Melbourne is characterised by its mild climate, topography, proximity to coastal environments, abundance of tree and distinctive suburbs, streets and well-designed buildings.

While this has helped rank it highly as one of the most liveable cities in the world, there are significant social, health, transport and environmentally sustainable development challenges. As our city grows, we need to design more inclusive, vibrant and healthy neighbourhoods.

In 2019 it was estimated that 327 people per day are moving to Melbourne. The 2019 population over five million is expected to grow to six million by 2026 and over nine million by 2056. Melbourne will need 1.9 million new homes by 2056 to accommodate this growth.

Planning for this growth as well as keeping a high level of liveability has been the aim of both local government authorities and the Victorian State Government.
Plan Melbourne

Plan Melbourne 2017–2050 (Plan Melbourne) is a long-term plan to accommodate Melbourne’s future growth and limit the expansion of the city into farmland that provides the city’s food. The plan is guided by the central idea of a 20-minute neighbourhood.

The 20-minute neighbourhood is all about living locally – whereby people can meet most of their everyday needs within a 20-minute return walk from home – with safe cycle or local public transport. Within neighbourhoods, people will be able to access fresh food, essential services (such as health facilities) and parks to socialise and spend time connecting with neighbours. Access to public transport should be available to go beyond the neighbourhood to access high schools, universities and higher order services.

Plan Melbourne aims for Melbourne to be a city of inclusive, vibrant and healthy neighbourhoods.

Hallmarks of a 20-minute neighbourhood

Research undertaken by the Heart Foundation (Victoria) for the Victorian Government identifies hallmarks of a 20-minute neighbourhood.

A 20-minute neighbourhood must:
- be safe, accessible and well connected for pedestrians and cyclists to choose active transport
- provide high-quality open space
- provide services and places that support local living
- provide access to quality public transport that connects people to jobs and major services
- provide housing/population at densities that supports local services and transport options
- support local businesses and jobs.

Watch living locally animation
Why do neighbourhoods matter?

Change in Croydon South

Change by state and local governments can sometimes be difficult for residents to understand and accept, especially if they have not been involved in the change.

To improve community participation in planning and create more sustainable communities, the Victorian Government trialed new approaches to community engagement in a range of pilot projects.

The Croydon South project was an opportunity for government to capture the opinions of residents in a range of ways.

The following engagement activities have been tested.

- community days
- face-to-face engagements
- street functions
- films in parks
- online feedback (CrowdSpot) about the area’s walkability, favourite locations and those needing development, and
- liveability surveys.

After capturing the communities feedback, state and local government identified opportunities to create a more liveable neighbourhood. These are detailed in Figure 2 shows the results of this resident input.

Figure 2: Croydon South future opportunities. (Croydon South: Our 20-minute Neighbourhood, DELWP)
Activities

1. In your opinion, what makes Melbourne a great place to live and attract people from interstate and overseas to this city?

2. To keep Melbourne liveable into the future, town planners must work to keep the great features and make living locally reality for a growing population. After reading the introduction in this worksheet, complete the following Cloze activity, selecting from the words in the list below:

Plan Melbourne guides planning and development of the city from [______]. The population of Melbourne is expected to [______] from five million in 2019 to [______] by 2056. This allows for some years of [______] to create a more sustainable city.

Plan Melbourne is guided by the principle of [______]. It’s all about [______]. Creating places where people have the ability to access most of their [______] within a 20-minute [______] from home. By building more compact walkable neighbourhoods, Plan Melbourne restricts future expansion of the city into [______].

plan planning daily needs 2017–2050 increase 20-minute neighbourhoods sensitive natural areas and agricultural land live locally nine million return walk

3. Re-read the listing of the six hallmarks, or features, of a 20-minute neighbourhood. Rewrite this list in your own words, adding examples to help your understanding.

4. Discuss the wording that you have chosen for these hallmarks as class, stating the importance of each hallmark for a city like Melbourne.

5. Think about the neighbourhood where you live. For each of the six hallmarks, rank your neighbourhood on a scale 1–5, where 5 is excellent and 1 is poor. Complete your ranking by placing a tick in the most appropriate section of the following table. Add to this list by looking at the Heart Foundation Health Active by Design checklist.

<table>
<thead>
<tr>
<th>Hallmark</th>
<th>5 Excellent</th>
<th>4 Very good</th>
<th>3 Good</th>
<th>2 Fair</th>
<th>1 Poor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Is safe, accessible and well connected for pedestrians and cyclists to choose active transport</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Has high-quality public land and open space</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Has services and places that support local living</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Has housing/population at densities that support local services and transport options</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Supports local businesses and jobs</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total ranking points</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

6. Compare your rankings with a partner and then others on the class. As a class consider the hallmark that is considered the lowest ranked for your neighbourhood and make some suggestions as to what could be done to increase its ranking.

