



Interactive maps

pz.tt/CSUN16-map





Dyslexia

Moderate vision impairment

Severe vision impairment

Epilepsy

Migraines

Physical impairment

Fibromyalgia

Multiple Sclerosis

Crohns Disease

PTSD

Aspergers

It's not just
about vision
impairments



Our Services

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- Building web sites
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- Accessible design
- Video accessibility
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OzWiki Interactive maps factsheet

[A11yoz.com/fs-
map](http://A11yoz.com/fs-map)



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Impact on the end user

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Impacts: Lack of description

Some maps do not have any text description:

- There are some people with disabilities that will not be able to see or interact with the map at all – they need a text description

Impacts: Lack of screen reader accessibility

“Maps are very important source of information for blind users. Maps designers should never assume the data they prepare won't ever be used by people with visual impairment. Parking areas for instance are quite often places of meeting with one's befriended driver. One must know the area to be sure that the place of meeting is not a large three-story building where finding your friend's car and not being killed by other cars is a real possibility. “

Impacts: Keyboard inaccessibility

Some maps cannot be operated with the keyboard or do not have a highly visible keyboard focus indicator

- This limits the map use to mouse users only
- Many assistive technologies mimic the keyboard – they will not be able to interact with the map either

Impact: Use of colour

Some maps rely on colour to convey information, or colour contrast is not sufficient

- People who are colorblind may not be able to understand features of the map

Impact: Increase text size

Some map text content cannot be increased

- People who have mild vision impairments may not be able to read the content on the map



So how do you
create an
accessible
interactive
map?

Accessible interactive maps

1. Provide a long description in text
2. Make the map screen reader accessible
3. Make the map keyboard accessible
4. Meet colour contrast requirements
5. Use icons in addition to colour
6. Ensure users can increase text size

Accessible interactive maps

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Step One

Long description

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Long description

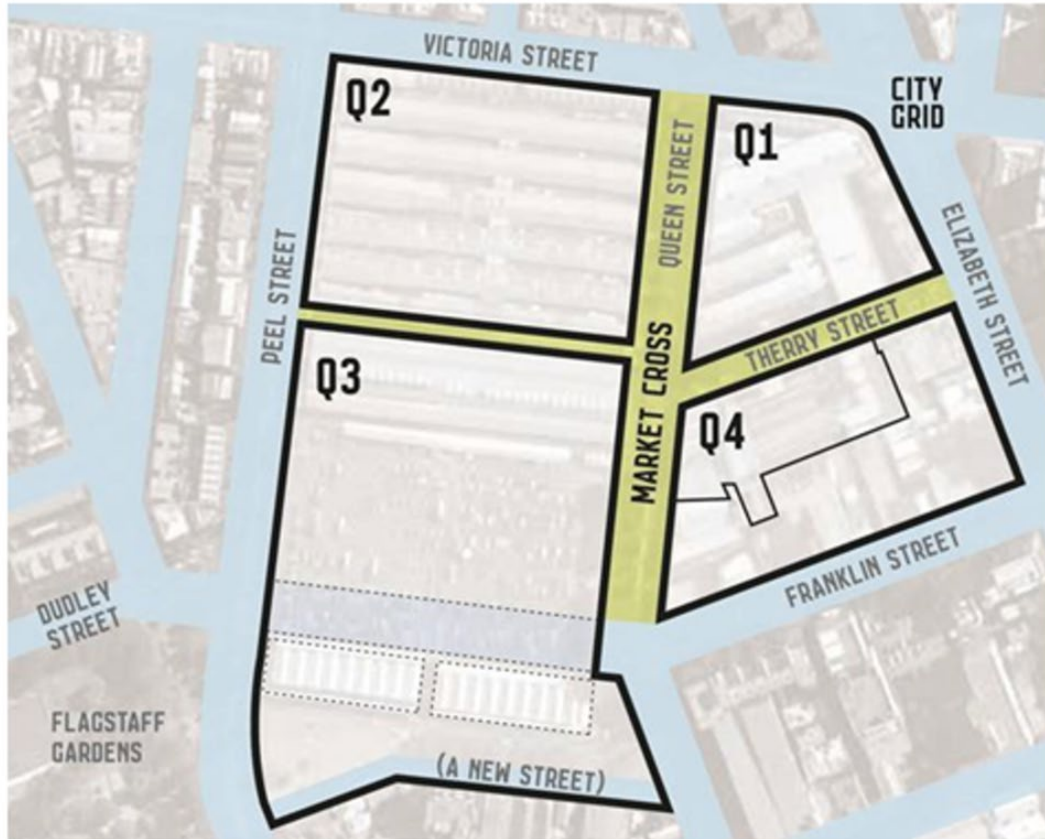
- Providing an ALT attribute for image-based maps.
- Ensure client-side image maps have accurate ALT attributes to indicate areas of a map or important markers
- Provide a text version in a table of the **important locations**

