

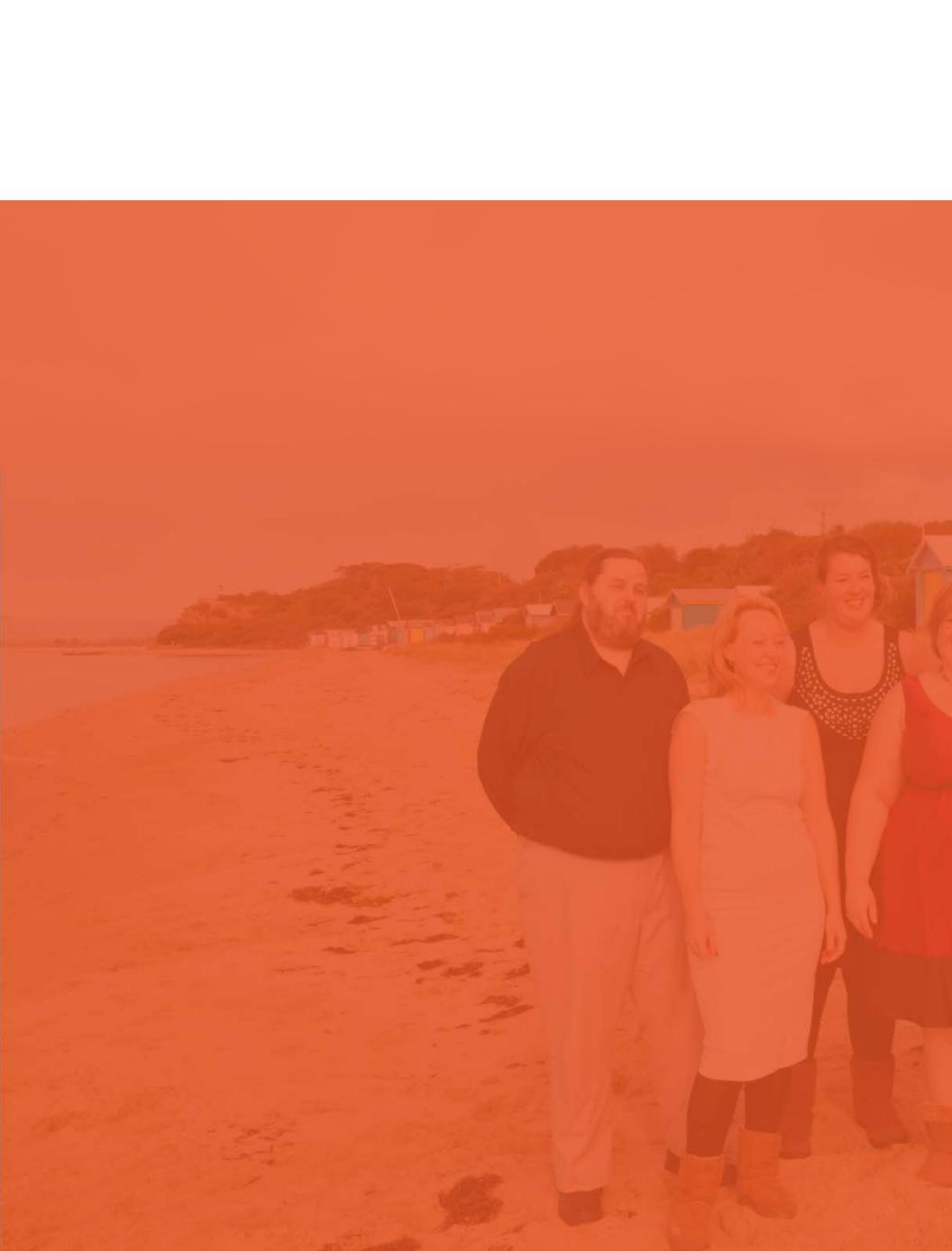


Interactive maps
pz.tt/ahg17-map

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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

- Audits
- Mobile testing
- Building web sites
- CMS testing
- Accessible design
- Video accessibility
- User testing
- OS / browser testing
- Consultation
- Accessible documents

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OzWiki Interactive maps factsheet

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 keyboard (and mouse and touch!) accessible
 3. Meet colour contrast requirements
 4. Use icons in addition to colour
 5. Ensure users can increase text size



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**

Long description

- 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.

Long description

- 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.



