

## The Living Building Challenge 3.0 in Victoria, Australia: Equity through Built Form

### *To what extent are the Living Building Challenge 3.0 “Human Scale and Humane Places” Guidelines relevant to the Victorian Built Environment?*

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International attention is turning to the Living Building Challenge’s (“LBC” or “The Challenge”) innovative worldview, not only for guiding innovative projects, but also for guiding future generations of green building standards. In April, the U.S Green Building Council announced that components of the LBC would be recognised within their Leadership in Energy & Environmental Design (“LEED”) green building accreditation program<sup>1</sup>. The current time represents a crucial opportunity for recognising and improving the Challenge’s relevance in diverse national contexts.

The Challenge’s origin within North America’s property development and urban planning context has significant implications for the advocacy tool’s relevance across other national contexts. To contribute to the progress of LBC internationally, this study examined the relevance of Imperative 15: *Human Scale and Humane Places* in the Australian context, specifically focusing on medium- and high-density developments in Victoria. LBC 3.0’s Design Imperative 15: *Human Scale and Humane Places* attempts to foster social value both within site boundaries and across surrounding interstitial spaces by influencing built form decisions on a site-by-site basis. Imperative 15, in particular, is borne of a car-centric development model that has specific implications for equitable design. Ill-conceived application of Design Imperative 15 in Australia, a nation with distinct regulatory, economic and cultural conditions, may overlook significant opportunities for driving ongoing innovation in equitable built form.

### Scope and Methodology

This study represented a qualitative evaluation of the relevance of the Challenge’s Design Imperative 15 to Australian medium- and high-density built form. The research utilises both primary and secondary sources to develop case studies of Victorian built typologies. The case studies investigated were: Breese Street, Brunswick; Bull Street Terraces, Castlemaine; Pixel Building, Carlton; Queen Victoria Village, Melbourne CBD; and, Nightingale 1.0, Brunswick. These case studies formed the basis of a gap analysis determining if, and to what extent, a gap exists between ILFI objectives for Imperative 15 compared to developer engagement with the Imperative in Australia.

### The Living Building Challenge 3.0 and Interstitial Spaces

This study acknowledged the ILFI’s affirmation that “the [LBC] program is a philosophy first, an advocacy tool second and a certification program third”<sup>2</sup>. Attention was paid to the ILFI’s philosophical intentions for the Imperative and its role within the Equity Petal. Therefore, the study incorporated a summary of the findings of interviews with key ILFI representatives reflecting on the intentions of the Equity Petal and Imperative 15 (See Table 1).

**Table 1. Summary ILFI Direct and Indirect Objectives for Equity Petal - Design Imperative 15.**

PESTLE Theme	Design Imperative 15: Human Scale and Humane Places	
	Direct Objective	Indirect Opportunity or Consequence
Political	<b>Confronting car-centric and post-war urban planning typologies:</b> Imperative 15 was designed to address socio-behavioural issues and these planning environments were a significant contributor to these issues. Highly influenced by Jane Jacobs’ theories of pedestrian scale, urban density, complexity and layering of use.	<b>Challenging Rights of Way:</b> Imperative 15 indirectly functions as a mechanism for challenging rights of way and building inhabitants’ perceptions of their building or home as part of a greater system of opportunities, rather than isolated within its property boundaries.
Economic	<i>None identified.</i>	<b>Requiring Smaller Scale Developments:</b> Smaller scale developments were considered to challenge the development profit margins that might otherwise be attainable through mega-scale developments.  <b>Value Creation through Quality Interstitial Spaces:</b> Accentuating the public and private economic value created by high quality public amenity, demonstrable even through traditional property valuation metrics.

<sup>1</sup> Long 2015, p. 1.

<sup>2</sup> ILFI 2014, p. 6.


Table 1 (CONTINUED). Summary of ILFI Direct and Indirect Objectives for Equity Petal - Design Imperative 15.

