

PLANNING FOR the urban freight evolution

Freight & Logistics: The task of handling, storing, distributing & receiving goods

September 2021

A woman with glasses and a light-colored shirt is smiling as she opens a large cardboard box. The box is filled with white bubble wrap. She is sitting on a grey sofa in a modern living room. In the background, there is a wooden shelf with books and a green plant.

macroplan

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Gary's extensive knowledge and pragmatic approach to planning and planning systems, regional planning, individual and unique projects have enabled him to analyse and decipher complex elements of planning and provide practical and innovative solutions. In 2018 he was acknowledged as Planner of the Year by the Planning Institute of Australia for his contribution to Strategic planning.

Daniela Vujic | General Manager Planning

Daniela Vujic is an experienced town planner with 20 years' experience working as both a strategic and statutory planner for state and local government and the private sector. She worked for over 12 years in the port and freight industry and was responsible for drafting plans and policies which advocated the need to plan for the freight task and activities in urban environments.

Her experience in the delivery of major projects from the environmental assessment phase through to operation, particularly freight, maritime and port industry developments, has given her great insight into the planning challenges faced by industrial type developments within an urban developed landscape.



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Overview

We are living in a world of rapid transformation, where disruptive forces are increasingly upending the way we live our lives, the societies we live in, and the institutions that serve us.

Today's businesses, governments, and individuals need to have the capacity to respond to economic and market shifts unimaginable even a few years ago.

The future - previously considered 2020 - is already here, with cities facing new challenges on the back of disruptions such as technological advancements, globalisation and shifting demographics. COVID-19 has contributed to this disruption accelerating change and bringing it forward between 5 and 10 years in some sectors of the economy. Restructuring is and has occurred rapidly in the past year, particularly around retail and online transacting; freight and the delivery economy; and office working space, with many people predicting a permanent restructure brought about by the way we use technology and interact, and changing consumption patterns.

Drivers which will continue to influence and change the way we handle, distribute and store goods will include: e-commerce, productivity improvements, efficiency gains, connectivity, mobility, digital disruption, technology, social and environmental awareness, achieving higher levels of amenity as well as time and space. There has also been increased demand for warehouse space in the past year to retain more inventory and stock locally as global trade supply chains have become less reliable during this pandemic. NSW's planning system will play a part in dictating how, when and where changes will occur in our urban environments, including facilitating more sustainable solutions to the way we handle, distribute and receive goods.

We cannot predict the future, but we can manage it through effective planning. Governments need to respond to change much quicker than they have in the past, or we will be swept away in the tide of change. Governments need to accept this new reality, be more flexible, less dogmatic and be able to work in a matrix environment. Rules and regulations, which are the backbone of so many of our planning systems, were being made redundant by incremental changes pre-COVID-19 but accelerated through as a consequence of COVID-19. Planning will never be the same and neither should it because the world we were planning for has changed.

The world as we have created it is a process of our thinking. It cannot be changed without changing our thinking. - Albert Einstein

As there are many shades of the colour blue, there are many spectrums to freight uses and activities. Taking a broad brushed approach to defining uses without recognising differences in the "activity", the level of impact and / or the benefits the activity provides in dealing with other issues will not allow our urban environments to transform into more sustainable communities nor will it allow us to embrace the new way of living and doing business. Governments continue to use old policy tools to solve new and emerging issues. Government can only change the planning system and its approach to managing urban issues if it changes the way it thinks about "its" role within it.

The freight task is increasing and growing in volume and in importance - it is not going away and has created a new norm. We must plan for it, consider and design for it in our urban planning framework. The NSW Government has been happy to endorse changes around delivery frameworks to take account of COVID-19 but, if the delivery frameworks are no longer temporary then it is the planning system that needs to change permanently to reflect a restructured delivery industry. There is clearly an urgent need for the planning system to act now to deal with the present and the future pressures of change and acknowledge that change will continue to occur at a more rapid pace than we have previously experienced.

The planning system needs to be strategic, responsive and take a more contemporary approach to the freight and logistics conversation. We have a community that is accepting of goods being delivered through new freight and logistic supply chains, but the planning system is still regulating and planning for freight and logistics in the old way.



The function of 'centres' including shopping centres has changed. People once accessed goods and services from these centres, but they have now transformed into activity hubs, frequented mainly for amenity, entertainment and services but these centres are becoming less about accessing goods and more focused on the distribution of goods.

PURPOSE OF THIS DISCUSSION PAPER

This Discussion Paper aims to commence a dialogue with NSW planning authorities and stakeholders about the need to view "freight and logistics" – that is the things we handle, store, distribute and receive - in a different light. The "F-word" [freight] is not well understood and requires the planning system to take interest and understand the different ways to manage and facilitate the movement and location of freight activities in order to help create sustainable and liveable communities. We can no longer put our heads in the sand on this matter. Freight and logistics are not an add on service but an integral part of the regional, metropolitan and local strategic planning conversation.



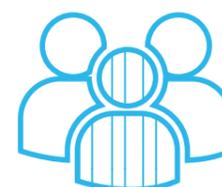
What

Need a different approach to addressing our urban freight challenges and the way we plan for freight moving within our urban environment.



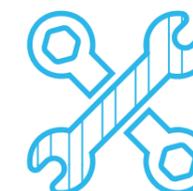
Why

Opportunity to better utilise infrastructure and land; productivity and efficiency gains for businesses; increased take up of technology; encourage more sustainable and efficient ways of moving freight; resulting in improved environment, economic and community outcomes (e.g. reduce growth in greenhouse emissions, create a 24/7 economy and more jobs as well as other lifestyle and community benefits).



Who

Decisive action by government and planning authorities to enable corporations, entrepreneurs, and investors to implement innovative solutions.



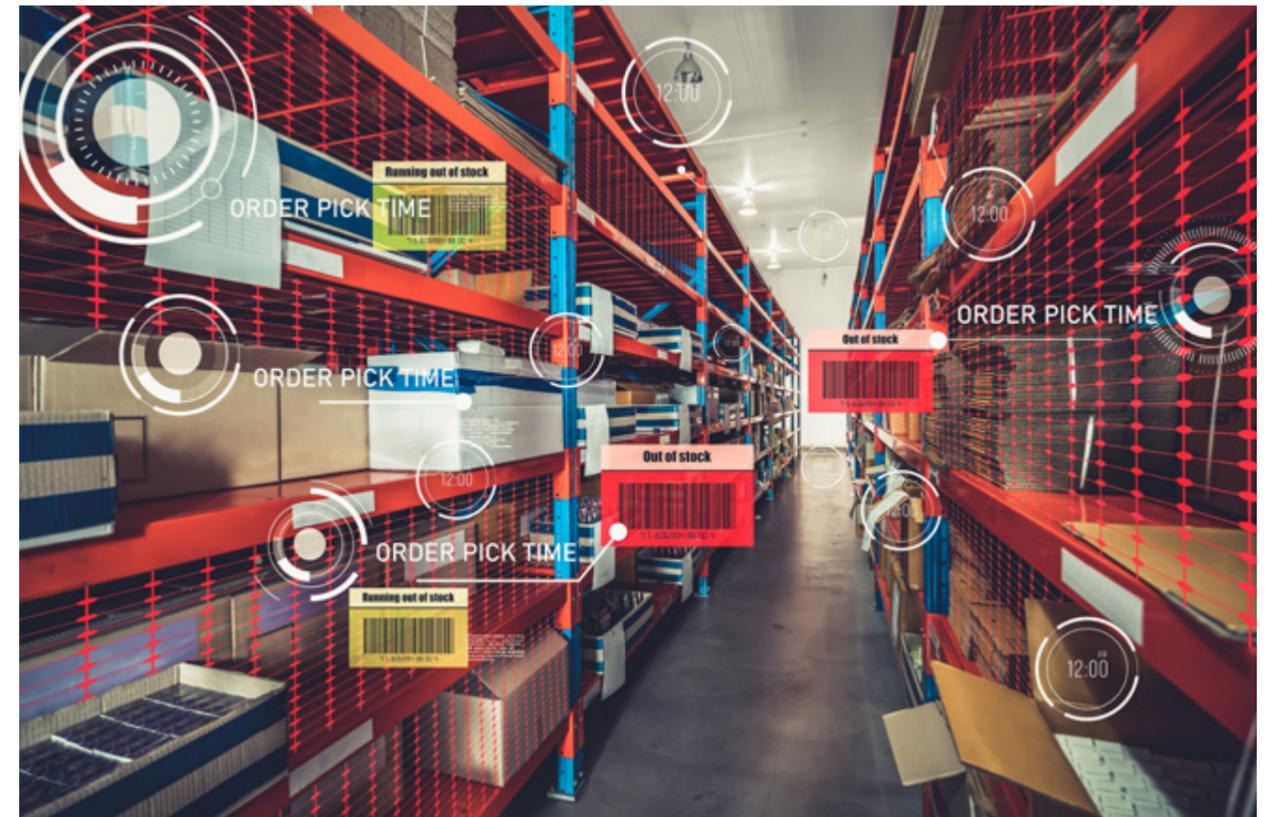
How

A strategically led planning system that is innovative, flexible and adaptable – no one size fits all approach.

