



Suburban Rail Loop East

Environment Effects Statement

Environment and amenity



Suburban Rail Loop is a city and state-shaping project that will transform Victoria's public transport system, enhance Melbourne's middle suburbs and create a long pipeline of jobs.

Suburban Rail Loop East from Cheltenham to Box Hill (SRL East) will connect Melbourne's growing health, education, retail and employment precincts in Melbourne's east and south east.

The 26-kilometre SRL East tunnel will be built as a standalone line that is integrated with the existing public transport network.

A high-tech fleet of energy efficient trains will run on the line, stopping at the six new underground stations at Cheltenham, Clayton, Monash, Glen Waverley, Burwood and Box Hill.

Planning processes

After two years of detailed planning and development work, SRL East's Environment Effects Statement (EES) has been released.

The SRL East EES identifies benefits and potential impacts during construction and operation and proposes ways to avoid, minimise, offset or manage any effects.

The EES for SRL East includes 19 different studies and technical reports on topics such as noise, vibration, traffic, ecology and social impacts.

Also released is a draft Planning Scheme Amendment (PSA) showing proposed changes to local planning schemes so land can be used to build rail infrastructure for SRL East.

The SRL East EES and draft PSA can be viewed in full on the Suburban Rail Loop website at suburbanrailloop.vic.gov.au/EES

What we've heard so far about environment and amenity

Since mid-2019, we've engaged with over 20,000 people via online and face to face consultation.

Key feedback relating to **environment and amenity** included:

- Questions about tree loss, in particular any loss of native or mature trees
- Questions about the amount of parkland and open space that will be used to build SRL East
- Potential impacts to the surrounding environment including plants and wildlife
- Questions about how amenity will be considered, especially for dust and air quality
- Importance of replacing any vegetation removed, with a preference for planting more native species

MORE INFORMATION ABOUT COMMUNITY ENGAGEMENT CAN BE FOUND IN ATTACHMENT E OF THE SRL EAST EES - COMMUNITY ENGAGEMENT REPORT.



Sir William Fry Reserve, Cheltenham

Managing environmental and amenity impacts

Suburban Rail Loop Authority is committed to minimising impacts on environment and amenity during both the construction and operation of SRL East.

A number of mitigation measures have been identified. These form the basis of Environmental Performance Requirements (EPRs) recommended by specialists through the EES process.

The recommended EPRs for environment and amenity include:

- Minimising vegetation removal and disturbance and implementing vegetation and tree protection measures
- Offsetting native vegetation removal and replacing removed vegetation and trees with local indigenous species suited to the landscape
- Ensuring for maximum tree retention where possible and re-establishing trees to double the amount of tree canopy removed by the project
- Developing and implementing an **Environmental Air Pollution and Dust Management Plan** and monitoring regime for each site in consultation with the Environment Protection Authority (EPA) Victoria

- Producing tailored **management plans** for project sites that respond to daily weather conditions and consider proximity to sensitive sites such as hospital and education facilities, open space and high density residential and business areas
- Minimising the project footprint on existing land uses including public open space, commercial precincts and residential properties
- Applying sustainability targets and performance indicators for reducing greenhouse gas emissions, and minimising and managing waste and water use.



Gardiners Creek Reserve, Burwood

MORE INFORMATION ABOUT ENVIRONMENTAL PERFORMANCE REQUIREMENTS CAN BE FOUND IN ATTACHMENT A OF THE SRL EAST EES - ENVIRONMENTAL MANAGEMENT FRAMEWORK.

This factsheet

We've developed a suite of fact sheets to help you navigate the SRL East EES and connect you with the information that is relevant to you.

This fact sheet provides information about how potential impacts on **environment and amenity** have been considered and explains where you can find more detail in the SRL East EES.

EES study topics covered in this fact sheet:



Ecology



Arboriculture



Air quality



Greenhouse gas



Land use planning

Ecology

Assessing ecological values

Qualified ecologists surveyed and mapped more than 100 hectares of vegetation and provided advice on significant plants and wildlife that could be affected by the construction and operation of SRL East. This information was gathered through a variety of methods, including a review of databases, available literature and field assessments.

SRL East stations and supporting infrastructure, including the train stabling facility at Heatherton, emergency support facility at Mount Waverley and power supply substation at Burwood, are located in highly urbanised areas across Melbourne's eastern and south eastern suburbs and therefore have limited impacts on ecological values.