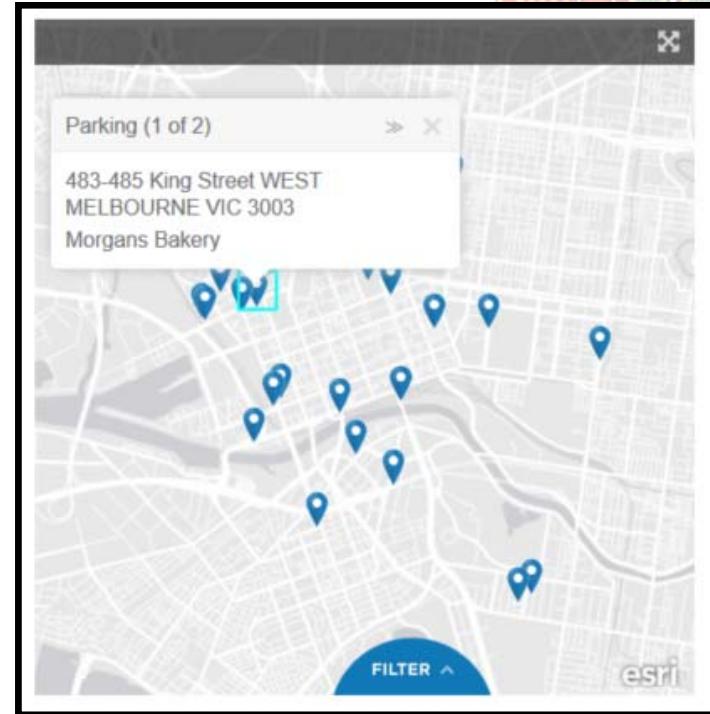
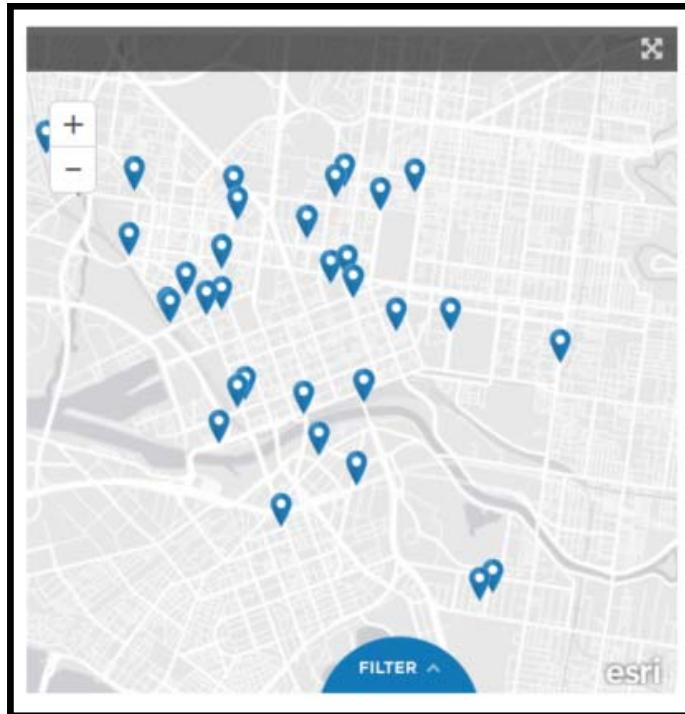
Step Two

Screen reader accessibility

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Partially screen reader accessible map



Screen reader accessibility

"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."

Screen reader accessibility

"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)."

Screen reader requirements

- Add the map at the current place in the DOM
- Add hidden skip links so screen reader users can skip the map
- Where possible, use links for the active regions of an interactive map
- If you have to use something else make sure it has a text alternative!
- Anything hidden with *display:none*, *visibility:hidden*, *role=presentation* or *aria-hidden=true* will be hidden from screen readers too!

