

The Entrepreneur Rail Model: Is urban rail now a market that can pay for itself through land development?

By

Peter Newman

Professor of Sustainability

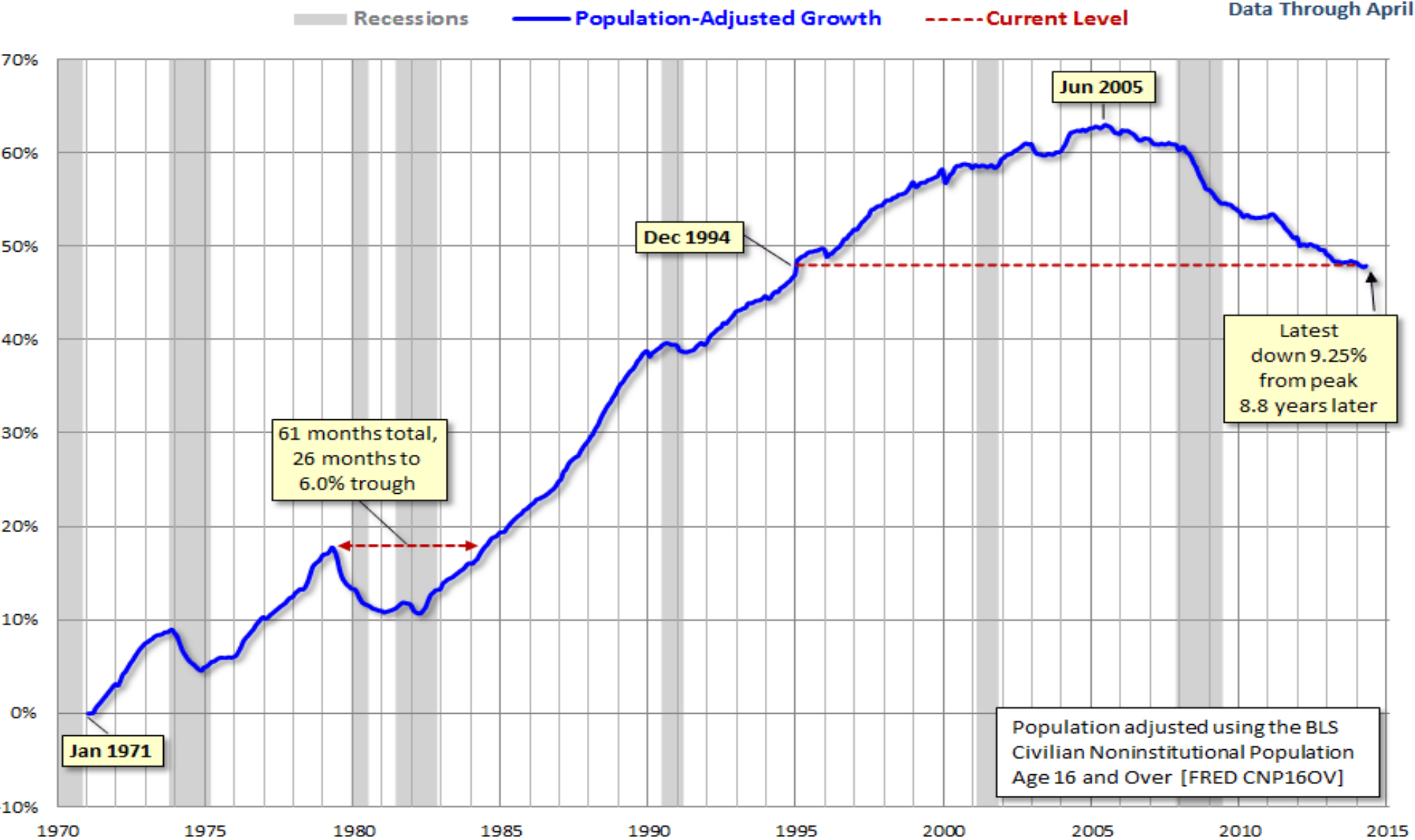
CUSP, Curtin University, Australia

Why urban rail is now a market...

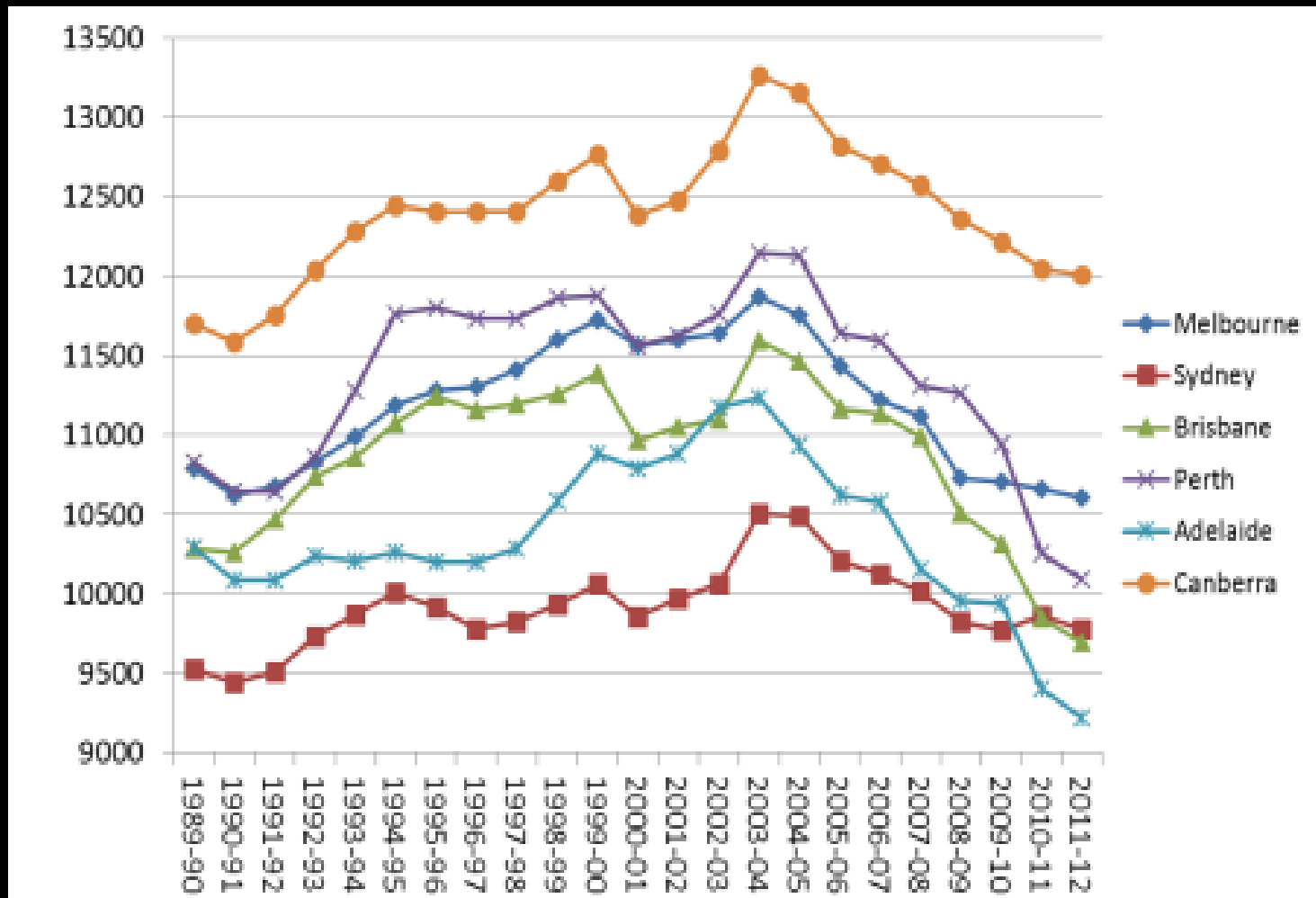
Peak car, traffic speeds, sprawl, gasoline and car-based urban economies....