PESTLE Theme	Design Imperative 15: Human Scale and Humane Places	
	Direct Objective	Indirect Opportunity or Consequence
<b>Social</b>	<p><b>Positive Socio-Behavioural and Psychological Opportunities:</b> Empowering social value creation at the neighbourhood scale by translating equity considerations into built form.</p> <p><b>Challenging Assumptions of Ownership:</b> Challenging assumptions of private versus public, and property ownership, by blurring the boundary edges and providing public amenity through private development.</p> <p><b>Challenging Assumptions of Development Scale:</b> Requiring developments at a site-by-site basis to consider their contribution to the neighbourhood as a system.</p>	<i>None identified.</i>
<b>Technological</b>	<i>None identified.</i>	<p><b>Construction Technology Trade-off Between Affordability and Acontextual Design:</b> Recognising that whilst pre-fabrication and/or standardisation can drive down construction costs, the resultant forms risk becoming acontextual with regard to their surrounding neighbourhood and ecological system.</p>
<b>Legal</b>	<i>None identified.</i>	<p><b>Implications of Trespass, Liability and Damage to Property:</b> Although these legal considerations were identified as a hurdle to achieving truly equitable design, confronting these indirect constraints to the Equity Petal is seen as part of the process to achieving the ideal equity outcomes envisaged by Imperative 15.</p>
<b>Environmental</b>	<i>None identified.</i>	<p><b>Environmental Education:</b> Blurring the boundaries of a Living Building as an opportunity to increase community interaction with the environmental elements, aspirations and philosophies of that project.</p>

## Case Studies

The case studies investigated in the research were selected as a representative set of Victoria medium- to high-density forms created by developers and architects with varying levels of LBC experience. The research incorporated detailed discussion of each case study and the decision drivers that led to these built forms. A summary of each case study's achievements under Imperative 15 is presented below.

Table 2. Summary of Case Study Assessment Under Imperative 15.

	Assessment Under Design Imperative 15	Design Intervention Required To Achieve Imperative 15
<b>Breese Street, Brunswick</b>		
	<p>Breese Street achieves all the requirements of Imperative 15 except for two <i>Human Scale</i> requirements:</p> <p>Provision of places for people to gather and connect internally and/or with the neighbourhood: One every 1000m<sup>2</sup> (10,760sf)<sup>3</sup>.</p> <p>Provision of elements along the project edge which support the human scale of the larger neighbourhood, such as seat walls, art, displays, or pocket parks ...: One every 4000m<sup>2</sup> (43,000sf)<sup>4</sup>.</p>	<p>The entire 800m<sup>2</sup> roof level is dedicated communal space and fulfills a significant portion of Imperative 15's internal gathering requirement. However, a design intervention was proposed whereby three currently unactivated ground floor spaces were converted to gathering spaces. The spaces were readily adaptable to the incorporation of soft furnishings, benches and plantings.</p> <p>A wall bench boundary treatment was proposed to address Imperative 15's requirement for supporting the human scale of the larger neighbourhood.</p>

<sup>3</sup> ILFI 2014.

<sup>4</sup> *Ibid.*

## Bull Street, Castlemaine



Bull Street's architectural form closely references the Victorian terrace. This typology readily achieves the *Human Scale and Humane Places* requirements under LBC 2.1. Under LBC 3.0, Bull Street achieves all Imperative 15 requirements of except for *Surface Cover*:

Total area of surface parking lot allowed. All other parking requirements must be handled in structured or underground parking: 20% [for Transect L3]<sup>5</sup>.

Two design interventions were proposed to update Bull Street to LBC 3.0 Imperative 15 requirements.

Design Intervention 1 reduced backyard paving to the 6 x 2.3m regulatory car bay to achieve both Victorian statutory planning requirements and LBC 3.0.

Design Intervention 2 reflected that this prescriptive application of Imperative 15 reduced the capacity for layered use of space and that clearly delineated zones could validate the paved area's use for cars. Design Intervention 2 spaced pavers across the lawn to blend functional car surfaces with human elements. Additionally, the placement of bench and layers of planting to the carport edge reduced the perception of car-centric zones. The requirement for only minor design interventions demonstrated that the Victorian terrace form readily achieves Imperative 15, both prescriptively and conceptually.

## Pixel Building, Carlton



Prescriptively, Pixel achieves all the requirements of Imperative 15. However, the research highlights Pixel's assessment according to:

Provision of places for people to gather and connect internally and/or with the neighbourhood: One every 1000m<sup>2</sup> (10,760sf)<sup>6</sup>.

