Lesson 3: Liveability and the human environment

Liveability is largely determined by the access that people have to resources such as schools, shops, health care, recreation facilities and transport. These are all features of the human environment. In this worksheet you will be introduced to the people of the Wimmera and the resources they use to create liveable communities.

Skill: working with census data

Every five years, the Australian Government conducts a nation-wide census. Residents in Australia are required to provide information about things like where they are located and whether or not they work or go to school. If you lived in Australia in 2021 then you were included in the census for that year. The data collected from the census gives geographers a very reliable picture of the population of a region. Follow these steps to collect the census data for the Wimmera region.

Step 1

The census data is collected by the Australian Bureau of Statistics (ABS). They divide the country into hundreds of regions and release the data for each region. The ABS region that is closest to the Wimmera region is called 'Grampians'. You can access the key data for this region at
https://www.abs.gov.au/census/find-census-data/quickstats/2021/21501

1. Open this webpage and complete the following table:

ABS measure	Grampians, 2021	Australia, 2021
Total number of people		25,422,789
Percentage of people who identify as Aboriginal or Torres Strait Islander		
Median age		
Percentage of people born in Australia		
Most common family type		
Percentage of people who live in a house separate from other houses		

2. In what ways does the average Grampians resident differ from the average Australian resident?

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Step 2

We can also use the census data to find out if a region's population has changed over time. Use the drop-down menu at the top right of the page to select 2011 and type 'Grampians' into the search bar. Choose the final option 'Grampians' as shown in the following figure.
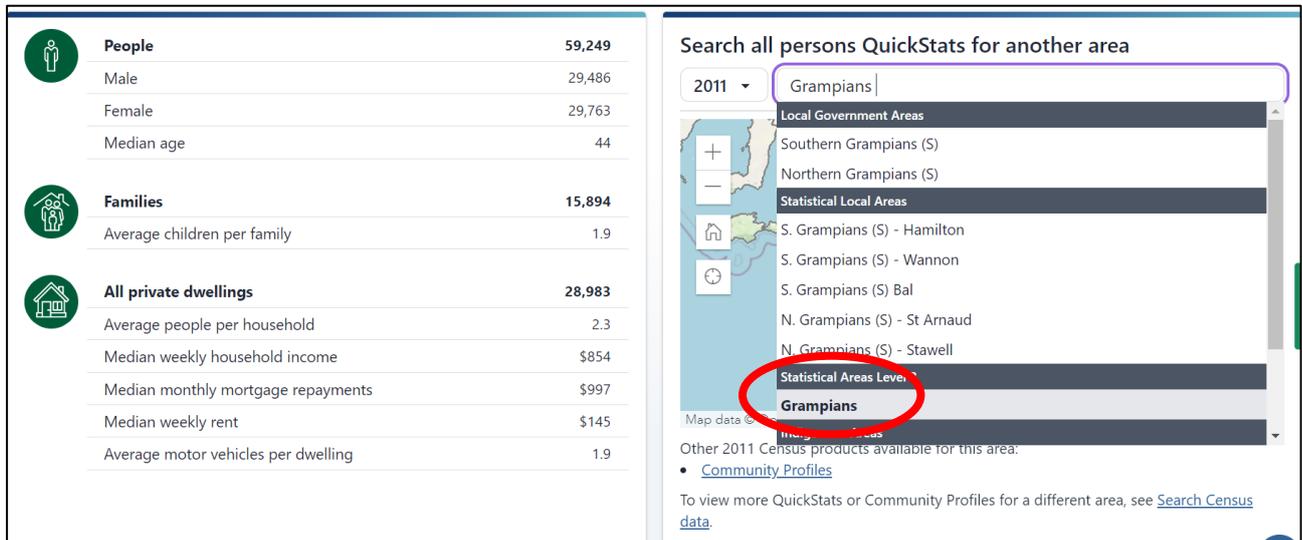

Figure 1 A screenshot from the ABS census webpage. Source: screenshot from
https://www.abs.gov.au/
census/find-census-data/quickstats/2011/21501

3. Has the number of people in this region increased or decreased between 2011 and 2021?

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4. Give three reasons why the Wimmera population might have changed between 2011 and 2021.