1. Peak car

THE USA IS DRIVING LESS

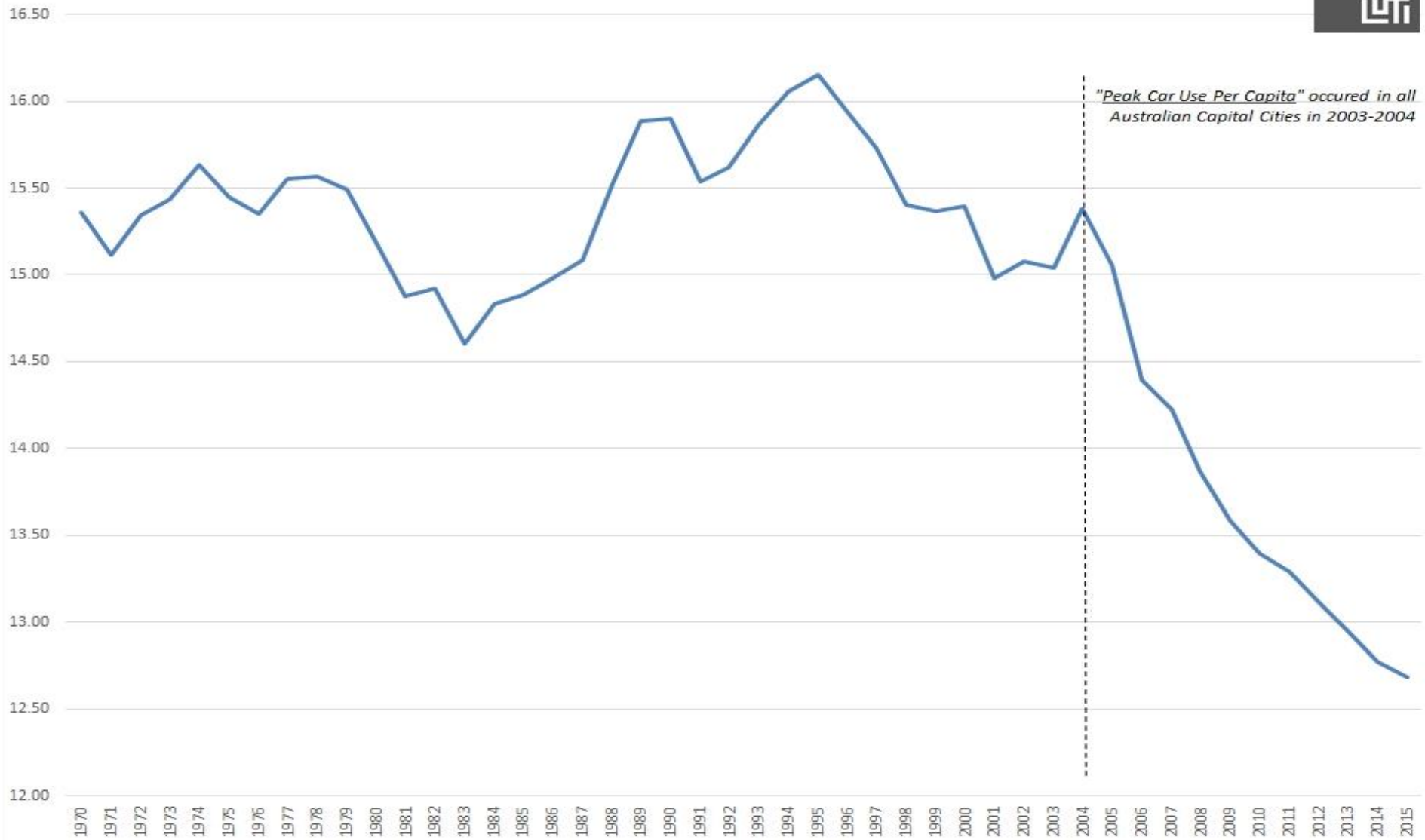


AUSTRALIA IS DRIVING LESS



VKT per Vehicle fell off a cliff...

National Passenger cars
Average Annual VKT (1000 km/veh)



2. Peak traffic speeds

Rail outstripping traffic speeds...

COMPARATIVE SPEEDS IN GLOBAL CITIES	1960	1970	1980	1990	1995	2005
Ratio of overall public transport system speed to road speed						
American cities	0.46	0.48	0.55	0.50	0.55	0.54
Canadian cities	0.54	0.54	0.52	0.58	0.56	0.55
Australian cities	0.56	0.56	0.63	0.64	0.75	0.75
European cities	0.72	0.70	0.82	0.91	0.81	0.90
Asian cities	-	0.77	0.84	0.79	0.86	0.86
Global average for all cities	0.55	0.58	0.66	0.66	0.71	0.70
Ratio of metro/suburban rail speed to road speed						
American cities	-	0.93	0.99	0.89	0.96	0.95
Canadian cities	-	-	0.73	0.92	0.85	0.89
Australian cities	0.72	0.68	0.89	0.81	1.06	1.08
European cities	1.07	0.80	1.22	1.25	1.15	1.28
Asian cities	-	1.40	1.53	1.60	1.54	1.52
Global average for all cities	0.88	1.05	1.07	1.11	1.12	1.13

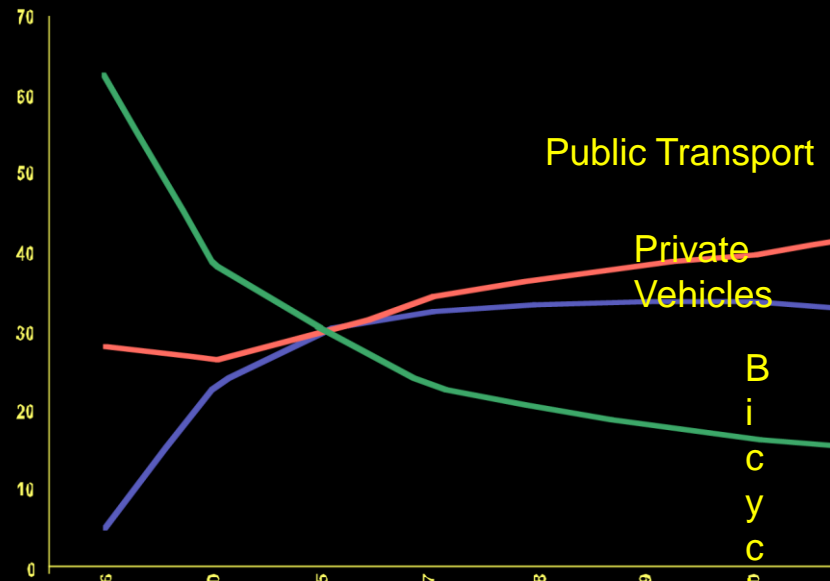
Global growth now in rail ...

- 82 Chinese cities building metros and high speed rail between cities Shanghai 8m passengers/day
- 51 Indian cities building metros Any city over 1m.
- Middle east cities building rail for first time

