



LOW CARBON LIVING
CRC

Beyond White Gum Valley

Knutsford Community and Stakeholder Engagement Report



Authors	David Galloway and Mike Mouritz
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The authors confirm 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

WGV - White Gum Valley

BWGV - Beyond White Gum Valley

LCL - Low Carbon Living

CRC - Cooperation Research Centre

FreAQ - Fremantle Arts Quarter

KSE - Knutsford Street East Structure

AUDRC - Australian Urban Design Research Centre

JBA - Josh Bryne Associates

DCP - Developer Contribution Plan



Executive Summary

This report documents the community engagement process for the Knutsford area as part of the CRC for *Low Carbon Living, Beyond White Gum Valley* (BWGV – RP 3043). Some of the elements of this project also overlapped with the activities of the *RENeW Nexus (Smart Cities)* projects.

The report focuses on an evolution in the consultation and engagement processes underway within the precinct. The initial focus of this process aimed to inform stakeholders of the opportunities associated with redevelopment of the area and how low carbon technologies might be deployed in new developments in the precinct (for example within the East Village sub precinct). These conversations also sought to explore what initiatives stakeholders wanted to see happen within the precinct, such as greening projects. This approach did not significantly engage the community because the community saw low carbon technologies as a “given” that should be delivered in any urban development and these stakeholders were more interested in a much larger story, supported by the City of Fremantle, to create Knutsford as a world class example of sustainable and regenerative urbanism.

The citizens, businesses, landowners and developers involved in this process indicated early on in the process that they would be more likely to become engaged if they were able to participate in a broad vision of creating a significant change in the urban fabric. The aim of articulating a vision about making the area sustainable and resilient, and an ongoing part of the economic fabric of Fremantle was seen as more important than just focusing on conversation about deployment of low carbon technologies.

Experience from other projects has highlighted that more positive engagement outcomes are predicated upon having:

- a significant number of local agents¹ becoming involved in decision making
- real opportunities for collaboration and empowerment, where the effort and input required from the participants
- clear rules of engagement so the parties involved have a clear understanding of the costs and benefits accruing from being engaged

The first step in this process is the development of a group of agents and shared story, or narrative, of what

could be created. This process is well underway at Knutsford, information about this is contained in this report.

This work draws on a parallel LCL report of the 2018 Academic and Industry Workshop² that investigated the technological and infrastructural requirements needed to create a sustainable and resilient urbanism in Knutsford. The conclusion of that work, and supported by this engagement process, was that the business-as-usual approach to urban development was inadequate to deliver a sustainable and resilient urbanism. Consequently, this engagement process undertook two investigations with the community, landowners, developers and City.

First investigation – “What do we need to do to go beyond Business as Usual?”, and “What do we need to do differently for this Vision³ to be realised?”.

Extensive responses were received from the respondents and can be grouped as:

- Meeting the community needs is not just about focusing on delivering a financial return from urban development
- Find ways to promote quality design including enhancing and repurposing the existing warehouses as part of the economic fabric of the area
- Mix up land uses where ever possible and move away from the traditional planning and development model of separation of uses
- Develop new financing and decision making models to supporting investment and coordination of activities over the life and geographic extent of the development of the area

Second investigation - “What are the characteristics of an organisation that would make these changes happen?”, and “What would you / your organisation contribute to make these changes happen?”.

All of the responses pointed towards the need for some precinct wide coordination group / committee and implicitly recognises that, under this group, will be various groups and agencies that deploy the initiatives identified as priorities. Specific features of this group would be:

- A representative organisation or working group made up of authorities, decision makers, property owners, state and local government.

¹ Agents are identified as people and organisations that can produce change; as opposed to stakeholders who have an interest in a place. Change in this context must be seen as covering all aspects of urbanism not just real estate development.

² Companion report titled “Knutsford - Integrating water, energy and built form solutions in an urban regeneration and infill precinct”.

³ In this context the Vision was the statement by the Mayor that Knutsford should be a world class example of sustainable urbanism

- The organisation needed to represent end users, be collaborative and outcomes focused and take a leadership role to move beyond the business as usual model.

There were varying opinions about which organisations should be on this group, including:

- Land owners
- Renters
- State Government stakeholders
- Developers
- Local Government “support” officers or councillors
- Researchers

Ideally, the City of Fremantle would help resource the operation of this group e.g. supporting the leadership, funding the ongoing facilitation and coordination role and supporting ongoing research and feasibility studies. Industry and research funding may also be an ongoing source of resources to deliver specified outcomes.

There was a range of opinions about the role and powers of this management group, including:

- Setting the vision for Knutsford and identifying minimum standards for developments
- Driving the process to build common infrastructure
- Determining what incentives would be available for developers to produce better outcomes.
- Identifying where the Council can bring powers to guide development
- Focusing and facilitating project-long engagement with agents and stakeholders

While there was strong support for community led action, how this group links into the City’s operations still needs to be resolved

1. Introduction

This document reports on the aims and outputs of the community engagement process for the Knutsford area as part of the CRC for *Low Carbon Living, Beyond White Gum Valley* (BWGV – RP 3043). Some of the elements of this project also overlapped with the activities of the *RENeW Nexus (Smart Cities)* projects. These projects had a number of objectives set in their project inception phases, see the table below.

Research Project Objectives

- See how much the community want zero carbon storage
- Identify ways of reducing (energy) demand profile through design and community education
- Improve the scale of take-up of (sustainable infrastructure?) through increased density and easy community governance – through block chain - (of community battery share?)
- Explore opportunities to upscale /share infrastructure
- Use/offer scenario testing to private developers (single lot as well as bigger developers) to demonstrate the benefits of density and diversity in achieving zero carbon outcomes
- Determine appropriate accreditation tools for LCL e.g. Living Building Challenge and/or Eco districts

The first, and to a lesser extent, the second and last of the above objectives were largely orientated towards promoting uptake and refinement of energy and low carbon technologies by the community in the Knutsford area. Responses to the other objectives are discussed in other documentation⁴.

The engagement process discussed in this report seeks to respond only to those aspects of the initial research agenda which relate to the community and stakeholder aspects of the above objectives. Those that relate to developers and technology providers are addressed in other documents.

⁴ Other Beyond WGV reports include:

“Beyond White Gum Valley: Knutsford - Integrating water, energy and built form solutions in an urban regeneration and infill precinct”.

“Knutsford Precinct - Renewable Energy Strategy”

The CRC engagement process started with a number of meetings and presentations to the community about updating the community on initiatives, such as the east village project and related initiatives and aimed to build on a conversation about ‘identity of the precinct’ that had been raised with the City before the advent of the CRC project. These meetings did not greatly engage the community’s attention.

As a generalisation, and based on subsequent discussions with the community, it was apparent that the community’s priority was for preserving and building on precincts emerging creative identity. This was seen as the key to creating an integrated, sustainable and resilient urbanism in the context of the large scale urban development that is planned for the Knutsford area. The community saw the energy initiatives, as described in the above Objectives, as a non-negotiable “given” to be achieved.

