

# A World Class CBD: Walkability and Pedestrian Transport Planning for Commercialisation

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- iCities Conference, Melbourne, October 2016.
- This presentation will discuss walkability as the key performance indicator for attractive cities in the information age and investigate how pedestrians can be valued and encouraged in both private developments and in the public domain. It will explore how the commercialisation of pedestrians will help to bolster the case for investment in walkability by the private sector and government.

# Q: What is Transport?

## Planners asking the right questions.

- Getting from Point A to Point B ?
- A business?
- A project ?
- An investment?



A: Access to exchange of people, goods, and services.



# How should we measure transport?

- Vehicle kilometres travelled, tonne-kilometres, TCU's
- Speed measured in km/h
- Journey time/time savings (amazingly, the core of most transport models)
- Number of exchanges
- Customer satisfaction
- Quality of exchanges / community/ value added
- Delight! Bikes, walk, car, TGV station



- “What is the city all about? The efficiency of exchange. There are two types of exchange, planned and spontaneous. For traffic engineers, planned exchanges can be translated as “trips”- this is the only focus of engineers. Spontaneous exchanges are known as exchanges for free- they don’t cost any more infrastructure – but they are almost impossible to measure.”
- “Build a master aspiration, not a master plan.”

(Towards an Eco City – Calming the Traffic, David Engwicht, 1992).

*The city is an invention to maximize exchange and minimize travel.”  
- especially an iCity or a Smart City.*





*Attractive Cities:  
walkability is a  
KPI.*

*Top 10 Cities rankings  
correlate with a high  
Walkability Index.*

*Case Study* : A growing body of research shows the connection between walkability and housing prices.

Economist Christopher Leinberger expanded on his earlier research on "walkable urban places" and found that they have outsize economic impacts.

Among the top 30 American metros, these walkable urban places account for one percent of available acreage, but compose as much as 50 percent of the country's office, hotel, apartment, and retail square footage.

Case Study: A [recently published study](#) in the journal *Cities* uses Walk Score to reinforce these findings. The study, by the University of Louisville's [John Gilderbloom](#), California Polytechnic State University, San Luis Obispo's [William Riggs](#), and Georgia Regents University's [Wesley Meares](#), examines the effect of walkability on housing values and foreclosures in the wake of economic crises across 170 Census tracts in Louisville, Kentucky.

It finds that walkability is statistically significant in predicting neighborhood housing values, and that it is significantly and negatively correlated with neighborhood foreclosures.

Case Study:  
Prof Corrinne Mulley  
and Patrick Tsai,  
Transport Policy, Oct  
2016

**When and how much does new transport infrastructure add to property values?  
Evidence from the bus rapid transit system in Sydney, Australia**

This research found that the sales price of residential properties within 400 m of BRT stops are marginally higher than those outside of the BRT service area after the opening of the BRT system in 2003 and 2004.

The research outcomes provide evidence to government sectors for planning future BRT systems and for quantifying the potential to raise financial funding for public transport improvement through the gain of land value uplift.

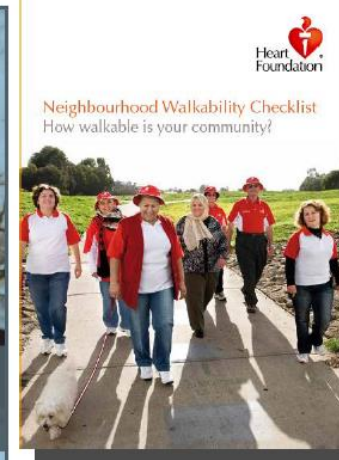
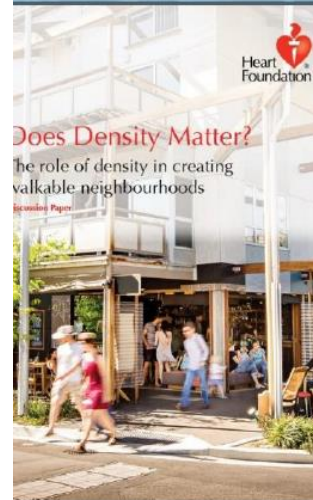
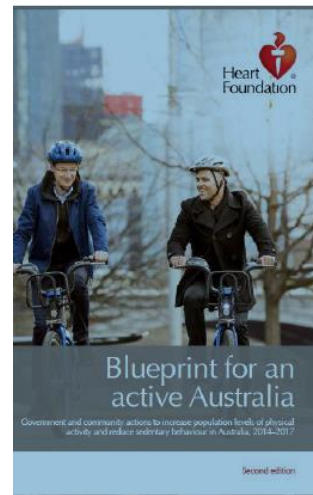
# Commercialisation of Pedestrians

Already published ARRB paper on cost/benefit analysis of pedestrian projects. CBA is done on all major and minor road and rail projects, but seldom for pedestrians.

