

Boardroom Briefing: Sustainable Centres of Tomorrow

<https://sbenrc.com.au/research-programs/1-62/>



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- **Context – Project 1.55**

- Delivering integrated transit, land development & finance
- Manual (5 parts, 50 steps)

- **Overview – Project 1.62**

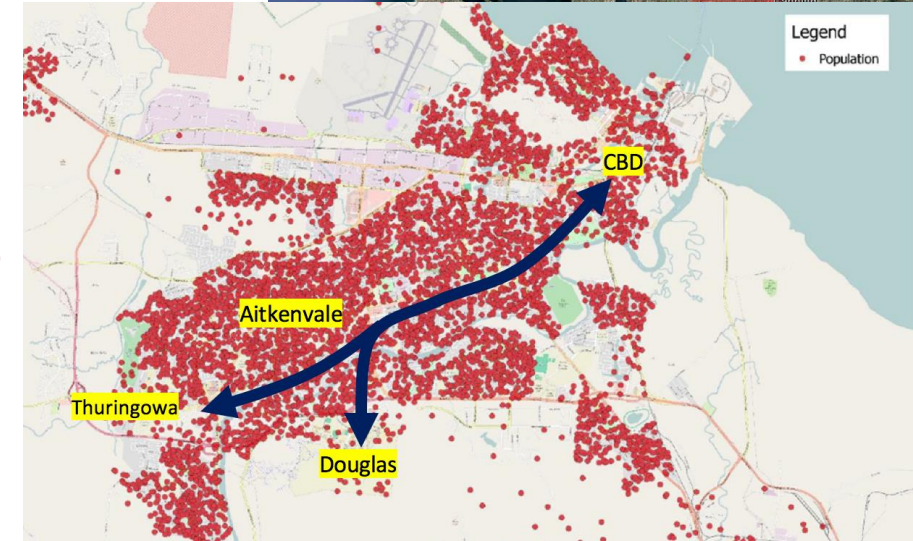
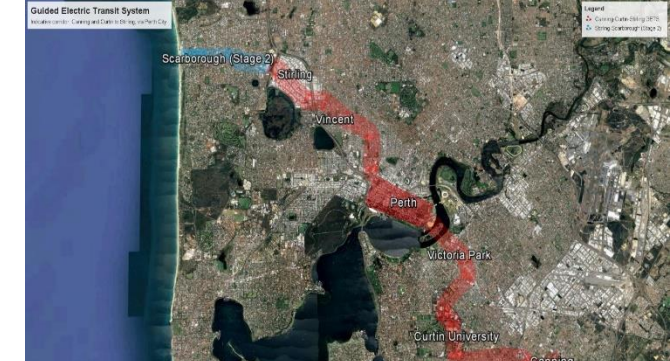
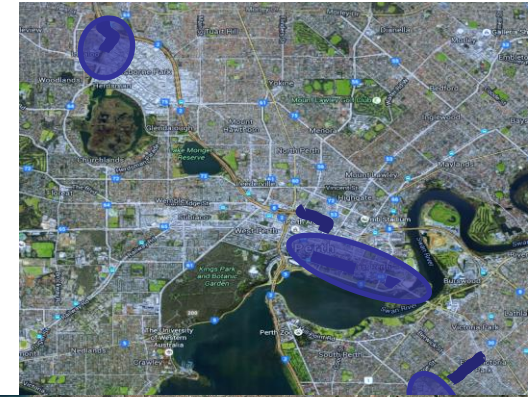
- Objectives (Business Case, City Deals)
- Expected industry outcomes

- **1.62 Context (Literature Review)**

- Centres Design Framework
- Governance challenges and opportunities

- **1.62 JCU/Townsville case study (what's next)**

- Applying the framework
- Addressing the built environment needs



The Lead-Up: Project 1.55 (2017-19)



Delivering Integrated Transit, Land Development and Finance A Guide and Manual with Application to **TRACKLESS TRAMS**



By Peter Newman, Mike Mouritz, Sebastian Davies-Slate, Evan Jones, Karlson Hargroves, Rohit Sharma and David Adams

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Integrated Land Development Finance and Transit

Begin Integrated Transit and Land Development Planning

Skill Base Responsible

A Identify Land Use Uplift Potential of Corridor and Build Asset Base

Development potential - Precedent - Preferences - Community Values - Public and Private Interests - Transport Service - Politics - Statutory Planning - Risks

Land Development/
Real Estate

GO/NO-GO GATE 1: Would entrepreneurial approach succeed in this corridor?