As a consequence of this, and as is discussed in [Section 5](#), the engagement process was configured to respond to this community interest. This resulted in the creation of a community driven framework where energy and zero carbon technology, along with a suite of other initiatives can now be embedded into the bigger story about the desired outcomes of the urban regeneration of the area along with the integration of urban sustainability and resilience approaches. There has also been significant interest in the energy and low carbon technology from developer / builder industry stakeholders.

In summary, the findings from this engagement process support the idea that while the energy industry was interested in energy efficiency and low carbon technology, engaging the community, on broader spectrum of sustainability elements would be required to create a sustainable and resilient urbanism.

In response to this the engagement process was - focused on developing a detailed vision of what Knutsford could become. It also began to explore ways to begin to build an engaged civil society group, and identify the characteristics of an organisation that could deliver an urban regeneration approach that included a sustainable and resilient urban form and technology outcomes, included energy efficiency and low carbon thinking.

“Beyond White Gum Valley Precincts Guide: Energy Village”
“East Village – a sustainable urbanism project by LandCorp”

⁵ This finding was supported in the report titled “Beyond White Gum Valley: Knutsford - Integrating water, energy and built form solutions in an urban regeneration and infill precinct”.

This report has a further five sections:

- Knutsford - the place - which outlines the physical and planning context of the area.
- The Partners - which summaries the key actors in this process.
- Engagement - which documents the history and approach to reconfiguring the engagement process.
- Stepping into Collaboration – which documents the steps taken in the transition process.
- Moving towards Empowerment – which outlines the tentative steps taken towards establishing an active and operating civil society group and next steps.

2. Knutsford – The Place

The Knutsford precinct, see Figure 1 below, approximately one kilometre east of the centre of Fremantle, consists of approximately 30 ha of which 20 hectares is re-developable vacant land. This comprises a mix of brownfield sites including old warehouse and industrial uses with operating businesses, existing residential – and some new medium density developments.

Knutsford is nominally bounded by Blinco, Stack, Montreal and Swanbourne Streets, however the interested neighbourhood extends north to High Street. Its cultural, economic and social links make it one of Fremantle’s unique neighbourhoods. From a planning

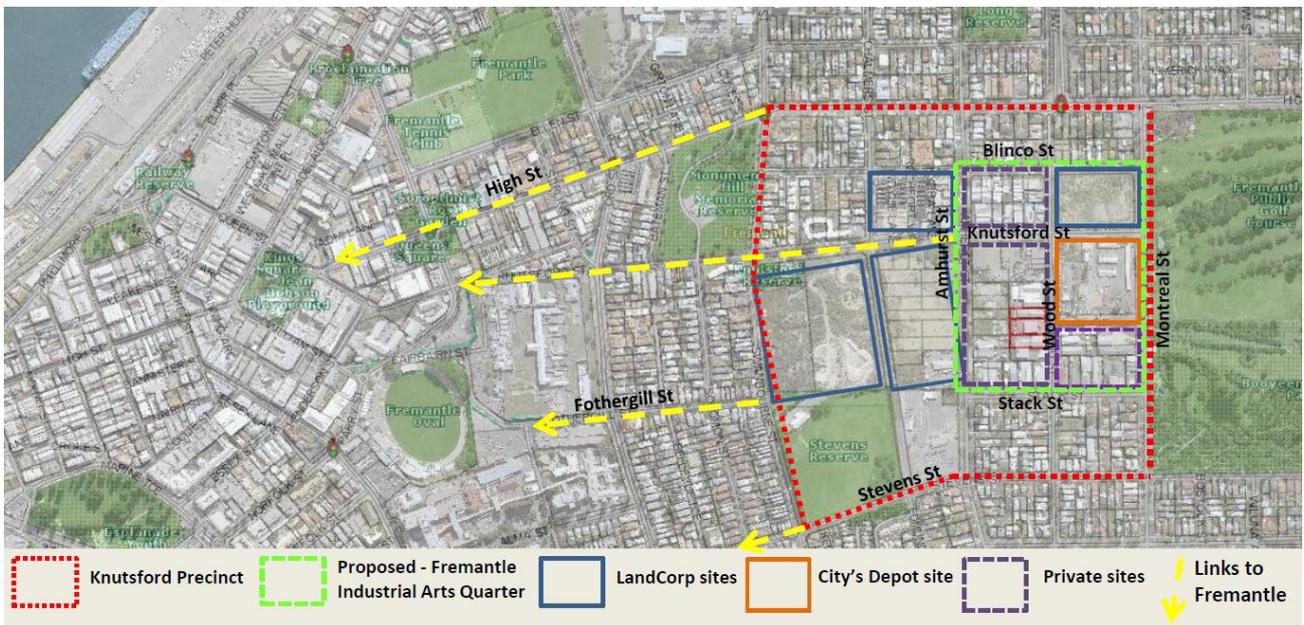
perspective the study area falls within a broader context as depicted by Figure 1 and is covered by two structure plan documents:

- Knutsford Street East - Local Structure Plan - As amended Adopted Sept 2017.
- Swanbourne Street - Local Structure Plan – Sept 2015.

Of the developable land approximately 10ha is controlled by LandCorp, 2.53ha area owned by the City of Fremantle used as its works depot. The remainder is spread across numerous parcels of land held by a variety of landowners.

Knutsford has a unique culture. Local business and residents in the warehouse area have formed a civil society and community development group called Fremantle Arts Quarter (FreAQ) (see [Section 6](#))

Figure 1 The Knutsford Precinct and surrounds



Historically, Knutsford was a warehouse and industrial area but was identified in the late 1990s by the Western Australian Planning Commission for redevelopment. Subsequently the area has been rezoned as a site for mixed use and urban infill to accommodate 950 to 1380 dwellings through the adoption of the two structure plans identified above. These structure plans require developments to implement sustainable planning principles and practices. As well as Structure Planning, other planning and urban design analysis have all highlighted the unique qualities of the area and include the following studies commissioned by LandCorp:

- AUDRC – At Knutsford – Site Analysis - 2015 & Master Plan October - 2016.
- Hames Sharley – Former Museum & City of Fremantle Depot – Preliminary Site and Context Analysis – May 2015; and
- Josh Byrne & Associates - Knutsford Street Precinct Green Spine – October 2017.

A modest amount of redevelopment has been occurring over the past 10 years with approximately 70 town houses and apartments developed as part of Knutsford Stage 1 developed by the Knutsford Joint Venture. During 2018, LandCorp commenced design and approvals of a further 36 townhouses and sites for approximately 56 apartments – referred to as The Museum site in this report – however now referred to as East Village. The townhouses incorporate leading edge integration of sustainable water and energy solutions within a governance framework provided by survey strata. LandCorp's leadership provides examples implementing sustainable energy and water technologies into new developments that can be extended and expanded into the considerable number of new builds and redevelopments that will occur within the precinct.

