



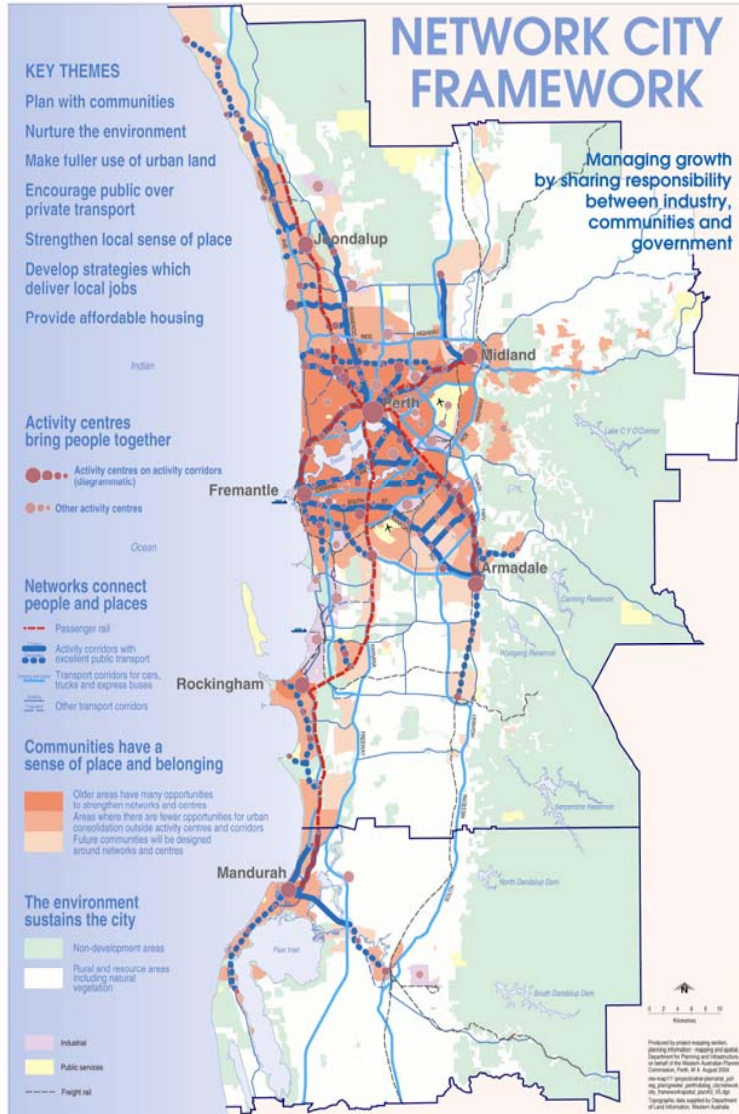
Department for Planning and Infrastructure  
Government of Western Australia

# The need to view Park 'n' Ride as a complementary part of TOD in Perth



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- Refers directly to the need to encourage TOD around rail stations.
- Adoption of the West Australian Planning Commission's (WAPC) new *Development Control Policy DC1.6 – Planning to Support Transit Use and Transit Oriented Development*.
- TOD seeks to enhance accessibility and public transport use by fostering more compact urban development and creating places that are destinations as well as points of departure.



# Backdrop

- P'n'R increasingly popular choice for commuting in Perth.
- Now established at most stations throughout the metro rail network (approx 14 500 bays when SSR comes on line).
- Most P'n'R facilities at / or over capacity.
- There is particular 'Latent Demand' for P'n'R, on newer lines STEM suggests around 15% not currently catered to, (including potential off peak users).
- Recent political decision to expand capacity - 1500 new bays on Northern line.



# Park 'n' Ride & TOD: A Conflict ?

**DC Policy 1.6 establishes policy stance for TOD throughout Perth..... Essentially silent on P'n'R.**

- Conventional thinking suggests that Park 'n' Ride interferes with TOD and is an undesirable land use in these locations.
- Many consider TOD & Park 'n' Ride to be mutually incompatible due to the impact on walkability and the public domain.
- Particular concern for larger emerging activity centres, eg. Stirling, Murdoch and Cockburn Central, Alkimos.
- Practical way forward is to find solutions which both support the travel needs of Park 'n' Riders and Place Making aims.



