The 20 minute city

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City Design
City of Melbourne
The 20 minute city

Challenges

• Rapid population growth
• Climate Change
The 20 minute city

- Regional
- Metropolitan
- Local Neighbourhood
The 20 minute city

- Connectivity
- Density
- Mixed Use
- Public Realm
Bay Cities concept, Victoria’s Bay cities region
Bay Cities concept: Growing Victoria’s Capital City into Victoria’s Bay Cities Region

10-day sketch study based on historic and contemporary city and regional plan precedents – for discussion purposes only November 2013

**Mono-Centric Capital City model**

*City centre growth/ edge sprawl*

Single central city defines the metropolitan context. Outside of the central city, residential uses dominate, interspersed with a wide range of uses, including local community and institutional uses, local to regional commercial corridors and nodes, and industrial uses.

Transport for people is geared to link the residential hinterland to and from the central city, with morning peak demand on infrastructure loading into the city, and evening peak demand on infrastructure loading out of the city.

Freight networks need to grow, as the central port node and relatively central airport node become more distant to manufacturing and industrial sites, which continually seek cheaper land on the periphery.

The transport network, namely the road network, must negotiate this decentralisation.

The growth and expansion of the city centre is expected to receive significant renewal as the region grows, as is the renewal of inner urban neighbourhoods and their centres. Expansion of the region at its fringes typically creates suburban sprawl. Communities developed here face increasing time and transport costs due to the increasing distance from the vibrant core, where employment opportunities, essential services and cultural offerings are most densely clustered.

**Poly-centric Capital City model**

*Intra-city competition*

Single central city continues to define the metropolitan context, however the success of the centre aims to be replicated in a number of smaller inner-urban ‘edge cities’ that are connected to the centre. Employment uses anchor emerging edge cities as destinations, and complementary services and uses will cluster in these secondary centres in time.

Initial employment focuses on expansion of existing employers, attraction of cost sensitive firms seeking reduced costs, and firms aiming to reach specific sub-regional markets.

Transport will continue to focus on regional links to and from the central city, but the transport network will aim to expand in order to better integrate sub-regional links to secondary centres. Links between smaller and larger centres may facilitate more efficient use across a more integrated transport network.

(Need to add freight focus here)

The renewal and expansion of the city centre will occur as the region grows, and secondary centres will likely expand at lesser rates, unless specifically encouraged through significant investment. Inner urban areas around the central city and edge cities, will receive continued renewal, whereas peripheral development at the urban fringe will face increasing-time and transport costs. This will be only slightly lessened by proximity to secondary centres.

**Polycentric Bay Cities model**

*Complementary cities*

The single central city is complemented by a series of new or enhanced central cities, effectively linked via high-speed and multiple transport links around and across Port Phillip Bay (and Western Port). Each offers a unique, distinctive character, grown from its natural setting and context. Each also offers a series of active secondary cities linked to each core city.

This structure creates a framework for ‘A Region of Cities’. This urban structure is based on the inherent natural qualities found in and around Melbourne. This framework is scalable and can effectively expand into the rural hinterland and beyond to define ‘A State of Cities’. The State of Victoria is the only one in Australia (and one of a few examples globally) that has the compact footprint and existing and projected population to create such a legacy framework for future sustainable growth for the next century and beyond.

Rail, ferry and road networks will link people within the bay cities on a regional scale, and individual city networks will link to respective edge cities and the residential hinterland. Close and convenient links to urban centres will allow for a wider range of communities to develop into diverse and accessible neighbourhoods.

(Need to add freight focus here)

Renewal and expansion will occur throughout the metropolitan cities-region, and enable significant inward investment opportunities for a wide range of infrastructure and development projects. Consequent renewal and investment will bring new opportunities for the region to grow and enhance its livability qualities throughout the whole region, while growing the global reputation of Melbourne much further than other metropolitan city models.
Metropolitan strategy to re-establish the relationship to our natural setting (metaphor of the founding of Melbourne)

**Enhanced regional freeway network**
The freeway network will be enhanced by providing key links in and around Bay City West, Bay City East and growing the freight network in key peripheral locations.