The existing warehouse area contains a unique design character and a diverse mix of businesses, infill and residential conversions. It houses a strong business start-up culture with activities ranging from video production through to wood recycling. There is a real opportunity to build on this local character and start-up culture to deliver a vibrant economic addition to infill housing outcomes. The City has also been investigating future depot accommodation and development options for its depot site.

Knutsford provides the opportunity to create a sustainable and resilient urbanism as part of the incremental re-development process. The challenge will be to find a way to coordinate and deliver these outcomes across multiple land parcels, different owners and varying times frames.

3. Partners

Context

In the context of the research project there are a number of actors– the City of Fremantle, LandCorp; the residents, business and landowners; other developers and the Researchers.

City of Fremantle

The City of Fremantle prepared and amended the Knutsford Street East Structure Plan (amended Sept 2017) and LandCorp prepared the Swanbourne Street Structure Plan (adopted Sept 2015) which also include guidelines relating to sustainable urban development.

The City facilitated community engagement in the preparation of both the Swanbourne Street and Knutsford Street East Structure (KSE) Plans and amendments, as well as an attempt to set up a developer contributions scheme for the upgrade of mains services in particular sewer to meet future development needs.

These conversations raised a mixture of intent from landowners in the precinct with some anticipating future redevelopment and others wishing to remain with existing uses.

The redevelopment of the Knutsford precinct supports the Council's Strategic Community Plan 2015 to 2025 particularly in the areas of Environmental Responsibility and Places for People. In addition, the Knutsford St East precinct is identified under the City of Fremantle's Urban Renewal imperative.

The City of Fremantle has a strong commitment to the One Planet framework across the City as a whole as well as specifically It's One Planet Fremantle Strategy 2014/15 – 2019/20 highlights redevelopment of the Knutsford depot site as one of the City's top five corporate actions to promote a sustainable and resilient urbanism

In 2018 the Mayor of the City of Fremantle indicated that the Knutsford area should be "a world-class example of sustainable urbanism"⁶ which reflects the suite of broader planning and policy intentions for the area.

Within the City's existing operations there are a number of activities that can, and have, supported this intention including:

- Investigation of joint development concepts for the Museum (now East Village) and Depot site concepts (City of Fremantle and LandCorp).
- Development of OPL development targets for Museum (now East Village) and Depot sites (City of Fremantle and LandCorp).
- Worked on a project commissioned by LandCorp in which AUDRC developed precinct wide sustainability principles and street activation in Knutsford Street.
- The City initiated engagement on the 'branding' and red tape reduction initiatives arising from the KSE Structure Plan amendment process
- Initiation of and Expression of Interest process for the sale of Depot site (City of Fremantle).
- As a general principle, the City encourages and engages with self-run local community group(s) in all areas, including formal precinct groups, to maintain long-term relationships with landowners/ stakeholders and in early meetings with Knutsford community proposed this approach be used to develop these ideas.
- In 2018 the City and LandCorp partnered with Curtin University on the Beyond WGV CRC for Low Carbon Living project.

LandCorp

LandCorp controls approximately 10 ha of developable land in Knutsford. It provided significant financial contributions and implementation of a range of investigations and trials under the CRC for Low Carbon Living and Water Sensitive Cities, as well as for the Renew Nexus – Smart Cities project, which had a big influence on the East Village site within Knutsford).

It has a track record in leading edge sustainable urbanism including:

- Leadership and demonstration of energy, water and built form initiatives in the nearby WGV project at White Gum Valley
- Up-scaling and extending these initiatives into the development of the East Village site (Lot 1819) in Knutsford.
- Commissioning of work by JBA on the streetscape for Knutsford Street with the intention of fostering wider enhancement of the area through streetscape improvements to parts of Knutsford St that front its development areas

⁶ CRC LCL Engagement Workshop Fibonacci Centre, August 2018

Local Community - Residents, land owners and business owners

There are a large number of residents, land and business owners inside and surrounding Knutsford and considerable overlap between these groups. Some landowners are also business owners and developers with a strong commitment to the future of the community. This makes the area already truly mixed use

The opinions of this group are very pertinent in determining the future of Knutsford, however its diversity makes engaging and coordinating community involvement and contribution to a sustainable and resilient urbanism difficult. The implications of this are discussed further in the next Section.

Developers

The developers who have direct and indirect interest in the Knutsford area will, because of their choice of built form and land use, have a major impact on the sustainability objectives and therefore the area's future ⁷.

Some developers have already shown an outstanding commitment to leading edge sustainable development, e.g. the Nightingale project).

Other developers may make project decisions with a more business-as-usual approach based on a 3 – 5 year, market driven, return on investment (ROI) often resulting in low scale residential uses with conventional technologies. These are not generally supportive of creating a sustainable and resilient urbanism⁸.

LandCorp, because of its mandate to demonstrate and innovate, has been able to make a longer term and more visionary commitment to sustainable urbanism than many local developers are may be willing to do.

Because of these issues, demonstration projects and engagement with the developers is a vital link in meeting the objectives for the Knutsford area.

Researchers

The LCL researchers⁹ have undertaken this project within an action research framework.

They have actively participated in discussions, workshops and facilitation with the key actors above. In this context, as is discussed in [Section 4](#), have actively shaped the direction of the engagement processes in response to factors that emerged in the CRC projects and requests from the community.

Importantly the resources provided by the research – essentially the time and involvement of the authors and some funds to contribute holding workshops provided an important opportunity to foster conversations which otherwise would not have happened.

Reflection upon these developments in the light of the theory around consultation and sustainable design have allowed the authors to better utilise the resources allocated to this part of the BWGV project, and shape the direction of the ongoing urban regeneration efforts at Knutsford.

⁷ Based on the assumption that building is likely to have a fifty-year life before significant redevelopment occurs.

⁸ See footnote 2

⁹ The authors of this report and others involved in related research activities within the precinct.

4. Engagement

From Consultation to Engagement

As described above, over the course of many years the City facilitated community engagement in the preparation of both the Swanbourne Street and Knutsford Street East Structure (KSE) Plans and amendments. It also attempted to set up a developer contributions scheme for infrastructure to meet future development needs.

These conversations raised a mixture of intent from landowners in the precinct with some anticipating future redevelopment and others wishing to remain with existing uses. The idea of developing a precinct identity first emerged from these conversations.

During the early stages of the CRC engagement process a number of meetings were held and the community invited to attend, hear reports about activities and proposals for the Knutsford area. While the intention of the City of Fremantle, the researchers, LandCorp and its consultants was to give the community information and invite input to issues, such as renewable energy, greening the streets etc. this message did not appear to be well understood by the community or the developers that were present at the meetings. As a result at one of these meetings, in August 2018, a number of community members asked, - “why are we here” and “what do you want from us?”