Challenges Faced by Industry

Challenges impacting freight and logistic operators and stakeholders in NSW include:

- Restrictions imposed around 24 hour, seven days a week (24/7) supply chains and deliveries, particularly where impacts are minimal
- Unprecedented demand for industrial and freight and logistics space, driven by e-commerce
- Lack of land supply for freight and logistics uses in the Greater Sydney Region resulting in operations moving to other cities such as Melbourne where land supply is available, resulting in the restructuring of Sydney's supply chains and increased travel distances for goods
- Land use planning restrictions (e.g. permissible land uses and design requirements) are impacting on the implementation of innovative, efficient and sustainable freight solutions and outcomes
- Protracted planning approval timeframes for low impact freight and logistics facilities which reduces NSW's responsiveness to growing and changing demands
- Lack of flexibility to use appropriate spaces (e.g. retail and commercial spaces) for last mile delivery, handling and storage
- Time-sensitive delivery expectations
- Higher distribution costs
- Lack of availability of parking and loading infrastructure including on-street loading zones
- Current and future technology changes (e.g. electric vehicles) are not acknowledged and being planned for
- Lack of infrastructure associated with electric heavy vehicles / trucks.



Challenges and Consequences for Planning

The consequences of not planning for freight and logistics include:

- Underutilisation of land
- Reduced productivity of infrastructure and assets
- Increased traffic congestion
- Increased business operating costs
- Environmental consequences including additional fuel consumption and emissions
- Consumer and business dissatisfaction
- Reduced investment and investor confidence
- Missed opportunity for innovation.

Steps to Change the Dynamic



There are steps we can take now to make a difference for the future of our cities and communities and to help the freight and logistics industry operate more efficiently and effectively to service us. These include:

1 Acknowledge what freight and logistics is, that it is evolving, and that it is a growing task that is moving through our urban environment every day.

2 Create a planning system which has the capacity to be responsive and relevant to current and future needs. Planning systems need to be framed around a new conversation about freight and logistics activities and keep pace with changing trends – what is today, may not be tomorrow.

3 It is not all the same – freight-related activities and supply chains are becoming more diverse and complex, primarily driven by a rise in e-commerce. The definitions provided for urban freight uses and activities in NSW does not necessarily match and reflect the level of impact of these uses/activities and therefore where they could be located. Land use compatibility of urban freight uses and activities, in some instances, needs to be considered on its merits and on a site and locational basis.

4 There is unprecedented demand for industrial and freight and logistics space. Design, technology and innovation have generated solutions and different ways of undertaking freight and logistics activities - handling, storing, distributing and receiving goods – and an opportunity to further co-locate and mix uses. Increased land use efficiency can be achieved through vertical integration and co-location of land uses. In addition, to attract and retain freight-related businesses and workers, a range of amenities, services and facilities also needs to be provided.

5 Identify, plan for and protect industrial and freight-related precincts which require large-format distribution and separation from other land uses (e.g. ports, intermodal terminals, major warehouse and distribution precincts, etc).

6 Enable and encourage urban freight logistics use / hubs and distribution uses across a range of localities and centres to take account for emerging needs and trends.

8 Adopt a principle-based approach around a strategically led planning system which takes into account the needs of the freight and logistics sector.

7 We need to consider and design in freight and logistics activities in our urban environments (i.e. regional, metropolitan, districts areas and neighbourhoods). Creating successful places includes designing and planning for freight and logistics activities.

The growing freight and logistics task

But more so than ever, today, we could not live without the freight and logistics industry.

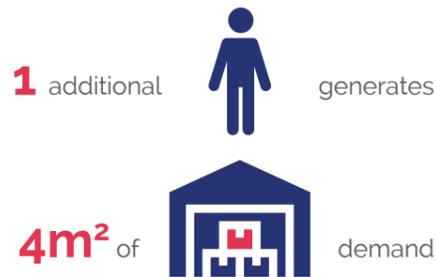
For those that work in the freight industry, they know what freight is and the importance of logistics in managing how freight is acquired, stored, and transported to its final destination. For those that do not know what freight is, it is the goods we consume, make things from and use every day and includes waste. Our breakfast cereal, coffee cup, phone and shoes are all freight because they were transported by air, sea, road and / or rail – handled, stored, distributed and received (i.e. logistics) – within Australia to allow us to purchase and consume these products. The significant increase in online and app-based delivery services has only made the challenges of last-mile delivery more difficult to manage.

As consumer habits have changed and evolved over time, so too has the freight industry to meet the demands of businesses and consumers. The freight industry has found a way to work within and around the land use planning system, to adapt to these changes. However, the industry's solutions are not perfect, often involve unnecessary costs, and are not necessarily sustainable. Without understanding the economic, social and environmental trade-offs that are occurring as a result of our current planning system, the planning system will not change and nor will the trade-offs from a less efficient freight supply chain to the detriment of our environment and economy.

There is an urgent need to break the planning paradigm and look at a completely new set of criteria to meet the needs of a system of ordering / consuming, handling, distributing and receiving goods and services. This paper focuses on the planning systems role in facilitating the efficient handling, distribution and receiving of freight / goods and the missed opportunities as a result of the planning system not responding to, and understanding, these ongoing changes.

The freight task is growing, driven by a number of factors including population growth and a different type of consumer demand. Australia's urban freight is forecast to grow by nearly **60%** over 20 years to 2040¹.

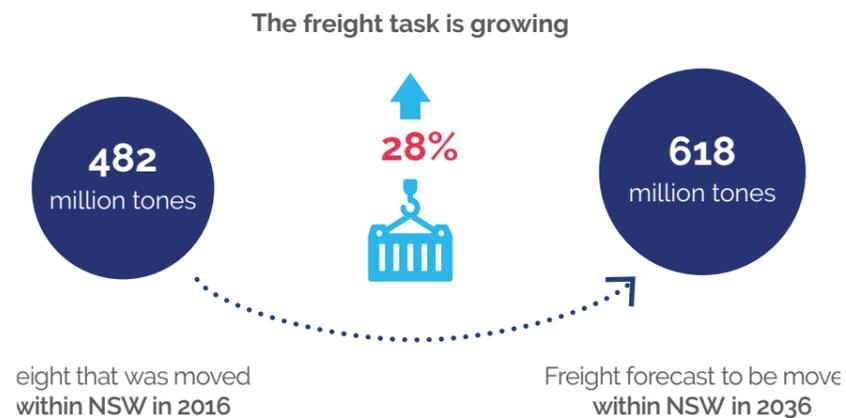
Facts



Between 2020 and 2030, the Australian population is expected to grow by 2.9 million persons and will result in additional warehouse demand of approximately 11.5 million m² from population growth alone over the period.²

E-commerce increase of 57% in 2020 year-on-year as COVID-19 resulted in several years of growth recorded over a single 12 month period.³

In 2016 over 480 million tonnes of freight needed to be moved in NSW. This is forecast to increase by 28% to 618 million tonnes by 2036.⁴



Densely populated metropolitan areas like New York City which do not have enough loading spaces for delivery companies to appropriately drop off and pick up goods has resulted in huge parking fines as a cost of doing business. In 2019, FedEx incurred \$9.8 million (USD) in fines for 146,019 violations and UPS paid around \$23 million (USD) for 348,890 violations. Commercial parking fines incurred in New York City in 2019 totalled about \$123 million (USD), meaning the two delivery giants were responsible for about one quarter of New York City's commercial parking fines last year⁵.

The planning problem

Planning systems around Australia have not been able to keep up with the changes occurring in many employment industries including freight and logistics due to the prescriptive nature of planning legislation, segmentation of uses, land use definitions and a lack of flexibility and responsiveness to changes and diversification occurring within employment sectors. This includes employment trends such as co-location and mixing of uses as well as diversification of uses and / or activities to enable flexibility and dexterity into employment sectors. The way the freight and logistics industry handles, stores, distributes and receives goods has evolved over time and will continue to adapt and change due to consumer and business behaviours, technology changes and global trade shocks that resulted from COVID-19.

COVID-19 placed a spotlight on the freight and logistics sector, with the sector being politically recognised as an essential service across the nation. In many instances, planning controls and legislation have been amended, temporarily, to allow the sector to meet the needs of businesses and consumers. For example, in NSW the Government has allowed, but only until 31 March 2022, retail premises, including supermarkets, to receive deliveries 24 hours a day. This temporary planning measure would therefore have been in place for two years without the majority of the community, if any, being impacted by such a change. What is concerning is that we are likely to revert back to the status quo of complying with planning conditions post March 2022 without assessing or considering whether the temporary planning measure could remain in place permanently.

Rules and regulations, which are the backbone of so many of our planning systems, were made redundant and legislative amendments accelerated as a consequence of COVID. Planning will never be the same and neither should it be because the world we were planning for has changed. But will planning systems support these changes permanently or revert back to the way it was? Why did we need a global pandemic / crisis to change the planning rules particularly for the freight and logistics sector?