- Describe only those aspects of the map that are relevant, e.g. the most important point or the most common feature of the map
 - Describe the distance (in kilometres or metres) from important points.
 - If the map will be used for transport, give directions for car, public transport and/or walking.
-

- If the map is time-sensitive, mark the times in the long description.
- If the map is a transport map, organise the map by train, bus or train line and describe the locations and distances travelled.
- If the map is a topographical map, mark the height at which important points occur.

Long description

Queen Victoria Market Renewal



The above map shows the Queen Victoria Market Project Planning Framework, divided into the following sections:

Q1

- between Elizabeth, Therry, Queen and Victoria streets
- Four new buildings with six star environmental ratings

Q2

- between Peel, Victoria and Queen streets, encompassing sheds A to F
- Six new buildings including an early childhood center

Q3

- between Peel, Queen and Franklin streets, encompassing sheds J, K, L and String Bean Alley
- A new shopping mall and parking for up to six hundred cars

Q4

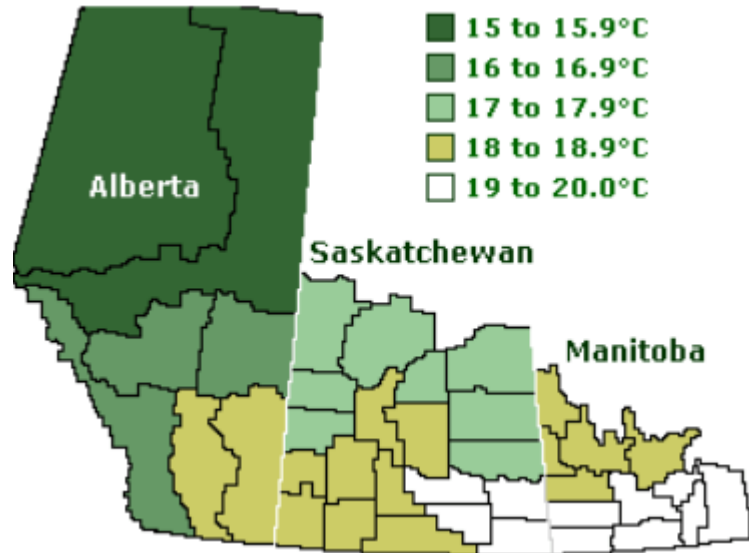
- between Elizabeth Street, Franklin Street, Queen Street and Therry Street
- Three new buildings including a fitness center and a pool

Long description



- **4.25pm** Storm (strong) approaching east over Williamstown, eight kilometres in diameter. Light rain over Melbourne city, four kilometres in diameter.
- **4.40pm** Storm (strong) ten kilometres west of Melbourne city. Light rain over Clayton, four kilometres in diameter.
- **4.55pm** Storm (strong) over Melbourne city, eight kilometres in diameter. Rain (strong) over Richmond.
- **5.10pm** Storm (extreme) over inner city East Melbourne, ten kilometres in diameter.

Long description



This map divides the agricultural area of the prairies into 5 distinct zones in regards to average July temperatures.

- Temperatures in Manitoba are 19 to 20 degrees in the south and 18 to 18.9 in the north.
- Saskatchewan is 19 to 20 in the southeast, 18 to 18.9 in the southwest, and 17 to 17.9 in the north.
- Alberta ranges from 18 to 18.9 in the south, 16 to 16.9 in the centre, and 15 to 15.9 in the north.

Source: Canadian Grain Commission. 2012. *Long description of a map showing the average daily mean temperature in July.* [ONLINE] Available at: <http://www.grainscanada.gc.ca/str-rst/fusarium/ldt-ldt-eng.htm>. [Accessed 31 May 2012].

