

# Coding for Corridors: Prospects for tram corridor intensification in Melbourne

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**Abstract:** Intensification of tram corridors under as-of-right planning codes has been advocated as a key model for sustainable transformation of Australian cities. To date such intensification has been ad-hoc and incremental, enabled and constrained by the vicissitudes of relatively weak planning regulations and market opportunism. The evolution of tram corridors under this mode of governance has produced streetscapes increasingly characterized by significant variations in height, form, bulk, and design quality, against a background of sometimes fierce local opposition.

This paper reports on a design research project that analyses patterns and types of intensification along 8 Melbourne tram routes and then sought industry and resident feedback on a 3D simulation of the potential effects of adhering to a set of codes on built form on a 1km segment of tram corridor in Lygon St, East Brunswick. We find a relatively progressive local government seeking to implement a design code that enables significant development within a height framework that has proven to be viable in this market and within the opportunities provided by the small lot cadastral structure. Residents are generally willing to accept such a framework if it can be enforced and developers, architects and planners generally suggest it could produce a better quality design outcome. The difficulty lies within the planning context at state level where site-by-site assessment remains the prevailing ideology.

## Introduction

This paper is part of a larger research project that analyses, synthesizes and re-imagines the city at a range of scales – metropolitan (100 X 100km), regional (10 X 10km) and local (1 X 1km) - to understand the ways issues of transport, land use, intensity and place are related and assembled in multiple ways. The present paper is focused on the potential of Melbourne's tramway corridors to contribute to transit-oriented urbanism and low carbon futures. It has long been Victorian state policy to consolidate urban infill on sites accessible to transit, and many parts of Melbourne's tram corridors have been redeveloped in a variety of ways, at varying densities and mixtures of use, both on the tram routes and in their local catchments. Much of this development has been both opportunistic and contentious, with little of it driven or regulated by policies focused on urban design quality at the building, streetscape or precinct scale. It is also proportionally miniscule in comparison to the predominant mode of suburban infill that occurs outside the majority of walkable tram or rail catchments and provides little or no contribution to a low-carbon city (Buxton and Tieman 2005; Buxton and Scheurer 2007).

For the first half of the 20<sup>th</sup> century, extensive tram systems were a primary mode of transport in all Australian state capitals and a number of larger regional cities. However, from the mid-1950s to the late 1960s, tram systems in all Australian cities except for Melbourne were dismantled, leaving Melbourne with the most extensive network in the world. However, much of the legacy in terms of urban morphology associated with tram corridors has endured, and in some cities trams are now returning. Whereas rail systems move large numbers of people across the metropolis between its regions, trams primarily move people within metropolitan regions. Trams are a medium-capacity street-based form of transit along whose routes extended retail strips have tended to develop rather than the nodal clustering associated with suburban rail systems.

Work led by Adams (2009) at the City of Melbourne has advocated the intensification of tramway corridors as one key way to achieve low-carbon city objectives, by tightly restricting denser development to the land directly adjacent to tram routes, facilitated by as-of-right planning codes. For Adams, the primary aim of such corridor intensification is the production of 'continuous active frontages [providing] a safe and vibrant pedestrian environment' with an 'increased pool of affordable housing' and greater local access to 'work, services and recreation opportunities' resulting in 'an urban experience close to suburbia' (Adams 2010: 28). The achievement of such diverse and vibrant urban strips is a multi-dimensional problem in which policies regulating urban

form, mixture of land uses and provision of affordable housing are all required to act in concert. The latter two areas are beyond the scope of the current paper and our focus is on the viability of built-form regulation via as-of right controls. Such controls, sometimes referred to as ‘code assessment’ remove third-party rights of appeal when development applications meet the requirements of a planning code. The aim of this is to achieve highly-specific built-form outcomes in return for faster development approval, and to reduce the incidence of speculative development applications seeking to go beyond planning scheme envelopes that create local opposition, significant delays and can result in buildings with significant negative impacts.

