IMPROVING WALKABILITY AND WAYFINDING IN
HARVEY AND AUSTRALIND

A Report to the Shire of Harvey

JA Grant & Associates
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Making Places More Walkable, Legible and Liveable
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1. INTRODUCTION

The Shire of Harvey has recognised that the quality of the walking environment is an important contributor to the quality of life. A good walking environment enables and encourages both residents and visitors to walk more and gain all of the health, environmental and other private and public benefits of walking – including a reduced demand for parking, reduced fuel consumption and increased public safety due to the surveillance of public space (‘Eyes on the Street’). Good quality footpaths, pram ramps and road crossings are essential to people with a disability and others who cannot drive or afford to operate a vehicle.

A good walking environment is good for business. Making it easy for people to walk and explore the retail centres and the many services and activities in and close to the centres in both Harvey and Australind in confidence will have positive implications for local economic activity. Tourists and other visitors/shoppers are major contributors to the local economy and they need good information and are likely to stay longer and spend more in a high quality pedestrian environment. Even when people need or prefer to drive, all drivers will get out of their cars to shop, browse and explore the local attractions. Every parked car represents at least one ongoing walk trip to the final destination.

J A Grant and Associates has completed a number of audits of the quality of the walkability and of wayfinding signage in activity centres and other areas in the Perth region.

Frequently we find that while most of the existing footpaths are in good condition there are elements in this environment, such as ‘gaps in the system’, missing or poor quality pram ramps and road crossings which could be improved. We also often find that the “balance” between the priority level for pedestrians and the priority for vehicles appears inappropriate for people-focused activity centres and other areas. Changes to this priority level can turn areas into places where people want to walk, and can walk.

Few activity centres and their surrounding facilities (schools, sports and medical facilities etc.) have adequate pedestrian wayfinding signage. Good signage that encourages people to walk has a number of benefits to a centre – including encouraging people to explore the area on foot, which results in improved footfall and retail turnover, a reduced demand for car parking and better health all round. High quality wayfinding signage will enable people to develop an accurate “mental map” of the town centres and surrounds of Harvey and Australind, to understand how far it is between origins and destinations (and how long it takes to walk between them). Good wayfinding signage has been shown to increase the number of walking trips and this will contribute to improved health, reduced traffic problems and lower greenhouse gas emissions.

This report focuses on how the Shire of Harvey can work towards improving the quality of the walking environment and implementing an affordable pedestrian wayfinding system.
2. THE STUDY AREAS/STUDY PROCESS

The two Study areas were defined in the project Brief – they consisted of the activity-retail centres of Harvey and Australind together with surrounding roads that link the centres with schools, retirement villages and new developments, as well as roads that have been nominated through public consultation as having walking problems. The two study area maps are attached as Appendix 1.

The Study process consisted of discussion with a nominated contact member of the Shire’s staff, who provided the consultant with an overview of the areas and issues, and facilitated an initial drive-through of the routes and the study areas. This was followed by a detailed audit analysis of the routes and areas on foot. During the detailed audit the auditor was guided by the walking audit criteria from both the WA Walkability Audit Tool (2011) and the UK ‘5Cs’ approach. Both are very similar, in directing attention and auditing skills to the fundamental walking issues. The WA Audit Tool directs attention to “Pathways, Crossings, Street Furniture and Signage, Personal Safety, Adjacent Traffic and Aesthetics and Amenities” The 5Cs full list of questions is also extensive and facilitates a thorough analysis of the routes and the local walking environment from a range of similar perspectives. They require the auditor to ask, and answer, the following types of questions:

Is the route Connected? e.g.
How well is walking integrated with public transport? Are the parking areas well connected to the retail and other destinations? Are the major origins and destinations well connected by footpaths and crossings?

Is the route Comfortable?
Are route design standards adequate, such as footway width, good quality walking surfaces and provision for people with a disability? Are there pram ramps, and are they DDA compliant?

Is the route Convenient?
Have important routes been given sufficiently high priority, for example short waiting times at signalled crossings on routes to the town centre or to bus and rail interchanges?

Is the route Convivial?
Is urban design to a high standard? Is it as attractive as it could be? Are there areas or places that are unattractive or perceived to be dangerous?

Is the route Conspicuous?
Are walking routes clearly signposted? Is it obvious how to get to the shops, leisure facilities or bus stops? What signage is needed for pedestrians? Are all street names visible and pointing in the right directions?
The outcome is a detailed analysis of the walking routes, using photographs to illustrate deficiencies. The main focus of the audit report is on identifying the major types of deficiencies and where they exist, and then on providing recommendations (and the approximate costings) on how the deficiencies can be overcome.