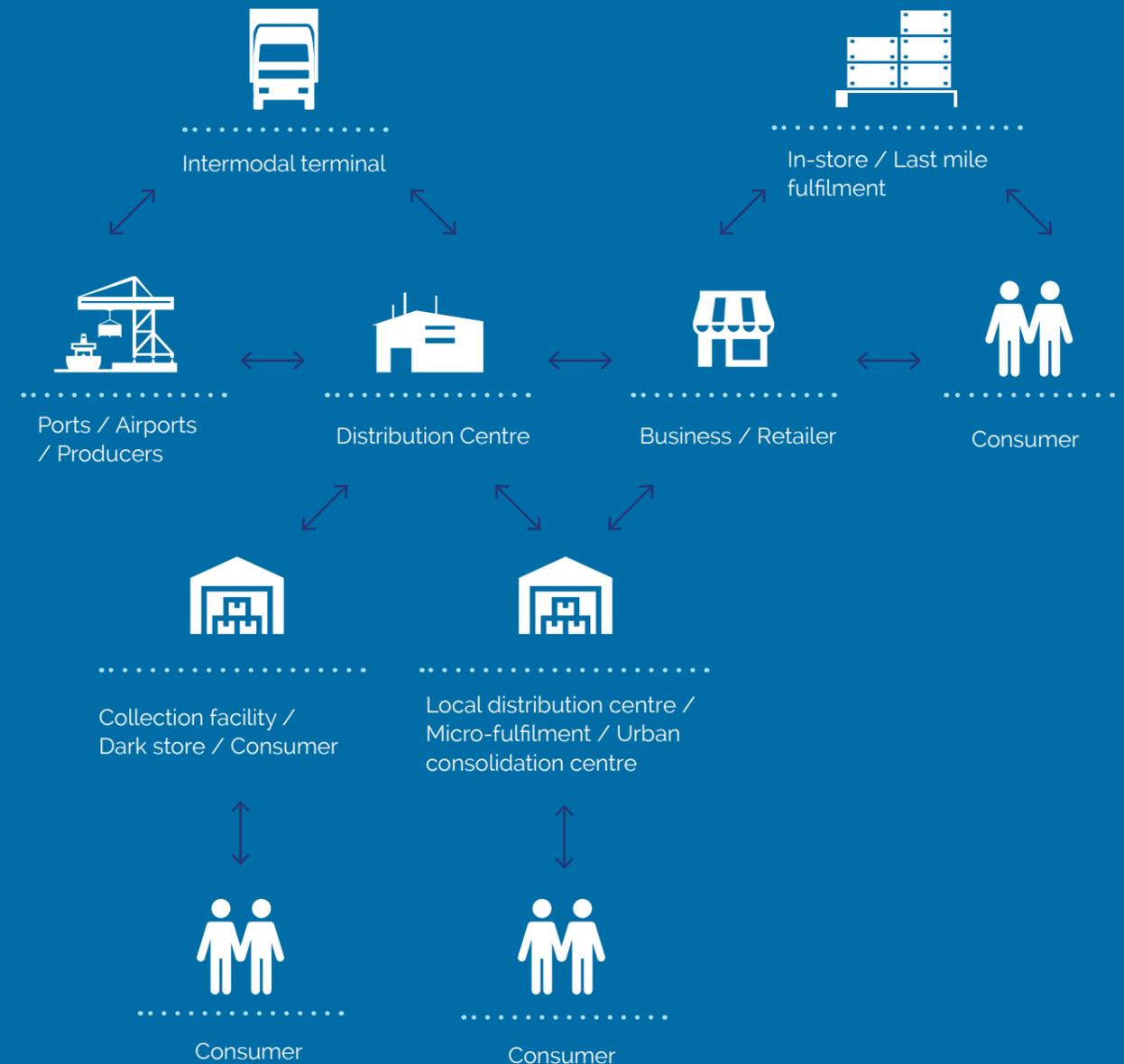


“In many instances, curfews and operational restrictions date back to the 1980s, when the need to remain competitive in a 24/7 economy was not a major consideration. Rigidly adhering to outdated regulations fails to recognise or incentivise take-up of new, quieter vehicle technologies - including electric vehicles - that allow freight tasks to be undertaken less intrusively.”⁶

Previous freight and logistics supply chains



Current freight and logistics supply chains



A survey of over 1,200 Australians undertaken by Newgate Research in June 2020 showed strong majority support for the permanent removal of curfews that prevent overnight deliveries into supermarkets and other retail premises (**71%** support, and only **7%** opposed), as well as permitting essential logistics infrastructure including ports and warehouses to operate at night to facilitate more efficient freight movement (**67%** support, with just **7%** opposed)⁷.

Why the NSW planning system is the way it is

Why is the NSW planning system unresponsive to the structural changes occurring within the freight supply chain i.e. the handling, distribution and receiving of goods?

To answer this question, it is important we understand how the Australian and NSW planning systems have evolved. Perhaps understanding the past may assist us in going forward into the future. The most rapid change confronting our cities has occurred in the last 10 years yet, we have planning systems developed in another era using definitions and terms which often no longer exist or were developed for different times.

For instance, pre the industrial revolution (prior to the mid-18th Century) most work took place within or adjacent to the home, residential areas functioned not only as places of residence but also the places of labour, production, and commerce. The home was accepted beside the economic generators which gave rise to an acceptable mixing of uses in the residential quarters of the medieval city. Something that many of us have observed as tourists when we have visited older cities around the world and then talk about the vibrance of these villages and their character where this mixing still occurs.

Pre the industrial revolution, and as a consequence of the scale of uses, goods produced which varied from small bakeries, dressmakers, jewelers, finance to a multiplicity of manufacturing processes, caused minimal conflicts and impacts. Where impacts were not generated or they were minimal, acceptance was given to a whole range of uses which were not only compatible, but which could work alongside each other, and value add to places. There was no need to catalogue uses into a variety of zones.

Post the industrial revolution (mid-19th Century), we started to get the emergence of large factories and production areas. It was the case that overcrowding, pollution and urban squalor associated with major factory areas was of concern and this led city officials and planners to consider the functional separation of uses into categories – land use zones in planning speak. France, Germany and Britain introduced Australia to the notion of zoning to separate and prevent industries that had the potential to cause impacts (e.g. noise and odour) locating in proximity to where people lived. All would accept an appropriate planning response to the emergence of a new way of using land.



Inside the Medieval town of Carcassonne in the south of France, businesses and residents keep the town alive during the day and night through the mixing of uses - which are not incompatible because of acceptable impacts - allows for this coexistence.



Freight and logistics - is it really all the same? Should the planning system allow for a more efficient and / or innovative way of handling, distributing and receiving the things we want and need on a daily basis based on impact rather than a preconceived view?



Employment in the Middle Ages, pre-industrial revolution.

The simple application of understanding "impacts" was accepted and applied. This was a "Planning" approach relevant to the circumstances - a principle based approach around managing impacts. A multiplicity of uses and functions were able to evolve and coexist around acceptance of tolerable impacts without defining every use and in turn putting it into a category box somewhere in the city.

Today, in an era of improved environmental standards, of mixed use zones where people work and live in the same place, and significant technology advancements in the way we produce, store and move goods, the planning system has not adjusted to these changes and has kept a pre-conceived view of what the freight and logistics industry does and how it does it. We are also in an era where improved productivity is important to both governments and the private sector. Investment in infrastructure needs to be optimised and the use of one of our finite resources (land) needs to provide housing and jobs for our communities now and into the future.

There are circumstances where specific freight and logistic uses should be separated from sensitive land uses (e.g. residential), depending on the impacts from the precinct (e.g. ports) or use (e.g. major warehouse and distribution centres). However, just like we looked to countries like France, Germany and Britain to adopt the zoning and land separation approach, it is worth considering how other countries are managing the handling, storage, distribution and receiving of goods around the world and whether these "innovative" approaches could be adopted in Australia.

The reality is, Australia's industrial landscape has already changed. Warehouses which were once used for the production and manufacturing of goods are now operating as storage and distribution facilities. The rise of e-commerce and the demand for faster delivery times by consumers will continue to put pressure on businesses to locate distribution centres and last mile delivery hubs closer to the end-consumer. With transport costs representing up to 50% of the total supply chain cost, transport and logistics companies and businesses will continue to seek infill locations surrounding denser populations to solve their last-mile logistics function². It is the planning system that will either facilitate or prevent this from occurring.

If the planning system does not create the opportunity and ability to implement new ways of handling, storing, distributing and receiving goods then we will also miss out on the opportunity to create successful places and the environmental, social and economic benefits that come with this.

Delivery and receipt of goods and services is an integral and necessary part of the way a modern city functions and it is incumbent on the planning system to be in an enabler and facilitator of new and innovative ways of doing things.

How are other places doing it?

