



SCIENCE AND
INDUSTRY
ENDOWMENT
FUND



PENRITH
CITY COUNCIL

STEM Community Partnerships Program

Penrith local scenario

Transport

The Penrith local government area (LGA) extends over 405 km² and has a city centre that experiences a significant amount of congestion due to the traffic passing through it to get to major highways and the Blue Mountains area. Public transport is accessible primarily in the eastern part of the city, with concentrated pedestrian traffic in this area.

To be a community that supports the wellbeing of its inhabitants, Penrith City Council works with the State and National government bodies to implement and oversee a range of initiatives that lead to the safe and free flowing movement of people. In the local area this may include provisions for pedestrians, cyclists, drivers and those in disadvantaged groups. It also involves providing adequate parking in commercial and business hubs, and public transport links to transport hubs such as train stations.

The NSW Government is aiming to provide a 30-minute city where people can reach their nearest metropolitan and strategic centres within 30 minutes, seven days a week by public transport. This involves developing public transport links and fostering a diverse range of industries and ensuring there are adequate public transport links to local training and job opportunities.

According to the 2016 Census, 17.4% of the employed population in the Penrith LGA travelled using public transport (compared with 16% in NSW) and 65.9% travelled in a car (compared with 64.6% in NSW)¹. Of the 68,525 people who work in Penrith City, 53.5% also live in the area. With the arrival of new transport connections and development of technology advances in driverless cars, new fuels to power cars and other vehicles, as well as changes in transportation trends and remote working as a result of COVID-19, the next Census results may be quite different.

How your Council tackles the complexity of this issue will impacts you and your community, now and in the future.



Photos courtesy of Australian National University Energy Change Institute

¹https://quickstats.censusdata.abs.gov.au/census_services/getproduct/census/2016/quickstat/SSC13184?opendocument

Your task

Your task is to use the information above, and resources provided below as a start to identify a local problem and design a STEM-focused solution.

(Question, Design, Explore, Communicate)

Resources

CSIRO research

- Digital twins at CSIRO's Data61 <https://data61.csiro.au/en/Our-Research/Our-Work/Future-Cities/NSW-Digital-Twin/NSW-Digital-Twin>
- Predicting and managing traffic congestion <https://data61.csiro.au/en/Our-Research/Our-Work/Future-Cities/Optimising-service-delivery/Predicting-and-managing-traffic-congestion>
- On-demand public transport <https://research.csiro.au/optimisation/research/on-demand-public-transport/>

Reports and resources

- About Sydney Metro – Western Sydney Airport <https://www.sydneymetro.info/westernsydneyairportline>
- Australian Government Department of Infrastructure, Regional Development and Cities <https://westernsydneyairport.gov.au/>
- Census 2016 Census QuickStats: Travel to work https://quickstats.censusdata.abs.gov.au/census_services/getproduct/census/2016/quickstat/SSC13184?opendocument
- Future Transport 2056 Strategy <https://future.transport.nsw.gov.au/designing-future/six-outcomes-for-nsw/sustainable>
- Greater Penrith Place Strategy https://gsc-public-1.s3.amazonaws.com/s3fs-public/20190730_-_greater_penrith_collaboration_area_place_strategy.pdf
- Western Sydney Airport – Environmental Impact Statement - Traffic, transport and access <https://www.westernsydneyairport.gov.au/sites/default/files/WSA-EIS-Volume-2a-Chapter-15-Traffic-transport-and-access.pdf>

Articles and other resources

- Penrith Council – studies, strategies and plans <https://www.penrithcity.nsw.gov.au/building-development/planning-zoning/studies-strategies-plans>
- Sustainable transport in cities <https://www.carbontrust.com/news-and-events/insights/sustainable-transport-in-cities>
- 5 Sustainable Transport Options to Watch In 2019 <https://www.triplepundit.com/story/2019/5-sustainable-transport-options-watch-2019/82201>
- How digital twins of cities can help to improve urban mobility <https://blog.ptvgroup.com/en/city-and-mobility/digital-twins-urban-mobility/>
- Penrith City Community Profile id.com.au <https://profile.id.com.au/penrith/about>
- Penrith City Council – Public Domain Masterplan https://www.penrithcity.nsw.gov.au/images/documents/building-development/planning-zoning/Penrith_City_Centre_Public_Domain_Masterplan.pdf