

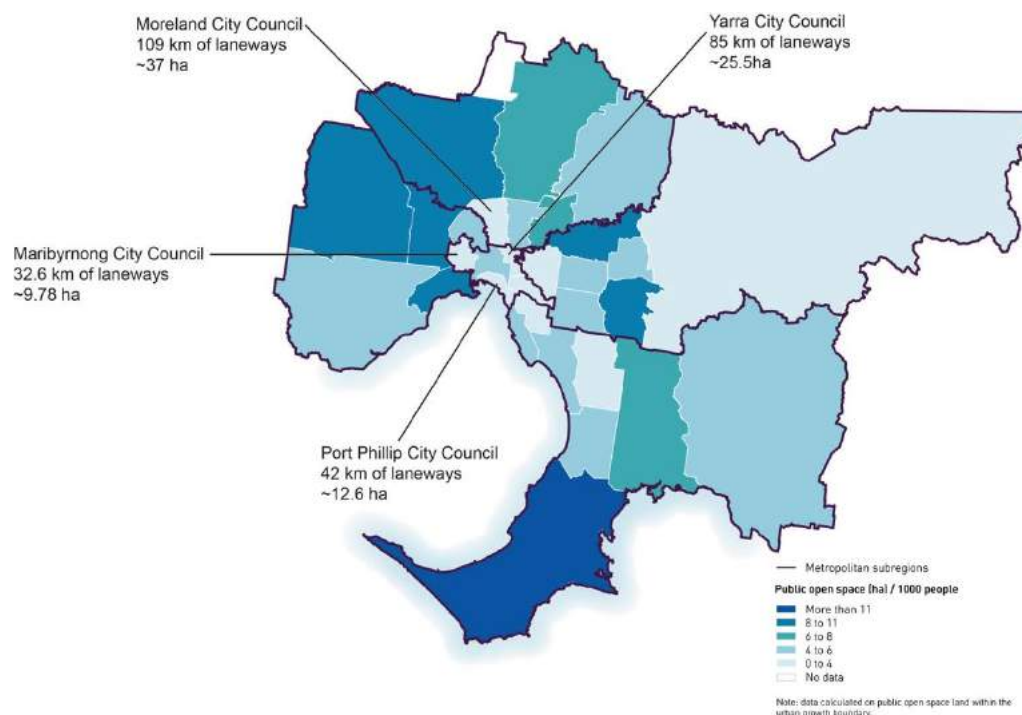
A Methodology for Exploring Relationships Among Physical Features of Residential Back-Laneways and Their Uses

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Abstract: Residential back-laneways are a common urban feature of the inner suburbs of many Australian cities, but despite their prevalence, they are poorly understood, often overlooked, and rarely studied. Established for access to homes for services not deemed suitable for fronts, back-laneways lost their utilitarian purpose with improvements to infrastructure. Since then, some were subtracted from the public domain through legal and illegal appropriations for private use, while those that remained evolved into more complex urban landscapes. Often perceived as ambiguous and perhaps even dangerous, back-laneways are also associated with the range of public uses. The particular conditions under which these uses arise are largely unexamined. This paper proposes a methodology to study the relationship between uses and the built environment of laneways through six features: laneway width, length, physical permeability, visibility from streets, the density of residences and their interfaces with laneways. While there could be other variables that relate to uses under certain conditions, the focus here is on the most permanent features that are shared by all laneways. The paper proposes that by studying the conditions under which current smaller scale appropriations arise, we can begin to consider their future prospects at a larger scale. The paper will illustrate the methodology with a series of maps from an ongoing study of Melbourne's residential laneways.