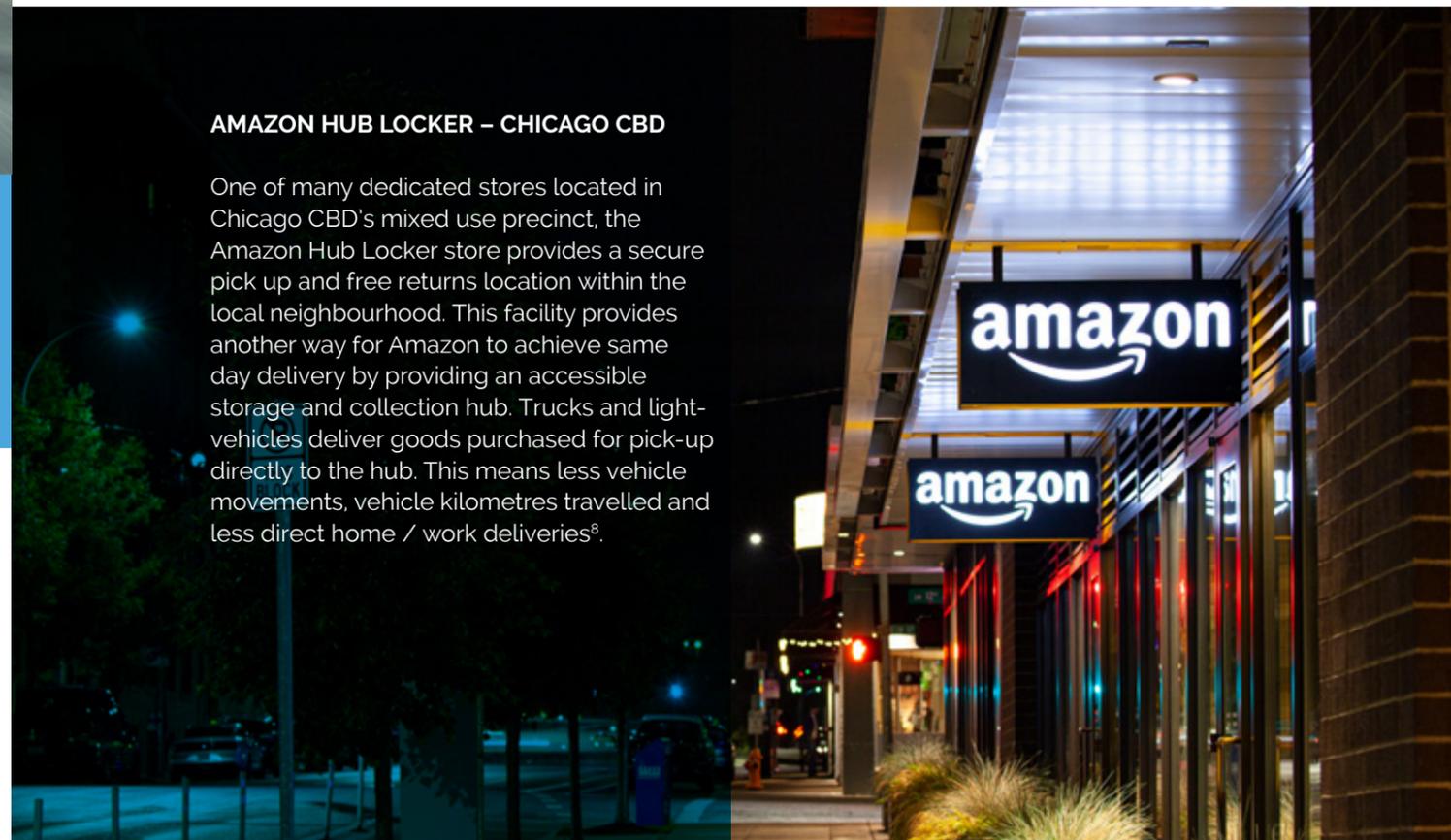
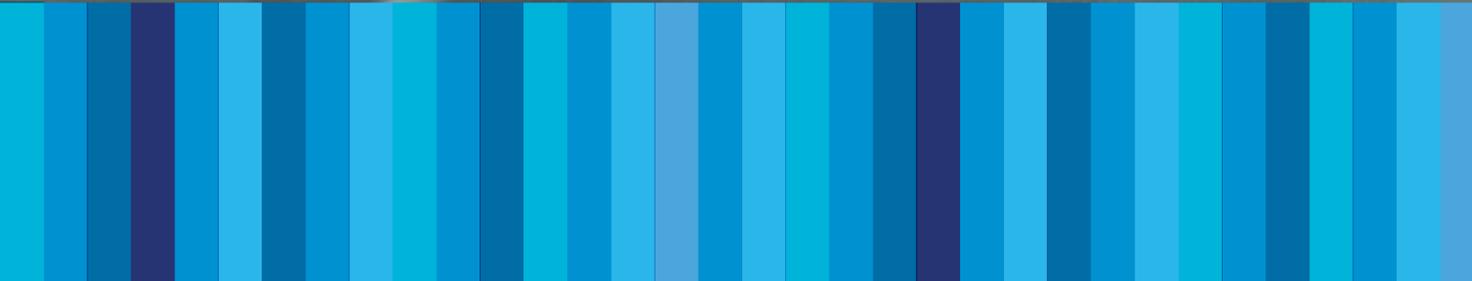
No city is perfect or has it right. There are however some good examples of more efficient ways to move and handle freight / goods in our cities and urban environments. Not all result in material impacts and in most instances are aiming to reduce impacts and reinforce the principles of the triple bottom line framework (i.e. environmental, social and financial sustainability). Having urban centres continue to function as they are today will impact on our existing infrastructure, our environment and the cost of goods and services.

We talk about wanting our cities to be innovative and productive but are we facilitating it? Are we just holding on to definitions of the past because we do not understand what the freight and logistic industry Does or Is?

Most of the examples below would not be permissible uses within NSW's planning framework unless carried out on land zoned industrial. The level of impact they would create is unlikely to be any different to a retail store, the local post office or a major shopping centre. But mention the "F word" and the system automatically reverts back to our outdated post-industrial definitions.

AMAZON HUB LOCKER – CHICAGO CBD

One of many dedicated stores located in Chicago CBD's mixed use precinct, the Amazon Hub Locker store provides a secure pick up and free returns location within the local neighbourhood. This facility provides another way for Amazon to achieve same day delivery by providing an accessible storage and collection hub. Trucks and light-vehicles deliver goods purchased for pick-up directly to the hub. This means less vehicle movements, vehicle kilometres travelled and less direct home / work deliveries⁸.



“LOGISTICS HOTEL” / MIXED-USE DISTRIBUTION CENTRE (PARIS)

Since 2013, Paris has been developing “logistics hotels”, used for freight deliveries located in residential and commercial neighbourhoods instead of the industrial urban fringe. One of the first “logistics hotels” to open was the Beaugrenelle, a former used car park located in a dense commercial urban precinct. The hotel occupies 3,000m² of floor space, is able to process up to 6,500 parcels daily, and contributes to noise and emissions reductions. Domestically, there may be applications for this type of repurposing or refitting by some components of shopping centres.

In 2016, in response to new modes of consumption (e.g. e-commerce and home deliveries), increased traffic movements, vehicle kilometres travelled and logistics sprawl issues (e.g. emissions and congestion), Paris amended its zoning ordinance scheme to “reintegrate” logistics buildings back into the city⁹. The changes to permit “logistics hotels” in Paris was identified as one of 16 strategy items to fulfill Paris’ 2013 Charter for Sustainable Logistics¹⁰. Such changes supported the development of a mixed-used development “logistics hotel” called Chappelle International, which opened in 2018 in the city’s northern section. The “hotel” occupies approximately 45,000m² of built floor space. The urban distribution centre occupies three stories of floorspace (35,000m²) for the receipt, organising and distribution of parcels while other parts of the building occupy other uses such as a data centre, offices, sports facilities (e.g. tennis courts) and an urban farm⁹.

BINNENSTADSERVICE HUB (THE NETHERLANDS)

The Dutch city of Nijmegen was home to the world’s first successful neighbourhood freight hub. Binnenstad service hub (an urban consolidation centre) has been operating for over 10 years at the perimeter of Nijmegen, in a building that looks like an industrial business park warehouse. There, long-haul trucks unload their shipments via loading docks, with electric cargo bikes and small vans distributing goods into the town centre. As a result of the hub, the city streets have far less truck traffic¹¹.



DPD LAST-MILE DELIVERY DEPOT (LONDON)

In 2018, DPD UK opened the first all-electric last-mile urban delivery depot in Westminster, London within a mixed-use precinct. The 465m² site can handle 2,000 parcels per day. Using all-electric vehicles in both the inward feed of parcels to DPD Westminster, and the final delivery to customers, DPD estimated that this could result in an initial reduction of 45 tonnes of CO₂ per annum¹². The site also has a dedicated access point for consumers to collect parcels¹².



What the Future Could Look Like

There are many freight and logistics trends that have influenced our urban landscape and the way we consume goods. The importation of 20- and 40-foot shipping containers in the 1960s revolutionized Australia's freight and logistics industry while today the rise of e-commerce and online shopping is changing the way we purchase and consume goods and where. Freight and logistics is now "a line of sight" from ports to intermodals, large storage distribution centres and distribution points for the last mile function. The way we distribute and handle goods, including the number of times we handle goods, has direct cost implications to businesses and consumers and the level of impact on our environment.

The freight and logistics industry and supply chains are somewhat complex and includes a range of activities and processes. From massive storage and distribution centres for hundreds of clients decanting their products to customers on a daily basis, with large distribution centres that facilitate deliveries to businesses and customers, to vehicles themselves being the "storage space", reducing this part of the supply chains own need for large storage spaces. The modern freight and logistics firm competes on reducing pick up, delivery and consumption times, producing efficiencies in both the storage and delivery arms of the freight and logistics industry. It is key then, that the planning system appreciates wholistically the operation of these separate but connected components to assist in delivering potential productivity and efficiency gains.



Freight and logistics is now **"a line of sight"** from ports to intermodals, large storage distribution centres and distribution points for the last mile function.

Freight trends influencing our urban environment

1. THE RISE OF E-COMMERCE

The growth of e-commerce has and will continue to change the last mile delivery system as freight and logistics has moved from a business-to-business model to a business-to-consumer one generating infinitely more delivery destinations. It is and will continue to create demand for additional warehousing space and other forms of 'storage space' closer to consumers. In 2020, over a third of all new industrial leases with a gross floor space over 5,000m² were leased to retail trade businesses (e.g. Amazon and Woolworths) with another third being leased to transport and logistics companies². The anticipated and forecast growth in online shopping has been accelerated because of COVID-19 and is unlikely to be reversed.

