Moving People in Perth

Walking Catchments

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by

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Walking catchment

The area of land within a reasonable walking distance

eg of bus stops, train stations or centres
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Indicates the potential for people to walk to/from
For railway stations

10 minute walk considered OK

Average walk speed is 80m per minute

So 800m walk is OK

But 800m radius around station is over simplistic as catchment

Unless people can fly!

Using real walking routes, and allowance to cross major roads:-
Cottesloe Station ped-shed

43%

%age of blue area to red area
Bull Creek ped-shed under 20%
Cottesloe: 43% (accurate figure)

Bull Creek: under 20% (accurate figure)

Subiaco: 45% (preliminary estimate only)

Stirling: under 10% (preliminary estimate only)

Canning Bridge: 30% (preliminary estimate only)

Target is 60% (Liveable Neighborhoods)
Cottesloe: 43% - Traditional

Bull Creek: under 20% - Freeway

Subiaco: 45% - Traditional

Stirling: under 10% - Freeway

Canning Bridge: 30% - Freeway
Basic public transport applications

To understand areas around:

• Bus stops (5 min walk radius)

• Railway stations (perhaps extending to a 15 min walk where the walking environment is pleasant)

• New light rail stations (10 min walk?)
Enhancements

Identify the ‘better’ existing public transport catchments

See how to improve existing public transport catchments

Design new public transport stops

Understand walking catchments around activity and shopping centres
Cycling

Similar method for cycling catchments

Recommend 18km/hr average speed

Gives 3 kms in 10 mins
Population

Add density of urban land use within the blue areas

Shows the number of people who could potentially access public transport stops, activity centres or shopping centres by walking or cycling
Summary: the basics

Understanding walking/cycling catchments will complement existing transport plans, which tend to focus on the public transport infrastructure between stops, and less on the areas around those stops.

It will also lead to improved accessibility to shopping and activity centres.
More understanding
Difficulty of Crossing
freeways - hardest
railways
major roads
main streets
local streets – easiest

But by how much?
Simple model

road or railway

notional distance
freeway or railway

need to get to a crossing
For several points …
For several points …

distance between points is …
For two crossing points ped-sev is:-

freeway or railway

Ped-sev line

Ped-sev line
For crossing points two kilometres apart and a crossing of 100m, ped-sev will be …
Real distances

The diagram:-

The diagram should really be:-
Example of ped-sev for Kwinana Fwy, between Leach Hwy and South St.

For freeway

410m to 2380m
For railway

‘Ped-sev’ for railway at Cottesloe

110m to 500m
For part Leach Hwy

Assuming no ‘chicken running’ to cross mid-block

Subject to check

Not to scale

Includes time waiting to cross converted to distance
For part Stirling Hwy

For Mainstreet

typical ped-sev for Rokeby Rd

Includes time waiting to cross converted to distance
For local street

Practically no time waiting to cross
ACTIVITY CENTRES
<table>
<thead>
<tr>
<th>Route type</th>
<th>Ped-sev metres</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freeway</td>
<td>410 - 2380</td>
</tr>
<tr>
<td>Railway</td>
<td>110 - 500</td>
</tr>
<tr>
<td>Leach Hwy</td>
<td>120 - 650</td>
</tr>
<tr>
<td>Stirling Hwy</td>
<td>50 - 110</td>
</tr>
<tr>
<td>Main St</td>
<td>mainly 24</td>
</tr>
<tr>
<td>Local St</td>
<td>17</td>
</tr>
</tbody>
</table>

Typical ped-sevs
### Typical ped-sevs

<table>
<thead>
<tr>
<th>Route type</th>
<th>Ped-sev minutes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freeway</td>
<td>5.1 – 29.8</td>
</tr>
<tr>
<td>Railway</td>
<td>1.4 – 6.2</td>
</tr>
<tr>
<td>Leach Hwy</td>
<td>2.0 – 8.2</td>
</tr>
<tr>
<td>Stirling Hwy</td>
<td>0.6 – 1.4</td>
</tr>
<tr>
<td>Main St</td>
<td>mainly 0.3</td>
</tr>
<tr>
<td>Local St</td>
<td>0.2</td>
</tr>
</tbody>
</table>
Which is the most amenable for human scale activities:--

... a main street, such as Rockeby Rd
… or a Stirling Hwy?
Pedestrian Oriented Development

POD
Importance of pedestrians

- public transport passengers are pedestrians
- car passengers are pedestrians
- pedestrians add security - eyes on the street
- pedestrians add human interest
- most business customers are pedestrians
- pedestrians have similar needs to cyclists
- pedestrians and cyclists are the only truly sustainable transport modes
- pedestrians and cyclists help health programs
Main Street

Railway

Arterial

50 - 110m

mainly 24m

110 - 500m
POD as activity centre

- Arterial road
- Main Street
- Passenger rail
- Station
- Bus stops
- 700m
- 400m
- High density residential
- High density mixed use
- POD as activity centre
POD for pedestrians

Main Street emphasis
POD for cyclists
POD for public transport
Summary

Walking catchments should be a primary factor in the design of:
• Bus stops
• Train stations
• Shopping centres
• Activity centres

Activity centres designed as PODs will be highly suitable for public transport

But think pedestrians first, public transport second