Pre-transit Conditions - Post-transit Value - New Technologies - Place Making - Uplift - Legal Restrictions and Barriers

Transit Planning

GO/NO-GO GATE 2: Is there good potential for land value uplift in this corridor?

Plan Asset Base - Discuss with Existing Owners - Begin Community Engagement

Land Use Planning

GO/NO-GO GATE 3: Is there sufficient land assets and sufficient local goodwill to unlock potential development?

B Leverage Funding and Financing

Seek Funding for Land Development - Estimate Development Potential With and Without Transit

Land Economics

GO/NO-GO GATE 4: Is there sufficient funding for both land development and transit system?

C Investigate Potential Transit Configurations

Transit Configurations to Uplift Land Values - Implications for Existing Infrastructure - Integration with Wider City - Alternative Revenue

Transit Planning

GO/NO-GO GATE 5: What transit design can unlock land development to attract funding and financing?

D Procurement Governance and Delivery

Governance Mechanisms - Resolve Transport & Planning Misalignments - Risk Management Partnerships - Plan Procurement Model

Strategic and Policy
Planning

GO/NO-GO GATE 6: What is the best governance model for procurement and delivery?

Proceed with Integrated Transit and Land Development Project

Figure 24. A stylised flow sheet summary of the 50 Steps in the Manual for Delivering an Entrepreneurially-financed Transit-activated Corridor.

The conversation that has reached out ...

THE CONVERSATION

Academic rigour, journalistic flair

Q Search analysis, research, academics...

Arts + Culture Business + Economy **Cities** Education Environment + Energy Health + Medicine Politics + Society Science + Technology



Why trackless trams are ready to replace light rail

September 26, 2018 5.58am AEST

<http://theconversation.com/why-trackless-trams-are-ready-to-replace-light-rail-103690>

The 1-Minute video that has gone viral ...



This new type of tram could revolutionise how we get around cities

 Greenpeace International

 Follow

 Like  Comment  Share 

 5.9K  619 Comments  7,471 Shares

3.7M Views · about 7 months ago · 

- Launched by Greenpeace Intl
- 3.7M Views in 7 months
- 89% “Hell Yeh” for Trackless Trams in my city ... according to the Facebook poll



- \$5M/km rather than \$50M/km for light rail
- 13% gradient rather than 5% for light rail
- 15m radius turning capability

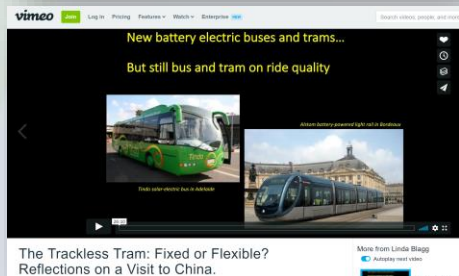
More Information to raise awareness:



Integrating Land Development, Finance and Transit: Trackless Trams SBEnc Project 1.55 Highlights

(10 minute presentation, August 2018)

<https://vimeo.com/278969345>



The Trackless Tram: Fixed or Flexible? Reflections on a Visit to China SBEnc Project 1.55 Conversation with Professor Peter Newman

(26 minutes with PowerPoint, November 2018)

<https://vimeo.com/290106133>



World's first unmanned smart electric bus trials in south China People's Daily, China

(32 seconds, 23 October 2017)

<https://youtu.be/bXB87NWHvDg>

The Current Project 1.62 (2018-20)

October 2018 - March 2020

Australian cities are going through a transition, with a clear priority to make more productive, sustainable, liveable centres. This project follows on from previous SBEnc research which examined how to deliver better connected and integrated cities using land development opportunities and how emerging public transport technologies such as the Trackless Tram could unlock this. This project will create a framework from world's best practice principles, tools and governance models, tested against a number of Australian case studies for sustainable centres of tomorrow. The improved value outcomes of such urban design will complement the work done on transit enhanced value. The framework will establish how such design can accelerate public and private investment decisions for urban centres and integrated transit technology that are more people and place friendly.

The Current Project 1.62 (2018-20)

Objectives

The specific objectives of this project are to:

1. Identify a framework of world's best practice principles, tools and governance models that will help accelerate the transformation of urban centres into being more people and place-oriented.
2. Identify how innovations in transit technology (such as Trackless Trams and autonomous shuttles), affordable housing and place-making, can be integrated into these urban transformation projects to help improve the value outcome of such projects.
3. Examine the most appropriate delivery mechanisms for the above as an integrated package.
4. Test and refine the above framework on city centres and sub-centres across Australia to identify how they can be transformed as part of the growing need to revitalise existing urban areas.