The recently released Australia Post eCommerce Industry Report showed that spending in e-commerce was up 57% in 2020 year-on-year as COVID-19 resulted in several years of growth recorded over a single, 12 month period. The report states Australians spent \$50.5bn online last year, and e-commerce accounted for 16.3% of total retail spend³.

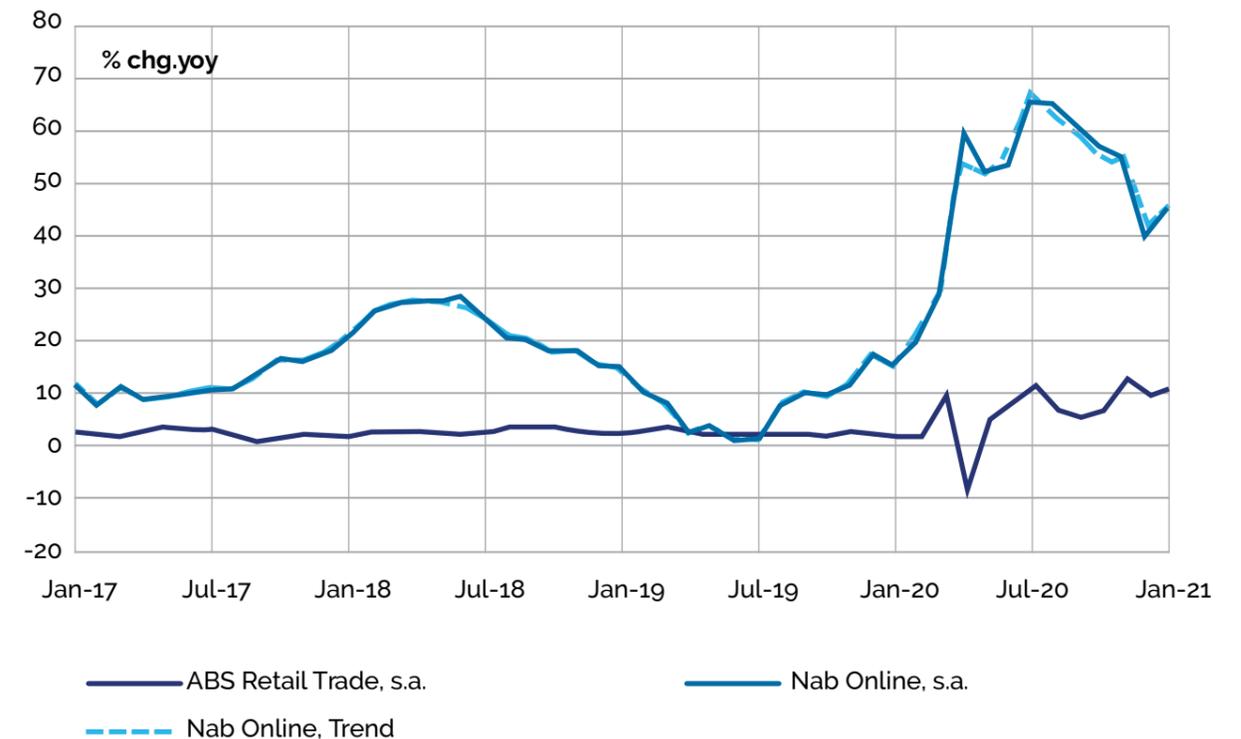
Meanwhile, approximately 1.3 million of the 9 million households that bought online were first-time shoppers, with 93% of their initial purchases made between March and December 2020. Each month saw an average of 1 million additional households buying online when compared to 2019. The report suggests that this can be attributed to two key factors: regular shoppers buying more frequently and new shoppers entering the market for the first time.

They also found that of the 240,000 households who made an online purchase for the first time in April 2020, 50% were regular shoppers by the end of the year after shopping online in at least three months between May and December. Leading categories were Food and Liquor and Home & Garden products, with spend up 77% and 70% year-on-year, respectively.

The Australia Post General Manager Parcel and Express Services Ben Franzi states in the report that "through the early months of 2021 we've continued to see around 5 million households shopping online each month. While the effects of the pandemic may still be felt for some time, business and consumer confidence continues to improve. We've reached a new level, and online has never been more in focus"³.

The upswing in e-commerce identified in the Australia Post report is also confirmed by a NAB report (see Figure below) which shows online sales growing much faster than retail sales generally in the period 2017-2019, then moderating before the surge in 2020 and into 2021.

NAB Online retail sales and ABS retail sales¹³



57% Increase e-commerce spending

120,000 households first time shoppers April 2020 now regular shoppers

\$50.3bn spend by Aussies 2020

In 2020, **1 million** additional household per month buying online



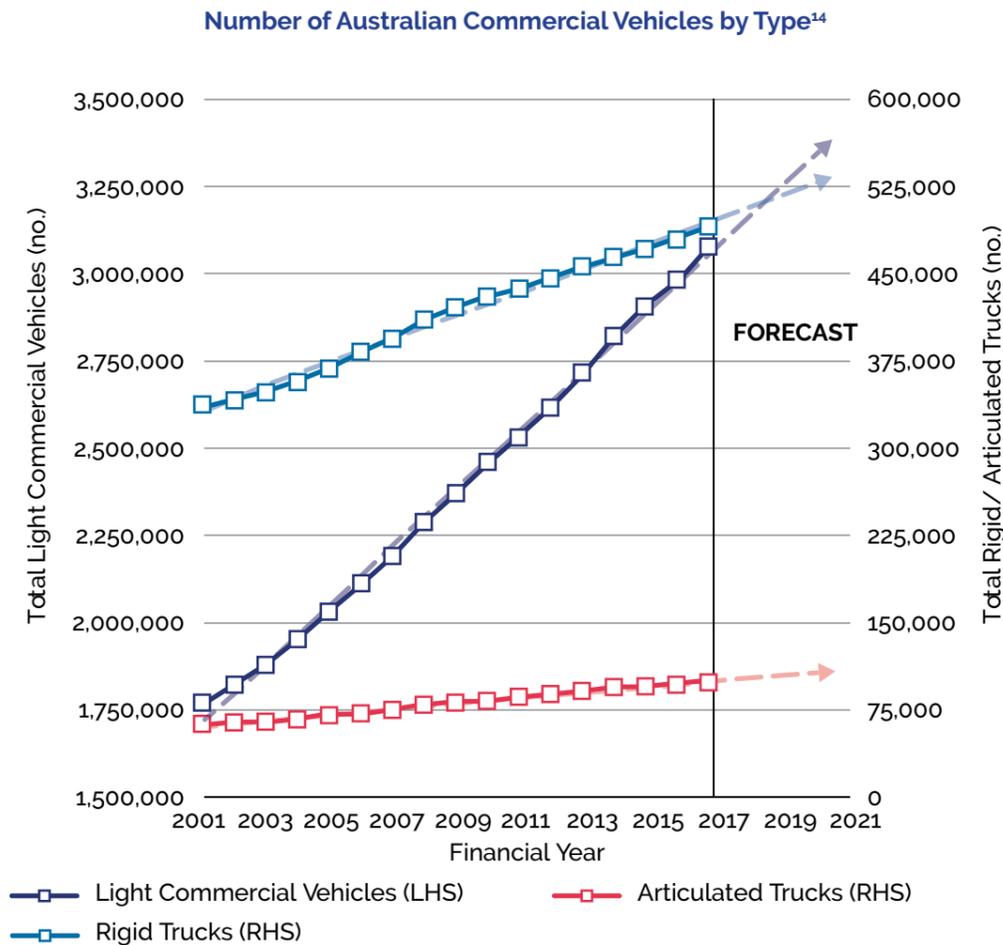
It is estimated that every five years e-commerce sales will double. This will add to urban congestion as delivery vehicles compete with other vehicles for finite road and kerbside space.⁴

2. INCREASED METHODS / WAYS OF DELIVERING AND RECEIVING GOODS AS CONSUMERS WANT MORE CHOICE AND FLEXIBILITY

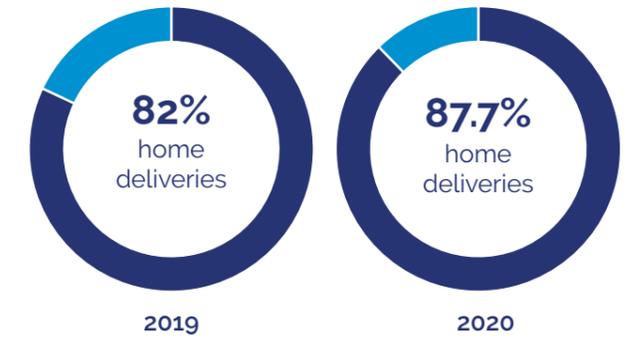
COVID-19 has exposed a number of frailties in various supply chains. In response to the pandemic, there is at least an awareness of the need to consider ways to de-globalise and mitigate risk. In a post COVID-19 world, it will make sense to have a more diversified supply chain to help further mitigate risk.

