How transport priorities shape cities…

MARCHETTI CONSTANT
The average travel time budget is around one hour per person per day…. (i.e. half an hour average for the journey to work). Found to apply across the world and throughout urban history.

This means? THE CITY IS ALWAYS ‘ONE HOUR WIDE’…. And people will use the modes that keep them in that budget.

TRADITIONAL WALKING CITY
Up To 1850 In Europe

- High Density
- Mixed Use
- Organic Structure
Christie Walk Eco-Village, Adelaide. Strawbale apartments in central city; no parking.
The Marchetti constant means that when a city grows beyond its ‘one hour wide’ size it will begin to become dysfunctional…depending on its average speed and its density.

Auto dependent cities are seeing these limits earlier than other cities. Result: road rage, anti-sprawl movements, market-based re-urbanisation especially TOD, 100 new rail projects across the US….
Melbourne 2030: 13 transit cities, eg Dandenong.
Housing trends in Sydney…

‘In recent years 20,000 flats, townhouses and villas have gone up in the Sydney area compared to 8000 houses…the demand for medium and high density is unlikely to abate. To make close living workable, the highest priority must be a first class public transport system.’

Adele Horin, SMH April, 2005.
Marchetti is forcing us into a new city form based on centres and public transport - re-creating a series of Transit Cities within the region.

It is also assisted by the new global city economy which is a concentrating force....
Centres and corridors...

Sydney Metropolitan Strategy

Model of the city showing centres and corridors
“We’ve embarked on the beginning of the Last Days of the Age of Oil”
Mike Bowlin, CEO of ARCO 1999
Transport must move to local energy sources
Activity Intensity and Transport Energy

Sydney

R² = 0.6973
Activity Intensity and Transport Energy
Sydney Suburban Areas

$R^2 = 0.664$

Activity Intensity and Transport Energy
Melbourne

$R^2 = 0.5895$
Activity Intensity and Transport Energy
Melbourne Suburban Areas

Activity Intensity and Energy Use
Perth

R² = 0.549

R² = 0.2595
Ped Sheds for activity in centres:

1. Local Centre (TOD): 1km radius based on about 10 minutes walk. *Creates an area of around 300ha for the centre to be located.*

2. Town Centre: 5 km radius based on around one hour walk or local bus or local bike or short drive; the kind of catchment size used for such centres based on a Marchetti time budget without car dominance. *Creates 1500 ha of area for the centre to create its viability.*
THRESHOLD ACTIVITY FOR ‘VIABILITY’

Local Centre
Within 1km or 300 ha, if 35 people and jobs per ha are required for a viable local centre with reduced automobile dependence, this will mean a threshold of 10,000 residents and jobs.

Town Centre
Within 5 km or 1500 ha, if 35 people and jobs per ha are required for a viable town centre with reduced automobile dependence, this will mean a threshold of 50,000 residents and jobs.
Implementing Melbourne 2030

Peter Newman Presentation
The Rockbank Township
Opportunity

This project is viable and will make a major contribution to regional and state infrastructure.

It is the only model which is 100% consistent with the goals of the Melbourne 2030 Strategy.

The Caroline Springs / Melton Corridor area has been reviewed by the Smart Growth Committee.

Jayaland is the largest land holder in the corridor with a strategic parcel of land adjacent to the existing Rockbank Township.

Why This Project and Why Now?

- This set a limit to Melbourne’s Growth (the Urban Growth Boundary), subject to a review, with the objective to provide 15 years of land supply.
- The Caroline Springs / Melton Corridor growth area has been reviewed by the Smart Growth Committee.
- Jayaland is the largest land holder in the corridor with a strategic parcel of land adjacent to the existing Rockbank Township.
The Urban Growth Boundary

The Corridor
Town Centre Core

Town Centre
The Concept Plan

Strategic Partnerships

Sustainable Development requires a commitment to achieve containment of travel by the community.

Local employment opportunities are essential.

Strategic initiatives taken by Rockbank Township are:

- Partnership with Victoria University to provide community health related courses at a new facility / presence at Rockbank.
- Facilitation of recycled water use for agriculture in cooperation with Western Water.
- Design outcomes that will deliver density to support retail and commercial activity in the town centre.
- Providing opportunities for affordable housing in conjunction with government.
Rockbank Township will make viable

- Deer Park By-pass – Federally funded
- Leakes Road interchange – Federally funded
- Rockbank Rail interchange – Private and public funding
- A comprehensive recycled water network
- The long-term orderly development of Melton Township
- A comprehensive activity centre with a real town

Regional Infrastructure Advantages
Rockbank Township is about City Building vs fringe development.

Research has shown that the creation of a new activity centre at Rockbank will produce a greater net community benefit than incremental growth (MacroPlan Australia)

New market research shows there is currently insufficient product diversity in Melbourne’s North West.

MacroPlan’s population surveys show changes in consumer preferences could induce growth of 10 - 20% in the Melton Corridor, with the right product at the right place and price.

Rockbank Township offers City Building, whole of life choices and product diversity that the market wants.
Comparison of Net Community Benefit between Incremental growth and a New Activity Centre

For the Melton Corridor to achieve its full potential, the Melton Township must be able to grow in a sustainable way.

The Rockbank Township Project will work with the Shire of Melton to develop a long term strategy to strengthen the urban form to support sustainable growth.

This will be assisted by generating linkages with the Melton township so that it becomes the destination of choice of the Rockbank residents for services and convenience.
Links with Melton

![Map showing links with Melton]

Smart City Building  
Professor Peter Newman

Peter Newman  
Professor of City Policy,  
Murdoch University  
NSW Sustainability Commissioner
Sustainability in settlements means reducing the city’s ecological footprint (water, energy, land, materials, wastes…) whilst simultaneously improving quality of life (health, housing, employment, community…) within the capacity limits of the city and its bioregion.

Sustainability assessment of Land Release

CRITERIA 1 NATURAL RESOURCES
To live within natural resource limits and minimise ecological footprint

CRITERIA 2 ENVIRONMENTAL PROTECTION
To protect and enhance biodiversity, air, water and agricultural land

CRITERIA 3 QUALITY PLACES
To provide quality places to live and play

CRITERIA 4 HOUSING DIVERSITY
To provide a range of housing choices to ensure a broad population can be housed and which can be adapted over time
CRITERIA 5 JOBS-ECONOMY
To provide employment opportunities through growing Melbourne’s role in the global economy and in regionally-based jobs

CRITERIA 6 ACCESS
To provide sustainable accessibility between homes, jobs, services and recreation

CRITERIA 7 QUALITY and EQUITY in SERVICES
To ensure quality health, education, security, community development and other government services are provided equitably across the GMR

CRITERIA 8 GOVERNANCE
To establish effective, fair and efficient planning and decision-making
“Rockbank Township will be of international significance in the delivery of sustainable development”

Prof. Peter Newman, Murdoch University, April 2005
The Benefits in Summary

Rockbank Township will deliver

- First transit-oriented complete town in 100 years
- Two major developers are committed to the project and own the core of the new town
- Plan to achieve overall density of 12.5 houses per hectare, higher in places
- Will attract major infrastructure funding, Federal, State and local investment
- Diverse households mix
- Victoria University facility and other schooling
- Affordable and aged care housing
- Steady upgrade of Melton Township – the developers are committed to assist

Implementing Melbourne 2030