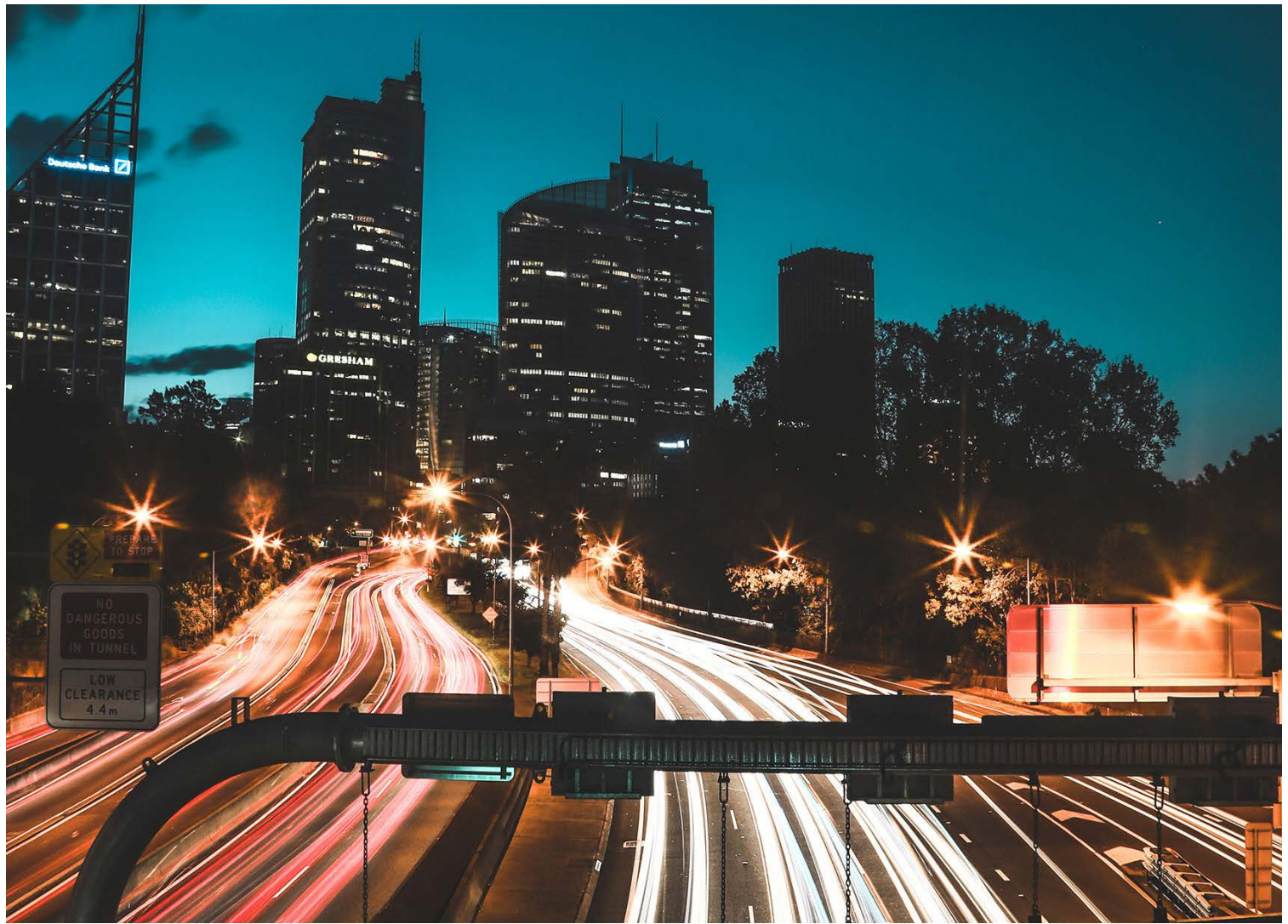


EPM SPRING NEWSLETTER

2020

A close-up photograph of a silver and gold fountain pen lying diagonally across a spiral-bound notebook. The notebook has light blue horizontal lines and a metal spiral binding on the left side. The background is a blurred, dark surface.