**Metro-wide ferry network**
A city-to-city ferry network will focus the future key transport links onto the bay. Fast ferry services become central to the region, effectively linking Bay City West, or Bay City East, to Melbourne within 35 minutes.

**Fast metro, regional and national rail connections**
High speed rail will link each bay city (Melbourne to Geelong will take 30 minutes), and each bay city will expand rail links to Victoria’s regional cities, while long term high speed links could connect to Adelaide, Sydney and Canberra.

**Five polycentric bay cities**
Melbourne, Geelong, Hastings and two new cities (one between Werribee and the bay and the other generally between Dandenong and Frankston) will develop into thriving water-based cities, linked to nearby urban centres and neighbourhoods.

**Regional landscape**
The associated rural hinterland, metropolitan landscape and river corridors will be protected and enhanced to ensure our region’s environmental resiliency through a wide variety of productive, ecological and aesthetic landscape roles.

**Water features and catchments**
The metropolitan region will be defined by Port Phillip Bay, Western Port, contributing rivers and their catchment areas.
Metropolitan Connectivity
Melbourne: oil & mortgage vulnerability
City of Münster, Planning Department
Comparison of amount of space required to transport 72 people

72 bicycles = 90sqm
Based on 1 person per bike

60 cars = 1000sqm
Based on 1.2 people per car

1 bus = 30sqm
Based on 72 people per bus
32% of people travelling south on Hoddle Street in the AM peak do so in buses. The buses in this picture will be carrying more people than all other visible vehicles combined.
Future rides on the humble bus

London is leading the way, writes Llewellyn King.

Even railroad fanatics like myself have to admit that the future of passenger transportation by rail, particularly urban commuter rail, is pretty well frozen where it is. New rail — even light rail, an idealistic indulgence — is doomed by high costs, lack of appropriate track and political squabbling.

New subways, the elegant way to get around a city by going under it, are an almost impossible dream. The costs are too great in terms of austerity and the cost of maintenance, as Washington, D.C., has discovered, can be prohibitive as the system ages, particularly as local jurisdictions have a habit of postponing maintenance.

Increasingly, the future appears to be the once humble bus. They have a low capital cost, are flexible and can be adjusted to demand and population changes in a way that trains cannot. Spare the groaning, the buses are coming. Today’s buses need not be yesterday’s — noisy, smelly and unreliable.

London, which has possibly the best transportation infrastructure in the world with a huge rail network, the largest subway system of any city and some light rail, is nonetheless betting on buses. Currently London is deploying a brand new bus, designed for the times and preserving some of the features that have made its buses, along with its taxis, emblematic of the city, such as the jump-on, jump-off rear platform and two decks. And, yes, they are red.

The new London buses are a tale of the meeting between nostalgia and high tech and environmental sensitivity. London was busy phasing out its traditional and much-loved double-deck buses in favour of articulated buses, which bend in the middle (popularly called bendy buses in London) and run in cities worldwide, when a controversial and eccentric Conservative journalist turned politician, Boris Johnson, declared that if he were elected mayor of London, he would save the old buses, called Routemasters, or at least the concept of double-deck buses. Johnson won the election and ideas were sought from the public, fashion designers and bus makers.

The result is what the tabloids call “the Boris Bus.” It is a high-tech beauty that meets many demands. It has two doors and two staircases, but so few that wheelchairs are easily accommodated without the “kneeling” feature of American single-deckers. It has great glass sweeping panels in the front and rear. The buses are designed to have conductors during rush hours, when all the doors are open, and to be operated by the driver only at off-peak hours. The rear platform — so loved by agile Britons — can be closed off for safety at night.

The new London buses use modern composite materials from the airline industry and are hybrids, with diesel engines and regenerative braking.

It is technology that has made way for the lowering of the bottom deck, increasing stability while reducing weight.

The initial reception of this high-tech scion of the old and loved London bus has been so enthusiastic that Johnson is talking about a future Conservative prime minister — riding the bus to the highest office in the land.

Back to American buses. They, too, are getting better, but less dramatically so. Between Washington and New York there is now a thriving bus service with half a dozen competing firms offering Wi-Fi, toilets and many points of departure and arrival. The ticket price, at about $252 (SA19) each way, is a fraction of the ticket prices on Amtrak and airlines.

