

# **A SUBURBAN CRISIS?: HOUSING, CREDIT, ENERGY AND TRANSPORT**

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While the 'ground zero' of the Global Financial Crisis has been among the metropolises of financial capitalism, the material grounding of the crisis has been in the urban periphery at the intersection of, land, housing, credit, energy and transport. It has been a suburban crisis, with its faultlines fracturing most prominently across the USA but with major tremors and aftershocks in other heavily suburbanised economies, such as Australia, New Zealand, Canada and the UK. In turn the global financial crisis threatens to reshape suburbia in uncertain and unpredictable ways.

This article explores how the crisis interacts with more long-standing stressors pressing against Australian urban housing, credit, energy and transport systems. It raises questions about the implications for Australian suburbia of a forthcoming era of insecure energy supplies and wider limits to urbanisation.

## **Finance, Credit and Urban Planning**

The immediate locus of the global financial crisis has been among financial institutions with immediate and secondary exposure to risk within the US home loan market. The collapse of major financial institutions has been tied specifically to the failure of a range of 'sub-prime' mortgage instruments. But a mortgage (typically the credit

fancier form) is a specific socio-tenorial relation that orders credit, space, labour, technology and energy within a particular urban temporal diagram. The modern material expression of this diagram is overwhelmingly suburban. The moment of recent failure has been in the synovial joints linking money, land, fuel and transport technology. Credit backed by land, in the form of mortgages, underpins large tracts of modern financial systems. But petroleum, the great energiser of post-WWII suburbia, is no longer a reliable fuel for credit-based urbanisation.

The regulatory regime of modern town planning is both a response to and codification of the spatio-temporal imperatives of capitalist urbanisation and the tensions and contradictions generated by the simultaneous expansion of space and compression of time (Harvey 1989). The concentration of capital in time-space and competition for space produced the 'housing problem' of accommodating labour that has for more than a century been conundrum for business and state alike (Harloe 1995). Most solutions tried so far have pursued a version of the suburban formation, from the municipal socialism of the early tramway suburbs, the normative Garden City and Anglo-Swedish satellite town, to the extensive Australian suburb or the dispersed sprawl of suburban USA (Hall 1996).

Value in land is a correlate of accessibility – a relationship that is conventionally analysed through neo-classical bid-rent curves and distance decay gradients (Muth 1961; Wingo 1961; Alonso 1964). Suburban spatial accessibility depends on fuel and technology to overcome the temporal frictions of urban space. Suburbia fertilised by fossil energy-time proved a rich pasture for the harvest of money-credit. Home ownership expanded to the masses, embracing the cities with a 'mortgage belt'.

Land, housing, space, transport and debt are thus intimately linked in the political economy of the suburban assemblage but are also subject to the ongoing crises that affect components of the system and make battlers of suburban residents.

### **Growing Stresses: The USA and Australia**

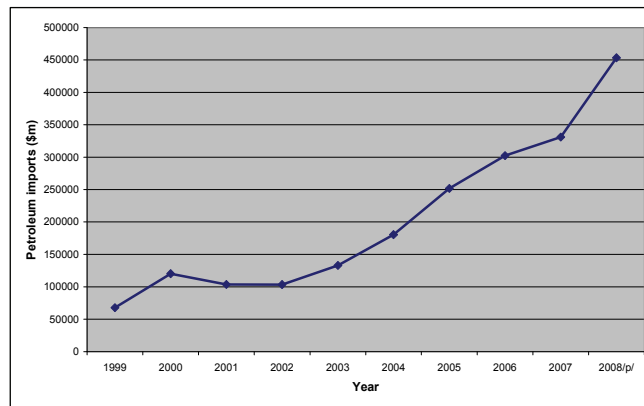
In the USA of the late-1990s the weakening of restraint on credit and the risks to accumulation this implied stimulated the penetration of mortgage lending into weaker and weaker segments of the socio-economic structure. This penetration was translated into suburban space through real estate and land development processes. Except for a few historical (industrial-financial) centres like Chicago, New York or Boston, US cities are almost entirely automobile dependent (Newman and Kenworthy 1989).