“The Elephant in the Room” is often how to fund plans.

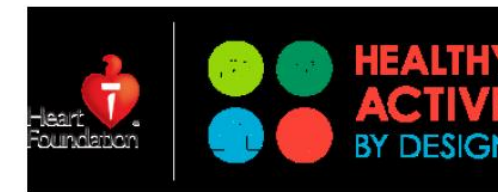
Particularly pedestrians which often don't constitute a sufficient \$\$ project to contractors, or financiers,

Equity – how does new transport look after the weakest members of society

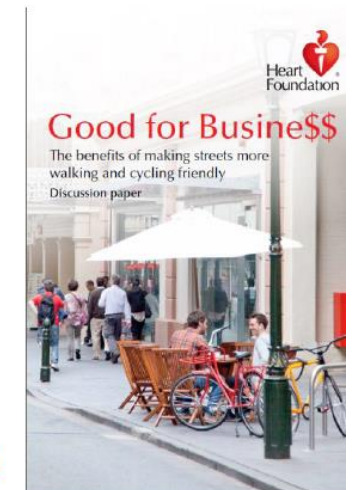


## Health and Transport links

See: [www.heartfoundation.org.au](http://www.heartfoundation.org.au)



[www.healthyactivebydesign.com.au](http://www.healthyactivebydesign.com.au)



## Private Developers Correlation or cause ?

The London study "*Quality streets: why good walking environments matter for London's economy*" examined economic impacts of walking and public realm improvements, through a series of interviews across a range of business sectors: landowners and developers, retailers, developers and entertainment service providers. It emerged that:

- All businesses rely on attracting customers whether they are passing retail trade, or tenants for an office block.
- 85 per cent of respondents identified the quality of the streetscape as "important" in the ability to attract customers or tenants.
- 89 per cent of respondents felt that "*their front door is the street*" and critical to self-image.

*. Case Study:*

*A London study found that improvements in the street design quality can add an average of 4.9 per cent to retail rents of all shops and premises located on the high street.*

*(Heart Foundation)*

Improved walking and cycling conditions and shifts from motorised to non-motorised modes can **increase property values**.

In 2009 Cortright evaluated the effects of walkability on housing prices using the WalkScore (see [www.walkscore.com](http://www.walkscore.com)) and 95,000 real estate transactions, controlling for house and neighbourhood characteristics. He found that walkability had a statistically significant, positive impact on housing values. In a typical metropolitan area in the USA, each WalkScore point increase was associated with a \$700 to \$3000 increase in home values.

### Case Study:

These outcomes are corroborated by Pivo and Fisher who studied apartments, retail, office, and industrial properties and concluded that "on a 100 point scale, a 10 point increase in walkability increases property values by 5 to 8 percent, depending on property type."

The case for investment -  
New tollways @\$5billion  
and new airports  
@\$4billion

But pedestrians can be  
tolled (Pyrmont Bridge,  
Darling Harbour). In the  
first two weeks 20,000  
pedestrians paid the one  
penny toll.



### Case study :

Changing car parking to bicycle parking in Lygon Street, Melbourne, Australia.

Surveys have shown that the average cyclist's expenditure is 73 per cent of a car user's, but space required to park a bike is only 12 per cent of the space required to park a car. Cyclists spend more on comparison goods, such as clothing and eating out, and less on groceries/cinema per visit.

In Lygon Street:

- Each  $\text{m}^2$  of space allocated to cars generates \$6 per hour.
- Each  $\text{m}^2$  of space allocated to bicycles generates \$31 per hour.

Put another way, the researcher estimated that:

- 1 car space produced \$27/hr retail spend, but
- 6 bike spaces replacing the car space would produce \$97/hr in retail spend.