Introduction

Back-laneways are a common urban feature of many cities that were established for access to homes for services not deemed suitable for fronts, such as household waste collection, drainage, and coal delivery. They lost their utilitarian purpose with upgrades to urban infrastructure, and since then their purpose has been ambiguous in position. Over time, some residential back-laneways have been subtracted from the public domain through legal and illegal appropriations for private use, while those that have remained public evolved into places with individual spatial, social, aesthetic, and ecological characteristics (Martin 2002a). Residential back-laneways are liminal spaces with overlapping public (streets) and private (back yards) social boundaries; they are spaces in the public domain that are not fully appropriated into public use (Dovey et al. 2001). They are poorly understood, often overlooked and rarely studied. Even in cities where their cumulative length adds to hundreds of kilometres, such as in Melbourne, local councils have been at the most concerned with their minimal maintenance (Figure 1).



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Figure 1. Length of laneway network in four inner city councils in Melbourne, and public open space per capita by local government area (The State of Victoria 2014; City of Yarra 2013; Moreland City Council 2011; Maribyrnong City Council 2007; The City of Port Phillip 2011)

On the metropolitan planning level, residential back-laneways are also ignored, as evident in the recent *Plan Melbourne* (The State of Victoria 2014) which does not acknowledge residential back-laneways in any way. The objectives of *Plan Melbourne* are aimed towards improvements in open space, livable communities, metropolitan connectivity and water management; and the plan recognizes that “successful cities respond to growth constraints by making better use of what they already have” (The State of Victoria 2014, p.10). However, exclusion of residential laneways from the plan indicates that the vast amount of prime but underutilized urban land taken up by residential back-laneways is not potentially seen as valuable in addressing any of the outlined objectives. This is particularly intriguing considering that the majority of residential laneways in Melbourne are located in inner suburbs that have high population but low open space densities, and have a projection of continuing growth in population and building densities which will further negatively impact open space per capita density (Figure 1). So while it seems that CBD laneways have enjoyed a renaissance in recent years (McNeill 2011; Woodhouse 2011), residential back-laneways still remain in the back-alleys, so to speak, of urban planning and design.

The motivation behind this paper is the timely need to examine the future prospects of underutilized urban residential back-laneways, which should be based on empirical knowledge of socio-spatial relations pertaining to laneways. Often perceived as ambiguous and perhaps even dangerous, back-laneways are also associated with the range of public uses (Figure 2).



Figure 2. Different uses of residential laneways in Melbourne's inner suburbs.

The particular conditions under which these uses arise are largely unexamined. The literature on Australian back-laneways is scarce, but the literature review in an international context, and across multiple disciplines, can lead to more insights. Drawing from this, the paper will propose a methodology to study relationships between uses and the built environment of laneways through six features: laneway width, length, physical permeability, visibility from streets, the density of residences and their interfaces with laneways. While there could be other variables that relate to uses under certain conditions, the focus here is on objectivity (rather than perception) and the most permanent

features that are shared by all laneways. The paper proposes that by studying the conditions under which existing smaller scale appropriations arise, we can begin to consider their future prospects at a larger scale. The paper will illustrate this methodology with a series of maps from an ongoing study of residential laneways in Melbourne.

Background literature

While back-laneways were established for utilitarian purposes, as spaces in the public domain they also developed a social identity. To the general population, they were associated with clandestine, immoral, and illicit behavior (Ford 2001), the sentiment that is echoed in vernacular phrases such as “back-alley deals”, “back-alley abortion”, and similar expressions. To a large extent, back-laneways are still regarded as problematic spaces commonly associated with criminal and anti-social activities such as graffiti, drug injection, illegal dumping, and home burglaries. It was even suggested that laneways negatively impact the value of homes (Guttery 2002). ‘Broken windows’ theory suggests that if a place is perceived as ‘disorderly’, it signals that dangerous things are likely to happen because the community is complacent of such behavior (Wilson & Kelling 1982). Therefore, graffiti are commonly seen as an undesirable activity that contributes to the decline of laneways (Seymour, Wolch, et al. 2010; Woodhouse 2011; Martin 1996), although it was also suggested that in some instances “(good) graffiti” can be seen as a sign of vibrancy and revitalization (Iveson 2009) or be regarded as an important part of community identity (Dovey et al. 2012).