These intercity buses are diesel-powered, but many cities are using natural gas-powered buses. That might yet seal the deal for buses at the first line of future urban transportation, reducing the use of cars. The United States is awash in natural gas and it is not subject to the world oil price. It also has less environmental impact and the engines are not noisy.

Buses are at their best when, as my wife, the journalist Linda Gasparrino, pointed out in London once, they run like conveyors. Frequently, that means dedicated bus lanes and enough of them.

The Obama administration would be well advised to launch a bus initiative with emphasis on better vehicles, a large London, and dedicated bus lanes.

The solution to urban congestion may be in a high-speed, Wi-Fi-equipped, natural gas-powered omnibus, as they were once called.
An Access Economics report prepared for Diabetes Australia estimates the total economic cost of obesity in Australia in 2008 was a staggering $58 billion.

Public transport users vote with feet

By CLAY LUCAS
TRANSPORT REPORTER

PUBLIC transport users get a daily average of 41 minutes physical exercise, compared with an average of eight minutes for those who only drive, according to an analysis of Victorian travel data.

Research completed by the Bus Association of Victoria has found that those who use public transport in Melbourne are likely to get their recommended daily dose of physical activity as a “side effect” of their travel.

Exercise guidelines produced by the federal government recommend that adults spend at least 30 minutes a day walking, cycling or doing another activity that increases their heart rate.

An Access Economics report prepared for Diabetes Australia estimated the total economic cost of obesity in Australia was about $58 billion in 2008.

A map produced as part of the Bus Association’s study also indicates how much people who live in each of Melbourne’s council areas either walk or cycle. It shows that those in Melbourne’s inner areas, which in most cases have easier access to public transport, get much more exercise as part of their daily travel routine than those who live in outer Melbourne.

Bus Association policy manager Chris Loader said the study showed that improving public transport services was crucial. “The research demonstrates

‘people who used public transport on a particular day, also spent an average 41 minutes walking and/or cycling as part of their travel.’ Chris Loader The Age March 12 2010
Chinese leader’s reforms warning

By Philip Wen

CHINESE Premier Wen Jiabao has used one of his last public addresses to deliver a strong warning that China must undertake “urgent” political reforms or risk the repeat of tragedies such as the Cultural Revolution.

Speaking before a one-in-a-decade leadership transition this year, an emotional Mr Wen said he had “many regrets” from his years as Premier, and made an unprecedented apology for the “many problems present in China’s economy and society”.

“I sincerely hope the people will forgive me.” Mr Wen told hundreds of reporters gathered at his customary annual press conference after his last National People’s Congress in Beijing yesterday.

Despite overseeing China’s overwhelming economic growth in the past decade, a frank Mr Wen highlighted income disparity, a “lack of credibility” and corruption in the government among the greatest problems his ruling Communist Party had to address.

He stressed that political reform – particularly targeting China’s opaque leadership – was urgently needed to prevent the party’s slide from being irreversible.

“Now reform in China has come to a critical stage,” he said.

Without the successful political, structural reform it is impossible for us to institute scientific development, and the gains we have made in this area may be lost.

“New problems that have cropped up in China’s society will not be fundamentally resolved without reform and such historic tragedies as the Cultural Revolution may happen again.”

Mr Wen said he had been recommended to lead the Communist Party, and to be re-elected as Premier.

MELBOURNE’S SICK SUBURBS

Poor urban planning to fuel ‘epidemic’: experts

By Niki Perkins

Poor urban planning to fuel ‘epidemic’: experts

New Suburbs in Melbourne are so poorly designed that residents are at risk of an “epidemic” of chronic diseases such as obesity and diabetes.

The concerns have prompted a state government inquiry into urban design that is expected to recommend “affordable housing” and “mixed-use” developments to combat the problem.

Wyndham, in Melbourne’s outer west, is the fastest growing municipality in Australia in percentage terms. Each week about 60 babies are born and the council receives 130 new requests for a home.

Mayor Kim Mckenzie said research showed residents were suffering from an “epidemic” of obesity and diabetes exacerbated by decades of car-focused planning, which meant local hospitals were reporting higher hospital admissions for respiratory problems, which were likely to be from air pollution.