The report concludes that incrementally replacing car parking with bike parking would therefore make economic sense.

.

### **A German study showed that:**

- Motorists are not better customers than cyclists, pedestrians, or public transport users. Because they buy smaller quantities, cyclists shop more frequently (11 times a month on average, as opposed to seven times a month for motorists).
- Approximately 75 per cent of motorists purchase two or less bags of goods, and so could carry their goods by foot or bicycle.
- Most shopping trips involve distances that could be walked or cycled.

Moreover, in walkable cities there is good customer retention for local shops: in the Netherlands, the town of Houten, with its high levels of cycling (and walking) has retail turnover 2.5 times higher per square metre than elsewhere in the country.

# The Fun Theory: VW

<http://www.thefuntheory.com/>

## What does success look like?



Put a spring in your step!

Bourke St, Melbourne

Almost 20% increase in peak time stair



Collaboration  
between  
sectors

Denser, more walkable urban environments have also been said to spur more social interactions of the sort that encourage creativity, as well as higher levels of civic engagement. A forthcoming study by my former Carnegie Mellon student [Brian Knudsen](#) of Urban Innovation Analysis, [Terry Clark](#) of the University of Chicago, and my colleague [Daniel Silver](#) of the University of Toronto examines the connection between walkability, creativity, and civic engagement in the U.S., Canada, and France.

Their findings are striking. Walking is associated with higher levels of arts organizations, creativity, and civic engagement. In fact, walkability is more closely linked with both the arts and SMOs than variables like density and housing age diversity. "In our results, walking appears as one of most powerful drivers of creativity," the researchers write. They also find that walking enhances the connection between creativity and civic engagement



Figure 1 Estimates of shoppers' modal split by retailers and shoppers<sup>1</sup>

## Case Study 1: Data business

Footfall- how many people pass by time of day ?

How many enter the store ?

What is their journey around the store ?

How does this correlated with dollar sales and other locations

Footfall has 1200 customers in 64 countries worldwide.



**Happy people spend more!**



Circles represent relative spend (£)

# Have a Discussion

Simple meetings and discussions

Outcomes are sensitive to the particular professional language used

Engineers are good at solving problems and then Making it Happen

Constructors just want to build something.

Industry often just want to sell a single solution.

Politicians like to cut ribbons on projects.

Planners ask the questions (and often know that they don't know the answers!)

Ref Professor Corrinne Mulley

	Link	Place
Planning	Transport planners	Urban planners
Design	Traffic engineers	Urban designers

