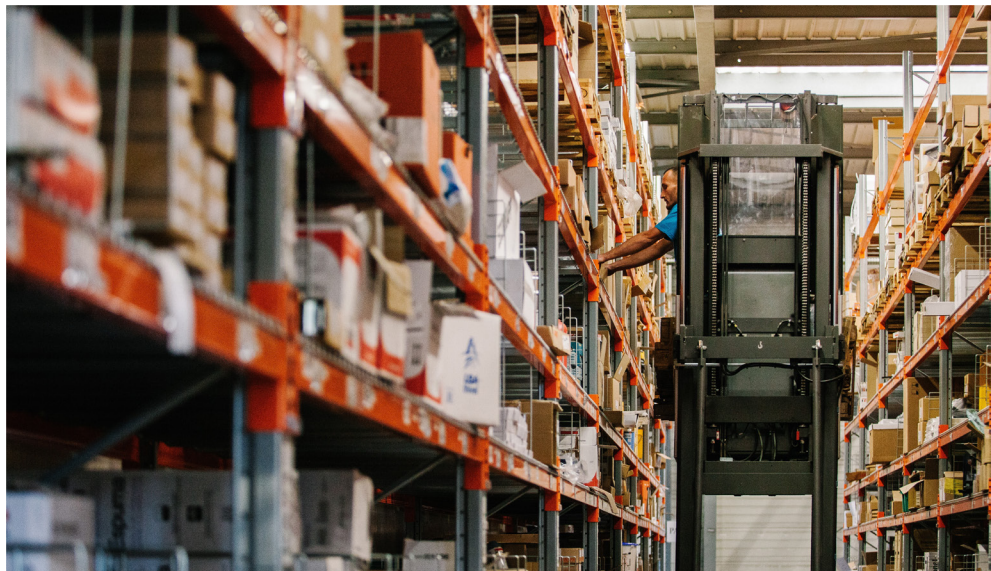


# Reimagining Employment Lands

Research Paper  
April 2021

# ETHOS URBAN





# Research Paper 2: Reimagining Employment Lands

*This is the second article in a series to be published by Ethos Urban which examines an alternate approach to the retention of employment land in Sydney.*

The first article, titled 'Unlocking Sydney's Employment Lands: Is Flexibility the way of the Future?' explored the viability and feasibility of genuine employment-led mixed-use developments in terms of their economics. In that article an economic rationale was set out for considering an approach to the management of employment land that differs from the one currently being advanced within the Greater Sydney Region Plan and District Plans.

In 2018 the thought leadership paper released by the Greater Sydney Commission (GSC) titled 'A Metropolis that Works' outlined how industrial and urban services land should be protected and retained in order to prevent its replacement by other alternative land uses such as residential. The GSC required all existing industrially zoned land within the Eastern City, Central City, North and South Districts to be retained. Ethos Urban aims to reveal alternate opportunities of maximising the use of our industrial and employment land so that it can service the needs of Sydney's residents better, whilst creating more jobs to support a growing economy.

**Ethos Urban believes that there is a significant opportunity for employment land, located close to centres, residential or other uses, to be redefined and reimagined and not just retained. This will help maximise the use of our existing employment precincts and in turn positively drive job growth and improve employment diversity across the metropolitan area.**



**Figure 1** – Unlocking Sydney's Employment Lands: Is Flexibility the Way of the Future?  
Source: Ethos Urban

A key finding of the first article was that employment precincts across Sydney are varied in their character, role, function and density. Some could support growth and development more effectively in terms of diversity of uses, employment density and commercial viability. There is a hierarchy of value and importance of the precincts, with some requiring intervention to better realise their potential.

In addition, each precinct also exists in a different urban context, some are near transport hubs, open space and parks or right adjacent to residential areas. It is the specificity of the economic and physical context which need to be taken into consideration when asking the question of whether a site should be retained or transformed.

The identification of certain employment lands for retention and others for innovative design responses will help relieve the existing pressure there is in Sydney for affordable spaces where production can occur within established urban areas.

Intrinsic to this is the changing nature of work, a shift especially evident during COVID-19. The pandemic has most likely delivered lasting change to our cities, with the growth in 'work-from-home' and on-line retailing just two of the many changes in the way we live in and move around cities. The 'local' has never been more important as we discovered during the lockdowns, and the discussion about walkable neighbourhoods and the 30-minute-city have never been more relevant.

