LOW CARBON LIVING CRC

RP3034: Community co-design of low carbon precincts for urban regeneration in established suburbs

Authors	Stephen Glackin
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The author(s) confirm(s) that this document has been reviewed and approved by the project's steering committee and by its program leader. These reviewers evaluated its:

- originality
- methodology
- rigour
- compliance with ethical guidelines
- conclusions against results
- conformity with the principles of the Australian Code for the Responsible Conduct of Research (NHMRC 2007),

and provided constructive feedback which was considered and addressed by the author(s).

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Acronyms

AHURI	Australian Housing and Urban Research Institute
CAG	Community Advisory Group
CBD	Central Business District
CRC	Cooperative Research Centre
CRCLSL	Cooperative Research Centre for Low Carbon Living
CRCSI	Cooperative Research Centre for Spatial Information
DCP	Development Contribution Plan
DELWP	(Victorian) Department of Environment, Land, Water and Planning
DPE	(New South Wales) Department of Planning and Environment
DPO	Development Plan Overlay
ESD	Environmentally Sensitive Design
GTG	Greening the Greyfields
OEH	(New South Wales) Office of Environment and Heritage

Executive Summary

Project overview

The intensification of development that is required in established and occupied inner and middle suburban greyfield areas (retrofit) is the great challenge for our fast-growing Australian cities. The scale of urban regeneration required over the next 30 years has the potential to reduce carbon emissions, improve housing affordability and reduce urban sprawl. It is also financially attractive because it utilizes existing infrastructure and unlocks underutilized land value.

This project aimed to deliver new workable processes, standards and certification procedures, drawing on state-of-the-art design and assessment tools, which enable community groups to work with local governments, state agencies and property developers, to co-design more sustainable, medium density, low carbon housing precincts. These procedures/protocols were designed to enable the type and rate of urban regeneration envisaged in all of the metropolitan strategic plans for Australia's capital cities (70% infill targets for Sydney and Melbourne) by building trust, reducing conflict and increasing incentives, leading to reduced development costs and more sustainable neighbourhoods.

The project initially aimed to work with industry partners, to develop a detailed business model for low carbon neighbourhood regeneration, researchers and existing tool providers, to develop the certification product, a leading practitioner in precinct regeneration and neighbourhood engagement, to assure compliance with engagement protocols and three communities and their local governments to trial and validate the proposed processes, standards and activation utilisation procedures. However, due to the significant timelines to de-risk the project for the municipalities implementing the process, the project required significant Whole of Government workshops in three municipalities, workshops with state government on the practicalities of statutory change, community engagement in only one municipality (due to the legislative requirements of formal engagement), engagement with industry partners and community engagement experts.

Project outcomes

The most significant outcome from the project is a submission for land use change to the Victorian Department of Environment, Land, water and Planning in two pilot areas in the City Maroondah. A new land-use control was identified as a critical component that would allow community engagement to have affect. A key learning of the project has been the timelines, set of skills and legislative processes required to allow this to move forward. Additional outcomes were methodologies for whole of government workshops, community co-design events, community engagement events, precinct design and developer approved financial feasibility modules. Additional outcomes include initial designs and whole of government agreement on precinct scale additionality in the City of Blacktown, and the project spreading to the Victorian City of Knox, where it will be utilised to implement affordable housing. This is the only project at funded by the CRC which has not only tested its methodologies at the state and local government level, but which has also moved towards statutory change that will ultimately affect urban sustainability in Australia. Due to the level of abstraction within the methodologies and the project working across two state boundaries and three municipal boundaries, the project ends with it poised to become the pilot for precinct scale regeneration across Australia

Project outputs

The methodologies for implementing the statutory reform, and all other aspects of the project, are included in the set of Playbooks (for municipalities, landowners and developers). These playbooks illustrate all of the processes for implementing greyfield precincts in a municipality, the range of legal and financial options available to landowners and the options available to developers. The playbooks are the second major outcome of the project and will be used as an evolving methodology to implement the scheme in new municipalities and states. Accompanying these playbooks is a design guide for residential infill and precinct scale development, including massing guidelines, incorporating precinct scale additionality and community net benefit from infill precincts, and the financial feasibilities associated with the housing typologies therein.

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Introduction

The paper titled *Beyond Greenfield and Brownfield: The Challenge of Regenerating Australia's Greyfield Suburbs* (Newton 2010) established the urban greyfields as a new challenge for urban regeneration. This paper highlighted that the two main arenas for providing new housing (Greenfield and Brownfield development) largely overlook the potential of ongoing, ad-hoc redevelopment occurring throughout the inner and middle suburbs of all Australian cities.

- Greenfield development: Large-scale residential development on the urban fringe in areas that were previously non-residentially zoned.
- Brownfield development: Large scale repurposing of inner-urban ex-industrial and commercial land for new residential housing.
- Greyfield development: Redevelopment of the ageing, occupied residential tracts of suburbs that are physically, technologically and environmentally obsolescent and which represent economically outdated, failing or under-capitalized real estate assets. They typically reside in a 5 to 25 km radius of the centre of each capital city and are service, transport, amenity and employment rich in comparison to the outer and peri-urban suburbs (Newton 2010).

Analysis of redevelopment data illustrated that up to 25% of new housing was derived from greyfield infill (Newton and Glackin 2014), but, given the restrictions of single-lot redevelopment on smaller lots, was achieving far less than it is capable of, particularly if the single lot boundaries could be amalgamated into multi-lot redevelopment precincts.

The concept of the regeneration precinct, and its ongoing, design and context led exploration (Newton et al 2011, Murray et al 2015), illustrated a range of benefits that could potentially derive from precinct scale redevelopment. The most obvious being financial gain for the landowners; as, due to their ability for spatial optimisation and development economies of scale, larger amalgamated lots, in high utility areas, sell for more per square metre than smaller lots. However, and in response to the community resistance that comes from higher densities, a range of contextually appropriate community benefits were also explored that, among other precinct additionalities, included:

- Area activation: Incorporating access and passive surveillance into precinct design.
- Walkability: Opening up dead ends, creating new paths and providing new destinations.
- Additional greenspace: By altering the land use legislation, and allowing higher densities on residential land, the economies of scale allowed for parts to the developed area to be packaged as public greenspace.
- Canopy protection: similarly, economies of scale and the proper orientation of dwellings allows for more tree canopy to be retained over the development site.
- Car parking: utilising a precinct scale development pattern some lots could be used for off-site parking or, in contiguous amalgamated parcels where economies of scale allowed higher densities, underground parking.

These design-led outcomes explored a range of issues that could be addressed via lot amalgamation, however this is where the research ended. Though community feedback was positive, there had yet to be any work on the governance, finance, legal pathways for landowners or the statutory response to greyfield precincts, all of which this co-design project aimed to address.

Figure1 Greyfield, Brownfield, Greenfield

Gaps in the research; is precinct scale regeneration viable in the current governance regime?

The first major gap, which is identified in the project title, is how to effectively engage the community to ensure that land-owners and community members support the process and that the designs and outcomes being built into the project represent their opinion of what could and should be achievable through a precinct scale regeneration project.

Co-design (Sanders and Stappers 2014) is the process whereby key stakeholders become part of the design process; identifying the specifications, outcomes and utility of a product. In terms of precinct regeneration, what was required was a method for identifying precincts and community members and then engaging with them on the key design aspects of precincts, as well as the additionality that each precinct should aim to achieve, in the context of its surrounding environment.

However, what a community may want will not occur unless it is financially viable, legal, and can be achieved with the timelines and business processes that developers work to. As such, and prior to co-design, the whole arena of governance and development needed to be explored.

This is the second major gap into research on precincts; how to go about getting the buy-in of the organisations that will implement the process and then how to establish the governance and business practices to enable precincts as a viable redevelopment option for them. If this pathway of dependencies could be established then there would be potential to move forward; with municipalities being the vehicle for the land use change, or for drafting the planning policies necessary to implement precincts.

If the project were successful in obtaining municipal and state support, then how could we guarantee that the outputs identified in the statutory scheme would be taken up by both developers and landowners? In terms of developers we would need to assure that the proposed developments were financially feasible, which once again brings us back to design, as we need designs I order to obtain the building and sales volumes allowing us to perform feasibility assessments, which can also be used to indicate to landowners the additional financial benefits they can achieve. But in order to assure that the landowners will take up the process we also need to explore the range of business and legal models that are available to landowners, which largely brings us back to a co-design process.

The iterative and inter-reliant nature of the issue should be reasonably evident. Without good engagement, precincts will not eventuate, but without statutory reform the engagement will also be largely academic, as there is no way forward. Similarly, even if both engagement and planning reform has been achieved but the development industry is not primed then a business model will not eventuate, but the business model is largely reliant on the engagement to ascertain what the designs should be.

As such, the key research questions that grew out of project developments became:

1. What narratives are required for landowner participation? This question needed to resolve issues of; design; financing; the range of contractual agreements available to landowners; contextual precinct additionality; and the methods for effectively engaging with landowners.
2. What narratives and process are required for municipal participation? This question needed to resolve issues surrounding: existing ongoing business policies/practices; whole of government engagement; political de-risking, legislative requirements for both engagement and land use change; land-use change processes; and the alignment between academic outcomes and municipal/state outcomes.
3. What narratives and processes are required for developer participation, including; designs; feasibilities; development concessions and incentives; both existing and embryonic business models.

The following chapters will cover off on these issues, but, due to their interlinked nature, not in a linear fashion. Instead they will be covered off by illustrating how they were resolved in each municipality and then followed up with technical documents towards the end. As indicated, due to the interconnectedness and iterative nature of the work there will be overlaps between the three key arenas.

Figure 2 Precinct with additional walkability.

Setting

History

As covered in the introduction, the broader Greyfields project began with the publication of *Beyond Greenfields and Brownfields* (Newton 2010). Additional funding from the Australian Housing and Urban Research Institute (AHURI) led to a macro-level exploration of the concept and established Greyfields as a significant body of work that had the potential to significantly alter the urban landscape (Newton et al 2011). This led to the Greening the Greyfields project, which was funded by the Cooperative Research Centre for Spatial Information (CRCSI) and led by Professors Peter Newton (Swinburne University, Victoria) and Peter Newman (Curtin University, Western Australia). Key outputs from this project were:

- Econometric analysis of urban agglomeration, proving infill, and infill precincts, were more economically viable than ongoing urban sprawl (Trubka, Newman and Bilsborough, 2010)
- A two-dimensional (2D) Geographical Information System (GIS) capable of predicting housing redevelopment and for identifying potential regeneration precincts. (Glackin 2013)
- A three-dimensional (3D) precinct design package where housing typologies cold be placed into potential precincts and assessed for a range of performance and Environmentally Sustainable Design (ESD) assessments (Glackin, Trubka & Dionisio 2016)
- The beginnings of a business logic for ongoing Greyfield research and implementation.

Simultaneously, additional AHURI research funded further work on precinct design, precinct additionality, net community benefit and engagement practices. (Murray et al 2015)

The CRCLCL component of the research picked up where the CRCSI and second round of AHURI funding finished and focused on the implementation of greyfield precincts through a co-design methodology with community members, governments and developers. The main outputs were to be a set of playbooks that encapsulated the business processes required to implement greyfield precincts in new municipalities. There were to be standalone publications allowing the process to be replicated without researchers.

Locations

The project initially ran across five municipalities in Victoria (Manningham and Maroondah), Western Australia (Stirling and Canning) and New Zealand (Christchurch). Aside from Christchurch, all were chosen due to their position as municipalities containing in the middle suburbs that were undergoing significant lot-by-lot redevelopment. Christchurch was chosen due to the city going through significant post-earthquake regeneration.

This phase of the project saw the focus shift to municipalities that would be willing to implement the process, rather than just be part of the research. The Cities of Maroondah and Knox (Victoria) and Blacktown (NSW) were chosen for the pilot municipalities.

Figure 3 The Cities of Maroondah and Knox.