# *Attractive Cities: walkability is a KPI.*

*Case Study 1: North West  
Rail Link - Rouse Hill town  
centre*

*Top 10 Cities rankings  
correlate with a high  
Walkability Index.*

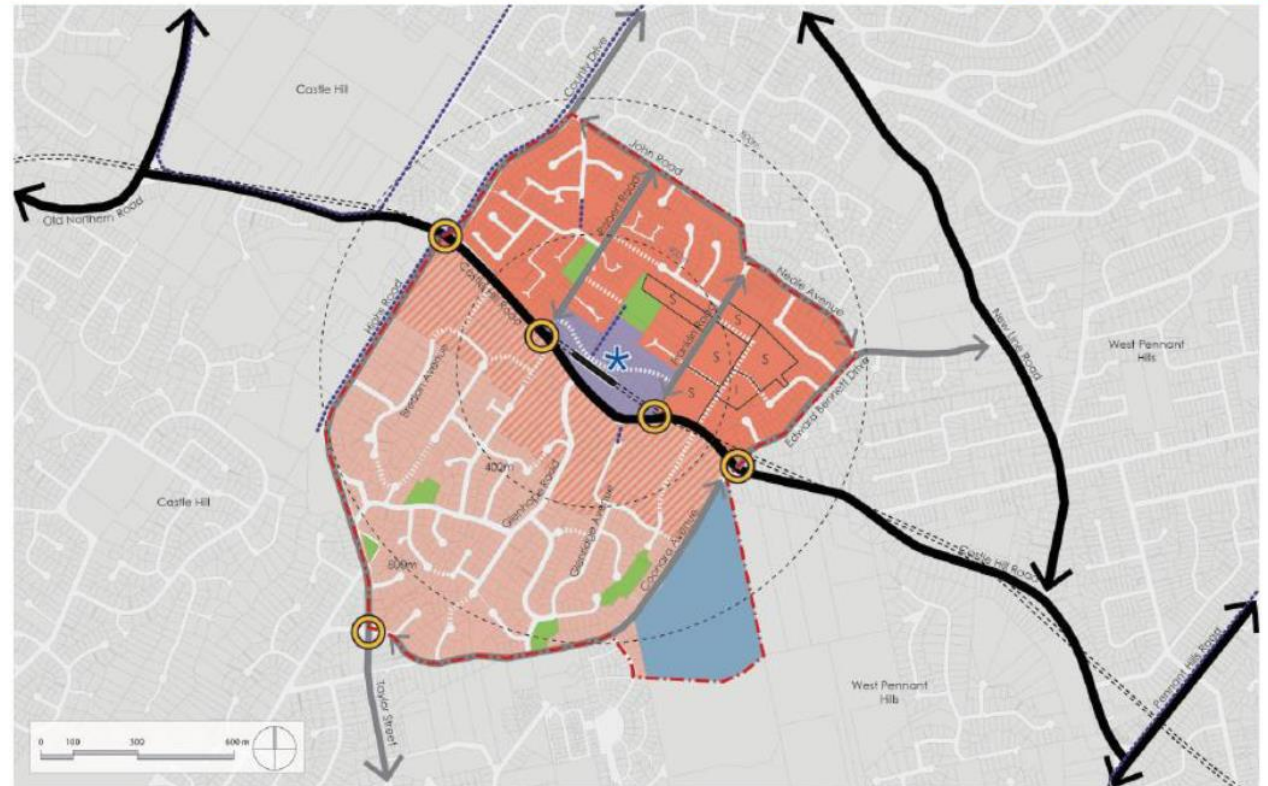


*Attractive Cities:  
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KPI.*

*Cherrybrook station*

*Tot 10 Cities rankings  
correlate with a high  
Walkability Index.*

## Cherrybrook: Retrofitting Suburbia



Source: Department of Planning and Environment Cherrybrook Structure Plan (2013)













North Ryde

Macquarie Park Cemetery  
Buses

Heating loop  
system in operation







Macquarie Park  
Cemetery and Crematorium

HILLS M2 MOTORWAY

YOU  
ARE  
HERE

1 - 39

North Ryde  
Station

23b - 21

Blenheim  
Park

DELHI RD

14 - 72

CSIRO

NEWBIGIN CL

JULIUS AVE

JULIUS AVE WEST

RIVETT RD

1

LUCKNOW RD

JULIUS AVE

14

HILLS M2 MOTORWAY

EPPING RD

EPPING RD





# *Investment by Government*

## *Case Study 2: Barangaroo*

*Top 10 Cities rankings  
correlate with a high  
Walkability Index.*



## Mode split (1996) Sydney CBD

68%	Public Transport 18.5% bus 49% train 0.5% ferry
7%	Pedestrian / Cycle
25%	Car / Motorcycle

## Mode split target for Barangaroo:

84%	Public Transport 20% bus (light rail) 62% train 1% ferry
12%	Pedestrian / Cycle
4%	Car / Motorcycle



How do we get 4% by car to 400 000 m<sup>2</sup> office space at Barangaroo and make Wynyard Station work?

Currently 15 minutes walk over the hill, is reduced to 6 minutes.

(in tollway parlance, cuts out 6 sets of traffic signals and improves traffic flow)

23 000 office workers and 33 000 visitors per day = > 110 000 trips per day.

Capacity of 20 000 persons per hour > a tollway

9m wide, 180m long, AUD\$300m

\$300million/9 minutes = **\$33million per minute saved**

Compare this with a tollway:

WestConnex: "motorists will save up to 40 minutes between Parramatta and Sydney Airport and bypass 52 sets of traffic lights"

\$16.8 billion/40 minutes = **\$420million per minute saved**



*Attractive Cities:  
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*Case Study 3: Urban Design*

*Top 10 Cities rankings  
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Cities:  
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*Case Study 4: Shopping  
Centres*



28.7 million customer visits per annum makes Westfield Parramatta one of Australia's busiest shopping centres.

That is about one MCG crowd per day !