**This second article aims to show how a more flexible approach to land use could help unlock additional growth and potential on existing employment lands. This paper will explore the opportunity for employment-led mixed-use developments, and how a rethink and redesign can create a genuine piece of urbanism and city.**

In preparing this article Ethos Urban examined a number of best practice international examples. These exemplars revealed how innovative design solutions can ensure the liveability, productivity and sustainability of employment-led mixed-use developments.

Extending from this research, we underwent our own conceptual design process in developing an employment-led mixed-use precinct, using a generic 100m by 100m piece of employment land. At the core of this design process was ensuring that at a minimum the amount of employment space was retained or ideally increased. Through an iterative design process, we were able to identify key considerations when combining different uses and demonstrate innovative design solutions in allowing these uses to co-exist.

From this process we have extracted a number of design principles that we believe will enable successful employment-led mixed-use precincts which will provide better place making outcomes, improve the quality of buildings, reduce environmental impacts and create places where one could enjoyably live/work/play.

# Best Practice International Examples

Several examples, at both the building and precinct scale, have been explored to understand how other cities have successfully designed employment-led mixed-use developments. There are several built examples, as well as examples in the approval process or under construction that demonstrate different design approaches and solutions that can successfully deliver employment-led mixed-use areas.

The map on the opposite page depicts the international examples we researched and analysed in preparing this article. There are examples extending from England to America to some already proposed in Australia.

- Strathcona Village, Canada
- Travis Perkins, England
- Bow Enterprise Park, England
- Caxton Works, England
- Chophouse Row, USA
- 25 Kent, USA
- Brooklyn Navy Yard, USA
- Westmoreland Lofts, USA (under construction)
- Former Nestle Site, England (under construction)
- Wick Side + Wick Lane, England (proposal)
- Art Haus, Australia (proposal)

Three key examples (Strathcona Village, Caxton Works and Brooklyn Navy Yard) have been extracted from this research and outlined in detail, to demonstrate how the traditional dis-locating of employment lands from other uses is no longer the only viable option. The three exemplars highlight different scales of employment-led mixed-use developments, with the transformation of a single site, to multiple amalgamated sites to an entire precinct.





**Figure 2 – Best practice international examples**  
 Source: Ethos Urban

# Best Practice International Examples

## Strathcona Village, Canada



Strathcona Village is an example of an employment-led mixed-use building in Vancouver, Canada. This project is one of the first of its kind and adopts innovative design solutions to integrate traditionally considered incompatible uses. The building occupies a single city block in the inner-city suburb of Strathcona and maintains what was the existing industrial space on the site, whilst simultaneously increasing housing supply by adding 350 new homes with a focus on providing affordable housing.

The design incorporates a site wide three storey podium for industrial uses with three residential towers up to 15 storeys above. There are 18 industrial lots within the podium ranging in size from 190sqm to 480sqm, each with vehicle access either from the main road or a laneway at the rear of the site. The

industrial spaces are for Production, Distribution, Repair (PDR) businesses, a term first used in San Francisco to differentiate between light industrial and heavy smokestack activities.

The land at Strathcona Village meets several requirements that made it suitable for PDR uses including:

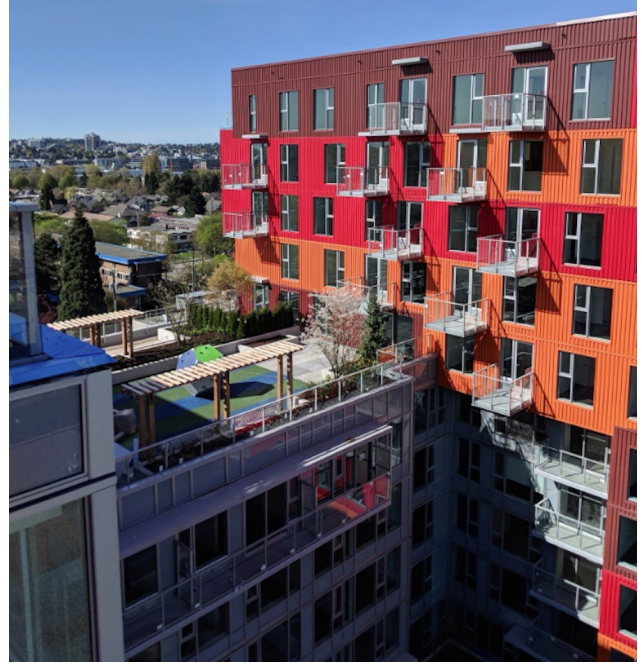
- Being close to a rapid transit station
- Is in an area experiencing development pressure and housing affordability issues
- Is adjacent to other industrial uses
- Contains light industrial uses





A number of design strategies in this project solved conflicts arising from the stacking of industrial and residential uses. For example, the upper residential units have a separate ventilation system to the lower industrial units, and access to the residential towers is separated from the industrial unit's freight lifts and access areas.