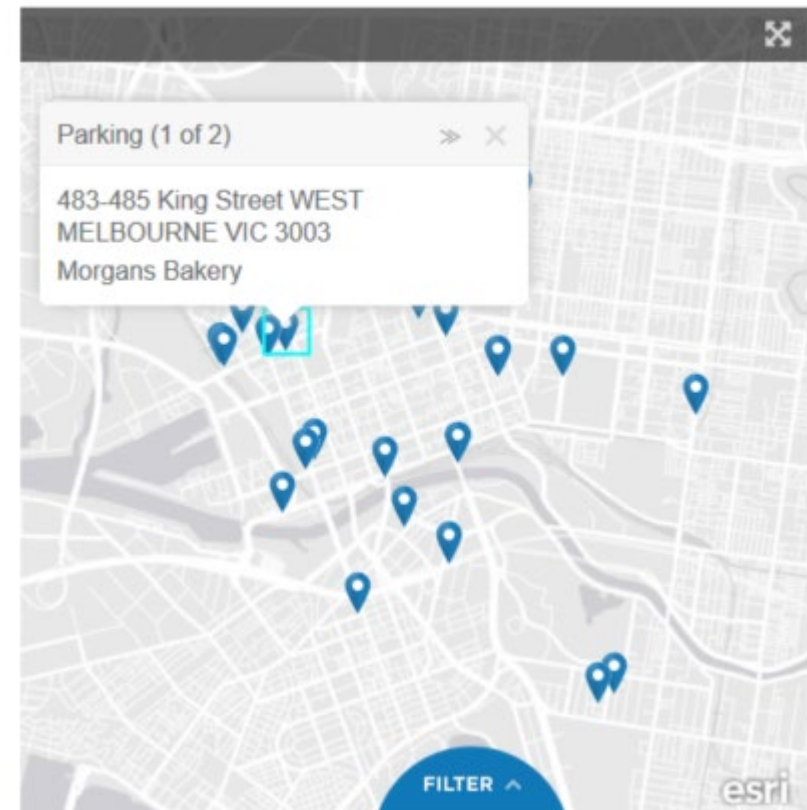
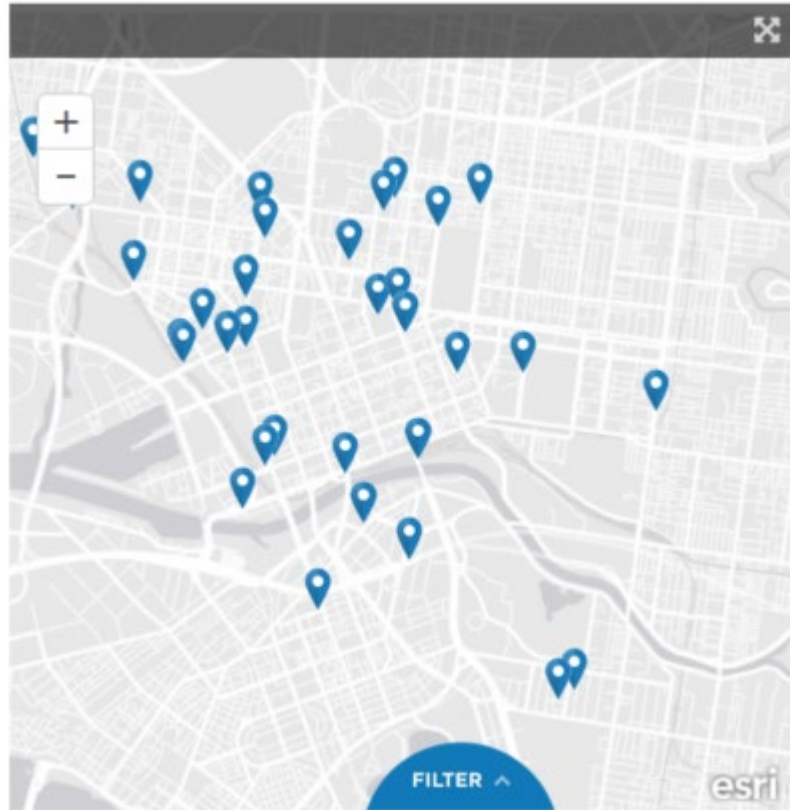


Step Two

Screen reader accessibility

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Partially screen reader accessible map



“Icons representing parking areas on the map could only be selected randomly.”

“All icons have the same label "graphic, MapMarkerIcons/blue_pin" (JAWS) or "graphic [number]" (NVDA) . Only after I selected the parking area I could read its name and address.”

“I could select the area the same way as parkings: randomly, on Firefox with JAWS and NVDA. Without labels (for instance names of districts) such selection makes no sense. I've never learnt what area I actually selected.”

“I could access parking areas only on Firefox with JAWS or NVDA. No access with other browsers or with WindowEyes.”

“Buttons for filtering are labelled as "filter btn on" and "filter filter btn off". You are not sure if the filtering category is selected or not, or what it does.”