THE BENEFITS OF URBAN CONSOLIDATION CENTRES

**Thomas Lehmann, Traffic Engineer, Ason
Group**

In 2014, TfNSW estimated that there were some 35,000 commercial vehicle trips into Sydney CBD every weekday contributing to existing congestion problems. To accommodate the increase in

commercial freight vehicles associated with heightened commercial and retail density within CBDs across NSW, Urban Consolidated Centres (UCCs) provide an effective solution for reducing congestion while meeting the challenges of 'last-mile' delivery for suppliers and receivers.

UCCs have a key role in urban logistics by providing designated freight hubs (warehouses, storage sites) outside of CBDs for larger, partially filled freight vehicles to unload without impacting the urban road network. These packages (retail deliveries, materials, food) can then be loaded onto smaller vehicles (vans, bikes, electric cargo bikes and, in the future, smaller autonomous vehicles and drones) for faster and more efficient delivery.

One of the key benefits of UCCs to developers is a reduction in the provision of on-site loading facilities. A study undertaken of a commercial development at 22 Bishopsgate in London indicated that the utilisation of a UCC could reduce delivery trips by at least 50%. Since construction, this 250,000m² commercial development was able to provide only 4 on-site loading dock spaces which are managed by an on-site booking system that schedules deliveries to reduce the impact on the surrounding road network. This reduction in on-site loading docks provides an increase in commercial floorspace, allowing for a more efficient development.

UCCs can also provide a benefit to receivers by providing off-site storage, home deliveries for bulky items, and support for online retail services. This allows for a further reduction in on-site storage space, again allowing for an increase in commercial floor space.

The utilisation of UCCs would also reduce congestion within CBDs, thereby improving the operation of the local road network as well as decreasing the number of truck kilometres driven and lost time stuck in dense urban traffic. The subsequent reduction in traffic congestion provides benefit for the overall economy, noting that road congestion in Sydney was estimated to cost \$8.038 billion by Infrastructure Australia in 2016, and is estimated to grow to \$15.693 billion by 2031.

The reduction of kilometres driven by freight vehicles also has a positive benefit on emissions generated by transportation. Transport is the second largest source of greenhouse gas pollution, representing 18% of Australia's annual emissions; noting that freight vehicles comprise 23% of total transportation emissions, any reduction in the number of kilometres driven by freight vehicles represents a significant environmental improvement.

UCCs have been demonstrated to work effectively across Europe, and while not currently utilised in

NSW, the development of UCCs is being considered by TfNSW as part of a suite of management strategies to reduce freight vehicle trips within CBDs and alleviate congested urban streets throughout NSW.

In summary, the benefits of UCCs are wide-ranging: more opportunities to provide commercial rather than storage and loading floorspace, reductions in service vehicle movements and lost time, and a more sustainable solution to meet emission targets.

For more information regarding the development and versatility of UCCs, please contact Ason Group.



**SUSTAINABLE BUILDING
REGULATIONS: WHERE ARE WE
HEADING?**

Lawrence Yu, ESD Group Manager & Alex Hole, Director, JHA Services

There are different camps in the ESD industry; some are definitely trying to drive down the path of forever tightening thermal efficiency regulations, some are more pragmatic and are more open to offsets in the form of renewable etc., some think health/amenity should take priority above energy efficiency, and there is the camp that thinks regulation can only go so far unless we can change what society wants.

Good ESD regulation is very hard to write to begin with. And the unfortunate reality is that details are often driven by big industry/lobby group self-interests. Finally, when reinterpreted by bureaucrats into law the end results may not be the best for creating beautiful and diverse buildings

Energy Efficiency is currently one of the most dynamic, but also quantifiable, areas of building regulations. Thus it receives significant focus. This is in response to the national plan (Trajectory for Low Energy Buildings) that has been established to gradually decarbonise our built environment. The goal of this plan is to set a trajectory towards zero energy (and carbon) ready buildings for Australia.

