

MAKING PUBLIC TRANSPORT WORK IN MELBOURNE

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Public transport advocates argue that if higher density housing were promoted around transport hubs or along transport corridors, particularly those with tramlines, that this would achieve a significant increase in public transport use. This advocacy is mistaken in the case of Melbourne because only a small proportion of jobs is located close to fixed rail or tram routes. This helps explain the key empirical finding of this paper: only a tiny minority of employed persons who live within walking distance of a train station or a tram stop in Melbourne actually use the train or tram for journeys to work.

Advocacy for a more compact Melbourne has escalated since the Victorian Government announced a major extension of the city's Urban Growth Boundary (UGB) in 2009. This decision alarmed those concerned about the environmental and economic consequences of Melbourne's low-density settlement pattern.

The context was the state government's announcement in December 2008 that Melbourne's population was likely to increase by 1.8 million over the 30 years between 2006 and 2036 rather than by the one million over 30 years which had been assumed when the original Melbourne 2030 planning scheme was legislated in 2002. If the new projection is correct, Melbourne's population will grow from 3.744 million in 2006 to 5.525 million in 2036.¹

Following this announcement, the government issued a revision of its planning strategy for Melbourne titled *Melbourne@5 million*. This stated that an additional 600,000 households would have to be accommodated over the next twenty years, nearly half of which would be located in growth areas.² As a consequence the UGB would have to be extended to help accommodate these extra households.

Those arguing against further expansion of the city's urban frontier, claim that Melbourne must become more compact (meaning higher density housing) if the

city's residents are to develop a more sustainable lifestyle. Advocates for a compact city put a high priority on reduced dependence on the private car. They see increased use of public transport as a key indicator of a sustainable urban life style. A good example is the Audit Expert Group assigned to review the Melbourne 2030 planning scheme. This group, though selected for the role by the state government, nevertheless was critical of the government's expansion of the UGB. They advocated a compact city policy in association with a prioritisation of public transport in the government's transport policy. The Expert Group recommended: 'Prioritising actions to support a rapid modal shift over the next five years from car to public transport—tram, train and/or bus—and walking and cycling'.³

The underlying assumption behind this advocacy is that communities living in high-density settings will make greater use of public transport than those living in low-density communities. Of course, if high-density settlements are encouraged in outer suburban areas which are poorly served by public transport then there can be no change in transport patterns. The answer, according to critics of expanding the UGB, is more public investment, particularly in fixed rail facilities. They expect that if communities are provided with public transport options, then they will use them.

Most compact city advocates argue that public transport use will be best facilitated if it is based on Transport Oriented Development (TOD) principles, in which new housing is concentrated in or around transport hubs.⁴ The problem for those favouring this strategy in Melbourne is that so far it has not worked, despite the influence of these ideas when the original Melbourne 2030 planning scheme was legislated in 2002. Under Melbourne 2030, developers were given the legal right to build high density housing in over 100 major activity centres scattered across Melbourne. All locations well served by public transport services were included. However, very little high-density housing has been constructed in these centres, except in a few strategic development sites, including Docklands.

By and large, compact city advocates have had to acknowledge that Melbourne 2030 is a failure. There is an increasingly frantic search for a new policy intervention that will revive the compact city aspiration. One idea that has some currency is a marriage of high density housing with Melbourne's transport corridors. In this proposal developers would be given the right to build high-density apartments along Melbourne's major tram and bus corridors. This idea has generated some interest within the Victorian government.

The most forceful advocate of the transport corridor idea is Rob Adams, director of planning within the City of Melbourne. His idea is as follows:

The aim should be that, by 2029, the key linear transport corridors will have developed into medium rise high density corridors that connect all the activity centres, and provide easy access to high quality public transport from the adjacent 'productive suburbs'. Development of these corridors would take development pressure off the existing suburbs, which can then develop as the new 'green lungs' of our metropolitan areas.⁵

The report from which this quotation was drawn received front page treatment in the *Melbourne Age*. This is despite the draconian measures recommended to bring the plan to fruition. These include giving developers 'as of right' permission to build four- to eight-storey apartment blocks along transport corridors, except for 'all heritage building and public open spaces along these routes'.⁶

