

# LED streetlight upgrade



## FREQUENTLY ASKED QUESTIONS SMART LED STREETLIGHT UPGRADE

The City of Parramatta is undertaking the largest smart and LED energy-efficiency upgrade project ever seen within NSW.

Through the upgrade of 22% of the street lighting network, more than 3,000 streetlights will be switched to high-performance and energy-efficient smart LED streetlights.

The new energy-efficient streetlights are specifically designed to produce a similar light output to those they have replaced. However, the new streetlights are also equipped with smart technology that will allow Council to lower lighting levels where and when it is deemed appropriate.

While lighting levels will be set to meet Australian Standards, Council is currently undertaking a detailed lighting design to establish appropriate dimming levels for each light. It is expected that after installation, lights will be able to be dimmed by eight per cent up to more than 50 per cent.

The project is expected to save Council and ratepayers millions on street lighting operating and maintenance costs and help City of Parramatta achieve its goal of reducing carbon emissions by 60% by 2038 (based on 2015 figures).

Funded through the federal government's Local Roads for Community Infrastructure (LRCI) program, works will be undertaken by Endeavour Energy, the electricity network powering Greater Western Sydney.

The program is expected to be completed by June 2022.

### What does the project involve?

22% of the streetlight network, or more than 3,000 streetlights will be replaced with energy-efficient and better-quality smart LED alternatives. The lights will provide the same level of lighting as existing streetlights but are 45-60% more energy efficient, saving our city money and helping us achieve our carbon neutral goals.



# LED streetlight upgrade



Major roads in Parramatta and its suburbs will benefit from the program. You can see a full list of the streets that will be a part of the two-stage program on our web page. The new smart LED lights can be tailored to provide lighting levels for vehicle and pedestrian traffic to meet specific location requirements.

Installation will start in December 2021 and will take place at times of low traffic. It is expected 30-45 streetlights can be upgraded to smart LED each day with minimal disturbance to residents and business and without disruption to on-street parking.

As at March 2022, more than 1,500 lights have been upgraded.

## What happens after installation?

After installation is networking, trimming and dimming.

When lights are first installed they have an output which compensates for the expected reduction in light over the 20 year lifespan of the streetlight. The new streetlights are equipped with smart technology that will allow Council to lower lighting levels where and when it is deemed appropriate.

Once lights are fully networked, Council can make adjustments to ensure that lights meet the appropriate Australian Standard and maintain a consistent lighting output over their life.

Council is currently undertaking a detailed lighting design to establish appropriate dimming levels for each light. Endeavour Energy and Council will also be working on trimming the spread of light to contain light spill where necessary.

It is expected Council will be able to reduce the light output between 8% and 50+% depending on the location. Council will also be investigating additional dimming during periods of lower traffic and lowering lights in areas adjoining bushland.

The dimming process for the first stage of newly-installed lights will be finalised in February, this will help reduce light pollution and provide additional energy savings.

Installation, trimming and dimming is expected to continue until the end of June 2022. Please see the installation schedules for more information.



# LED streetlight upgrade



## Why did Council choose these particular lights?

The LED lights chosen by Council have been approved for use by Endeavour Energy, the electricity network company that owns the lighting infrastructure in our local government area.

The lights have been tested to ensure they meet relevant Australian Standards for safety and light levels, and they perform better than the existing lights.

The new lights provide:

- more uniform levels of light across and along the street
- better colour rendering and increased visibility for drivers and pedestrians
- more consistent levels of light over time – around 20 years of light at the same level without lowering the output of light
- less waste light spill, light can be directed where it is needed, and the new lights also reduce glare
- lower operational and maintenance costs, the project is expected to save ratepayers and Council around \$6.2m over 20 years
- environmental benefits saving 1,830 tCO<sub>2</sub>-e carbon emissions annually and 36,594 tCO<sub>2</sub>-e over 20 years.

## Why do this project now?

Since 2014, the City of Parramatta has been working on a range of smart, green ideas to create a resilient, sustainable, and more liveable city. This LED streetlight replacement program adds to the upgrades delivered by earlier programs which saw 8,114 residential lights replaced.

With funding made available as part of a post-COVID-19 recovery program, we're now upgrading 3,000 of our major road streetlights within the Endeavour Energy network area. As well as delivering cost savings and environmental benefits, the program will help stimulate the economy through local infrastructure jobs.

These upgrades to the major road streetlighting network will improve lighting standards especially in areas of traffic accident, train stations and bus stops.