The public comments received from the Shire are attached as Appendix 2. The audit specifically addressed relevant comments and suggestions in that document.

However, we commence with a brief review of related research and an overview of the findings of the audit.

3. OVERVIEW OF FINDINGS

The Harvey Shire Community Profile, based on the 2011 Census, shows that over 30+% of the Shire’s population are aged 0-19yrs, many of whom are too young to drive while a further 7+% are aged over 70yrs, and may be too old to drive. There is likely to be a strong (but perhaps latent) demand for walking from these two groups.

In addition over 27% of the Shire’s households had either 1 or no cars. If the car in the 1-car households is used for commuting to work then the remaining members of those households will need to walk or use public transport for daytime trips – to school, shops and friends. Using public transport usually requires a walk trip to the bus stop or station.

Over 700 of the Shire’s population had some form of disability and needed assistance for many of their daily needs. Most of this group would be unable to drive and need to either walk or use electric wheelchairs to access shops and services. A walkable environment is essential for wheelchair use.

Between 2006 and 2011 approximately 40% of the population of Harvey Shire had moved dwelling and of these a majority were people who had moved into Harvey from elsewhere in WA, Australia or overseas. There are thus quite large numbers of people who do not know the Shire well and are likely to need good wayfinding information, especially when they first arrive in the Shire.

During the driving/walking audits of Harvey and Australind 8 major issues emerged:

1. It was observed that at the time of conducting the audit there were relatively few pedestrians using the footpaths and streets, however, early mornings and late afternoons are known to be more popular times for walking in both Harvey and Australind. Day-time walking for health, recreation and transport may be increased by strategies which raise awareness of the close proximity of services and facilities. Also an increase in walking may be obtained by promoting a ‘walking culture’ within the Shire and encouraging participation in new or existing walking groups.
2. The footpaths in the parts of the Shire that were audited are generally of high quality. The new concrete and older tarmac footpaths represent a considerable level of investment on behalf of the Shire (costing in the order of $80-100/m installed). The further investment required to ‘fill in the gaps’ so that safe walking is increasingly possible should be accompanied by a strategy to encourage more walking so that the new investment (combined with the past investment) reaps community benefits. Implementing the detailed infrastructure recommendations made later in this report will be a significant part of this strategy.

3. There are locations and sites where there are gaps in the footpath system and these should be filled by some new sections, especially to provide access to medical, community and other facilities likely to be used by people who need or may want to walk. Based on experience elsewhere in WA 1.8-2m wide concrete footpaths cost in the order of $100/m laid, so that costs are unlikely to be excessive. Large sections of new footpath are not required.

4. There are also a number of places where a pram ramp has been installed on one side of a road or intersection, but there is no ramp matching it on the other side. Possibly single ramps were installed and there are plans to construct the matching one at a later date. However, this is not good practice and where people are enabled to get onto the road to make a crossing it should also be easy for them to get off it again.

5. However, based on the auditing experience there did not seem to be high levels of traffic on most minor, suburban roads, although traffic was busy on the major roads such as Uduc, Paris and Old Coast roads. As a result it is possible to walk in safety along some of the roads themselves although this is by no means ideal. Where there are places that require people to walk on the roads (e.g. in residential subdivisions with no footpaths on local or side roads) then Council should consider either reducing the speed limit to 40kph and/or installing ‘Yellow Legs’ walking advisory signs and develop a campaign to encourage and enable people to walk more.

6. Street name blade signage is important for pedestrians, and there are two major problems with the existing practices in both areas; (a) In the Town Centres there are many intersections which have either 1 or no street name blades on poles. Generally we recommend that in the busier parts of towns there are two blades on 1 pole identifying both streets, so that people can ‘locate themselves’ on a map (see 7 below) and more easily find their way to their destination; and (b) in the less busy (suburban) areas on the more major roads there is usually only 1 blade on a pole identifying the side street name. Usually the pole with the street name blade is on the opposite side of the major street from the side street. However, many roads have a footpath on 1 side only, so that if a pedestrian is walking on the footpath it can be difficult to read the name of the side street when the street name blade is located on the far side of the road. Generally we
recommend that street name blade poles are located on the same side of the road that contains the footpath.

7. There is limited good quality wayfinding signage for pedestrians in either Harvey or Australind. While driver-focused signage is useful for pedestrians it generally is not as useful as map-based signage designed specifically for pedestrians. A local example of this latter type of signage is found at Brunswick Junction. There are sufficient skills in-house at the Shire to produce these types of maps (with some improvements) and have them installed in both Harvey and Australind.