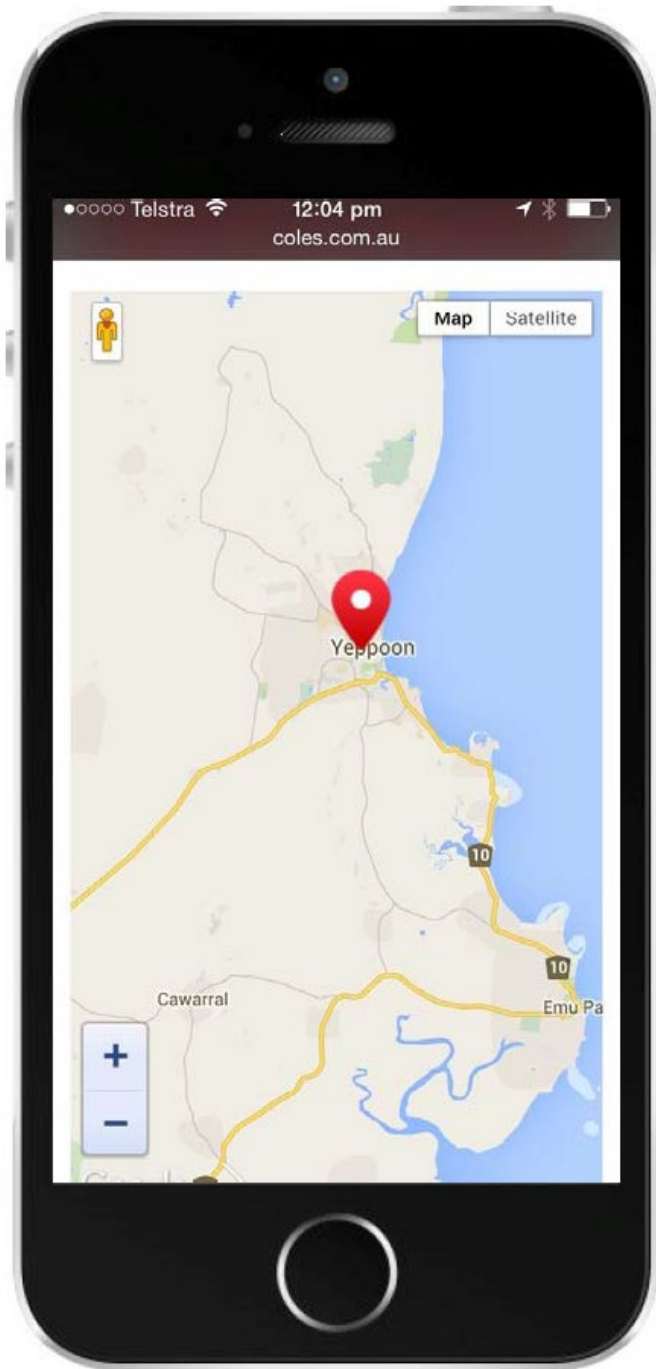
“Links for sharing options (Facebook etc.) are not labelled (when you open e.g. "Parking locations" and go to "Share" there are four unlabelled links - one of them is Facebook).”



Step Three

Keyboard accessibility

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Not touch accessible

'The zoom of doom'

