Land use/transport integration: the vital role of our forgotten middle suburbs

March 2016

Presented by
Adjunct Professor John Stanley
Institute of Transport and Logistics Studies (ITLS)
Scope of presentation

- Vision and goals for our cities
- Background information about city socio-economic context for Melbourne and Sydney
  - Drawing on my role over the last 3-4 years as a member of the Ministerial Advisory Committee working on Melbourne’s long term land use transport strategy
- Outline research by Dr Peter Brain (NIEIR) on some socio-economic aspects of Melbourne and Sydney’s land use for productivity
- Suggest strategic land use and transport development directions, drawing on this socio-economic slant, with some augmentation
- Making a case for more focus on the middle suburbs for 'better' Australian cities
- Possible discussion focus: is it too risky to pursue growth of a small number of knowledge-based clusters in middle suburban locations?
Great cities don't just happen!

Melbourne

Vancouver
Our cities: getting better as they get bigger?

– Cities reap agglomeration benefits from size (i.e. $1+1>2$)
  
  – But have low productivity growth, increasing inequality and confront rising externalities, particularly in transport (e.g. congestion, air pollution)

– How can our cities get better as they get bigger?

– Melbourne/Sydney as case studies
Start with a vision of the kind of city you want

- Major transport projects exert a massive influence over city development patterns
- **Start with a vision of the kind of city you want** and associated goals
- Then use transport infrastructure and services to help you get there
- Needs an integrated, long term focus
  - Something that we do poorly in Australia
  - Our long term is about 4-5 years (in a good week)!
  - But there are some encouraging signs
The gold standard for vision: Vancouver

— The highest quality of life embracing cultural vitality, economic prosperity, social justice and compassion, all nurtured in and by a beautiful and healthy natural environment. Achieved by an unshakeable commitment to the well-being of current and future generations and the health of our planet, in everything we do.

A ‘better’ (more sustainable) city is one that… (my value judgement)

1. Increases its economic productivity
2. Reduces its environmental footprint (esp. lower GHG emissions, cleaner air and increased greening)
   ➢ I favour some ‘hard targets’ here
3. Increases social inclusion and reduces inequality
   ➢ More hard targets
4. Improves health and safety outcomes
5. Promotes intergenerational equity – this goal is likely to be achieved if the preceding goals are met
6. Engages its communities widely
7. Pursues integrated land use transport plans.

AIM FOR DISTINCTIVENESS : WE NEED TO DO THIS BETTER
‘Valued outcomes’ for Australian cities

- **Melbourne 5 outcomes**: distinctive; globally connected and competitive; social and economic participation; strong communities; environmental resilience

- **Sydney five key outcomes**: balanced growth; a liveable city; productivity and prosperity; healthy and resilient environment; accessibility and connectivity

- **SEQ Q2 five themes**: Strong, green, smart, healthy and fair

- **Perth’s five key themes**: Liveable; prosperous; accessible; sustainable; responsible

- **Adelaide**: healthy, safe, affordable and connected communities; a strong, diverse and growing economy; thriving natural and built environment.
Some data:

Melbourne median income 2011: residents aged 25-65
(Source: Grattan Inst.)

Household incomes generally decrease with distance from the centre

Inner suburbs have:

- higher household incomes, higher productivity, stronger productivity growth,
- more tertiary qualified,
- fewer vocationally qualified,
- fewer unqualified and much better job access (by car and PT)
Sydney median income 2011: residents aged 25-65
(Source: Grattan Inst.)
Melbourne % of jobs accessible in 60 minutes by PT
(Source: SGS Economics and Planning)
Sydney % of jobs accessible in 60 minutes by PT
(Source: SGS Economics and Planning)
Melbourne housing affordability

MAP 9: HOUSING AFFORDABILITY FOR FAMILIES WITH CHILDREN ACROSS MELBOURNE, 2010

SOURCE: DEPARTMENT OF PLANNING AND COMMUNITY DEVELOPMENT, 2012
Average annual growth in multi-factor productivity: 1995-2012 (% p.a.)

<table>
<thead>
<tr>
<th>Period</th>
<th>Australia</th>
<th>Canada</th>
<th>UK</th>
<th>US</th>
</tr>
</thead>
<tbody>
<tr>
<td>1995-2000</td>
<td>1.70</td>
<td>1.13</td>
<td>1.63</td>
<td>1.22</td>
</tr>
<tr>
<td>2001-2006</td>
<td>0.77</td>
<td>0.62</td>
<td>1.48</td>
<td>1.47</td>
</tr>
<tr>
<td>2007-2012</td>
<td>0.03</td>
<td>-0.52</td>
<td>-0.5*</td>
<td>0.83</td>
</tr>
</tbody>
</table>

Note: UK data for this period is for 2007 to 2011.
Source: Derived from data in OECD StatExtracts (2014a).
Melbourne productivity change

- Change in deviation about the mean, 1992 to 2012, for headline gross regional product per hour worked (Source: NIEIR)
Sydney productivity change

- Change in deviation about the mean, 1992 to 2012, for headline gross regional product per hour worked (Source: NIEIR)
A productivity challenge for urban planning!