8. The existing maps of Harvey and Australind in the Harvey/Australind Tourist Guide are at a scale and of a style and layout that makes them difficult to read and do not convey the message that a very large number of public and private ‘destinations’ are within a few minutes’ walk of the centre of each town. People walk at approximately 4-5kms/hr (and thus it takes about 12-15mins to walk 1km). Most of Harvey’s and Australind’s destinations (health, education, recreation and tourist facilities and services) are within 750m of each Town Centre and can be accessed on foot within less than 10 mins. Maps that convey this message will encourage people to walk more, when combined with visible infrastructure improvements to enable walking, and a campaign/strategy to encourage walking.

The Shire thus should implement a low cost but comprehensive package to promote, encourage and enable more people to walk to more places, more often – consisting of (a) new, visible footpath and related infrastructure installation, (b) new, visible map-based pedestrian-focused wayfinding signage installation, and (c) promotional campaign(s) to encourage people to walk – based on health, safety and related messages.
Most people know that walking is beneficial and the response rate to campaigns in conjunction with physical improvements to the environment is invariably positive.

4. AUDIT RESULTS AND RECOMMENDATIONS

4a. Footpath and related Issues.

HARVEY
Generally there is a high quality of footpath infrastructure in Harvey. Where the footpaths exist they are usually of sufficient width and are flat and level, even though they may exist only on one side of a road. Given the amount of foot traffic it is not recommended that new footpaths be constructed on both sides of most roads, as this is expensive for both Council and landowners.

A key indicator of where additional footpaths are needed is where there are clear pedestrian ‘desire lines’ – where the nature strip is worn by people walking on it, as on the north side of Uduc Road near Young Street, approaching the Town Centre and the Recreation Reserve. Here there is no footpath even though a new pram ramp has been constructed to enable people to cross the road.

Recommendation 1. A new section of footpath is needed to connect pedestrians to the Reserve entrance on Uduc Road from Young Street, and to cover the existing desire line along Uduc Road – a total of approx 60-70m.

Herbert Road is an important connection between the retirement centre at Rath Road and the town centre. It is used by people on electric carts as well as by pedestrians. While the footpath is of good quality the intersection at Knowles Street has no pram ramps (see Fig 4.) The Herbert Road footpath then ends at Newell Street and from there to close to Uduc Road people need to walk/use electric scooters on the road, past garages, with no footpath (see Figs 5 & 6)
Recommendation 2. There is ample room to provide some kind of pedestrian walking area at the north end of Herbert Road which skirts the brick paved kerb standouts. This could be achieved by painting the road (if allowed by MRWA) to clearly define a pedestrian route on the road, without incurring the cost of constructing a section of footpath.

![Fig 4](image1.jpg) ![Fig 5](image2.jpg) ![Fig 6](image3.jpg)

Some form of ‘solution’ is required to provide a safe passage for pedestrians/scooter users at this point (See Fig 6). Further to the north is a brick paved footpath which pedestrians can use to reach the shops. Cost will depend on the preferred/allowed solution, but a painted area as indicated above would be the least cost solution.

There are a number of places similar to the site illustrated above in Fig 3, where a pram ramp has been installed on one side of a road but it is not matched by a ramp on the other side. These are: Fig 7 on Uduc Road at the Town entrance, Fig 8 on Hayward Street at Nursery Road and Fig 9 on the corner of Wright and Gibbs Streets.
Recommendation 3. In all three cases matching pram ramps need to be installed on the ‘other’ side of the road, whether there is a footpath there or not, to enable a pedestrian or cyclist to get safely off the road.

Pram ramps cost in the order of $500+ to install with 1-2 m of associated footpath.

AUSTRALIND
Similar issues are found in Australind, as in Harvey.

On Mardo Avenue, at the rear of the shopping Centre is a medical centre – served by a bus service and stop, a road crossing with pram ramps and a protected median (see Fig 10. However, there is no footpath from the crossing on the north side of Mardo Avenue back (eastwards) to the medical centre entrance, or to the shopping centre.

There is a very ‘hard-edged’ entrance to a car park and a grassed nature strip (see Fig 11).

Recommendation 4. A footpath and pram ramps need to be installed so that people can walk safely from the bus stop to the medical centre entrance and the shopping
centre via the protected road crossing. This will also enable people using the shopping centre to walk to the medical centre.

Approximately 70m of footpath with pram ramps is required here.

The roundabout at the Old Coast Road/Paris Road is a barrier to pedestrian access to the waterfront. The roundabout has crossing places provided on its southern and eastern sides only. When people want to cross from the shopping centre to the water the pedestrian environment is difficult to navigate, as they need to cross both Old Coast Road and then a pull-off lane for the bus and an access road to the service station, and then cross a grassed strip to get to the water’s edge.