Petroleum prices rose from around US\$25 per barrel in 2004 to over US\$140 per barrel in 2008. The early effects of this oil impost on the global economy were difficult to discern and were probably masked in part by the positive short-run consumption effects of sub-prime lending in the US. Secondary circuits of capital flowing from oil producers also shielded the global economy from direct impact, as did further flows of capital arising from the undervaluation of Chinese labour.

Nevertheless, the cost of petroleum imports to the US grew sharply, from just over US\$125 billion in 2000-2003 to over US\$450 billion by 2008 (as shown in Figure 1 on the following page). With global GDP remaining fairly robust in the interim only a few commentators sought to enquire as to what effect high oil prices might have on the global economy.

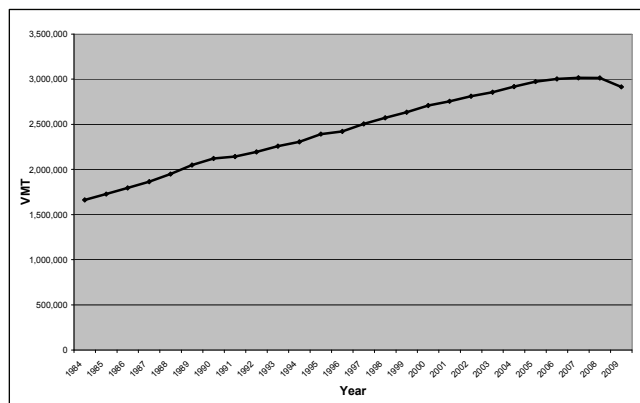
One obvious effect has been on the automotive sector, which is directly exposed to higher fuel costs. For the first time in more than 20 years US total vehicle miles travelled declined over a sustained period, with the inflection occurring between 2007 and 2008 (as shown in Figure 2 on the following page). In parallel the US automobile industry, which had demonstrated persistent intransigence in the face of demands for more efficient vehicles, saw collapsing sales and floundered towards a state bailout.

**Figure 1: Value of US Petroleum Imports, 1999-2008, Millions of Dollars.**



Source: Bureau of Economic Analysis (2008)

**Figure 2: Vehicle Miles Travelled, USA, 1984-2009.**



Source: US Department of Transportation (2009).

Official and civic discussion of the global financial crisis has largely avoided consideration of the links between the failure of the suburban sub-prime land and credit system and the higher transport costs imposed by the 2004-2008 oil shock. Among the few to interrogate such links, Hamilton (2009a: 39) has tested the effect of the 2004-2008 oil shock on the US macro economy and concluded that:

At a minimum it is clear that something other than housing deteriorated to turn slow growth into a recession. That something, in my mind, includes the collapse in automobile purchases, slowdown in overall consumption spending, and deteriorating consumer sentiment, in which the oil shock was indisputably a contributing factor.

Hamilton has had a long-run interest in the links between the US economy and petroleum prices. He has shown that seven of the past nine US recessions were preceded or accompanied by a run-up in oil prices. Viewed from this perspective, the recent financial collapse is one of a series of economic failures that are linked to petroleum dependence which in the USA is intimately tied to suburban arrangements. The current crisis is more intense and extensive because it has occurred in combination with rapid global economic growth and a decided weakness in the debt capacity of a major economic sector – suburbia – that is heavily dependent on petroleum.

Cortwright (2008: 1-2) noted two links between higher commuting costs due to the oil shock and the incidence of sub-prime foreclosures in the USA:

First, there has been an income effect. Suburban households spend more of their income on transportation, and gas in particular, and have, therefore, taken the biggest hit to household budgets from gas price increases. As a result, they have less income to spend on housing. Second, there has been a price effect. Because distant suburban housing requires more driving, potential buyers are now willing to bid less for houses at the suburban fringe.