Furthermore, the site is adjacent to the Port of Vancouver unlocking the amenity of the Port to the residents and the wider community. The building has an animated street frontage and pedestrian realm through the placement of ancillary retail, PDR frontages and residential entrances interspersed along the building's street edge. The building provides a high-quality public plaza allowing for through site pedestrian access and views of the port and mountains to be enjoyed by the wider community. The design incorporates rooftop public spaces with children's playgrounds and other community facilities.



This building was voted the most 'Innovative Building Design' at the Urban Development Institute Awards. It is an exemplar of a successful revitalisation project on existing employment land, that does not displace the sites historical industrial uses and function.



# Best Practice International Examples

## Caxton Works, England



Caxton Works is an example of an employment-led mixed-use development, combining light industrial space with residential apartments on a former industrial precinct. Completed in 2018, the area is located in Canning Town, in the Borough of Newham in East London. Newham is one of the Growth Boroughs and part of London which has dramatically transformed as part of and since the London Olympics. Subsequently, the area has experienced a substantial loss of small industrial companies and urban services such as coffee roasters, brewers, bakers, specialist trade suppliers, car repairers and breakers to the outer city regions as inner city land is rezoned for residential use.

The two-acre site once housed the Goswell Bakeries and Moss Electrical Warehouses and the new development reinvents these buildings with a focus on creating industrial spaces for modern and forward-thinking industrial enterprises. The precinct has been divided into two blocks, north and south and includes 336 homes alongside 13 light industrial workshops ranging in size from 64sqm to 506sqm. The industrial units have a mezzanine level and floor to ceiling windows.





Evident in this example is that the inclusion of a strong sense of place and identity is vital to the success of an employment-led mixed-use precinct. The developers U+I adopted a placemaking-driven approach, aiming to associate industrial work with positive high-quality public domains and amenity, challenging the traditional isolation and hidden nature of these land uses. The units have been provided at sub-market rents to ensure a diverse mix of businesses can occupy the site.

The introduction of a pedestrian focused through site link, animated by the fronts of workshops and commercial units, coined 'the working alley', activates the ground plane and facilitates the forming of a vibrant community. The vision for this laneway is for it to become a thriving marketplace where workshops engage with retail stores, cafes and eateries. The design incorporates landscaped gardens and terraces on top of podiums and at the ground level.



This project won the "Best Mixed-Use Scheme" at the 2018 New London Award for its integration of housing and industry. It is an exemplar of a previous industrial precinct being re-invented to serve the needs of today's modern industrial and manufacturing activities.





# Best Practice International Examples

## Brooklyn Navy Yard, USA



The Brooklyn Navy Yard (BNY) is an Urban Manufacturing precinct in New York. The site is 300 hectares and consists of multiple buildings that house a mix of offices, retail spaces, industrial spaces, food manufacturing spaces, fabrication studios and an exhibition centre.



BNY is located in an old shipyard and industrial complex that is in the north-west of Brooklyn in New York. The Yard was in continuous operation until 1966 and then decommissioned and sold to the City of New York. The BNY provides a place for manufacturing to grow in a vibrant creative community and is home to a diverse group of businesses and entrepreneurs, with traditional and modern manufacturing occurring alongside one another.

BNY houses 330 businesses and 5,800 employees. There is a diverse array of tenants including those working in education, fashion, fine arts, food, photography, MedTech, furniture, construction, manufacturing, energy and power, printing, transportation and warehousing, wholesale trade, woodworking, metal fabrication, prototyping and tech start-ups to name a few.

Again, the public domain plays a crucial role in the design with the redevelopment allowing for public access to and creating new amenity along the East River. Precincts within the yard integrate many different uses including playgrounds and parks, with waterside promenades alongside manufacturing spaces stacked with creative offices. One of BNY's visions is to enhance the Yard's dynamic campus through innovative urban design and integration with the fabric of the surrounding community.