**Recommendation 5.** A crossing is needed over the bus lane between the two existing pram ramps (zebra crossing or brown brick paving - see Fig 12), and a footpath is required from the pram ramp to the bus stop and from there over the nature strip, over the service station access road and then west to the path fronting the water’s edge. This improved pedestrian access would support any future development of the waterfront, in this vicinity. Approximately 75m of footpath is required.
The Audit brief specifically identified Travers Drive as in need of attention. Here there are a number of intersections with side roads and Travers Drive where the pram ramps linking to the footpath sections are either not provided or are not DDA (Disability Discrimination Act) compliant (with a lip no greater than 3-4cms and a gradient of less than 1in 10). Most of the footpath is on the north side only of Travers Drive.

**Recommendation 6.** The intersections that require attention are with Travers Drive and Wakefield Crescent (both ends to Travers Drive), Morgan Court, Wallaroo Way, Hanks Way and at the roundabout with Chapple Drive.

While some of these intersections are not major barriers to people on foot, in wheelchairs, (or even children on bikes or scooters, going to school) it is important for the Shire to provide (and be seen to provide) DDA compliant and easy-to-use crossings as recognition of the needs of non-motorists. These 6 pairs of pram ramps are likely to cost in the order of $500/pair ($3000).

Shire of Harvey Engineering staff have noted that improvements are required at the roundabout / bridge on the Paris Road, Australind (near the entrance to Treendale). At present, pedestrians from Treendale must use the designated crossing at the roundabout to walk south on Paris Road. To reach the schools, children must then cross again further down the road. This road is well used by motorists and the pavements can become very busy during school closing and opening times.

**Recommendation 7.** A pedestrian bridge would eliminate any unnecessary road crossings. Further investigation in relation to barriers and the use of the bridge is required.

**4b. Maintenance**

Generally the footpaths were well maintained. Good maintenance and the reduction of opportunities for ‘trips and slips’ is important, especially where there are older and younger pedestrians using the footpaths.

Where there are trees that shed leaves, drop seeds and create shaded, darker areas then cleaning the footpath is important. It is easy for older people carrying shopping to trip and fall. Fig 14 is on the pathway from the roundabout to the Australind shopping centre. Many parts of the footpath through this park area needed cleaning. Further along Old Coast Road is a broken section of footpath, with overgrown grass and rough edges – with the potential to cause trips and slips (Fig 15)
People also need to cross the roads between pram ramps and the road surfaces need to be flat and even. There were only a small number of places where improved road maintenance was needed that were noted during the audit.

One was at the corner of Mardo Avenue and Old Coast Road in Australind (Fig 16) and the other at the junction of Hester and Young streets in Harvey (Fig 17). In the 1st example the median cut also needed to have the edges ground down.

**Recommendation 8.** Clean or repair the areas noted above and conduct regular (6 monthly) maintenance inspections of footpaths and road crossings.

**4c. On-Road Issues**

In Victoria VicRoads has recognised the importance of pedestrian safety and the link between traffic speed and people’s desire to feel safe when crossing the roads in predominantly retail areas. Retailers themselves recognise the benefits to business of a safe walking environment, and as a result a large number of retail areas have either a full-time or part-time 40kph limit (during the busier trading hours – e.g. 9am-6pm).
Unfortunately this is not the predominant practice in WA and MRWA is usually reluctant to allow a posted speed limit of 40kph (except near schools at either end of the school day). Appendix 3 is a report ‘Good for Business’ that illustrates the many benefits of making retail area streets pedestrian-friendly.

If the two study areas (Harvey and Australind) were in Victoria it would not be difficult to obtain permission from the road authority to reduce the posted speed limit to 40kph on four nominated sections of road;

(a) For that part of Uduc Road in Harvey which is adjacent to the CBD, much of which is currently posted at 50kph. In our view the 40kph section should run from the existing 50kph sign near Young Street to just east of Harper Street, providing a benign environment for pedestrians from the bakery to the recreation reserve.

(b) On Mardo Avenue from the Old Coast Road to just east of Mulgara Street. Here there is a bus stop, a pedestrian crossing and access to the shops and services within the shopping centre/precinct. Local residents and bus users need to cross the road in this area.

(c) For the full length of Mulgara Street, where there is a bus stop and a linking footpath to the shopping centre but where there are footpaths on the east side only at the southern end of the street. Here it can be difficult to cross the road and the inexpensive solution is to reduce traffic speed to provide pedestrian access to the shopping centre from the residential areas to the east. A slower limit on this street would make it much less dangerous to walk, park and drive. (See Fig 18)

(d) Within the Treendale estate where no footpaths have been provided along The Boulevard then the ‘side road’ is should be posted at 40kph to make it clear that this is a de-facto ‘shared space’ for vehicle access to individual homes and for people to walk safely to visit shops, services and friends (See Fig 19).