The undesirable activities are mostly attributed to “outsiders” not living on the laneways, which prompts caring “insiders” with properties on the laneways to make appropriations and claim ownership such as through the restriction of access. Alley-gating is based on this idea that criminal uses will be reduced if access to laneways is controlled or denied (Rogers 2007a) through installation of lockable gates across laneways that are controlled by laneway residents (Rogers 2007b; Bowers et al. 2005; Haywood et al. 2009; Rogers 2013). This gained particular popularity in the UK where many local governments funded their installation (Haywood et al. 2009), while in the United States it was implemented to a lesser degree partly because its legality was debated and in some instances ultimately deemed as illegal privatization of public space (Cassidy et al. 2008).

While a number of studies reported a decrease in reported burglaries through rear access as *modus operandi* following the installation of alley-gates (Bowers et al. 2005; Haywood et al. 2009; Rogers 2007a), there was also some evidence of ‘tactical displacement’ where offenders adapted different ways for committing crimes as well as ‘spatial displacement’ where burglaries moved to other locations (Bowers et al. 2005; Haywood et al. 2009). However, there were other unforeseen displacements following installation of the gates where activities that were previously happening out of sight in alleys were displaced to more visible locations (Rogers 2007b). For example, in one instance youth that were displaced from alleys “took over” a nearby neighborhood park and playground, and thus displaced families from the park, which led to its decline and eventual closure (Rogers 2013). Rubbish, which was prior to gate installation, picked up from the alleys, moved to the streets and was often piled up outside of designated pick-up times (Rogers 2007b; Haywood et al. 2009). Even when gate installation led to more use by laneway residents, other people in the neighborhood were unhappy that the laneway could not be used as a pedestrian shortcut (Seymour, Wolch, et al. 2010).

Police and crime prevention research suggests that traffic accidents and crimes are higher in more permeable street layouts (Cozens & Hillier 2008), but for urban designers and planners, permeability and accessibility have been regarded as the key factors of walkability and neighborhood vitality (Stangl & Guinn 2011; Pafka & Dovey n.d.). However seemingly infrequently back-laneways are used, they are still credited with increased permeability and walkability in a neighborhood (Baran et al. 2008), supporting New Urbanism claims that laneways are a key component of a livable neighborhood (Martin 2002b). However, call for reinstatement of laneways by New Urbanism is primarily based for the purpose of improving streets and fronts of homes by moving garages, driveways, and rubbish pick-up back into laneways (Hess 2008; Ford 2001; Martin 2002b). But in a car-dependent lifestyle, certain social activities will follow cars (Hess 2008), and while the public face of the house remains on the street, the back garage that is accessed through the alley became the *de facto* main door for entry and exit (Hess 2008).

The frequency of usage of laneways by cars will impact how they can be used for other purposes, which is at least partially enabled or limited by the width of the laneway. For Martin (1996), *true* laneways accommodate only residents’ vehicles and occasional service vehicles, and they typically do not accommodate *outsider* through-traffic. Limiting vehicular traffic is important if a laneway is to be used as a community space (Martin 1996). Studying detached single home residential neighborhoods

in North America, and focusing on incidental social encounters among neighbors within a city block, Martin (Martin 1996; Martin 2002b; Martin 2000) argues that laneways' inner block locations allow for physical and social informality that is a complimentary alternative to the street's more prescribed frontality (Martin 1996). Martin proposes three types of residential laneways identified on the basis of interface permeability between laneways and adjacent plots (Martin 1996) (Figure 2).