At average of one km walked per customer, that is 30million kilometres walked per year.



*Surveys for QIC shopping centres showed that walking to shop time exceeded parking time at most centres.*

24 June 2009

Road Safety Committee  
Pedestrian Safety in Car Parks  
Parliament of Victoria  
Spring St  
EAST MELBOURNE VIC 3002

- 3 JUL 2009

**Westfield**

Westfield Shopping Centre  
Management Co Pty Limited

ABN 55 000 712 710

Level 20, Westfield Towers  
100 William Street  
Sydney NSW 2011  
GPO Box 4004  
Sydney NSW 2001  
Australia

Telephone 02 9358 7000  
Facsimile 02 9358 7690  
Internet westfield.com

Dear Road Safety Committee,

**RE: Call for submissions for inquiry into pedestrian safety in car parks**

Further to your invitation dated 23 April 2009, Westfield submits the following for your consideration.

Shopping Centre Parking Overview

Westfield strives to create a better shopping experience for their customers. Parking is a secondary use. People don't come simply to park – it's the shopping experience. Parking won't make or break a destination. Many great, successful centres don't have "great" parking but parking is the first and last impression of the shopping experience.

**Parking and the Shopper – some things to know**

1. **Parking is an interruption to the shopper's state of mind.** Parking is frustrating and tiring. At its best, it is a routine distraction.
2. **Proximity is relative.** Everyone wants to be "close", but being close means different things to different people. The functional design must reflect customer's needs as drivers and as pedestrians! Often, parkers spend more time in parking areas on foot than in cars.

# Shop Houses and Terrace Houses

- Simple geometry: Double the radius, 4 times the area  $\pi r^2$ , 8 times the volume  $\pi r^3$ . E.g. 400m walk from station: 2km is 25 times the catchment area. Add 5 storeys and you get 125 times the catchment area.
- Good Design. Falling back into bad design habits is too easy.



# Technology and change

- “Technology is never value-neutral. It might allow us to do things we already do more easily. It may offer us new ways of delivering the same service. But it never does merely that. You can choose just about anything to illustrate this point. The invention of the motor car didn't merely allow us to move faster from A to B. It completely changed the possibilities of what A and B were. It didn't merely save us time, it contracted physical space, and with it, contracted social space. It is only when the motor car became available that the vast modern city became possible: spread out over distances that once upon a time would have encompassed different villages or even rural areas. I won't waste your time grinding this out, but the point is that this technology changed our entire social organisation.”
- (Waleed Aly, The Andrew Olley Lecture, 2016, on Journalism)