BNY has creatively re-adapted many of the old warehouses and ship-building facilities on site and have plans to introduce new vertical manufacturing spaces into the neighbourhood. The proposed vertical manufacturing buildings have ground level parking and loading with production and light industrial spaces and creative office floors stacked above, all connected by shared resources and common spaces. A focus of BNY is to create not only high-quality manufacturing spaces, but high-quality open spaces and public domains for use by all in the city. For example, BLDG 92 is an adapted Marine Commandant's residence on the site that has been fully restored and achieved LEED platinum rating to become an exhibition, employment and visitor centre for the site.



Whilst BNY does not add residential uses into the mix it is a clear exemplar of how employment lands do not have to remain closed-off, isolated areas of the city. It demonstrates how light and heavy industrial activity can occur within an urban environment and contribute to the liveability, sustainability and productivity of a city area. BNY has successfully co-located and stacked a mix of uses from industrial to retail to commercial and open space and has emerged as a successful model for urban industrial development.







# Employment-led Mixed-Use Development Design Principles

Explorations into the international best practice examples reveal several considerations that are vital when assessing whether an industrial site is suitable for transformation into an employment-led mixed-use development. The examples demonstrate the importance of thoughtful design interventions to ensure the development responds and contributes to the surrounding context. They demonstrate how a public domain response, placemaking, the relationship with the existing urban fabric and the spatial relationships between different uses determine whether an employment-led mixed-use precinct is able to deliver a successful, well considered place that maximises the precinct whilst have a lasting positive impact on the surrounding area.

We have identified six urban design principles which should guide mixed-use employment-led development. These are discussed in the following pages and illustrated using a generic 100m by 100m site showing 'before' and 'after' conditions.

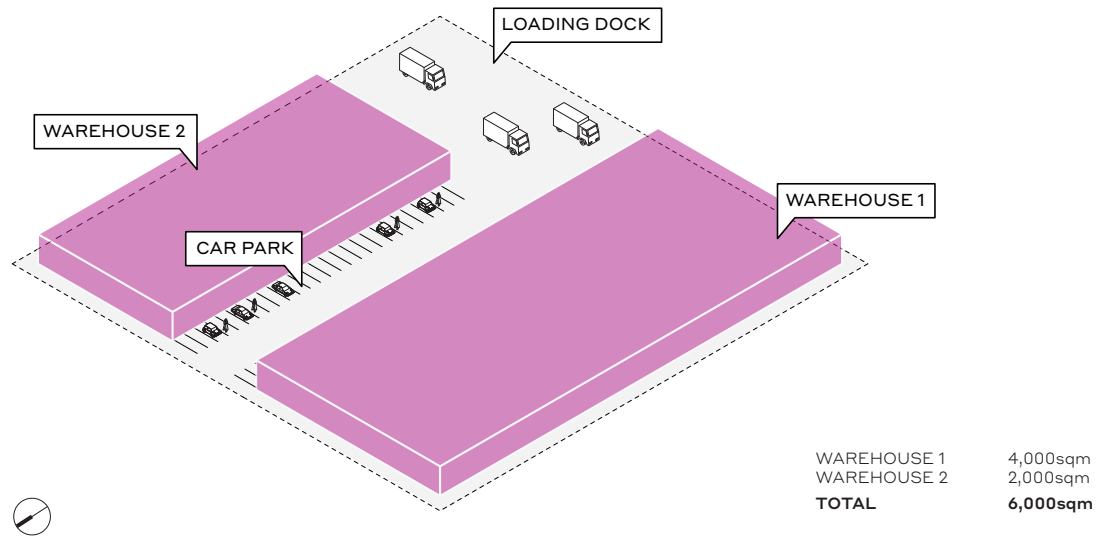
The drawing below illustrates this generic 100m by 100m site and its surrounding context. Detached dwellings and apartment buildings are located to the north of the site, while industrial uses are located to its east and west. A main road runs along the site's southern boundary with retail and commercial uses located across this main road to the south.