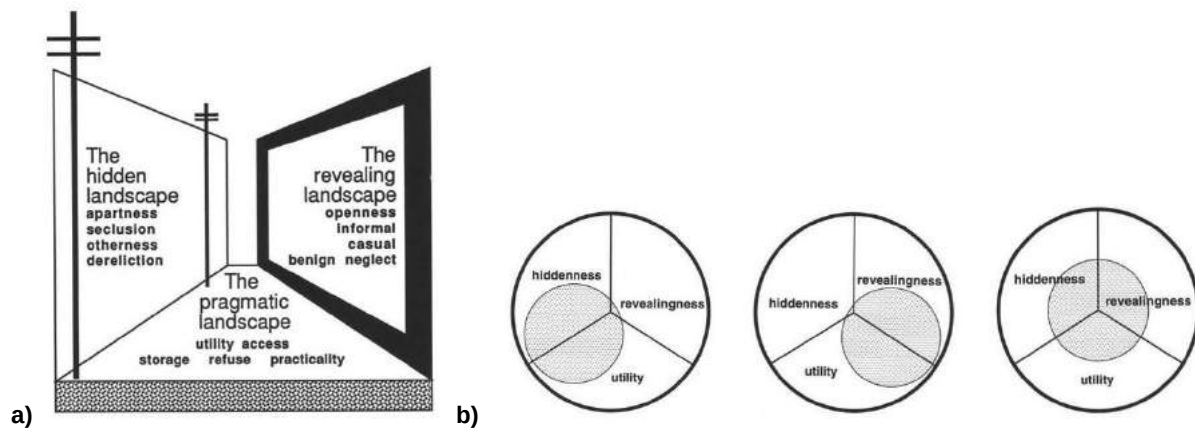


Figure 2. a) "The elemental alley" (Martin 1996) and b) alley types (Martin 1996): from left to right – "Hidden", "Revealing", and "Ideal".

The literature has examined a number of objective and perceptive features of laneways in relation to their uses (Wise 2004; Seymour et al. 2008; Whitehead 2014), potentials (Wolch et al. 2010; Newell et al. 2013; Seymour, Reynolds, et al. 2010), and personal safety (Herzog & Flynn-Smith 2001; Wang & Taylor 2006). While an argument can be made that people react to what they perceive (Herzog & Flynn-Smith 2001), and that studying perceptive features will lead to a better understanding of laneways, unarguably perceptions are subjective and vary among groups and individuals. The perception of researchers could be different from community perceptions (Seymour, Wolch, et al. 2010). More problematic is when auditing tools for assessing the urban design qualities of a commercial main street (Ewing et al. 2006; Ewing & Handy 2009) are applied to residential back-laneways (Whitehead 2014).

Another line of inquiry looked primarily at more objective features such as laneways' physical dimensions, morphologies, and spatial relationships that they make with the surrounding environment, in order to understand why particular uses take place in certain locations. The 'morphological potential' of laneways was examined in relation to occurrences of graffiti (Dovey et al. 2012), heroin injection (Dovey et al. 2001), housing of urban poor in alleys (Borchert 1980; Groves 1974). Dovey et al. (2012) suggests that different morphologies and surface materials present different opportunities for graffiti. *Tags* (quick graphic signatures) and *throw-ups* (a larger version of a tag) would typically be in the interior of the laneways and far from public gaze, but *pieces* (complex and large-scale) appear only on readily visible brick walls at the intersection of laneways and streets and/or close to shopping strips. Also, a heroin injection zone in laneways would typically be far enough from the public gaze of the street, but not too far for seeking help in the case of an overdose, and with possible escape options into the streets (Dovey et al. 2001). The morphology of L'Enfant's irregular grid of Washington D.C. produced a large block with interconnected inner alleys which had minimal permeability and visibility from surrounding streets (Groves 1974). When the urban poor in 19th century Washington D.C. moved into alley homes, the morphology of these laneways afforded a formation of tightknit inner-block communities across the city grid (Borchert 1980; Groves 1974).