# Wicked Problems of the Information Age.

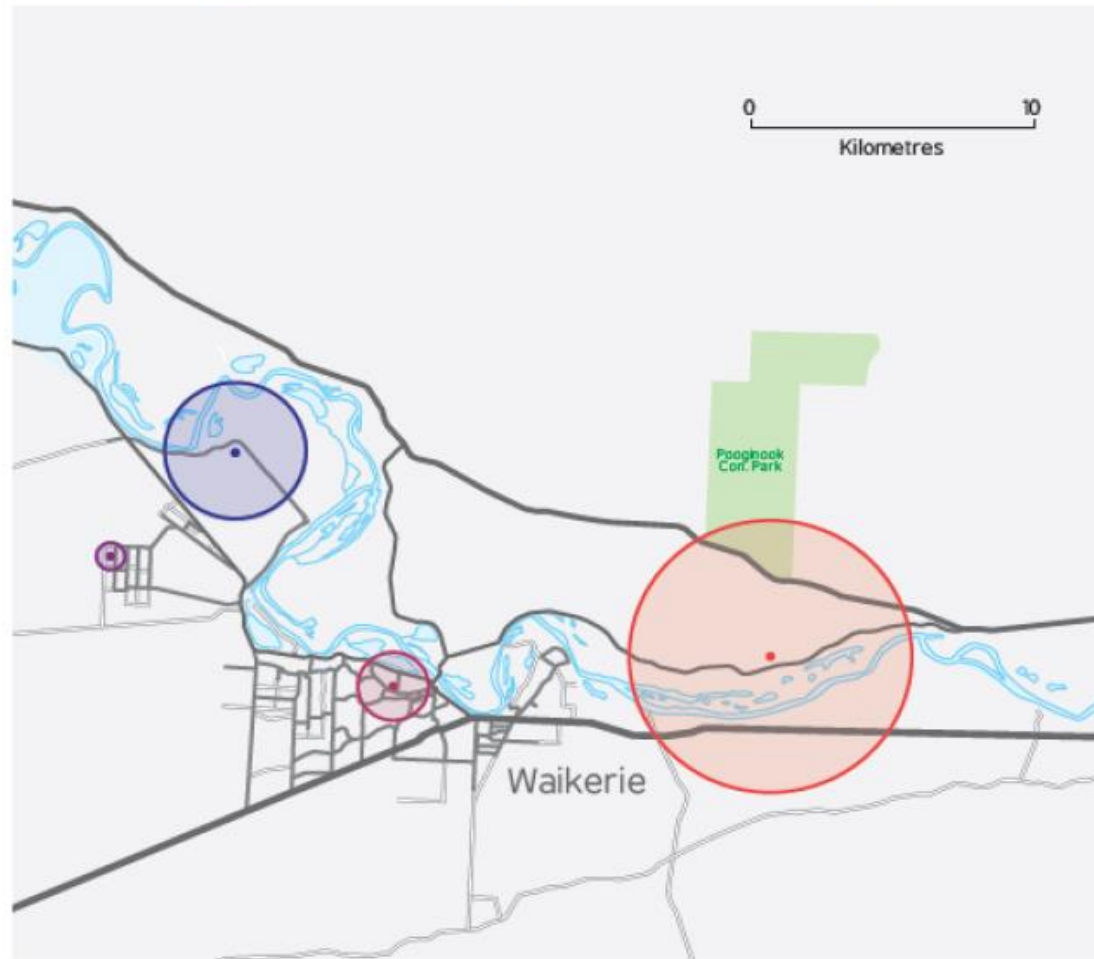
- Robotics
- Electronic finance and cryptocurrency
- Livability
- Uber - even governments and cartels cant fight convenience
- Electric cars, segways, and autonomous vehicles
- Health and inactivity and obesity
- Complex transport modelling - but what problem are we solving ?
- We need clear thinking more than ever.



# Health

- In 2005, overweight and obese Australian adults cost the Australian economy \$21 billion in direct health care and direct non-health care costs, plus an additional \$35.6 billion in government subsidies, according to a study published in the Medical Journal of Australia. Feb 28, 2010.
- Walking is also related to mental health, wellbeing, and independence.

## Roaming radius of 8 year old over 4 generations



- |   |  |
|---|--|
| <b>GREAT-GRANDFATHER</b><br>George aged eight in 1919 allowed to walk 10 km to the conservation park. | <b>GRANDFATHER</b><br>Jack aged eight in 1950 allowed to explore 5 km of the Murray River.     |
| <b>MOTHER</b><br>Vicky aged eight in 1979 was allowed to walk to the local creek bed 2.5 km away.     | <b>SON</b><br>Ed, now eight is only allowed to walk on his own to the end of his street (1km). |



‘Free range’  
or  
‘No range’?



Source: The road less travelled, *HAKA*

# Play the long game

- “French sociologist Pierre Bourdieu: He calls these people les fast-thinkers. That's French, by the way. And the reason he says they can think so fast is that they aren't really thinking very much. Rather, they're thinking in "received ideas": What if our cut-throat rivalries are driving us ever further into the admittedly profitable world of clickbait? Is it possible we'd be pursuing short-term victories at a more comprehensive, long-term cost to our authority, much like we're seeing in politics?” (Waleed Aly, Andrew Ollie Lecture, 2016 on Journalism)
- This pressure also applies in Planning - particularly for pedestrians
- Good pedestrian planning can be intrinsically boring – good footpaths and good places and good crossings.
- Bob Meyer @over 70 says most of his best projects are yet to be realised.

Walkability is a key performance indicator for attractive cities in the information age.

Pedestrians can be valued and encouraged in both private developments and in the public domain.

Commercialisation of pedestrians will help to bolster the case for investment in walkability by the private sector and government.

(contact:  
[colin.henson@smec.com](mailto:colin.henson@smec.com))

## Land use-transport integration

- City building
- Preserving future extensions
- Integration with transport network
- Integration between station and development