In Australia approximately 50 per cent of the national population is found in the middle and outer suburbs of the nation's major cities (O'Connor and Healy 2004). The US experience has not been directly replicated in Australia, however. Some patterns suggest congruity. For example, households in Australian suburbia depend on automobiles for approximately 80 per cent of their travel. Petrol prices increased from around \$0.85/L in 2004 to over \$1.60/L in 2008, generating considerable additional household financial stress (Dodson and Sipe 2008b). Australian household debt hit a record high of 160 per cent of income in early-2008 (Reserve Bank of Australia 2009). Repossessions have grown in recent years but the most recent (post-crisis) evidence suggests they have begun to moderate. Australian households have been rapidly deleveraging in the face of the global financial crisis and the prospects of an Australian recession; household debt to income ratios fell 6 percentage points in the 9 months to December 2008 (RBA 2009).

Unlike its US counterpart, Australian suburbia appears to have avoided the most profound impacts of the global financial crisis. This performance is in part due to a range of state interventions, including rapid drops in official interests rates, aggressive fiscal largesse through tax credits for lower income segments and generous first home owner grants that have reinflated the housing-finance system. It is difficult to get precise data on the latter effects, but the spatial impact of first home owner grants is overwhelmingly suburban (Productivity Commission 2004).

There is also evidence that Australia's suburban households have been adjusting to the less certain environment of the past few years by altering their travel behaviour. Those with access to good quality services can offset vehicle running costs by using collective transport. Public transport patronage in the major cities has been growing sharply (Dodson and Sipe 2008b) and in some cities has generated considerable civic concern, especially in Melbourne where state transport capacity has been institutionally weakened (Mees 2005). In Brisbane public transport use grew by 12.5 per cent annually during 2004-2007, from 3.5 per cent annual growth in the previous three years (Translink 2007). In addition,

Australian motor vehicle sales have changed in both number and composition as households reduce ownership levels and downsize to smaller cars. This in turn has affected the viability of the Australian motor vehicle manufacturing sector which faces an uncertain future (Bracks 2008).

### **Long-Term Implications**

It is probably too early to discern what the longer run impact of the global financial crisis will be on Australian cities. The effects of the oil shocks were still working through the urban economy at the time the financial crisis intensified. And some of the sharper aggregate effects of the petroleum shocks on Australia's national economy were offset by rebounding revenues from exports of other fossil energy sources such as coal and gas. Coal is a stationary energy though and is unsuited to the fluid mobility needs of extensive suburbia. Even if complex coal liquification technology was adopted Australian suburbia would still feel the petroleum pinch. In the medium term the state will likely need to play a much greater task of supporting the suburban matrix through injections of transfer payments and infrastructure, as well as stabilising commercial and retail development. This, however, will likely prove unsustainable, both functionally and fiscally, without a dramatic, broader and sustained reconfiguration of the role of both the state and of suburbia.

Considerable uncertainty surrounds the future trajectory of petroleum prices which, in early-November 2009, sit at an uneasy US\$78 per barrel. There is a growing acceptance, if not yet complete consensus, that the world faces serious petroleum supply problems over the long term. Many observers point to the real possibility that global oil production may enter a permanent decline within the next decade (*e.g.* Birol quoted in Hurst 2009). Urry (2009) has warned of an unstable 'resource capitalism' erupting from these compounding pressures.

Research in Australia by Dodson and Sipe (2007; 2008b; 2008a) and Baum and Mitchell (2009) shows that the particular household level

impacts of the global financial and energy crisis are likely to be spatially differentiated. Lower socio-economic status households in the most car-dependent suburbs – with the most fragile housing values and weakest labour markets – are likely to fare much more poorly than higher socio-economic groups in ‘transit-rich’, high housing values and strong labour market areas. Dodson, Sipe and Li (2009) have further shown that eco-vehicle technologies are unlikely to offer much of a medium term salve; their high cost puts them out of reach of the many low income suburbanites driving old large ‘battlermobiles’. Newman (quoted in Campion 2008), speaking on the energy and climate challenges facing Australian cities, has suggested that it ‘...will mean a new residential abandonment in car-dependent suburbs. There will be wealthy eco-claves surrounded by Mad Max suburbs’. Considerable state action will be required to avoid such a distressing reconfiguration of Australian suburbia.