Melbourne’s tram system comprises some 29 routes totaling in aggregate almost 400km on 250km of tracks, of which 80% are shared with other vehicles. Within this network, there are some 1,300Ha of land parcels adjacent to the tram system not subject to sensitive development constraints such as heritage (Woodcock et al. 2010, Adams 2009). A large proportion of these parcels lie within activity centres, with the majority of the remainder being zoned residential. Subsequent research (Woodcock et al 2012) found that tramway corridor intensification can be acceptable to local residents dependent on limitations on bulk and height. This paper reports on research that extends this work to understand the relationship between the kinds of intensification that is actually occurring and the potential to regulate it via formalized, as-of -right design codes, and speculates on the prospects for the future of these corridors.

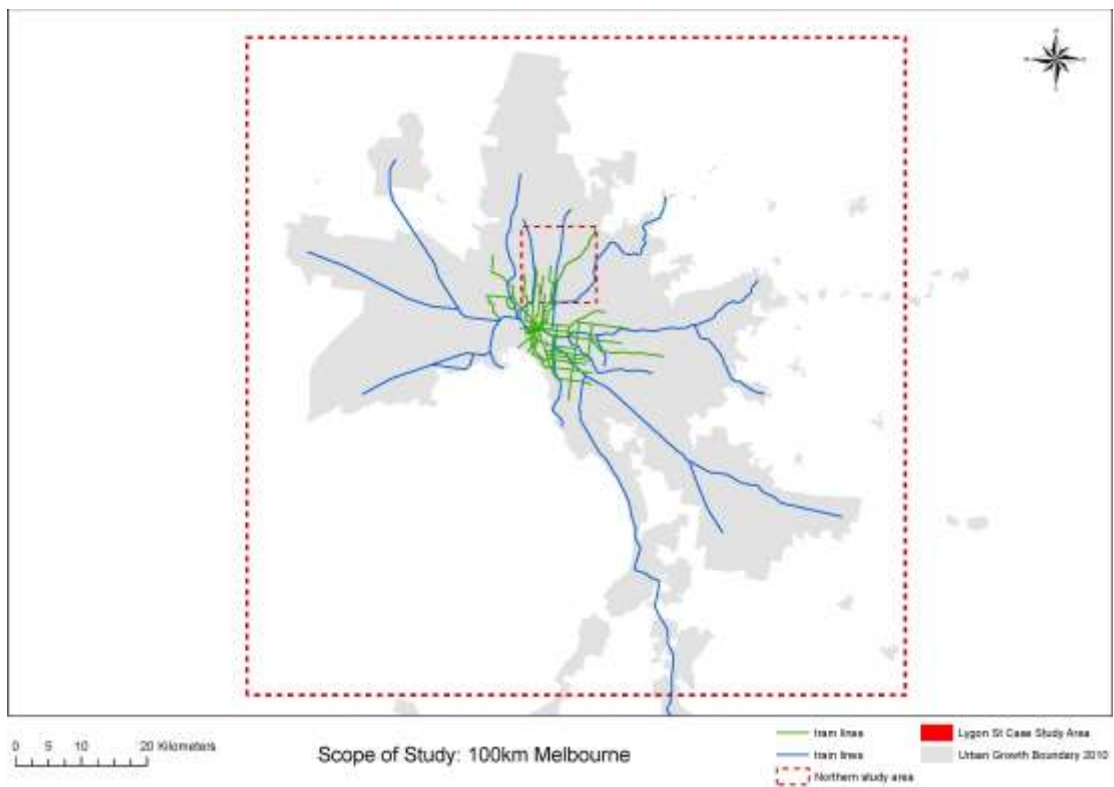


Figure 1. 100km metropolitan scale – tram and train systems (Image: Authors)

Trams currently account for 35% of all public transport trips in Melbourne (PTV 2012). While there have been significant rises in patronage across all three modes since the nadir of the 1970s and ‘80s, current tram ridership is significantly lower than the peak years of 1949-50. At that time, with a population about a third of today’s, over 80% of whom travelled to work by public transport, cycled or walked (Moriarty & Mees 2006:3), trams were the dominant mode of transit and ridership was 50% higher than today. With massive increases in both population and car ownership, tram travel times are up to 40% longer than the 1949-50 peak and at 16kmh, Melbourne’s trams are now among the slowest in the developed world (Yarra Trams 2013). The high proportion of shared road space and lack of signaling priority mean trams are increasingly delayed by car traffic. Also, since that time, only minor additions have been made to the tram system and the geographical area served remains predominantly within an arc running from the north-west to the south-east about 10km from the city centre, with no services in the west or the majority of middle and outer suburbs. With a few exceptions, the system is radial with the only

orbital routes being in the east and south-east. The implications of this set of issues for intensification will be discussed later in the paper.