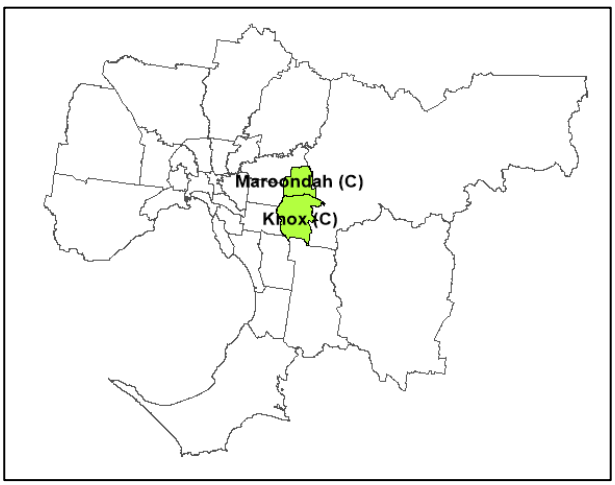
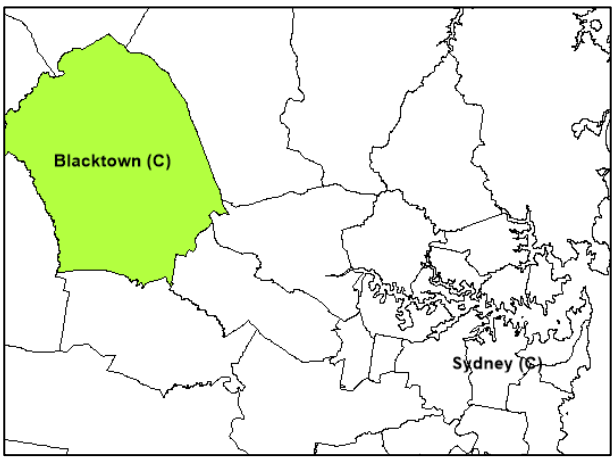


Figure 4 The Cities of Maroondah and Knox

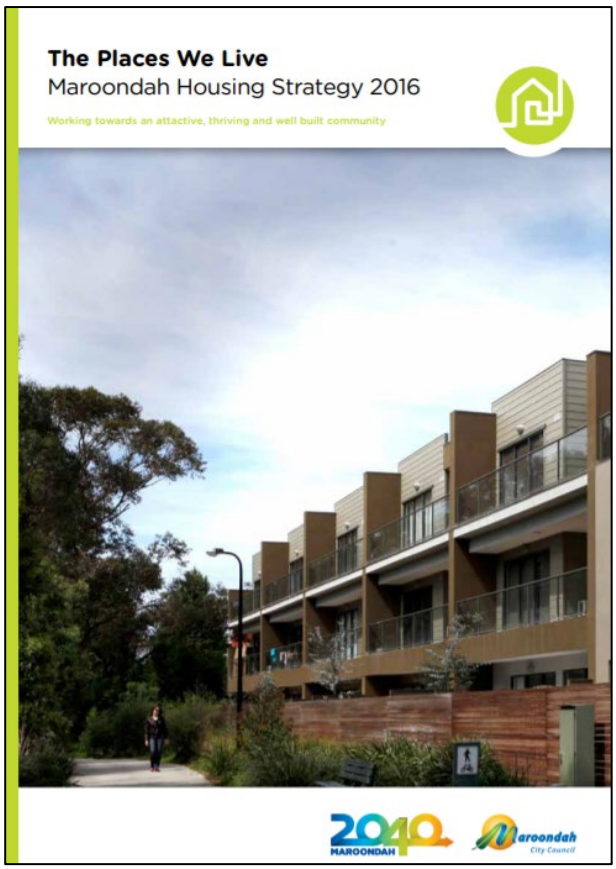


The similarities between these three municipalities are that they all contain ageing suburbs, are all going through significant amounts of lot-by-lot subdivision, all have good access to public transport and also have less dense areas to their lee-ward side from the CDB; indicating that they are partly a buffer zone between middle urban and outer urban. These municipalities are also reasonably conservative politically, and are therefore and a good indication of typical, middle-Australian, community values and therefore emblematic of the area where community resistance to medium density redevelopments occurs. In short, they were not chosen to be an easy win, they were chosen due to their ability to replicate the issues that would daunt many Australian municipalities.

Political support

Due to the significant amount of time and effort already spent on the project in, Victoria and particularly in Maroondah, relationships had already been cemented and considerable work had been undertaken to ensure that the project could achieve political support. Under direction from the Victorian Department of Environment, Land, Water and Planning (DELWP) project managers were advised to begin the process of establishing Greyfield precincts at the local policy level. By working closely with municipal strategic planners, Greyfield Precincts were secured as a potential method to deliver new housing opportunities in the Maroondah Housing Strategy (Maroondah City Council 2016).

Figure 5: Maroondah Housing strategy 2016



"Council has identified 'Greening the Greyfields' as a major initiative to manage growth through housing regeneration in the middle suburbs in a sustainable way." *Maroondah Housing Strategy 2016.*

Discussions between state and municipal planners indicated that municipal support was not enough to guarantee implementation, as state policy will usually trump local policy. It was decided that without a significant level of public support coming from state policy that the project would be less likely to achieve outcomes outside of the Maroondah context. As such, Greyfield precinct were included in the Metropolitan Strategic Statement *Plan Melbourne 2017* (Victorian Department of Environment, Land, Water and Planning 2017).

Policy 2.2.4 Provide support and guidance for greyfield areas to deliver more housing choice and diversity. *Plan Melbourne 2017*

Both of these policy commitments set the tone for the uptake of Greyfield precincts as a viable political option for Maroondah City council. However, there was no mention of Greyfields in the policy of either Knox City Council or Blacktown City council. The processes of how this was achieved will be illustrated below.

Progress at: Maroondah City Council

Policy alignment

For research to become part of a municipalities body of work it must have the backing of municipal policy. This is largely due to the funding of positions within the municipality, all of which are related to delivering specific policy. This was established within Maroondah City Council by including the project into the aforementioned housing strategy. Inclusion int his document provided the project with access to resources, such as planning staff, communications and community engagement events that, without which, it would not have access to. Due to the project's involvement in the strategy, and to begin socialising the process to the community at large, researchers were allowed to participate in large-scale community events, such as the engagement to promote the housing strategy, the Maroondah City Fair and the Croydon fair. These events provided researchers with access to large cross-sections of the community but also initiated engagement with municipal communications experts, who vet all documents and decide on the wording of documents leaving the municipal offices. This second point is equally as crucial as the actual engagement, as, to move towards implementation, researchers need to align their key messages with the established norms of municipal communications.

Figure 6: Community engagement at the Maroondah City fair 2017

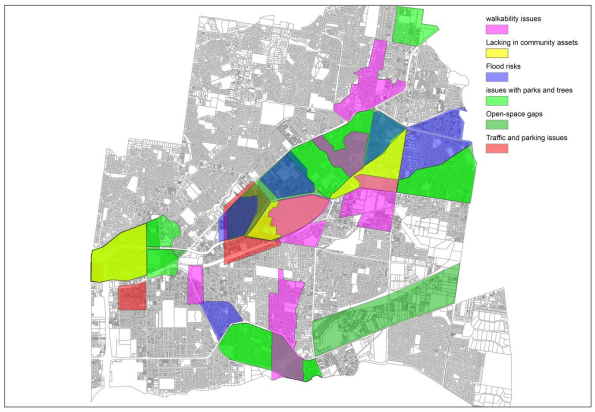
Alignment with municipal communications officers is critical. If they believe you have politically de-risked the project, then it will go forward. If not, then it won't.

Identifying precincts

The 2D GIS software called Envision (REF), was created to allow for precinct identification. In the Maroondah context the precincts with the most potential were deemed by senior management to be in politically problematic areas. Due to this an alternative process was utilised to identify precincts.

The project used a whole of government workshop approach to establish a working group comprising the full range of services that the project outcomes could potentially address. Officers from engineering, parking services, community services, open space, walkability, asset management, roads and tree services we invited to a mapping session. Using the tacit knowledge of their industry expertise, combined with their knowledge of the locale, they began to identity ideas that they deemed problematic; initially individually and then as a group. This process produced an overlapping set of areas with issues that could potentially be addressed through precinct redevelopment.

Figure 7: outcomes of whole of government workshop identifying potential areas for precincts and precinct additionality



These areas were overlayed with the data from the Envision tool to establish a first draft of potential precincts.

Community Advisory Group (CAG)

At this early stage in the project, leadership at the municipality advised that council wold not approve full-scale community engagement. However, community feedback was now required, as the process of pilot precinct selection was underway. As a proxy for the larger community an Expression of Interest was launched and disseminated to community members who had previously shown interest in local housing or sustainability policy, were resistant to development, or were active in the political decisions of the municipality generally. The Terms of Reference for this group indicated that the group would run for one year and provide information on precincts identification, precinct design, communications, key messages and how to activate the project locally. The first job of the group was to create their own pilot precinct map, which served to validate aspects of the municipally created map, but also added some new areas, which were then tested with municipal officers. The Community Advisory group were involved in every aspect of the project hereafter and were critical to the success of the project to date.

Political support

With the project now gaining momentum within the municipality, senior staff identified the need to gain the support of councillors and upper management. A strategy was put in place to present to a range of management and interest groups being run through the municipal offices, that one or more councillor or senior manager was typically involved with. This round of presentation gave the research group incremental assess to the decision makers at council. When the project was deemed to be supported by key powerbrokers, municipal staff then organised a presentation at a full council meeting.

External to the municipality, ministers at state and federal level were also regularly advised on the progress of the project, to ensure both state and federal support when expanding into new municipalities and states.

Precinct selection and additionality assessment

With political support obtained researchers and municipal officers could now move forward to selecting pilot precincts and then, based on the earlier mapping work, establishing the community benefit / precinct additionality.

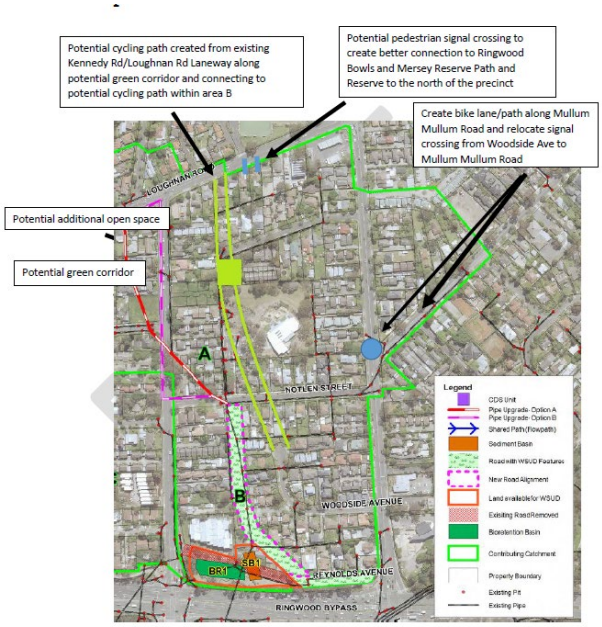
Figure 8: Pilot Precincts in the City of Maroondah

The precincts that were ultimately chosen for the test sites were done so jointly on the evidence provided by municipal officers, community members, software outputs and the political will of senior management and councillors.

Precinct additionality was largely based on the information provided by council officers which was then validated and iterated on by the Community Advisory Group.

The additionality in the first precinct was largely related to storm water management, tree canopy protection and walkability, while additionality in the second precinct was limited to tree canopy protection and walkability. Both areas also showed the necessity of building to scale to make underground parking feasible.

Figure 9: Precinct additionality in precinct 1



The financial feasibility of achieving these benefits needed to be established, which required indicative designs and dwelling yields against which the costs could be distributed. If profits on developments could not be achieved, then developers would not take the option of Greyfield precincts seriously.

> If it is not financially feasible then its not going to work. Dwellings and additionalities must be properly costed.

Feasibility & Design

When planning what form of dwellings will occupy the space, not every design of house can be accounted for. Instead of trying to accommodate all potential dwellings that could occur on an amalgamated super-lot, the better course is to create representative housing typologies.

An overview of the housing typologies and feasibility analysis on dwelling construction is included in this document in a sperate section below. In this document you will note that there are figures for a Developer Contribution Plan (DPC). These figures came about by calculating the cost of precinct additionality and then apportioning the cost onto the expected number of dwellings.