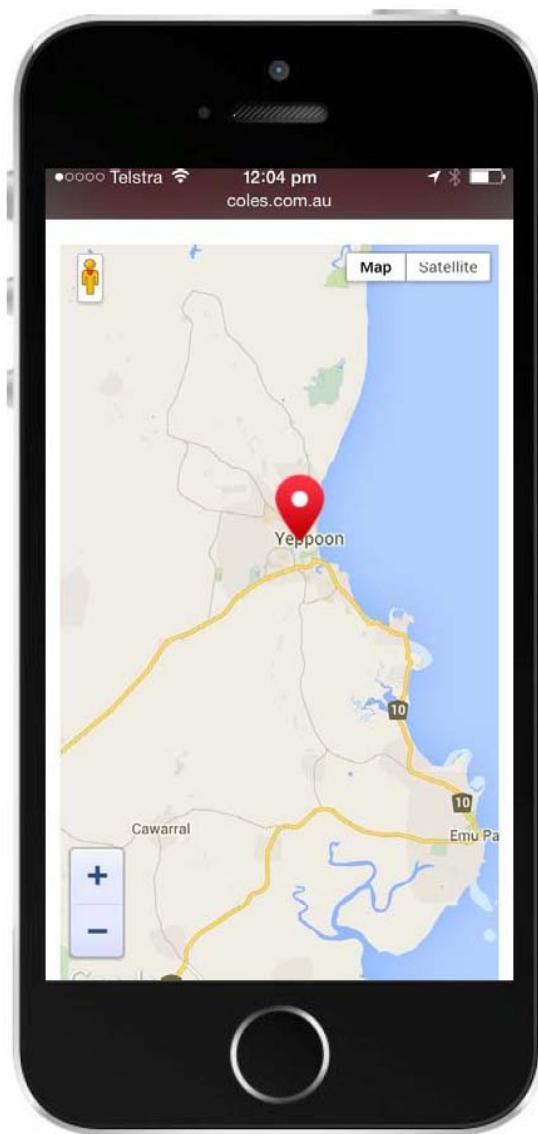


Step Three

Keyboard and touch accessibility

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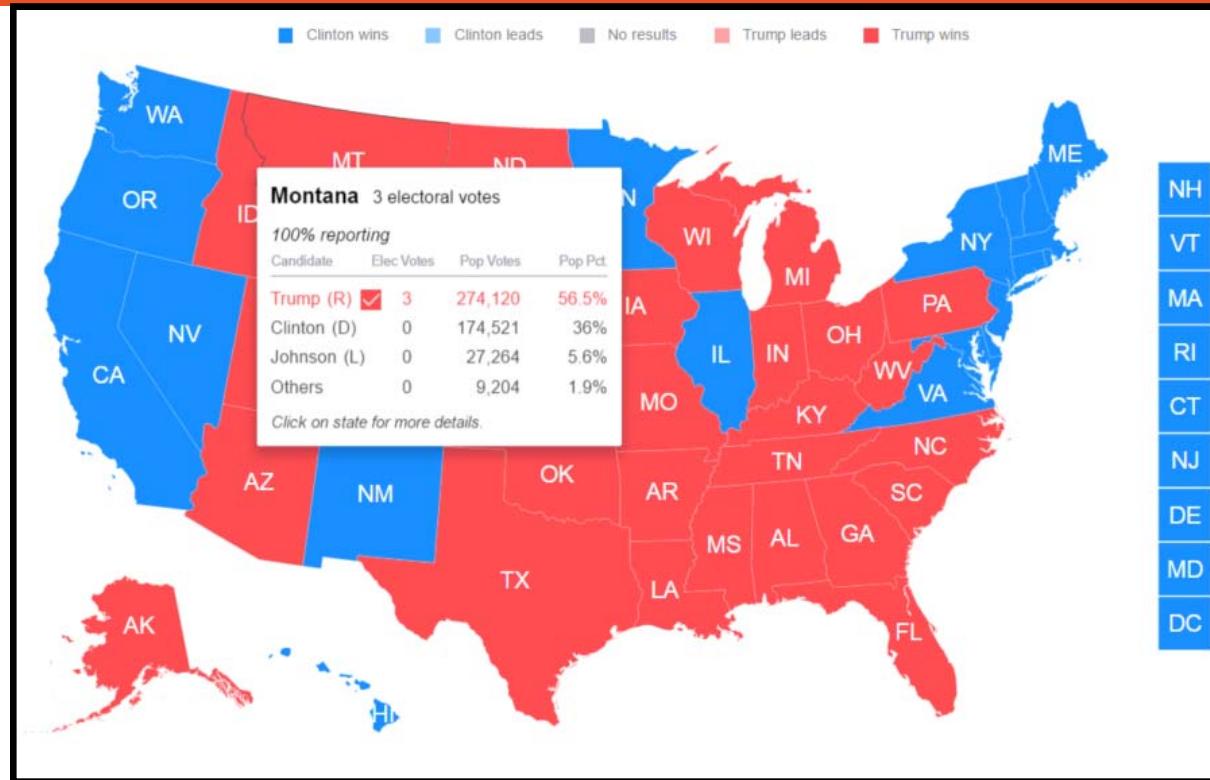


Not touch accessible

‘The zoom of doom’



Data maps



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 (in a meaningful sequence)
- Popups on mouseover
- Activating an icon for more information
- Closing icons and popups

Keyboard accessibility

- Where possible, use links for the active regions of an interactive map
- If you have to use something else like a glyphicon or a span, ensure that it has a text alternative, and is in the keyboard focus order by adding tabindex=0



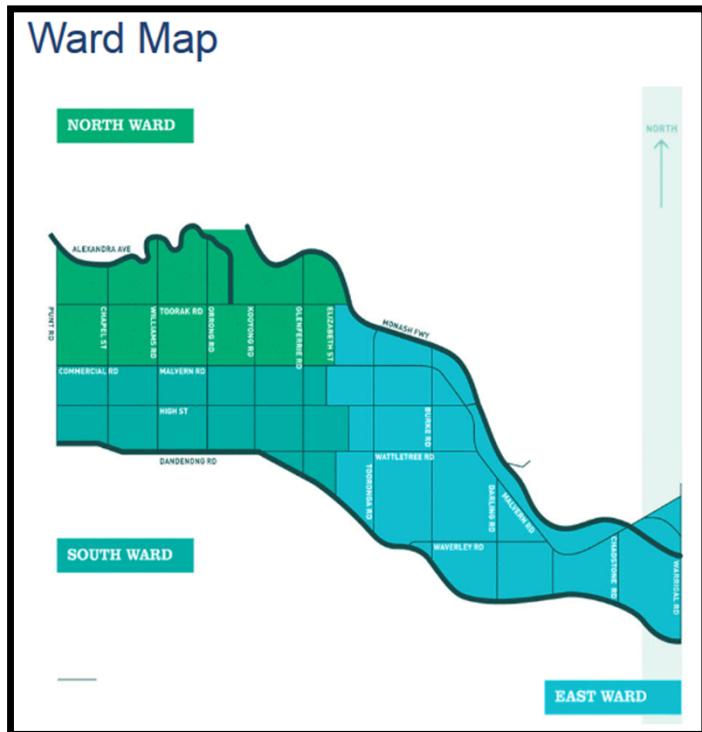
Step Four

Colour contrast

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Color contrast – incorrect example



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Color contrast

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

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

Add a border to each region of your map – then your map colors only need to contrast with the border color – not each other!