## Mapping tram corridor intensification

To better understand the prospects for an approach to corridor intensification focused on urban design and streetscape quality, the modeling process that is the subject of this paper drew upon research into existing patterns of tram corridor development. Earlier research has postulated that one of the primary barriers to tram corridor intensification is their cadastral structure (Adams 2009; Woodcock et al 2010). A key aim of the current research is to understand what types of land parcels in tram corridors are being developed under current planning scheme and market conditions. The research mapped the 8 routes serving the northern region of Melbourne. This represents over a quarter of the tram system in terms of routes, about 15% in terms of line length and includes the system's second longest route (See Figures 1 and 2). We were keen to understand relationships between height and density of development and variables of lot size, shape and accessibility and to ascertain what types of land parcels may be linked to outcomes of density and height. For the purposes of the present paper we will focus on the findings rather than details of the methodology.

The mapping covered developments from the mid-1990s to those under construction in mid-2012 – 174 developments totaling 3,010 new dwellings. At the broad scale, it was found that intensification is occurring primarily in strips and clusters rather than randomly along the routes. The strip patterning relates primarily to existing retail, commercial and mixed-use (often former industrial) zones. Clusters tend to relate to intersections with bus routes or proximity to rail stations. Since tram strips are predominantly small-lot subdivisions over 90% of all development projects are on lots of less than 2000sqm. However, since large lots enable greater numbers of dwellings, small lots account for only 65% of all new dwellings. While development is occurring across the full range of lots in terms of access and shape, there is a predominance of development on square-shaped lots (where the ratio of width to depth is less than 1:2) with two accessible sides (front and rear, front and side).

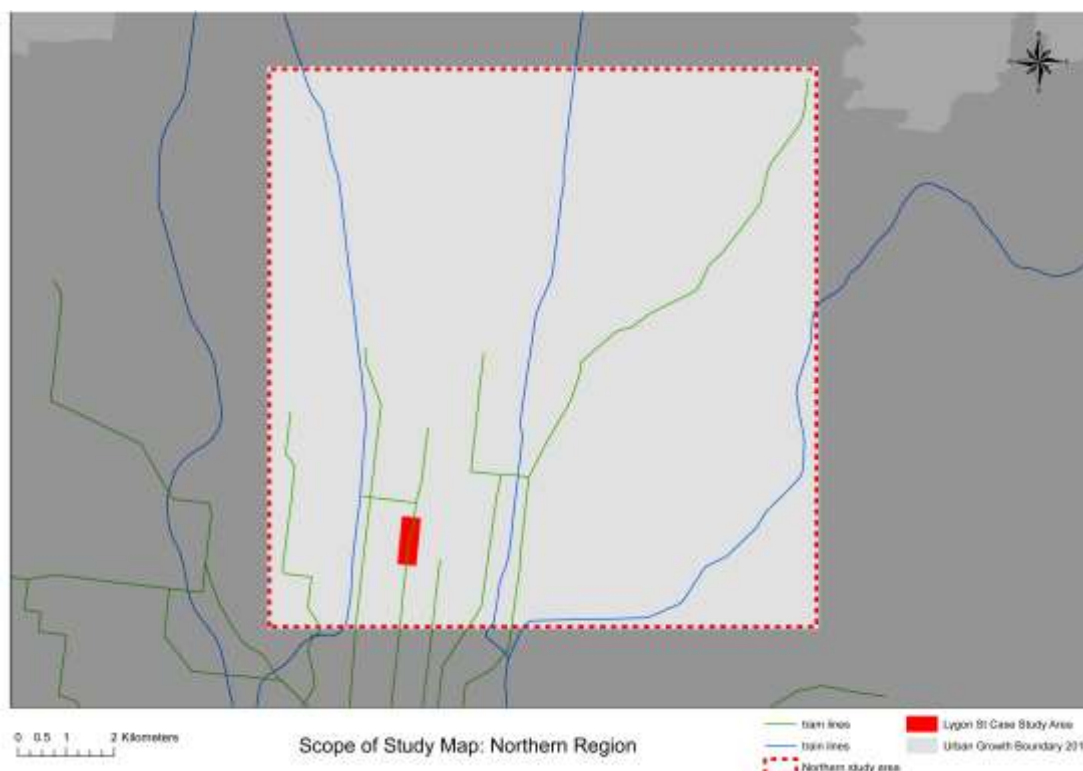


Figure 2. 10km northern region – scope of tram corridor intensification mapping study