Statutory change

Changing land-use zones, overlays, schemes or any of the regulations to do with what can and can't be constructed on land parcels, is incredibly time and resource intensive; particularly if what is being proposed is in anyway out of the ordinary, which Greyfield precincts can be considered as. The process for statutory change works is included in table 1 below. Indicative figures for the costing of each phase is included along with timeframes and a descriptor of costs. They are indicative only, but robust in terms of practical delivery and experience. In terms of timing, eighteen months is a minimum. Due to the novelty of Greyfield precincts this process took 3 years, as researchers and planning officers needed investigation time to explore the range of tools and methods for delivery. Costs for the process total roughly $200,000, which was again higher for the research project due to the time taken for research.

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Table 1 Statutory planning processes, costs and timeframes

Description	Costing	Staffing	Timing
Identification of outcomes and rationale for change. Documentation of evidence	$5000-$10000	1 staff member at 0.2-0,4 FTE	2 months
Research how best to generate these outcomes using the range of planning tools available. Documentation of evidence	$5000-$10000	1 staff member at 0.2-0,4 FTE	2 months
Research the built form and community outcomes that can be achieved from altering aspects of the planning tool's schedule. Possibly masterplan.	$10,000-$50,000	1-2 staff members at 0.2 + possible consultant on build form, massing and community outcomes	3 months
Obtain political support for the land-use change	$2,000-$5,000	2 staff for roughly 20 hours	1 month
(dependant on state) Engage with the community regarding the change	$5,000-$10,000	2 staff at 0.2 for 2 months + communications, postage, and running events	2 months including preparation time.
Draft the planning tool from the state supplied template	$5,000-$10,000	1 staff member at 0.2 + engagement with state planning department	1-2 months
Present the planning tool, and all evidence to support the change to the state government.	$30,000 (varies per state)	Submission fee	1 month for response notification
If state government deem the land-use change appropriate they will advise the municipal government to gazette the change publicly	$5,000-$10,000	Communications and advertising	2 months
If there are objections to the land-use change then the proposed change needs to go to a planning panel, where both sides will list present their arguments	$120,000	Allowing for 3 days at planning panel, at $25,000 per day + expert witnesses	2-3 month wait time
Final decision and incorporation into planning scheme (or dismissal)			1 month

The statutory changes made in the Maroondah and Victorian context were to implement a Development Plan Overly Overlay (DPO). An overlay is separate from a zone. It controls the forms of the buildings and what they should be aiming to achieve for the wider community. It is similar to a Local Environment Plan in New South Wales. In addition to the DPO, the Victorian State Planning Department suggested that a Developer Contribution Plan (DCP) be drafted for the areas, as this would gain funds from developers that would go towards the additional infrastructure. These are expanded on below.

Community engagement

All engagement attempted, as much as was feasible to follow 'deep-engagement' methodologies (Glackin and Dionisio 2016), where researchers embed themselves in the institutions being investigated. The community was engaged constantly throughout the process and on a variety of levels. As covered above the project had a regular presence at the various municipal fairs and municipally sponsored public events. These were high level engagements that were not directed at specific precincts and more about garnering favour for the process generally.

Figure 10: Engagement event at Maroondah fair

A second tier of engagement occurred once the precincts had been identified. These were directed specifically at the pilot precincts, using maps of the locale and were intended to garner specific support for the upcoming land-use change, as well as to highlight the potential benefits to residents.

Figure 11: Precinct level engagements

These events were hosted central to both pilot precincts. They utilised three staff members, a central map of the precinct, a range of additionalities that could be placed on the map. A range of development outcomes and an overview of the greyfield precinct process for landowners and developers. Letters were sent to each resident and landowner in each precinct notifying them of the activity The format of these events in covered in greater detail in the set of playbooks.

Figure 12: Greyfield engagement on the cover of the housing strategy engagement report

The community advisory group were also regularly utilised to comment on the processes we were developing, as well as guide the project through the local political issues and networks of local influencers.

Figure 13: Community advisory group reviewing precincts

Developer engagement

Large scale developers, quantity surveyors, accountants and lot-amalgamation have been involved consistently through the process. However, it was only when the statutory outcomes, including the design guides and feasibility analyses for housing typologies and precinct additionality, were finalised could we begin the process formal engagement on the process.

The first event was a briefing to the major developers in Maroondah, but also included industry experts, architects, local government, large scale quantity surveyors, state and local government representatives and members of the community advisory group.

This group assisted with the review of feasibility options, typology designs, practical aspects of precinct delivery and the business model going forward. Members of this group will be taking the process forward as advocates for precincts.

Figure 14: Community advisory group reviewing precincts

The future at Maroondah

With funding for the project now finished, Maroondah and Swinburne University are now jointly looking for funding to continue the project. Areas of continued funding and research partnership include: engagement with the CRC for Water Sensitive Cities and the range of water sensitive city groups local to Maroondah; working with state government on the *Plan Melbourne 2017* policy arena of “20 minute cities”; and seeking funding from the Victorian Metropolitan Planning Authority (MPA). Senior staff at Maroondah have indicated that there are potentially another 6 precincts that would suit the process. As such, and given the significant level of political support, the future is bright for the project but ongoing assistance is required for it to become a sustainable business process.

Finally, the state planning authority has indicated that they will only consider developing a new zone for greyfield precinct when all other opportunities have failed. As such, we need to see if the proposed system eventuates into projects. If it does not, then the next opportunity will be to push for significant planning reform for Greyfield precinct regeneration and to generate a bespoke statutory response for precinct scale developments.

Progress at: Blacktown City Council

Policy alignment

By 2036 Blacktown is forecast to grow to over 522,000 people (an increase of over 30%) and 180,000 dwellings. Most new dwellings in established areas will be delivered through urban renewal and infill development. Blacktown Council's place-based planning promotes higher density housing, mixed employment uses and continued improvements to the public domain. Is was purely this focus on sustainable growth that was the key policy leverage for the project.

Precinct selection

The precinct was selected due to its proximity to the major activity centre, proximity to train, main road, and significant park land. It is also an area that is attracting significant attention from a range of municipal services, including riparian and parkland services. As the project has not yet been fully ratified by council, and can therefore not processed to community engagement, its exact location cannot be identified. This is indicative of the formal process that must be followed which were illustrated in the Maroondah section above.

Whole of government engagement

Four workshops were held over a 1 year period. These workshops covered project overview, policy alignment, strategic outcomes and a series of co-design and mapping exercises. The product of these workshops was a precinct scale plan, including new height limits, greater walkability, activation of the local parkland and riparian beautification.

Figure 15: Whole of local government workshop

Considering the objectives of the overall Blacktown Masterplan and our case study, the project provided a unique opportunity to implement this broad strategy within a specific case study and location. Specifically, our approach in the design vison was to achieve the following: Create better pedestrian connectivity, open space and improving the open space in the suggested location; Identify appropriate methods for increasing density which encourage community benefits while minimising potential impacts. The key considerations used to guide the design of built form were:

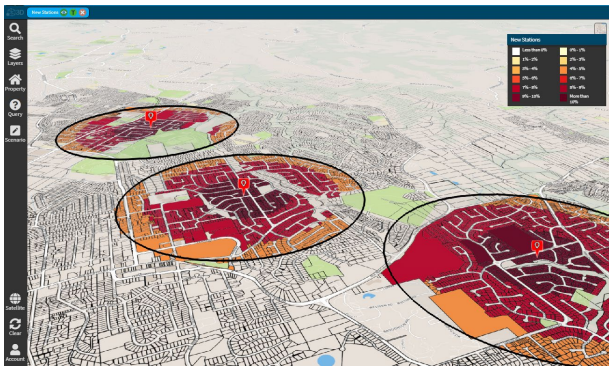
- Rational positioning of higher density zones: creating a High Density Residential zone with building heights ranging from 6 to 9 storeys along with a Medium Density Residential zone with building heights ranging from 3 to 6 storeys;
- A range of building typologies from multistorey apartments to town house terraces;
- Creating streetscapes with a diverse range of frontages and styles. Distribution of building height and density to enable good solar access in the buildings and across key areas of public domain;
- Provision of accessible and high-quality open spaces which contribute to creating sustainable communities and provide economic, environmental and social benefits;
- Reduce the dependence on private vehicles as the primary mode of travel and creation of an integrated transport network with provisions of active and public transport; and
- Increase passive Surveillance

Figure 16: Analogue mapping and codesign workshop. Later transferred to digital precinct mapping and design tools

Feasibility analysis

The Blacktown feasibility analysis was different to the Maroondah feasibility in that it aimed to establish the minimum housing densities required to produce the precinct additionality. This is covered in greater detail in the below section committed to design and feasibility. In short, the initial feasibility illustrated that to completely satisfy the design outcomes identified at he municipal workshop, that dwelling densities would have to be far higher than planned for; generating the need for a second round of design workshops, which also occurred at Maroondah and it part of the process. At the time of writing Blacktown are planning to begin socialising the project in the pilot area, however, the failure of design outcomes to be achieved feasibly will also require a second and possibly third round of co-design prior to approaching community and councillors with plans for statutory change and project implementation.

Figure 17: RAISE value uplift and feasibility analysis tool



Statutory change

Municipal officers have advised that, unlike the Victorian system, zone changes and Local Environmental Plans (LEPs), the NSW localised version of overlays, can be changed reasonably easily. This was based on the presumption that the proposed zoning or plan can alleviate the pressures that a rapidly growing city, with an undersupply of quality housing. Also, municipal officers were of the mind that they were far less in control of zoning and plan changes then their Victorian counterparts and that the state Department of Planning and Environment had far more influence than the municipality. As such, the council was largely at the control of the state planning authority and their mandates and policies. However, if the municipality were to propose a scheme that could add more dwellings, in a liveable and sustainable fashion, then it would easily be approved, largely irrespective of heights or densities.

The future at Blacktown

Blacktown city council and the University of New South Wales are currently seeking additional funding to implement Greyfield precincts. At the time of writing, notable options appear to be the NSW department of Planning and Environment, the Greater Sydney Commission and the Government Architect for NSW.

Funding aside, the next steps for the project at Blacktown are to begin socialising the project with the community. Simultaneously, an iteration of the design guidelines and the process for ongoing implementation needs to be revisited, so that it becomes feasible in the short and medium term.

Progress at: Knox City Council

Knox City Council joined the project in 2018, specifically to test the replicability of the Greyfield precinct process and the effectiveness of the playbooks to implement the process. Though abutting the City of Maroondah, Knox had a very different set of policy agendas and business units.

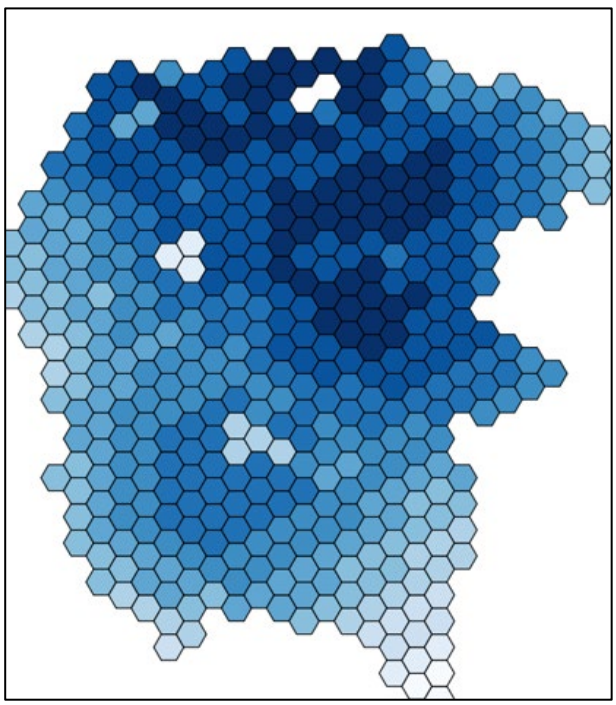
Policy Alignment

Initial discussions with officers from Knox indicated that the forms of precinct additionality they would be trying to achieve would be far more focused on housing affordability, social housing and the optimisation of community assets.

Knox were beginning to undertake a significant body of work to locate, assess and then potentially rationalise their underperforming assets. Simultaneously, they had recently received funding to research and implement a Social Housing Infrastructure Pipeline (SHIP). As both of these process required a research element, and could also potentially be leveraged to accommodate Greyfield precincts.

Through working with Knox on some of their research we were able to use similar technologies to Maroondah to highlight areas that were most appropriate for social housing, affordable housing, community services and heath care. The figure below illustrates the hexagonal map of Knox, with darker hexes indicating preferred sites for social housing.