Historically, laneways have been responsive to demands for the housing needs of a growing urban population. In 19th century North American cities, houses on the back-laneways (called alley houses in North America) played an important role in the housing landscape (Groves 1974; Mosher & Holdsworth 1992; Borchert 1973; Beasley 1996). They were an organic response to a need for affordable housing in locations where land was at a premium, and where larger property interests or a lack of transportation options slowed down the creation of new housing options (Mosher & Holdsworth 1992). In smaller industrial towns, they were seen as a necessary response for affordable housing for industrial labor, while in metropolitan areas, alley housing was regarded as a social problem (Mosher & Holdsworth 1992). However, by the second half of the 20th century, renewal of residential laneways brought a drastic shift in residential demographics, with a significant increase of middle-class professionals (Borchert 1973). In most recent years, urban infill on the laneways is associated with

desire of the middle-class to reside in inner city neighborhoods while also holding on to single-family home aspirations (Whitehead 2014; Schatz 2013). In the case when the *de facto* entrances for homes are on the laneway, this created a different type of interface between private homes and public laneways. Furthermore, when parking is accessed through the laneways, in particular for higher density buildings, there is an increase of vehicular traffic and the potential that a back-laneway could evolve into a small street and limit pedestrian use (Martin 2000).

The literature suggests that uses of the laneways emerge in conjunction with surrounding buildings, streets, and activities. While broader social demands such as housing pressures and sustainability goals can be seen as global drivers for reappropriations of laneways, the focus of this paper is to examine how these demands are resolved on smaller scale of laneways.

Plots – Laneways – Streets

Residential back-laneways, like other public spaces, are inherently contested with competing interests and conflicting uses. The purpose of the brief literature review that preceded was to expose those contradictions and complexity in an effort to distill the key variables of the built environment that relate to various uses of residential back-laneways.

Activities of insiders (people with properties adjacent to laneways) are generally perceived as “good” while undesirable activities are regarded as being performed by outsiders (people who live somewhere else). However, it has been suggested that this relationship between insiders and outsiders actually defines settlement, and thus analysis should include both perspectives (Hillier & Hanson 1984). In this line of thinking, research on community uses of laneways could benefit from understanding of why particular laneways are used for illicit activities. And vice versa, before gates are erected across laneways to prevent illegal activities there should be better understanding of other activities that will be displaced. This tension between uses that are acceptable and those that are not is not unique to laneways as all public spaces are contested ground. Talking about large parks, Beardsley pointed out that illicit activities such as drug use, prostitution, fencing of stolen goods, and homeless camps commonly take place in public places that are also sites for family picnics, playgrounds, and a friendly game of soccer (although not necessarily at the same time) (Beardsley 2007). Whyte also noted that “the undesirables” are attracted to the same kinds of places as the general public (Whyte 1980). By engaging in such contradictory issues, research on residential laneways could gain deeper insight into motivations for uses and the role that the built environment affords such uses.

Laneways are heterogeneous urban feature with large diversity in morphology, which defy the logic of hierarchical spatial organization to which we are accustomed, such as street hierarchy. It could be argued that they are a “rhizomatic” urban feature (Deleuze & Guattari 1987) with a current form that has emerged through processes of subtraction through legal and illegal appropriations for private use. Social practices that take place in laneways are perhaps even less intuitive to a casual observer (Dovey et al. 2012).

This paper proposes to examine laneways as an urban feature in its own right by studying relationships among key variables of the built environment. By asking “where is the laneway in relation to the street?” and “where is the plot in relation to laneway?”, the paper proposes six key variables: laneway width, length, density, interface, visibility, and permeability (Figure 3).