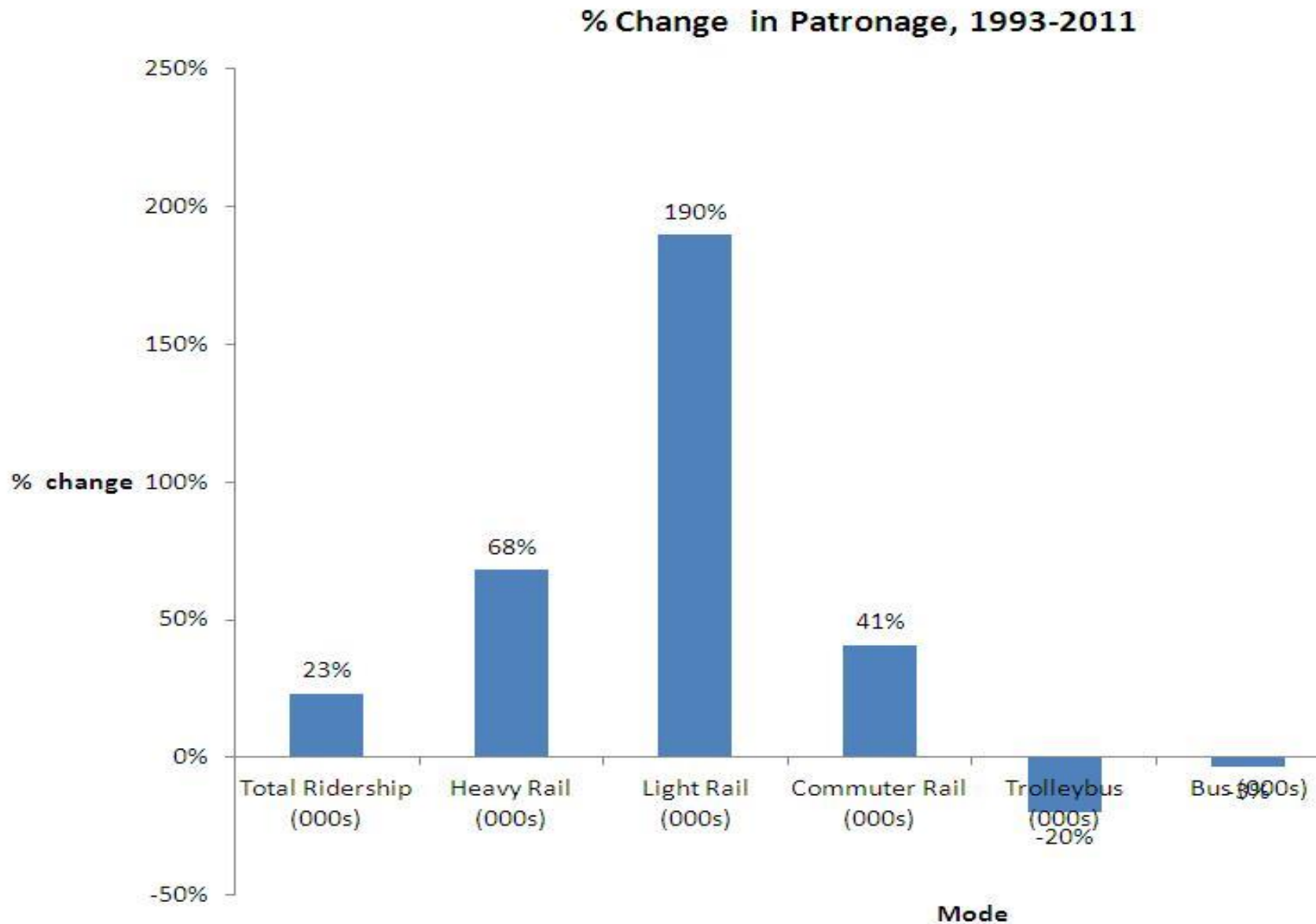


Proportion of Transport Modal

Beijing Transport Modal Split

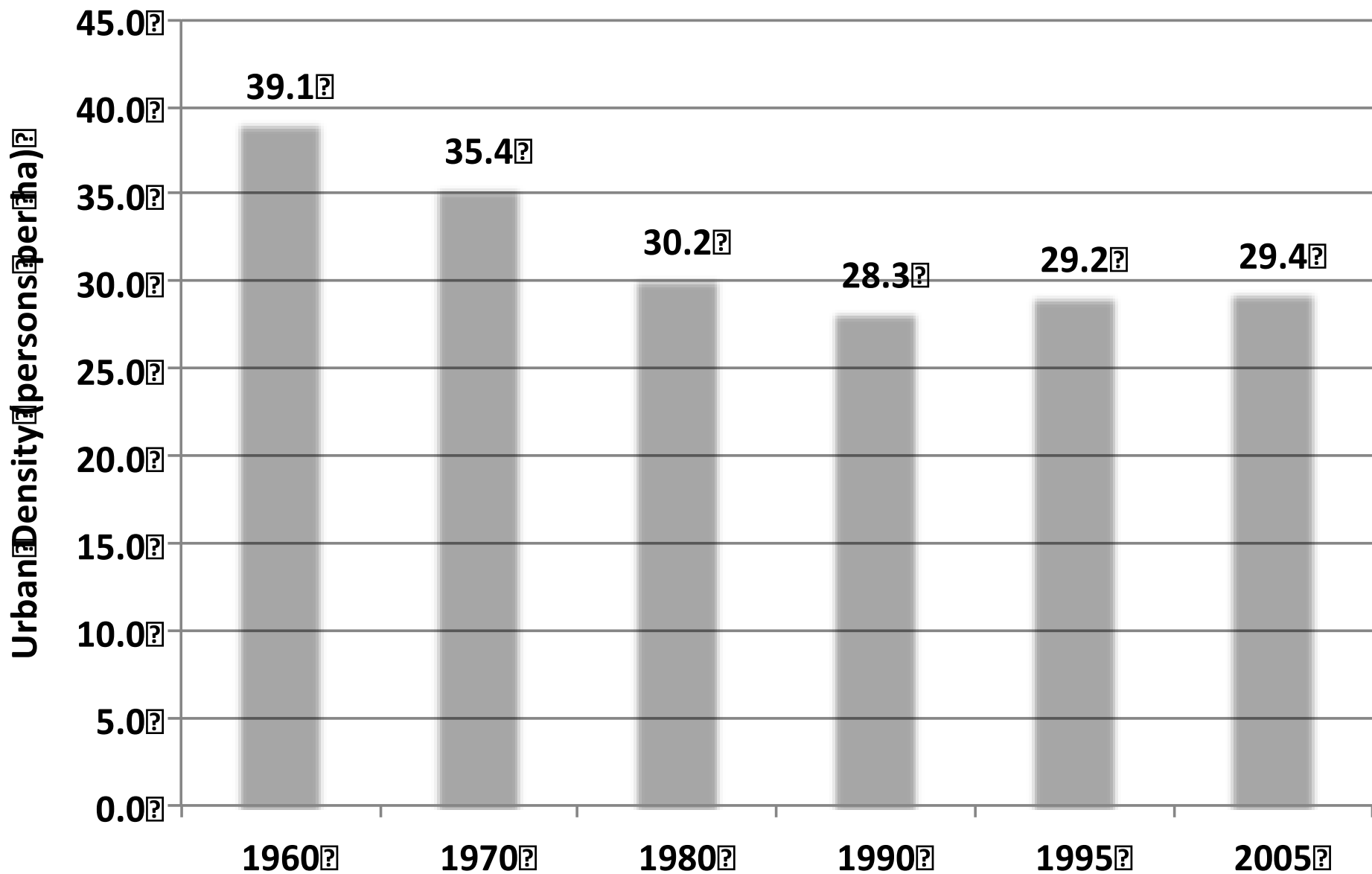


America goes for rail...esp LRT not buses



3. Peak sprawl

Urban Density Trend in 23 Cities in the USA, Australia, Canada and Europe, 1960-2005