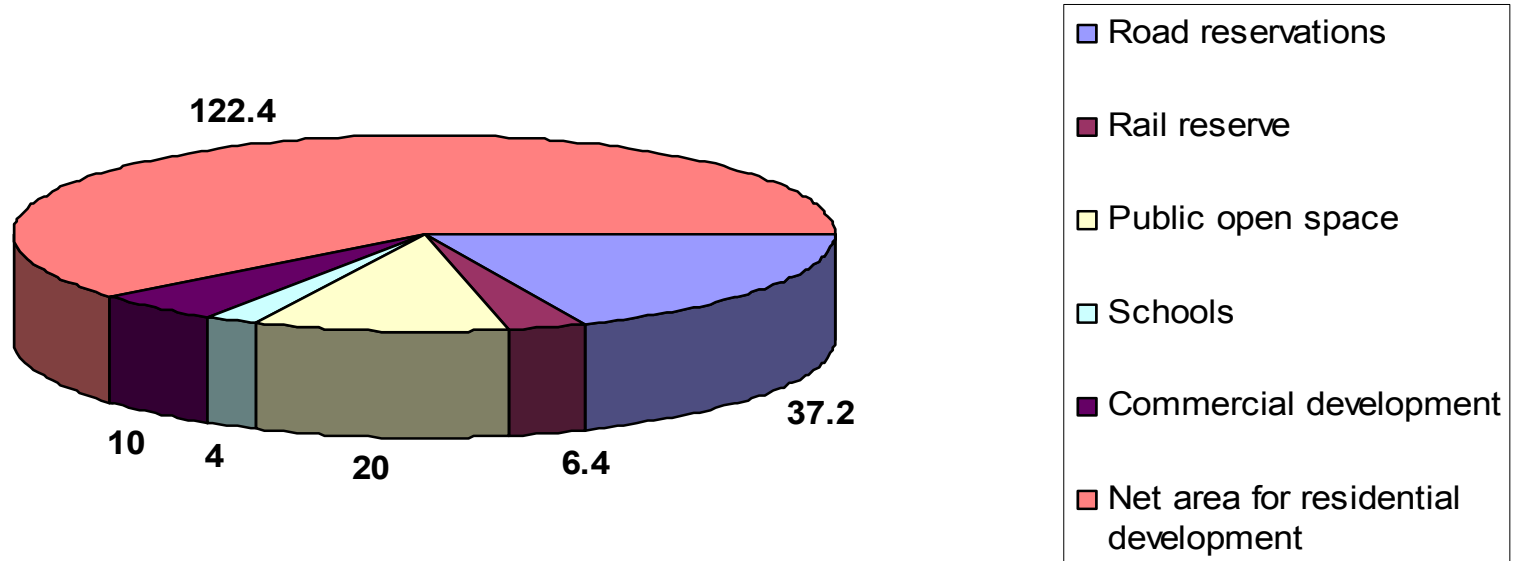
# Some Key Benefits of Park 'n' Ride relevant to TOD

- Intended to transfer the bulk of a commuting trip from private car to public transport.
- Expands the passenger catchment beyond walking or cycling distance in situations where local public transport services are limited or non-existent.
- More convenience & flexibility to combine multiple activities as part of overall journey (eg. educational, recreational or shopping).
- Reduces undesirable impact of commuter parking spill over into residential streets.



# Typical Allocation of land within a TOD

Allocation of land area (200 hectares) for a rail station 800metre radius catchment in hectares





# Actual Land Take for P'n'R Facilities

No of P'n'R Bays	Area (Ha.)	% of 400m Catchment	% of 800m Catchment
100	.25	0.5 %	0.125 %
200	.5	1 %	0.25 %
500	1.25	2.5 %	0.625 %
1000	2.5	5 %	1.25 %
2000	5	10 %	2.5 %

Total land within 400m Radius = 50 ha.

Total land within 800m Radius = 200 ha.

- Therefore minimal as a total proportion of catchment but is it always positioned / designed to maximise future TOD opportunities ?



# PT Trip Generation

## Accepted TOD Policy states that in addition to residential...

“Other uses likely to be significant generators of transit trips should be located close to transit facilities wherever possible”.

- P'n'R meets this test.
- Each P'n'R Bay (25m<sup>2</sup> approx). therefore 400 bays/ha. therefore 400 boardings / day min).
- Looking at R200 density just to ensure net replacement of patronage.
- Are we likely to achieve this ?

# Particular features of the Perth CBD that make P 'n' R popular:

- High peak hour frequency of the radial rail system converging on the CBD.
- Comparatively congested road network (by Perth standards) around this area.
- Some perceived restrictions on parking supply and price.
- Attractor of higher order jobs.