There are a range of issues stemming from this proposal which might stop it in its tracks. If as proposed by Adams, most of Melbourne's anticipated population growth were located along these public transport corridors, it would involve a sharp contraction of housing options and a great divide between those forced to accept apartment living and those occupying the protected 'green lungs' of Melbourne, which would nestle behind the high density corridors. In addition, the merits of placing so many people along noisy and polluted arteries would surely be questioned. Practical issues like how to accelerate tram speed, currently just 15 kilometres an hour in Melbourne, would also have to be resolved.⁷

A more fundamental problem, which is addressed in this paper is whether, if the corridor housing were to be built, its occupants would make use of the adjacent tram or bus services as anticipated by advocates of the proposal.

These are not remote academic issues. Let us assume for the moment that the Victorian government does embrace the compact city objective, as by limiting the expansion of the UGB, and by promoting high-density housing within established suburbia, including along tram and bus lines. Let us also assume that the Victorian Government gives priority to investment in rail and other public transport facilities ahead of roads in its transport infrastructure program.

In these circumstances, if the take up of the public transport option is not as expect-

ed by advocates, the consequences could be serious. They would include traffic chaos on the roads. This would be inevitable if most of the people housed in higher density settlements continued to use their cars for journey to work and for other trips.

ARE THE ASSUMPTIONS OF COMPACT CITY ADVOCATES ABOUT USE OF PUBLIC TRANSPORT CORRECT?

The evidence suggests that their assumptions are not correct. The reason is that jobs in Melbourne are highly dispersed. They are not concentrated in one or more central hubs served by train or tram, as was the case with central Melbourne up to the early 1950s. This is not a new critique. There is a substantial literature in which the claims about housing density and its alleged effects on reducing automobile usage have been empirically tested and found them wanting.⁸ Such criticism has not deterred enthusiasts nor has it diminished the publicity they continue to win for their cause. For this reason, we need to revisit the issue.

The high level of job dispersal in Melbourne cannot be easily unwound. As noted, the Victorian government, through Melbourne 2030, has given developers the green light to build medium- to high-rise apartments in and around transport hubs. It has also encouraged employers to locate business activities in these hubs. Very few developers have taken up the first option because of the high cost of building apartments in multi-storey blocks and the limited demand for such housing. Also, little progress has been made on the movement of business enterprises closer to transport hubs except for inner-city office developments. The reasons are explored below.

It follows that, even if policies are implemented which concentrate settlement around transport hubs or along transport corridors, those living in these high density settlements may still need to use their

private car for work trips. This is because work locations are dispersed and, in any case, are often distant from public transport services.

By 2006, only 19 per cent of jobs within the Melbourne Statistical Division (MSD) were located within the Melbourne Local Government Area (LGA) which consists of the CBD, Carlton, Docklands, Southbank and the northern section of St Kilda Road. This proportion has not changed over the past twenty years.⁹

True, the CBD has got bigger, and has maintained its share of the total number of jobs in Melbourne. Nevertheless, most jobs (81 per cent) are scattered throughout the rest of the MSD.

This is partly because many of the services required by suburban residents, including retail, health and education, have to be located near the customer base. Private enterprises have also sought cheaper and more land-extensive sites away from inner Melbourne in which to locate professional services, back offices, warehouses and factories. This pattern has been facilitated by the zoning decisions of the planning authorities. They have usually placed these zones well away from residential areas and from public transport hubs, in part because these hubs are usually already taken up by other uses, including shopping centres or strips. The favoured location for commercial and industrial zones has been along or near to freeways and arterial roads.

The only practical means of transport for those journeying to work for jobs located in these centres is by private car.

Given this job location pattern, how is it that there has been such a remarkable upsurge in patronage of the public transport network in recent years? The number of suburban train trips between mid-2005 and December 2008 has grown by 46 per cent.¹⁰ Most of this upsurge is accounted for by growth in the number of train trips into inner Melbourne. This is partly because of the

increased number of jobs in the area. But in addition, the share of journey-to-work trips via public transport into inner Melbourne has grown significantly. This is the outcome of modal shift, as more inner city workers switch to public transport because of the increased cost of petrol and the worsening road traffic congestion that they now encounter if they use their private car.