The cornerstone of Energy Efficiency regulation in Australia is Section J Energy Efficiency of the National Construction Code (NCC). The latest update of the NCC occurred in 2019. For Section J, we are still within the transition period (until 30 April 2020) during which developments can choose to comply

with either the current (NCC 2019) or the previous (NCC 2016) version of Section J. This yearlong transition period is necessary because the changes in Section J can have significant impacts on the fabric design of buildings. New requirements of NCC 2019 Section J includes:

- Default R-value requirement to all envelope floors, including slab on ground
- Default 'light' roof colour (solar absorbance ≤ 0.45) for most climate zones
- Stricter thermal performance requirements for walls and windows
- The Total R-value calculations of buildings elements must include an allowance for thermal bridging

Unpacking the above, it means your project won't comply under the deemed-to-satisfy pathway if you would like to use a 'dark' roof colour. Similarly, it may not comply if you would like to avoid insulation under the slab. To do so will require an engineered solution using one of the Verification Method pathways, typically JV3 – Verification using a reference building (JV1 NABERS pathway and JV2 Green Star pathway are rarely used; in essence, they are the same as JV3 except more complicated).

(For those already familiar with JV3, there are some changes between NCC 2016 and NCC 2019 requirements as well. One major change is the additional requirement to achieve a thermal comfort PMV score of between ± 1 .)

When it comes to walls and windows thermal performance, NCC 2019 has completely revamped the calculation methodology by assessing the two elements together. At a high level, the regulation is written to encourage a reduction in window areas. For the typical building (with glazing to façade ratio of 40% or more), however, it means windows with a lower SHGC value (e.g. more tinted glass) and a lower U-value (e.g. double glazing). For buildings with a high glazing to façade ratio, again an engineered solution would be recommended.

In terms of allowance for thermal bridging, this forces design team to pay more attention to the construction of their building fabric as thermal bridges can have a major impact on the overall value of a building element. For example, a typical spandrel panel with R2.0 insulation may only achieve a Total R-value of R0.45 once thermal bridging has been considered. Another challenge is that the solutions to addressing thermal bridging may not be compatible with a building's non-combustible construction requirements.

Changes to the NCC also have flow-on impacts on other sustainability rating systems, in particular, Green Star. One of the mandatory requirements in Green Star is a minimum 10% improvement over Section J. As NCC 2019 Section J is roughly 30% more stringent compared to NCC 2016, it makes achieving Green Star targets more challenging. In response, the Green Building Council Australia (GBCA) has updated the Green Star Design & As-built tool from v1.2 to v1.3 with additional credits to assist design teams make up for points lost as a result of changes to the NCC.

Going forward, the GBCA is currently working on a completely revamped Green Star tool (Green Star for New Buildings). One of the key proposed changes is that to achieve a 6 star Green Star rating a development will need to be carbon neutral. This new Green Star tool is scheduled to be released in late 2020 (GBCA has advise there will be a transition period of 18 months). The next edition of the NCC is scheduled to come into effect in 2022. A major focus of NCC 2022 will be improving the energy efficiency requirements for residential buildings.

What does all this mean for creativity, innovation and design? What does it mean for those who want to choose building elements for their combination of aesthetic and performance? Are the days of brutalist concrete expressionism in architecture gone? Is black no longer the new black? Not necessarily. It just means that these choices must be made with consideration to the holistic sustainability of the development, and that additional details (cost?) may need to be added to ensure that the form can also provide the best possible function. Let's find a way to motivate industry to continue to strive for design diversity amongst the tightening regulation framework. That will take some science and engineering to support the architectural vision!



WHEN DOES A SCHOOL DEVELOPMENT BECOME A MAJOR PROJECT?

**Patrick Holland, Partner & Kate Swain,
Partner, McCullough Robertson**

When looking at financial and time constraints on a project, the scope and size of a project is mostly thought about in relation to the construction process. However, another area to consider for new school builds or pricey re-developments is the potential project legal requirements that may arise if the works are classified as a major project.