7. It is optimal for change to be supported by the local community. Design a catchy flyer for a letterbox drop inviting residents to a community event that will inform them about 20-minute neighbourhoods. Use Figure 2 to see the ideas that came from one community for the development of their area.
The 20-minute neighbourhood concept is all about creating sustainable local communities with accessible services and social infrastructural. Places where people can meet most of their daily needs within a 20-minute return walk from home, with access to safe cycling and local public transport.

Figure 1 shows many of the daily needs that can be met within a 20-minute neighbourhood. But remember that not all needs can be met within every neighbourhood. Some people need to travel further than their local area to work, to high school/university/TAFE or to access regional destinations.

Some facilities and services require large numbers of people to make their businesses profitable and sustainable. For example, large department stores, hospitals and specialised businesses are unlikely to be found within a 20-minute walk of every house – people will need to travel further to these services and businesses.

Short trips in walkable neighbourhoods provide healthy lifestyles for people of all ages and abilities. Studies have shown that walkability reduces pollution by 40 per cent and CO2 emissions by 10 per cent.

Research shows that 20 minutes is the maximum time people are willing to walk from home to a destination, and back again. Many of the services and infrastructure that meet people’s daily needs are located in Neighbourhood Activity Centres (NACs). A NAC is a place such as a local shopping centres, high street or village.

Metropolitan Activity Centres (MACs) are regional destinations, such as Ringwood, Fountain Gate and Box Hill, where residents often use public transport to access goods and services.

Watch the what is a 20-minute neighbourhood animation
Development near Yarra Edge has included wide pavements, green verges and good lighting for walkability.

Laneways are becoming brighter with street art and lighting with vertical gardens.

Community gardens are being created on rooftops in inner Melbourne as people come together and share spaces, foods and a community spirit.

Yarraville’s main street was closed to traffic and the community meets there frequently.

Figure 2: Interpreting the 20-minute neighbourhood model for your neighbourhood, DELWP
What is a 20-minute neighbourhood

Providing housing diversity

One of the challenges facing Melbourne is how to maintain the quality of the built environment. Rapid development can sometimes result in poor quality buildings and design. Sometimes new buildings don’t fit in with the neighbourhood. This can frustrate people in the community and make future change difficult. Housing diversity and affordability are features of 20-minute neighbourhood.

Case study - Better Development, The Commons

The Nightingale Model is a good example of a sustainable and affordable apartment design that focusses on the people who will live there as well as the contribution the building can make to the neighbourhood.

Watch the Heart foundation case study video on The Commons.

The Nightingale Model Commons in inner-city Brunswick is:
- environmentally sustainable by being 100 per cent fossil fuel free
- financially affordable
- incorporated with the surrounding neighbourhood
Activities

1. Group task
   a. Divide an A3-size sheet of paper into six. Refer to Figure 1 which shows the features of 20-minute neighbourhood in six colours. Devise a title for each of the group of six coloured features and record these on your paper (e.g. green = leisure).
   b. As a class discuss the label names and see if you can get some consensus on what they should be.
   c. Now add information to each segment on your page. Think about your local neighbourhood and record information that relate to each group of features. For example
      • there are two playgrounds in my neighbourhood
      • no trees are planted in the streets
      • there is one community garden
      • one football field
      • the bus route is poor etc.

2. Use the completed information on your sheet to assess if your neighbourhood is well supported for people to live locally – how does it rate as a 20-minute neighbourhood?

3. List the changes that would make it easier to live locally in your neighbourhood. Choose two of these changes and explain how likely it would be of achieving the change. of achieving these in an established neighbourhood.

4. In some inner suburban areas, land use is being converted from large individual house blocks with older buildings into a number of townhouses/apartments on the same space – this is called greyfield development or redevelopment. Greenfield development refers to the development of new housing, usually on agricultural land on the urban fringe.
   a. Are you able to find examples of greyfield development occurring in your neighbourhood or suburb? Maybe you can photograph some examples to show in class.
   b. Is this a suitable way to change some suburbs to meet the aims of the 20-minute neighbourhood policy?
   c. The Commons in Brunswick has won many awards for its architecture. Explain how its construction fits the components of a 20-minute neighbourhood.

5. Complete the Continuum activity with your teacher. What impact might the way housing is developed in a 20-minute neighbourhood have for the developers of an area of greenfield development (new housing estates) in the outer urban fringe areas?

6. Discuss the 20-minute neighbourhood concept with your family. In the next lesson, share some of the views of your family members about this concept.