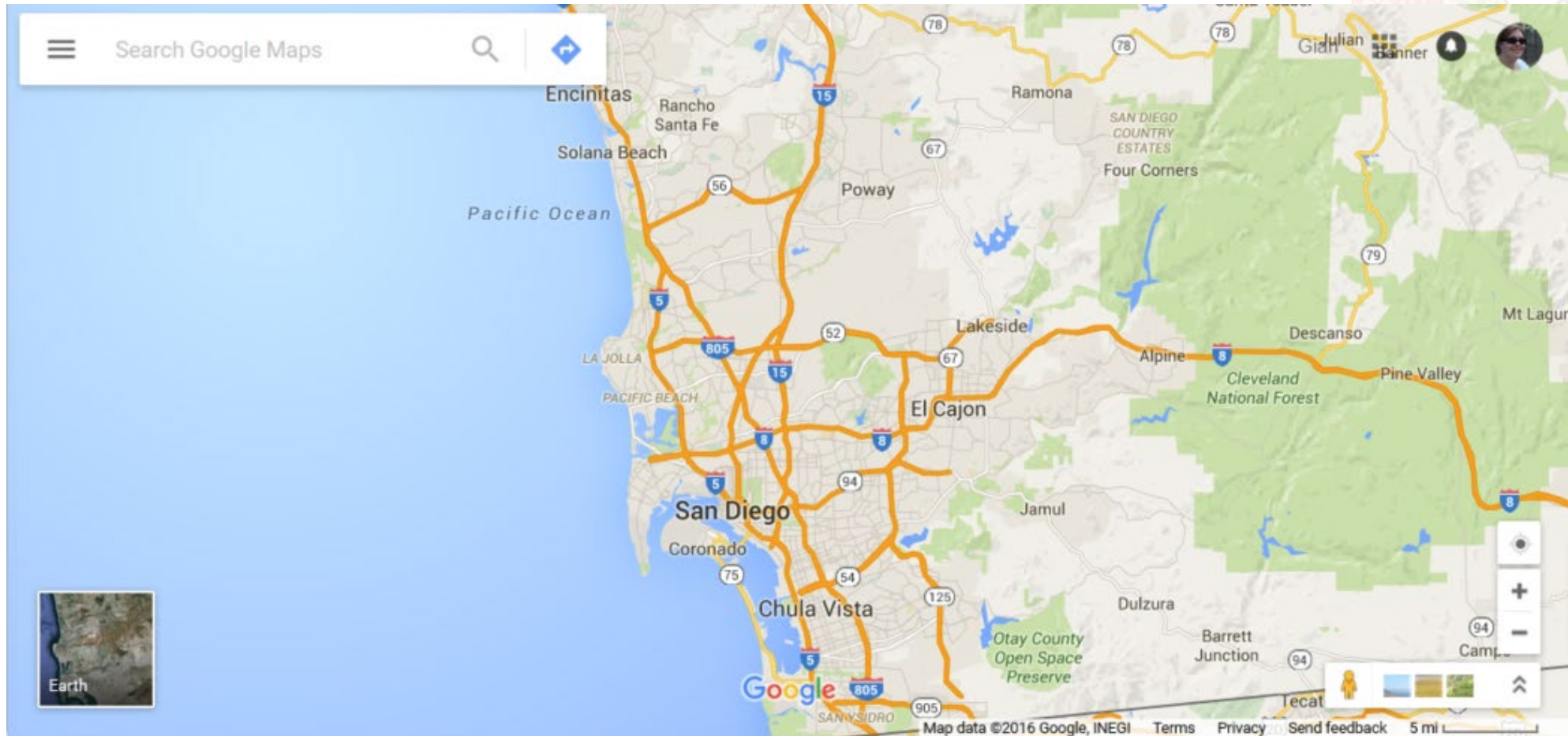


Keyboard accessibility

Ensure all actions that can be achieved using the mouse can also be achieved using the keyboard or **via touch**

- Zoom in and zoom out
- Moving around the map
- Activating an icon for more information

Keyboard-accessible map



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Step Four

Colour contrast

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Colour contrast – incorrect example

Ward Map



Colour contrast

Ensure that your map design complies with the 4.5:1 colour contrast ratio. Use colour contrast testers:

- Juicy Studio Luminosity Colour Contrast Analyser (by HEX value)
- The Paciello Group's Colour Contrast Analyser (by eye-dropper)



Step Five

Use icons in addition to colour

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Use of colour: incorrect example