**Recommendation 9.** Apply to MRWA to have 40kph speed limits applied to these 4 sections of road.

![Fig 18](image-url)
However, Council does not need MRWA permission to erect advisory signage. One of the most recognisable signs that alerts drivers to the likely presence of pedestrians using the streets and crossing the roads is the ‘Yellow Legs’ sign. This has high visibility and is inexpensive to install (under $500/item including pole and installation) and encourages drivers to slow down.

Recommendation 10. Regardless of the outcome of the application for the 40kph limits (listed above) we recommend that yellow legs signs are installed in appropriate locations on the streets listed in (b), (c) and (d) above – ((a) already has them). They are best installed at the beginning of each street.

In addition, there are a number of other types of sites where this signage should be installed to warn motorists of the likely presence of pedestrians who may need to cross the road or be walking beside it. They are:

1. Where there are left-turn slip roads into car parks or fast left turns into other roads. These intersections are difficult and dangerous for pedestrians where
traffic is turning left off a 60kph road and people walking in the direction of the traffic flow have cars approaching them from behind. The approaching cars are thus difficult to see. Examples are found in Australind on Old Coast Road, into the Shopping Centre car park (x2 Figs 21 & 22) and into Mardo Drive (Fig 23).

![Fig 21](image1)

![Fig 22](image2)

![Fig 23](image3)

**Recommendation 11.** In each case Yellow Legs signs should be installed in the nature strip, on the left side of the approach road, approximately 5m before the turn.

2. Where there are roundabouts near schools or shopping centres. Roundabouts are difficult for pedestrians, especially children or older people – because vehicles can turn left or right, go straight on or do a U-turn. There are 5 roundabouts in Australind – one on Old Coast Road near the shopping centre, one on Travers Drive at Chapple Drive, one on Barnes Avenue at Kingfisher Terrace, and two on Mardo Avenue – at Barnes Avenue and the other at Caledonia Rise.
**Recommendation 12.** In all 5 cases yellow legs signs are required in the nature strip/footpath on all vehicle approaches to each roundabout, approximately 5-10m before the roundabout. This will require the installation of 20 Yellow Legs signs.

**4d. Street name blades**
Most of the intersecting streets in the two Town Centres have either no or 1 street name blade.

In both Harvey and Australind this is compensated for by the large directional signs along Uduc Road and on Old Coast Road pointing to various destinations and sometimes naming the street or streets. While these signs are very useful for people driving along these major roads (they are ‘driver’ signage) they are often on one side of the road only and they are perpendicular to the direction of travel. As a result people walking along the other side of the road cannot see them properly, especially if they are standing at the intersection itself.

In Australind we recommend that 4 pairs of street name blades (naming both intersecting streets) are located on poles on the ‘inside’ corners of the following streets:

- Old Coast/Mardo (NE Corner)
- Mardo/Mulgara (NW Corner)
- Mulgara/Paris (SW corner)
- Paris/Old Coast (SE Corner)

**Recommendation 13.** Install 4 new pairs of street name blades in the Australind central area.

In Harvey we recommend that 9 pairs of street name blades (naming both intersecting streets) are located on poles at the following intersections throughout the Town Centre:

- Uduc/Young
- Uduc/Becher
- Uduc/Wright
- Uduc/Hayward
- Uduc/Herbert
- Gibbs/Young
- Gibbs/Becher
- Gibbs/Wright
- Gibbs/Hayward

**Recommendation 14.** Install 9 new pairs of street name blades in the Harvey CBD area.

The poles for these 9 sets of blades should be located where they are most easily visible to pedestrians and where there is space to install them without causing any blockage.
Each pair of blades on a pole should cost in the order of $300 to manufacture and install.

In the non-CBD streets that were audited we believe that any street name blade poles that are for side streets, that are not on the same side as the footpath (where there is a footpath on one side only), are relocated to the footpath side of the road. They will still be visible to motorists, but will then also be easily visible to pedestrians using the footpath.

We have not listed the individual blade poles to be relocated. The cost of relocation will be minimal.

**Recommendation 15.** Review the locations of street name blades in non-CBD areas

### 4e. Pedestrian Wayfinding Signage

While there is some directional signage that is very useful for pedestrians in both Harvey and Australind, it has a number of shortcomings. In Harvey there are no indications of travel distances (either in metres or walk-time) although the signs are easy to read. In Australind there is a mix of colours, fonts and symbols and some distances are included.

The existing pedestrian wayfinding sign in Brunswick Junction is of the basic style that we recommend for installation in selected sites in Harvey and Australind.