Figure 18: Hex map of Knox. Darker hexagons indicate optimal areas for social housing in the City of Knox



Whole of government (and industry) engagement

As with the Maroondah example, data needed to be tested in the context of local government and community/stakeholder knowledge. This led to a series of workshops to be held at Knox where a group of 30 professionals in the arena of social and affordable housing gathered to help identify key issues that needed to be addressed. The attendees included representatives from a large and a medium development group, two state departments, three housing associations, five municipalities, an infrastructure group and a number of housing academics. Together, this group established the full range of possible legislative options, development options, funding organisations, management organisations and have illustrated how Knox can best achieve its supply of affordable and social housing.

Figure 19: Whole of government (and industry) workshops at Knox City Council

Knox and the future

At the time of writing we are planning for a final workshop, the outputs of which will be released with a consultancy report on asset optimisation and the viability of achieving a pipeline of social and affordable housing. The outcomes from this research will then move into community engagement for validation, after which the statutory and political dimensions will be addressed.

Knox City Council have committed to testing the playbooks going forward, however their replicability, particularly when the context has changed from sustainability to affordable housing, remains to be seen.

Design and Feasibility

On recommendation from DELWP, and on the basis that, at least initially, housing in Greyfield precincts would have to comply with existing zone regulations, housing typologies for the Victorian context remained within the existing building envelope for the General Residential Zone (GRZ). GRZ is the 'typical' residential zone, with Residential Growth Zones (RGZ) being for inner urban or development next to major activity centres and Neighbourhood Residential Zone (NRZ), for areas that where heavy restrictions apply, typically in a bid to protect "neighbourhood character". General residential allows for a maximum of 4 stories and also has significant restrictions on building massing, setbacks and minimum garden space requirements.

Under the assumption that not all of the land parcels in precinct wold be developed simultaneously, the dwellings were modelled on a sub-precinct scale. Housing typologies were created for sub-precinct ranging from two lots to eight lots, across a range of densities and dwelling types.

The full range can be found in the Greyfield design guide. This serves as a brief overview. Note that the heights, relative densities and feasibilities change per development scale. If sub-precinct of 3000+ square metres an be consolidated, returns will be higher.

Row housing

Grouped townhouses on a consolidated site with primary outlook to front and rear, and direct access to dwellings from private basement garages

Figure 20 Row housing with Basement parking over 2 lots

Grouped townhouses with primary outlook to front and rear, consolidated underground parking. Dwelling orientation and living area outlooks into front and rear (side outlooks strongly discouraged at upper floors). A substantial garden corridor at the front and rear of the site with an emphasis on landscaping to soften built form. A range of dwelling sizes and layouts. Ground floor living areas and private open spaces strongly encouraged. 2 storeys (>1000m2), 3 Storeys (1000 - 2000sqm). Frontage Required > 15m, Preferred Locations Secondary road, single frontage, N-S Orientation. Access and Parking is consolidated underground. Secluded Private Open Space in front and rear setbacks

Table 2 Feasibility analysis. Row housing on 2 lots

Category	Value
Land acquisition	$ 1,895,400.00
Consultants fees (ex gst)	$ 386,030.89
Statutory fees (ex gst)	$ 191,132.00
Holding costs (ex gst)	$ 23,088.26
Construction costs (ex gst)	$ 3,395,062.04
Selling costs	$ 457,000.00
Finance	$ 30,000.00
Interest	$ 506,878.45
Income per unit sales	$ 9,100,000.00
Net development profit	$ 1,678,865.17
Development margin (profit/risk margin)	24.4%

Mews townhouses

Mirrored configuration of townhouses along a shared driveway with sleeved parking and separate pedestrian access along side boundaries.

Figure 21: Mews townhouses with under-croft parking over 2 lots

Concealed central driveway with dwellings above maximises internal living space giving priority to side and rear boundary as open space. Clear wayfinding for pedestrian and visitor access via shared pathway along side boundaries. Private entry gardens create space for individual personalisation and green corridor along side boundaries. Substanial setback at rear for canopy tree planting and communal open space. Roof top garden as welcome addition as an extension of private open space. 2 storeys (>1000m2), 3 Storeys (1000 - 2000sqm). Frontage Required >30m. Preferred Locations are secondary road, single frontage, N-S Orientation. Outlook is side boundary at ground floor. Set back on

terrace at second floor mitigates overlooking concern.. Access and parking is private garages accessed via shared driveway. Semi private open space as terrace at second level or rooftop, and private open space at ground floor garden entry.

Table 3 Feasibility analysis mews housing on 2 lots

Category	Value
Land acquisition	$ 1,895,400.00
Consultants fees (ex gst)	$ 461,265.94
Statutory fees (ex gst)	$ 176,676.00
Holding costs (ex gst)	$ 17,375.51
Construction costs (ex gst)	$ 4,458,510.47
Selling costs	$ 416,000.00
Finance	$ 15,000.00
Interest	$ 308,738.54
Income per unit sales	$ 9,200,000.00
Net development profit	$ 827,745.52
Development margin (profit/risk margin)	10.4%

Courtyard apartment

Low-rise walkup apartments with outlook to front and rear, a central void or courtyard and access from basement parking.

Figure 22 Courtyard apartment housing with Basement parking over 2 lots

Configuration and separation between building rows ensures solar access to dwelling habitable room windows. Basement parking located below first building wing ensure deep soil and substantial garden corridor at the front and rear of the site. Stairwell shared by maximum of 6 dwellings with access to two dwellings per floor. All dwellings with dual aspect and balcony at aech facade side. Third storey within mansard roof reduces visual impact in response to smaller local grain. Building 3 Storeys (1000 - 2000sqm Lot). Frontage Required >25m. Preferred Locations, North or South facing sites on a main road. Outlook front and Rear. Parking in basement. Semi private open space as private balconies and potential for Semi private open space in front and rear setbacks for ground floor dwellings

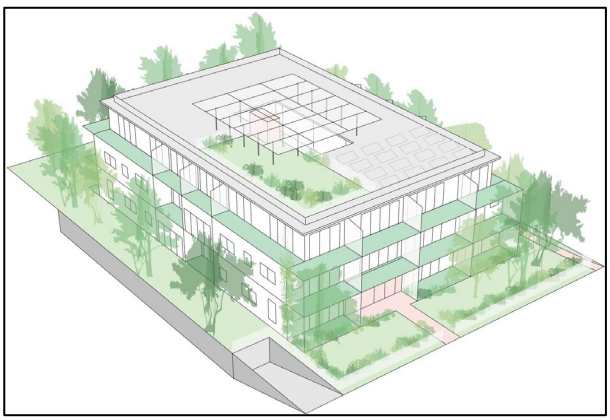
Table 4 Feasibility analysis courtyard apartment over 2 lots

Category	Value
Land acquisition	$ 1,895,400.00
Consultants fees (ex gst)	$ 702,771.91
Statutory fees (ex gst)	$ 186,672.00
Holding costs (ex gst)	$ 17,375.51
Construction costs (ex gst)	$ 6,681,809.57
Selling costs	$ 626,500.00
Finance	$ 30,000.00
Interest	$ 848,700.20
Income per unit sales	$ 13,700,000.00
Net development profit	$ 2,075,769.87
Development margin (profit/risk margin)	18.9%

Garden apartments

Single apartment building with central light well and dwellings with prevailing outlook to front and rear. Barement parking.

Figure 23 Garden apartments with Basement parking over 2 lots



Consolidated built form reduces building envelope and footprint. Maximum width of 20m ensures adequate scale in response to local character. Optional lightwell open to sky allows for cross ventilation and well lit

communal access areas. A substantial garden corridor at the front and rear of the site with an emphasis on landscaping to soften built form. A range of dwelling sizes and layouts. Communal open space in large rear setback and possibility for rooftop garden for shared use. 2 storeys (>1000m2), 3 Storeys (1000 - 2000sqm). Frontage Required > 15m. Preferred Locations secondary road, single frontage, N-S Orientation. Outlook front and rear, parking in basement Secluded Private Open Space in front and rear setbacks.

Table 5 Feasibility analysis Garden apartments over 2 lots

Category	Value
Land acquisition	$ 1,895,400.00
Consultants fees (ex gst)	$ 843,161.41
Statutory fees (ex gst)	$ 163,134.00
Holding costs (ex gst)	$ 25,826.02
Construction costs (ex gst)	$ 7,085,909.59
Selling costs	$ 706,000.00
Finance	$ 61,000.00
Interest	$ 890,726.60
Income per unit sales	$ 15,200,000.00
Net development profit	$ 2,496,513.50
Development margin	20.9%

Townhouse and apartment mix

A mix of townhouses and apartments arranged around large generous shared open spaces with basement parking.

Figure 24 Mixed housing with basement parking over 3 lots

Separation of buildings and mix of dwelling types break down the scale of building to better respond to the local scale. U-shaped site layout allows for optimum solar access to all dwellings. Generous internal courtyard grants all dwellings dual aspect and opportunities for cross ventilation. Basement parking along side wing of development ensures deep soil in couryard and front setback for adequate greening. A wide range of dwelling sizes and layouts. Courtyard proportions and planning of open space create attractive locations for communal use. 3 storeys (>1000m2) 3 Storeys (1000 - 2000sqm). Frontage Required > 30m. Preferred Locations, large sites with one main road frontage and corner sites. Outlook front and into central courtyard. Shared Basement carpark. Semi provate open space in side setbacks for townhouses. Street facing balconies for all apartmentsw. Courtyard as shared common open space for all dwellings.

Table 6 Feasibility analysis townhouse apartments over 3 lots

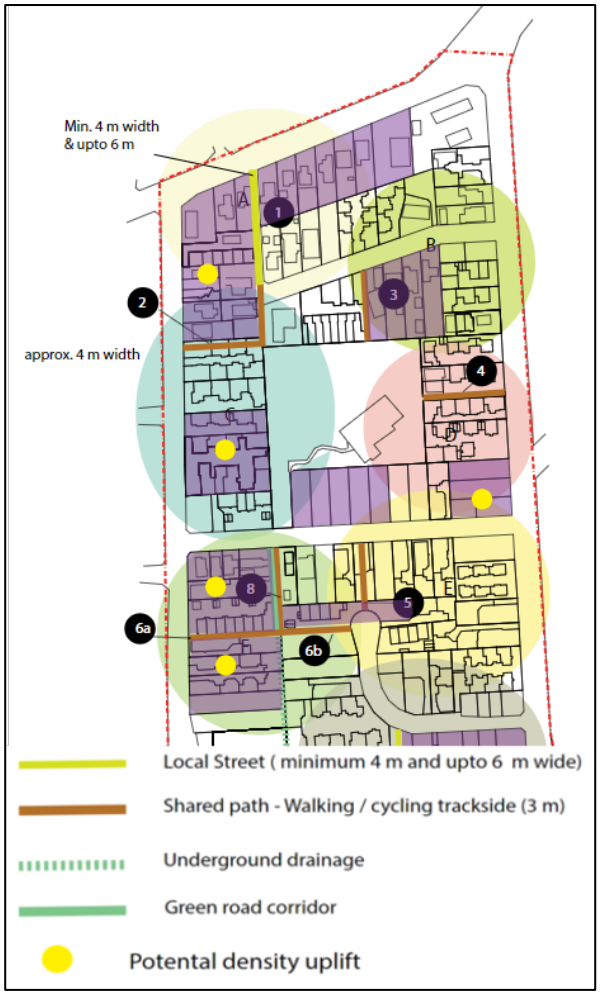
Category	Value
Land acquisition	$ 2,843,100.00
Consultants fees (ex gst)	$ 792,590.96
Statutory fees (ex gst)	$ 269,960.00
Holding costs (ex gst)	$ 43,201.52
Construction costs (ex gst)	$ 7,100,900.00
Selling costs	$ 777,000.00
Finance	$ 50,000.00
Interest	$ 967,622.60
Income per unit sales	$ 15,800,000.00
Net development profit	$ 2,170,065.39
Development margin	16.9%

Precinct additionality

All of these typologies have additional space for deep-root spaces allowing for tree canopy preservation. They are also designed to above standard quality and liveability standards. However, there te project also aimed to deliver some form of additionality to the precinct. The image below highlights the additional, precinct-scale, additionalities required for the first pilot precinct in Maroondah. This plan calls for additional paths for greater walkability, a widening of a laneway to provide greater access to a park and vehicular access to the addition of some additional flood-mitigation infrastructure. The costs of these have been included in these feasibility analyses as developer contributions. The contributions are $4,500 for precinct 1 and $1,250 for precinct 2. The costs in precinct 2 were reduced due to the additionality being purely greater walkability, which can be produced through the subdivision process itself.

