



PERTH BY POWER ROUTE

Self guided tour

Tour around Perth experiencing it's many faces by following the route of the historical main electricity ring. Ponder how electricity powers our lives in the past, present and future.



BOORLOO KWEDJANG BARDIP YANGINY HERITAGE PERTH WEEKEND

• 16-18 APRIL 2021 •

Presented by the City of Perth



Your self-guided tour starts at the **1 East Perth Power Station** (heritage site) and operational East Perth Terminal. Walk from East Perth or Claisebrook Train station or park along Summer St.

Take a picturesque stroll along the Swan River through to Mardalup Park, then over the foot bridge at Claisebrook Cove. Pass by Victoria Gardens and Mardalup Bridge (or walk across the bridge and back for a different view).

Make your way between Gloucester Park Race Course and the WACA cricket ground to Queens Gardens. Take a CAT bus or walk towards Wellington St via Goderich St and Bennett St to Wellington Square and through the hospital precinct towards the CBD. You will notice **2 Substation no. 1** and the site of the first Perth power station is now part of the hospital building E. Across the road from the old substation building is a working substation.

Next, walk down Wellington St to Pier St and turn left towards Murray St. Take a right onto Murray St and find the **3 Electrical and Gas Department Building** halfway down the block before you hit Barrack St.

Continue west along Murray St, passing the old General Post Office. Cross over William St and continue up Murray St until you reach Queen and King streets.

4 Substation no. 2 is building number 333.

Take a CAT bus or keep walking up Murray St under the freeway and into West Perth. After crossing Havelock St, jump across right to Thelma St. Where Thelma St meets Colin St is **5 Substation no. 3**.

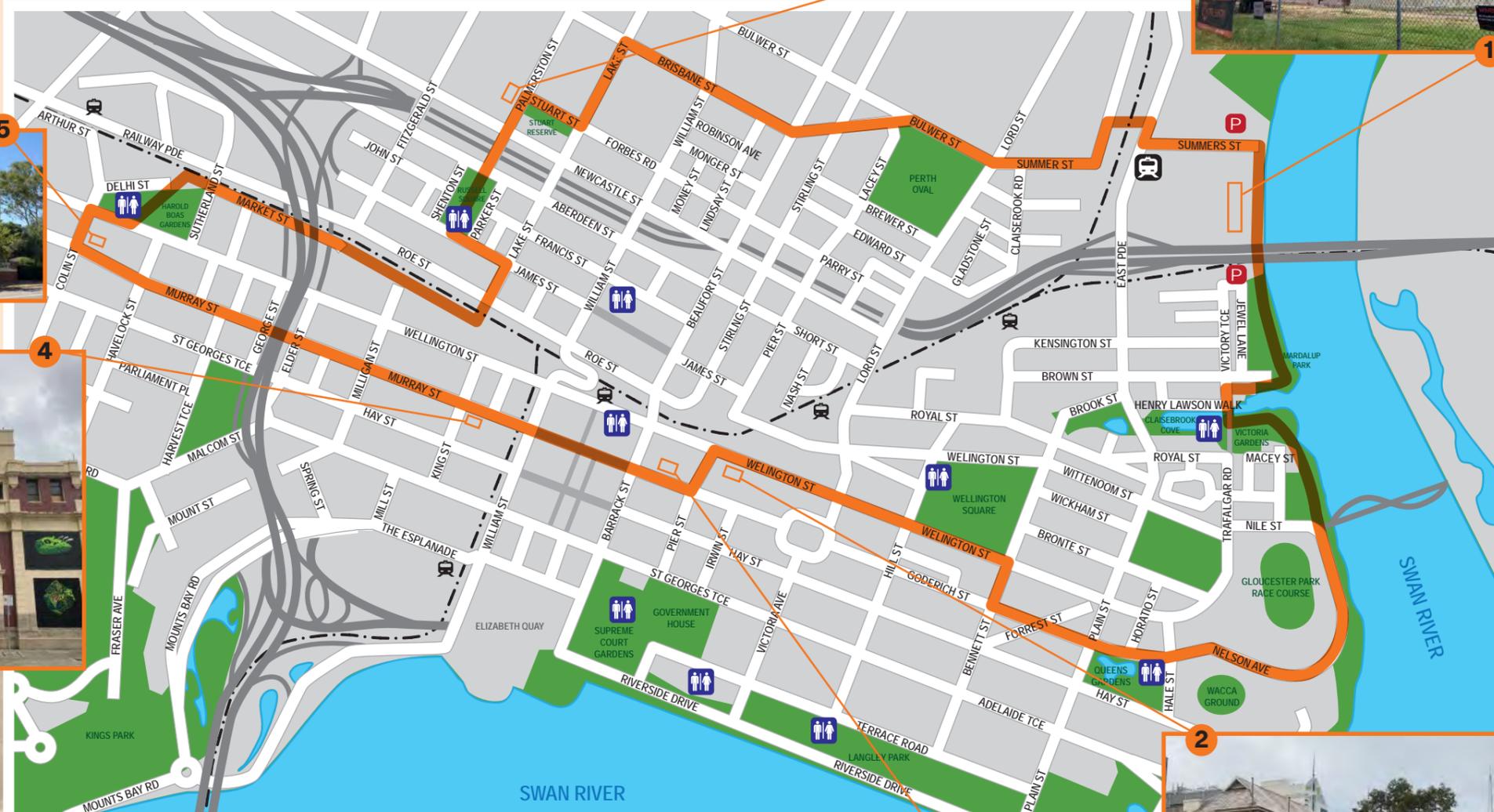
From here, follow Colin St to Harold Boas Gardens, jump on a CAT bus or stroll through the park to the cycleway along the railway. Follow this back towards the city until you get to the Lake St railway crossing. Cross over Roe St and continue up Lake St. Turn left on James St and then right onto Russell Square Park. Walk through the park. Can you see the transmission lines? Follow them up Palmerston St to the corner of Stuart St and you will stop at **6 Substation no. 4**.