Pixel's footprint across four levels approximates 1,060m<sup>2</sup>. Therefore, the provision of gathering space at roof level fulfills this human scale requirement.

The assessment overlooks the opportunity for Pixel to positively contribute to community interaction at street level. Arguably, this result suggests that Imperative 15's requirement for gathering spaces should include a specific requirement for spaces that connect building occupants to their neighbourhood.

## Queen Victoria Village (QV), Melbourne



QV Village's outdoor urban laneway approach to commercial development "consciously opposes the legacy of projects ... with their internalisation of commercial space, their 'big box' scaling, and their lack of differentiation"<sup>7</sup>.

QV was found to achieve all the requirements of Imperative 15 except one each under *Streets and Intersections* and *Human Scale*, respectively:

Maximum distance between circulation routes. Access way must be 3m wide minimum to quality: 60m.

Provision of elements along the project edge which support the human scale of the larger neighbourhood, such as seat walls, art, displays, or pocket parks ...: One every 4000m<sup>2</sup> (43,000sf)<sup>8</sup>.

*Streets and Intersections:* QV fails to achieve this requirement at its two elevations that manage vehicle access and egress, thereby ensuring the precinct is pedestrianised. This observation demonstrated an interesting uncertainty, if QV had covered the site in a conventional, internalised development without laneways, *Streets and Intersections* would have been achieved by virtue of not being applicable.

*Human Scale:* For such a large site, the distinct absence of benches, wall art or displays facing the surrounding neighbourhood can only be a conscious design choice. Contrary to boundary elements being overlooked, the research found a high level of design consideration and concluded that QV's perimeter is carefully devised to draw pedestrians into its internal spaces, which are rich in human scale elements, and retail facilities.

<sup>5</sup> ILFI 2014.

<sup>6</sup> ILFI 2014.

<sup>7</sup> Bates 2002.

<sup>8</sup> *Ibid.*



## Nightingale 1.0, Brunswick



Nightingale 1.0 was found to meet and exceed the requirements of Imperative 15, both prescriptively and conceptually.

Nevertheless, the research presented a range of design interventions for increasing the human scale potential of Nightingale 1.0. For example, activating the existing laneway at the northern boundary of the project, which had been overlooked by the current requirements of Imperative 15.

## Recommendations

In conjunction with the study's investigation of the conceptual underpinnings of Imperative 15, the case studies contributed to detailed gap analyses of both the conceptual objectives and prescriptive requirements of Imperative 15 in Victoria. The recommendations drawn from these investigations are summarised below.

### **Recommendation 1: Promote the existing role of the LBC 3.0 and ensure Imperative 15 is accurately upholding these objectives.**

Clarifying the LBC's role as the catalyst for design innovation illuminates some of the weaknesses in the current prescriptive presentation of Imperative 15. Victorian case studies closely aligned with Imperative 15's prescriptive requirements. In some cases, Victorian typologies were identified as precursors to Imperative 15's founding tenets. Breese Street demonstrated the success of the Victorian planning scheme for creating design outcomes that closely accord with Imperative 15. The ease with which Imperative 15's prescriptive requirements were achieved by the case studies suggests that the Imperative's current format reduces its relevance for inspiring the leading edge of Australian architecture.

Conceptually, however, Imperative 15 drew attention to a range of opportunities that were not discussed by research participants. Blurring the boundary of public versus private amenity and internalising responsibility for quality interstitial space onto private developments were LBC conceptual opportunities from which the case studies could benefit further.

Gaps identified between Victorian case studies and Imperative 15 were conceptual gaps, not prescriptive. To maximise the LBC's relevance to Australian architecture, future iterations of Imperative 15 should emphasise the ideal conceptual outcomes envisaged by Imperative 15 and reduce the prevalence of prescriptive criteria.

### **Recommendation 2: Recognise the opportunities created by engaging local designers, owners and occupants.**

The sophistication with which design-led case studies strategically addressed regulatory and planning environments demonstrates the value of design teams versed in their municipal, state and national regulatory context. Bull Street representatives employed an intricate understanding of planning regulations, as well as relationship-building with Councillors and Castlemaine's community, to ensure that LBC objectives will not be undermined in Bull Street's realised form. Nightingale 1.0 employed design-thinking to craft a business model that prioritises design outcomes<sup>9</sup>.