Many other forms of additional benefit can be found in the Greyfield design guide that accompanies this the set of playbooks.

Figure 25 Precinct 1 with additional paths, roads and drainage



Alternative feasibility methods

The Blacktown element of the project used a top-down feasiibility anaysis which is based on the value per square metre that specific projects and densities generate. The Blacktown precinctwas divided into sections indicating the expected densities they were palnned to achieve. These figures came from earlier whole of government work with council staff.

Main Findings: Overall area

The proposed design has a supply of new units significantly below the requirement for minimum development profit of 20%. It proposed to develop 1,229 new units, and the simulation indicates that 2,457 units are required to cover the land buyout cost and development costs. Therefore, the proposed design is overall not economically feasible.

Area 1 has a proposed supply close to the required yield for economic feasibility (400 units required and 385 proposed). The proposed footprint for the 6 buildings is not enough to accommodate the proposed number of units within the maximum height (and therefore also not enough for the slightly larger number of required supply for economic feasibility). There is a deficit of 1,810 m2 for the total footprint. This can be easily achieved in the area with still a low site coverage of 42%.

Area 2 has a proposed supply significantly below requirements for economic feasibility (192 proposed units and 318 required units, deficit of 126 new apartments). The proposed design of 5 buildings with 9 floors each, the required supply for economic feasibility can be easily achieved with a building footprint of around 800 m2, accommodating 7 units per floor.

This context would result in a site coverage of 25%, still compatible with the desired large open spaces between tall buildings in the area.

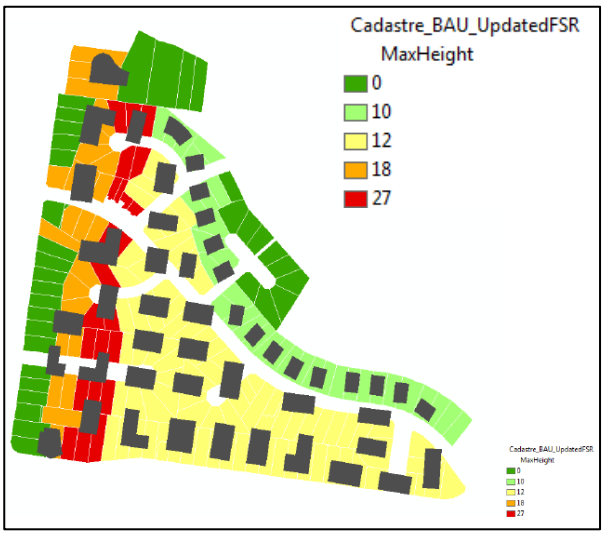
Area 3 is the most problematic, as the proposed supply is only 40% of the required supply for economic feasibility. The simulation indicated that if the proposed number of 22 buildings with 4 floors is used for the design, the building footprint would need to accommodate 14 units/floor, with a minimum area of 1,587 m2 per building. This represents 65% of site coverage, significantly higher than the conceptual design with a mean building footprint of around 800 m2.

Considering the parameters of unit size, % private area, max number of floors and current building footprint at conceptual design, a maximum of 610 new units can be allocated, still significantly below the requirements. This area is not economically feasible with the proposed design.

A scenario of Area 3 with an additional floor (5 floors) and building footprints 25% larger than the conceptual design would result in a supplying 75% of the required yield for economic feasibility. There is still a deficit of 317 new apartments.

Area 4 is as problematic as Area 3, as the proposed supply of new units is significantly below the requirements to cover the high costs of land and construction (125 proposed and 485 new apartments required). The proposed design for this area is not economically feasible.

Figure 26 Blacktown precinct divided into density zones.



In order to allocate the required new units within the proposed number of buildings (15) and maximum number of floors (3), 92% of the area would be covered by large building footprints. This is against the vision for this area.

The maximum amount of new units possible to be built within the proposed conceptual design is 141 units. A scenario of Area 4 with an additional floor (4 floors) and building footprints 25% larger than the conceptual design would result in a supplying 48% of the required yield for economic feasibility (235 units). There is still a deficit of 250 new apartments.

Green Belt and park area: 34 parcels are proposed to become the green belt and additional park area. 10 of these parcels are currently privately owned. Together, they represent a required investment of AU$7.8 million to be purchased by the government. The simulation indicated that 160 would need to be built and sold to cover this cost in the context of a development.

As such, the first pass of this feasibiltiy analysis showed that far more work is required on the feasibiltiy analysis of the Blacktown site.

Legal options for landowners.

In preparation for landowner engagement, legal professionals were consulted to determine the range of possible outcomes for landowners. This was done to capture the range of potential outcomes that we informally being discussed at community events; such as downsizing options, age in place solutions, joint ventures with developers, and landowners acting as developers. Although the vast majority of respondents stated that they would simply want a good offer for their property, there was discussion on the range of alternatives available, which this section speaks to.

Sell as 'an individual'

The individual landowner adopts a traditional process of marketing and selling their property. The owner commissions a Real Estate Agent. A standard form of contract is applied to the transaction.

Pros & Cons

- Familiar to most people
- Difficult for developer to confidently assemble a meaningful redevelopment parcel, and hence vendor unlikely to achieve any 'premium' pricing.

Structure: The owner commissions a Real Estate Agent. A standard form of contract is applied to the transaction.

Technical Description: A 'business as usual' model. The owner of the land or building/land engages a real estate agent to sell their property. The owner of the property decides to sell which has been triggered by a range of potential 'reasons. The real estate agent is engaged under the rules and obligations of the professional institution (real estate institute). The owner may engage a lawyer or conveyancer depending on the complexity of the land and or property sale process.

Example: Most single parcel, or house on an allotment transaction are undertaken through 'business as usual' model. Most individual vendors are either unaware of the benefits of land aggregation. Likely also, the perceived complexities are presented as complicating factors by either personal advisors and or legal/financial advisors. Most transactions are undertaken adopting this process and is not covered in any further detail.

Timing and duration of process: The milestones for a standard transaction of an individual suburban parcel or house and land in a suburban setting are as follows:

- Day 1 – Decision to sell
- Day 1 to 8 – Legal contact
- Day 1 to 14 – Real Estate Agent Appointed
- Day 14 to 28 – Sales marketing campaign adopted
- Month 2 – Sales and marketing campaign
- Month 3 (beginning) – Auction Date (assumed successful auction or sale)
- Month 6 – Property settled (assumed 90-day settlement).

Standard Form of Contract: The Standard Form of Contract is Real Estate Institute Standard Form of Contract. The contract is applied to an agreement between the Vendor (seller) and the Purchaser.

Sell as 'a group'.

A group of landowners adopt a process of packaging up and marketing a group of properties. However, the individual owners sell their property as separate parcels. The landowners will need to agree to using a single Real Estate Agency, this is not typically undertaken by a developer. A standard form of contract is applied to each transaction.

Pros & Cons.

- Will always be a higher value per property because of the package of ownership – i.e. reduces the development risk in assembling a meaningful redevelopment parcel, and hence vendors can seek from the process a meaningful level of 'premium' pricing
- R/E Agents will welcome this type of arrangement
- This is not a familiar concept
- Caution should be applied if tax, accounting and legal arrangements are not considered. Most adjoining owners will have different financial circumstances and therefore there will always be complexity between parties
- Other Real Estate Agents may 'spook' these types of arrangements, for the very reason that the processes are complex and therefore transactions become complex to settle.
- Explaining upside through alternative arrangements is tricky and open to destabilisation by third parties.

Structure: A standard form of contract could be utilised where settlement of each sale is conditional upon the contemporaneous settlement of all the other parcels. Otherwise, one of the parties may have a change of mind that influences the other parties or owners.

Technical Description: The owners of adjoining parcels of land or building(s) engage a real estate agent to sell their properties. The real estate agent is engaged under the rules and obligations of the professional institution (real estate institute), but this is not a typical arrangement as most agents do not understand this process. The owners will engage individual legal practitioners depending on the complexity of the land and or property sale process.

The purchaser is typically an investor or speculator who has chosen to purchase land in a region, precinct or suburb. Usually at this scale the speculator tends to re-rent the properties and 'sit' and wait to on-sell the land holdings or to redevelop as single house on single parcels.

Timing and duration of process

- The milestones for a sell as a group in a suburban setting are as follows:
- Day 1 – Meet as a group of owners (say 2 owners or greater)
- Day 1 to 28 – Legal contact
- Day 28+ – Real Estate Agent Appointed
- Month 2 – Sales marketing campaign adopted
- Month 3 – Sales and marketing campaign
- Month 4 (beginning) – Auction Date (assumed successful auction or sale)
- Month 8+ – Property settled (assumed 90-day settlement)

Standard Form of Contract: The Standard Form of Contract is Real Estate Institute Standard Form of Contract. The contract is applied to an agreement between the Vendor (seller) and the Purchaser.

Form a 'landowner group', to sell.

A group of landowners agree to work together and undertake a process to resolve the planning issues, negotiate and agree to sell together. The owners educate themselves over time and appoint a project manager. The objective of this process is to maximise the value of the land through a process of planning and consolidation. The design efficiency creates an opportunity to maximise value and then creates an opportunity to on-sell to a developer/investor {at an agreed price, between owners}. An alternative form of contract will need to be tailored to suit the landowner relationship and the contract of sale to the investor.

Pros & Cons.

- The higher return per property than selling individually or as a group, because, depending on the commercial deal struck with a developer, Landowners receive lower return 'up front' for their land in return for a share of the development profit (if any) on completion of the Project.
- Greater efficiency in land use and planning
- People/owners participate in a process to achieve a higher outcome
- Skilled advice is applied to assist the group
- This is a new concept and difficult/time consuming to explain
- Detailed tax, accounting and legal advice is required
- Other Real Estate Agents will definitely 'spook' these type of arrangements
- Explaining upside through alternative arrangements is complex
- There are many variables and moving parts, including sharing some risk of the Project, where the nature of the risk is in accepting less 'up front', in anticipation of receiving more later upon completion (if the Project is a commercial success).

Structure: A Memorandum of Understanding or Deed of Arrangement is formed to manage the group. As the landowners are participating in a structure to maximise value, they are then functioning in a process that is 'not usual'. This agreement requires real discipline and a preparedness to work together towards an outcome. Most groups last for period and then fall apart, others that are well project managed last for the duration.

Technical Description: The owners of adjoining parcels of land or building(s) engage a project manager to run a process to plan and exploit the asset to maximise value. The project manager should be uniquely skilled in this field and should be engaged under the rules and obligations of the Australian Institute of Project Management (AIPM). This is not a typical arrangement. Most people involved in property have no understanding of the complexity of this process and therefore this is not a well understood process. It is easier to recommend 'sell as an individual' or 'business as usual' models.

The project manager will recommend engaging a legal practitioner (single practice), as this is a complex process requiring detailed knowledge of relationship management. The purchaser is typically an investor or developer known from a short list of skilled operators who have experience with the project manager. Usually at this scale the developer tends to activate the process within a short period of time. In the land development process, the aggregated parcels of property create a highly efficient opportunity without arbitrary constraints.

Example: Gerard Coutts & Associates have aggregated many projects in Australia however these properties have tended to be in peri-urban settings. Land aggregation is however the same in any location. Coutts & Assoc have projects as complex as several hundred owners (Hobsons Bay City Council, 180 owners, Burns Road Landowners Group Incorporated) to standard assemblies of between 20 to 40 participating owners.

Timing and duration of process: The milestones for form a landowner's group to sell is as follows:

- Day 1 – Motivated owner begins discussion with neighbours
- Day 14 – Meet as a group of owners (say 5 owners or greater)
- Day 28 – Project manager discussion/presentation
- Day 28+ – Project manager Appointed
- Month 2-3 – Agreement prepared
- Month 3 – Development plan/due diligence commences
- Month 3-6 – Development plan concludes
- Month 6+ – Initial contact with developers commences
- Month 7 – Interviews with developers/investors
- Month 9 – Possible appointment of developer

Memorandum of Understanding: An MoU is a bespoke form of agreement that is based on a template style particular to the legal practice of origin. The MoU contains recitals particular to the organisation of the newly formed entity or group. The Burns Road

Landowners Group have formed an Incorporated Association, which operates under the governance and rules of Associations Act. The ultimate form of contract for sale of land under this type of entity would be unique to the specific opportunity.