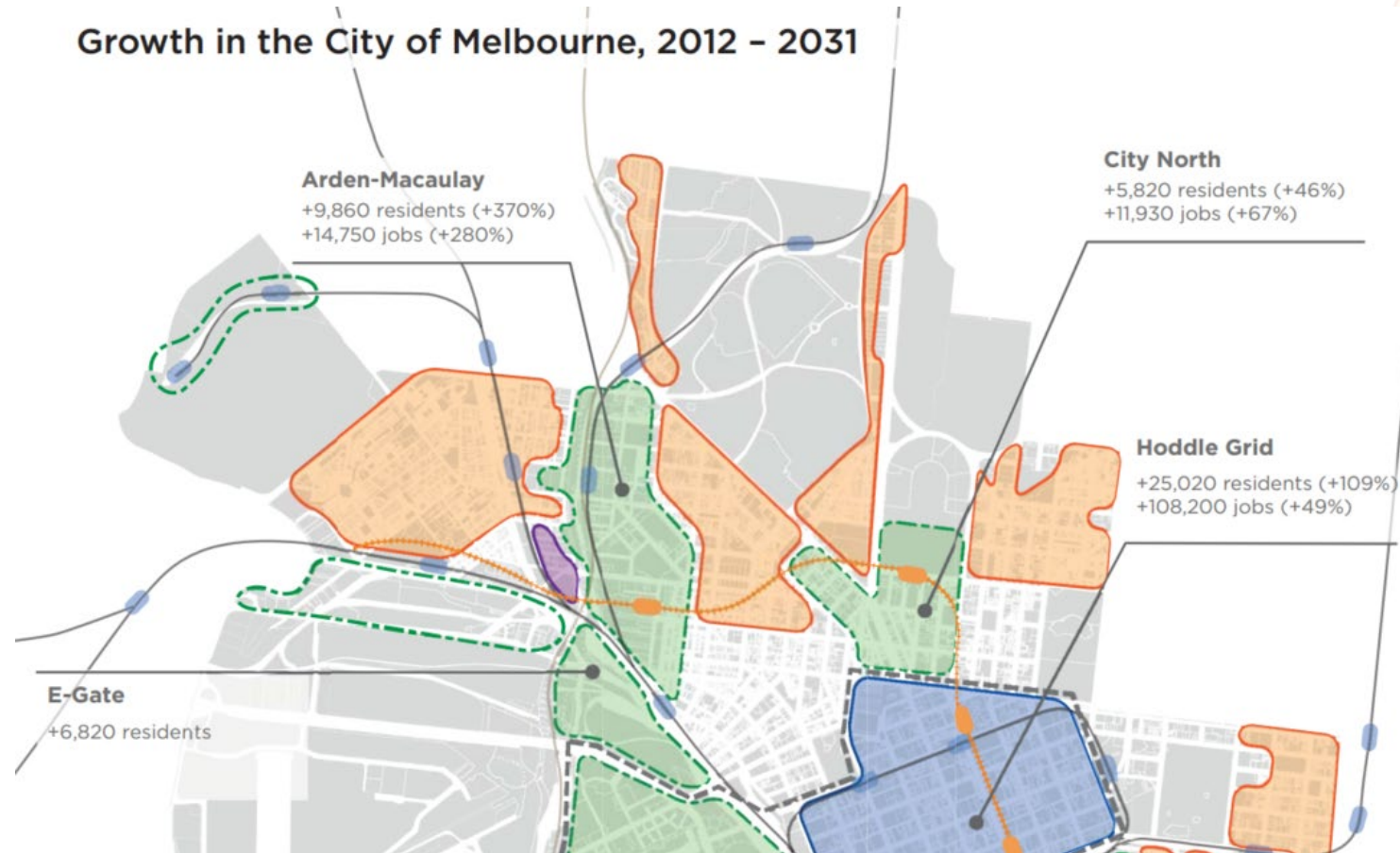


Use of colour

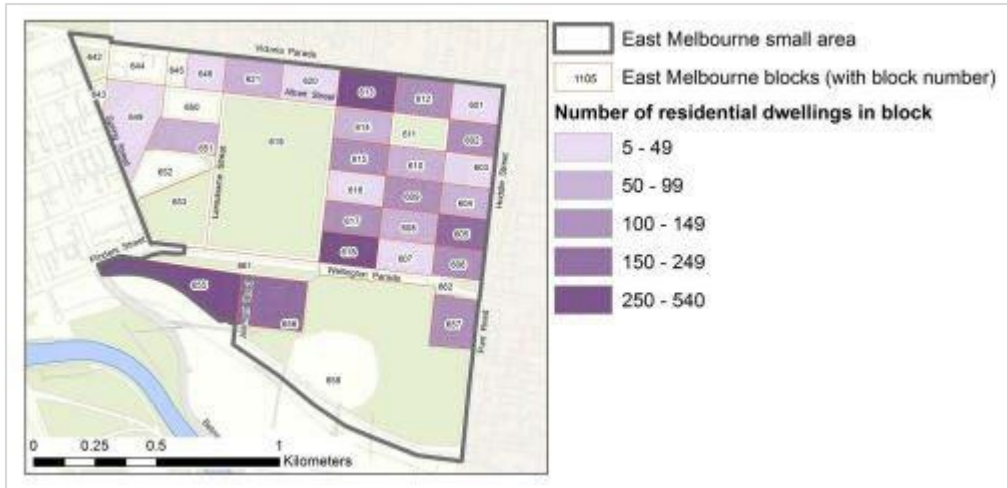
Do not rely on colour to differentiate important parts of the map. Ensure that your maps use:

- borders to separate one area from another
- different types of shading and change of colour to indicate different areas
- label markers with an icon and individual colours/icons for different markers.