The more prescriptive the LBC becomes, the less its Imperative will be able to leverage these local and design-led opportunities. The LBC must ensure all its Imperatives maximise the role of local designers and local planning knowledge to create the best architectural innovations for their community. Additionally, empowering local designers decreases the need for LBC guidelines to intimately address the diverse legal, regulatory and social characteristics of every national context.

Additionally, increasingly prescriptive Imperatives reduce the ability for LBC to engage regenerative design principles regarding embedded learning. Achieving Living Building certification is only a small component of the embedded learning that is generated by this iterative process. The journey of discovery shared between project teams contributes to much more than built form and are envisaged to extend into future projects. Prescriptive requirements may decrease the burden on ILFI representatives when assessing whether a project has achieved the LBC human scale and humane place objectives. However, Imperative 15's tendency to prescribe design requirements limits project team learning and the proliferation of the LBC ecological and social philosophies.

### **Recommendation 3: Reduce the prescriptive nature of Imperative 15 in preference for promoting the Imperative's conceptual objectives.**

Once the roles of the LBC and design teams have been clearly established, reframing Imperative 15 from prescriptive conditions to conceptual underpinnings will more clearly promote the Imperative's conceptual foundations and allow new conceptual opportunities to develop in innovative and contextually engaging ways.

<sup>9</sup> Nightingale 1.0 Representative 2015, personal communication, 13 May.

**Recommendation 4: Every Living Building should contribute positively outside its formal boundaries.**

Every development should enhance the social fabric of its surrounding neighbourhood. One significant finding from this research demonstrated that, under Imperative 15, Pixel building was not required to incorporate an element that addressed the human scale of the wider neighbourhood. This presents an interesting oversight for a design that has been critiqued as a giant supergraphic advertising board<sup>10</sup> that fails to interact with the human scale of the street<sup>11</sup>. To counter this loophole, all Living Buildings could be required to demonstrate positive value creation for the larger neighbourhood through elements at their boundary, no matter the project's floor area. For example, future iterations of Imperative 15 might consider every frontage as an opportunity for engaging with the wider neighbourhood.

Imperative 15's mission to blur the boundary of private ownership and improve the public amenity of interstitial space should be more clearly articulated. All projects should be empowered to create public amenity and improve the liveability of interstitial space. Creating quality interstitial spaces is particularly important for areas of higher density whereby buildings often build to their boundary. Imperative 15 creates an unparalleled opportunity to inspire interventions within the project boundaries that permeate throughout entire neighbourhoods. Imperative 15's current presentation, however, fails to stimulate this conceptual objective.

**Recommendation 5: Every Living Building should consider the contributions of verticality to human scale environments.**

Building height is a significant determinant of psychological, social and behavioural connection between building occupants and the wider community. Consideration of the social, behavioural and psychological implications of building height is not currently incorporated within Imperative 15.

**Recommendation 6: Every Living Building should actively inspire new opportunities for encouraging gathering.**

This recommendation questions the rhetoric of Imperative 15. Rather than requiring the "provision of" elements or places for gathering, Living Buildings should empower designers to create spaces that actively inspire gathering.

## Conclusions

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The LBC's greatest strength is as a framework through which to inspire existing architectural talent to reconsider new possibilities for the ideal built environment. Once Imperative 15 is more clearly translated from its current prescriptive format to a framework more suited to inspiration, a range of new human scale and humane place design opportunities will start to emerge. Additionally, a range of new conceptual opportunities for extending Imperative 15 emerged from the current research. These recommendations were grouped under themes that encouraged designers to: contribute positively to communities outside their project's boundaries; to consider the impact of verticality for social interaction and the human scale; and to actively and holistically design for inspiring social gathering.

Empowering local architects and designers is Imperative 15's strongest strategy for remaining relevant in diverse national contexts. Empowering designers is also the Imperative's greatest opportunity for inspiring truly innovative, holistic, contextually engaging and community-enhancing built environments, for embedding ecological and social learning across communities and for the proliferation of the ILFI's ecological worldview.

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<sup>10</sup> Rollo 2011.

<sup>11</sup> Robinson 2011.

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