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Step Five

Use icons in addition to colour

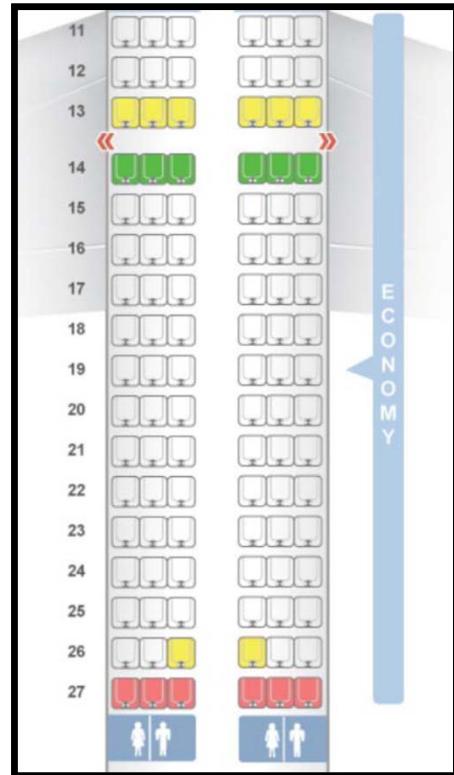
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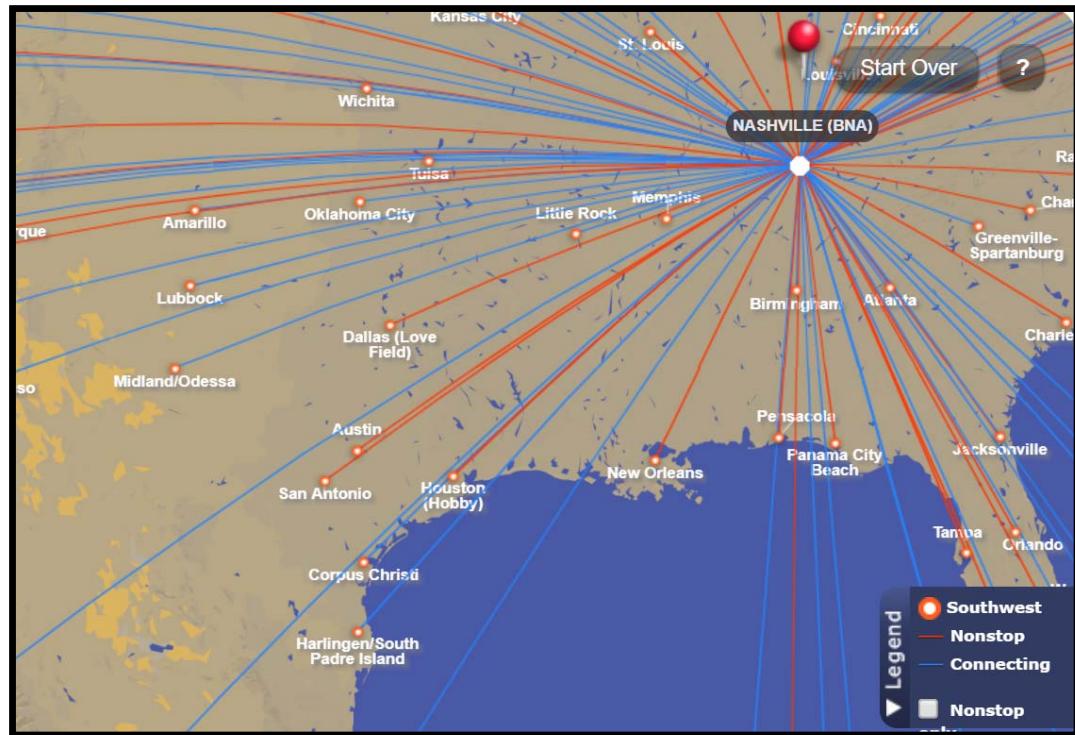
Use of color: incorrect example



Use of color: incorrect example



Use of color: incorrect example



Use of color

Do not rely on color 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 color to indicate different areas
- label markers with an icon and individual colors/icons for different markers.



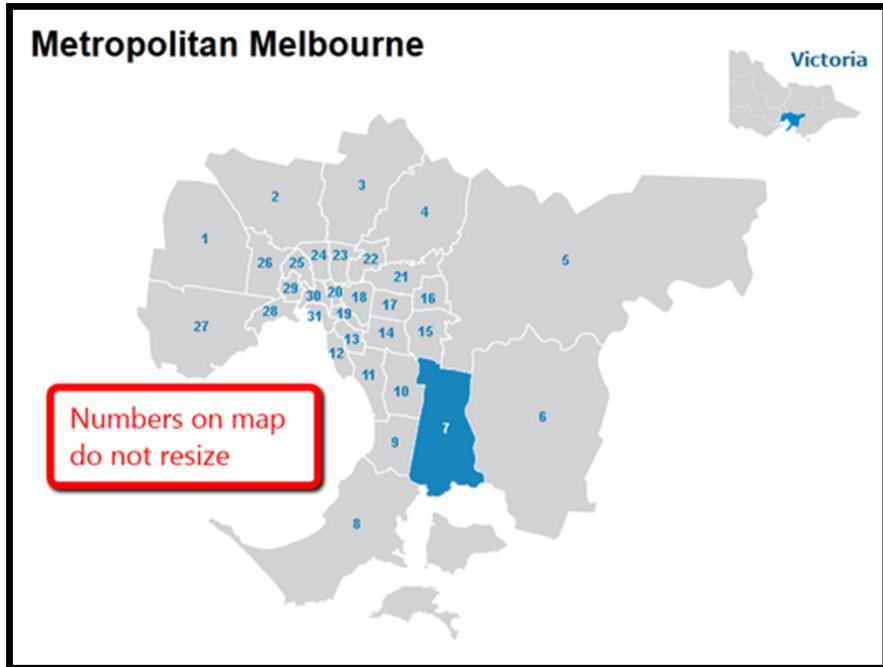
Step Six

Ensure users can increase text size

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Text size – incorrect example



✗

Text size

Ensure users can increase the size of the map, legend and any text. Often maps do not respond to browser requests to increase size.