*Likely to be reinforced by future trends ?*



Concentrations of Park 'n' Ride in Perth



# Policy Challenge of Addressing Spill Over

Peak time car parking			
City	Car park spaces	Total cars parking	Number parked in streets
Sydney	23,000	55,000	32,000
Melbourne	30,100	41,000	10,900
Brisbane	16,500	18,800	2,300

- Experience elsewhere suggests as a City matures the attractiveness of P'n'R is even greater.
- Although no Perth data to quantify actual extent of informal parking spill over.....complaints to PTA and anecdotal evidence suggests that it is significant.
- Is Perth any different ?



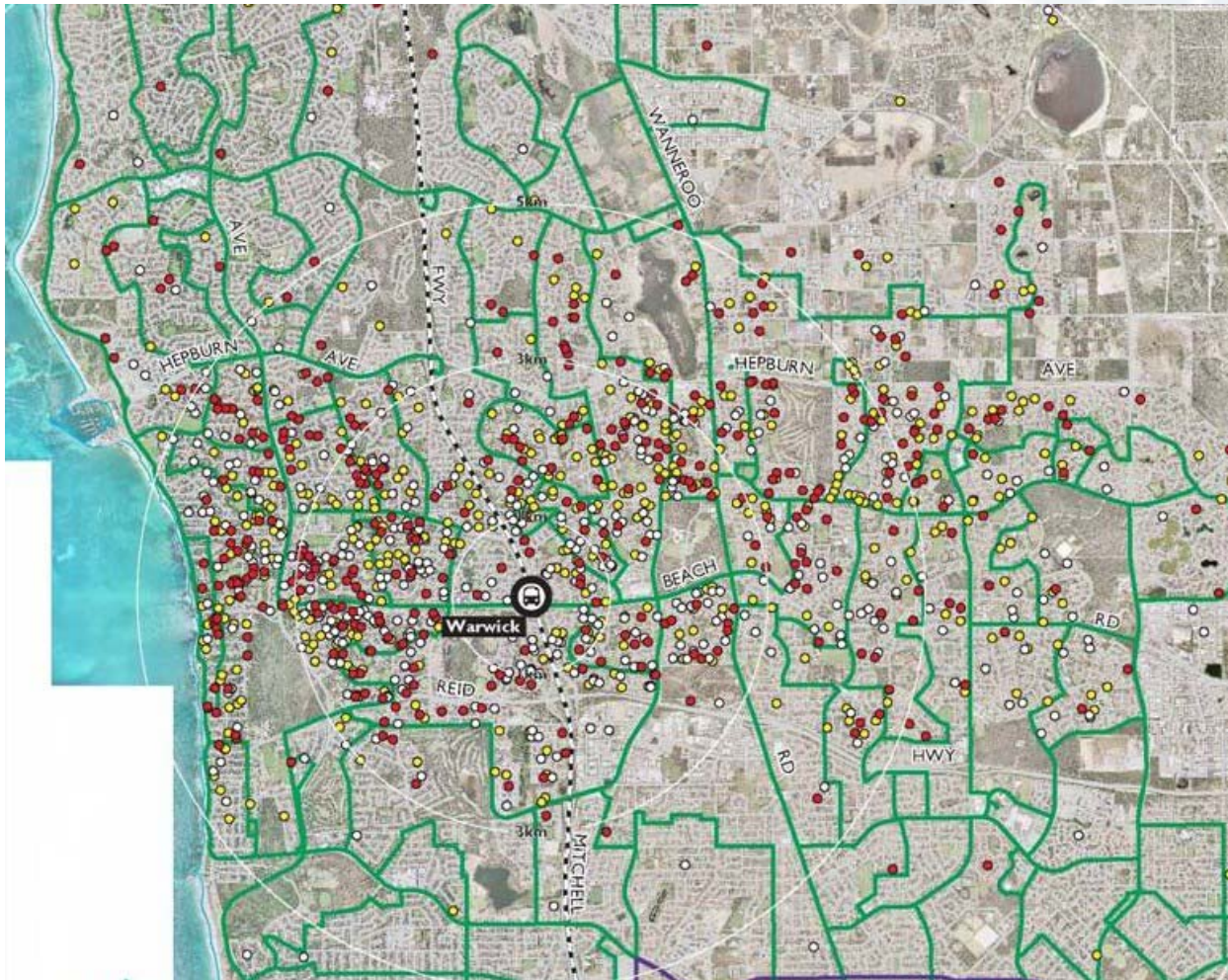
# Concerns with TOD living

Issue of Potential Concern to TOD Resident	Distance of home from station	
	0- 400 m	400- 800 m
Large areas of station car parking	33%	33%
Commuter cars parked in streets	57%	64%