Under the State Environmental Planning Policy (State and Regional Development) 2011, a normal school-based development will become a major project if:

- The development is for a new school
- Development is for an existing school for purposes of alterations or additions with a capital investment value of \$20 million
- Development is for the purposes of a tertiary institution (including research facilities) with a capital investment value of more than \$30 million

This new classification adds a range of new requirements in the approval process, including:

- Obtaining the Secretary's Environmental Assessment Requirement (SEARs)
- Preparation of an Environmental Impact Statement (EIS) for the project made in

accordance with the SEARs

- Exhibition of the project to allow for submissions from organisations and members of the public
- Providing responses to the submissions

The extra requirements can add additional costs and time lengths to a project and should be considered in the budgeting and structuring of your development. However, when budgeting underestimating the total cost of the project can lead to legal trouble. In *Hoxton Park Residents Action Group Inc v Liverpool City Council (No 2)* [2015] NSWLEC 125, the validity of a school's development consent was challenged by a local community group when it was revealed they underestimated their budget to be under the threshold and instead sought their consent from a local council.

Currently in New South Wales, hundreds of school-based projects are currently undergoing the approval process or have recently been decided, for example:

- Young High School is currently awaiting assessment for a redevelopment including building new libraries and a joint-use community facility. They began the major project process in October 2018 after the project had a capital investment value exceeding \$20 million. The school is currently awaiting their

project assessment, recommendation and determination

- In October 2019, Richard Gill National Music Academy Ltd submitted a SEARs request for the establishment of a new school. SEARs was granted in November, and the Department is currently awaiting an Environmental Impact Statement for the development
- The University of Sydney received their approval for the Engineering and Technology Precinct in February 2019, after submitting their SEARs request in mid 2017. This was requested when the university's project work was valued at over \$105 million. In the approval process, the project received 19 submissions from both organisations and the general public both supporting and rejecting the addition.

In addition, the extra hurdles also add more avenues that may cause a project to face rejection, disapproval or have extra consent conditions added for that reason it is always recommended to get both legal and planning advice before doing any major work on an educational facility.

For further information on any of the issues raised in this alert, please contact Patrick Holland on (02) 8241 5610 or Kate Swain on (02) 4914 6914).



LONG SERVICE LEAVE LEVY FEES

**Matthew Alder, Project Coordinator, EPM
Projects**

In the lead up to the commencement of construction several different kinds of statutory fees will become due. This includes Development Application fees,

Section 7.11 contributions (formally Section 94A), Long Service Leave levy, among others.

It is often unclear what these fees are for and why they are being levied. In particular, the Long Service Leave (LSL) levy can be a significant, which must be paid prior to the issue of a Construction Certificate.

The LSL scheme (and similar schemes in other states) was introduced by the state government to enforce payment of long service leave to construction workers. The scheme is managed by the Long Service Corporation who receive payments and distribute funds to construction workers according to their accrued long service leave entitlements.

An LSL fee is payable by anyone undertaking building or construction work valued over \$25,000. There are two exceptions to this (1) where an owner builder undertakes the work; and (2) a not-for-profit organisation that involves voluntary labour in the project, in which case there is a proportional reduction to the LSL fee payable.

The LSL fee is calculated at 0.35% of the value for building and construction work for projects over \$25,000. Something to be aware of when calculating the levy is that you must use the value of

construction works including GST. This is often overlooked.

For projects of high value, the LSL fee can be a significant cost prior to commencing construction. For example, a project with a construction value of \$10M would incur a LSL fee of \$35K. There is however, an option to pay the levy in installments if your project meets certain criteria.

If the project has a value of over \$10M and an expected construction duration greater than 12 months, the LSL fee may be paid in installments. To pay by installments you must first lodge an application with the Long Service Corporation. While the Corporation does not specify what the payment plan will be, EPM has typically seen that they will agree to 4 equal installments over the duration of construction, with the first installment payable prior to the release of the Construction Certificate. Whether or not the Corporation will agree to a payment plan is completely at their discretion.

Obviously a key advantage to paying the LSL in installments is the benefit this has in easing cashflow, particularly as the fee is not indexed over the period of the payment plan. EPM recommends that clients consider whether the LSL fee can be paid via a

payment plan and speak about this with their consultant team.

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Credits:

Created with images by Aaron Burden - "Fountain pen and a notebook" · Dylan Chung - "First time really playin with shutterspeed but very proud of the outcome. If you would like to see more, please follow me on instagram @dylanchung_" · Ricardo Gomez Angel - "untitled image" · Priscilla Du Preez - "Library shelves" · Kelly Sikkema - "untitled image"