**Figure 3** – Generic 100m by 100m site and its surrounding context  
Source: Ethos Urban

# Principle 1

## Increase or retain employment floor space

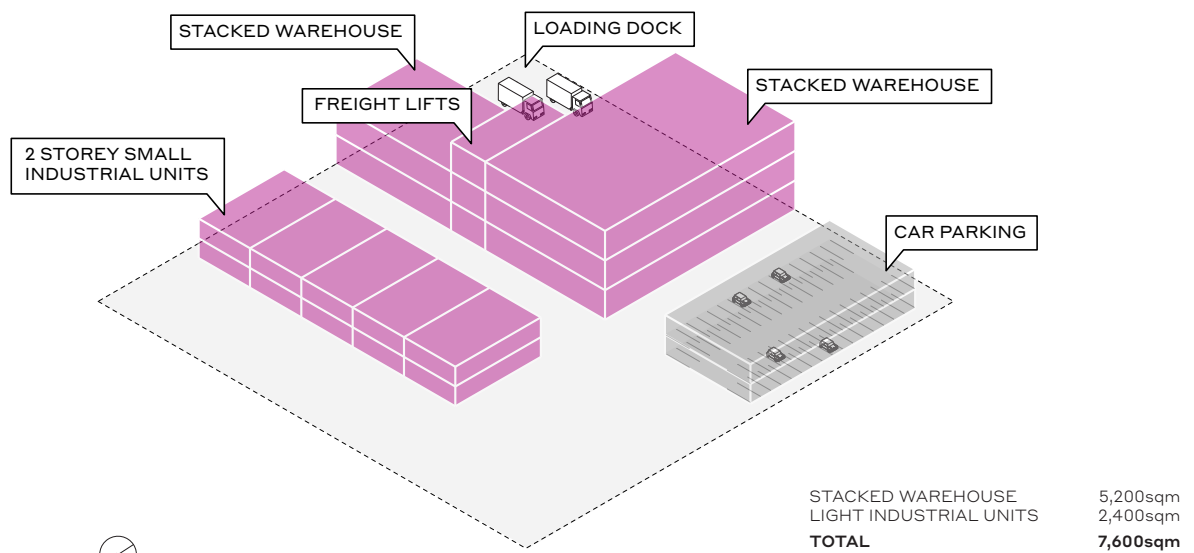


**Figure 4** – Original configuration of industrial activities on a generic 100x100m site  
Source: Ethos Urban

For an employment-led mixed-use precinct to be considered viable the design must increase (or at a minimum retain) the amount of existing employment space (industrial activities and urban services) available on the site. In the GSC's 'A Metropolis that Works', it is noted that the currently available industrial land in Sydney represents less than a two-year forward supply. In addition to looking to new land for increasing supply the existing land could be reimaged to provide a greater amount of employment space.

Traditionally employment lands have on grade carparking and large one storey warehouses which extend across the site, utilising most of the site's floorspace. In this example the existing site has an area of 10,000sqm and originally 6,000sqm of space for industrial activities. In order to ensure other uses can be successfully integrated onto the site whilst still achieving the same (or more) amount of employment space, innovative approaches to warehouse design need to be adopted.