It appears the world will face a protracted period of weak and unstable credit markets combined with increasingly insecure global petroleum supplies set in a wider context of economic fragility (Hamilton 2009a). Speaking in the US context, Hamilton (2009b) has warned that:

Notwithstanding, the recent rise in oil prices again underscores the present reality of the long-run challenges. Even if we see significant short-run gains in global oil production capabilities, if demand from China and elsewhere returns to its previous rate of growth, it will not be too long before the same calculus that produced the oil price spike of 2007-08 will be back to haunt us again.

The International Energy Agency’s chief economist (Biol, quoted in Connor 2009) has become increasingly concerned at the implications of weakening global oil supply for the post-GFC recovery of the world’s economies, stating that:

[T]he global economy will still be very fragile, very vulnerable. Many people think there will be a recovery in a few years’ time but it will be a slow recovery and a fragile



recovery and we will have the risk that the recovery will be strangled with higher oil prices.

The enormous spatial, social, technical and financial project of suburbia is now a national economic liability in the USA. The Australian suburban formation differs from its US counterpart in important ways, but it would be foolhardy to assume that a cognate set of energy and credit pressures will not eventually bear upon what Gleeson (2006) has called Australia's 'heartlands'.

The simultaneous climate crisis is set to compel a rapid reduction in transport emissions and potentially stimulate a technological rupture in the suburban transport infrastructure. Further constraints of land and water will impose natural limits on the spatial spread of urbanisation. And, while the State has returned to the economic field with expansionary Keynesian policies, the magnitude of monetary and economic intervention could presage a new fiscal crisis (O'Connor 1973). A prolonged state fiscal crisis redux would be different in character but potentially as dramatically transformational as that which ushered in neo-liberalism. Such forces are unlikely to leave the suburban matrix of labour, land, housing, debt/credit, automobile and oil unaltered.

## **Conclusions**

The specific contours of the arrangements that will emerge from these pending transformations are as yet unknown and impossible to accurately discern. It is likely that the suburban effects on the ground will contrast sharply from either 'business as usual' or from the contemporary planning utopias of sustainable transit-oriented centres. Nor is the 'panic urbanism' (Coutard and Guy 2007) articulated by some scholars (for example Atkinson 2007a; Atkinson 2007b; Atkinson 2008) necessarily a reliable script for Australian cities.

The petroleum question will be crucial though. The urban consolidation policies of contemporary Australian plans that are making citadels of the

inner cities will confront a wider suburban spatial restructuring which they will mostly be too slow and weak to address. New vehicle or fuel technologies are unlikely to serve as a direct substitute and face years of trickling through second-hand markets. Suburbia may carve new tracks on re-constructed public transport systems, as Mees (2000) and Dodson and Sipe (2008b) have argued; but these systems, in turn, depend for their effectiveness on the organising and coordinating power of the state. Such retro-structuring could reset the city on a markedly different path to the car and freeway model, as a cursory glance at European typologies suggests. A similar shift away from dependence on private housing tenures may also be required. But any departure from recent arrangements will be subject to current historical, institutional and spatial contingencies.

The spatial and temporal relations that emerge from this particular reconstitutive context in Australia may differ from models found elsewhere, whether in North America or Europe, while those other places will themselves be transforming. Suburbia will endure but it is being driven into an era of reconstruction and reconfiguration, the political economic topography of which is only barely perceptible in the dim beams of our contemporary headlights.

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## **References**

Alonso, W. (1964). *Location and Land Use: Toward a general theory of land rent*. Cambridge, MA, Harvard University Press.