Mr Vales also wants planning regulations to take account of the risks associated with bottle shops, which are concentrated in poor communities.

For every 10,000 litres of pure alcohol sold from a liquor shop, the risk of violence on residential properties near increased by 50%.

THE AGE

Whether measured in social cost or in dollars over the long term, what is called “affordable housing” does not seem affordable after all.

> Editorial Page 10

Loren Bartley and her children recently travelled by public transport from their Point Cook home to the nearest pool. It took almost an hour and a half.

Focus Page 15

Palmer hits back: see you in court

By David Wroe and Michelle Grattan

MINING billionaire Clive Palmer has escalated his campaign against the Gillard government, vowing to mount a High Court challenge to the carbon tax.

As the major political parties wrestled over proposed cuts to company tax, Mr Palmer last night turned his sights to the carbon tax, telling the ABC’s 7.30 he had legal advice that it was unconstitutional.

Asked what grounds he thought it was unconstitutional, Mr Palmer said: “The grounds are set out in legal advice and Justice Spender is coming out in the High Court.”

His threat on the carbon tax, which is due to start on July 1, comes weeks after Treasurer Wayne Swan accused Mr Palmer and other mining bosses of wielding too much power and being a threat to democracy.

Last night, Mr Palmer hit back, saying: “I’ve given away each year more than a hundred times the Treasury’s salary to Australians who are needy. I wonder how much of his salary has he gives away to Australians who need that wealth.”

Mr Palmer admitted that launching a High Court challenge would prove Mr Swan’s claims that he and other mining bosses were using their wealth to distort public debate.

“We’ve all got the right to go to the High Court,” he said.

The 57-year-old Queensland magnate, who has an estimated $5 billion fortune from iron ore, nickel, coal and gold threatened in November to launch a Federal Court challenge to an anticipated $30 million carbon tax bill.

Last night, he told the ABC’s 7.30 “You can’t really tax carbon. The costs, high as they are, are borne by the consumer.”
Local Connectivity
variety versus consistency
accessibility
on-road bike paths
off-road bike paths
Growth in no. of cyclists commuting to work in municipality has increased.

In 2011 bicycles now represent close to 10% of total vehicles on roads, footpaths and parks, up from 4% in 2006 and 1% in 2002.
Swanston St count - female % rises again

% women

London - Southwark Bridge '11: 22.3%
Bristol - Cheltenham Rd '11: 22.1%
Berlin - Brandenburg Plaz '11: 43.4%
New York - Brooklyn & W'burg: 21.4%
Montreal - Rue Berri '11: 47.6%
Vancouver - Hornby St '11: 36.6%
Portland - Hawthorne Bridge '11: 31.2%
Melbourne - Swanston St '11: 26.2%
Melbourne - Swanston St '12: 32.9%
Melbourne - Swanston St '13: 37.7%
accessibility
**total no. of pedestrians per day – middle of swanston street**

Recording sites at Swanston St North & South, recorded significantly higher activity in 2007, compared with 2006 (14 per cent and 83 percent respectively).
20 minute walkable neighbourhood
Density/
mixed use
Postcode 3000
MONOFUNCTIONAL TO MULTIFUNCTIONAL

Melbourne
sustainability
sustainability

1982

685 dwellings

= 5 dwellings
● convenience stores

Source: City of Melbourne, Census of Land Use and Employment
Note: Dwelling dots show the density of dwellings in CLUE Blocks, which roughly equates to CBD blocks.
sustainability

1997

5,537 dwellings

- = 5 dwellings
● = convenience stores

Source: City of Melbourne, Census of Land Use and Employment
Note: Dwelling dots show the density of dwellings in CLUE Blocks, which roughly equates to CBD blocks.
sustainability

2002

13,398 dwellings

Source: City of Melbourne, Census of Land Use and Employment
Note: Dwelling dots show the density of dwellings in CLUE Blocks, which roughly equates to CBD blocks.
sustainability

2006

22,384 dwellings

- 5 dwellings
- convenience stores

Source: City of Melbourne, Census of Land Use and Employment
Note: Dwelling dots show the density of dwellings in CLUE Blocks, which roughly equates to CBD blocks.
sustainability

2010

28,097 dwellings

Source: City of Melbourne, Census of Land Use and Employment
Note: Dwelling dots show the density of dwellings in CLUE Blocks, which roughly equates to CBD blocks.
residential units
Postcode 3000

The push for living in the CBD has breathed new life into the heart of Melbourne but there’s still room for improvement.