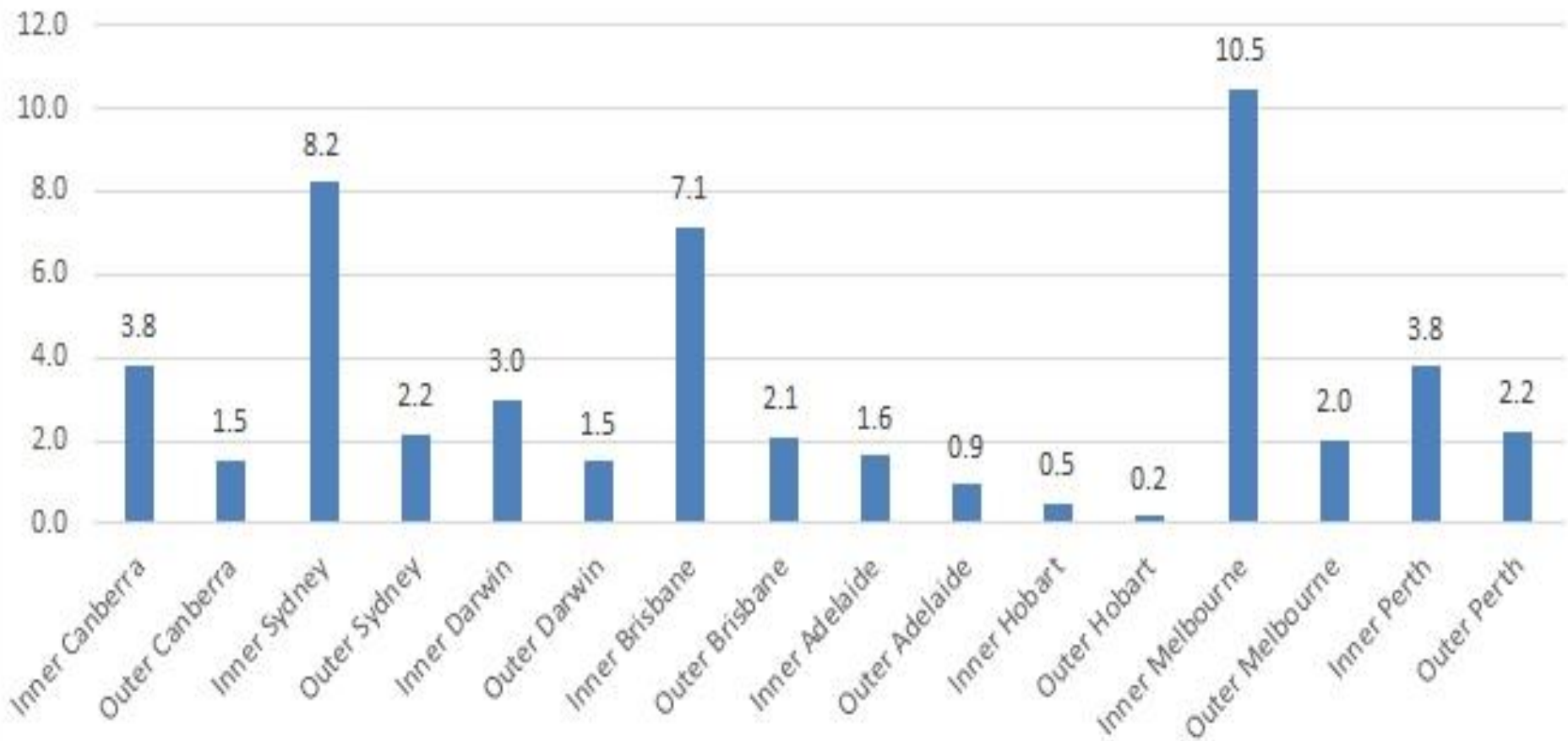


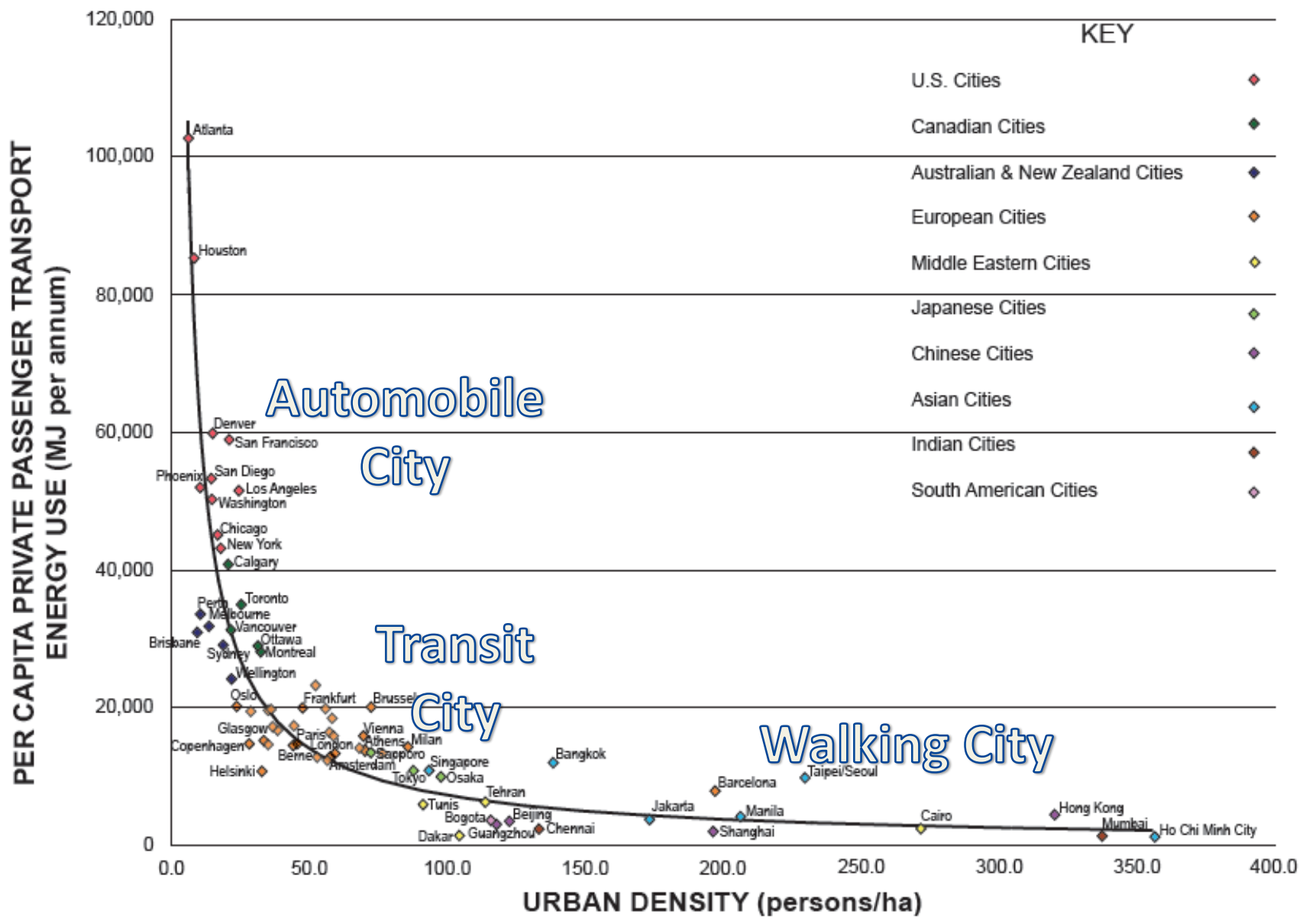
Australian cities coming back in...

Change in Population Density 2003-2013 (People/Ha)

ABS SA2 Population data

<http://www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/3235.02013?OpenDocument>





4. Peak gasoline

Supply crisis leads to demand disruption...



5. Peak car-based wealth

UNITED STATES

GNI in Current US\$ (As of Feb 2016) - Indexed (1990 = 100)

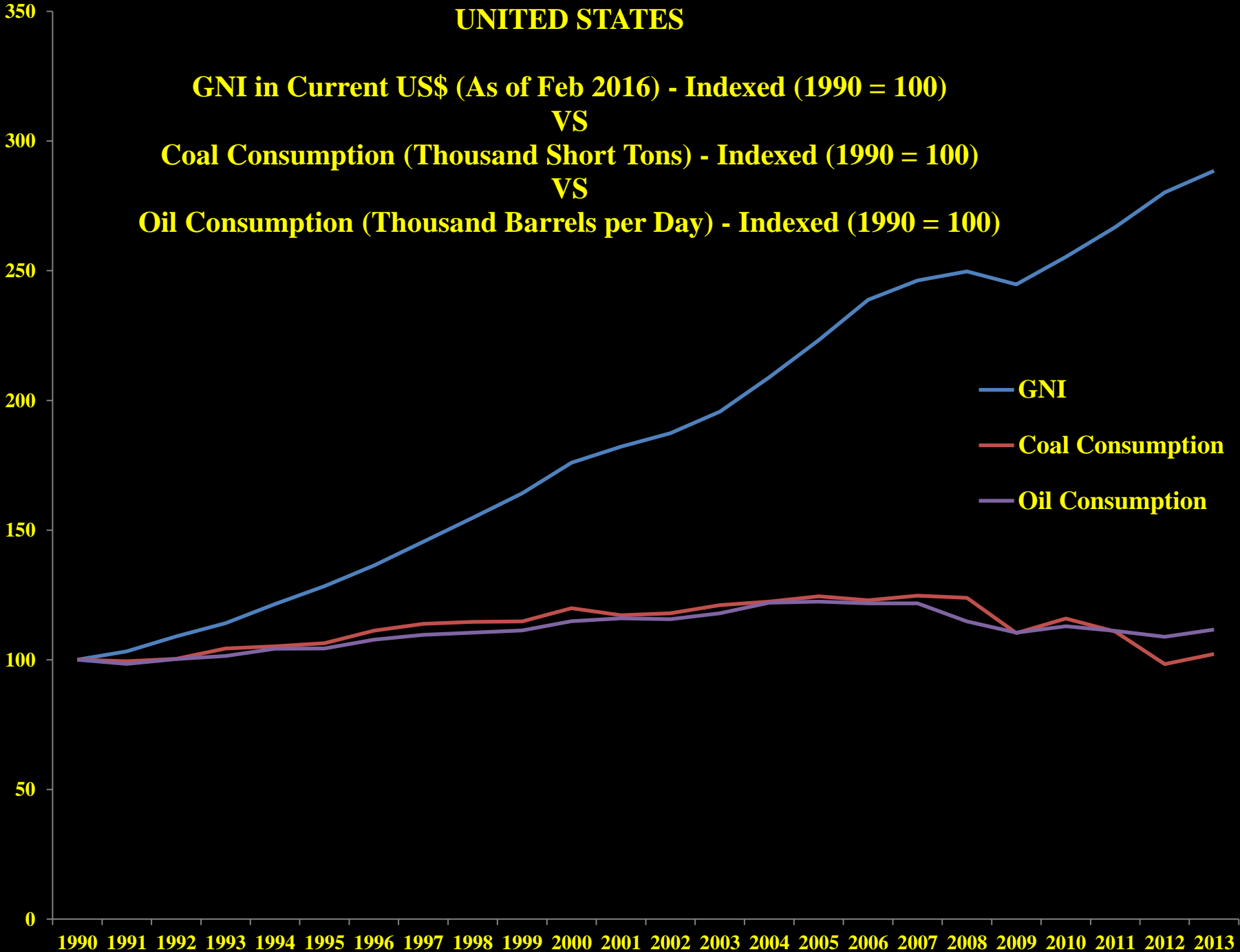
VS

Coal Consumption (Thousand Short Tons) - Indexed (1990 = 100)