Assessments identified small pockets of native vegetation as well as areas of revegetation. No critical habitat for threatened species was found in project areas, with the majority of wildlife present identified as common species that have adapted to the urban surroundings.

The project has been designed to avoid the removal of native vegetation, where possible. Measures will also mitigate, avoid or minimise adverse effects on vegetation (planted, remnant and regenerated), tree canopy, native terrestrial and aquatic plants and animals, and wildlife potentially displaced by tree removal.

Assessments show changes in noise and lighting at the train stabling facility are unlikely to affect wildlife. Design solutions and other measures would be put in place to protect retained habitat in the Kingston Walk Linear Reserve and Henry Street Linear Reserve in Heatherton.



Remembrance Gardens, Clayton



Namatjira Park, Clayton

SRL East will contribute to local habitat. In Burwood, the re-naturalisation of a concrete-lined portion of Gardiners Creek and associated landscaping will strengthen terrestrial and aquatic habitat corridors to support biodiversity.

Arboriculture

Assessing arboriculture impacts

To understand the arboriculture, or tree environment of SRL East, specialists assessed existing planted trees and tree canopy across project areas. This included reviewing satellite imagery and site inspections of each tree or tree group to assess the arboriculture value, based on criteria including the tree's environmental, amenity and heritage values, as well as its health, structural condition and life expectancy.



Namatjira Park, Clayton

Most of SRL East's works will be underground, significantly reducing impacts at ground level.

Every effort will be made to minimise the removal of trees and vegetation to build SRL East stations and supporting infrastructure across the alignment, however some loss is unavoidable.

In preparing the EES, specialists assessed a total of 3,257 trees in the vicinity of SRL East infrastructure. The assessment found that approximately 1,411 trees are likely to need to be removed. Further refinement of the project through detailed design would look at how tree removal could be further reduced where possible.

Our suburbs are recognised for their tree lined streets, parks and open spaces, which contribute to the liveability of these neighbourhoods. Removal of tree canopy, where tree branches and leaves provide coverage, will impact some areas, including Sir William Fry Reserve in Cheltenham, Box Hill Gardens and areas around the new SRL station at Monash.

A **Tree Canopy Replacement Plan** and the project's **Urban Design Strategy** will ensure replacement planting begins as soon as possible and before construction works are completed.

SRL will result in the doubling of the tree canopy across project areas, increasing the overall canopy cover in the Kingston, Monash, and Whitehorse local government areas and contributing to improved quality, amenity and landscape values.

i MORE INFORMATION ABOUT URBAN DESIGN CAN BE FOUND IN ATTACHMENT B OF THE SRL EAST EES - URBAN DESIGN STRATEGY.

Air quality

Assessing air quality

Measuring existing air quality near the proposed SRL East infrastructure and tunnel alignment was an important part of the EES assessment. Based on the Environment Protection Authority (EPA) Victoria's tiered approach to the assessment of risks from air pollution, specialists incorporated international guidelines to model potential air quality changes at sites across the SRL East alignment. A range of inputs were used including meteorological conditions, topography, background air quality and emission rate estimations.

Maintaining air quality is important for our health, the environment and the liveability of our cities.

Construction of SRL East may cause some temporary, localised impacts to air quality commonly associated with construction works and the removal, storage and transport of excavated material.

SRL East's twin tunnels would be built up to 60 metres below ground using custom tunnel boring machines (TBMs). Material excavated from the tunnels would be treated at the surface to maintain moisture and prevents dispersion of pollutants and particles into the air.

Above-ground works at SRL East stations and supporting infrastructure sites may cause some temporary, localised impacts to air quality associated with dust generating activities including earthworks, demolition and transport of excavated materials.


There may be some days during construction where residents within 50-100 metres of the station sites and 100-200 metres of the stabling facility site, may experience dust settling on surfaces.

Additional measures will be put in place for areas where earthworks are more extensive, such as the stabling facility, or in areas such as Box Hill, where there are a number of residential towers and sensitive receivers (health facilities) near the station site.

To protect air quality, site practices will be modified for windy days, dry weather conditions, or when background air quality concentrations are forecast to be high. An **Environmental Air Pollution and Dust Management Plan** will set out required measures alongside stringent monitoring protocols.