Appendix 4 is a paper produced by JA Grant & Assoc. entitled ‘A Guide to Wayfinding’. This paper identifies all of the issues that are important in producing ‘world-best-practice’ pedestrian wayfinding map-based signs. The major differences between best practice maps and the Brunswick Junction map are:
They are ‘heads-up’ maps – so that ‘where you are is what you see’. Destinations above the ‘you-are-here’ icon are in front of you in the real world. The top of the map does not always point north.

The panels are usually double-sided, so that people walking along a street or through an open space can see the area ahead of them. This means that the side seen, for example, from the south has north at the top and the side seen from the north has south at the top. One panel can thus efficiently provide information about a large area of a city for people walking along a footpath or other space in both directions.

Maps contain either walk-time contours or walk-time grids and the scale on the maps can be represented in both distance (metres) and walk-time (minutes). People walk at approximately 5kms/hr and cover 1km in 12 minutes. Walk time contours often show where you can get to in a 10min walk.

They are ‘pedestrian-focussed’ maps and thus include elements such as footpaths, crossings, indications where walking is difficult (steep gradients or steps) as well as the amenities that pedestrians value. The detail of which amenities are illustrated is decided at the ‘map design’ stage, and can be different for each Council, but will generally include items such as public toilets, seating, public transport stops, major ‘destinations’ (shopping areas, civic buildings, etc.) and other local attractions.

Landmark buildings are illustrated with 3D representations, so that people will know what to look for and will know when they have arrived at the destination.

The panels are ‘user oriented’ (with the walking icon in the top banner). They are clearly marketed to people on foot.

The panels can contain pointers to major destinations at the top, to provide a ‘quick-guide’ to these major destinations, without having to search the map.

The panels can contain a directory of streets and destinations, based on the panel grid system.

Examples of the maps on panels can be viewed relatively locally in Bunbury and Mandurah.
Given the size of the maps on the panels (up to 5-600cms²) they can illustrate all of the destinations, routes and attractions over a reasonably large area in quite some detail. The ‘signage area’ (the area covered by the maps) should include as many destinations as possible and it can be square or rectangular, depending on the shape of the area that needs to be mapped.

**HARVEY**

Harvey is a ‘destination-rich’ town, with a large number of important destinations within close proximity to each other close to the Town Centre, and as a result we recommend that the signage area is focussed on the area covering the CBD, the Station, the Hospital, the Retirement Village, the Recreation Reserve and all the schools and other services and facilities in between. The expansion of the signage area to include the Pool would significantly increase the area to be covered, reduce the map scale and limit the level of detail on the map.

The approximate recommended signage area for Harvey is illustrated in Fig 28.
Given that this is a rectangular area and is longer N-S than E-W it should be located on panels with this approximate shape. This means the panels should be located so they can be viewed from both the North and the South.

We believe that there is sufficient room to locate map-panels on the footpath on the NW corner of the Uduc/Hayward and the NE corner of the Uduc/Young intersections, parallel with Uduc Road.

This map would show that much of what Harvey has to offer it residents and visitors is all within a few minutes’ walk of the ‘You are Here’ icon on either sign, using a walk-time contour of approximately 500m or 6-7minutes walk..

**Recommendation 16.** Develop and install 2 map-panels in Harvey

**AUSTRALIND**
Australind has a lower density of destinations in the immediate vicinity of the shopping centre. Nevertheless many destinations (most of the schools) and a large % of the older, established residential areas west of the Brunswick River are still within 1-1.5kms, or less than a 15-20min walk, of the centre. People may be unaware of this fact.
Here the map needs to cover a larger area at a smaller scale and be rectangular in shape. It should include all destinations of note within this area (schools, parks, other facilities and services) as well as bus routes and stops.

![Fig 29 – Approx bounds of Australind signage area](image)

We recommend that 2 panels are installed, at either end of Paris Road – one close to the corner of Paris/Old Coast Road near the footpath from the roundabout crossings, (Fig 28) and another close to the school crossing near BreakO’Day Drive.

![Fig 30](image) ![Fig 31](image)

In these locations and orientations (perpendicular to Paris Road) the panels will have either E or W at the top and the ‘You are here’ icons close to the bottom or the top of each map. Nevertheless they will give people a clear view of what is within a reasonable walking distance (using 5, 10 and 15minute walk-time contours) and act to encourage more people to walk to more destinations than they currently do.
Recommendation 17. Develop and install 2 map-panels in Australind

It is possible to install QR codes on each of the map-panels so that smart-phone users can download the maps onto their phones.