During follow up discussions with these people it became apparent that they had a good understanding of what would constitute a sustainable and resilient urbanism, but perceived that the axis of power to deliver this sat between local government, developers e.g. LandCorp, and their consultants. A number of reasons for this were identified, including that the local community:

- Did not understand the implication of planning processes and time frames and often only started thinking about the implications of development once construction had commenced.
- Landowners had given a mixed response, including some opposition, to a previous attempt by the City to set up a collaborative developer contribution scheme to fund the upgrade of mains sewer to meet future development needs. This mixed response made it more difficult for the City to create similar initiatives
- Had the perception that there was little, or no, tangible change as consequence of their input into previous planning / consultation processes
- Had a very high expectation of what structure plans, planning schemes and local government was able to deliver, particularly in the areas of

social, cultural, environmental and economic enhancement.

- Tended to only identify “community” as an aggregation of individuals rather than having a collective, local identity
- Did not consider that it was possible for communities, collectively, to create and curate their own destiny.
- Had been reluctant to take responsibility for their own future, preferring to sit in a client – patron relationship with local government. Similarly, they did not consider it appropriate to interact with the development process except in extreme cases where “Stop The....” protests emerged, such as opposition to the Roe 8 highway extension
- Despite having a well-developed, intuitive understanding of the number of factors that would have to line up before any specific sustainability initiative could be rolled out, they had little concept of how this could occur or what this would entail.
- Could see few examples of, and even less local community experience with, the development of a sustainable and resilient urbanism that includes both new builds and retrofits of existing urban areas. Consequently, this was perceived as being highly desirable but probably too hard to do in reality.

Business as Usual urban planning and development processes are based around providing an orderly allocation of land, guidelines for build form and, as a generalisation, segregated land uses. These processes are governed through Structure Plans and other similar planning documentation. Both the development industry and regulatory agencies, such as local government, have the operating assumption that that once a planning process is in place it will unfold in an orderly manner.

These planning processes can and do incentivise the creation of sustainable developments however, these incentives are often shaped by the perceived capacity, and willingness, of the development industry to adopt such changes rather than reflect the community’s aspirations for a regenerative and sustainable urbanism. Similarly, while developers can be sympathetic to community values and aspirations and incorporate these into their developments there is no legal requirement for them to do so.

As a consequence, and as has been discussed extensively in the Report on the Academic and Industry Workshop, the Business as Usual development process is not adequate to deliver a sustainable and resilient urbanism.

To do these strong mature relationships between businesses, citizens, landowners and developers; quality demonstration projects, and engagement with innovative developers are vital to articulating and meeting the sustainable and resilient urbanism objectives for the Knutsford area.

These responses need to be more flexible and agile than are currently available but also have to be able to mesh with the existing planning system.

Discussions with members of the community, some landowners and developers highlighted a sophisticated appreciation of the need for such a strategic long term and integrated approach that had been documented in the various character studies previously prepared for the precinct¹⁰. This appreciation was also backed by many different individuals who were implementing sustainability initiatives in their own lives and businesses.

Challenges and Opportunities

There are also a number of inherent and unique opportunities and challenges in Knutsford that need to be considered:

Opportunities

- The City of Fremantle has a strong commitment to the One Planet Living framework.
- There is a strong creative community including local developers ready and willing to innovate, such as the Nightingale project¹¹.
- A precinct scale approach to resilient and sustainable urbanism initiatives such as - energy, transport, water, enterprise creation, community and cultural development is seen as the most economically efficient and socially powerful, rather than an associated with one specific development.
- With appropriate reconfiguration the One Planet Living framework can be used to facilitate trade-offs and collaborations at a precinct scale such that the overall sustainability and resilience benefits are increased while allowing flexibility and trade-offs to potentially reduced compliance costs for individual developments.
- Industrial and commercial uses of the warehouse area provide a unique opportunity to engage and create innovative economic engines to drive business and work opportunities and there-by avoid turning Knutsford into a dormitory suburb
- Knutsford is a multi-land owner development. The existing planning frameworks have a degree of flexibility and incentivise increased density and sustainability.
- The delivery of infrastructure in Western Australia, is generally limited to a few major providers (energy, water and transport) which often have both a regulatory and service provision role within the same organisation. An opportunity exists to create citizen based or other smaller utilities which can be more innovative.

- Additional opportunities are emerging from significant policy changes by large scale infrastructure providers which may open the way for a more flexible and innovative approach to provision of utilities.
- To date most of the sustainability and resilience projects have been associated with new builds and single building / single “owner/developer” developments. Mixing new builds and retrofitting across multiple land owners is new territory. The opportunity is to engage multiple and different stakeholders and develop cross boundary, collaborative projects that build resilient and sustainable cities.
- Alternative funding and administration models for more sustainable infrastructure solutions could be explored.

Challenges

- Many of the actions required to deliver improved sustainability relate to individual behaviour, community will, utility business models but these factors fall outside statutory planning frameworks.
- Invariably developments proceed at different rates and there are difficulties associated with organising the trade-offs and collaborations that produce resilient outcomes over different time frames.

Developer financial input into sustainability projects can be greatly reduced by amortised the costs across a number of development projects in a locality. For conventional infrastructure (roads, drainage etc.) associated with urban development these are referred to as developer contributions, however to support the creation of a sustainable urbanism requires significantly increased sophistication of both the administration and financing models, that will support development across numerous projects in one precinct and allow these developments to occur over different timeframes.

¹⁰ For example the reports by AUDRC – At Knutsford – Site Analysis - 2015 & Master Plan October - 2016.

¹¹ The Nightingale project is located on the Corner of Blinco and Wood St and is adopting the same model as the documented at <https://nightingalehousing.org/model>

Reconfiguration

As the engagement process unfolded and particularly in response to the community’s request for a focus on a sustainable and resilient urbanism, (and by drawing on

insights from the Academic and Industry report), the engagement process shifted from an approach which mixes “Inform” “Consult” and Collaborate on the IAP2 spectrum, (see Figure 2) to one which was closer to the “Collaborate” and “Empower” end of the spectrum.

Figure 2 IAP’S Public Participation Spectrum

IAP2’S PUBLIC PARTICIPATION SPECTRUM



The IAP2 Federation has developed the Spectrum to help groups define the public’s role in any public participation process. The IAP2 Spectrum is quickly becoming an international standard.

		INCREASING IMPACT ON THE DECISION 				
		INFORM	CONSULT	INVOLVE	COLLABORATE	EMPOWER
PUBLIC PARTICIPATION GOAL		To provide the public with balanced and objective information to assist them in understanding the problem, alternatives, opportunities and/or solutions.	To obtain public feedback on analysis, alternatives and/or decisions.	To work directly with the public throughout the process to ensure that public concerns and aspirations are consistently understood and considered.	To partner with the public in each aspect of the decision including the development of alternatives and the identification of the preferred solution.	To place final decision making in the hands of the public.
	PROMISE TO THE PUBLIC	We will keep you informed.	We will keep you informed, listen to and acknowledge concerns and aspirations, and provide feedback on how public input influenced the decision.	We will work with you to ensure that your concerns and aspirations are directly reflected in the alternatives developed and provide feedback on how public input influenced the decision.	We will look to you for advice and innovation in formulating solutions and incorporate your advice and recommendations into the decisions to the maximum extent possible.	We will implement what you decide.