Use of colour



Use of colour



Number of residential dwellings in block	Block numbers
Less than 5	611, 619, 642, 643, 644, 645, 650, 652, 653, 658, 661, 662
5 to 49	601, 603, 607, 616, 620, 646, 649
50 to 99	604, 608, 610, 614, 621, 651
100 to 149	602, 606, 609, 612, 615, 617, 657
150 to 249	605, 656
250 to 540	613, 618, 655

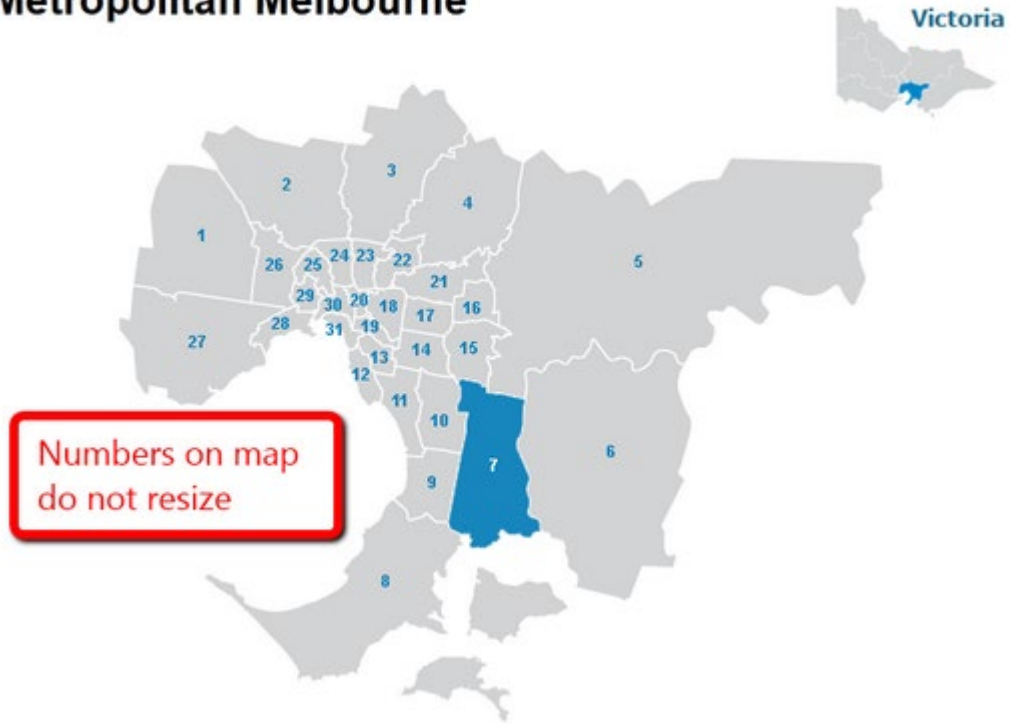


Step Six

Ensure users can
increase text size

Text size – incorrect example

Metropolitan Melbourne



Text size

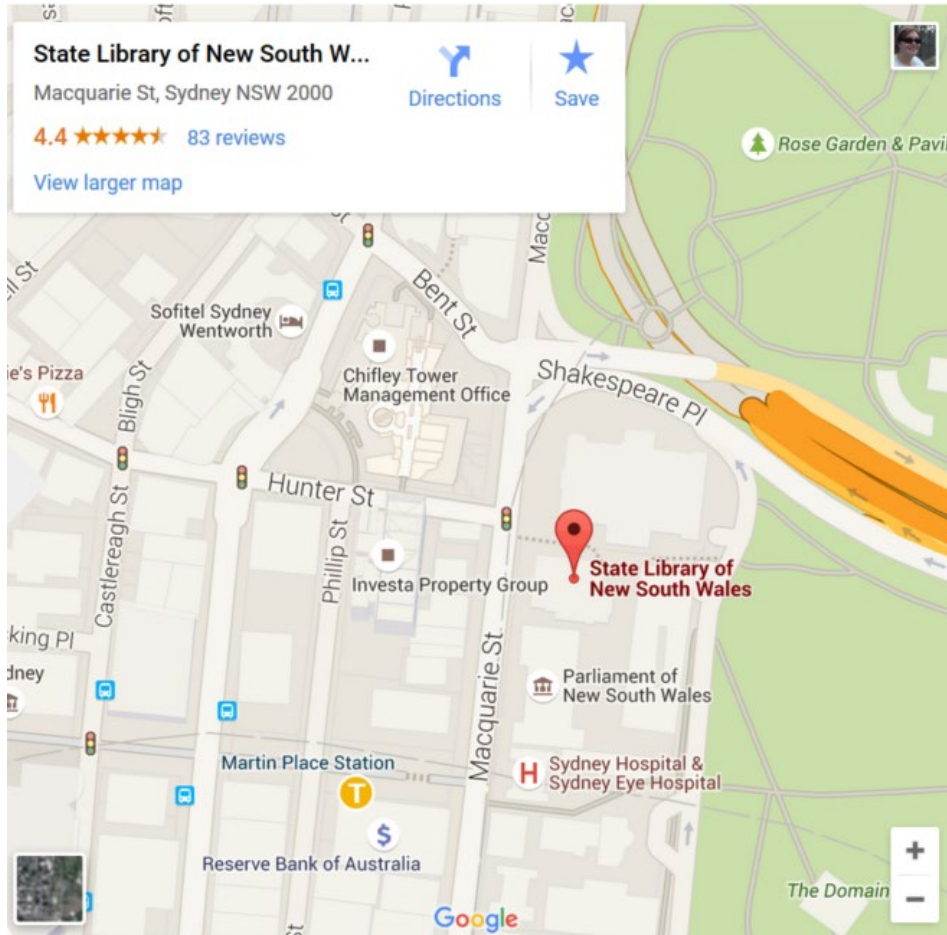
Ensure users can increase the size of the map, legend and any text.

