



# Science Tram for secondary schools

## Overview

The Gold Coast Light Rail Stage 3 project presents schools with a unique opportunity to incorporate real-world examples into the Australian Curriculum, sparking student interest in safety, sustainability, and engineering careers. This educational initiative provides support for teachers to create engaging, hands-on learning experiences tailored to their classes' specific needs. The program comprises three topics with associated resources that can be utilised to suit the learning needs of each individual student cohort.

Science Tram aims to:

- Promote overarching project benefits, including engagement in Gold Coast Light Rail Stage 3 and future use of the network
- Provide the opportunity for students to have an enhanced awareness of innovative and real-world construction project/industry challenges and practices in the fields of engineering, sustainability and safety
- Provide a learning hub of resources and links that teachers can use as tools in their curriculum
- Create interest in construction industry careers
- Start to build excitement on the journey to operations in mid-2026
- Transition to the safety phase of the Gold Coast Light Rail Stage 3 education campaign.

## Objectives

- Highlight neighbourhood changes: Help children understand the opportunities of these changes on themselves, their families, and the wider community.
- Promote safety awareness: Emphasise how children can stay safe around construction sites, while also raising awareness about the safety measures the construction industry must follow on-site.
- Integrate key safety messages about safety around light rail as the Science Tram transitions to the Safety Tram, preparing for the commencement of operations.
- Spark interest in construction, and engineering careers: Inspire students to consider careers in STEM and construction.

## Gold Coast Light Rail Stage 3 Broadbeach to Burleigh Heads



- Generate excitement: Engage and increase awareness of students with the upcoming phase of testing and commissioning.
- Provide educational resources: Offer a hub of resources and links that teachers can utilise as curriculum tools.

### Curriculum Learning Areas

- Design and Technology: Knowledge & Understanding
- Humanities and Social Sciences: Economics & Business; Geography

### Cross-curriculum priorities

- Sustainability: Design

### General capabilities (Level 5)

- Critical and Creative Thinking: develop questions to investigate complex issues and topics
- Personal and social capability: social awareness - community awareness

The secondary program comprises three individual curriculum aligned topics: safety, sustainability and engineering. This structure provides flexibility in the learning focus for both teachers and students, providing opportunity for students to be active agents in their own learning.

Teachers and student may choose to explore all, some or one of the three topics dependent on time, availability and considerations of intended depth of learning.

All resources are available on the **Science Tram Learning Hub** [gclr3.com.au/sciencetram](http://gclr3.com.au/sciencetram)

Resource	Description	Curriculum learning areas	Duration of activity
<b>Site visit</b> (Miami State High School only)	Site visits will provide an overview of the Stage 3 and showcase the design and build of the project including relevant challenges and solutions.	<b>Design and Technologies:</b> <ul style="list-style-type: none"><li>○ Knowledge and Understanding: Technologies and Society (AC9TDE8K01)</li></ul>	Half a day 8.30am – 12.30pm

**Gold Coast Light Rail Stage 3**  
Broadbeach to Burleigh Heads



		<ul style="list-style-type: none"> <li>○ Knowledge and Understanding: Technologies Context – Materials and technologies specialisations (AC9TDE8K06)</li> <li>○ Knowledge and Understanding: Technologies Context – Engineering principals and systems (AC9TDE8K03)</li> </ul> <p><b>Cross Curriculum Perspectives:</b></p> <ul style="list-style-type: none"> <li>○ Sustainability: Design (SD3)</li> </ul>	
<b>Careers in construction brochure</b>	This brochure introduces the various roles that support a project such as Stage 3 during the design and construct phase, along with examples of the career pathways available. Students have the opportunity to consider careers beyond the more well-known jobs.	<p><b>Humanities and Social Sciences</b></p> <ul style="list-style-type: none"> <li>○ Economics and Business (AC9HE7K04): understanding the nature of work and the work environment; the reasons individuals work, the types of work they are involved in, and how they may derive an income.</li> </ul>	60 minutes
<b>Safety video</b>	This video will introduce students to the topic and concept of workplace safety by firstly highlighting the types of safety in the workplace, secondly considering safety in the construction industry and finally highlighting some of the key safety considerations specific to the design and construction of Stage 3.	<b>Design and Technologies</b>	Four minutes
<b>Safety presentation</b>	Students will consider real-life examples of safety risks specific to the design and construction of Stage 3 and identify possible risk mitigation strategies.	<b>Design and Technologies</b>	90 minutes

**Gold Coast Light Rail Stage 3**  
Broadbeach to Burleigh Heads



<b>Sustainability video</b>	This video introduces the students to environmental sustainability careers, considerations and innovative solutions around the Stage 3 project and how impacts are monitored. It also touches on the positive and negative impacts on the communities around the geographical area.	<b>Cross Curriculum Perspectives</b> <ul style="list-style-type: none"> <li>○ Sustainability: Design</li> </ul> <b>Design and Technologies</b> <ul style="list-style-type: none"> <li>○ Knowledge and Understanding: Technologies and Society</li> </ul>	Three minutes
<b>Sustainability presentation</b>	The students will learn about Stage 3 sustainability challenges and considerations, and how the project team mitigate these. The presentation will feature a demonstration of the 'Cod Father' a Queensland first fabricated remote controlled water quality testing boat and other initiatives. Students will have the opportunity to undertake their own experiment in small groups to clean water using a filtration technique built by themselves.	<b>Cross Curriculum Perspectives</b> <ul style="list-style-type: none"> <li>○ Sustainability: Design</li> </ul> <b>Design and Technologies</b> <ul style="list-style-type: none"> <li>○ Knowledge and Understanding: Technologies and Society</li> </ul>	100 minutes
<b>Engineering video</b>	This video uses a real example of an engineering challenge relevant to Stage 3 and the Gold Coast – How our Gold Coast heat and temperature affects rail, from fabrication to install.	<b>General Capabilities</b> <ul style="list-style-type: none"> <li>○ Critical and Creative Thinking</li> </ul> <b>Design and Technology</b>	Two and a half minutes
<b>Engineering presentation</b>	The students will learn about Stage 3 engineering challenges and considerations, and how the project team mitigate these. The presentation will feature vision from the current Stage 3 construction site showcasing various aspects of design. Students will have the opportunity to undertake their own experiment in small groups with the option to build a bridge or a catapult.	<b>General Capabilities</b> <ul style="list-style-type: none"> <li>○ Critical and Creative Thinking</li> </ul> <b>Design and Technology</b>	100 minutes