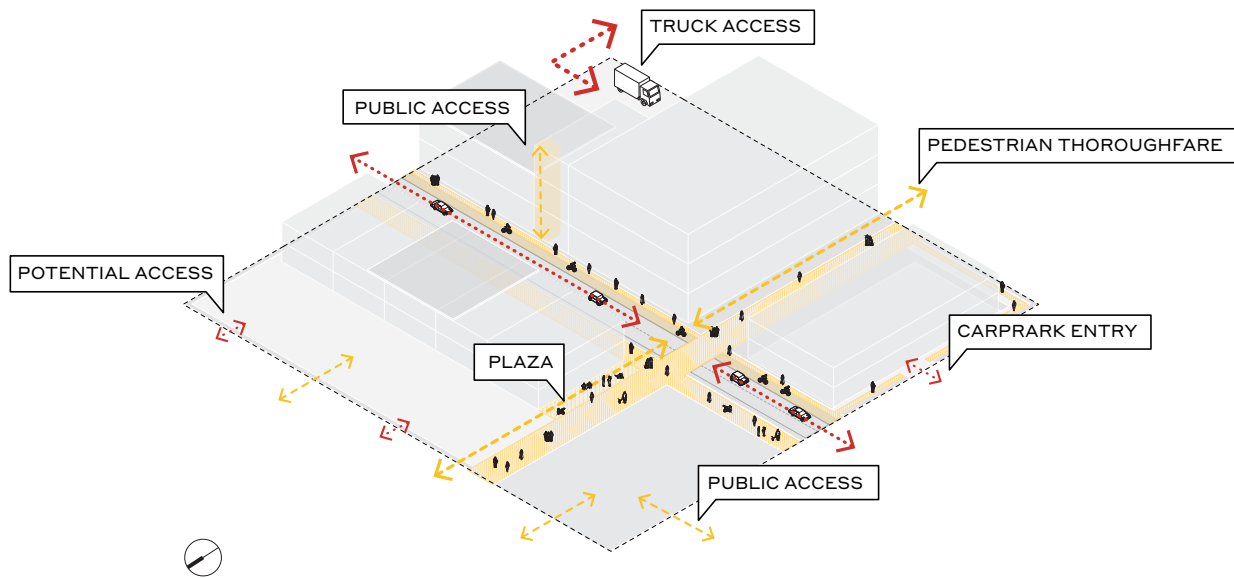


**Figure 5** – Intensification of warehousing and introduction of light industrial units  
 Source: Ethos Urban

The location of the industrial uses has been informed by environmental considerations such as orientation and contextual considerations such as interfaces and access. In this design scenario we have placed the industrial uses to the south of the site, and adjacent to the main road. This provides easy access to the industrial area by trucks as well as maintaining any solar access to other uses that may be placed onto the site. By intensifying warehousing, introducing light industrial units and achieving car parking through a multi-storey building, the amount of employment space has increased from 6,000sqm to 7,600sqm, whilst freeing up land for the introduction of other uses.

## Principle 2

# Provide safe and appropriate access for different users



**Figure 6** – Provision of safe and appropriate access for different users and modes of transport  
Source: Ethos Urban

Analysis of the exemplars show that for an employment-led mixed-use precinct to be considered viable, safe and harmonious access for different users and modes of transport (from heavy trucks to bikes) needs to be achieved. Truck, car and pedestrian access should be treated individually and conflicts between different transport modes should be avoided.

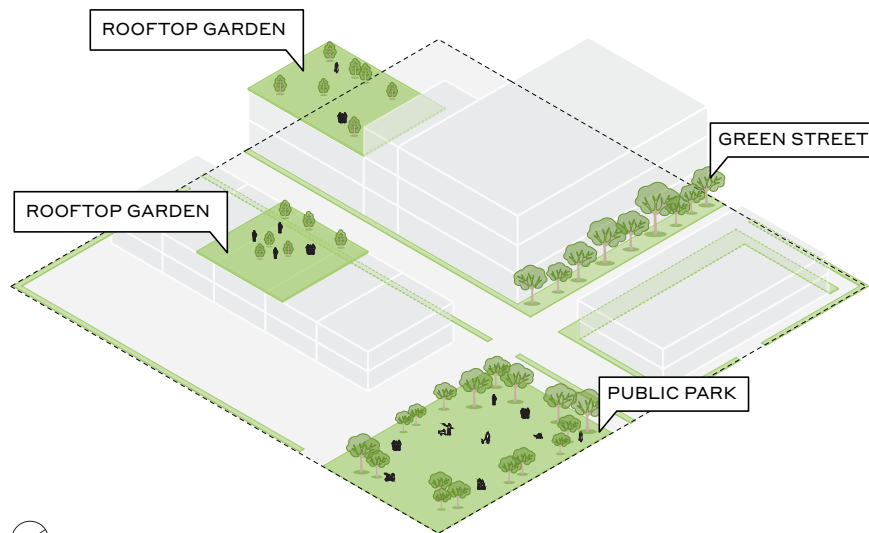
In our design response we have placed truck access near the primary transport route preventing heavy trucks driving through the precinct and surrounding residential areas to access the industrial uses. An internal road was introduced to the site aligning with the existing urban fabric to not only activate the precinct and contribute to safety throughout the day and night, but to further contribute to the separation of access for different users and modes. The internal road becomes a shared pedestrian friendly accessway for cars, bikes and people, and is clearly distinguishable to the loading dock the trucks would enter into. Bike lanes have been designed integral to the new precinct and would ideally align to any existing bike networks in the area.

Pedestrian only networks and through site links are important considerations as there is a higher risk of conflict between people and large trucks. Pedestrian links if possible are able to engage with existing public transport and promote easy access and use of these. In our design response we have provided a clear and legible hierarchy of movement and access. The pedestrian focused through-site link has been introduced to avoid conflicts, whilst encouraging cross-fertilisation of the precinct by the wider community, avoiding the creation of a large, blank and impermeable city block.