Net residential densities of new development range from an average of 166DU/Ha on very small lots (< 250sqm) to an average of 220 DU/Ha on very large lots (> 5,000sqm), with the highest

average densities of 243 DU/Ha occurring on medium-sized lots (750-2000sqm); the modal average density is 201 DU/Ha on small-sized lots between 250-750sqm. Higher densities are achieved on lots with access from two or more sides. These figures are not very far apart and do not show a perfect correlation between lot size and yield. The results are inconclusive because yields are influenced by variations in land-use mix and dwelling size. While the relationship between height and density is not strictly linear, higher buildings do generally result in higher densities, with average densities of 115 DU/Ha net occurring in developments of 1-3 storeys, 265 DU/Ha within 4-5 storeys and 467 DU/Ha for those 6 storeys or more. However, the number of building types is limited to variants of the 'slab on podium', with no free-standing towers or perimeter blocks, for example, and so these relationships need to be qualified within this context.



Figure 3. Current intensification along tramway corridors within the study area (Lygon St)

These patterns illustrate that while there may be preferences, the industry and the market for corridor intensification is sufficiently diverse to develop almost the entire range of lot types to be found along tram corridors, with a trend towards increases in height and density over time across most lot types. This is significant, because it is often assumed that intensification of small-lot subdivisions requires site amalgamations that are then resisted because they are seen to reduce diversity and character. Significant increases in density are being achieved by market-led development on small lots at a height of 5 storeys or less – a height that is largely acceptable to local residents (Woodcock et al 2012). Despite the oft-cited claim that such heights are un-economic when arguing for development applications of much greater height, the industry does produce buildings of modest height. Capacity modeling has shown that densities of even 165DU/Ha can accommodate very significant increases in population even if strictly limited to tram corridors and activity centres (Woodcock et al 2010). We are not, however, suggesting that the developments we have surveyed are successful in broad terms. The lack of robust planning controls or urban design frameworks coupled with a lack for formal design standards for buildings above 3 storeys has led to many projects with low internal amenity and poorly designed public interfaces that violate height limits that damage prospects for diverse and vital urban strips.

### **Moreland Higher Density Design Code**

Under the Victorian Planning Provisions, almost all built form controls remain open to contestation at the state planning tribunal (VCAT) – allowing potentially almost every development application to be contested on a site-by-site basis. In response to perceptions of poor quality design in many developments within its purview, the City of Moreland (CoM) in Melbourne's northern suburbs has developed a design code based on principles similar to those in New South Wales Residential Flat Design Code (RFDC), linked to the broader aims of NSW SEPP65 (NSW Planning & Infrastructure 2002, currently under review). The Moreland Higher Density Design Code (HDDC, City of Moreland 2012) is pending approval by the Victorian state government, and received two PIA awards in 2012. While development in residential zones in Victoria up to 3-storeys has long been covered by the state residential design code (ResCode), with very strict prescriptions on heights and setbacks, there is a policy gap for developments of 4 or more storeys. The intention of the HDDC is to fill this gap with design policy that would formalize expectations about the matters to be reviewed at VCAT, as a deterrent to applicants contesting council planning decisions. The HDDC is intended to be applied as an as-of-right code to add force to the built form envelopes for heights and setbacks specified in local structure plans, whose built form controls are otherwise open to contestation on a site-by-site basis at VCAT.

For our study, we wanted to model not only what kind of streetscape outcomes might result if these policies were adhered to, but to seek stakeholder responses to them under a 'code-assessment' scenario where applicants also had the incentive to comply by having third party



appeal rights removed. This scenario is based on the premise that developers, planners and residents could all benefit from the certainty of such an arrangement, with faster development approvals in return for applications that meet a set of strict non-contestable prescriptive design parameters.