Fast, Young, Alive. The secrets of Melbourne’s CBD renaissance
Plot Ratio \approx 50
Replace carparking and fat buildings with slimmer towers and communal gardens, enabling a high performance podium that creates better relationship with the street, naturally ventilated dwellings and walkable neighbourhoods.
Urban Density, 1995 (Persons/Ha)

Acknowledgements: Prof Peter Newman, Murdoch University, W.DC
Urban Density, 1995 (Persons/Ha)

Acknowledgements: Prof Peter Newman, Murdoch University, WDC
Land Capacity Analysis

CADAstral PARCELS

Metro Cadastral Parcels 1,571,532
# Results

<table>
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<tr>
<th></th>
<th>Tram</th>
<th>Target Bus Lines</th>
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<tr>
<td>Sites available for densification</td>
<td>12,439</td>
<td>22,038</td>
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<tr>
<td>Total area (Ha)</td>
<td>1,418</td>
<td>5,275</td>
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<tr>
<td>Current population</td>
<td>48,630</td>
<td>158,250</td>
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**Proposed Density Range 180 - 450**

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<th></th>
<th>Low</th>
<th>High</th>
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<tbody>
<tr>
<td>Net population increase</td>
<td>1,003,950</td>
<td>2,457,310</td>
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Nicholson Street, East Brunswick – looking south to the city
Transport Corridor: Design Development Overlay

1. Applicable streets
2. Heritage & public use zones

3. Height limits

4. Parking

5. Setbacks

6. Active frontages
7. Passive surveillance

8. Freedom zones
9. Access

Design Development Overlay

SOURCE Department of Planning and Communities
Melbourne @ 8 million
Urban Renewal

Key City wide strategies:

Municipal Strategic Statement (MSS)

Transport Strategy

Open Space Strategy

Melbourne Metro is a key city shaping project

Existing high growth

Planned urban renewal

low growth

melbourne.vic.gov.au/futuregrowth
NOW

Curtain Street, looking west to Nicholson Street
THE FUTURE

Curtain Street – artists impression
Public realm and climate change
Public realm and climate change
Parks and gardens
Useful Life Expectancy

- 30% loss in 10 years
- 48% loss in 20 years
WSUD
173 people died in the 2009 bushfires

374 people died due to the 2009 heatwave
Urban Forest Strategy
Making a great city greener
2012-2032

draft open space strategy
planning for future growth

melbourne.vic.gov.au/urbanforest
Southbank Boulevard

BEFORE

AFTER
Strategies and Targets

**Strategy 1: Increase canopy cover**
**Target:** Increase public realm canopy cover from 22 per cent to 40 per cent by 2040.

**Strategy 2: Increase urban forest diversity**
**Target:** The urban forest will be composed of no more than 5 per cent of any tree species, no more than 10 per cent of any genus and no more than 20 per cent of any one family.

**Strategy 3: Improve vegetation health**
**Target:** 90 per cent of the City of Melbourne’s tree population will be healthy by 2040

Design for health and wellbeing

**Strategy 4: Improve soil moisture and water quality**
**Target:** Soil moisture levels will be maintained at levels to provide healthy growth of vegetation

Become a water sensitive city

**Strategy 5: Improve urban ecology**
**Target:** Melbourne’s green spaces will protect and enhance a level of biodiversity which contributes to the delivery of ecosystem services.

**Strategy 6: Engage the community**
**Target:** The community will have a broader understanding of the importance of our urban forest, increase their connection to it and engage with its process of evolution
Before - 529m²  

After - 4900m² = $14m
Errol Street Park
Collins St Permeable Bluestone Paving
Dept. of Environment and Primary Industries with Councils of Melbourne, Port Phillip, Stonnington, Yarra and University of Melbourne

www.growinggreenguide.org

Also see Urban Forest Strategy

Melbourne @ 8 million
The 20 minute city

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