- Atkinson, A. (2007a). Cities after oil—1: ‘Sustainable development’ and energy futures. *City* **11**(2): 201-213.
- Atkinson, A. (2007b). Cities after oil—2: Background to the collapse of ‘modern’ civilisation. *City* **11**(3): 294-312.
- Atkinson, A. (2008). Cities after oil—3: Collapse and the fate of cities. *City* **12**(1): 80-106.
- Baum, S. and Mitchell, W. (2009). *Red-Alert Suburbs: An employment vulnerability index for Australia's metropolitan regions*. Newcastle, Centre of Full Employment and Equity, University of Newcastle & Urban Research Program, Griffith University.
- Bracks, S. (2008). *Review of Australia's Automotive Industry*. Canberra, Australian Government.
- Campion, V. (2008). Transport crisis turns west into wasteland. *Daily Telegraph*, 1 May.
- Connor, S. (2009). Warning: Oil Supplies are Running Out Fast. *The Independent*, 3 August: 1, 4-5.
- Cortwright, J. (2008). *Driven to the Brink: How the Gas Price Spike Popped the Housing Bubble and Devalued the Suburbs*. Chicago, CEOs for Cities.
- Coutard, O. and Guy, S. (2007). STS and the City: Politics and Practices of Hope. *Science, Technology, & Human Values* **32**(6): 713-734.
- Dodson, J. and Sipe, N. (2007). Oil vulnerability in the Australian city: Assessing socio-economic risks from higher urban fuel prices. *Urban Studies* **44**(March): 37-62.
- Dodson, J. and Sipe, N. (2008a). Shocking the Suburbs: Urban location, home ownership and oil vulnerability in the Australian city. *Housing Studies* **23**(3).
- Dodson, J. and Sipe, N. (2008b). *Shocking the Suburbs: Oil Vulnerability in the Australian City*. Sydney, UNSW Press.
- Hall, P. (1996). *Cities of Tomorrow: An intellectual history of Urban Planning and Design in the Twentieth Century*. Oxford, Blackwell.
- Hamilton, J. (2009a). *Causes and Consequences of the Oil Shock of 2007–08*. Washington DC, Brookings Institution.
- Hamilton, J. (2009b). Testimony Prepared for the Joint Economic Committee of the U.S. Congress, 20 May 2009. Congress, U. S. Washington DC.
- Harloe, M. (1995). *The People's Home: Social Rented Housing in Europe and America*. Oxford, U.K.; Cambridge, USA., Blackwell.
- Mees, P. (2000). *A Very Public Solution: Transport in the Dispersed City*. Melbourne, Melbourne University Press.
- Mees, P. (2005). "Privatization of Rail and Tram Services in Melbourne: What Went Wrong?" *Transport Reviews* **24**(4): 433-449.

Muth, R. F. (1961). The Spatial Structure of the Urban Housing Market. *Papers and Proceedings of the Regional Science Association* 7: 207-220.

Newman, P. and Kenworthy, J. (1989). *Cities and automobile dependence : a sourcebook*. Aldershot, Hants; Brookfield, VT, Gower Technical.

O'Connor, J. (1973). *The Fiscal Crisis of the State*. New York, St Martin's Press.

O'Connor, K. and Healy, E. (2004). Rethinking Suburban Development in Australia: A Melbourne Case Study. *European Planning Studies*, 12(1): 27-40.

Reserve Bank of Australia (RBA) (2009). *Household Finances - Selected Ratios B21*. Canberra, Reserve Bank of Australia.

Translink (2007) *Translink Network Plan*, Brisbane, Queensland Government.

Urry, J. (2009) *The Great Crash of 2008: Pouring Oil on Troubled Waters*; Unpublished Working Paper, Department of Sociology, University of Lancaster, UK.

Wingo, L. (1961). *Transportation and Urban Land*. Washington, D.C., Resources for the Future.