Text size

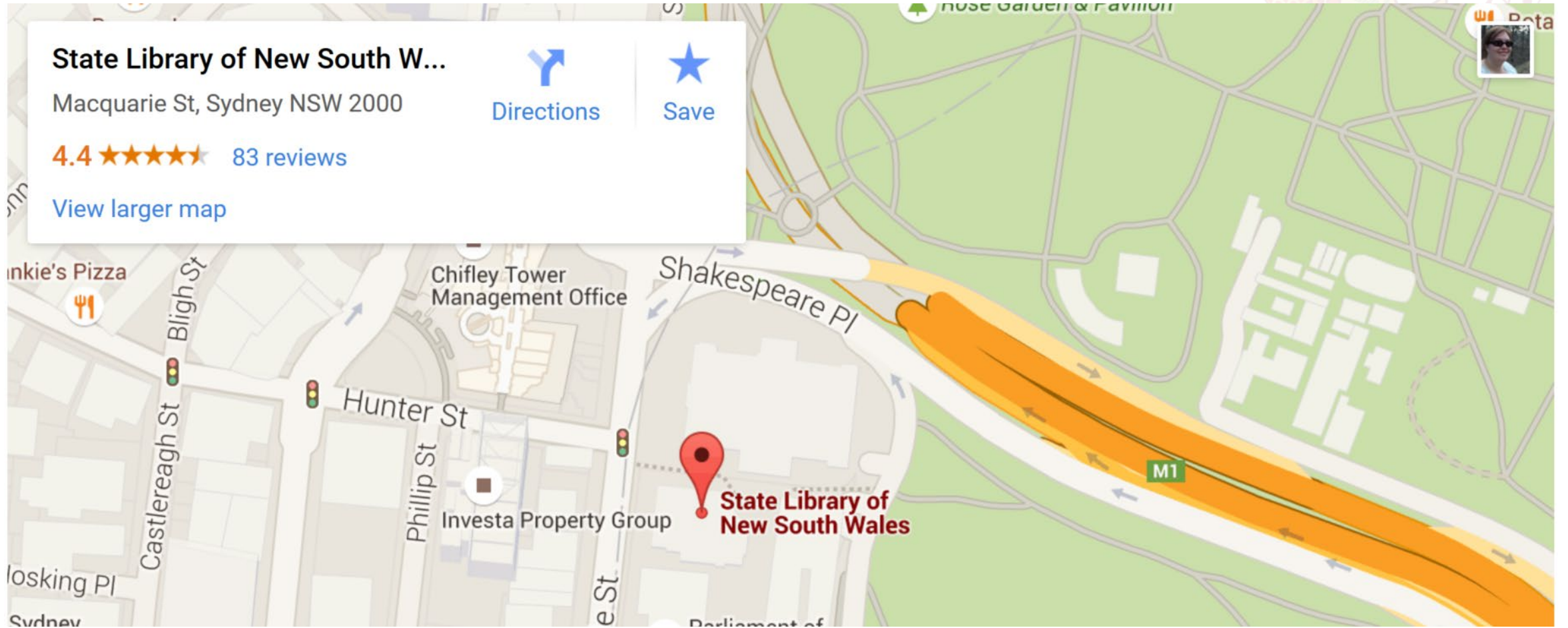
Often maps do not respond to browser requests to increase size, therefore additional methods may be required to:

- provide a “large” version of the map, where the user has increased the normal text size by 200%; and
- maximise a particular point/area, or add a highlight box that shows the particular point/area in a larger size.

Text size



Text size





Questions?

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