There are also a seemingly never-ending number of delivery modes. These include but are not limited to contactless delivery systems such as the 24/7 Australian Post Parcel Lockers, Click and Collect, Pantech trucks and light commercial vehicles, electric vehicles and bicycles, drones, and others.

While this expansion of modes is underway, it is important to manage expectations regarding the integration of freight and logistics activities within the community. In other words, there exists an imperative to get on the front foot, to address perceived and real land use concerns arising from conflict that may occur as this integration gathers pace. For example, in the urban setting it is increasingly obvious that there are more frequent parcel deliveries. This is a trend which is well portrayed in the following diagram which clearly shows the rise and rise of courier activity in the form of light commercial vehicles.



Retailers are working smarter to offer the best customer experience possible by improving the parcel delivery experience. Last-mile delivery services are now a key differentiator and competitive opportunity for retailers. Expanding variety of delivery options and quality of the delivery service are influencers to attract and retain online customers. The delivery experience directly affects e-commerce players' success in the marketplace.



In 2020 87.7% of all deliveries were to homes, up from 82% in 2019.³

Personal cars and bicycles such as Uber Connect, which is now available in a number of cities in Australia have the potential to take hold, with on-demand package delivery within hours rather than days. Other potential exists in the form of delivery and collection services in and around our larger train stations.



The Australia Post report states that in terms of preferred delivery points, with Australians spending more time at home in 2020, there was a significant increase in home deliveries – growing to 87.7% of all deliveries, up from 82% in 2019. Not surprisingly, both workplace and alternative collection points fell.

CBD collections also declined as suburban collections increased. Parcel lockers experienced the biggest shift. CBD locker share went from 14% in 2019 to 8.5% in 2020. With limited access to CBD facilities in April, the share of parcel locker deliveries to CBD areas was only 6.8% – the lowest of the year. It is expected however, as workers return to CBD areas that the CBD share will increase.

Along with the geographical shift from CBDs to suburbs, there was also a shift in the types of collection points used. Alternative collection points (e.g. 24/7 parcel lockers) grew 25.3% year-on-year in 2020 which is unsurprising given the marked increase in the number of online purchases throughout the year.

3. VERTICAL WAREHOUSING, URBAN CONSOLIDATION CENTRES AND LAST MILE DELIVERY HUBS

Demand for land and storage space close to infrastructure and population density and increasing land prices will justify the need for vertical warehousing, mini-distribution centres, urban consolidation centres and last mile delivery hubs as retailers look to reduce the time and costs of last mile delivery as well as build resilience into supply chains. In addition, disruptions to trade supply chains because of COVID-19 has created a shift away from the 'just-in-time' model to a 'just-in-case' approach, resulting in the need for additional storage and logistics spaces.

Mixed use developments incorporating urban consolidation centres to facilitate last mile delivery and new ways of delivering as seen in the UK and France are leading the way in demonstrating that freight and logistics activities can co-exist and collocate in urban centres such as the 'logistic hotels' in Paris. The city of Paris has also launched plans to convert abandoned parking facilities and fuel stations into distribution warehouses to fulfil the demands of e-commerce¹⁵.

Existing shopping centres are well positioned to be the new distribution hubs for much of our delivery systems particularly those associated with the last mile. They are suitable locations for a number of reasons including: location and proximity to consumers; loading dock infrastructure; and truck / heavy vehicle accessibility. We should no longer call them perhaps shopping centres but look towards a functional definition around something like an activity hub.

SCA Property Group which owns a number of shopping centres in Australia acknowledges that their "convenience-based centres" were becoming last-mile logistics hubs with Woolworths and Coles using their centres for last-mile fulfilment, both for pickup and home delivery. It is their view that their centres will benefit from online retailing (e.g. groceries and food delivery) because they are located closer to end customers than any other commercial property¹⁶. Amazon has been in discussions with shopping centre owners to convert some of the mall space into Amazon fulfilment centres due to the decline in retail demand even prior to COVID-19. In the USA between 2016 and 2019, Amazon had converted 25 shopping malls into fulfilment centres¹⁷.

The planning system can recognise and be responsive to this new functionality and the growth in online consumption. With large retailers and department stores moving out of shopping centres and / or reducing their 'retail premise' footprint, there is a need to rethink the uses for these spaces even if it is a short-term use.

Transport and logistics companies need to re-assess their vast asset bases and geographic breadth considering such trends to avert stranded assets as the delivery landscape transforms. There also exists opportunities for commercial car parks and the repurposing of commercial towers into mini-distribution hubs.



4. ELASTIC LOGISTICS

Elastic logistics is having the flexibility to expand and shrink your business capabilities to align with demands within the supply chain.

Some trends are not long lasting, short term or may subside as new trends and ways of consuming goods change. Examples of this include: the demand for fidget-spinners and COVID-19 vaccines; seasonal events such as Christmas and Valentine's Day; a higher demand for click and collect as a result of COVID-19; and the need to retain more inventory in warehousing as global trade supplies have become less reliable during this pandemic.

Freight supply chains contract, change and go in a different direction if they are permitted to do so to meet business and customer demands and needs, that is they will flex, react and change if they do not need a regulatory approval to do so (e.g. planning approval). Our planning system is not set up to address these sorts of complexities and provide flexibility to deal with changes in demand. It requires political intervention rather than a conscious planning decision. There is an opportunity today to repurpose retail stores and commercial spaces for such activities which have loading spaces and / or would normally

accommodate the delivery and receiving of good. Like the Middle Ages example discussed earlier, impacts between these different ways of dealing with freight distribution and receiving have impacts which are not substantially different and therefore there should be flexibility in allowing adaptive and easy transitioning as required without a necessity for the planning system to interfere.

5. REVERSE LOGISTICS

Not only is the rise in e-commerce and online shopping driving up the demand for additional warehouse space but it is also resulting in warehouse and retailer operators needing to implement process and procedures to accommodate online orders that are returned. It is estimated that 30% of all online goods purchased online are returned - three to four times higher than those of purchases made in brick-and mortar stores². This not only impacts on the leasable floor space of warehouses but also on transport related costs and vehicle kilometres travelled by freight vehicles if the warehouse is located a significant distance from the consumer.



6. ELECTRIFICATION OF THE INDUSTRY

The NSW Government has identified that electric vehicles will be part of the future of the transport industry and will help NSW achieve net-zero emissions by 2050. The Government has recently released the NSW Electric Vehicle Strategy (2021) which focuses on transitioning the entire NSW Government passenger fleet to electric vehicles by 2030 and investing in ultra-fast charging stations. The electrification of freight vehicles will also assist the Government in meeting its long-term targets. The provision of charging infrastructure for heavy vehicles and incentives to make electric freight vehicles more affordable would accelerate this transition.

Some of the benefits of electric vehicles includes minimal noise and local air emissions. Noise and air quality impacts associated with truck and vehicle movements are often of concern for consent authorities and local communities. Allowing for decentralised fulfilment centres and distribution centres in urban areas, to fulfil the rising freight task from e-commerce, provides an opportunity for electric vehicles to handle shorter distance movements.

Woolworths and Ikea have already started to transition to electric delivery vans¹⁸. Linfox is also

one of Australia's early adopters and is currently using an all-electric heavy vehicle in Melbourne which can travel up to 250km before it needs recharging¹⁹. Trucks that are quiet can easily operate at night without disturbing residents and therefore reduce the growth of truck movements during traffic peak hours.

It is worth noting that alternative fuel sources such as hydrogen are being investigated for use internationally. As technology and research continues to advance and provide innovative solutions to urban and global problems, the challenge will be how quickly governments adapt and respond to these new solutions.

It is clear that the future is here, and the electrification of the transport industry will again result in further changes to the way we distribute, handle, receive and store goods. In the meantime, we are missing opportunities now to: integrate freight activities within urban environments; meet customer and business needs; better utilise our existing infrastructure; and reduce vehicle kilometres travelled, particularly by larger vehicles, including fuel consumption and CO₂ emissions. Planning authorities, which are planning for the future of our communities and built environments, must consider these changes in its land use decision making process.



Linfox is also one of Australia's early adopters and is currently using an all-electric heavy vehicle in Melbourne which can travel up to 250km before it needs recharging.

Linfox's first all-electric heavy vehicle



"We have 1,800 vans in London and 90% of those are run by owner-driver franchisees... I can't charge of all those overnight at my depots but if the drivers live in high rise apartments they can't charge them at home either."¹²

7. THE RISE OF COMMERCIAL LIGHT VEHICLES INCLUDING OWNER OPERATORS

As Governments seek to encourage a higher utilisation of public transport infrastructure for our day to day activities and planning authorities seek to implement this 'policy position' through planning controls which restrict the number of car parking spaces that can be provided in residential and commercial developments, the question must be asked as to where commercial light vehicles and private vehicles used for freight deliveries through Uber style and individual contract services will be parked and charged. The transformation of the Transport, Postal and Warehousing employment sector / industry from truck drivers to delivery drivers will continue to occur.

While DPD UK's all-electric last-mile urban delivery depot in Westminster, London is proving to be successful in many ways, the company has criticised the lack of charging infrastructure for electric vehicles in London. DPD UK CEO Dwain McDonald has stated:

"We have 1,800 vans in London and 90% of those are run by owner-driver franchisees... I can't charge of all those overnight at my depots but if the drivers live in high rise apartments they can't charge them at home either."¹²

Under this model of smaller electric vehicles, the home parking space can become the vehicle depot for the individual who is charged with delivering parcels and goods within a particular part of a neighbourhood or district negating the need for large storage areas for delivery vehicles elsewhere and remote from the locality where the delivery is occurring. As the freight task continues to grow faster than population growth, we need to be thinking about where these vehicles will be charged and parked. Also as capital cities become larger, there will be an increasing need for light vehicles to deliver goods.

