166*** ***three-person households*** *in one year*

2,831,287
grasses and small shrubs planted[5]

Approximately ***18,218*** *trees planted*

3,369
bike parking spots installed

56,387m
of shared user path built

157,003t
(97%) of concrete recycled

2,519t
(50%) of office waste recycled

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

Glenroy Level Crossing Removal Project

The level crossing at Glenroy Road, Glenroy has been removed by lowering the rail line under the road.

The project also built a new Glenroy Station.

Works are complete, with both sides of Glenroy Station now open, connecting the new Dowd Place car park in the west to Hartington Street in the east.

Around 19,000 vehicles passed through the former level crossing each day, where the boom gates were down for up to 43 per cent of the morning peak.

Awards

Melbourne Design Awards

Category – Public and Institutional Architecture

Date – 2023

Place – Silver

'Leading' Infrastructure Sustainability (IS) Rating

Category – As Built

Date – 2023

Score – 83

Glenroy Station

Project sustainability highlights

85
solar panels installed on the roof of the new station (39kW)

36t
of carbon savings through low carbon paths

22%
reduction in greenhouse gas emissions by choosing more sustainable materials and efficient design

96.9%
construction waste diverted from landfill

34%
increase in pedestrian and bicycle paths

14%
reduction in operational water use

55.3%
reduction in project energy saved in construction and over the infrastructure lifecycle

74%
increase in ecological value by increasing the prevalence of native species and overall green space

Solar panels on the roof of Preston Station

Preston Level Crossing Removal Project

The level crossings at Oakover Road, Bell Street, Cramer Street and Murray Road in Preston have been removed by elevating the Mernda Line over the four roads.

The new stations at Bell and Preston are also now open.

A shared walking and cycling path from Oakover Road through to Murray Road connects locals to the new stations and open spaces which feature seating, play areas, BBQ facilities, amphitheatre and native planting.

Around 82,000 vehicles passed through these former level crossings each day, where the boom gates were down for up to 40 per cent of the morning peak.

Awards

Infrastructure Sustainability Council (ISC) Awards

Category – Excellence in Governance

Date – 2023

Australasian Rail Industry (ARI) Awards

Category –Infrastructure Project Excellence

Date – 2023

'Leading' Infrastructure Sustainability (IS) Rating

Category – As Built

Date – 2023

Score – 94

Project sustainability highlights

212
solar panels installed (89kw)

49t
of carbon savings through low carbon paths

22%
reduction in greenhouse gas emissions by choosing more sustainable materials and efficient design

97%
construction waste diverted from landfill

189%
increase in pedestrian and bicycle paths

14,000L
rainwater tank system installed to harvest and reuse rainwater for operational use

Reducing demand on mains water by
55%

46.9%
reduction in project energy saved in construction and over the infrastructure lifecycle

Cranbourne Line Upgrade

Major construction is underway on the Cranbourne Line Upgrade, with eight kilometres of duplicated track between Cranbourne and Dandenong complete and a new Merinda Park Station open to passengers.

The second track between Cranbourne and Dandenong was completed in February 2022, nearly a year ahead of schedule, meaning trains can run every 10 minutes on average in the morning peak for passengers travelling from Cranbourne, Lynbrook and Merinda Park stations.

Awards

'Leading' Infrastructure Sustainability (IS) Rating

Category title – As Built

Date – 2023

Score – 90

Merinda Park Station

Project sustainability highlights

47%
of Merinda Park Station's energy is provided by a 43kW solar array on the station roof

6371L
of diesel saved through the use of site hybrid generators

6km
shared user path constructed with concrete reinforcement made from recycled plastic fibres

Cutting embodied emissions by
173t
Equivalent to taking 74 cars off the road for a year

34%
of ecological value enhanced post construction, improving local surroundings

Mooroolbark car park

Manchester Road and Maroondah Highway

The level crossings at Manchester Road, Mooroolbark and Maroondah Highway, Lilydale were removed in November 2021 by building rail bridges over the roads.

New elevated stations were built at Lilydale and Mooroolbark as part of the project.

A new multi-deck car park was also built at Mooroolbark Station, doubling car parking to 900 spaces, making it easier for commuters to find a car park.

Awards

'Leading' Infrastructure Sustainability (IS) Rating

Category – As Built

Date – 2023

Score – 79

5-star Green Star rating

Category – Mooroolbark Station and Lilydale Station

Date – 2023

Place – Australian Excellence

Project sustainability highlights

4,183,200kWh
of solar energy generated over the asset's life

25.9%
reduction in CO_2-e by choosing more sustainable materials

2,500m³
of crushed rock and recycled concrete was reused from Toorak Road, Kooyong level crossing removal

500
trees planted

The project has donated the Mooroolbark station to the Healesville railway, along with:

5,574
meters of rail

2,550
concrete sleepers

2,276
timber sleepers

Fitzgerald Road and Robinsons Road

The Fitzgerald Road, Ardeer level crossing was removed in July 2022, by building a road bridge over the rail line.

The level crossing was removed six months ahead of schedule, following major works starting in July 2021.

Fitzgerald Road was connected with Forrest Street with a new road bridge, reducing travel times and improving local connections.

The Robinsons Road, Deer Park level crossing was removed in September 2022, by building a road underpass and rail bridge.

Removing this level crossing has reduced travel times, improved safety and traffic flow, and created better local connections for pedestrians and cyclists.

Awards

'Leading' Infrastructure Sustainability (IS) Rating

Category – As Built

Date – 2023

Score – 84

Fitzgerald Road

Project sustainability highlights

Fitzgerald Road

3026t
of CO_2-e reduced by using a design that reduced the overall amount of material used and adopting materials with recycled content

747t
of CO_2-e in energy saved in construction and over the infrastructure lifecycle

433m
of pipes installed using only recycled materials

75,000L
of biodiesel used in site generators, saving 49t of CO_2-e

17%
tree canopy increase at Fitzgerald Road due to the number of trees planted during the project

180,000+
trees, shrubs and grasses planted

Robinsons Road

4710t
of CO_2-e reduced by using a design that reduced the overall amount of material used and adopting materials with recycled content

2,149t
of CO_2-e in energy saved in construction over the infrastructure lifecycle

75,000kWh
of greenpower electricity used, saving 74t of CO_2-e

51,000L
of biodiesel used in one generator, saving 28t of CO_2-e

316%
tree canopy increase at Robinsons Road due to the number of trees planted during the project

100,000+
trees, shrubs and grasses planted

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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VICTORIA State Government

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