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As the discussion moves into the arena of how to empower communities, research¹² and practice has identified that there are certain characteristics needed in organisations and projects to produce a sustainable and resilient urbanism. These are listed below:

Recognise Uniqueness – each location has a unique mix of environment, built form, economic and social culture. Create a sustainable urbanism and deciding which technologies to deploy requires bespoke solutions.

Engage Agents and Stakeholders – change in any location is driven by agents (those people who can produce change) and stakeholders (those with an interest in a particular area). Having both of these involved requires balancing openness to ideas, often generated by stakeholders; and the attention to detail and the capacity to deliver, provided by agents.

Accept Complexity – Experience from other projects (and at Knutsford) has shown that with a single manager/owner of a new build brown/greenfield project, (such as LandCorp's development of the East Village site), it is possible to incorporate a number of sustainability initiatives into the built form.

In locations with multiple landowners that have differing values, creating a sustainable and resilient urbanism is multifaceted and complex. It requires an approach which challenges normal planning and development models. An alternative backbone or armature is needed to give substance to the evolution of the locality.

Narrative – This backbone or armature can be created through a highly detailed narrative which describes the (desired) character and identity of the place. The narrative (identity or brand) is developed, owned and evolved by the agents and stakeholders in a particular location. It describes the place, people and culture; and articulates where the people want to evolve their place and what they want to create. Narrative is a design-based function that is

about creating an envisioned future. It and is significantly different and goes well beyond the normal a planning process which is more about meeting agreed goals with available resources. Narrative also embodies a structure of values against which actions can be evaluated and outcomes measured.

Forum – A working space is needed where agents and stakeholders can develop the narrative, identify where actions are needed based on this narrative, and develop partnerships and alliances to deliver these actions.

Curation and Brokerage – to be effective this process of the creation of the future needs to move beyond agreement about aspirational statements. It has to move into real decisions about economic, cultural and ecological character, values and transactions that create and embody the intention of the narrative.

Rules of Engagement - the curation and brokerage activities of the people in the forum need clear rules of engagement with benefits and responsibilities attached to this engagement. As each circumstance is different these rules of engagement will vary.

The above is new territory for decision-making around sustainable urban development. and, as has been identified previously, the Business as Usual development approaches are inadequate to deliver these requirements. New organisational structures, are needed. Based on this Curtin University worked with the community, local developers and the City to establish new organisational structures including a civil society group a civil society group in Knutsford.

¹² Galloway, D. (2014) "Design and Sustainability – The case and practice for a sustainability design", PhD Thesis, Curtin University, <http://hdl.handle.net/20.500.11937/2553>
Clark A. Miller, Jason O'Leary, Elisabeth Graffy, Ellen B. Stechel, Gary Dirks "Narrative futures and the governance of energy transitions" *Futures* Volume 70, June 2015, Pages 65-77 <https://doi.org/10.1016/j.futures.2014.12.001>

Michael Buser (2013) "Tracing the Democratic Narrative: Big Society, Localism and Civic Engagement", *Local Government Studies*, 39:1, 3-21, DOI: 10.1080/03003930.2012.693077
Bruce Evan Goldstein, Anne Taufen Wessells, Raul Lejano, William Butler (2015) "Narrating Resilience: Transforming Urban Systems Through Collaborative Storytelling", *Urban Studies*, Volume: 52 issue: 7, page(s): 1285-1303 <https://doi.org/10.1177/0042098013505653>

5. Stepping into Collaboration

The work in this engagement process was able to build upon the lengthy history of consultation undertaken, as is referred to above, during the preparation of structure plans and various development applications. In a move towards building a more collaborative context between the City and the community, joint agreed goals and collaborative projects that both parties could implement were identified. A workshop, open to all people associated with the Knutsford area, was held in the Fibonacci Centre in 21 September 2018.

Collaboration Workshop September 2018

The workshop attracted approximately 55 people.

The context for the deliberations at the workshop was summarised by the Mayor, who stated the City's aspiration that Knutsford would be a "world class example of sustainable urbanism."

From this workshop five projects emerged. The first two were collaborative projects between the City and the community on which the City could deliver immediately, the other three were projects between the community, landowners, developers and/or the University.

Collaboration Projects with the City

STREET SCAPING AND ACTIVATION- LandCorp had previously presented the community with a concept for a greening corridor for Knutsford Street. The City proposed that it would like to work with the local community to:

- Develop consistent principles for landscaping and activation of all streets in the precinct, including the selection and placement of trees, types of planting, position of paths, layout of parking, type of lighting, cost of implementation and maintenance.
- Look at ways to enable and implement street scaping and activation on other parts of the street scape and who might be responsible.

The community identified two members to work with the City on these issues. In parallel with this the community initiated short-term guerrilla gardening projects to bring immediate change to some of the areas of the precinct.

REMOVING RED TAPE AND BRANDING - The City had agreed to help facilitate the community in developing a local identity/ branding initiative that picks up the creative, quirky nature of the area. In addition, at the request of the citizens the City began reviewing the

red tape that might currently hinder activities which reveal the character of the area.

Community and Other's Projects

The community developed three initiatives described below.

RENEWABLE ENERGY - Based on the work by LandCorp, CUSP and the CRC for Low Carbon Living it is considered technically feasible to roll out innovative renewable energy across Knutsford. The University and energy/technology providers are working with people in Knutsford and intends to link the various land owners with the right companies and regulators in order to make this happen.

ENGAGEMENT WITH DESIGN AND PLANNING – The citizens wanted to take a positive role in shaping the future of the area so its unique characteristics are preserved and carried into the future developments around the warehouses. A group of people formed to facilitate discussion and coordinate feedback planning and design proposals for the area and present these ideas to the City, LandCorp and other developers.

BUILDING COMMUNITY COHESION The citizens formed a group¹³ to get to know each other and from this build a community identity, this is discussed in the next section.

¹³ called the Fremantle Arts Quarter (FreAQ) – see Appendix 1

6. Moving towards Empowerment

Establishing a Civil Society Group

Following on from the September 2018 meeting the authors worked with community representatives to create a civil society group consisting of residents, landowners, business people and developers. Over the next six months this group met formally and informally many times. Their activities included:

- Organising get-togethers, art shows and other cultural events.
- Writing a manifesto to define what it sees as important¹⁴ for the future of Knutsford.
- Translating this manifesto into a video which described the potential future that could be developed in Knutsford.
- Investigating linking into the Town Team Movement.
- Organising a workshop, in association with the City of Fremantle, to consider the future form and operation of a group that could support and guide the development of the vision of a sustainable and resilient urbanism for Knutsford. This is discussed in the section below.

Key insights from this group were that

- There is an extremely diverse and strong set of start-ups and thriving businesses in the area.
- These could be expanded to be a hub of a new-economy industries for the Fremantle area.
- Many of these industries were associated with the arts.
- The mixture of industrial, residential and commercial activities in the context of the existing built form created a unique culture and community.
- There was sufficient passion and interest in the group to help drive towards the Mayor's vision

Based on this the group gave itself the name of FreAQ – Fremantle Arts Quarter.