### Lygon Street Case Study



Aerial View

Structure Plan envelopes

Figure 4. 1km Lygon Street simulation – existing morphology

Our case study is a 1km segment of tram routes 1 and 8 that run through Lygon Street, in the suburb of Brunswick East. Since the 1980s, this part of Melbourne has been in transition from a 19<sup>th</sup> century industrial-residential inner suburb that is now under some of the most intense pressure to intensify in the metropolitan area (Woodcock et al 2011a, 2011b, 2009). Most of Brunswick is single-storey, relatively fine-grained Victorian and pre-World War 2 dwellings and early 20<sup>th</sup> century industrial buildings, with Lygon Street lined with a mixture of predominantly single and double-storey shophouses interspersed with single-storey industrial buildings from the early- to mid-20<sup>th</sup> century. Heights of recent intensification projects (built and approved) within the study segment vary from three to seven storeys, though immediately to the south, development peaks at 10, with a broader streetscape marked by recent infill of between three and seven storeys. Almost every one of these developments was contested and Brunswick has one of the most active and well-organised networks of local residents. The study section of Lygon Street was chosen because it covers two key conditions that commonly occur across the tram system – a segment that is currently zoned residential, and one that is zoned business, both of which have residentially-zoned land immediately to the rear (Figure 4). The allotments along the corridor have no heritage overlays. Within the case study area, the structure plan designates height limits that vary from 3-4 storeys in the northern, residentially-zoned area to 5 storeys in the southern business-zoned section. The structure plan designates streetwalls (or ‘podium heights’) at the frontage of between 3 and 4 storeys, and specifies upper-level setbacks that vary between zero, three or seven metres (Figure 4). The majority of rear interfaces are defined by the statewide residential code (ResCode). The new HDDC specifies a set of rules within these envelopes for public interfaces and building orientation, depth and spacing to ensure adequate daylight, solar access and natural ventilation.

### Modeling corridor intensification



Northern streetscape as existing



Northern streetscape with Structure Plan



Southern streetscape 60% intensification      Southern streetscape with Structure Plan  
 Figure 5. Lygon Street intensification simulation – sample clips.



Figure 6. 1km Lygon Street study area – allotment analysis (L-R: Grain size, Access, Shape)

The method for this design research study was aimed at simulating the way the selected section of Lygon Street could develop if the Brunswick Structure Plan and the Moreland Higher Density Design Code were to be given full legal force. Using the allotment categories from the regional corridor mapping exercise (Figure 5), 10 undeveloped lots within the case study area were selected at random and allocated to six designers within the research team in two stages. In the first stage, each designer was given one or two allotments of different types and required to develop outline building designs in 3D modeling software that conformed to the requirements in the Structure Plan, the HDDC and ResCode. These first stage designs were developed in isolation and then reviewed by the research team for their compliance with the planning controls. Once compliance had been established, another 40 lots were allocated among the designers, who were then required to adapt their designs to fit, or derive additional designs, in accordance with the Structure Plan and the Code. Once these designs were completed and reviewed, they were inserted into a 3D model of the case study area that extended approximately 150m either side of the tram line. The model thus created was then enhanced by Aspect Studios, one of the industry partners in the project. A series of layers are used to illustrate the existing streetscape, the structure plan envelopes, and two levels of intensification approximating to 20% and 60% replacement of existing fabric (Figure 6). Fly-throughs are viewable under a variety of sun angles for daily and seasonal variations. Clips from these modeling processes were used in interviews with architects and developers engaged in tram corridor projects; the full model and flythrough was presented at focus groups with Brunswick residents and CoM staff.

### Stakeholder responses

The stakeholders interviewed about the corridor simulation were two developers working in the case study area, six local government planners familiar with the locale, two architects (one with

projects in the case study area, the other a representative of the Urban Design committee of the Architects Institute of Australia) and five members of the local residents group. This is a small sample, with interviews and focus groups structured to gain insights into the range of qualitative issues, not an attempt to seek a statistically representative sample of actors to a fixed set of questions. While an as-of-right assessment policy removes the right of residents to appeal, developers would still retain the right to contest their applications if rejected. While there are some similarities in responses between the groups, the investments in the balance of power are very different – developers, architects and planners, in theory at least, all stand to gain from streamlined development assessment within stricter parameters; residents, in losing their right to detailed information and objection, stand to lose much if the parameters are poorly defined or administered. Thus, we will summarise the responses of the developers, planners and architects first, and follow with those of residents, for whom the loss of rights is perhaps the most contentious aspect of code assessment approaches.