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Skill: working with statistics

In order to compare the changes in population in two different places we should use percentages rather than absolute numbers. To calculate the population increase at a place as a percentage, follow these steps:

Step 1
Work out the difference in the two numbers by subtracting the original number from the new number. For example, the population in Australia in 2011 was 21,507,717 and in 2021 it was 25,422,789 so the difference is 25422789 – 21507717 = **3,915,072**

Step 2
Divide the increase by the original number: 3915072 ÷ 21507717 = **0.182**

Step 3
Multiply this number by 100: 0.182 x 100 = **18.2%** Australia's population increased by 18.2% between 2011 and 2021.

5. Calculate the percentage change in the Grampians statistical region between 2011 and 2021.

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6. Write a statement comparing this change to the change in Australia's population.

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Liveability in a Wimmera community

The largest community in the Wimmera is the city of Horsham, with a population of just over 16,000 people according to the 2021 census. Several thousand more live in surrounding towns and on farms. The main industries in the city are health care and education with many people also working in the retail and tourism industries.

Figure 2 Horsham Central Business District. Source: https://assets.visitgrampians.com.au/images/_1200x630_crop_center-center_82_none/horsham.png?mtime=1557444325]

Skill: constructing a GIS map

In a previous lesson (lesson 2) you worked with a GIS (Geographic Information Systems) map to explore the natural features of the Wimmera region. These digital maps contain sets of information as layers that you can turn on and off. It is possible for you to construct these maps yourself, using the information stored in Google Maps. In this activity you will construct a map of Horsham showing some of the features of the city that improve its liveability. The following list of features of liveable communities was taken from the survey you completed in lesson 1. Your completed GIS map of Horsham will show each of these as a separate layer. Follow the steps below the list to construct your own map.

• Parks	• Gardens	• School: primary and secondary
• Tertiary education	• Dentists	• Doctors
• Hospitals	• Aged care facilities	• Places of worship
• Entertainment	• Libraries	• Public transport links

Step 1

Use this link to sign into My Maps on Google Maps: https://www.google.com/maps/d/

Click 'Create a new map'.

At the top left of this screen click 'Untitled Map'.

Give your map the title 'Liveability in Horsham.'

Type 'Horsham VIC' into the search bar at the top of the screen and zoom in until you reach the area that you can see in figure 3.

Click on the drop down menu 'Base Map' at the bottom of the left hand menu and select 'Satellite View.'
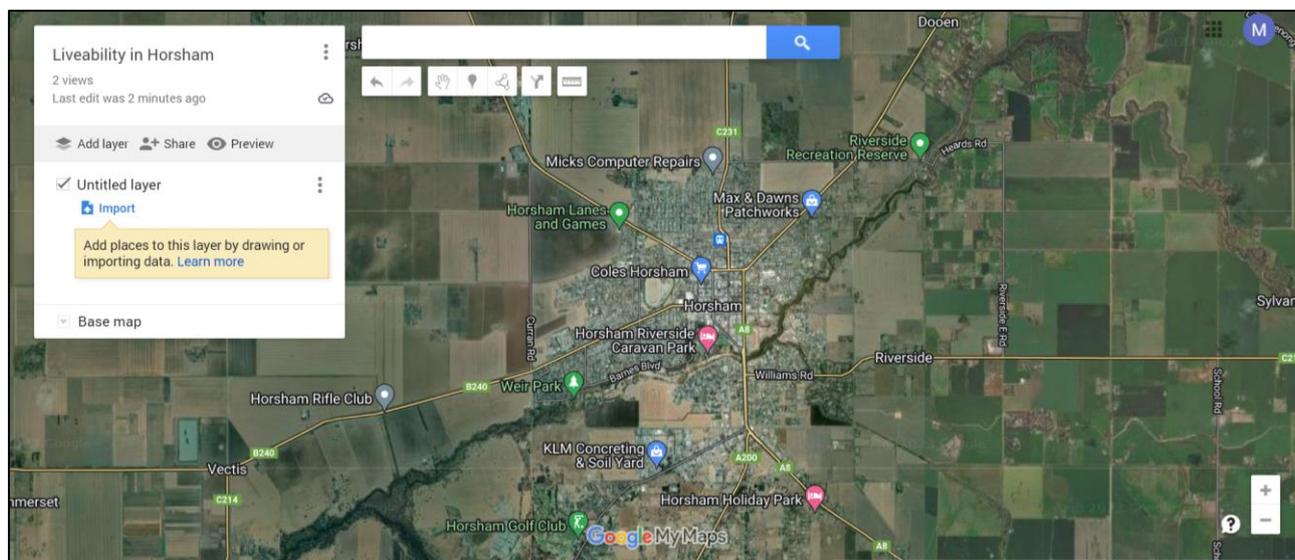