Joint Venture Agreements

A Joint Venture Agreement is an agreement that shares risk and investment, in the development of an opportunity, and also shares the reward of the proceeds stemming from the development. There are many variations in the structure of such an agreement, this is usually around the percentage of proceeds flowing between the parties and the contribution towards the development of the project. The terminology used then is the 'structure of the Joint Venture'.

There are many textbook summaries and theories about these types of arrangements. Fact be known, a Joint Venture is only likely to occur when both parties have equal financial capacity to creature or develop 'a venture'. In our experience a distinct majority of ordinary property owners have little opportunity to finance an equal share in 'a venture' and also are averse to the risk of such a scheme. Owners are often spooked by the complexities of such an offer and prefer to simply have a clean contract to sell.

A Joint Venture scheme may eventuate when a speculator purchases multiple properties and then seeks 'to venture' with an equal scale investor. A Joint Venture also succeeds when there is trust and a history of a working relationship. A Joint Venture is unlikely to develop if there is no history between the parties forming the venture.

Pros & Cons

- Highly complex to negotiate
- Requires skilled independent advisors to assist with the process
- Requires a working history between parties
- Requires significant legal negotiation (and cost)
- Most often outside the realm of 'the average' property owner
- Structural variations to the agreement dependent upon apportionment of risk and reward as with the old saying '...a JV Agreement can be struck a 1,000 different ways'
- The rewards can be significant
- The rewards are borne over time, it is not a quick outcome.

Structure: Memorandum of Understanding may be established in the due diligence phase of the negotiation between the venture parties. A bespoke contract or agreement is then formulated when there is agreement in principle between the venture parties. As with other methods this agreement requires real discipline and a preparedness to work together towards an outcome.

Technical Description: A Joint Venture is often formed between parties of equal capacity especially in terms of financial capacity. A Joint Venture Agreement is formed for a property development where parties share in the risk and costs and also in the proceeds and profit. A Joint Venture Agreement can be formed in many ways, usually where the proportion of risk and reward is tuned to suit the parties to the agreement. A Joint Venture may also have multiple shareholders or participants. The successful ventures are usually around experience, track record, history and trust in relationships and financial capacity.

In the land development process, such as Caroline Springs (Melton) the aggregated parcels of property created a highly efficient master planned community without arbitrary constraints and with significant financial benefit to the parties.

Example: Caroline Springs was developed by the Delfin Property Group (later Delfin Lend Lease, Lend Lease Communities). The aggregation of land occurred between multiple parties and the Melton East Landowners Trust was formed. The Joint Venture was between the landowners including one significant ownership and Delfin as the Asset/Development Manager. Delfin did not own or purchase the property of land. The land was transacted into the agreement and Delfin acted as the manager. (Melton City Council, 10 owners, Melton East Landowners Trust).

This model can be applied to smaller and or equivalent scaled projects. The perception that 'Joint Ventures' only work on large scale projects is not correct. We have applied this concept to many project frameworks, but the fact is, the model is only accepted by a handful of participants.

Timing and duration of process: The milestones for parties participating in a Joint Venture are as follows:

- Day 1 – Motivated parties commence discussions about an opportunity
- Month 1 – Meet as a group (say 2 participants)
- Month 2 – Due diligence commences (60 days)
- Month 4 – Due diligence concludes and legal negotiations commence
- Month 6 - Legal negotiations conclude
- Months 6-12 – Negotiation with Authorities and Development Planning
- Months 12- 24 – Development commences

Outputs and state variations and Commonwealth milestones

Playbooks

Municipal playbook

As a way of encapsulating all learnings from the project, the information above is also presented in a set of three playbooks. They are variously for municipal governments, landowners and developers. These were necessitated by the complexity of the process and to circumvent the significant amount of time, and dead ends, that were encountered during the research. As such, the aim of these playbooks is to provide a set of clear instructions and steps for those new to Greyfield precincts and their implementation.

The municipal playbook contains the following sections.

- Priorities: where the main priorities and policies of the municipality are identified, and decisions are made about the uptake of the process.
- Precinct selection: where the potential precincts are selected for the municipal precincts. A number of methodologies are provided, including software based, engagement based, and issues based. All methods have also been briefly covered above.
- Whole of Government work: where all relevant municipal agencies and operation units relevant to precincts begin to align their expectations of the project to deliver outcomes.
- Testing with community: where community members are briefed and asked for feedback. This can either be directly with the broader community or through proxies for community, such as community advisory groups.
- Socialise the process: where the project is broadly presented to the community at large through municipal advertising.
- Plan the precinct: where the master planning, infrastructure planning and all other precinct designing is done.
- Statutory change: where the amendments required to implement the plans are drafted.
- Landowner engagement: where affected landowners are directly communicated with. It is here that the landowner co-design process can begin.
- Brokering: where the municipality makes decisions on who the trusted broker will be, variously the municipality itself, the landowners, a set of local developers or real estate agents.

The playbook also contains appendices on some design elements, feasibility methods, statutory outcomes, examples of municipal communications documents and a range of other products that could be useful.

Landowner playbook

The landowner playbook was drafted as an engagement tool but also to allow landowners to take the initiative, should hey choose to pursue precinct scale redevelopment on their own, which would largely avoid the arduous process of establishing the project at the municipality. The landowner playbook is far more condensed than the municipal one. It also has a vastly different set of appendices. It covers the following sections:

- Learn: Where landowners are instructed to approach their council to see if the process is supported. There are also sub-sections on instances where the processes are not supported.
- Explore: where landowners consider the range of scenarios that can be covered, which is largely the information included in the legal options section above.
- Meet: where landowners start to form a landowner collective and work towards forming legal relationships based on their collective expectations.
- Negotiate: where the relationships are finalised into some form of contact; many are included in the playbook.
- Finalise: where the project moves into implementation.

The appendices include a range of contracts and memorandums, flyers for circulating to other residences and the full range of legal instruments available to landowners.

Developer playbook

The developer playbook has the same structure as the landowner playbook but is geared to training the developer to act as the broker for the landowners as well as defining what the developer's role in the process could be. Developers are strongly advised to review the design guide that accompanies the project outcomes.

Statutory tools.

Victoria

The full statutory response in Victorian has been included in Appendix 1. Though, on initial review, this may appear to be an overly simplistic, is it the product of roughly three years negotiation between high level statutory experts, statutory academics, statutory practitioners at the state and local level, ministerial advisors, municipal management and councillors. The novelty of Greyfield precinct has largely been the cause for the extended timelines; as researchers balanced the range of statutory responses, their varied focus on restriction versus reward/developer concession, a light or heavy handed approach and, ultimately, what would work in the first iteration of statutory response in the broader Greyfields project.

State planners indicated that a bespoke Greyfield precinct zone, or any new planning tool, would not be considered until the existing tools are proved not to work. They also indicated that the height maximums in the current zones were, for political reasons, not open to debate. Some statutory experts proposed a draconian stance, limiting lot-by lot development and effectively forcing precincts to occur, which others proposed an earned development concession. The discussions between state planners and municipal planners settled on an initial “light touch” statutory response. This would assist its passage through the approval process and would be less likely to be politically derailed. If this form of regulation worked then it could be iterated on into the future. If it failed to attract developers or landowners, then it would become part of the evidence base for a bespoke planning tool.

New South Wales

As the design and feasibility stage is still ongoing at Blacktown, other than conversational discussion, no significant research has been done on the correct statutory response, as a masterplan, or accepting specific typologies as the base-case planning tool, is still up for debate. For the proposed site, informal discussion indicated that the existing set of tools could be adopted; changing the area from its existing R1 zone (General residential) to any of the R3 (Medium Density Residential), R4 (High Density Residential) or R5 (Large Lot Residential) zones. This would need to be accompanied with a Local Environmental Plan, which is the tool used to control the future strategic outcome of a locale.

However, some issues were noted with this potential approach. Most notably is the process whereby land is rezoned, which raises its value and then, through landowners asking for higher values, makes the development less financially feasible for developers. It also begins a process of localised land-banking; with landowners consolidating land and holding out on development opportunities to raise land-values or make use of the value uplift later in life. Another proposal was to have a rolling rezoning, based on lot amalgamation, but the cost of implementing this would be excessive without significant assistance from the state planning department for a pre-approved, but timed role out of the zoning based on landowner cooperation.

As such, this area needs investigation, discussion and finalisation.

Design Guide

A 130-page design guide has been prepared for the project and is available from the same site as the playbooks. The initial aim of the design guide was as an accompaniment to the statutory proposal. As such the first version is heavily focused on Maroondah and Maroondah-like contexts. A second version will be forthcoming that speaks for a broader redevelopment context.

The design guide covers four areas. The first is an overview of the desired outcomes of the Development Plan Overlay and covers:

- Dwelling Supply and Diversity
- Urban structure
- Site Layout
- Built Form
- Public Interface
- Landscaping and WSUD 7-ESD
- Design Detail
- Dwelling Amenity

Each theme includes a series of design outcomes, design requirements and design controls. The design outcomes explain the purpose of the design objectives. The design requirements suggest preferred methods to meet the design objectives. The design controls must be met. The images at the end of each chapter are intended to provide visual context for both desirable and undesirable outcomes in response to preceding objectives.

The second section covers a series of preferred design outcomes for single and multi-lot redevelopments. This is not intended as a prescriptive template but rather to provide example outcomes which meet council and Greyfield planning performance objectives. The third section of this document outlines a series of precedent projects good practice examples and further indication of desired outcomes. These have also formed the basis for the suggested typologies of Section 2. The final section outlines council’s objectives with regard to streetscapes within the precinct.

Figure 27: public water garden solution Maroondah.

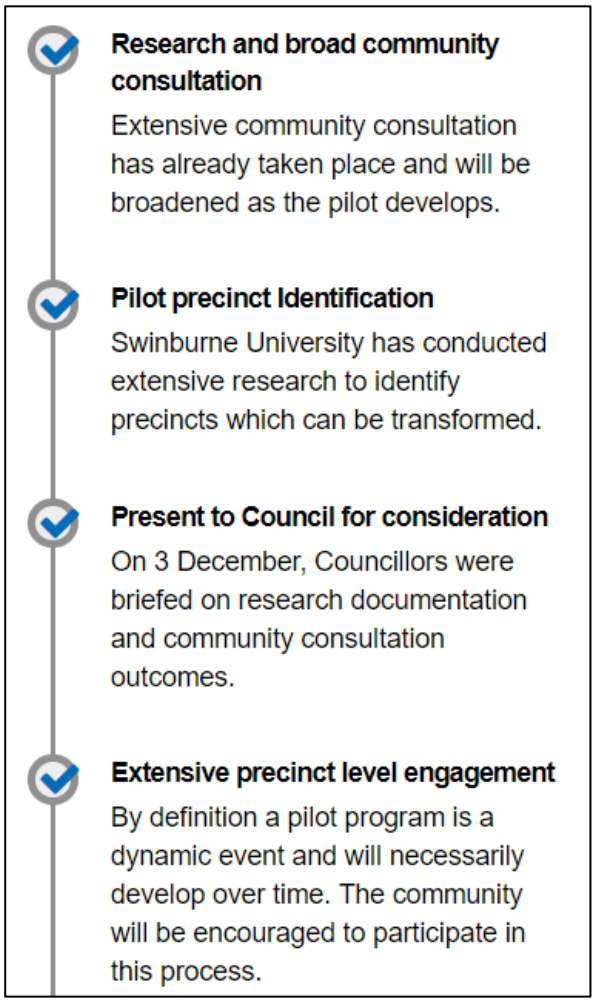
Commonwealth milestones

R3.2.20 - Surveys and research completed.

All engagement has been finalised, as is evidenced by the municipal website where the following have been finalised.

- "Extensive community consultation has already taken place and will be broadened as the pilot develops. Greyfields research has finished this stage"
- "Extensive precinct level engagement. By definition, a pilot program is a dynamic event and will necessarily develop over time. The community will be encouraged to participate in this process."

Figure 28: https://yoursay.maroondah.vic.gov.au/gtg.