Text size

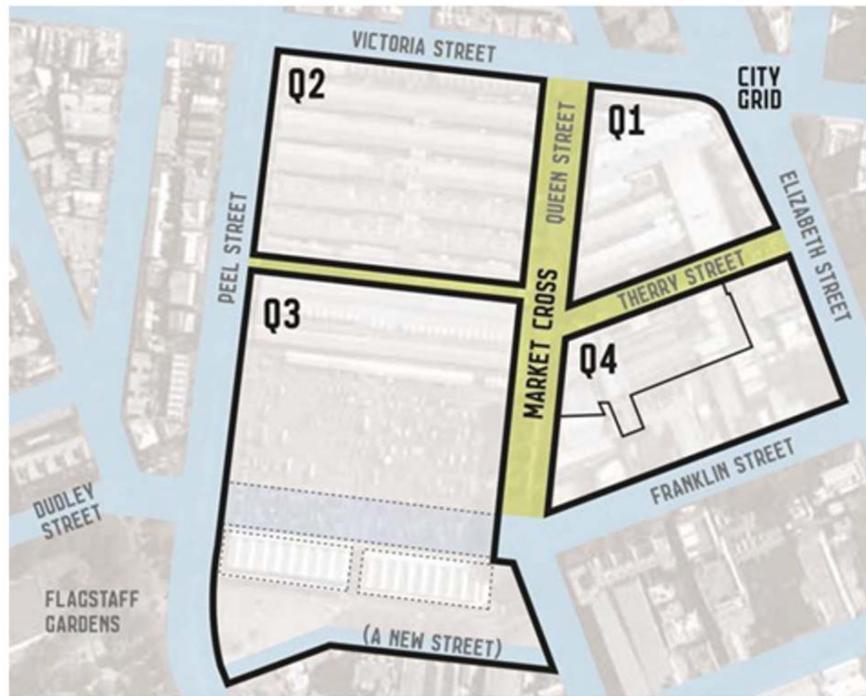
- Provide a “large” version of the map, where the user has increased the normal text size by 250%; and
- Maximise a particular point/area, or add a highlight box that shows the particular point/area in a larger size.



Let's look at some
accessible interactive
maps

Long description in text

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

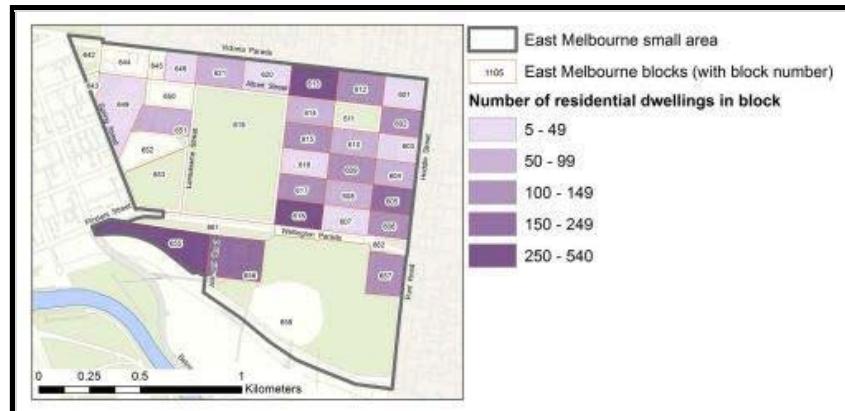
Q3

- 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

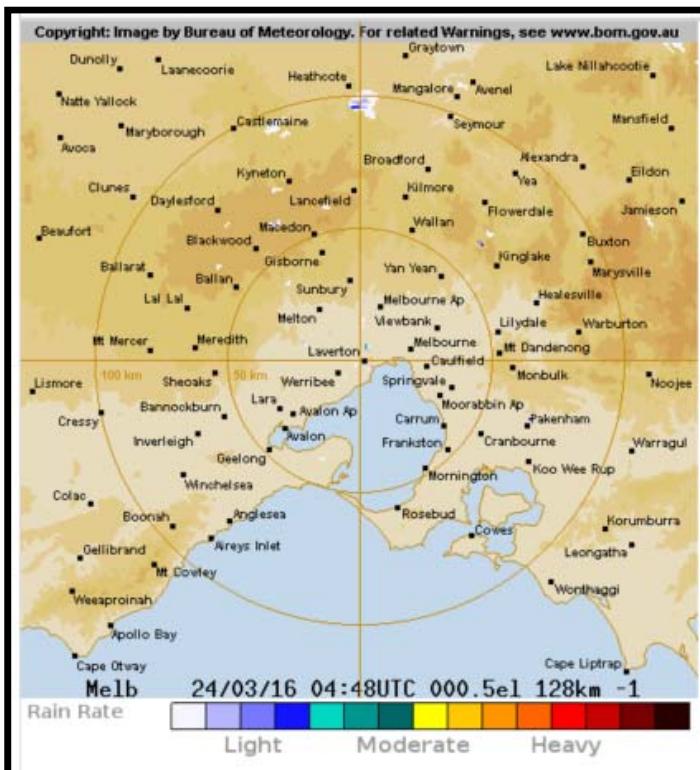
- between Elizabeth Street, Franklin Street, Queen Street and Therry Street
- Three new buildings including a fitness center and a pool

Long description in a table



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

Long description for GIS map



- **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 by form

All of Australia ACT NSW NT QLD SA TAS VIC WA

Q 200 Glenferrie Rd, Malvern, VIC

200 GLENFERRIE RD MALVERN VIC 3144
Australia

Planned | nbn™ Hybrid Fibre Coaxial (HFC)

Planned availability: Oct-Dec 2017*

The rollout of the nbn™ is being planned in this area.