The result for the MSD is a huge divide in the pattern of public transport use. Inner city workers are increasingly likely to use public transport. As Table 1 shows, by 2006, 42.6 per cent of the 285,828 persons working in inner Melbourne did so. But only a tiny minority of just 4.4 per cent of the 1.4 million who work outside inner Melbourne used public transport to get to work in 2006.

In order to explore this situation more closely we have used 2006 and earlier census data on journey to work to calculate the proportion of employed persons who use the train or tram by the distance of their home from a station or tram stop. Table 2 provides a synopsis of the results of this research. It indicates the number of employed persons living in the MSD who live within 500 metres and 500 to 1000 metres of a train station or tram stop and the proportion of these employed persons who used the train or tram to journey to work in 2006.¹¹

The number of employed persons living within 500 metres or 500 to 1000 metres of a train station or tram stop is small. There were 1.7 million employed persons who journeyed to work and who lived in the MSD in 2006 (see Table 1). This means that in the case of the train, the 176,256 employed persons who lived within 500 metres of a station (see Table 2) made up just 10.4 per cent of the total stock of employed persons in the MSD who journeyed to work. Another 6.7 per cent lived between 500 and 1000 metres of a station. For the tram, the equivalent figures are 17.8 per cent (for the share of employed persons living within 500 metres of a tram stop) and 6.7 per cent for those living between 500 and 1000 metres. This dispersed residential pattern rams home how hard it will be to challenge the hegemony of the car in Melbourne: the overwhelming majority of employed persons do not live close to train or tramlines.

A further challenge, brutally revealed in Table 2, is the small proportion of those who do live within walking distance of the train or tram and who actually use the train or tram for journeys to work. In 2006 only 16.8 per cent of employed persons who lived within 500 metres of a train station used the train for work trips and only 11.8 per cent of those who lived within 500 metres of a tram stop used the tram.

Table 1: Journey to work—public transport usage to inner Melbourne and rest of Melbourne 2006

	To inner Melbourne	All trips within Melbourne	Melbourne minus inner Melbourne
Public transport trips	121,771	183,469	61,698
Other trips	164,057	1,502,523	1,338,466
All trips	285,828	1,685,992	1,400,164
Share of trips by public transport	42.6	10.8	4.4

Source: CPUR customised 2006 census matrix

The disturbing conclusion, at least for the prospects of any increase in public transport use, is that very few employed persons in Melbourne live within 500 metres of a train station or a tram stop—just 10.4 per cent near a train station and 17.8 per cent near a tram stop. Of this favoured minority, as our commentary on Table 2 shows, only a tiny proportion actually use the train or tram for journeys to work. That is why, as Table 1 shows, just 10.8 per cent of employed persons used public transport for work trips in 2006.

In what follows we explore the factors shaping this outcome, and what they imply for the public transport proposals currently advanced by advocates.

PUBLIC TRANSPORT USE IN OUTER-SUBURBIA

As indicated, compact city advocates want to see more investment in the public transport network. They want fixed rail to be extended to poorly-served existing outer suburban areas and to accompany any further spread of the suburban frontier. The best indication of the likely outcome is the current record of public transport use in outer suburbia. As the following tables show, this is very low, even where residents live close to a suburban railway station.

The main reason for this situation is that very few outer suburban residents work in inner Melbourne. For example, in 2006 only 6.5 per cent of employed persons living in the City of Casey worked in inner Melbourne.¹² This tiny minority of Casey residents were the main users of public transport for work trips. Those who used public transport to get to inner Melbourne made up 55 per cent of the Casey residents

who used public transport to journey to work.¹³

The great majority of outer suburban residents work locally or in the job rich middle arc of suburbs. To the south and east of the city these suburbs include Whitehorse, Monash, Dandenong, Moorabbin and Kingston. Few of these jobs are located near railway stations. For most of these outer suburban residents, public transport is either not available or involves multiple changes in mode of transport. It is usually far quicker to travel by private car. As is shown below, this finding holds whether the outer suburban residents live close to a railway station or not.