Extension

Research the current development of YarraBend where the original paper mill at Alphington was located on a site of 16.5 hectares. YarraBend is developed around the concept of ‘precincts’. Explain how this development fulfils the 20-minute neighbourhood concept and looks to the future with the ways that it addresses sustainability.
Research shows that 20-minutes is the maximum time people are willing to walk to meet their daily needs locally.

These daily needs may include accessing local health facilities and services, local schools and local shopping centres. This 20-minute journey represents an 800m walk from home to a destination, and back again.

A Neighbourhood Activity Centre (NAC) is the places that provide many of the services and infrastructure to meet daily needs. By designing neighbourhood where people can walk to access these places each day, we can improve people’s health.

This principle applies for those aged 8–80 years of age – it recognises that some people will be able to walk more easily than others.

Walkability can be enhanced by providing a range of strategies that encourage people to walk, such as:

- installing safe school crossings and improving footpaths (even surfaces, lighting)
- improving streetscapes within the neighbourhood with trees and street furniture
- creating access paths and improving facilities (park benches, BBQs, play equipment, exercise posts) within local parks
- installing public art to reflect the sense of place and brighten the neighbourhood
- developing community gardens where people can meet and grow healthy foods
- upgrading sporting and other public facilities
- considering the range of housing within the neighbourhood to add diversity to a neighbourhood.

10 Reasons to Walk

Visit www.victoriawalks.org.au/10reasonstowalk/

Figure 1: The 800-metre walk of a 20-minute neighbourhood, DELWP
Environmental

Compact mixed-use neighbourhoods help reduce pollution. Walkability and cyclability reduce driving pollutants by as much as 40% and CO2 emissions by 10%. Urban greening and street trees remove pollution and increase tree cover by 10%, which can reduce the energy needed for heating and cooling by 5 to 10%.

Social

Walkable streets and community spaces can enhance the sense of community and provide critical opportunities for social interaction and social cohesion. Greenery and street-scale features can increase passive surveillance, increasing actual and perceived safety.

Economic

Household transport costs in walkable neighbourhoods are half of those in car-dependent areas and high walking rates can increase incidental trading in local shops by up to 40%. Walking infrastructure can provide a higher return than projects such as rail and road. Evidence from 20 different studies shows that the benefit–cost ratio of walking interventions is 13:1 — $13 of benefit for every $1 of expenditure.

Health

Living within an 800m catchment of social infrastructure and destinations leads to higher levels of walking and cycling and is beneficial to self-reported wellbeing. If 50% of short private-vehicle trips were instead made by walking, it would save the Victorian economy approximately $165 million a year in congestion, health, infrastructure and environmental costs.

By participating in 15 minutes of walking a day, 5 days a week, the disease burden from physical inactivity would reduce by about 13%. If this is increased to 30 minutes, the burden can be reduced by 26%.
Compact mixed-use neighbourhoods help reduce pollution.

Walkability and cyclability reduce driving pollutants by as much as 40% and CO2 emissions by 10%.

Urban greening and street trees remove pollution and increase tree cover by 10%, which can reduce the energy needed for heating and cooling by 5 to 10%.

Household transport costs in walkable neighbourhoods are half of those in car-dependent areas and high walking rates can increase incidental trading in local shops by up to 40%.

Walkable neighbourhoods alleviate pressure on Melbourne’s transport system.

Walking infrastructure can provide a higher return than projects such as rail and road. Evidence from 20 different studies shows that the benefit–cost ratio of walking interventions is 13:1 — $13 of benefit for every $1 of expenditure.

Economic

Environmental

Helps reduce pollution and CO2 emissions

Supports passive surveillance increasing safety

Increases retail trading by up to 40%

Alleviates pressure on Melbourne’s transport

Improved health and wellbeing

Economic

$13 benefit for every $1 spent

Living within an 800m catchment of social infrastructure and destinations leads to higher levels of walking and cycling and is beneficial to self-reported wellbeing.

If 50% of short private-vehicle trips were instead made by walking, it would save the Victorian economy approximately $165 million a year in congestion, health, infrastructure and environmental costs.

By participating in 15 minutes of walking a day, 5 days a week, the disease burden from physical inactivity would reduce by about 13%. If this is increased to 30 minutes, the burden can be reduced by 26%.
How can walkability improve liveability?

Compact places

Compact places improve walkability and liveability. A compact space is a space of one hectare containing 25 households. Many of Melbourne’s inner-city suburbs that were developed in the 1800s fit this density. Suburbs developed in the 20th Century were often established around the ‘quarter-acre block’, reducing household density. In the 21st Century developers have reverted to smaller land sizes in greenfield developments far from Melbourne’s CBD as well as some greyfield developments in well-established suburbs, usually closer to the inner city.