Find out more and register for updates

MAP EARTH

Service available ⓘ Build commenced ⓘ

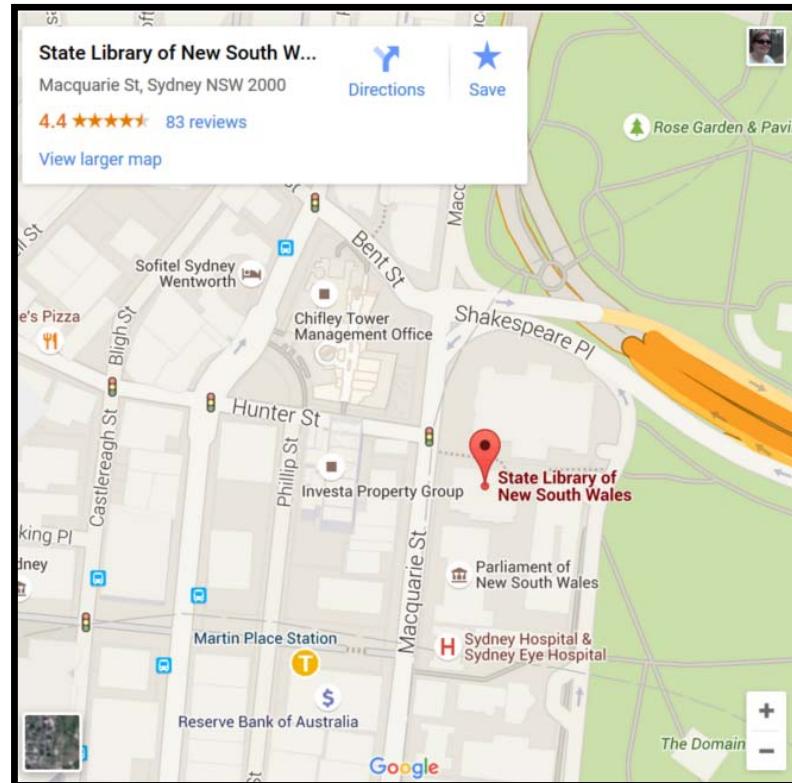
Other fibre provider ⓘ

Show service type Off

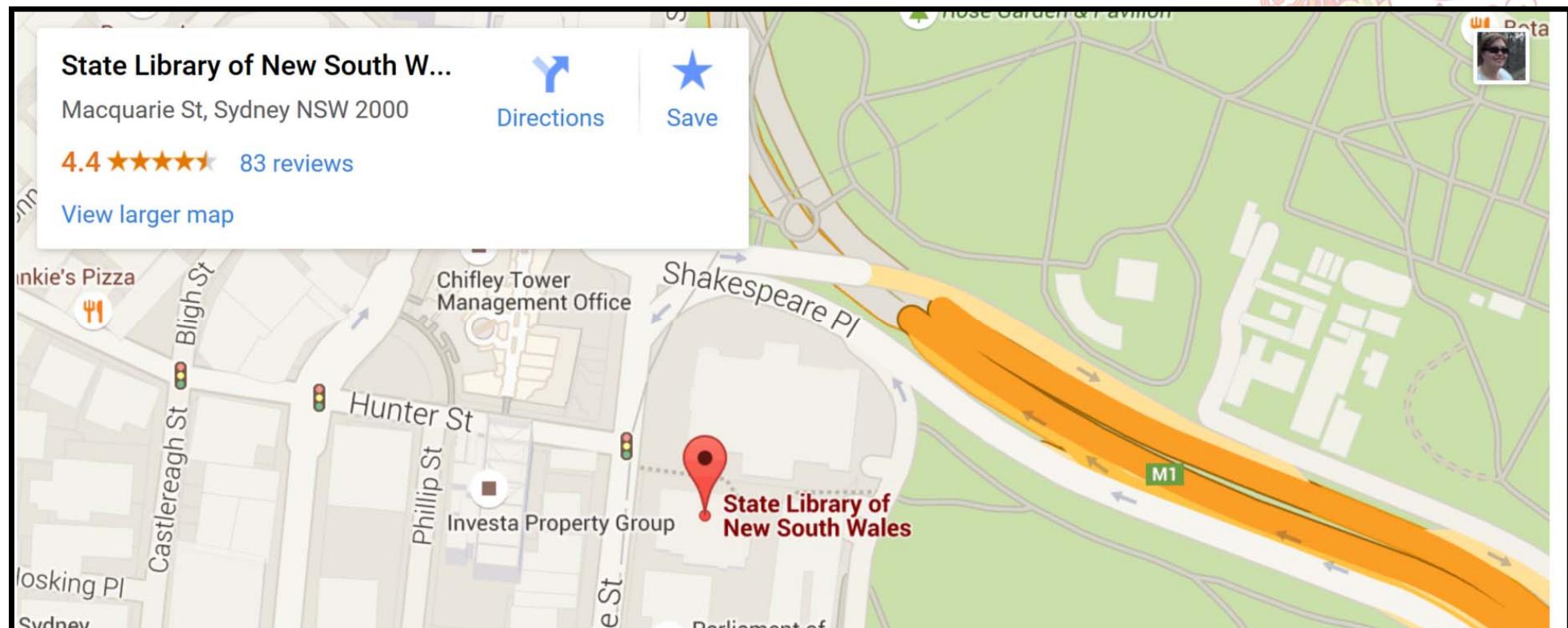
Map data ©2017 Google Terms of Use