The following two tables indicate the percentage of those who travel to work by train whether in combination with any other form of travel or not and who live within five km of a suburban railway station. Details of this use are shown in Tables 3A and 3B for residents located near train stations on the Dandenong to Pakenham railway line in Melbourne's south east and for residents located near train stations between Pascoe Vale and Craigieburn to the north of Melbourne. The data indicate the number of persons who travelled to work as recorded at the 1991, 1996, 2001 and 2006 census dates and the proportion of these workers who took the train as part of their journey to work.

As would be expected for growing outer suburban communities, the number of

Table 2: Proportion of employed persons who use the train or tram for journey to work by distance of their home from a train station or tram stop, 2006

Distance from train or tram	Number of employed persons	Percentage using the train	Number of employed persons	Percentage using the tram
<500 metres	176,256	16.8	300,769	11.8
500-<1000 metres	339,211	11.8	112,942	3.9

Source: Pathfinder Solutions, 2009

residents who journey to work has increased since 1991. But there has been no growth in the tiny share that use the train to journey to work. This outcome reflects the dispersal of jobs in Melbourne and the fact that very few outer suburban residents choose to work in inner Melbourne.

Where an outer suburban community is serviced by a rail line (as through Berwick to Pakenham) the share of residents located within five kilometres of a suburban railway station diminishes over time as the community spreads out with new developments. It

could be argued that the low share of those using the train by 2006 partly reflects this dispersal. If so, it may be that if high-density development were promoted around transport hubs in outer suburbia that this might lead to increased use of public transport.

However, Table 4 indicates that distance from the station is not influential in determining train use for work journeys for outer suburban communities. The table indicates the share of journey-to-work trips made using trains by employed persons living in selected major outer suburban LGAs by

Table 3a: Total number of employed persons living within five kilometres of the station listed and percentage using the train for journey to work, Pakenham line

Station	1991		1996		2001		2006	
	number	per cent	number	per cent	number	per cent	number	per cent
Pakenham	202	6.3	232	5.2	258	4.8	370	4.7
Officer	20	3.1	24	3.6	17	2.5	52	3.1
Beaconsfield	71	5.3	102	5.4	143	4.5	350	5.3
Berwick	254	5.2	343	4.8	495	4.8	802	5.5
Narre Warren	410	5.8	702	4.9	951	4.7	1,145	5.1
Hallam	783	5.7	805	5.0	984	5.2	1,183	6.1
Dandenong	845	6.0	665	5.2	784	5.8	765	6.0

Source: Pathfinder Solutions

Table 3b: Total number of employed persons living within five kilometres of the station listed and percentage using the train for journey to work, Broadmeadows/Craigieburn line

Station	1991		1996		2001		2006	
	number	per cent	number	per cent	number	per cent	number	per cent
Craigieburn	351	6.8	359	5.6	446	5.8	739	6.3
Roxburgh Park	334	6.0	492	5.5	669	5.4	671	5.3
Broadmeadows	497	6.8	423	6.1	501	6.2	418	5.4
Jacana	656	6.6	577	6.4	645	7.0	668	7.7
Glenroy	587	9.6	520	9.5	564	9.7	643	10.4
Oak Park	649	8.2	531	7.6	692	8.9	757	10.0
Pascoe Vale	381	9.6	304	8.1	520	11.5	508	11.1

Source: Pathfinder Solutions

distance from their closest station. It shows that the distance of workers' homes from a station makes little difference to their propensity to use the train to travel to work. Those living within a kilometre of the station make little more use of the train than do those living at a distance of one to two or two to three kilometres from the station.

The implication is that the reason outer suburban residents live close to a station has to do with factors other than their interest in using public transport to get to work. For example, they may have located in the LGA in its early years of settlement or wish to be close to shopping or civic facilities, which are also in the vicinity of the nearest station.

This finding implies that, given the existing pattern of job location in Melbourne, there would be little gain in public transport use should the housing density of outer suburban developments near stations be increased.