Community, Landowners and Developer's Workshop

As has been discussed earlier, new arrangements are needed between developers, citizens, business and local governments to deliver sustainable and resilient urbanism and innovative business. A workshop to investigate this was held on 11 February 2019 at the Stackwood venue in Knutsford. It was attended by approximately fifty five people with representatives from

the community, landowners, developers, academics, and City staff and Councillors. The process was designed and facilitated by a team from City of Fremantle, LandCorp and the authors.

Entitled 'A Sustainable Future of Knutsford' the workshop's purpose was, firstly, for the attendees to learn about the work that was already being done in Knutsford. Secondly, to begin to flesh out the details of the Mayor's aspiration of creating a "world class example of sustainable urbanism" and finally, to develop the characteristics of an organisation or organisations that could be used to support this Vision.

Input from the various CRC research projects, from the City of Fremantle and explanations from developers about what they were doing in Knutsford was provided during the first part of the workshop. After the initial input the workshop participants investigated two key areas:

First investigation – *"What do we need to do to go beyond Business as Usual?"*, and *"What do we need to do differently for this Vision to be realised?"*.

Second investigation - *"What are the characteristics of an organisation that would make these changes happen?"*, and *"What would you / your organisation contribute to make these changes happen?"*.

First Investigation - What Do We Need to Do Differently?

The responses from the workshop have been grouped into thematic areas

Meet community needs

- Be realistic about what our community actually needs rather than cleaning it up.
- Recognise that it's the people that are here now who make the place what it is. Many of these people cannot afford, or have no desire to live in, the high end apartments that are being developed. Many people [who are living here] are asking – why is the development occurring (generally it's about profit); where do I go if development occurs? or how do I stay?
- How to accommodate current business operators.
- Have a place that is diverse where you can live and work.

Quality design

- Quality design that is sympathetic to the area at a high sustainability standard.

¹⁴ see Appendix 1 Manifesto

- Creation of a set of design guidelines that relate to the existing precinct.
- Incentivise design excellence through yield.
- Open design competitions on every site.
- No pastiche! No fake warehouses. No public art referencing warehouses.
- No dog boxes.
- Set the triple bottom line standard (financial, ecological, social sustainability) – holistic approach in built form. Find developers with same ethos that are guided by these standards and not purely by profit.
- Mix and style to be more local. Solution – Visual Mix Guidelines, part of process and allow mix e.g. palette of materials, difference in façade (not expensive).
- How to preserve old sheds – prevent demolition / encourage them to stay.
- Education of public in benefits of sustainability to get the ‘buy in’ for more expensive builds – marketing / visualisation.
- Include themes of the land’s past use.
- Allow tiny homes

Mixing up uses

- Industrial and residential together – keep mixed.
- Don’t accept demolition and rebuild – perhaps keep the warehouses. Retain warehouse typology.
- Leave flexible, large, dirty spaces that have multiple uses.
- Develop performance criteria for uses so that activities are safe and don’t cause nuisance, rather than focusing in allowable/non-permissible uses in the planning schemes.
- Infrastructure
- Support precinct wide sustainability initiatives e.g. energy, water and precinct wide performance criteria.
- Consider the services first.
- Work with Western Power to get rid of substation and create energy hub.
- Why no footpaths? Why no proper street lighting? Landscaped verges? Slow the roads – but not with street parking. Cycling?
- Narrow streets. Similar to South Terrace.
- Develop grey water reuse on green spaces.
- Seek opportunities to be pioneers in biotech, innovative, and sustainable villages
- Roof gardens.
- Use rain water for drinking
- Use composting toilets

New financing models

- Create an affordable “half-built” house typology in part of the area that allows for finalising by the residents as they have the resources. This

would also extend the bespoke character of the warehouses

- Extend the scope of use of developer contributions to include things such as local government and/or community owned studio space and affordable housing. Putting developer contributions into a community investment fund to support local artists, art installations, community gardens, event funding etc. As a follow, up to this workshop a group of local developers prepared a concept, see [Appendix 3](#), elaborating on an extended developer contribution model.
- Links to Nightingale
- Talk to banks about accessible and flexible lending models for innovative housing.
- Change the motive, find people who want to make less money and want to make a difference.
- Support cooperative and affordable housing to access the land in an equitable way.

New decision making models

- This needs to be driven by a big vision
- Set up Knutsford as a world class One Planet Living test/research village.
- Change the R Codes. These are a blunt, planning instrument that don’t lead to good outcomes. Will Design WA improve things? Yet to see.
- Use Design WA, City of Fremantle Amendment no. 63 - diverse housing
- Develop a willingness to take a holistic approach to development – not just disconnected stages. Realise that all actions impact on other parts of the precinct.
- We need an organisation that is willing to set higher standards for developers and property investors to maintain the vision of what this place is about.
- Change JDAP’s to include more design e.g. Design Review Panel.

Second Investigation - How Do We Make These Changes Happen?

All of the responses pointed towards the need for some precinct wide coordination group / committee and implicitly recognises, that under this group, will be various groups and agencies that deploy the initiatives identified by this group. This section breaks down the desired characteristics of this group.

Membership

Specific features of this group would be:

- Representative organisation or working group empowered to make change with authorities, decision makers, property owners, state and local government.
- The organisation needed to represent end users, be collaborative and outcomes focused.

There was varying opinion about who should be on this group, one suggestion was representation from:

- Convenor – a local person
- Owners
- Renters
- State Government stakeholders
- Developers
- Local Government “support” officers or councillors
- Researchers

Another suggestion was that the group should be made up of:

- Community residents 25%
- City/ Council 25%
- Business 25%
- Landowners 25%

Competent and confident leadership in the group was considered as important. The Fremantle Arts Quarter group has a strong potential to be the basis of this future group.

Resourcing

- The City of Fremantle needs to adequately resource the operation of this group e.g. paying the leadership, research and feasibility studies.

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Role and Powers

There was a range of opinions expressed about the powers and role of this group, including:

- Setting the vision for Knutsford and identifying minimum standards for developments

- Driving the process to build common infrastructure e.g. building the construction of the green spines, bringing in street lighting and paving, improving the roads, organising the removal of the Western Power switch yard and the creation of an energy and water hub.
- Determining what incentives would be available for developers to produce better outcomes.
- Identifying where the Council can bring powers to guide development e.g. concessions, rates, roles, restrictions.
- Focusing and facilitating project-long engagement, not just consultation, for all stakeholders, not just those who have decision making power

While there was strong support for community led action, there was uncertainty as to whether this group would operate as one of the City's precinct groups or whether the mandate for this group needed to be more comprehensive and it would need more powers than would be available under the City's precinct group structure. This will have to be resolved by the City in consultation with those interested in the future of the Knutsford area.