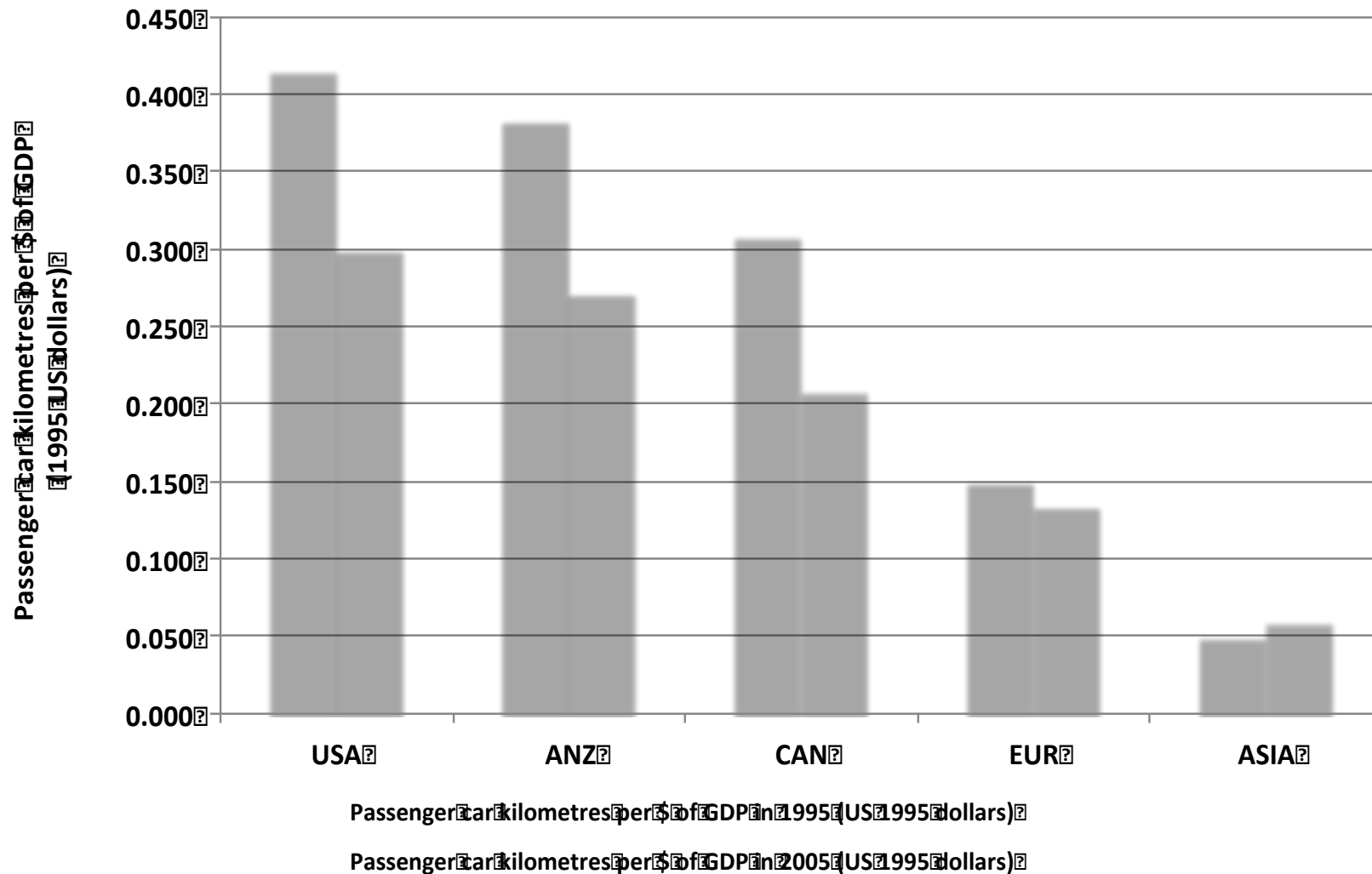
VS

Oil Consumption (Thousand Barrels per Day) - Indexed (1990 = 100)

Indexed Values (1990 = 100)