*Source: Housing in Railway Station Precincts: Some Empirical Evidence of Consumer Demand for Transit Oriented Housing in Perth, Western Australia, Housing and Urban Research Institute WA & PATREC, February 2007*



# Extent of Park 'n' Ride Catchments





## What happens to those living beyond the TOD ?

- Feeder buses are clearly part of the equation, however they are unlikely to ever provide a service level to attract all potential users of a rail service (unless we can lift surrounding density well above R20).
- P'n'R provides a much quicker and more convenient transport option than buses for many people to access railway stations.
- TravelSmart should be adopted from the outset of any new station to promote alternative forms of access. However it cannot be assumed that just because another option may be viable that it will be attractive.



- Recent suggestions of separating P 'n' R locations from transit-oriented centres.
- However emerging travel trends suggest that there is equally good rationale for mixing P'n'R appropriately at Centres.
- 'Chained Trip Making': linking several errands into one trip in an effort to reduce total travel time on multiple trip purposes....likely response to busier lifestyles.
- Even Park 'n' Riders are pedestrians for part of their journey.



# Trip Chaining

- Evidence from successive Perth Travel surveys that this form of behaviour is increasing (1986-2004). *Main reasons: Shopping, Pick up /Drop off children, Passive Recreation.* (Source:PARTS 2002-2004).
- Proportion of simple out-and-back trips (i.e. no chaining) has fallen from 75% to 61% across all trip purposes and all modes.
- In Metro Portland, Trip Chaining is being aggressively marketed as means to reduce VKT and Single Occupancy trips.
- The desire to chain trips underscores the importance of facilitating the opportunity to do so around stations. (eg. combining child care, shopping and parking).



save time and money  
group your trips together

✓ bank  
✓ dentist (Anna)  
✓ groceries (after the bank)  
— pick up dry cleaning  
(on the way back)



# Conclusions about P'n'R in Perth Context

- Park 'n' Ride fills an important gap between travel which is solely car based and trips that are exclusively by public transport through intercepting car journeys.
- Car feed to station is especially important beyond 8-10km ring.
- Urban densities in suburbs surrounding areas earmarked for TOD are unlikely to be high enough to support sufficient feeder bus access for the foreseeable future.
- Politically important to address informal P'n'R spillover.



# P 'n' R can actually support TOD

- Stacks up well against other TOD land uses as public transport trip generator.
- Is a necessary part of a TOD to cater for those living beyond the walkable catchment.
- Co-located with TOD responds to people's desire to chain trips and reduce VKT.
- Can mitigate impact of commuter parking spill over into residential streets making TOD living more desirable.
- If facilities decked or underground they can continue to maximise a station's TOD potential even where land values dictate more efficient use of land.



- A 4-story parking structure uses only about a third as much land per space as a surface parking lot, and underground parking requires almost no additional land (air rights).
- Although more costly to build (typically \$15,000-\$18 000 to \$30,000-\$50 000 more per space), this reduces land costs, allow increased development density and greater design flexibility.
- Structured parking not generally considered cost effective by just considering just construction costs, but cost is less if other TOD objectives, and land sale revenue are also considered.
- May even be catalyst for other desirable TOD initiatives.