Industry Outcomes

The project will:

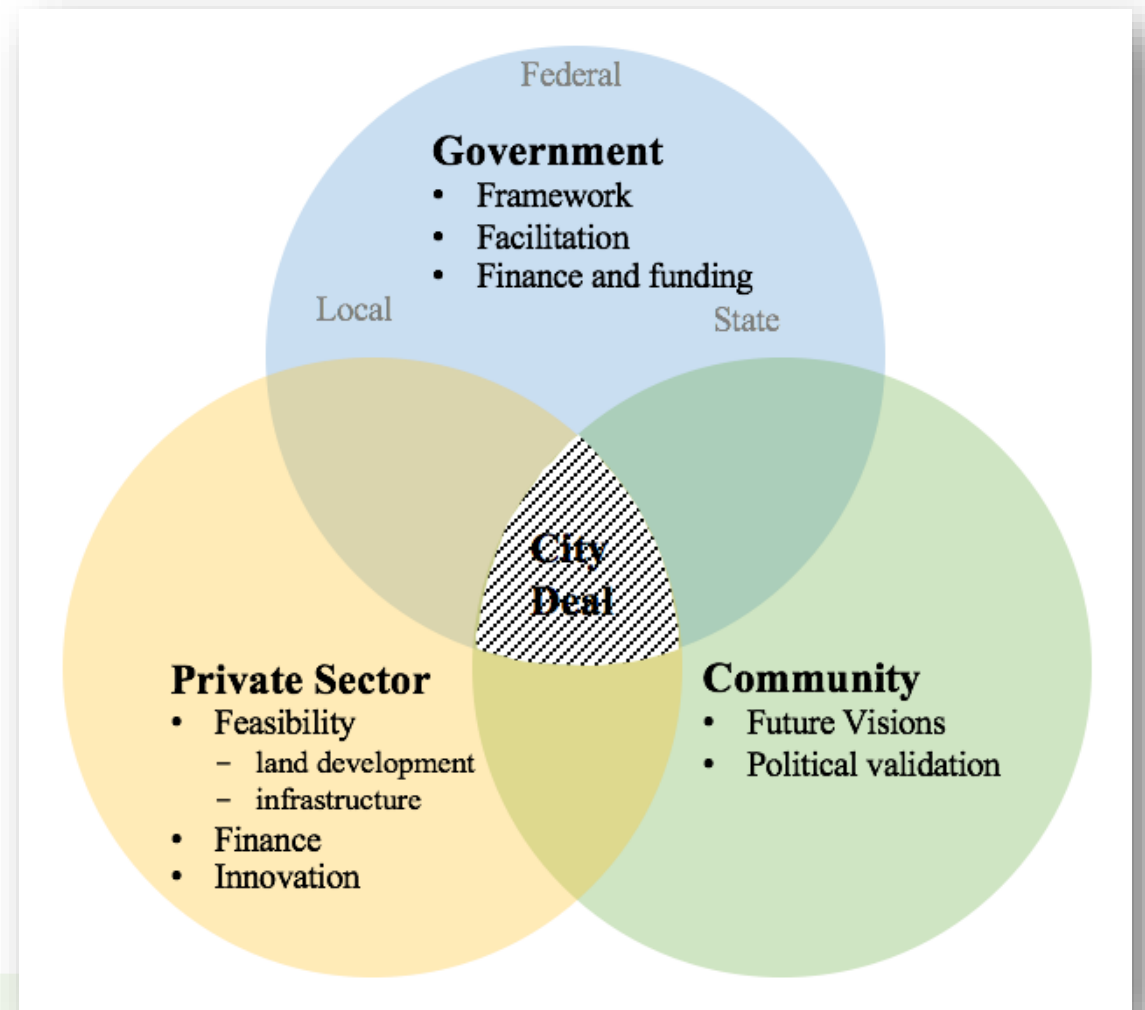
1. Enhance understanding and build the capacity of planners, developers and relevant agencies in best practice approaches to making our cities more liveable and vibrant.
2. Deliver a framework of principles, tools and governance models to help guide better investment decisions around revitalisation of urban centres and how new transit technology can unlock this.
3. Provide clear advice to decision makers on how innovations in transit technology, affordable housing and place-making can be activated to achieve such transformations.
4. Provide case studies to inform better practice by the sharing of real experiences, thereby assisting planners and other agencies in how to take up the new opportunities in urban revitalisation.