It is expected that limited amounts of contaminated soil, rock and sediment will be encountered during works, particularly at the train stabling site in Heatherton and the station site in Cheltenham due to previous land uses. The removal, storage and transport of soil in these areas will be stringently managed but has the potential for short term emissions of dust, vapours or odour.

Changes to air quality or amenity resulting from construction activities would be addressed through Environmental Performance Requirements (EPRs).

 **MORE INFORMATION ABOUT AIR QUALITY CAN BE FOUND IN ATTACHMENT A OF THE SRL EAST EES - ENVIRONMENTAL MANAGEMENT FRAMEWORK.**



Concept image of an SRL East high-tech train

SRL East's design including state of the art tunnel ventilation systems and its fleet of high-tech electric trains will be powered by 100 per cent renewable energy, delivering more sustainable public transport for all Victorians.

Greenhouse gas

Assessing greenhouse gas

To assess greenhouse gas impacts, specialists predicted the carbon footprint for the construction and operation of SRL East. SRL East's carbon footprint was compared with national, state, and local level emissions data to determine the extent to which SRL East would contribute to overall Australian and Victorian greenhouse gas emissions.

The emission of greenhouse gases into the atmosphere, particularly the emission of carbon dioxide (CO₂), is the most significant factor contributing to global climate change.

By delivering faster and more reliable public transport and enhanced active transport connections, SRL East will create a 47 per cent reduction in private vehicle use, helping to reduce carbon pollution and emissions from cars.


Greenhouse gas emissions from construction and operation of SRL East would contribute less than 0.2 per cent of Victoria's average annual emissions, and less than 0.05 per cent of Australia's average annual emissions (based on the latest available data).

Mitigation measures being considered in the ongoing development of SRL East include:

- Optimising design to minimise the size and extent of works and reducing the amount of construction materials
- Integrating lower carbon materials into the design
- Exploring the use of material alternatives such as cement replacement, recycled and warm-mix asphalts, and other materials with recycled content.

Investigations are also underway regarding the use of renewable electricity for SRL East's construction where practicable.

All operational greenhouse gas emissions would be offset as part of Suburban Rail Loop Authority's **Net Zero** operations target, which is consistent with the Victorian government's commitment from 2025 to power public transport with 100 per cent renewable energy.

 **MORE INFORMATION ABOUT SUSTAINABILITY CAN BE FOUND IN ATTACHMENT H OF THE SRL EAST EES - SUSTAINABILITY OBJECTIVES AND TARGETS.**

Gardiners Creek Reserve, Burwood





Land use and planning

Most of SRL East will be built underground, with new stations in Melbourne's middle suburbs at key activity centres, employment, health and education areas.

Suburban Rail Loop Authority has included a draft **Planning Scheme Amendment (PSA)** with the SRL East EES. The draft PSA proposes to amend the Bayside, Kingston, Monash and Whitehorse planning schemes to allow for the delivery and operation of SRL East.

Development controls to physically protect the underground tunnels, stations and supporting infrastructure from future development would be applied as part of the PSA.

The draft PSA includes planning approval for SRL East via an Incorporated Document. The proposed Incorporated Document includes key conditions that guide the design and delivery of SRL East including working within an **Environmental Management Framework (EMF)** endorsed by the Minister for Planning.



THE DRAFT PLANNING SCHEME AMMENDMENT CAN BE FOUND IN ATTACHMENT C OF THE SRL EES - DRAFT PSA



Make a submission

Submissions on the SRL East EES and draft Planning Scheme Amendment (PSA) are invited during the public exhibition period.

Submissions must be made in writing to **Planning Panels Victoria** and received by **11:59pm on Thursday 16 December 2021**.

For questions relating to submissions contact the Department of Environment Land Water and Planning **Customer Service Centre on 136 186**.

To make a submission visit **engage.vic.gov.au/srl-east-iac**



Aerial image of SRL East station precinct at Cheltenham

More information

To find out more about Suburban Rail Loop:

- 🏠 suburbanrailloop.vic.gov.au
- ✉ contact@srla.vic.gov.au
- 📞 1800 105 105 (24 hours a day, 7 days a week)

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It should be noted that this information is current at the time of printing, however changes may occur. Please visit suburbanrailloop.vic.gov.au for the latest updates.