

Case Study: Social, environmental and economic liveability of a public school

Lesson Map: <http://esriaustralia.com.au/education/SpatialActivity46>

Engage

How do you get to school each day?

- Click on the map URL above to open the lesson map. A satellite map showing a Brisbane public school and surrounding public transport services is visible.
- ? What do you notice about the distribution of bus services? *[Two are located directly out the front of the school; one is a major stop on a busway, located near the school, residential areas, road intersections and the highway]*
- ? Based on the location of these public transport services, how do they add to the social liveability of students that attend the nearby school? *[Answers will vary – some students may identify convenience and proximity of travel, others may identify that close proximity results in greater safety]*

Explore

Where and how do you spend your time during lunch breaks?

- In the Details pane, under the heading Content, tick the checkbox to turn on the layers called *Sports facilities*, *Green spaces*, *Student bathrooms* and *Water bubblers*. You may wish to turn off the *Bus services* layer.
- Zoom in to the school grounds. You can do this by using the + / - icons, by using your scroll wheel or by selecting the Bookmarks tab (top right) and clicking 'School grounds'.
- ? How would you describe the distribution of green spaces and sporting facilities in this school? How does this increase social and environmental liveability? *[Evenly spread out throughout school; greater spread of students, less crowded areas, less demand for the same service or resource]*

Download student worksheet [here](#).

Time

35 minutes

Activity

Investigate a range of school features that contribute to liveability, through a case study of a QLD public school.

Learning Outcome

Students will be able to:

- Investigate spatial patterns and derive meaning
- Understand the importance of effective planning to improve liveability and safety
- Analyse the features available in school spaces and propose action to improve these spaces.

ACARA Curriculum Link

[Year 7 Geography - Unit 2: Place and liveability](#)

[ACHGK043](#) | [ACHGK044](#) | [ACHGK045](#) | [ACHGK046](#) | [ACHGK047](#) | [ACHGS051](#) | [ACHGS050](#) | [ACHGS054](#)

Teacher Feedback:

To share your feedback on this, or any Spatial Activity, please contact education@esriaustralia.com.au

- ➔ Take a closer look at the Multi-purpose courts by clicking the Bookmarks tab and selecting 'Multi-purpose courts.'
- ? What positives are there for students when considering the social and environmental liveability of this area? *[Answers may vary – but may include a range of sports courts to cater for diverse student interests, surrounding green spaces to sit with friends]*
- ? Brainstorm some social and environmental negatives for students who utilize the multi-purpose courts regularly. *[Answers will vary – but may include no close water bubbler facilities, courts are exposed to the weather e.g. storms, hot days.]*
- ➔ You may wish to have a closer look at other sporting facilities in the school to see if similar positives and negatives are identified. Click the Bookmarks tab and select 'School grounds' again.

Explain

What recommendations would you make to improve the liveability of this area?

- ? Discuss and brainstorm with students possible ways to overcome the challenges that limit the liveability of the multi-purpose courts area. *[Answers will vary – students may indicate suitable place for the school to install new bubblers; others may suggest building a shade-sail or canvas to protect students from severe weather]*
- ➔ In the Details pane, under the heading Content, tick the checkbox to turn on the layers *Green spaces*, *Canteen* and *Waste facilities*. Turn off the *Bus services* and *Sports facilities* layers.
- ? Locate the Canteen. What services are in close proximity to it? *[Water bubblers, five general waste bins, a green space and a recycling bin]*
- ? Is there any clear relationship between general waste bins (red) and Green spaces? *[No, bins exist throughout the school and are not always located near a green space]*
- ? Where are most waste bins located? Why might this be the case? *[They are usually situated around the school buildings or on the edge of sporting facilities; This may be the case as students do not always sit down to eat and may be moving]*
- ➔ Identify the recycling bins present throughout the school. There are three and they are represented by the green bin icon.
- ? What problems, concerning the environmental liveability of the school, is this likely to contribute to? *[Items and waste that can be recycled may not be placed in the recycling bin if the student is not sitting in close proximity to one; may result in]*

incorrect disposal of waste or even littering]

- ? Discuss whether littering or incorrect disposal of waste is a problem at your school. What could be done to overcome this issue? Would adding more recycling bins solve it? *[Answers will vary – even with extra recycling bins, will people dispose of waste into the appropriate bin?]*

Extend

How can you future-proof this school?

- In the Details pane, under the heading Content, turn on all layers.
- ? The school's student population is growing and the school now has budget approval to install two new water bubblers and one bathroom facility, as well as designing a new green space.
- ? Brainstorm and discuss the best locations within the school to place these new features. Consider the pros and cons of each location with regards to how it either promotes or challenges social, environmental and economic liveability. *[Answers and justifications will vary. Consider the following when brainstorming: proximity to other features, proximity to school boundaries and habitat areas, spaces with fewer features]*

Next Steps:

Request a free ArcGIS Online Account for your school:

Australian schools can request a free ArcGIS Online account as part of Esri Australia's Classroom GIS Initiative. A school subscription provides additional map layers, content, features and privacy.

Learn more about ArcGIS Online, and apply for your ArcGIS Online School subscription at <http://esriaustralia.com.au/education>