Economic Benefits of Improved Planning

Australia's productivity performance over the past decade has deteriorated significantly. There are many factors at play but inefficient use of capital has been one factor.

In recent years, we have seen the need for new investment in freight and logistics infrastructure, in response to changing distribution channels (e.g. on-line shopping) which logically mix freight and logistics final delivery with retail activity. However, when the planning rules – devised for an earlier age – inhibit that investment in new delivery channels, industry will either develop more expensive channels – lowering the productivity of both capital and labour – and pass on the cost to consumers or, if the consumer is not willing to pay, they will forgo the investment, leaving an unmet demand and a less efficient delivery system. Either way, the consumer loses out.

To the extent that the distribution channels are less efficient, there will also be an environmental cost. Without new infrastructure, for example, the scope for electric vehicles to displace other vehicles in last-mile delivery will be constrained. There can also be a cost in terms of congestion, which has an economic and environmental cost when new infrastructure investment and designing places which accommodate the increasing number of delivery movements particularly in our urban and city areas would allow a reduction in traffic volumes, particularly during peak times, and a higher payload and utilisation of freight delivery vehicles.

In cities where land is at a premium and its efficient use is essential for a well-functioning city, inefficient use of land and infrastructure also has a cost. If investment in more efficient distribution channels could ease the pressure on land this in turn could, for instance, create scope for the provision of public space and housing in places where people want to live. That can only lift economic welfare.

If planning rules were more flexible and allowed industry to invest in more efficient delivery channels, there would be a significant economic and environmental benefit to our cities, region, and State. This does not mean no rules but a different way of looking at rules and how they are applied relevant to the needs of our community and delivered by a planning system which has inbuilt capacity to be responsive and relevant.

There has been a propensity by some involved in the planning process, both politicians and practitioners to defend the old because "that's the way it's always been done" rather than embrace the new and find much needed new solutions going forward to help the economy and communities get back on their feet. Higher level planning documents (e.g. regional plans) need to guide and help changes to occur in a manner which ultimately benefits consumers in our communities who have already started moving in a new direction relevant to the emergence and needs of new distribution systems.

"Although logistics operations bring neighbourhood challenges, commerce stops without efficient and cost-effective distribution activities."²⁰

In Melbourne, the high uncertainty as to the availability of on-street loading spaces upon vehicle arrival, traffic conditions, the vacancy of parking spaces and the availability of receivers all combine adversely affect the efficiency of couriers resulting in an altered sequence of delivery stops and delivery vehicles leaving the depot not more than **60%** loaded.²⁰

Moving Forward

The urban freight task is not all complex. Some aspects are obvious and are already part of our daily lives, driven by changes to the way we purchase and consume items and do business in addition to other factors such as technological and regulatory changes. Adopting the same approach of the past to manage the current and future urban freight task will not facilitate the creation of new ways of doing things or provide the necessary capacity to service our new community needs.

Freight and logistics have emerged to be a necessary and prime consideration in planning the urban fabric of our regional, metropolitan and district areas and neighbourhoods. It can no longer be just considered as an add on element, it has emerged as an integral part of the way we go about life.

Physical connectivity and technology have converged and the new freight and distribution conversation needs to be acknowledged as a high-level strategic consideration in planning. A planning framework which has the flexibility to allow the design and provision of relevant freight and logistics processes in our urban environments will lead to better place outcomes.

For instance, the Barangaroo Precinct in Sydney CBD has been a successful example of freight and logistics being considered in the design of a residential and commercial precinct with a dedicated underground handling, storing, receiving and distribution facility beneath a pedestrianised precinct. If the freight and servicing activities (approximately 10,000 vehicle movements per month) were to occur at street level, this would generate the need for approximately 230 metres of kerbside space throughout the day and would not have resulted in the pedestrianised precinct that has been created²¹. Creating great places means planning and designing for the delivery and receipt of goods and the collection of waste.



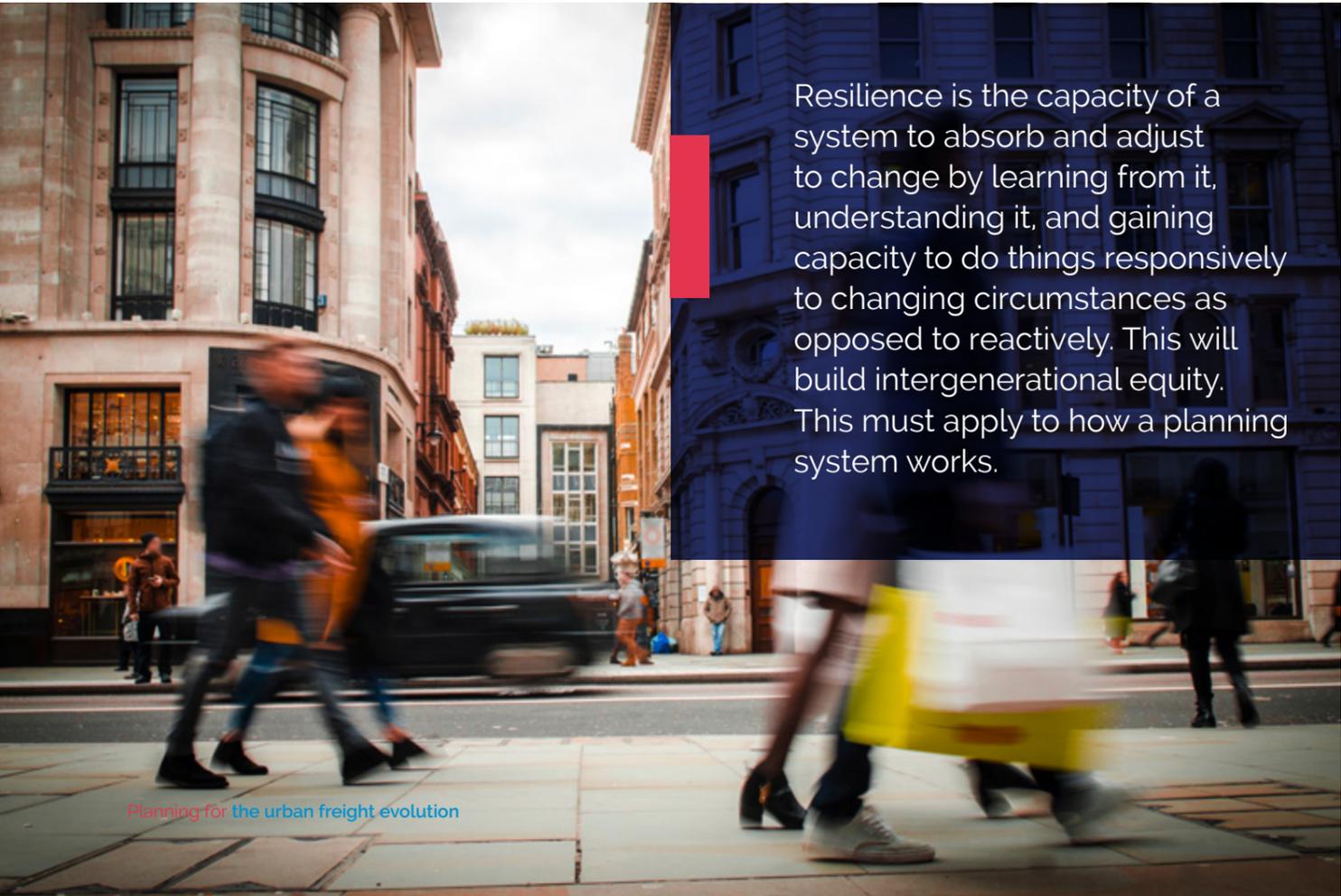
Barangaroo's underground freight handling and distribution facility²²

Our cities and urban areas are being shaped by our new distribution, freight and supply chain networks. COVID-19 has brought with it the need for structural changes to mainstream land use frameworks, accelerating change which was already going on and which required responses and changes from the planning system. COVID-19 has highlighted the importance of freight and logistics on the planning map. It was the first-time the NSW Government acknowledged 'openly' that freight and logistics was an essential service. For most of us that meant there was a chance the supermarket would receive a delivery of toilet paper. However, in a strategic planning context, it represented recognition and differentiated the importance of maintaining supply chains as an essential part of a community's infrastructure framework.

Interestingly, crises are a catalyst for accelerating innovation. COVID-19 has provided an opportunity to innovate across a number of sectors including freight and logistics. The industry is also ready to make a difference and leave a greener footprint on our urban environment with the ability to deliver innovative solutions.

We want our cities to be innovative but are we facilitating it? The planning system needs to recognise the differences in freight and logistics activities (i.e. the handling, storing, distributing and receiving goods) and that most uses are no different to your local supermarket or shopping centre – it's just perception. A willingness to change government policy and frameworks is required for NSW to keep pace, where new opportunities and situations have evolved creating a different context of how the planning system needs to operate. It is not just a case of freight and logistics being responsive to planning but importantly, in these changed times, for the planning system to be responsive to the new distribution order.