## Principle 3

# Introduce a well-designed public domain and urban greening



**Figure 7** – Introduction of well-design public domain and urban greening  
Source: Ethos Urban

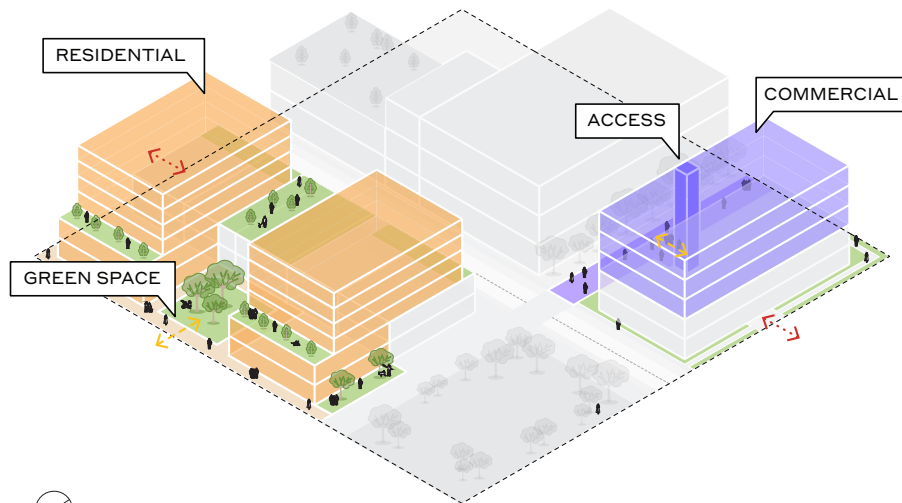
As evident in the exemplars, the inclusion of a well-considered public domain that creates a high-quality place of work is critical to the intensification of any industrial site, whether solely increasing industrial space or also introducing new uses.

The public domain is an important design element as it can act as a buffer between industrial activities and more sensitive uses such as residential or retail. Introducing public spaces creates meeting areas for workers and the wider neighbourhood. By providing a thoughtful public domain the traditional fenced and enclosed industrial site could be reinvented as a high-quality place with a stronger sense of identity.

In our design process we explore varying design solutions to providing public amenity space. Rooftop gardens are seen as an important mechanism in softening industrial buildings as well as maximising open space in denser areas. The inclusion of a north facing public park interfacing with residential uses is crucial to creating a place that is sustainable, liveable and enhances productivity. Urban greening of these precincts is also crucial in transforming a traditional perspective of employment lands from dirty, hard and barren to fresh, soft and connected to nature.

## Principle 4

# Introduce additional uses and respond to employment-use interfaces



**Figure 8** – Introduction of additional uses that responds to employment-use interfaces  
Source: Ethos Urban

Once we have achieved the inclusion of the same or more employment space, established a place structure and movement principles, we can consider what other uses can be introduced alongside the production activities.

When introducing new uses, we considered the orientation of the site and its ability to achieve solar access, as well as ensuring the industrial spaces are able to receive natural light. The differing neighbouring uses around the precinct helped to dictate what uses could be placed where and how they should interface with their surroundings.

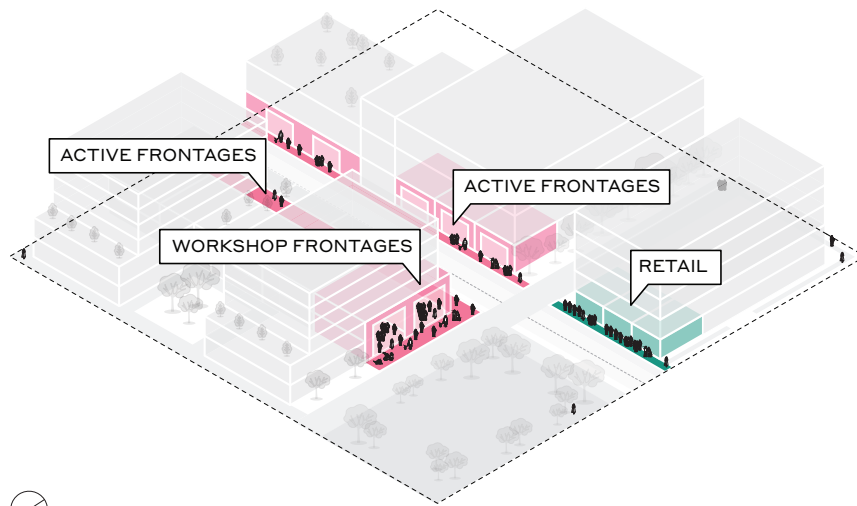
In this scenario we have introduced residential and commercial uses to the site. The residential uses have been stacked on top of some industrial units, with their orientation away from the heavier industrial activities. An internal courtyard away from the industrial activities creates a space that is not impacted by the neighbouring uses.