Compact housing development encourages greater connection between residents within neighbourhoods reflecting the requirements of 20-minute neighbourhoods.

Case study - Ensuring pedestrian safety

Yarra City Council — 30 km/h speed trial

Research from around the world shows that 30 km/h is the safe vehicle speed for areas where there are many pedestrians and cyclists. International examples and a growing body of evidence suggest that lowering speed limits in these areas is the right change to make.

Research shows that a fatal injury to a pedestrian is twice as likely to occur in a crash at 40 km/h than at 30 km/h. Overall, if average speeds are reduced by just 1 km/h, road crashes are reduced by 2–3 per cent.

Motorists and cyclists will soon need to slow to 30km/h in parts of Fitzroy and Collingwood, as Yarra City Council becomes the first in Australia to trial the reduced speed limit. Yarra City Council wants to create streets that everyone can enjoy – whether they are walking, driving or riding. They want people to feel safer which, in turn, will encourage them to spend more time in local streets. It is about creating streets that are vibrant, where people feel safe to cycle, walk around and spend time in their neighbourhood.

Research also shows that a reduction in speed limits in urban areas has minimal impact on travel time. Travel time in built-up areas is related to how much time is spent slowing and stopping at intersections, parking and time spent in local congestion.

Maximum travel speed has very little to do with travel time in these areas.
Activities

1. Consider the benefits of the 20-minute walk in the neighbourhood.
   a. Brainstorm with a partner and list ideas of the benefits of walking.
   b. Group your ideas under the headings – health, social, environmental, economic.
   c. Study Figure 2 that shows the value that is placed on walkability of neighbourhoods. Add the key points to your own ideas.

2. Use Google Earth to investigate selected suburbs (from above and at street level) and consider how compact these suburbs are. Remember that 25 households per hectare is the recommendation for a compact suburb in a 20-minute neighbourhood. Use the measuring tool in the toolbar and create a shape that is 10,000 square metres in size (one hectare).
   a. In a group of three, complete the following table commenting on each aspect to compare suburbs from 1800s, 20th Century and 21st Century. (Leave your own neighbourhood for now).

<table>
<thead>
<tr>
<th>Feature of area</th>
<th>1800s Norfolk Street, Yarraville</th>
<th>20th Century Mimosa Street, Glen Waverley</th>
<th>21st Century (Greenfield) Mulberry Street, Doreen</th>
<th>My neighbourhood</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of houses per hectare (10,000 square metres)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Size of residential lot (small/medium/large)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>House type (apartment/townhouse)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Backyards (yes/no)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Swimming pools (yes/no)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Front yards (yes/no)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Streetscape (nature strip/trees)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Road widths (narrow/one way/wide)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Car parking (both sides/one side/restricts traffic flow)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. Use the information in the table to write a paragraph about which suburb is best suited to a 20-minute neighbourhood. Consider which suburb is more compact, more walkable for daily needs, more aesthetically pleasing to walk in etc. Use data from the table as evidence.
b. Using the same technique find your home on Google Earth. How compact is your neighbourhood? Use data from the table as evidence.

3. The following article reflects concerns about greyfield development causing the loss of vegetation cover across Melbourne’s suburbs. Read recent articles about the loss of trees in Melbourne. Suggest ways in which the concerns of residents could be addressed while allowing compact residential areas to develop with 20-minute neighbourhoods.

4. Consider the following when thinking about compact neighbourhoods:
   a. How could your neighbourhood be made more compact and more walkable in the future?
   b. Is traffic speed a concern for walkability in your neighbourhood?
   c. Do you think a reduced traffic speed make people feel safer and walk more in their neighbourhood? Refer to the Case Study in your answer.
Fieldwork in your neighbourhood

This fieldwork takes you to local streets in your neighbourhood to assess walkability and recommend any changes that need to be made to improve walkability. Are there any barriers to walking for any groups in your area? Are the streets suitable for walking for all persons 8–80 years of age? Are the footpaths well maintained, safe and well lit? Is it easy and safe to cross streets? Are the streets pleasant environments to be in?

Scenario
Your task is to compile a report/design an infographic for your local council to report on the level of walkability in your local area. As much as possible of this report should use tables, photos (preferably with annotations), maps and symbols. It is also important to suggest any recommendations for improvement.

Getting organised
Your teacher will help organise your visit to your local area. There are a number of possible options for completing this fieldwork:

- study the footpaths outside the school grounds without leaving the school property (maybe even the pathways within the school)
- visit an activity centre (NAC) or a town centre which is within the 800 metres to/from the school. Assess walkability as you walk.
- walk around the streets in the school area during class designated time

Complete this task from your home as a homework task.