We need to use, understand and appreciate change in the creation of a planning system which is resilient and has the capacity to accommodate change. Successful urban solutions must come from private and public cooperation. Meeting predicted challenges requires creativity, investment and capacity to be responsive to disruptions. The planning system must provide a direction for the future and encourage and implement actions to achieve that vision.



Resilience is the capacity of a system to absorb and adjust to change by learning from it, understanding it, and gaining capacity to do things responsively to changing circumstances as opposed to reactively. This will build intergenerational equity. This must apply to how a planning system works.

The following simple actions implemented by NSW Planning authorities could make a contribution to the immediate needs of the freight and logistics industry in addition to taking account of the structural planning issues that require attention as discussed in this report. However, it is important to note that these actions are based on current trends and that it is important to continue to review and determine if such actions need to be modified, or new actions are required to meet new challenges and opportunities.

- 1.** Allow for the vertical integration of fulfillment and distribution centres and micro-depot solutions within mixed use and business zones, freeing up capacity and demand within industrial precincts.
- 2.** Prioritise industrial lands for uses which require separation from sensitive uses. Provide appropriate amenity and facilities for the workers of these precincts.
- 3.** Encourage dual functionality of existing uses and premises (e.g. newsagency as a collection or delivery point) i.e. the mixing of retail and distribution functions where there is no significant amenity impacts.
- 4.** Change development standards and planning requirements to permit vertical / multistorey warehousing.
- 5.** Development guidelines which ensure freight deliveries can occur efficiently and safely off the street for new residential and commercial developments (e.g. adequate provision of loading bays, drop off zones, additional goods lifts for commercial developments, etc) and investigate and encourage the opportunity for residential buildings to provide parking and electric charging stations for light commercial vehicles.
- 6.** Identify and support suitable CBD and urban locations (particularly along major road corridors which allow for heavy vehicle movements) for freight consolidation centres and micro-depot solutions which have the potential to minimise the number of movements and trips into high density areas with consolidated loads while also allowing for alternative modes of transport to undertake the last mile delivery (e.g. bikes, electric vehicles, etc).
- 7.** Identify and protect existing major freight and logistics hubs (e.g. ports, intermodal terminals and major warehouse and distribution precincts) primarily for freight and logistics uses, and ensure key road and rail corridors are prioritised for these uses.
- 8.** Identify and plan for new freight and logistics precincts, in consultation and with input from industry stakeholders, which allow for large format warehousing and distribution facilities. Government infrastructure plays a major role in the location, productivity and efficiency of freight and logistics precinct and therefore will need to take account of industry and user needs in their infrastructure investment decisions.
- 9.** To accommodate growth, allow developments which improve the efficiency of urban freight movements by encouraging deliveries outside peak periods. Permanently retain the 24/7 freight delivery provisions for retail premises including supermarkets beyond March 2022.
- 10.** Allow redundant shopping centre assets and vacant retail stores along main streets to function as a new distribution fabric where instead of customers collecting from a locality the goods are instead distributed from a locality to the customer.
- 11.** Facilitate swift planning approvals to ensure NSW can respond to shifting and growing freight demands.

If we keep doing things the same way, we will miss the opportunity to better utilise infrastructure, reduce growth in greenhouse emissions, create a 24/7 economy and more jobs as well as other lifestyle and community benefits.

A relevant / contemporary planning system should be responding to clear changes in the structure and fabric of our communities as opposed to the other way around. The way we handle, store, distribute and receive goods has changed and continues to change. NSW requires innovation in the planning system to facilitate new and sustainable outcomes, or at least a different way of thinking about freight and logistics and an understanding as to why it is fundamental to our day to day lives.

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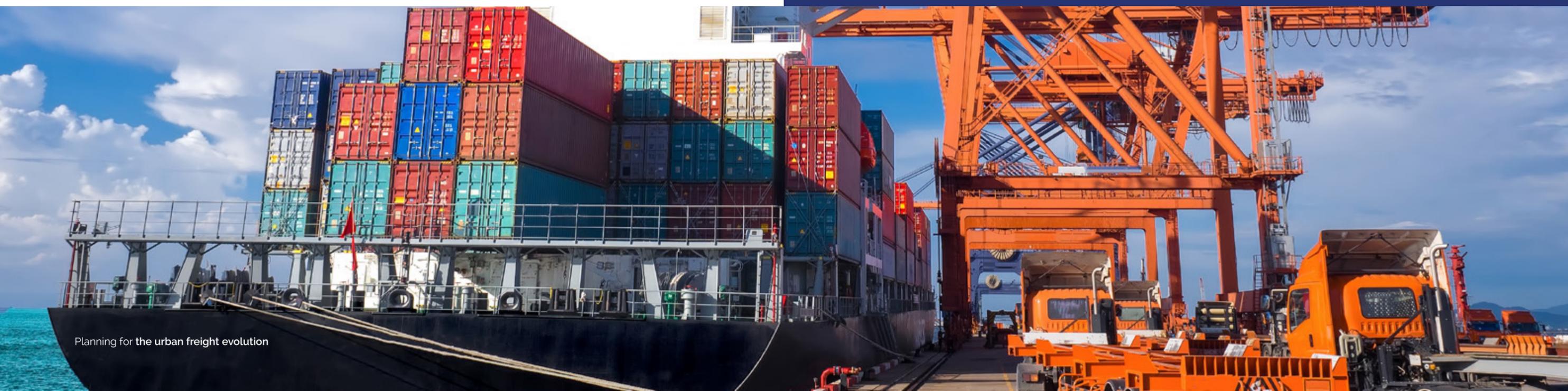
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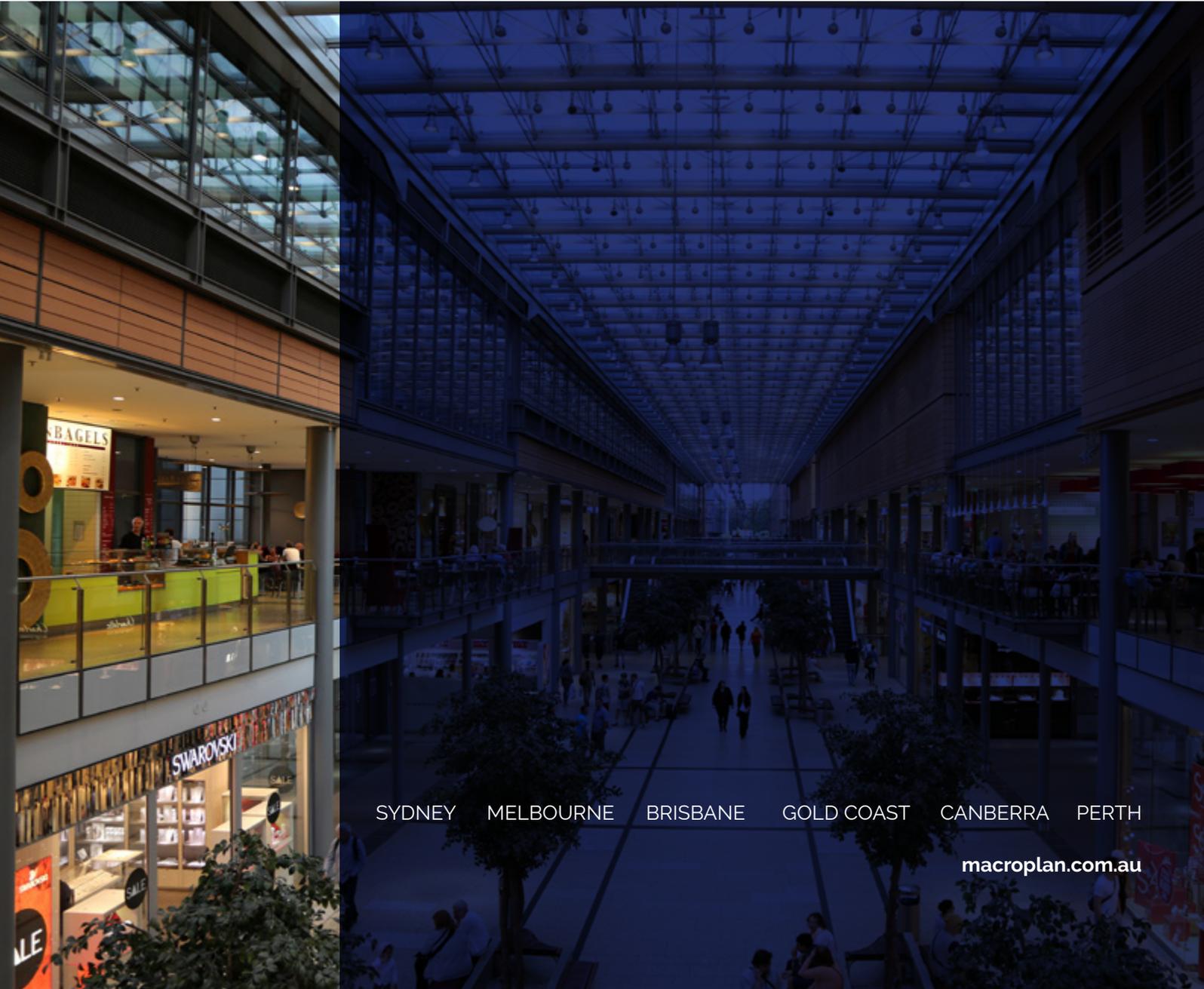
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