HIGH DENSITY DEVELOPMENT ALONG TRAMLINES

As mentioned earlier, the idea of promoting high-density development along tram lines has attracted state government interest. In March 2009 the Victorian Department of Planning and Community Development released a report by SGS Economics and Planning (SGS) which provides a detailed study of the market feasibility and urban planning implications of the idea.¹⁴

The report is a case study based on the roadside development potential along tramlines number 96 and number 112 that traverse the municipalities of Moreland and Darebin. SGS believes

that such development is feasible. The report also concludes that: 'the potential to house a significant amount of new housing close to existing transport infrastructure along tramway corridors could inform a re-evaluation of the need to plan for new growth areas investigation areas outside of the existing urban growth boundary'.¹⁵ These conclusions are consistent with those of the Rob Adams's tract on *Transforming Australian Cities* discussed at the beginning of this paper.

SGS is aware of the potential difficulties in achieving this tramway vision. The report admits that the busy arterial roads with tramlines are usually noisy and polluted and thus not ideal for intensive residential development. The roadside frontages may also be best suited to commercial premises.¹⁶ But since the underlying rationale for the proposal is its contribution to urban consolidation, and thus to greater use of public transport, a key issue is whether the residents attracted to live in new high density apartments along tram lines would actually use the tram. The report acknowledges that its

Table 4: Percentage of journey to work trips involving use of trains in 2006, selected LGAs by distance of residence from a rail station

LGA	within 1 kilometre	1-2 kilometres	2-3 kilometres
Cardinia	5.6	4.9	3.8
Casey	6.0	5.6	5.4
Frankston	8.6	5.7	4.3
Greater Dandenong	11.0	7.1	5.9
Hume	7.3	6.7	6.0
Maroondah	11.6	8.0	6.9
Nillumbuk	8.1	7.9	5.8
Whittlesea	10.3	7.0	6.8
Wyndham	10.5	7.4	6.9

Source: Pathfinder Solutions

conclusions depend on the assumption that this is the case: ‘that is, it [trams] must be competitive with alternative options for a majority of trips’.¹⁷

For this to be the case, the destinations of work trips as well as shopping and leisure trips must be located on the adjacent tram route. Melbourne’s trams generally converge on inner Melbourne, just as is the case for the suburban train network. But most people living in middle suburbia, and even those living in the inner suburbs, do not work in inner Melbourne. In the case of the inner north area which covers the SGS case study location, only 21.8 per cent of employed persons use public transport for work trips, despite the plethora of tram and train lines servicing the area.¹⁸

SGS does not indicate what proportion of these residents use the tram. We analysed two sections of tram routes 96 and 112 in order to explore this issue. In the case of route 96, our analysis covered the section on Nicholson Street between Brunswick Road and Arthurlton Road in Moreland. This section is just a few kilometers from the centre of Melbourne. We found that 23.6 per cent of employed persons living within 500 metres of a tram stop in this section used the tram for journeys to work. In the case of tram route 112, the section examined covered several kilometers along George Street from Merri Parade to the terminus at the intersection of Gilbert Road and Regent Street in Darebin. The terminus is about 10 kilometres from the centre of Melbourne. Just 12.8 per cent of employed persons living within 500 metres of a tram stop along this section of the 112 tram route used the tram for their journeys to work.

The outcome for these two tram routes is repeated elsewhere along tram routes in Melbourne. As noted earlier in Table 2, the proportion of those who use the tram for work trips across Melbourne is very small, even for those living close to a tram stop. Just 11.8 per cent of employed persons living

within 500 metres of a tram stop used the tram for work trips. A much higher proportion of those living within this distance of a station (16.8 per cent) used the train for work trips. The reason for this disparity is that most of those using public transport would be traveling to inner Melbourne. The train offers a far faster travel alternative than the tram. Since only one out of every 10 employed persons who lives within 500 metres of a tram uses the tram for work trips this does not bode well for the likelihood that those who take up high density living along the same tram routes in future will be any more inclined to use the tram for work trips.

Table 5 shows the actual use of trams for work journeys in 2006 by all employed persons living in the LGAs within Melbourne where trams have a significant presence. For this table, we computed the share of employed persons in each of the LGAs listed who used the tram for a work trip (whether solely or in combination with one other form of travel—such as private car or train) by the distance of their home residence from a tram stop. The table lists the share of persons who used the tram to go to work who lived within 250 metres, 250 to 500 metres, 500 to 750 metres and 750 to 1000 metres of a tram stop (see endnote reference 11).