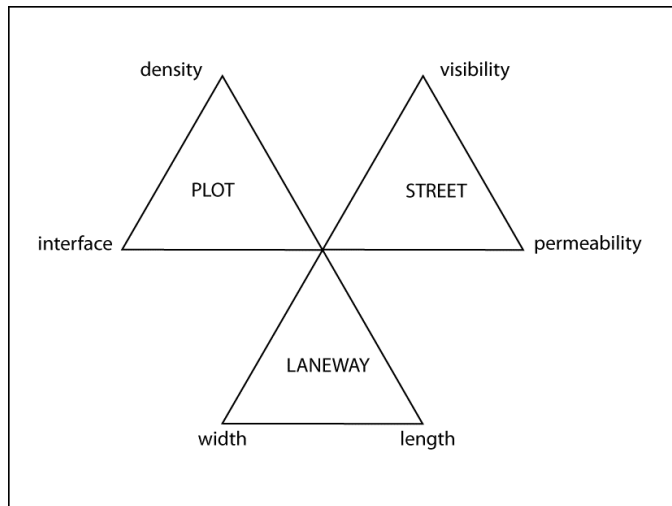


Figure 3. Key variables of the built environment in relation to laneway features

Width. The width of laneways limits (or enables) to what extent they can be used by cars for through-traffic, access to garages, and/or parking. Intensity of vehicular usage of a laneway will directly influence to what extent it could be used by pedestrians. After a survey of laneways in Melbourne suburbs of Princes Hill, Carlton North, Fitzroy, Brunswick, Brunswick East, and Brunswick West, a preliminary width classification is proposed:

- Less than 2 m.* Too narrow for cars.
- 2 m – 3.5 m.* Car access possible for drive through and access to garages, but turning radius can be tight. Garage entrances set back are common in midblock laneways and on corners of intersections of two laneways (Figure 4).
- 3.5 m – 5 m.* Car can easily navigate through the laneways, and garage entrances are frequent.
- 5+ m.* Parallel parking in a laneway possible.



Figure 4. Garage setback and garage on the corner between two laneways.

Length. Length of laneways relates to the metric distance, which is relevant for both pedestrians and cars. In conjunction with other variables such as permeability and visibility, the length of the laneway identifies whether it runs through middle of the block or across the block. Different activities may seek different distances from the public eye on the street.

Permeability. Simply stated, permeability refers to the ability of people to move through a built environment. As discussed previously, laneways increase the permeability of urban fabric. The number of permeable connections that an individual laneway makes indicates the amount of through-movement that a laneway can accommodate.

Visibility. Assessing hiding places for potential offenders and personal prospects for escape are important to a feeling of safety and privacy in public space (Fisher & Nasar 1992; Wang & Taylor 2006; Herzog & Flynn-Smith 2001), which is sometimes also referred to as visual permeability (Bentley et al. 1999). While most laneways make at least one direct connection with street, sometimes there are a number of interconnected laneways within a block that are not visible from streets. How deeply

hidden a laneway is located from the public street, as described by the number of turns, indicates its depth of visual permeability.

Density. If one thing is clear about density, it is that it is a widely used, but complex, concept with often unclear terminology, measured across different scales and in reference to different things (Dovey & Pafka 2014; Dempsey et al. 2012; Forsyth et al. 2007). For the purposes of this paper, *density* on one hand refers to the demand for more dwellings to be built in inner suburbs in order to house an increasing population. However, the paper proposes to examine manifestations of this at the fine-grained architectural scale to better understand how particular housing types interact with laneways (Figure 5).



Figure 5. Townhouses and single family homes

Interface permeability. Studying the public / private interface in this context is closely related to density as it refers to building-scale urban analysis with the purpose of understanding how the plot-laneway-street relationship works and differences in interface permeability across different building types (Figure 6). Interface typology is based on the five typologies of: impermeable/blank, direct/opaque, direct/transparent, pedestrian setback, and car setback (Dovey & Wood 2015).



Figure 6. Public / private interface

While these six features were identified as key variables as they are shared by all laneways and are most permanent, it should be noted that there are other features that could also be important under certain circumstances. For examples: paving type can inform to what degree laneways are used by pedestrians, bicyclists, and cars; material of laneway enclosure (walls and fences) can inform likelihood and style of graffiti; the amount of trees overhanging from backyards can provide different amounts of shade which can offer comfort on sunny days or deter use if compromising visibility; etc. But the position of this paper is that these features are less permanent and highly varied among individual laneways and that they should be examined (if shown to be relevant) after the relationships among more permanent features are better understood.