### **Developers, planners and architects**

For developers, planners and architects the streetscape images produced ambiguous and contradictory responses. On the one hand, there was a clear preference for a consistent streetscape with architectural differentiation of individual buildings, and one with the 'coherent' look that comes with a continuous streetwall rather than an irregular skyline (Figure 7). One architect argued that the streetwall constraints:

allows you to be more creative in terms of what it allows you to do, what the architecture is. Yes it is obviously more about façade and more about ideas of how that might work, as opposed to being controlled by a form point of view from the outset [IP-18 Architect]



Figure 7. Lygon Street, simulated streetscape at 60% intensification (L-R: 1 & 2 southern section, 3 & 4 northern section)

While when this architect viewed the 3-storey northern section of streetscape produced by ResCode (Figure 7), he reflected on the way its side setbacks, designed to achieve a transition between new development and existing single-storey buildings, would compromise the aggregate effect over time:

I just find that it is such a short sighted approach to ... what should be more a streetscape based on what the final outcomes should be, as opposed to a short term view like that [IP-18 Architect]

This simulation of the long-term effects of ResCode was generally met with a negative response by other industry interviewees:

It is just a hotch potch of different design ... this sort of project scale is your backyard operator and your drafty as an architect, they just end up crap [IP-01 Developer]

In terms of the sensitive interface at the rear with residentially zoned areas, both the architects and planners suggested that rather than restricting intensification to the lots fronting the tram route, it would be better to have a mediating transition zone for lower levels of intensification to occur along the interface:

it makes more sense to allow some sort of transitioning to go on, and the person who might buy these types of dwellings here are then buying something that is more medium density... I don't think that would be a difficult planning policy to implement. [IP-18-Architect]

A council planner also articulated the need to think about corridor intensification as a graduated zone beyond the primary streetscape:

if anything you have to think about corridors as not only the band on the front, but there is the secondary band, then the tertiary band. [IP-20-Planner]

The right to negotiate planning controls in the interests of the 'best outcome' on a site-by-site basis appears to be something developers and architects are reluctant to give up in return for guaranteed planning approvals. As one developer commented:

Mandatory height limits is probably good because they give certainty. Difficult situation really [...] if you have got better design, I would argue that you should be able to have more yield by going up - go for it if you are putting something up that is going to be better for the long term ... [a mandatory code] just makes it harder for us to buy sites [...] we spend a lot more money on the design process than most do. We need projects of a certain size, for the size of the machine we have in here, the staff, yes. [IP-01 Developer]

Note the ambivalent desire for both certainty and flexibility. The ability to use design quality (however argued) as a bargaining chip for greater yield and height is a key characteristic of the current system. Note the implication that developers would not be able to afford design quality if they cannot use it to exceed the code in terms of yield. The irony here is that poor design quality is the key reason for moving towards a mandatory code.

Despite this ambivalence, developers and development lobbyists often articulated a desire for greater certainty within the planning system overall, noting:

Certainty and transparency I think are the two things - for a system that is designed around rules it is amazing how there is an absence of certainty in planning. It is not good for anyone, not good for consumers, developers, government or the economy in general' [IP-17 Development industry lobbyist]

One developer who agreed with the HDDC in principle was concerned about the specific details of it, and argued that these specifications made previously feasible projects unfeasible. He then stated, in relation to the requirement for natural light to all habitable spaces:

while I think some of the philosophy behind the code is well placed, I think the consideration and execution of it has no relation to commercial reality [IP-21 Developer]

At the same time, the developer noted how VCAT had recently rejected an application with 'borrowed light', and this case had changed the rules anyway.