Figure 3 Screenshot of Google Maps showing the beginning of a Horsham GIS map. Source: Google Maps screenshot

Step 2
Now it's time to add separate layers to your map. From the list of liveability features, select five that you would like to add to your map. In the following example, 'Parks' has been chosen. Follow these instructions to add this layer to your map and then repeat these instructions to add your additional five layers.

Type 'Parks' into the search bar and then click on 'Parks Search places near current view'.

This will drop a pin at every location that Google Maps considers to be a park. In the left hand menu hover on the name of each park and click the + that appears. This adds each one to a new layer. If there is one in the list that you consider to not be a park, don't click on it.

In the menu, click on the three dots next to 'Untitled Layer' and rename this layer 'Parks'. Well done, you have just added a layer to a GIS map.

Step 3
You can change the appearance of the pins by hovering on the name of each one and changing the colour or adding symbols and even photographs.

Importantly, you can switch this layer off and on by simply clicking on the check box next to its name in the menu.

Once you are happy with the appearance of the icons in this layer, it's time to add another layer.

Step 4

Click on 'Add layer' and search for examples of this layer, for example 'Schools'. You may need to click on each icon when they appear and then '+ Add to map'.

Follow the instructions in step 2 and 3 to add five more layers to your map.

The map will automatically save in your My Maps folder. You can access it at any time by following the link in step 1.

7. Describe the distribution of liveability features in Horsham. Distribution refers to the way in which features are arranged and relates to the geographical concept, space. When considering the distribution of liveability features you should think about questions such as
   - Were there some parts of this city with many features and some with only a few?
   - Were similar features clustered together or spread out (scattered)?

Use compass directions and distance from the Central Business District (CBD) in your description. The following diagram may help.
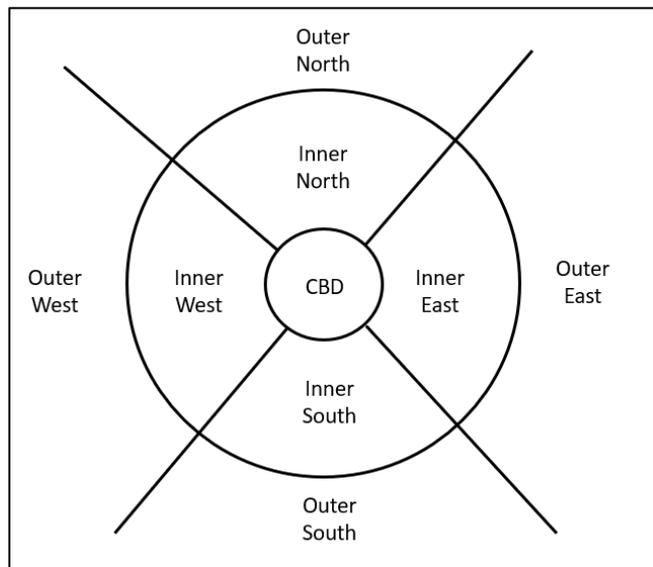

Figure 4 Parts of a city to use in a description.

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