Funding for this program was secured from the federal government through the Local Roads and Community Infrastructure (LRCI) funding, covering 100% the project costs.

# LED streetlight upgrade



## Which roads and streets are being upgraded?

Major roads and streets across the Parramatta area will be upgraded in a two-stage program. Suburbs including Parramatta, Carlingford, Dundas, Granville, Ermington, Epping, Northmead, North Rocks, Toongabbie, Winston Hills and more.

For a list of roads please see the Installation Schedules (PDFs) on the [City of Parramatta website](#). More information will be provided on installation as the project progresses.

## When does the project take place?

The installation works are being undertaken by Endeavour Energy and are expected to be completed by June 2022.

At the majority of sites, work will take place between 6am and 6pm on weekdays during times of low vehicle and pedestrian traffic. However, depending on the terms of the Road Occupancy Licence (ROL), works may occur outside of these times (e.g. between 12am and 4am, when traffic volumes are lowest).

Please note, weather and other factors can result in delays.

You can see the full list of streets identified for lighting upgrades and a work schedule on the [City of Parramatta website](#). More information will be made available as the project progresses.

## How will the works affect my street on the day of installation?

The changeover of streetlights involves a single elevated work platform working from the road, with two to three crew members. It typically takes less than 10 minutes to replace a streetlight and the works are scheduled during times of low traffic, so any disruptions to traffic flow in your street should not last long. All cars can remain parked on the streets and works will not block driveway access.

You can see the full list of streets identified for lighting upgrades and a work schedule on the [City of Parramatta website](#).

More information on installation will be made available as the project progresses.



# LED streetlight upgrade



## How much energy, greenhouse gas emissions and money will this project save?

This project will save energy and money, and drastically reduce greenhouse emissions. It will:

- replace around 3,384 streetlights with more energy-efficient and better-quality LED alternatives
- significantly reduce energy consumption and associated operation and maintenance costs
- achieve energy and maintenance costs savings of approximately \$6.2 million for Council over the life of the assets
- save around 36,594 tonnes of greenhouse emissions between now and 2041
- reduce energy consumption of approximately 2,472 MWh per year, equivalent of powering Riverside Theatres for three years.

## Who owns the lights and smart technology?

The street lighting infrastructure is owned and maintained by the local distribution network service provider, Endeavour Energy.

## Who makes the lights?

The LED lights are made by Sylvania Schröder, a brand of Schröder Australia Pty Ltd, with more than 50 years in road, infrastructure, and sports lighting in Australia.

## How long do the lights last?

The LED luminaire will last about 20 years, as will the smart PE cells.

## Tell me more about the smart technology

Each streetlight currently uses a PE Cell that is programmed to turn the light on at dusk and off at dawn. This project will replace the PE Cells with PE Cells that include a smart chip connected to a telecommunication network. A program will alert Council and Endeavour Energy when a light is not working. This will improve maintenance response times.

In non-smart lights, lighting levels dim over time, they are installed to emit high light levels, so that they continue to comply with Australian Standards over time. Smart LED lights can be programmed with Constant Light Output (CLO) to allow light levels to be maintained at Australian Standards throughout their life. This feature increases energy savings especially in the first five years. Additional smart features like trimming the area where light is cast, and dimming can also be activated.

# LED streetlight upgrade



## Who is installing the new lights and smart technology?

Endeavour Energy, the company that owns the lighting infrastructure, will be installing the new lights on Council's behalf. They will be liaising with Council throughout the project.

## What happens to the old lights, are they recycled?

Yes! Endeavour Energy will recycle old lights that are taken down during a bulk replacement program. The glass collected is recycled into products such as glass wool insulation for homes. The mercury is distilled and reused in the dental industry to manufacture amalgam. The aluminium body and other fixed components (for example, steel screws, copper wires) are collected and end up as ingots used in the industry. The packaging the new lights come in is also recycled.

## How is the project being funded?

This project is 100% funded by the Australian Government's Local Roads and Community Infrastructure (LRCI) program as a post-Covid-19 economic stimulus job creation project.

## How can I get more information about the project either before, during or after the works?

For more information, please refer to the LED project pages on the [City of Parramatta's website](#).

To contact the LED streetlighting team, please email [environmentallysustainable@cityofparramatta.nsw.gov.au](mailto:environmentallysustainable@cityofparramatta.nsw.gov.au) or call our customer contact centre on 1300 617 058.