- How can land use transport policy help lift urban productivity growth and enable a better sharing of the benefits there-from?

- Work by Dr Peter Brain (NIEIR) for Victorian MAC on the role of strategic land use planning in increasing productivity growth and better sharing its benefits
  - Then repeated for Sydney and Brisbane
  - Written up by Peter and I for an ACOLA report for Chief Scientist (part of a report on sustainable mobility)
  - And for the Bus Industry Confederation, with a stronger transport flavour
The important middle suburbs

Sydney and Melbourne population and jobs by broad location: Sydney a bit better balanced
Sydney and Melbourne ‘central’ area definition

– Sydney = Sydney City, Woollahra, Waverley, Randwick, Marrickville, Leichardt, North Sydney, Mosman, Willoughby, Manly

– Melbourne = Melbourne, Port Phillip, Maribyrnong, Yarra, Glen Eira.
The ‘rules of Australian urban development – Rule 1

– There is increasing inequity in regional economic performance, with fringe areas at an increasing disadvantage.

  – That is, without strong policy intervention, increasing inequality is expected, with the general rule being the greater the distance a sub-region is from the central LGA, the greater the increase in inequality

  – Shown in slides 15 and 16
The ‘rules of Australian urban development – Rule 2

– The greater the level of economic activity located within a region’s catchment, the greater the economic benefit to residents within the catchment.

– That is, the level of income received by a region’s households from work is determined by the level of economic activity generated in the region’s catchment, as determined by acceptable travel times.
Sydney and Melbourne: Headline GRP versus resident GRP – Catchment analysis

Sydney is left and Melbourne right in all slides: no comment on politics!
The ‘rules of Australian urban development – Rule 3

– Cumulative regional investment, that is, the capital stock per capita installed in a region, is a core fundamental factor that determines the level of economic activity.
The ‘rules of Australian urban development – Rule 4

- Increased scale of the Metropolitan Area will increase the opportunities to increase overall productivity
  - Evidence is widespread
  - Elasticity values are typically in the 1.03 to 1.08 range, for productivity as a function of city size
  - Higher for high end knowledge-based activities in the core
The ‘rules of Australian urban development – Rule 5

- If the metropolitan area of a major city is to maximise the increase in its productivity, the scale of the central region will have to increase, at the very least proportionally to the overall increase in Metropolitan scale.
The ‘rules of Australian urban development – Rule 6 and 7

6. The capacity to export out of a region is the core proximate driver of economic activity (charts not shown)

7. The skills of households within each region’s catchment is a core driver of the region’s economic performance (charts focus on high techs)
The ‘rules of Australian urban development – Rule 8

- Different industry types have different multipliers for expansion: high-technology industries have the largest multipliers and, therefore, the greater the concentration of high-technology industry in a region, the better the relative economic performance.
The ‘rules of Australian urban development – Rule 9

High-technology industries require the concentration of high-skilled households within their labour market catchments
The ‘rules of Australian urban development – Rule 10

– The main reason why high-technology industries have high multipliers is the importance of scale and scope to productivity in these industries and hence profitability and the capacity to expand. **Therefore, the rule is the greater the scale of high technology industries the greater will be the productivity**
The ‘rules of Australian urban development – Rule 11

— High-technology industries need to cluster in and between regions. Hence, the rule is that the share of high-technology industry in a region’s economic activity diminishes with distance from the central activity areas of Australia’s major metropolitan areas.

— Data in the preceding slides supports this, particularly slide 25 and its equivalent for high techs (not shown).
The ‘rules of Australian urban development – Rule 12

- High technology industries require sustained innovation to be competitive. High-technology industries will prefer to locate where there is strong knowledge-creation infrastructure within a region’s catchment.
The ‘rules of Australian urban development – Rule 13

– Skilled households locate in regions where strong cultural and community infrastructure is available within the region’s catchment. The thesis is that high-technology industry has to locate within the catchment of where high-skilled households want to reside.
Results summary

– In the absence of intervention there is a tendency for increasing inequality between regions, especially between fringe regions and regions closer to the centre.

– The scale of the metropolitan region is a key driver of productivity and the ability of residents to capture hours of work.

– Some industries are more important and effective, per $m value-added, in driving regional economic development than others. High technology industries have particular importance.