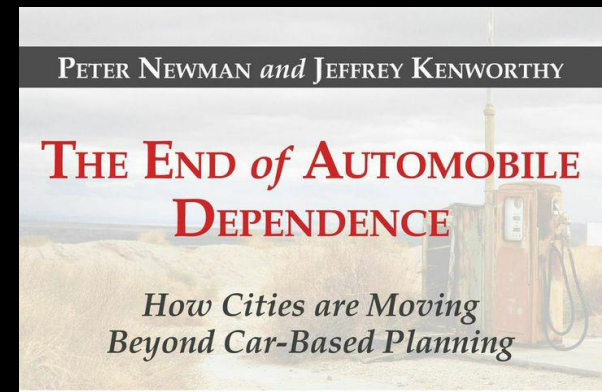
Decoupling car use and GDP



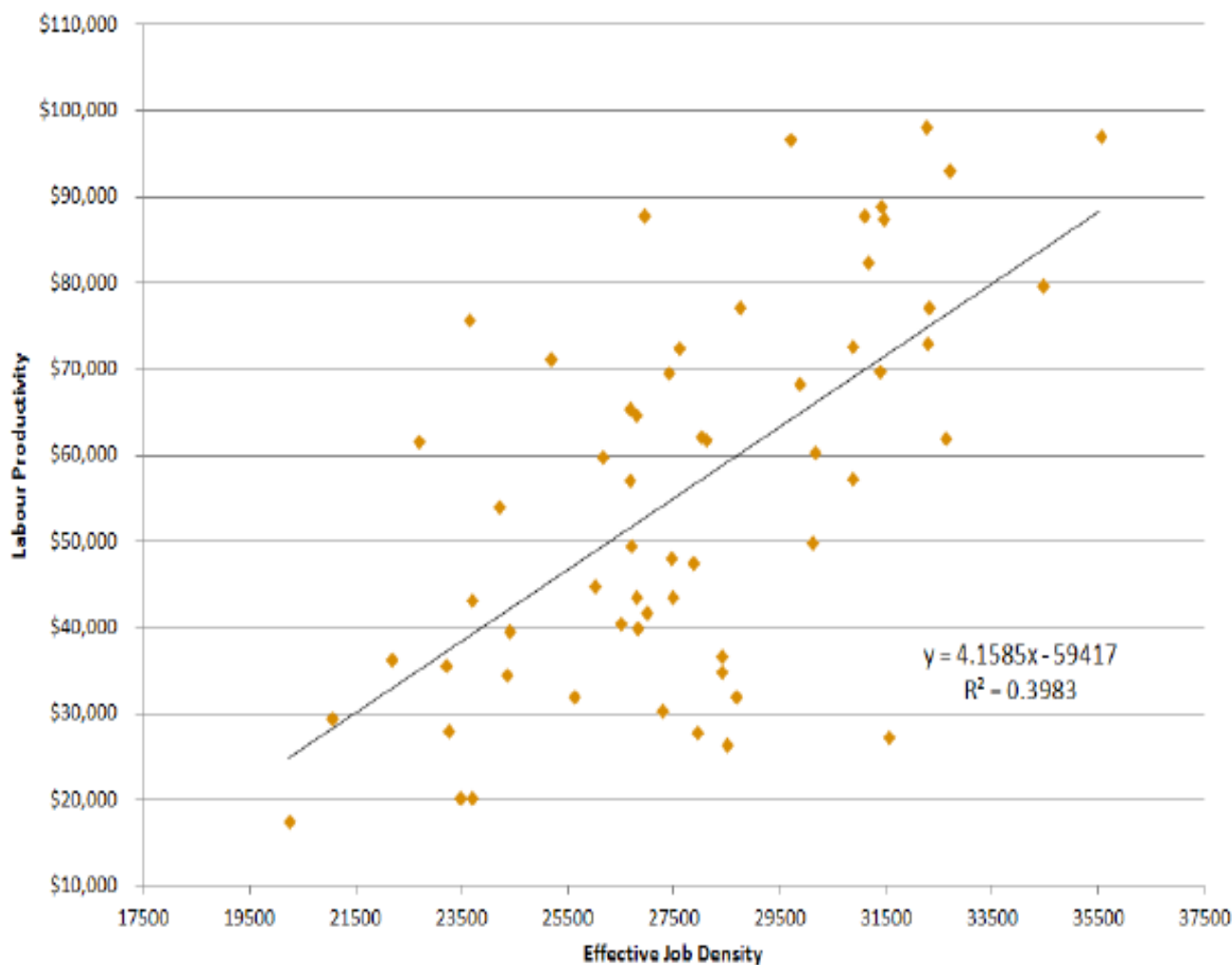


Ed Glaiser and Richard Florida were right...

The top 6 most walkable cities in the US have 38% higher GDP. 70% of knowledge economy workers in Boston live in walkable areas.

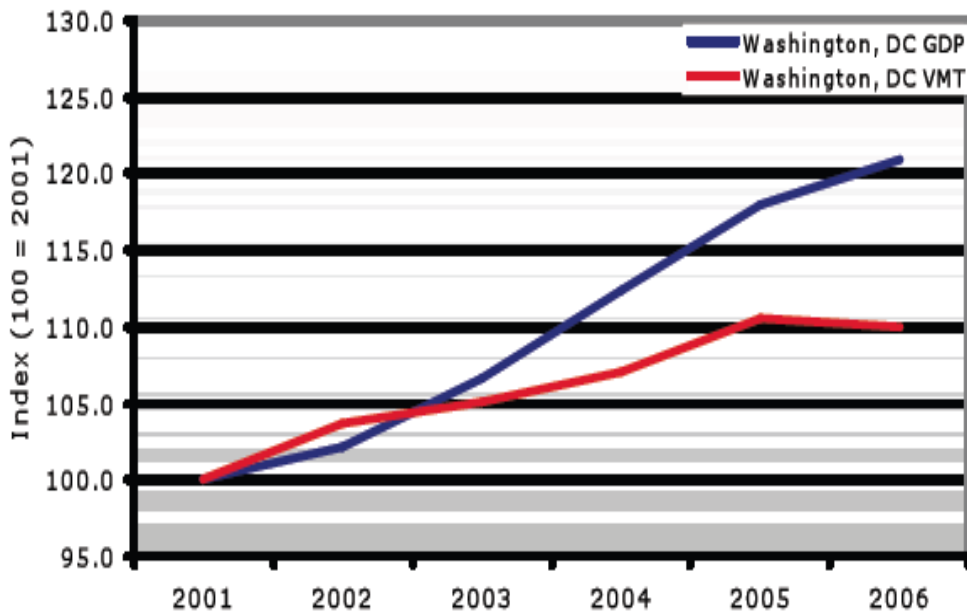


EJD and Labour productivity

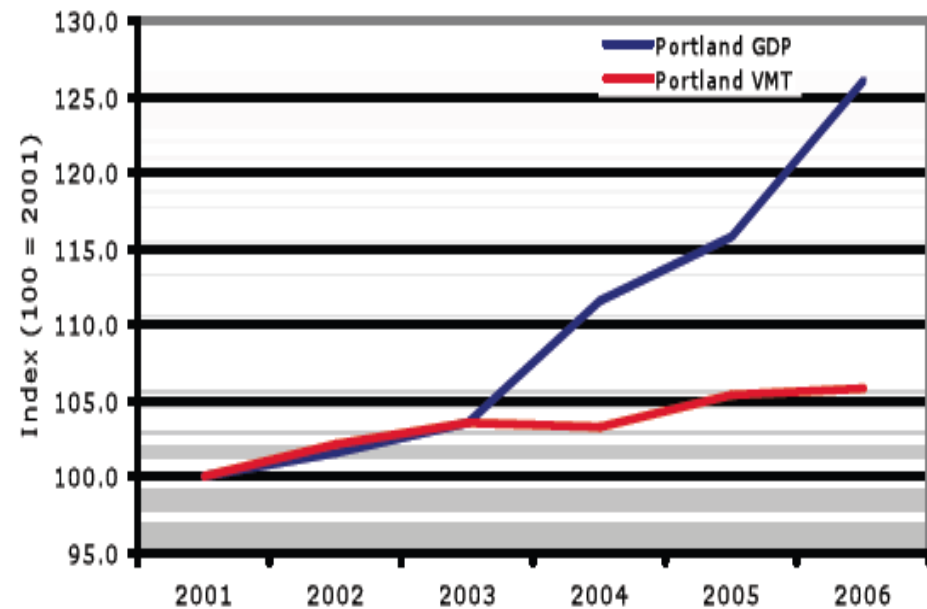


Decoupling mostly in the cities with rail investment, eg Washington DC and Portland

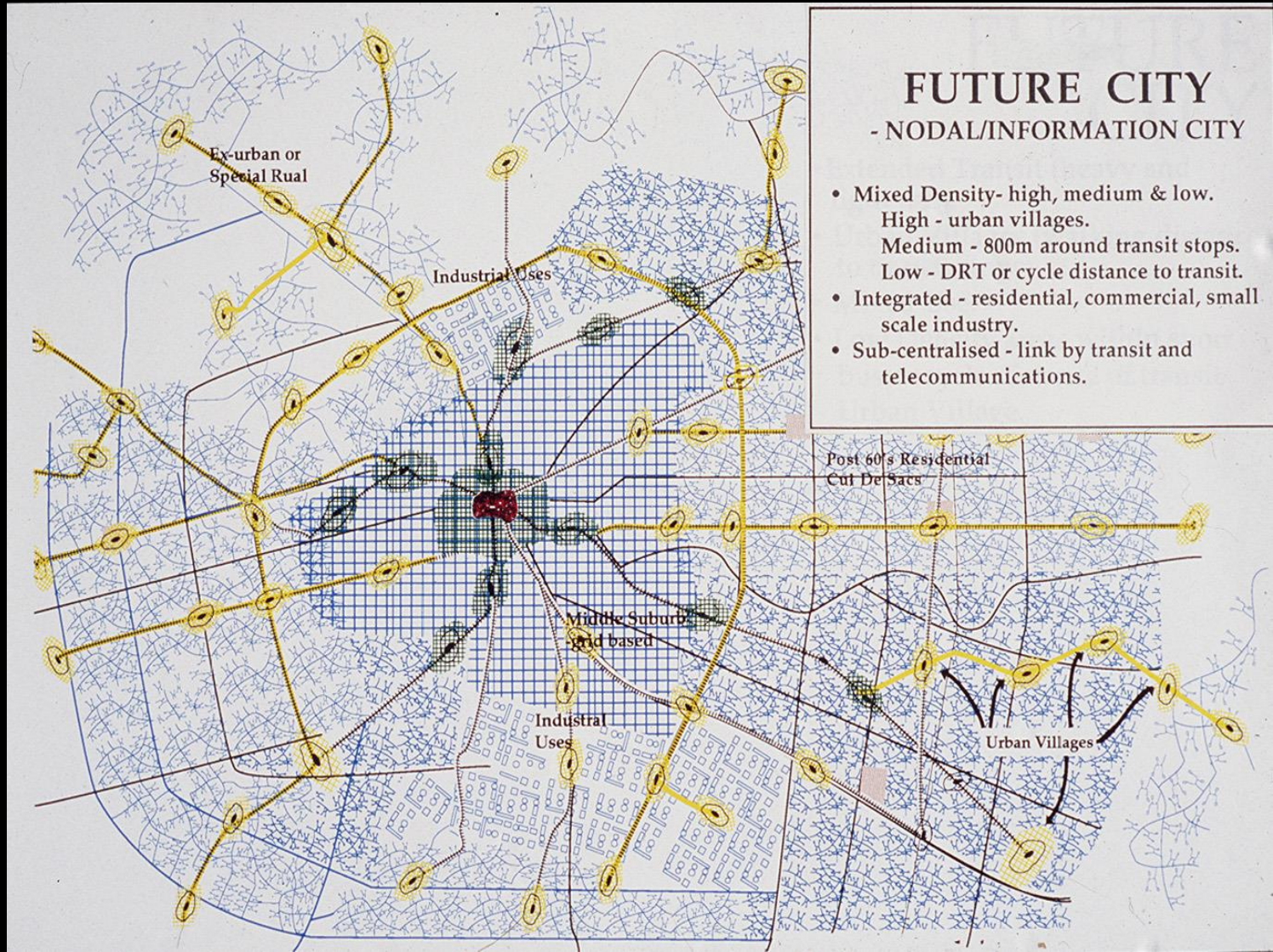
Indexed Primary Arterial VMT & Total GDP Growth in the Washington, DC CBSA, 2001 - 2006