Collecting data

Develop your own tools.

a. Design a table to record your information and take some photos (camera, iPad, smartphone) of aspects you want to alert the council to in your report.

   e.g. a table like this sample one. Include other features to observe and report on such as footpath litter, safety when crossing roads, driveway crossings, trees on streets/nature strips, gardens overgrowing paths, types of garden plants edging footpaths, lighting for safety, footpath width, footpath surface, pedestrian links and short cuts. Add other ideas you might have.

Sample table for observations:

<table>
<thead>
<tr>
<th>Street characteristics</th>
<th>e.g. High Street and Woods Road intersection</th>
<th>e.g. Poole Crescent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Footpath width</td>
<td>Very narrow</td>
<td></td>
</tr>
<tr>
<td>Footpath surface – even/flat etc</td>
<td>Image 1</td>
<td></td>
</tr>
</tbody>
</table>

b. Use Google Earth to produce a base map of your local area and develop a ‘Crowdspot’ system. This requires the development of a ‘traffic light system’ to be recorded on a map. In this sense a red dot indicates a location with a ‘walk issue’, green indicates a ‘favourite spot’, and yellow indicates an ‘idea spot’. Spots can be recorded on the map during the walk. A key/legend should be provided to give a comment relating to each spot. The sample in Figure 1 shows how this was applied in pilot project in Strathmore.

Before you go on fieldwork, have the required colours available to mark on your map and somewhere to record specific notes for each dot that will be included in your map legend.

Figure 3: 20-Minute Neighbourhood Pilot Project
Crowdspot map (Strathmore Neighbourhood Report, DELWP)
c. Utilise Apps

- Use the Walking Victoria App and record aspects of your work electronically as you undertake the walk. Your teacher will show you how this works. Instructions can also be found here.

![Figure 2: A pinned-map from the Strathmore Walkability Assessment. (DELWP)](image)

Each pin can contain an image of the location and a comment on the walkability aspect that you want to highlight.

- Survey123 for ArcGIS provides a basis for easy design and recording of any interviews you might want to undertake on the walk. You will need to use class time to design some questions and upload these to Survey123.

### How To Use Esri Collector and Survey123 as Field Work Apps

While in the field you should politely interview pedestrians using the ethical guidelines provided by your teacher.

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**Back in the classroom**

In small groups, discuss each of the streets that were assessed on the fieldwork:

- Do the streets you visited encouraging walking?
- Are all age groups from 8–80 catered for in walkability?
- How could aspects of the streets be improved for walking? You might like to sketch an image to include in the report or annotate a photo to show the council the aspects that you think should be improved.
- How could improved walkability help your local neighbourhood become a 20-minute neighbourhood? How could it improve liveability?
- Why is a 20-minute neighbourhood important to you?

In these small groups develop your submission to council as a report using PowerPoint (8–10 slides) or create an infographic.
This mapping competition allows you to re-design your neighbourhood to improve liveability.

You should watch these two short animations:

- Living locally - 20-minute neighbourhoods
- What is a 20-minute neighbourhood?

Then Imagine if . . .

The task in this mapping competition is for you to redesign your local area to include better designs for liveability within a 20-minute neighbourhood. You should be creative but at the same time apply your knowledge about liveability design in relation to where you live.

Remember that not all goods and services can be provided within 20-minute walk to/from your home.

Criteria to consider when completing the map:

- location of shopping centres, health facilities and services that meet their daily needs
- location of schools, libraries and other learning spaces
- providing housing for a range of income levels and age levels
- creating a well-planned, compact area with density,
- designs that encourage walking for ages 8–80 years, safe cycling and local public transport options
- good public transport that connects to jobs, and facilities and services required less often
- safe open spaces, green streets, community gardens, playgrounds and sporting facilities are incorporated
The competition

All the information required is provided here, including:

- an instruction section on using the map and mapping tools. Student and teacher instructions can be downloaded from this section.

- GIS map is provided at this site with an instructional video on how to create the map and use the tools. This includes a Draw IT facility with instructions for students to draw their own map.

- An entry form for the competition which includes some questions for students to answer.

It is recommended that you practice using the GIS map and tools before completing the mapping competition.

An entry form must be completed to enter the competition. As part of the competition, this form contains a few questions about their design that you need to answer to demonstrate your understanding about liveability. And don’t forget to follow the instructions to upload the map with the entry form.

Competition entries are to be uploaded by close of business on Monday, 11 November 2019.

Good luck!