– Because of the importance of economies of scale and scope and the indirect benefits which can be captured from innovation by others, high technology firms want to cluster together, either in the central region or in regions not too far from the central region.

– As a result, if the outer fringe regions have poor economic outcomes in terms of hours of work available per working age resident and/or dollars earned per hour of work, one important reason for this would be a lack of high-technology employment opportunities within the labour market catchments.
Results summary (cont.)

– A plausible strategy to improve the economic performance of outer regions is to enhance and expand high value added employment precincts within commuting range of these regions, and/or increasing catchment diversity, by reducing travel times and/or increasing catchment population densities (especially in those catchments with the best characteristics in terms of scale and high technology industry activity).

– The enhancement of high-technology industry capacity further away from the central area must not come by redistributing activity away from existing or developing precincts.

– A core task of policy and implementation is, therefore, to implement strategies that will enhance the development of a small number of high-technology clusters in the inner/middle regions with net additional resources that do not detract from the growth at the centre.
Strategic land use planning implications

— City economic performance (productivity, access to employment opportunities and housing affordability) can be improved by effective planning focused on various levers that can support development of high tech industry clusters and access thereto

— The use of policy instruments, co-ordinated via a planning blueprint, is necessary to achieve desired outcomes, because of the range of policy areas that interconnect to affect outcomes
Land use planning implications (cont.)

In terms of productivity growth and sharing the benefits from this growth, **policy instruments** should be utilized which directly and/or indirectly influence

- the types of industries (particularly high technology industries) developed
- where industries are located and their scale
- the spread and intensity of compact, mixed use, transport oriented developments
- transport system capacities and travel times, particularly to (and within) a small number of key employment clusters (transport investment is critical)
- **workforce skills**, particularly skills to support high tech industry development
- **social/cultural and community infrastructure provision**, which is important in attracting skilled labour (and in sustaining liveability more broadly).
Land use planning implications (cont.)

– Policy instruments should be used to influence the capital stock and its distribution across the region, to reinforce desired development patterns and help share the benefits of productivity growth across the wider city.

– Policy instruments should continue to support growth of the central activity region and surrounds, which is the core for high tech industry growth.
Key land use policy implications

- Promote core and close surrounds
- Promote a small number of inner/middle urban knowledge-based high tech hubs
- Connect hubs to the core with good transit
- Connect people to the hubs with good transit, inc. people living in growth areas
- **Increase densities (mixed use) in key transit corridors (e.g., Vancouver, London)**
- Promote good circulation within hubs
- Promote 20 minute city idea
  - Neighbourhood level focus, which was outside the scope of this presentation but is critical
Strategic transport objectives

Spatially blind directions (not developed from this presentation):

– Improve the efficiency with which transport infrastructure and services are delivered and used
  – Includes measures to reduce the costs of congestion
– Substantially increase the share of travel that is undertaken by the low impact modes of public transport, walking and cycling
  – Lower impacts than travel by motor vehicle (e.g. safer, more healthy)
– Focus on the key nodes and corridors for trunk movement and on local accessibility at neighbourhood level
Strategic transport objectives (cont.)

- Reduce the environmental impact of travel
  - Tougher emission standards, inc. GHG emissions
- Provide people with travel choices, irrespective of their personal circumstances (e.g., financial and physical capacities), to enhance social inclusion, health and wellbeing
  - Including local transport choices
- Decent minimum PT service levels within 400m of all dwellings
Spatial transport implications (1)

Central/inner area

- **Mass transit** for trunk movement => support for agglomeration
- Tram/light rail, bus, walk, cycle for shorter travel
- Focus on place management
Spatial transport implications (2)

Middle suburbs (forgotten but crucial)

– Arterial road upgrades to support PT, car, truck and support TOD in strategic transit corridors
  – Bus for circumferential and some radial (inc. rail) trunk services feeding nodes/clusters and local circulation
  – Local frequencies to support 20 minute city
– Connect growth areas to middle urban jobs (and seek local job growth)
– Increase walking and cycling opportunities
  – Also promotes health and safety
– Use road corridors to promote distinctiveness throughout city (such as boulevards)
Spatial (transport) implications (3)

- **Outer areas**
- Get densities up (>20 dwellings/ha)
- Focus on 20 minute city model
- Connect to major jobs clusters
- Develop more integrated local ‘PT’ service delivery models
- More attention to place making

Bo01, Malmo Sweden.
Concluding comments

– Cities need BROAD integrated land use/transport strategies to meet their outcome goals
– Land use development directions should determine major transport directions
– The middle suburbs must play a bigger role
  – Most people don’t live or work in the centre!
  – The middle suburbs can provide the basis for 3-4 major knowledge-based clusters in both Sydney and Melbourne
    • To increase urban productivity and share its benefits more broadly
– Within a strategy to improve life opportunities for more people