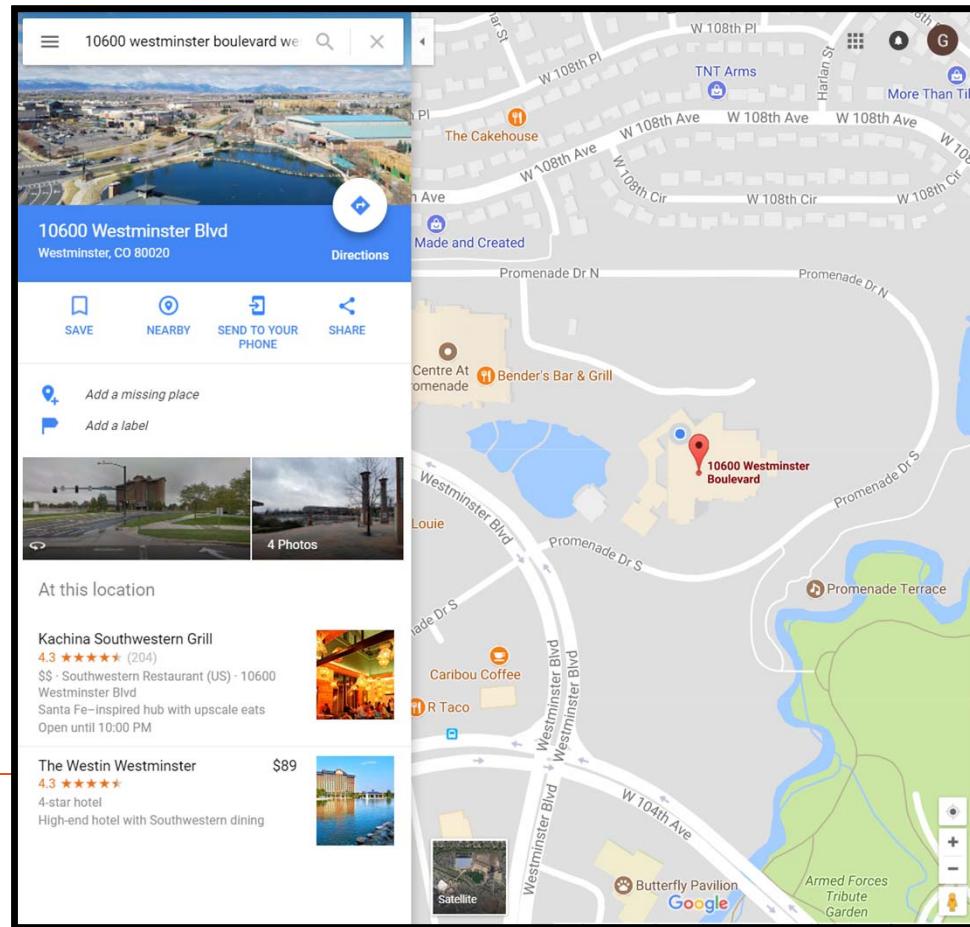
Text size



Text size



Text size

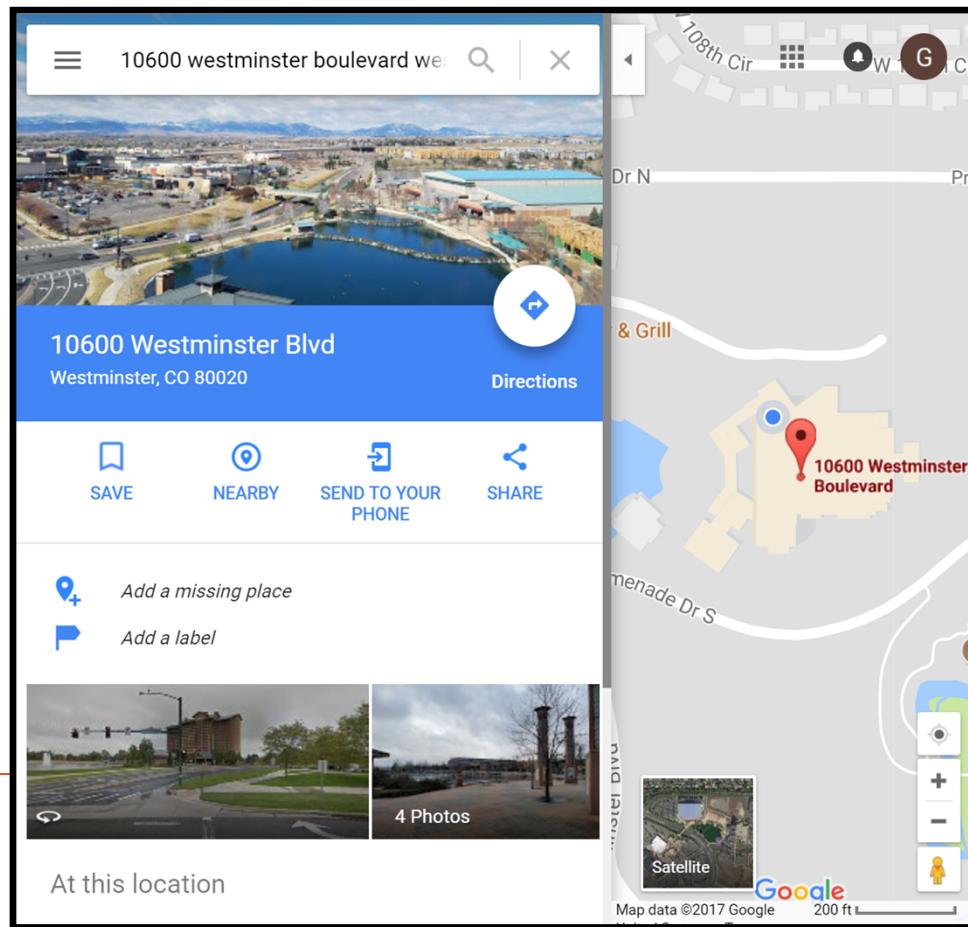


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Text size



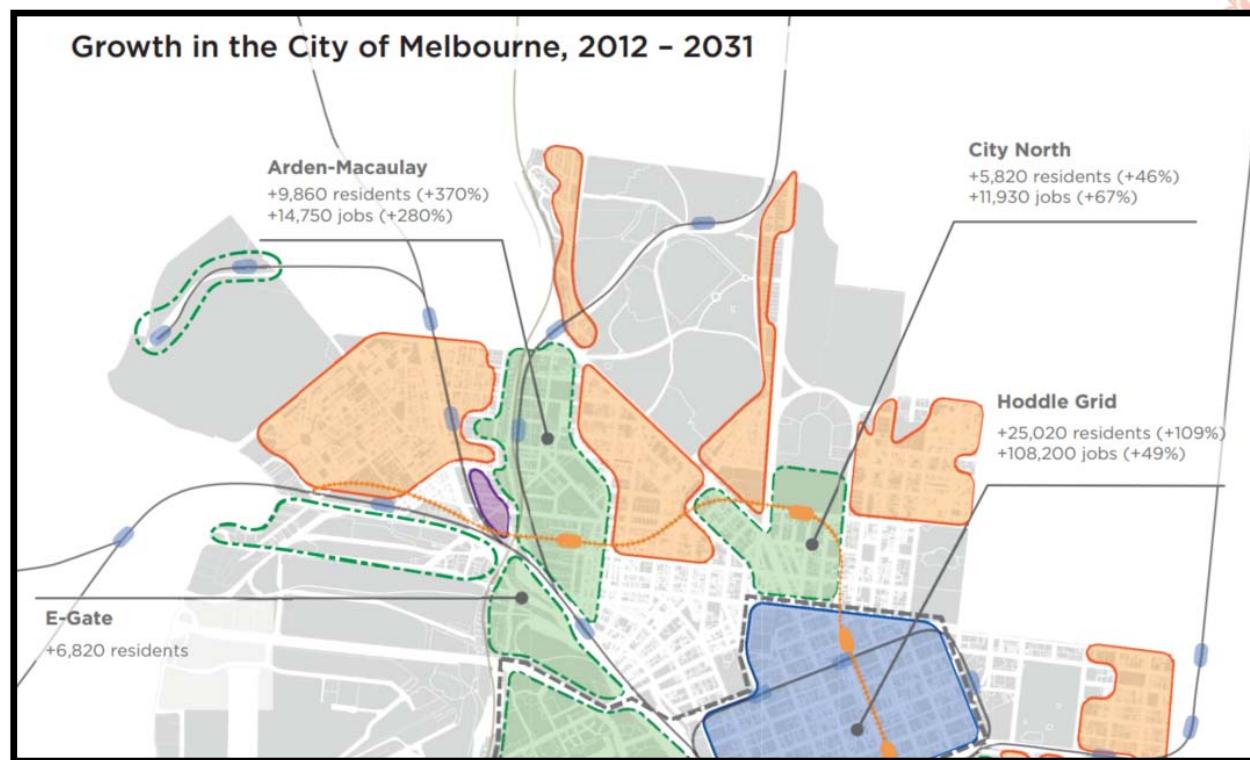