The route of old main electricity ring continues up Palmerston St and right on Brisbane St, but take a shortcut and a more scenic route along Stuart St Reserve and left up Lake St passing Baker's Tce. Then turn right onto Brisbane St and follow it all the way to Perth Oval (crossing William St). Take a short stroll along the side of the tennis courts on Bulwer St back to Summer St. Follow Summer St to East Perth Train Station to finish your journey. You can continue on Summer St back to **East Perth Power Station** via the station overpass, or take the train from there.

4 hours walking.

LOOK OUT FOR (might only be glimpses):

- East Perth Terminal
- Matagarup Bridge
- Optus Stadium
- Royal Perth Hospital
- St Mary's Cathedral
- Wellington St. Substation
- Perth Town Hall
- Bell Tower
- General Post Office
- His Majesty's Theatre
- A building called Ice Works
- Scitech
- RAC Arena
- A building called Union Maltings
- Bakers Terrace
- Masonic Temple
- Ventilation stack
- Perth Oval



Ngala kaaditj Noongar moort keyen kaadak nidja boodja.

Western Power acknowledges the Traditional Owners of the lands on which we operate, and recognises their continuing connection to lands, waters and communities.

References:
 Register of Heritage Places - No2 Substation Murray St., Heritage of Western Australia, 2013
 The History of Electricity in Western Australia, Western Power, 2000



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Timeline of becoming an electrified city

1888 Western Australian Electric Light and Power Company founded.

1894 Perth Gas Company produced its first electricity (110V DC) from a power station on Wellington St. Its first customers were the Town Hall, Wigg & Son and Wesley Church.

1899 Perth Electric Tramways commenced operations.



1912 Perth Gas Company is acquired by Perth City Council and Perth Electric Tramways is taken over by the State Government.

1913 The State Government is the first government to take control of electricity generation and supply. Everything is centralised and moved to a alternating current. East Perth Power Station is constructed supplying 9,000kW and a 6,000V main electricity ring around Perth.



Our electrical cityscape is constantly evolving. Take a journey to see how far we've come, and how we're using world-leading technology right in our own backyard to deliver a brighter energy future for the WA community.

Walking along the river from East Perth Power Station to Substation no. 1, you'll notice the big light towers at the West Australian Cricket Association (WACA) ground. These were installed in 1986 at a cost of \$4.2 million to enable the ground to be used at night.

Across the river is Optus Stadium, which opened in 2018. Instead of light towers, it has 22,000 LEDs built into the roof and structure of the stadium. This illuminates the whole ground and can also be used to create exhilarating light shows.



While most of the city centre now has underground power, there are still many parts of the network above ground. We can expect to see these assets evolve to enable smart city functions.



Sensors on light poles will be able to:

- monitor the environment, carbon monoxide and noise pollution
- communicate available parking
- notify when rubbish bins need to be emptied
- identify when open spaces need watering
- indicate if streetlights need to be on
- All leading to a more efficient and sustainable city.



Photo ref: State Library of Western Australia

In the early days of Perth, it was electric trams that drove the need for electricity generation. The future will see our streets taken over by electric vehicles.

These will also need its own supporting infrastructure, changing the cityscape again.



To help our transition to renewable resources, we can expect to see more batteries like this on our streets. Batteries can store the excess solar electricity made during daylight hours and release it during peak use times in the evening and early morning.

Perth's main electricity ring

In 1914 the Perth City Council built four substations along the main electricity ring to supply its customers.

The substations were designed by architect Jack Ochiltree and built to last, using quality materials by the Todd Brothers.

The federation style warehouses with stucco detailing, showcases the practice of building attractive buildings for industrial purposes, to fit in with neighbouring commercial and public buildings.



Substation no. 1

This substation was built at the site of Perth City Council power station.

The building was extended in 1930 as an engineering complex.

It became part of the Royal Perth Hospital in 1974.



Substation no. 2

This substation, located in the heritage listed King St Precinct, is a good example of early 20th Century substation construction.

The difference in design from the other

East Perth Power Station

East Perth Power Station was the main source of Perth's electricity for 68 years from 1916 - 1981.



For all but six years, the power station used coal to make electricity. In 1947, a coal miners' strike left the city with minimal electricity for three weeks!



Other electrical buildings

On or just off the original main ring route you can view and compare other substations and electrical buildings.

East Perth Terminal (132kV) is situated next to the old power station on Summer St.



No 6 Substation was built in 1924 in response to an increased need for electricity in East Perth for gas and glass works. It was expanded in

Century substation construction.

The differences in design from the other substations is due to the restraints of the site, and having other buildings right next to it.

The building is privately owned and unoccupied. It still contains an amazing J&E Ledge spiral staircase with detailed ironwork.



Substation no. 3

This substation was sold and converted into apartments in the 1980s.

In the process of designing the main ring, it was noted, *'As this substation is located in a good residential district, it is essential that the building you design should be of slight appearance.'*

Substation no. 4

This substation ceased operations in 2013, but there is still old equipment inside.

It has barely changed in appearance since it was built, and still retains its original form and function inside and out.



to an increased need for electricity in East Perth for gas and glass works. It was expanded in 1930 and 1945 and used until the 1960s, when it was decommissioned and later converted into apartments.



Electrical and Gas Department Building, like the substations, was built by the Todd Brothers. It opened in 1927 and was used as the headquarters for The Electricity and Gas Company. The building is currently unused, although the façade has been restored. Western Power's head office is directly behind it.

Milligan Street and Hay Street substations are current working substations. Blink and you might miss them!