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APPENDIX 1 – Manifesto

Fremantle Arts Quarter (FreAQ) - Manifesto

Peel away the layers of Freo - the Dock, The West End, The Capuccino Strip, renovated heritage houses; and go in-land about a kilometre. Here you will find the essence of Fremantle – the Fremantle Arts Quarter. Ten years ago it was thirty hectares of huge vacant weedy blocks and semi derelict workshops and factories

Now it's full of vibrant life erupting from the previous industrial wasteland. Once derelict warehouses have been colonised by Freo artisans and artists are now lovingly adorned with graffiti. Vibrant new businesses are being incubated and reclusive celebrities are hiding in their renovated warehouses. The area is taking on a BoHo air of super chic, for the crew who won't settle for the mundane and the ordinary.

The unique mix of dereliction and open spaces, creative businesses and industry, makes for a very stimulating and unique environment. Throw in a late night walk, where you may meet a fox, casually walking down the other side of the street with a twitching chicken, dangling from its gob - it could be the start of an Australian gothic horror-comedy film, with the soundtrack provided by a garage DJ honing their skills.

And there are new buildings as well, people are living in the Michael Petroni designed apartment development on Blinco St, adding 300 new Freo people to the precinct, injecting more life and vibrancy into the area.

The time is ripe for the Precinct, and we shouldn't set the bar too low. Diversity is its' strength. We want the place to be full of natural and creative places for people to come and do wondrous stuff.

It's about place...

The geography describes the community. The land goes up and down – High St, Monument Hill, Edge of White Gum Valley (Stack St) and the Golf Course. Our core is Wood St, Blinco St, Stack St and Amhurst St to Montreal St. It goes from the Fib to the Nest. The warehouses set the style, feel and culture.

It's about people...

It's about the people who live here. This place is a family and everyone is welcome. It's rough, uncoordinated, young and not so young, alternative and conservative; green, pink and purple, bearded and shaven, stilettos to barefoot, boardies to braces, fur coats to bikinis, passionate and idealistic. The doors are open to everyone.

It's got a good ratio of fun-to-work. Newcomers are welcome to join in the fun! But please don't make us change too much, what we have here is valuable and worth celebrating. We aren't sanitised – we're energised.

And we want to continue to attract a broad range of people to live in and contribute to the area, so the new developments have to provide a diverse and unique range of housing options.

It's about start-ups and enterprise...

For the last 20 years this place is about start-ups and social enterprises. Drilling down into what is happening here you will see all the characteristics of a start-up culture – innovation, venture capitalism, colourful characters, mentoring, team creation, fast prototyping, networking, marketing, optimism and a certain amount of BS and hyperbole.

And this is what you will find here when you lift up the lid:

- World class video production houses
- Wood recycling
- Heritage boat restoration
- Events creation and management
- Industrial arts production
- Art gallery
- Architectural practices
- Music school
- Shared workspaces
- Software developers
- Innovative building product development
- Candle makers
- Scaffolding suppliers
- events,
- art exhibitions,
- fashion shows,
- fundraisers,
- movie nights,
- weddings,

- youth music gigs,
- Kiritan
- custom car building
- yoga,
- dance and hoola hoop classes
- product launches
- visiting artists talks
- education
- art classes
- nutrition,
- orchestral performance,
- alternative energy suppliers

So, while the place is cool and groovy it's actually producing a lot of jobs.

Ok so here is the thing...

There seems to be a major cognitive dissidence occurring - the smart guys in the IPCC say that we have twelve years to do an all-out, WWII type of effort, to get on top of the climate change game. Otherwise the issues that anybody under thirty will have to deal with during their life-time cannot even be imagined

At the same time...

The current planning system is delivering nice, market ready, roll out apartments with the minimum of fuss and effort, and that meet the needs of the wealthy that can afford to live there.

And we collectively could be doing so much more.... What we want...

We need to build a liveable city and we have the time to work this out. In the future if you were in a satellite looking down you would see green, you would see bush and gardens. Underneath it, looking horizontally, you would see the best that a city can be. We want to save our own water, produce our own power and grow our own food.

We need to focus on sustainable and resilient development, and one that encourages food growing, reintroduction of native vegetation and wildlife.

The space would be about working, living, making, selling, celebrating, creating, inspiring and educating. It should be a place where you want to work, stay and play because everything is there. You would not be reliant on a car people can walk through this place, but there is easy access to the external world.

While its ok to talk about renewable energy and new apartment developments creating a sustainable and resilient city needs real work on creating meaningful jobs and real community. Its not a case of only doing one sustainable thing at a time, we have to do them all at once.

We need to flip from the single focus development model to create a city that is larger and bigger than all of us. We want a place where people can live free and colourful lives.

We don't want 50-shades-of-beige town houses, we want to fight against the boredom, banality and conformity of the existing examples of urban development.

We have to take everything that has worked in other parts of the world to create a sustainable and resilient urbanism - and to go harder.

So, getting specific...

The existing warehouses are the core of what this place is about. These need to be strengthened and enhanced. The style of the built form has to maintain and support the culture. It has to be about the regeneration and enhancement of the warehouses and extending the warehouse model into the surrounding development areas.

The whole place could be opened up to become a maze of alleys, roads and connectors, linking amazing spaces and businesses. Most of the world has created amazing walkable spaces without the interventions of the traffic engineers – we could do this here.

We need a broad mix of housing types, not just apartment enclaves for the people that can afford to live there. The current new apartment developments business model focuses on a developer driven, mid-high end town house model, because that works economically. But we suspect that there is an alternative sweet spot that matches funding model (baugrupen, nightingale, cooperative) with partial build / DIY, low budget, vertical up, lower flexible workspace, modular built form. We think that this will give the same profit margin and ROI but in a different way. Some of our

local architects are exploring this already. We need much more work in this area.

In the new areas it could be like Barcelona – up to six stories with canyon-like alleys between them, too narrow for more than one car. The high rise should have:

- Green walls
- Lots of balconies where people talk to each other across the dividing alley
- All the inhabitants' needs met in the building
- Designed and built for a community not just sleeping boxes for commuters

There are a number of places on the planet where people work around the rules because they are creating something amazing, people want to visit these types of places – and the Fremantle Arts Quarter is one of those places.

And as a coda... Why are the warehouses here?

In the 1950's the transport planners dreamt of a network of roads to carry cars and freight around Perth and to Fremantle. And they pursued this dream of effortless movement of vehicles relentlessly for the next seventy years. The sad thing is that it has bugged up the City for humans. Now we make excuses for the times when humans dare to go where the transport planners think that cars should be.

Part of this dystopian transport vision was the Roe Highway linking Fremantle to the airport and beyond. And Roe (Stage 8) was part of that. It was going to run through this area and so the warehouses had little if any value, and this made them very attractive to the creatives of Fremantle.

The onset of Fremantle's gentrification meant that the creatives and small business start-ups that used to operate in the middle of Fremantle could no longer afford to be there. So slowly they moved to the warehouses creating an organic start-up culture.