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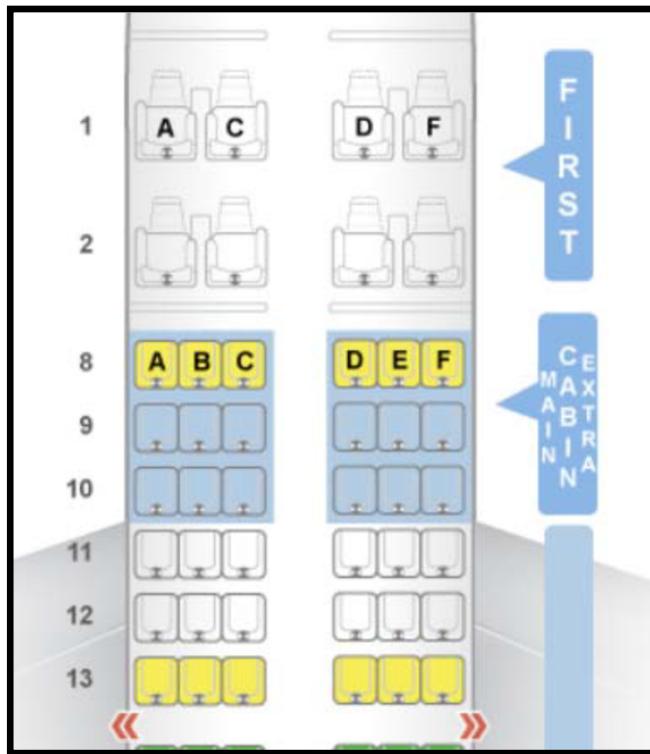
Use of color and shape



Use of color and pattern



Use of color and labels





Questions?

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