As would be expected, the share of workers living close to a tram who used it for work purposes is higher for those living relatively close to inner Melbourne. This is because a greater share of these residents work in inner Melbourne. The highest use shown in Table 5 is for residents of Port Phillip, where 19.2 per cent of those living within 250 metres and 15.3 per cent of those living within 500 metres used the tram for work trips. At the other end of the spectrum, only a tiny proportion of workers living in Whitehorse used the tram for work trips (5.6 per cent) even if living within 250 metres of the tram along the Maroondah Highway, down which the tram now travels in a service as far as Box Hill station.

The results for Moreland and Darebin which cover the area studied by SGS are mixed. Some 19.0 per cent of employed persons who live within 250 metres of a tram stop in Moreland use the tram for work trips. The Nicholson Street section of the 96 tram in Moreland noted above is indicative of the relatively high use made of the tram where it passes through locations very close to inner Melbourne. On the other hand just 11.4 per cent of employed persons living in Darebin who lived within 250 metres of tram stop used the tram for journeys to work. This is consistent with the finding noted above for the section of the 112 tram which passes through Darebin.

SGS claim that their feasibility study of these two areas supports the tramway corridor proposal. This conclusion depends on the assumption that those who take up high density apartments built along the tramlines will use the tram for work and other journeys. Our findings do not support the SGS assessment. Only a small proportion of employed persons living close to a tram stop travel to work by tram. Apart from those who live close to inner Melbourne, the main reason is that only a minority of employed residents actually work in inner Melbourne.

CONCLUSION

Advocates of high-density developments along tram corridors, as well as those who believe the addition of fixed rail in outer suburbs will promote use of public transport, look at only one side of the equation. They assume that it is the location of homes relative to public

transport options which determines use of the public transport system. They believe that if people live near to public transport then they will use it.

Our data refute this assumption. In our view this is largely because of the dispersal of jobs in Melbourne. As long as this situation continues it is unlikely that policies based around promoting high density housing will generate much of an increase in the proportion of workers who use public transport for journeys to work.

There are three major conclusions that can be drawn from the present study. The first is that establishment of public transport services close to residents in outer suburbia will not guarantee a significant increase in the use of public transport. This is because the variation in the extent of public transport

Table 5: Share of employed persons who use the tram for work trips by distance from a tram stop by LGAs serviced by tram routes, 2006

LGA	Distance of residence from tramstop			
	<250 metres	250–500 metres	500–750 metres	750–1000 metres
Banyule	4.1	3.6	1.7	2.0
Bayside	4.9	2.2	0.5	0.7
Boroondara	10.5	6.7	3.9	2.3
Darebin	11.4	9.0	6.5	3.6
Glen Eira	6.5	4.9	3.2	2.3
Maribyrnong	8.3	6.7	3.4	2.3
Melbourne	15.2	12.6	5.1	4.6
Moonee Valley	10.5	7.7	3.7	1.5
Moreland	19.0	15.9	8.2	4.9
Port Phillip	19.2	15.3	10.8	5.9
Stonnington	9.5	6.2	4.3	1.4
Whitehorse	5.6	3.7	2.2	1.2
Yarra	17.8	12.9	6.8	2.8
Total	13.7	9.1	4.9	2.6

Source: Pathfinder Solutions, 2009

use for traveling to work appears to depend more on the connectivity of the network to workplaces than distance of residences from stations. Most of those workers who live in middle or outer suburbia who live close to a train station or tram stop do not use the train or tram for work journeys.

The second conclusion is that any increase in the density of housing in close proximity to tram lines will add much more to the number of car trips than it will to the number of trips made by tram. The likely outcome is an increase in road congestion, a slow down in tram journey times and thus an adverse impact on current users of the tram network.

The third conclusion is that the priority that compact city advocates put on the nexus between provision of transport options and high-density housing is misplaced. This priority looks at only one side

of the equation—the origin of journeys—and not the other side—the destination of journeys.

A sea change in thinking about the issue is required. This will require proposals which link the location of jobs to public transport options. Where this occurs, as with the public transport options servicing jobs located within inner Melbourne, there is a better chance of achieving a significant modal shift from the use of cars.