Laneways Mapping Methodology

Maps presented here (Figures 7 – 12) are excerpts from ongoing research on residential back-laneways in Melbourne's inner suburbs. These maps show permeability, visibility, and width of laneways of selected areas. Data on density, interface, and uses are collected through fieldwork and will be analyzed in conjunction with these maps. The objective here is to examine under what conditions certain appropriations take place in the laneways. While this paper acknowledges that more global pressures such as housing demands and sustainability goals motivate certain appropriation of laneways, the focus here is to understand how those factors manifest in the actual laneways. The paper proposes that with a better understanding of under what conditions certain uses arise now, we can begin to envision their future prospects for the residential back-laneways.



Figure 7. Brunswick study area: Permeable and dead-end laneways



Figure 8. Carlton North / Fitzroy study area: Permeable and dead-end laneways



Figure 9. Brunswick study area: Visibility depth from street



Figure 10. Carlton North / Fitzroy study area: Visibility depth from street

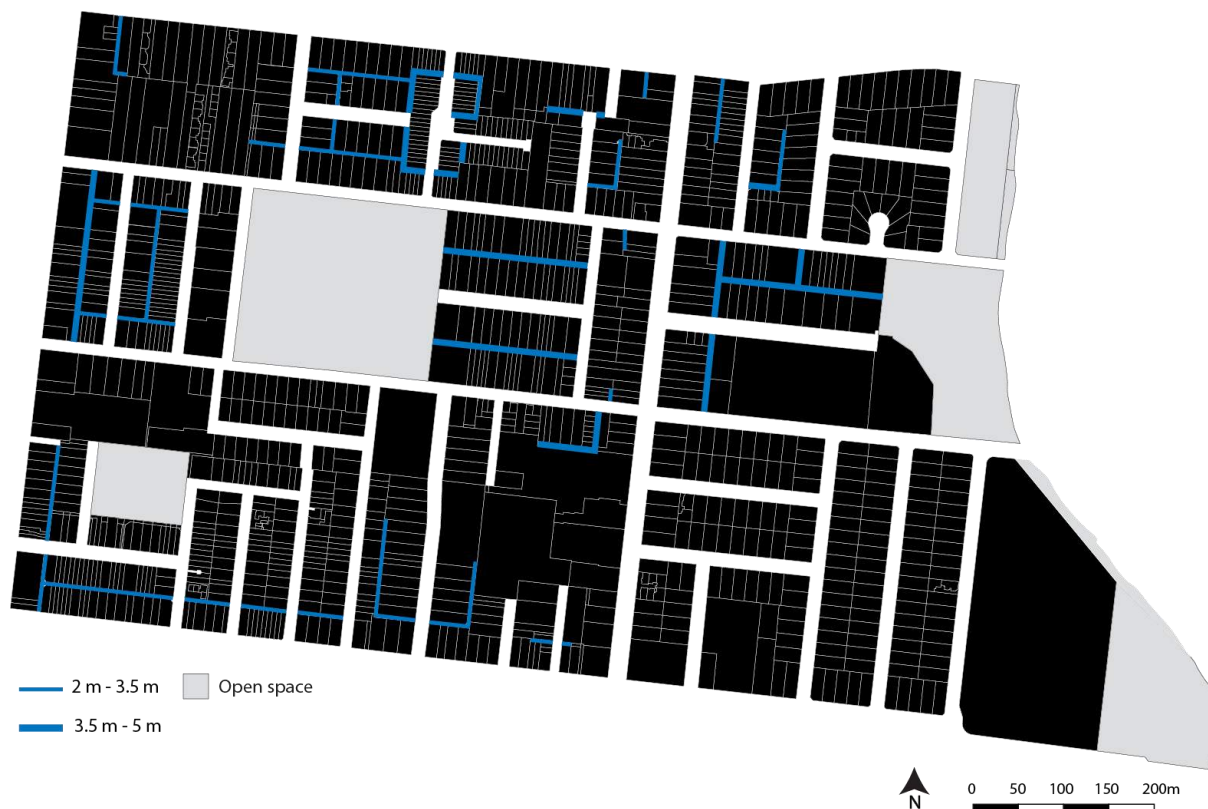


Figure 11. Brunswick study area: Laneway widths



Figure 12. Carlton North / Fitzroy study area: Laneway widths

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