Indexed Primary Arterial VMT & Total GDP Growth in the Portland CBSA, 2001 - 2006



Every city wants to create centres for their economy...linked by quality transit



Why is land development able to pay
for urban rail...

Perth Southern Rail...

130 kph speed, Carrying 8 lanes of traffic.



The land value near rail stations on the Southern Rail increased by 42% in 5 years....thus beginning to create transit city fabric....

CUSP modeling shows that 60-80% of the funding could have been found from value capture.

Opens the door to more private sector involvement

How can urban rail and land
development finance each other...

Pearl District LRT paid for entirely through land development...



FEBRUARY 2016

ENTREPRENEUR RAIL MODEL

A DISCUSSION PAPER

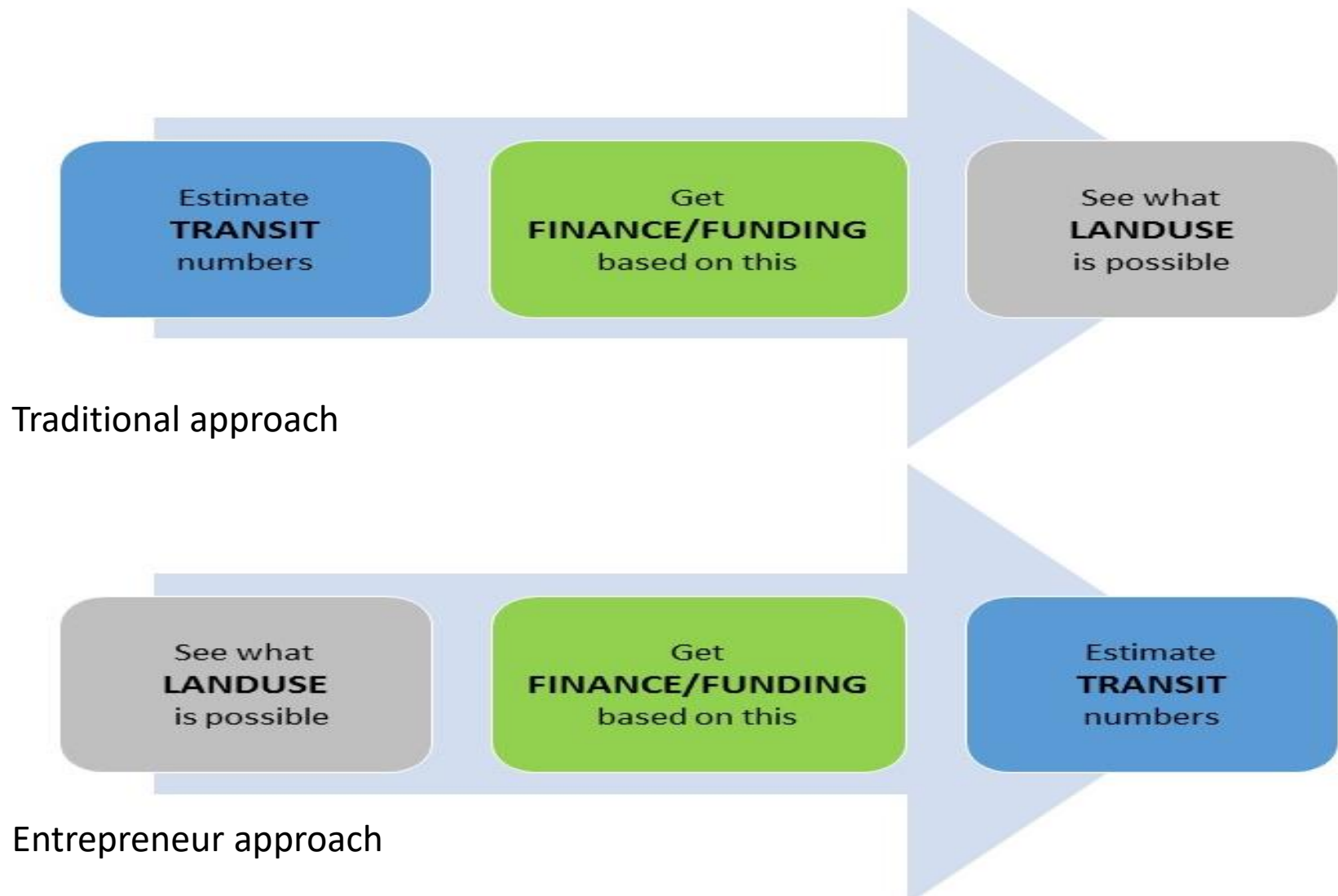


Tapping Private Investment for New Urban Rail

Prepared by Peter Newman, Brian Jones, Gemma Green and Sebastian Dawes-Slate for Curtin University

East Fremantle Now and After Light Rail - Images by Cole Hendigan

Entrepreneur Rail Model...land first



How?

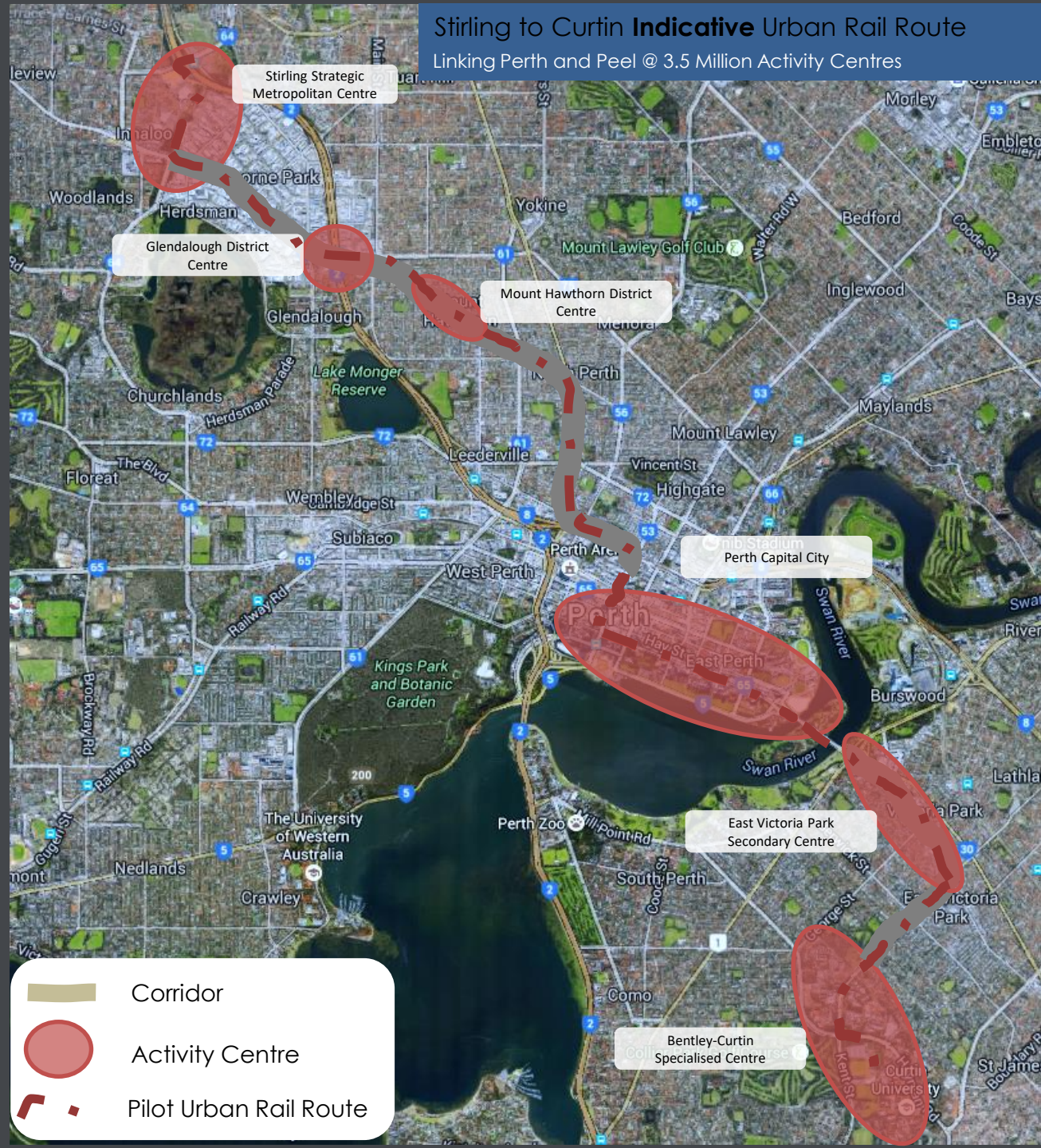
- Don't define the route just a corridor.
- Call for expressions of interest from consortia that can build, own, operate and finance the rail project through land development. DBFM
- Government need to manage the procurement to enable transit system integration and land assembly.
- This is the Japanese system.