However, there is no guarantee that the establishment of train, tram or bus links to job nodes in middle and outer suburbia will dramatically change transport patterns. But in the absence of these links, which is characteristic of most of the 81 per cent of jobs located outside inner Melbourne, it is hard to see how any major change to present transport patterns could occur.

References

- ¹ *Melbourne 2030: A Planning Update*, Factsheet, Victoria in Future 2008—population projections
- ² Department of Planning and Community Development, *Melbourne 2030: A planning update—Melbourne@5 million*, December 2008, p. 18
- ³ R. Moodie, D. Whitney, M. Wright and A. McAfee, *Melbourne 2030: Audit Expert Group Report*, Department of Planning and Community Development, March 2008, p. 53
- ⁴ For example, see the thoughtful advocacy of the Commissioner for Environmental Sustainability, *Creating a City That Works*, Victorian Government, 2007, pp. 17–21.
- ⁵ *Transforming Australian Cities*, City of Melbourne, July 2009, p. 13
- ⁶ *ibid.*, p. 14
- ⁷ Commissioner for Environmental Sustainability, 2007, *op. cit.*, p. 32
- ⁸ B. Birrell, K. O'Connor, V. Rapson and E. Healy, *Melbourne 2030: Planning Rhetoric Versus Urban Reality*, Monash University ePress, 2005, chapter 2, pp. 16–17
- ⁹ K. O'Connor and V. Rapson, 'Employment in city and suburban Melbourne: the changing relationship', *People and Place*, vol. 11, no. 4, 2003, p. 44
- ¹⁰ Connex Melbourne Trains Australia, Our performance—past 12 months, April 2009, <<http://www.connexmelbourne.com.au>>
- ¹¹ In the case of people counted as using the train all those who used the train for work trips, either alone or in combination with up to two other means of transport, were included. In the case of people counted as using the tram all those using the tram alone or in combination with any other means of transport were included. A series of geographical concordances were constructed to allow data from earlier census issues to be expressed using the census collection district (CCD) boundaries defined by the Australian Bureau of Statistics for the 2006 census. The distance of each CCD centroid in the MSD from the nearest railway station was calculated. For the analysis shown in this table, only CCDs that had their centroid within five kilometres of a railway station were used. Where a CCD was within five kilometres of more than one station, the CCD was allocated to the closest station. Data on the location of tram stops were not available to the authors of the study. As a proxy, roads containing tramlines were identified and each road intersection on each route was specified as a tram stop. This may overstate the proximity to trams; although the tram line will be within the specified proximity, there may be an additional distance to the

actual stop locations.

¹² *Transport Demand Information Atlas for Victoria—Volume 1: Melbourne*, Victorian Department of Transport, 2008, p. 9

¹³ *ibid.*, p. 12

¹⁴ SGS Economics and Planning, *Residential Intensification in Tramway Corridors*, Department of Planning and Community Development, March 2009

¹⁵ *ibid.*, p. ii

¹⁶ *ibid.*, p. 28

¹⁷ *ibid.*, p. 3

¹⁸ *ibid.*, p. 24

ERRATA

The editors regret that they have discovered an error in the text of E. Healy, ‘Population ageing and employment surge among older Australian workers’, *People and Place*, vol. 17, no. 2, 2009, p. 9. The text at the top of page 9 is wrongly placed and should follow immediately on from that at the bottom of page 4 (right column) after ‘The ...’. Subsequent sentences should read:

The data available do not permit any exploration of the factors causing this increase in participation. However, our analysis of the literature suggests that it mainly reflects a greater tendency for older persons to stay on in their jobs than was the case in the past. Concerns about their financial capacity to provide for a long retirement given the global financial crisis may have contributed.

An error has also been discovered in the text of J. Dobson and J. Salt, ‘Pointing the way: managing UK immigration in difficult times’, *People and Place*, vol. 17, no. 2, 2009, p. 15, Table 1. The asterisk should be against the SEGS data in the body of the table, not against the title. That is to say, SEGS data is for six months only—the period January to June 2007.

These errors have been corrected in the online versions of these articles.