There is a widespread view in Melbourne that there is a kind of 'profit gap' for developments of about 4-8 storeys – variously blamed on unionization of worksites and industry inertia. While this was affirmed as an issue for some developers on some sites, it was not universally the case:

there might be a some sort of pseudo golden rules that people think apply, but it ultimately comes down to the builder and developer, what arrangements they might have and how they might operate [...] I can give you some examples of 5 storey buildings around here that weren't union sites. [IP-18 Architect]

Despite the desire for certainty, developers will always seek the greatest height and yield, and some prefer to work across a variety of site types and locations to spread their risk. Most locations have a limit to the number of apartments that can be sold at any one time, so smaller projects can carry less risk. There are other factors that slow down intensification: the inertia of current landowners and long-established businesses that are unlikely to move without generational change. These factors have little or nothing to do with the cadastral limitations, resident opposition or construction costs.

For architects, there were doubts about the ability of code assessment to guarantee design quality. Development approvals and construction oversight are different processes; reductions in quality can emerge in realised projects, with one architect specializing in this kind of inner-city development saying 'There are certainly plenty of means to abuse that as-of-right process I think'. [IP-18 Architect]



A council planner also observed that the emphasis in the code's incorporation of ResCode for preserving neighbourhood amenity at the rear interface did not necessarily result in design quality. She noted:

Part of the reason that ... looks like Cell block H is because it is trying to protect the amenity... it just doesn't look like a resolved building... but it is an equally visible building, and [equally visible] from the back. .... It says to me ' I am trying to be less offensive to my neighbours' and it is a really difficult balance. [IP-20 Council Planner]

Overall, the developers and architects interviewed did not defend the current system of contestable planning; there was a sense of reluctant acceptance that an as-of-right code assessment could improve some streetscape outcomes, even if yields might be reduced in some places. However, there was also no particular desire to see the policy introduced. A significant issue for developers is the need for certainty, and code assessment is one element of policy that would enhance it.

## Residents

Much of the residents' discourse around the simulations concerned the kinds of issues commonly raised in relation to intensification in inner-city areas – essentially that it is usually a form of gentrification that changes the socio-cultural character of places in ways they are wary of – reductions in housing affordability and a shift towards a consumption economy that replaces local services and businesses with cafes, bars and liquor outlets aimed at people whose lives are otherwise engaged elsewhere (Woodcock et al 2009, Dovey et al 2009). There was also a major concern that the focus on the lots fronting the corridor mis-represented the situation:

this corridor is in fact not a corridor, it is the front of what is also happening behind it. ...it is not simply a question of what is happening along the corridors, it is what is happening behind and off to the side of the corridors that is absolutely central to the discussion of how people react to them [IP-16-resident group]

Rather than a concern about sensitive interfaces, this comment is a reference to intensification in side streets, some at heights similar to those in the corridors, but also the impact of intensification under ResCode, which usually enables development up to three storeys. This situation means that in reality there already is the kind of 'transition' zone that the architects and planners were calling for between main street developments and the residential hinterland by default rather than design..

In terms of our resident interviewees' views about the appearance of simulated design outcomes, their preferences were similar to those of developers and architects, with little sympathy for the variegated 3-storey streetscapes produced by ResCode and a preference for the consistency and 'neatness' of the 5-storey segment with its 3 and 4-storey streetwall and upper storey setbacks. Most significantly, however, many residents doubt that the code would be enforced.

For me I look at these models and think that is wonderful ... [but] this is the problem with the model - the council is relying on the developers to do the right thing ... I am sorry, I am just not persuaded that that is the case. So for me, this modeling is interesting ... but I am not sure it actually reflects what is going to happen ... the existing situation is more anarchic, and I am not persuaded the code in itself is going to change that dynamic. Simply because of the level of speculation that is happening around this area [IP-16 Residents group]

This speculative activity frequently involves development approvals being on-sold and subject to a process of either dumbing-down in design terms or scaling-up as the market changes and the original development proves unworkable, with different developers and architects replacing what may have been a high-quality proposal with a building of lower quality. Because of the way development has already occurred in the area, there is little faith in the ability of local government to implement the code should it be approved by the state:

I can't see in the culture of the planning department, any fibre to actually enforce this stuff, I love this stuff, but they are not going to enforce it. [IP-16 Residents group]

This comment highlights a complicating factor in the design research process that between the start and end of the modeling process, the height limits in the Brunswick Structure Plan were

revised. In part this was to take account of actual planning approvals that breached the original height limits within the study area; in others, the extent of the activity centre was reduced due to a change in the council's view about the need to contain its horizontal area. Like the developers, designers and residents, the research team, became subject to the lack of certainty inherent in the planning scheme and we had to second-guess what it was that should be modeled to simulate reality.