May 2016 Draft
**Central Sub-regional
 Planning Framework**
 Towards Perth and Peel @ 3.5 million

LINKING DESIGNATED ACTIVITY CENTRES

Stirling to Curtin **Indicative** Urban Rail Route
 Linking Perth and Peel @ 3.5 Million Activity Centres



-  Corridor
-  Activity Centre
-  Pilot Urban Rail Route

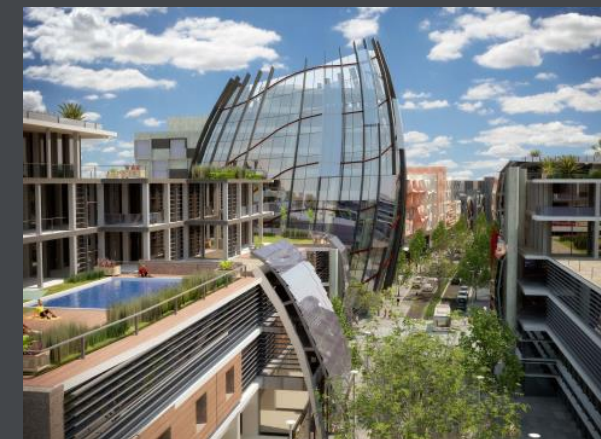
Stirling to Curtin: Key Development Areas



Stirling City Centre



Riverside Project

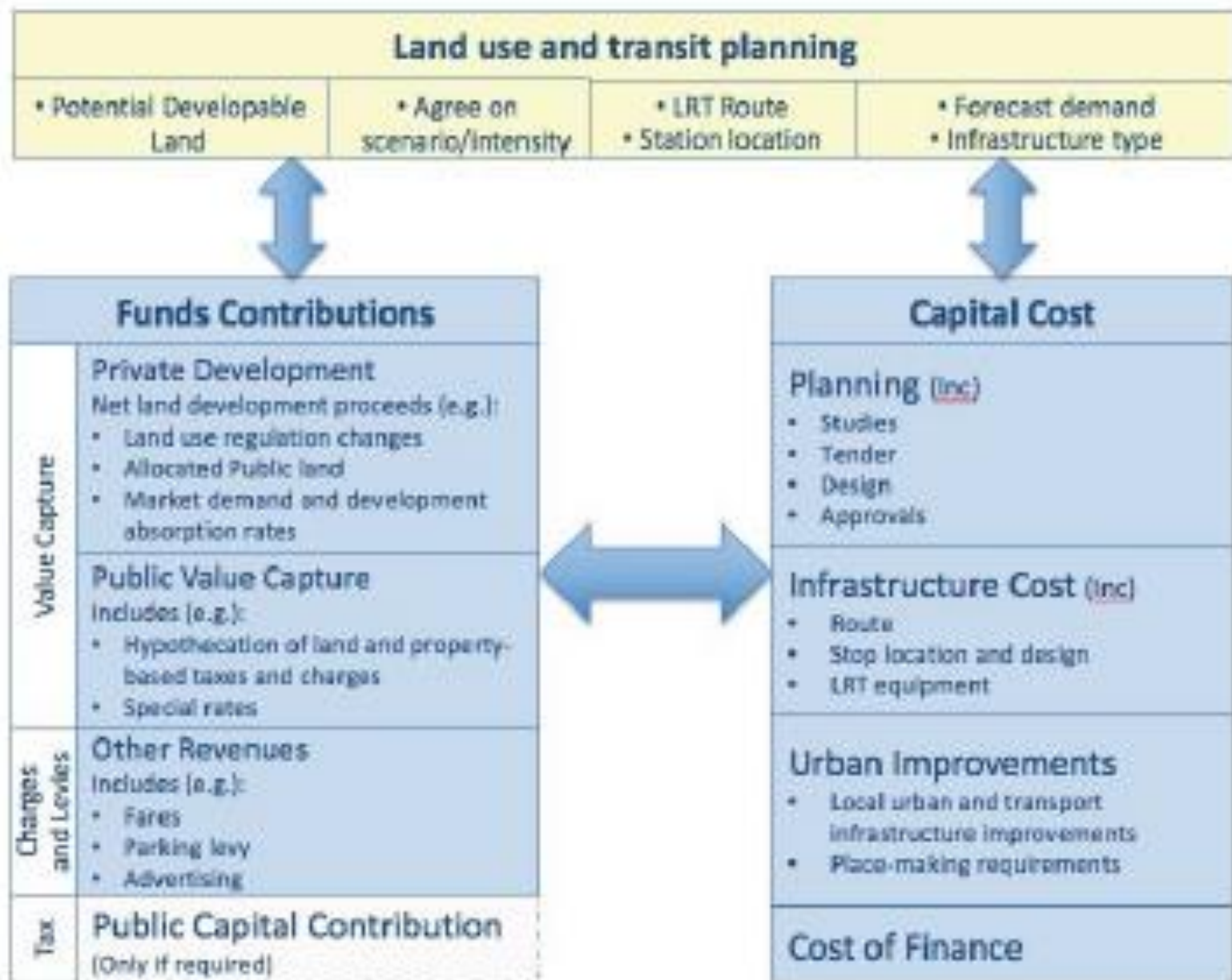


Bentley Technology Precinct

Results...

- Unlocks lazy land assets
- Integrates land use and transit as both depend on finance
- Changes the politics of redevelopment as communities get their rail
- Enables private sector expertise in land development to drive city form and transit – as it has mostly been through history.

Figure 4: Simplified Planning, Funds Contribution and Capital Cost Model



How can regional planning from local to national make it happen...

1. Regional Plan of Land Use and Transit – seek out three levels of funding, and then add private to make up gap based on land value capture estimates.

How can regional planning from local to national make it happen...

2. Structured Unsolicited Bids – enabling a fully private proposal by setting out key guidelines and processes to enable its multi-level support and basis for obtaining finance.

How can regional planning from local to national make it happen...

3. City Deals – UK started. Regional compact... Combines local and state vision and planning powers, with private funding and national risk and probity support in process development; all use land value capture to cover government investment.

► Turnbull looks to 'get creative' on infrastructure

PM explores radical road, rail funding

Prime Minister

Use land value....



Malcolm Turnbull, right, said direct grants were not the only way to support infrastructure. PHOTO: SCOTT FLETCHER

From page 1
Turnbull explores road, rail funding

ment, not least because of sharply constrained federal and state budgets.

Prominent economist Saul Eslake estimates Canberra could borrow an extra \$50 billion a year in infrastructure

economy from the end of the recession investment boom.

Former Infrastructure Australia board member and Curtin University Professor Peter Newman



Australian Government
Department of the
Prime Minister and Cabinet

Smart Cities Plan



Urban Finance Unit
\$50 million to assist
with journey of
involving private
sector with all levels of
government in City
Deal projects...