4f. Hand held maps

When the maps have been designed and developed for inclusion on the map-panels they are usually appropriate to use as hand-held give-away maps. They can be distributed from selected sites – information centres, Shire offices and other places that wish to promote walking – medical centres, recreation facilities and the like in the two towns.

Fig 32 - The Mandurah hand-held walking map

Recommendation 18. Develop and distribute hand-held maps for Harvey and Australind.

5. PROMOTIONAL CAMPAIGNS

The adoption, funding and implementation of all or some of the recommendations contained in this Report will be a major part of the local campaign to promote walking.

As residents and visitors see the roll-out of improved footpaths, pram ramps, street name blades and pedestrian signage panels, accompanied by the availability of hand-held maps, QR code links to the maps and improved footpath maintenance and cleaning it will become increasingly clear that the Shire values and supports people who want and need to walk. This view is based on the findings of research by Transport for London into Key Walking Routes. (See Transport for London website)
'Key Walking Routes' (KWR) is a new approach that has now been widely adopted in cities which want to make a difference in enabling and encouraging more walking and cycling between the major origins and destinations in urban environments.

This new approach is focused on reducing the level of short trips by private motorised vehicles through **holistic walking schemes** in contrast to the more traditional dispersed infrastructure investment used in the past. KWR form the basis for the walking program in London in the short to medium term future. This new approach is proven to increase levels of walking.

Modal shift is achieved by comprehensively improving the walking environment to make walking easier, more convenient and enjoyable between specific, important origins and destinations, so that people choose to walk as their first modal choice. Investment in KWR alone increases levels of walking and improves attitudes to walking but added value can be realised by simultaneously developing linked travel demand management campaigns. These campaigns **highlight the investment** that has been made into local walking environments and serve to raise awareness of the modal choices on offer within a KWR environment.

Castle Street in the London borough of Kingston employed a KWR approach and monitored results indicate a 12% rise in pedestrian numbers post scheme, supported by a greater age mix of pedestrians, a sign of the environment being perceived as welcoming and enjoyable. Wanstead High Street in the London borough of Redbridge has achieved an average 98% increase in pedestrian numbers through a personal safety focused KWR program.

At the heart of KWR is the need to **provide a visible step-change** in the walking environment, to make walking easier, more convenient and enjoyable as a modal activity. This highly visible change to the walking environment will realise its full potential when supported by demand management messages highlighting the option of walking to those who normally drive'.

Complementary promotional campaigns are usually ‘low key’ and dependant on the willingness of the local community to participate with grass-roots support. Examples that have proven successful elsewhere include:
- Doctors/medical professionals encouraging patients to walk more for health (issuing walking prescriptions);
- Active promotion and expansion of the existing walking groups at Recreation Centres and the formation of new groups for specific segments of the population – pensioners, males, etc;
- School support for the development of a Walking School Bus and involvement in Walk to School events; and,
- Traders offering a home shopping delivery service to residents who have difficulty carrying their shopping home;
- New residents groups and the promotion of walking in their ‘new environment’
These and other options can be explored by the Shire and implemented as opportunities arise. A large amount of information on walking and the involvement of schools, medical providers, etc. can be obtained from the internet by Googling relevant questions and issues, or by contacting the WA Dept of Transport’s Walking Unit.

**Recommendation 19.** Council explores and implements appropriate and affordable promotional activities, using community organisations, input and co-operation

### 6. CONCLUSIONS

This plan for improving walkability in the Shire of Harvey should be seen as part of an on-going process of continual improvement. Past investment in the footpath system, pram ramps, road crossings and signage has been extensive. The recommended new investment in both infrastructure and promotional activities will be another step in the right direction.

However, as Council further promotes and supports walking the likely response from the community will be to identify additional, new walkability improvements not covered by the physical scope of this report. If possible Council should respond positively to community suggestions and requests for additional improvements and in so doing will maintain the momentum towards making the Shire increasingly walkable and even more liveable.

### 7. SUMMARY OF RECOMMENDATIONS

This schedule of recommendations summarises each individual recommendation, provides an approximate cost estimate of its implementation (where possible) and whether work is needed in-house, and suggests a short (S) - e.g. 1-2yrs) or longer-term (L) - e.g. 2+ yrs) time frame for its implementation or development. For those recommendations where cooperation is required from ‘other parties’ at little cost we suggest they commence in the short-term.

Based on the principles of the ‘Key Routes’ approach we suggest that the highly visible, low cost initiatives are implemented as soon as possible, to demonstrate Council’s commitment to making Harvey and Australind more pedestrian friendly. More expensive elements can be budgeted for in future years.