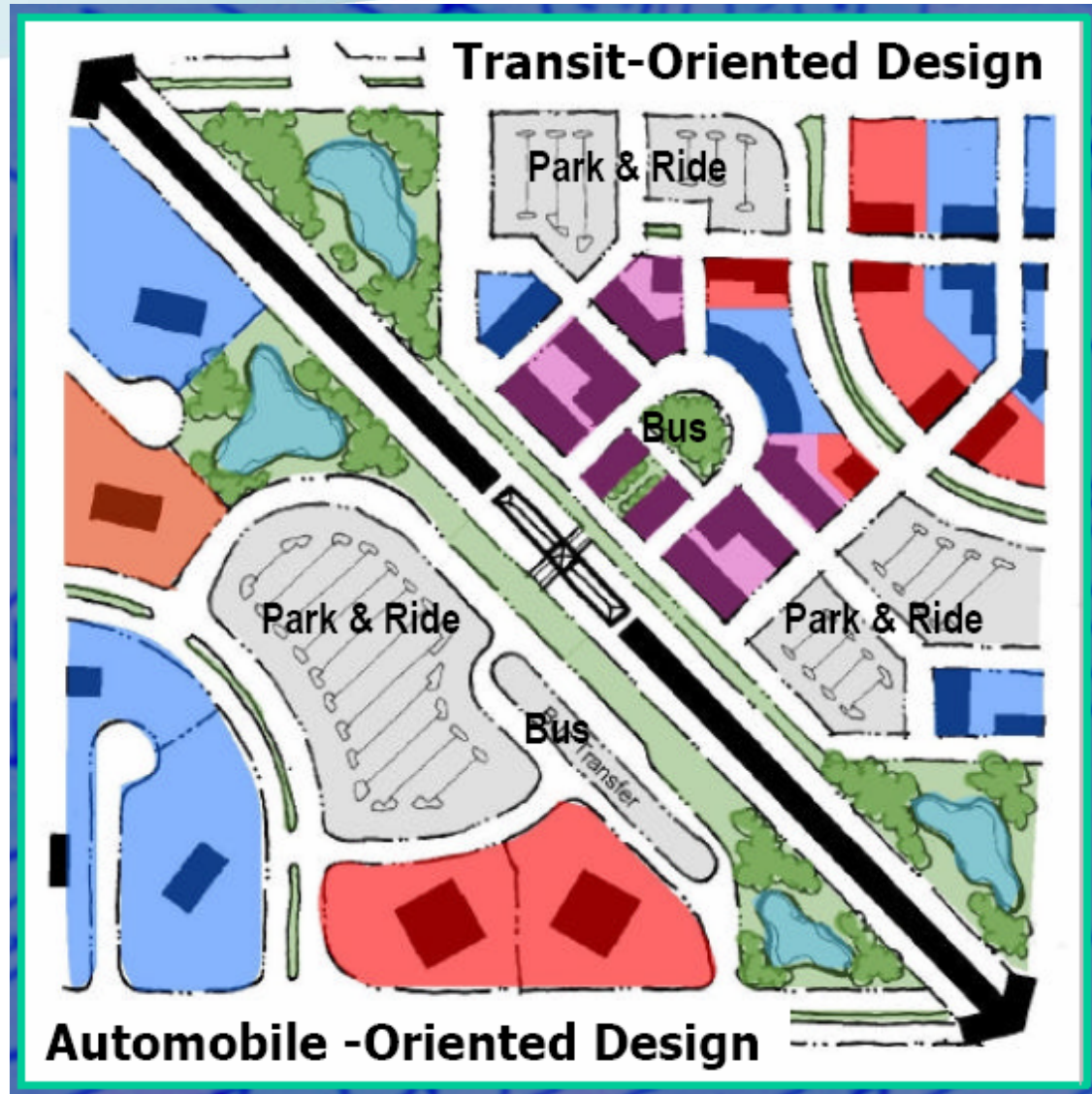
# Integrating P'n'R with other Planning Goals

## Solutions which don't preclude other options.

- Surface P'n'R winged or offset from heart of precinct. Effectively parking areas are located so as to not threaten the viability of the Town Centre. (eg. Cockburn Central, Wellard, and Clarkson).
- Similar philosophy could be adopted for Alkimos where P'n'R capacity could still be provided in vicinity of the Activity Centre (eg. P'n'R on opposite side of railway line).
- Continue to provide information on alternatives for Park 'n' Riders (Travelsmart).



Parking facilities should feed pedestrians onto primary pedestrian routes and should be located to promote retail opportunity along these routes.





Provided P 'n' R does not directly compete with feeder bus services, and is achieved in a way that is not detrimental to the walkability and future flexibility of the TOD precinct, then coexistence within a TOD is an appropriate outcome for Perth's suburban stations.

## Greenfield Sites

P'n'R designed in a manner that does not separate the station it is intended to serve.

## Mature Sites

Look to meet P'n' R demand and maximise TOD land efficiency through seeking joint development arrangements (eg. Parking Structures, Shared Use, land swaps etc.)



- ✓ Measures of P'n'R effectiveness should reflect the wider objectives of a travel sub region or corridor.
- ✓ Need for a solution which also engenders a level of community acceptance and support.
- ✓ Need to update WAPC's TOD Policy to reflect role for P'n'R.

***Finally..... recognise that P'n'R not necessarily incompatible with pursuing TOD***