In addition, the Community Advisory Group has been disbanded as it has served its purpose for this round of research. The group will be reformed to incorporate developers and real estate agents as it moves towards commercial implementation. Furthermore, greyfield playbooks have been produced and the statutory change aimed for has been submitted to the Victorian Minister for Planning.

U3.4.6 - Establishment of a self-funded support organisation to assist Australian councils and communities with implementation of CRC community engagement strategies.

Initial attempts to establish an independent and sustainable business unit, through the CRCSI, who were a partner on the project until June 2017, failed to eventuate. This was largely due to the lack of a business offering. At the time this was identified as a lack of a formal process and a definitive legal and statutory framework to work within. These have largely now been achieved through the playbooks, design guide, legal/contractual methods, feasibility methodologies and engagement techniques. We will be testing these with industry experts (GBCA, AECOM) for an expansion program to additional municipalities. We will then be moving forward with developers, lot amalgamation experts and additional community engagement. As such we now have the artefacts to begin exploring financial sustainable models for Greyfield precinct community engagement practices.

R3.2.19 - Fourth tranche of survey community groups recruited, and appropriate community plan developed.

We have achieved tri-municipal commitment for community engagement, have advanced to practical community engagement in one of these municipalities, and whole of government and sectoral engagement in two other municipalities. All of these municipalities are new partners to the CRC, which serves as the fourth tranche. This work surpasses survey and community plan work, as it involves developing new planning regimes, adopting those planning regimes, and landowners being willing to discuss the redevelopment of their own homes.

U2.1.3 - Precinct information models in at least two major urban regions in Australia.

We have full precinct models developed for precincts in Maroondah and Blacktown, as well as significant advancement in Knox. These are included in the statutory reforms, Envision and ESP software, feasibility reports and design guides.

U2.3.3 - Broad adoption of the forecasting tools across non-partner utilities and infrastructure companies with a target of 40% uptake.

All municipalities (which are non-partner organisations) utilise the software we have created to predict housing redevelopment. Yarra Valley Water have made inquiries on how to acquire the predictive software and we envisage that with playbooks being finished, and the geographical range of Greyfield precincts expanding, that this adoption will spread to new municipalities in new states. Evidence of uptake is having 1000+ registered users of the software, over 5

states and state government, 12 municipalities and 6 infrastructural organisation nationally.

R3.2.21 - Final program workshop held, and report completed.

The final set of workshops were held at Maroondah City Council in late May 2019 with developers and other groups who will be taking the project to implementation. External reporting on feasibility assessment has been derived from this group and they are now seeking council leadership to advance the project with their landowning clients.

Final workshops were held at Knox City council in early June 2019. The outcomes from this workshop will form the direction of the Social Housing Infrastructure Pipeline, which will be the implementation pathway for greyfield precincts locally.

Final workshops were held at Blacktown City Council in early 2019. This workshop established the need for new design parameters and an iteration of the feasibility analysis.

The final report has been finalised and submitted to CRCLCL.

Appendix 1. Statutory response in Victoria

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SCHEDULE 7 TO CLAUSE 43.04 DEVELOPMENT PLAN OVERLAY

Shown on the planning scheme map as **DPO7.**

RINGWOOD NORTH GREYFIELD RENEWAL PRECINCT

1.0 Objectives

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- To encourage site consolidation that enables increased housing density and diversity, improved open space and built form outcomes and enhanced local infrastructure through development that is consistent with the *Ringwood North Concept Plan and Design Guidelines*.
- To identify land suitable for increased maximum dwelling heights on consolidated sites consistent with this schedule.
- To enhance the residential and landscape character of the precinct through increased tree coverage and open space areas and reduced site coverage, hard surface areas and heat island effects.
- To strengthen and improve pedestrian circulation and the amenity of the precinct through the introduction of new, and the upgrading of existing, pedestrian connections.
- To integrate the principles and techniques of environmentally sustainable design into the design, construction and operation stages of new development in the precinct.

2.0 Requirement before a permit is granted

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A permit may be granted to use or subdivide land, construct a building or construct or carry out works before a development plan has been prepared to the satisfaction of the responsible authority, provided that:

- The responsible authority is satisfied that the granting of a permit will not prejudice the preparation and approval of a development plan, including the outcomes for the land set out in the requirements to this schedule.
- The permit includes any conditions or requirements set out in this schedule.

3.0 Conditions and requirements for permits

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A permit must satisfy the *Ringwood North Concept Plan and Design Guidelines*.

4.0 Requirements for development plan

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A development plan must be generally in accordance with the Indicative Concept Plan at Figure 1 and the Building Height Plan at Figure 2 of this schedule.

A development plan must satisfy the *Ringwood North Concept Plan and Design Guidelines*.

A development plan may be prepared and implemented in stages.

One or more development plans may be approved for the precinct.

A development plan must include the following requirements:

- The indicative number of dwellings and dwelling density for the land as detailed in Table 1: Dwelling Density.
- A mix of housing types and sizes, including one, two, three (or more) bedroom dwellings.
- Accessible dwellings, defined as achieving a Silver Level under the *Australian Liveable Housing Design Guidelines*, provided at a ratio of:

- One for each development of 10 or less dwellings.
- Two for every development of between 11 and 29 dwellings.
- Three for every development of 30 or more dwellings.

Which must be fully accessible with all amenities (kitchen, bathroom, open space) at ground floor level to provide for those with limited mobility.

- Development designed to meet the building heights and street setbacks specified in Table 2 to this clause and Figure 2: Building Heights Plan.
- Dwellings orientated in an east-west direction**.**
- A basement setback a minimum of 1.2 metres to site boundaries, excluding vehicle access ramps.
- Buildings setback from side boundaries by a minimum of 1.4 metres for 40 percent of the length of the site boundary if adjoining a building of 9 metres in height. Building setbacks can be reduced if sufficient site landscaping and dwelling outlooks are provided to the front and rear of the site.
- Buildings setback from rear boundaries consistent with Clause 55.04.
- A maximum site coverage of 50 per cent, including a basement.
- A minimum permeable area of 35 per cent with at least 30 per cent provided as grassed area and landscaping.
- A minimum of 50% direct sunlight to communal open spaces areas for a minimum of two hours between 9 am and 3 pm on 21 June.
- Provide communal open space as detailed in Table 3.
- A landscape plan which includes:
  - The retention of canopy trees and remnant vegetation to the maximum extent practicable and incorporated into proposed areas of landscaping.
  - Canopy trees within front setbacks, private open spaces areas and common garden areas with native species that are capable of reaching a minimum mature height of 12 to 14 metres.
  - All surface water, including from hard surface areas, drained and filtered through garden beds, a rain garden and/or bioswale before discharge to stormwater system.
  - All asphalted, paved and concreted areas, including vehicle accessways, of light colours and shaded by adjacent vegetation.
- Car parking consolidated to minimise the extent of hard surface cover on the site.
- Only one vehicular crossover provided to each development setback a minimum of 1.5 metres from any street tree, except where a larger distance is required for a larger street tree.
- Access and car parking provided from a rear lane or from the street to a basement and generally concealed from the street.
- Provision of shared car parking spaces for the development.
- Any basement car parking area extending above the finished ground level screened and concealed with landscaping.
- Garages that face the frontage set back a minimum of 1 metre from the front setback of the dwelling.
- Designed with appropriate access gradients to basement car parking.
- Buildings articulated into a series of distinct but complementary street wall elements that reinforce the existing residential grain, rhythm and streetscape elements and respond to the varying scales of adjacent buildings.
- Entries to dwellings at ground level, where possible.
- Where a development is adjacent to a laneway or public accessway, new dwelling entries orientated to the accessway and vehicle access located to the rear or a basement.
- Where a dwelling abuts communal open space or a public park, provide windows, balconies and outlook at all levels orientated towards to the park.

- Where fencing is proposed, low and open fencing allowing for passive surveillance of the adjacent street(s) with a maximum height of:
    - 1.2 metres for streets in a Road Zone, Category 1.
    - 0.9 metres for other streets.
- Environmentally sustainable design features including:
    - Sustainable transport measures.
    - A BESS Rating or equivalent with a 50% Score.
    - Minimum 70% performance for water, urban ecology and stormwater.
    - Energy efficiency.
    - Solar and renewable energy.
    - Integrated water and stormwater management.
    - Waste and recycling.
- Design detail and amenities including:
    - Materials which are aesthetically appropriate and environmentally sustainable.
    - All visible sides of a building are designed to a high architectural standard.
    - Visual impacts of parking areas and driveways minimised with no greater than 30% of the frontage taken up by garages and carports.
    - High quality design details, finishes and lighting in common areas with clear maintenance responsibilities.
    - Roof design that complements and strengthens the overall proportions of the built form.
    - Utilities and services that are well integrated into the overall design of the building functionally and aesthetically.

Table 1: Dwelling Density

(insert table)

Table 2: Building Heights and Street Setbacks

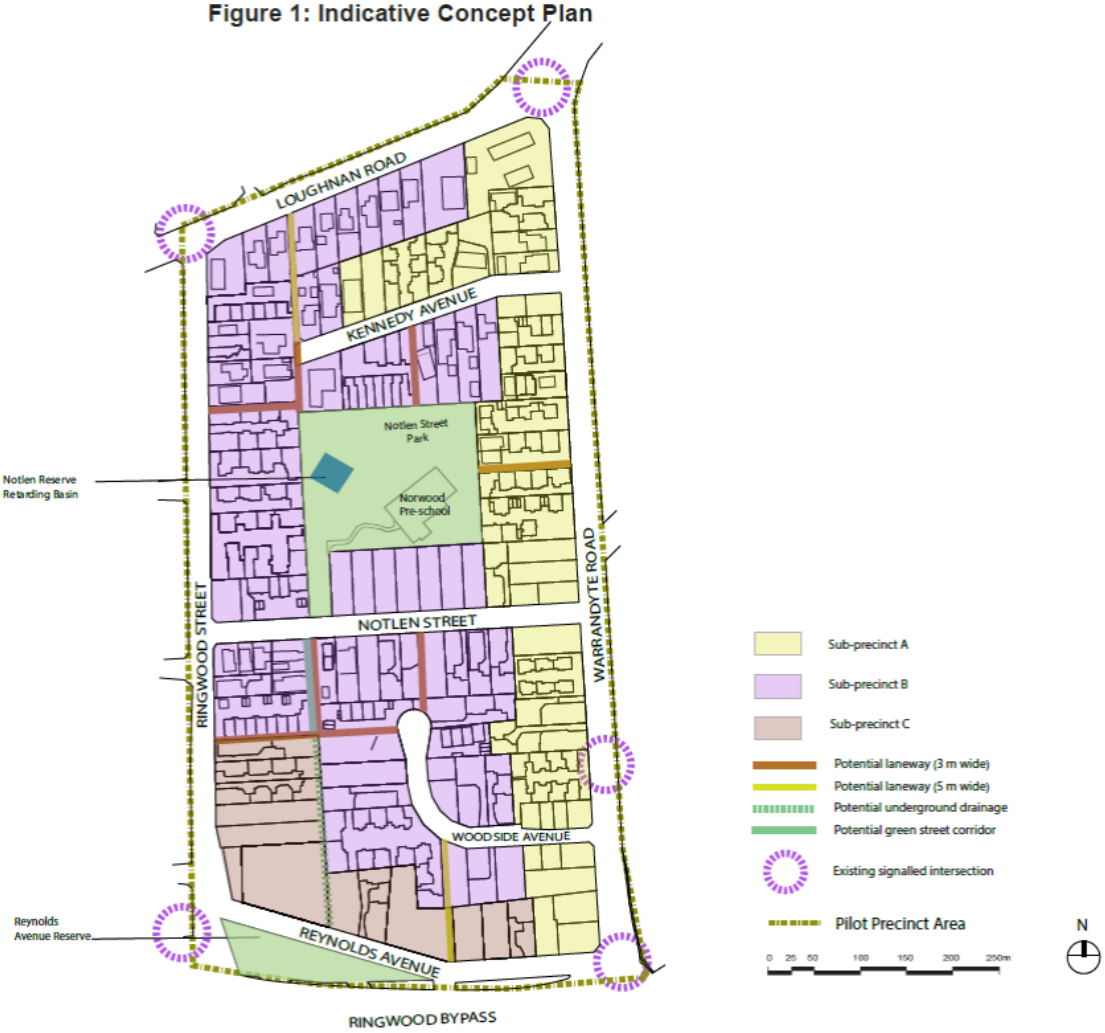
Sub-precinct	Maximum building height	Minimum site area	Street setback
A	9 metres, unless the slope of the natural ground level at any cross section wider than 8 metres is 2.5 degrees or more, in which case the maximum height must not exceed 10 metres.	-	For one dwelling on a lot: ▪ Minimum front street setback is the distance specified in Clause 54.03-1 or 6 metres, whichever is lesser. ▪ Minimum side street setback is the distance specified in Clause 54.03-1. For two or more dwellings on a lot or a residential building: ▪ Minimum front street setback is the distance specified in Clause 55.03-1 or 6 metres, whichever is the lesser. ▪ Minimum side street setback is the distance specified in Clause 55.03-1.