<table>
<thead>
<tr>
<th>Rec No.</th>
<th>Outline of recommendation</th>
<th>Approx Est Cost</th>
<th>S or L</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>New footpath section on Uduc Road – up to 70m x $100/m</td>
<td>$7,000 (or less?)</td>
<td>L</td>
</tr>
<tr>
<td>2</td>
<td>a. Identify solution to footpath issue at north end of Herbert Road.</td>
<td>? in house</td>
<td>S</td>
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<tr>
<td></td>
<td>b. Implement when satisfactory solution identified</td>
<td>?</td>
<td>L</td>
</tr>
<tr>
<td></td>
<td>Description</td>
<td>Cost</td>
<td>Notes</td>
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<td>---</td>
<td>-----------------------------------------------------------------------------</td>
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<td>-------</td>
</tr>
<tr>
<td>3</td>
<td>Install 3 new pram ramps where needed in Harvey (3x$500)</td>
<td>$1500</td>
<td>S</td>
</tr>
<tr>
<td>4</td>
<td>New footpath section on Mardo nr Medical Centre – 70m</td>
<td>$7000</td>
<td>L</td>
</tr>
<tr>
<td>5</td>
<td>New crossing and footpath to/from bus stop and to waterfront in Australind - 70m</td>
<td>$7000</td>
<td>L</td>
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<tr>
<td>6</td>
<td>Install 6prs of new pram ramps along Travers Drive</td>
<td>$3000+?</td>
<td>S</td>
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<tr>
<td>7</td>
<td>Review crossing options near the roundabout/bridge on Paris road</td>
<td></td>
<td></td>
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<tr>
<td>8</td>
<td>a. Sweep under trees, repair footpath (Australind)</td>
<td>?</td>
<td>S</td>
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<tr>
<td></td>
<td>b. Institute regular maintenance of footpaths</td>
<td>?</td>
<td>S</td>
</tr>
<tr>
<td></td>
<td>c. Reseal roads at crossing places identified (Mardo &amp; Hester)</td>
<td>$?5000</td>
<td>S</td>
</tr>
<tr>
<td>9</td>
<td>Apply to MRWA for installation of 40kph limits on 4 roads</td>
<td>In-house</td>
<td>S</td>
</tr>
<tr>
<td>10</td>
<td>Install 3 pairs of Yellow Legs on nominated roads</td>
<td>$3000</td>
<td>S</td>
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<tr>
<td>11</td>
<td>Install Yellow Legs at 3 nominated intersections</td>
<td>$1500</td>
<td>S</td>
</tr>
<tr>
<td>12</td>
<td>Install Yellow Legs at all approaches to 5 roundabouts (20 signs)</td>
<td>$10,000</td>
<td>S</td>
</tr>
<tr>
<td>13</td>
<td>Install 4 new pairs of street name blades in Australind @ $300/pr</td>
<td>$1200</td>
<td>S</td>
</tr>
<tr>
<td>14</td>
<td>Install 9 new pairs of street name blades in Harvey</td>
<td>$2700</td>
<td>S</td>
</tr>
<tr>
<td>15</td>
<td>a. Review locations of street name blades in residential areas on more major roads</td>
<td>In-house</td>
<td>S</td>
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<tr>
<td></td>
<td>b. Relocate to footpath side where necessary</td>
<td>In-house</td>
<td>S</td>
</tr>
<tr>
<td>16</td>
<td>a. Develop the design for a central Harvey map, include QR Code.</td>
<td>In-house</td>
<td>S</td>
</tr>
<tr>
<td></td>
<td>b. Install 2 map-panel signs in central Harvey (?$3000/item)</td>
<td>$6000</td>
<td>S</td>
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<tr>
<td>17</td>
<td>a. Develop the design for an Australind map &amp; QR Code</td>
<td>In-house</td>
<td>S</td>
</tr>
<tr>
<td></td>
<td>b. Install 2 map-panel signs in Australind (?$3000/item)</td>
<td>$6000</td>
<td>S</td>
</tr>
<tr>
<td>18</td>
<td>a. Based on the above designs produce hand-held map for each town.</td>
<td>In-house</td>
<td>S</td>
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<tr>
<td></td>
<td>b. Print and distribute</td>
<td>?$2000</td>
<td>S</td>
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<tr>
<td>19</td>
<td>Identify and liaise with community groups and others to promote walking. Assist with provision of information.</td>
<td>In-house</td>
<td>S</td>
</tr>
</tbody>
</table>

The Short term recommendations sum to approximately $30,000 + In-house work, while the total cost could be $70,000+ depending on the outcomes of recommendations 2a, 9, 15 and 19,
LIST OF APPENDICES/ATTACHMENTS
Appendix 1 - The two study area maps
Appendix 2 - Public comments received from the Shire
Appendix 3 – The ‘Good for Business’ Report