Having cheap rents and lots of space meant that they were able to develop their enterprises and have spare time to develop arts and cultural practice. Now this area is the physical hub of Fremantle's innovation culture. Not everything about Roe 8 was bad.

APPENDIX 2– Summary of Activities – February Workshop

Summary Activities - A Sustainable Future of Knutsford' - Developers, Landowners and Residents workshop 11 February 2019¹⁵.

Promotion

Eventbrite websites, in the newspaper and on social media. The My Say Freo page was visited 280 times prior to the workshop and over 160 landowners and occupiers in the boundary area received an invitation by mail.

The workshop was attended by 55 people, a mix of community members, businesses, Curtin University, University of Western Australia, LandCorp and City of Fremantle staff and elected members.

The workshop was facilitated by David Galloway with presentations by:

- Brad Pettitt, Mayor City of Fremantle.
- Rich Humphreys, Fremantle Industrial Arts Quarter / Nexus Point Pictures.
- Robby Lang, Fremantle Industrial Arts Quarter / Fibonacci Centre.
- Louise Ainsworth, Senior Strategic Projects Officer City of Fremantle.
- Mike Mouritz, Senior Research Fellow CUSP Institute Curtin University.
- Geoffrey London, Professor of Architecture University of Western Australia.

Working Sessions

In two working sessions attendees worked on key questions in groups:

- Session 1- What do we need to do to go beyond Business as Usual? What do we need to do differently for this vision to be realised?
- Session 2- What are the characteristics of an organisation that would make these changes happen? What would you / your organisation contribute to make these changes happen?

Key points to note from City of Fremantle related to these conversations

- The City of Fremantle reviewed the Precinct Policy in early 2018 and the idea of forming a dedicated precinct group for this area was discussed with the group but at the time there was no interest in this.
- In the follow up to the workshop the summary above was shared with all participants and they were invited to share ideas and suggestions on the precinct group to get a sense of willingness to explore this, none were put forward at that time.

¹⁵ City of Fremantle "A Sustainable Future for Knutsford Workshop Report" February 2019

APPENDIX 3 Investigation of Investment Models

Coming out of this workshop local developers¹⁶ identified two potential development models, and expanded Developer Contribution Plan (DCP) and Collaborative Investment Models. These are discussed below.

Expanded Developer Contribution Plan

Given its fragmented ownership the precinct may benefit in revisiting the approach to a form of a DCP to deliver infrastructure in an equitable manner. The approach outlined here would need to be reviewed further and adapted to meet the opportunities presented by the innovative sustainable technologies – for water and energy identified in the Academic and Industry Report.

DCP's are traditionally established through a clear understanding of the following key inputs:

- Planning Framework
- Land Use Development Data and Unit of Charge
- Infrastructure Works List
- Cost Apportionment Methods
- Operational Matters

The challenge in this context is to expand beyond the traditional matters included in the DCP to include the actions described above that will produce as sustainable urbanism including building of the civil society, strengthening local economy, brokering long term local energy and water infrastructure, supporting the creation of food production and other sustainability initiatives.

Planning Framework

A key input for any new DCP is the planning framework to establish the DCP area.

Land Use Development Data and Unit of Charge

The type of development expected in the DCP area and within its sub-areas (i.e. precincts or cells) is the demand side for infrastructure. Infrastructure costs are apportioned over defined land areas and development types and as such robust development data is essential for fair cost apportionment.

Development types can be classified as residential, retail, commercial and industrial (and if necessary subsets of these categories). Different development types

can place a differential demand loading on infrastructure based on their type and location.

As has been noted above the types of development and the identified infrastructure needs considerable broadening that that which is associated with Business as Usual development, if a sustainable urbanism is to be created.

Potentially this process could be extended to become a "bank" for future development projects to allow trade-offs and smooth the costs on each development to produce a sustainable urbanism.

Development data can be expressed in terms of:

1. Land area – gross area and net developable area (by main land use type); and
2. Development units – lots / dwellings and floor space for non-residential uses.

Infrastructure Works List

The cost side of any DCP is the list of infrastructure projects (civil, landscape and community) that is included and the specification and cost of the infrastructure. For projects that are appropriate for the DCP (needs / nexus principle in SPP3.6), there is a need to test whether the items should be apportioned to the whole area or some parts of it. There would need to be a comparison between traditional and alternative sustainable infrastructure solutions.

Cost Apportionment Methods

There are a number of options with cost apportionment. The simplest model apportions total costs to total area to provide a simple but potentially crude approach to cost sharing. A more detailed method is to apportion costs of each infrastructure project to selected catchment areas separately, and consider differential demand loadings generated by different land use types. This produces a fairer way of apportioning costs but requires more data and arguably more complexity. It aligns with the sequential approach to selecting development sites.

Furthermore, it is possible to undertake calculations using present value discounting to consider time value of money, in terms of when funds are expected to be collected versus when they are expected to be spent. This is a refined approach to calculations and can be used where timing of development and timing of works delivery can be estimated with a degree of

¹⁶ Including Mr. T. Cokis (Woodsome Management Pty Ltd), Mr. D. Fini (Fini Sustainability),

certainty. Under this approach, charges are adjusted up if an authority builds infrastructure early and development occurs over a longer period of time. Alternatively, charges can be adjusted down where development generally occurs earlier than works delivery.

DCP Operational Matters

It is important that any new DCP has a clear operational and administrative framework regarding:

- Delivery of infrastructure;
- Collection of contributions;
- Credits and reimbursement approach;
- Works in kind;
- Indexation and timing; and
- Monitoring and review.

An alternative approach could also be tested. The alternative approach would essentially work backwards to establish, in the first instance, what quantum of a charge / levy could be sustained through an assessment of development feasibilities for a number of sites within the precinct.

This would measure the impact of a charge / levy on the commercial viability of the overall precinct. If it the outcome is that a charge / levy could be sustained and

not substantially impact the overall development feasibility then this could be quantified as a total infrastructure works budget. The type of analysis is very similar to a residual land calculation feasibility (discounted cash flow) which is often the modelling tool used to determine the value of land.

There may also be the case for the use of more sophisticated tracking tools based on block chain technology to track and balance the many disparate requirements of this expanded use of the DCP.

Collaborative Investment Models

Other developers investigated the need to provide housing that is fit for purpose, reflects the character of Knutsford, and is affordable for the people who want to live in the area.

Two approaches were taken, firstly investigation of collaborative investment models. The Nightingale Model¹⁷ which has already been used to develop one project in Knutsford, other options include cooperative housing, co-housing, resident developed housing. These models are well developed internationally particularly in UK and Europe, and when linked to the type of civil society group described above could provide affordable housing for the area¹⁸

¹⁷ <https://nightingalehousing.org/model>, Mr. Dimitri Kapetas (EDHO Architects) project in Knutsford <https://www.ehdo.com.au/nightingale-fremantle>

¹⁸ Ms. Eugenie Stockman, (Green Fabric) <https://greenfabric.com.au>