A separate entrance for residents is provided away from the heavier industrial uses, with basement access. The commercial uses have been stacked on top of the carpark, which if designed appropriately can, in the future, enable the lower carpark levels to be converted to office space. The introduction of commercial uses further increases the sites 'employment space', albeit not for heavy industrial activity, but these commercial spaces could be affiliated to the industrial activity and complement the other uses on site. As technology improves traditional commercial spaces could also become places of advanced manufacturing with 3D printers not requiring the traditional warehouse space.



# Principle 5

## Enable precinct activation



**Figure 9** – Activation of the ground plane with retail and workshop frontages along internal streets  
Source: Ethos Urban

To create a precinct that is attractive and activated throughout the day and night we have introduced ground floor retail uses adjacent to the public space and workshop frontages along the internal street, creating a convergence point for the area.

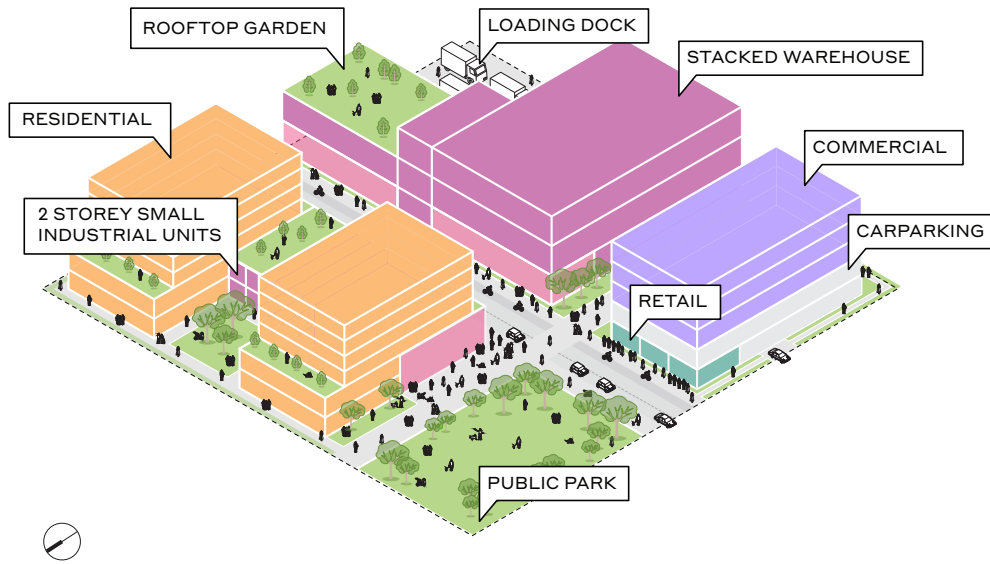
The inclusion of an activated ground floor plane contributes to animating the site and drawing surrounding residents into the precinct, ensuring life and activity is present. By ensuring the light industrial activities have a high level of visual permeability in the public domain it also contributes further to the integration and mixing of the different users across the precinct.

## Principle 6

# Ensure sustainability is intrinsic to any employment-led mixed-use development

Employment-led mixed-use development can provide the opportunity for new areas of our city to be designed with sustainability at the core of every building and design decision. The integration of sustainable environmental systems can produce places that are resilient, self-sustaining and regenerative. Circular Economy and systems of recycling, organic waste processing and power generation can all be considered when redesigning a large city block or portion of the city. Employment-led mixed-use precincts have the capability to lead the way in environmental building design innovations, supported by complementary industries and workers that could be situated in these future precincts.

# Conclusion



**Figure 10** – Conceptual outcome of the reimagined employment-led mixed-use development on a 100x100m site  
Source: Ethos Urban

There are examples appearing all over the world of a rethink of employment land and how land uses may mix in the context of 21st century production. There is an opportunity in Sydney to do this as well, but it needs to be carefully considered and well executed. Urban design and innovative planning can be effective tools that, if used correctly, could unlock the potential of Sydney's underutilised employment land.

As the precedents and the illustrated development scenario demonstrate, employment space can be retained whilst adding new uses to sites to create more diverse urban precincts. The outcome can be high-quality, mixed-use and active places that enrich the lives of workers and residents, forming thriving and inclusive communities.



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