Sub-precinct	Maximum building height	Minimum site area	Street setback
B	11 metres for a minimum site area of 1000 m^2. 9 metres for a minimum site area of less than 1000 m^2, unless the slope of the natural ground level at any cross section wider than 8 metres of the site of the building is 2.5 degrees or more, in which case the maximum height must not exceed 10 metres.	1000 square metres. Includes land only in Sub-precinct B.	For one dwelling on a lot: ▪ Minimum average street setback of 6 metres. ▪ Minimum side street setback is the distance specified in Clause 54.03-1. For two or more dwellings on a lot or a residential building: ▪ Minimum front street setback is the distance specified in Clause 55.03-1 or 6 metres, whichever is the lesser. ▪ Minimum side street setback is the distance specified in Clause 55.03-1.
C	13.5 metres for a minimum site area of 2000 m^2. 9 metres for a minimum site area of less than 2000 m^2, unless the slope of the natural ground level at any cross section wider than 8 metres of the site of the building is 2.5 degrees or more, in which case the maximum height must not exceed 10 metres.	2000 square metres. Includes land only in Sub-precinct C.	For one dwelling on a lot: ▪ Minimum street setback is the distance specified in Clause 54.03-1 or 6 metres, whichever is lesser. ▪ Minimum side street setback is the distance specified in Clause 54.03-1. For two or more dwellings on a lot or a residential building: ▪ Minimum front street setback is the distance specified in Clause 55.03-1 or 6 metres, whichever is the lesser. ▪ Minimum side street setback is the distance specified in Clause 55.03-1.

Table 3: Communal open space

Number of Dwellings	Percentage of site area required as Communal Open Space
Up to 10	0/Not required
11 to 20	10%
21 to 30	15%
31 or more	20%

Figure 1: Indicative Concept Plan



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SCHEDULE 2 TO THE DEVELOPMENT CONTRIBUTIONS PLAN OVERLAY

Shown on the planning scheme map as **DCPO2.**

RINGWOOD NORTH PRECINCT DEVELOPMENT CONTRIBUTIONS PLAN1.0 Area covered by this development contributions plan

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This Development Contributions Plan (DCP) applies to all new development within the area shown as Precinct 1 below.

2.0 Summary of costs

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Facility Type	Total Cost	Time of Provision	Actual Cost Contribution Attributed to New Development	Proportion of Cost Attributed to New Development
Precinct Works (Streetscape, Path, Drainage and Road)	$1,900,714	2020-2035+	$798,300	42.0%
Total	**$1,900,714**		**$798,300**	**42.0%**

Notes:

This table sets out a summary of the costs prescribed in the Development Contributions Plan. Refer to the reference document Ringwood North Precinct Development Contributions Plan report for details.

Maroondah City Council commits to delivering the DCP projects by December 31 2035 or as otherwise stated in the DCP report. It is likely that projects will be progressively delivered over the DCP period.

Maroondah City Council is Collecting Agency for this DCP and all its projects.

Maroondah City Council is Development Agency for this DCP and all its projects.

Should Council not proceed with any of the infrastructure projects listed in this DCP, the funds collected for these items will be either:

- Used for the provision of other infrastructure as approved by the Minister responsible for the Planning and Environment Act, or
- Refunded to owners of land subject to these DCP levies.

3.0 Summary of contributions

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Development	Unit of Measurement	Levies Payable By Development		
		Development Infrastructure Levy	Community Infrastructure Levy	**Total**
Residential	Per Dwelling	$3,801.43	$0.00	**$3,801.43**
Other Land Uses	Per One Square Metre (SQM) of Floor space	$31.68	$0.00	**$31.68**

Notes:

Square metres of floorspace (SQM) refers to gross floorspace.

The above listed contribution amounts are current as at 30 June 2019. They will be adjusted annually on July 1 each year to cover inflation, by applying the Producer Price Index for Non-Residential Building Construction in Victoria. The Index is published by the Australian Bureau of Statistics. A list showing the current contribution amounts will be held at Council's Planning Department.

Payment of development contributions is to be made in cash.

Council may accept the provision of land, works, services or facilities by the applicant in part or full satisfaction of the amount of levy payable.

Each net additional demand (or dwelling) unit shall be liable to pay the DCP levy (unless exemptions apply). This includes a new dwelling or building or an extension to an existing non-residential building.

Payment of the Development Infrastructure Levy can be made at subdivision stage, planning permit stage or building permit stage.

- Development Infrastructure Levy at Subdivision Stage - Payment of the Development Infrastructure Levy is to be made prior to the issue of a statement of compliance for the approved subdivision.
- Development Infrastructure Levy at Planning Permit Stage - Payment of the Development Infrastructure Levy is to be made prior to the commencement of any development or works.
- Development Infrastructure Levy at Building Permit Stage -Payment of the Development Infrastructure Levy is to be made no later than the date of issue of a building permit under the Building Act 1993.

No Community Infrastructure Levy applies to this DCP.

The Collecting Agency may, at its discretion, agree for payment of a levy to be deferred to a later date, subject to the applicant entering into an agreement under section 173 of the Planning and Environment Act 1987 to pay the levy at an alternative date.

4.0 Land or development excluded from development contributions plan

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No land or development is exempt from this Development Contributions Plan unless exempt by Legislation or Ministerial Direction or Legal Agreement with Maroondah City Council or stated below.

The following development is exempt from a development contribution:

- Land developed for a non-government school, as defined in Ministerial Direction on the Preparation and Content of Development Contributions Plans of 11 October 2016;
- Land developed for housing by or for the Department of Health and Human Services, as defined in Ministerial Direction on the Preparation and Content of Development Contributions Plans of 11 October 2016. This exemption does not apply to private dwellings developed by the Department of Health and Human Services or registered housing associations;
- Renovations or alterations to an existing building;
- Dwelling units that are replaced within a development are exempt. This exemption does not apply to net additional dwelling units created by the development;

- An extension to an existing building (other than a dwelling) that increases the floorspace of the building by 100 sqm or less;
- Construction of and upgrades to existing servicing infrastructure; and
- Individual properties may be exempt from DCP contributions or elements of it if an agreement (executed by section 173 of the Planning and Environment Act) has been entered into for the provision of works and / or land in lieu of DCP cash payment.

Appendix 2: Full feasibility spreadsheet

1 LAND ACQUISITION		Qty		Rate		$
Land Purchase		3	$	900,000.00	$	2,700,000.00
Legal on Land Purchase		3		0.30%	$	8,100.00
Stamp Duty		3		5.00%	$	135,000.00
Subtotal					$	2,843,100.00

2 CONSULTANTS FEES (Ex GST)		Qty		Rate		$
Architect	7% Construction Costs		$	496,013.67	$	496,013.67
Development Mana	3% Construction Costs			$212,577.29	$	212,577.29
Building Surveyor		1	$	5,000.00	$	5,000.00
Quantity Surveyor (Bank Valuation)		1	$	5,000.00	$	5,000.00
Civil Engineer (drainage)		1	$	20,000.00	$	20,000.00
Structural / Civil Engineer		1	$	15,000.00	$	15,000.00
Services (Mech, Elec, Hydr, Fire)		1	$	10,000.00	$	10,000.00
ESD		1	$	5,000.00	$	5,000.00
Fire Engineer		1	$	2,000.00	$	2,000.00
Landscape Architect		1	$	16,000.00	$	16,000.00
Land Surveyor (subdivision)		1	$	4,000.00	$	4,000.00
Geotechnical Engineer		1	$	2,000.00	$	2,000.00
Arborist		1	$	2,000.00	$	2,000.00
Subtotal					$	792,590.96

3 STATUORY FEES (Ex GST)		Qty		Rate		$
Planning permit		1	$	3,300.00	$	3,300.00
Building Permit		1	$	6,800.00	$	6,800.00
Development Contribution (DCP)						
Croydon North		32	$	1,500.00	$	48,000.00
Ringwood		0	$	4,300.00	$	-
Public Open Space Contribution	*5% Market Value*	5%	$	135,000.00	$	135,000.00
Subdivision Fees		10		$1,286.00	$	12,860.00
Services and Connection Fees		32	$	2,000.00	$	64,000.00
Subtotal					$	269,960.00

4 HOLDING COSTS (Ex GST)	Years	Qty		Rate		$
Land Tax		3		2,975	$	8,925
Council Rates (incl FSL)	2	3		0.00190306	$	10,276.52
Water Rates	2	3	$	2,000.00	$	12,000.00
Insurance	2	3	$	2,000.00	$	12,000.00
Subtotal					$	43,201.52

5 CONSTRUCTION COSTS (Ex GST)	M²/ ITEM		RATE		SUBTOTAL	TOTAL
Demolition	2	$	18,000.00	$	36,000.00	
- External Stair	1	$	8,000	$	8,000	
- Landscaping	1	$	100,000	$	100,000	
						$ 144,000
CONSTRUCTION COST						
Driveway & Carpark	90	$	200	$	18,000	
Basement (Excavation cut)	824	$	1,600	$	1,318,400	
Common/ Service Area	121	$	1,200	$	145,200	
Apartment	1,607	$	2,400	$	3,856,800	
Balcony / Terrace	220	$	1,200	$	264,000	
Lift	1	$	100,000	$	100,000	
Landscaped area	651		*50*	$	32,550.00	
						$ 5,702,400
Core Construction Costs Subtotal:			*$5,846,400*			

	Preliminaries		*2%*			$	116,928	$ 116,928
	Builders Margin	*(Construction Man*	*10%*			$	596,333	$ 596,333
6	**CONTINGENCY**							
	Subtotal Build / Site costs			*$6,559,661*				
	Construction contingency (Up to apart		5%			$	327,983	$ 327,983
7	**INFLATION**		1.50% PA					
	years completion		1			$	98,394.91	
	years completion		2			$	99,870.84	
	total							$ 198,265.75
	Total Build / Site costs							$7,085,909.59

8	**GST**			*$ 7,794,501*				
			10%			*$*	*779,450.05*	
	Total Costs INCL GST							$7,865,359.64

6	**SELLING COSTS**			**Qty**		**Rate**		**$**
	Conveyancing Fees			3	$	22,000.00	$	66,000.00
	Marketing			2.0%	$	316,000.00	$	316,000.00
	Real Estate Fees			2.5%	$	395,000.00	$	395,000.00
	Subtotal						$	777,000.00

7	**FINANCE**			**Qty**		**Rate**		**$**
	Estimated Borrowings					80%		
	Establishment			1	$	40,000.00	$	40,000.00
	Valuation Consultant			1	$	10,000.00	$	10,000.00
	Subtotal						$	50,000.00

8	**INTEREST**	**Years**		**Qty**		**Rate**		**$**
	Interest on Land		2	5.34%	$	115,344.00	$	230,688.00
	Interest on Construction		2	6.50%	$	368,467.30	$	736,934.60
	Subtotal						$	967,622.60

9	**TOTAL COSTS**			**Qty**		**Rate**		**$**
	Subtotal (Items 1-8)						$	12,829,384.67
	Development Contingency		3%			$320,734.62		
	Total Development Costs						$	12,829,384.67

$/m2 maroondah13	**Income per Unit sales**							
	3BR			6	$	800,000	$	4,800,000.00
	2BR			4	$	550,000	$	2,200,000.00
	1BR			22	$	400,000	$	8,800,000.00
	Total units			32				
	Total Income						$	15,800,000.00
	Less GST Remittance on sale		10%			$ 1,580,000.00	$	14,220,000.00
	Add back GST paid on expenses					$ 779,450.05	$	14,999,450.05
1	**Net Development Profit**						$	2,170,065.39
2	**Development Margin (Profit/Risk Margin)**							16.9%

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