### **Prospects for tramway corridor intensification**

The code we have taken some steps in testing here was premised on some key assumptions. First, that it will ensure better urban design outcomes by producing more consistent and active street frontages. Developers, professionals and residents generally agree that this would be the case if the code were enforced – yet there is little faith that it would be. Second, that a design code enshrined in formal policy will give certainty to developers and ameliorate concerns of residents about over-development. There is evidence that it does neither because there is still the potential for developers to pursue heights beyond those in policy. A third assumption is that the code will expedite the development approval process and enable a more rapid intensification of this corridor. Its effect on the rate of intensification cannot easily be estimated, but arguably, it would be limited. Third-party appeals slow individual projects down, but do not dampen the rate applications are made, nor the proportion ultimately approved (Woodcock et al 2011a). If the Code reduced the yields of applications but accelerated their approval, the total intensification outcome could be similar, but spread out over a larger area, unless the drop in yield was significant enough to be a deterrent and slow the overall rate of applications.

So what is the problem? Here we have a relatively progressive local government seeking to implement a design code that enables significant development within a height framework that has already proven to be viable in this market and within the opportunities provided by the small lot cadastral structure. Residents are generally willing to accept such a framework if it can be enforced and developers, architects and planners generally suggest it could produce a better quality design outcome. The difficulty lies within the planning context at state level where site-by-site assessment remains the prevailing ideology. The persistence of such practices can be traced to a number of intersecting lines of thought.

First, it is a remnant of the radical deregulation of the Victorian planning system in the 1990s when planners were converted into facilitators and planning controls became guidelines. This is linked in turn to the broader neoliberal consensus wherein market growth displaces public interests as the ground of urban planning discourse. While the state pays lip-service to issues of community concern and design, economic growth is the underlying driver.

Second, there is widespread support for urban intensification strategies from most built environment professionals, for both environmental and lifestyle reasons. Resident resistance is also widely seen as blindly conservative, NIMBY and anti-development. Since most forms of intensification are achieved through site-by-site decisions there is a sense of turning a blind eye to the lack of planning involved.

Third, site-by-site assessment is also supported by an argument that links design quality to deregulation; developers seek to negotiate higher yields on the basis of design quality as in the earlier quote. This practice inherently separates architectural design from urban design – it effectively seeks to trade urban design quality for architectural quality.

Finally, there is a sense in which the model of comprehensive master planning that developed from the nineteenth century and collapsed under the neoliberal agenda cannot be reconstituted because we can now understand cities as complex, unpredictable, self-organizing systems where fixed outcomes are inconsistent with the dynamism of a vibrant city. However, as Carmona has argued (2009) it is possible that masterplanning can co-exist with a neo-liberal agenda.

The effective development of tram corridors entails that we deal with all of these issues. We might ask, however, what role would the HDDC have, assuming it were to be legislated, within the broader set of issues that bear on the achievement of the long-term goal of intensified tram corridors as diverse and vibrant public places? This would require research well beyond the scope of this project into the broader effects at larger scales of significant intensification distributed along the majority of tram routes (Scheurer and Woodcock 2011). What levels of

increased tram patronage are achievable and necessary to sustainably serve such intensified streetscapes? How can the implications for significant investment in the public realm be thought through? If a shift in transport priorities were to occur, what form might those streetscapes take to accommodate such the dramatic modal shift associated with a preference for active modes of transport by the residents of the new great Australian dream? And importantly, if diversity is to be an aim, how can affordable housing for a range of households (not just small ones) be built into 'as-of-right' coding processes so that these are genuinely corridors for all? Design research can make a significant contribution in any attempt to solve such a wicked problem because of the way that it can assemble the multi-scalar connections between the issues, actors, constraints and possibilities in ways that link the abstract and the concrete for all to see.

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