City Deals

Opportunities:

- 3 levels of government housing
- Private investment
- Community vision
- Structural reform
- Innovation

Provides ideal base for
Superannuation investments



Framework of Principles & Practices

DRAFT



DRAFT for Review Sustainable Centres of Tomorrow: A Framework of Principles and Practices



Citation: Caldera, S., Desha, C., Reid, S., Newman, P. and Mouritz, M. (2019) Sustainable centres of tomorrow: Principles and Practices - Report for Project 1.62 Sustainable centres of Tomorrow: People and Place, Sustainable Built Environment National Research Centre.

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Framework for Sustainable Centres of Tomorrow: Core Principles and Practices

Core Principles	Core Practices
<p>1. Precinct safety and accessibility The development should be safe and healthy for people waiting to access transport nodes</p>	<ul style="list-style-type: none"> ▪ Human centred design ▪ Walkable urban design ▪ Place and movement design
<p>2. Carbon neutral - positive approach The development should aim for carbon positive, being at least zero carbon, in both power and transport</p>	<ul style="list-style-type: none"> ▪ Solar passive design ▪ Solar active design ▪ Carbon neutral analysis
<p>3. Local shared mobility The development should encourage diverse local modal services to access the transit service, with defined spaces</p>	<ul style="list-style-type: none"> ▪ Local mobility design ▪ Feeder transport design ▪ Mobility as a service
<p>4. Property diversity The density and urban mix should contribute to urban regeneration</p>	<ul style="list-style-type: none"> ▪ Community engaged planning ▪ Agglomeration economy analysis ▪ Financial modelling
<p>5. Property affordability The development should include diverse property options to provide affordable living as well as affordable housing</p>	<ul style="list-style-type: none"> ▪ Social housing analysis ▪ Life cycle assessment ▪ Sustainability operational analysis
<p>6. Nature-loving and biodiverse spaces The development should include and connect biophilic and biodiverse greenspaces, supporting endemic species and habitat</p>	<ul style="list-style-type: none"> ▪ Biophilic design ▪ Water sensitive design ▪ Landscape oriented design
<p>7. Inclusive, integrated place-based planning Planning, design and implementation (operation, maintenance) should involve diverse stakeholders and all tiers of government to provide an integrated place-based approach</p>	<ul style="list-style-type: none"> ▪ Joined up governance analysis ▪ Partnership analysis ▪ Procurement option analysis

Practices informing the Framework:

1. Precinct safety and accessibility

- Human centred design [Design Kit \(IDEO.org\)](#)
- Walkable urban design [Pedestrians First \(ITDP.org\)](#)
- Place and movement design [Movement and Place Framework \(Transport Victoria\)](#)

2. Carbon neutral - positive approach

- Solar passive design [A focus on Greening our Precincts \(Aurecon\)](#)
- Solar active design [Solar Energy \(International Energy Agency\)](#)
- Carbon neutral analysis [Carbon Value Analysis Tool \(World Resources Institute\)](#)

3. Local shared mobility

- Local mobility design [Pedestrian Access and Mobility Plan \(NSW RTA\)](#)
- Feeder transport design [Principles of Network Planning \(Griffith University\)](#)
- Mobility as a service [Rise of Mobility as a Service \(Deloitte\)](#)

4. Property diversity

- Community engaged planning [Resources \(Internat. Assoc. for Public Participation\)](#)
- Agglomeration economy analysis [Spatiotemporal Analysis Framework \(Jin et al 2018\)](#)
- Financial modelling [Toolkit for rapid economic assessment of cities \(ADB\)](#)

5. Property affordability

- Social housing analysis [Conceptual Analysis \(AHURI\)](#)
- Life cycle assessment [Applied to Urban Fabric Planning \(Gabbarell et al, 2015\)](#)
- Sustainability operational analysis [Sustainable affordable housing \(Wiesel et al, 2012\)](#)

6. Nature-loving and biodiverse spaces

- Biophilic design [Biophilic Design Initiative \(Living-Future.org\)](#)
- Water sensitive design [Scenario Tool \(CRC Water Sensitive Cities\)](#)
- Landscape oriented design [Foreground Forum \(Inst. of Landscape Architects\)](#)

7. Inclusive, integrated, place-based planning

- Joined up governance analysis [A Joined Up Policy Guide \(South Aust. Government\)](#)
- Partnership analysis [Partnerships Analysis Tool \(Vic Health\)](#)
- Procurement option analysis [National Guideline \(Australian Government\)](#)

Project 1-62: Case study locations



Perth Consortium (WA)

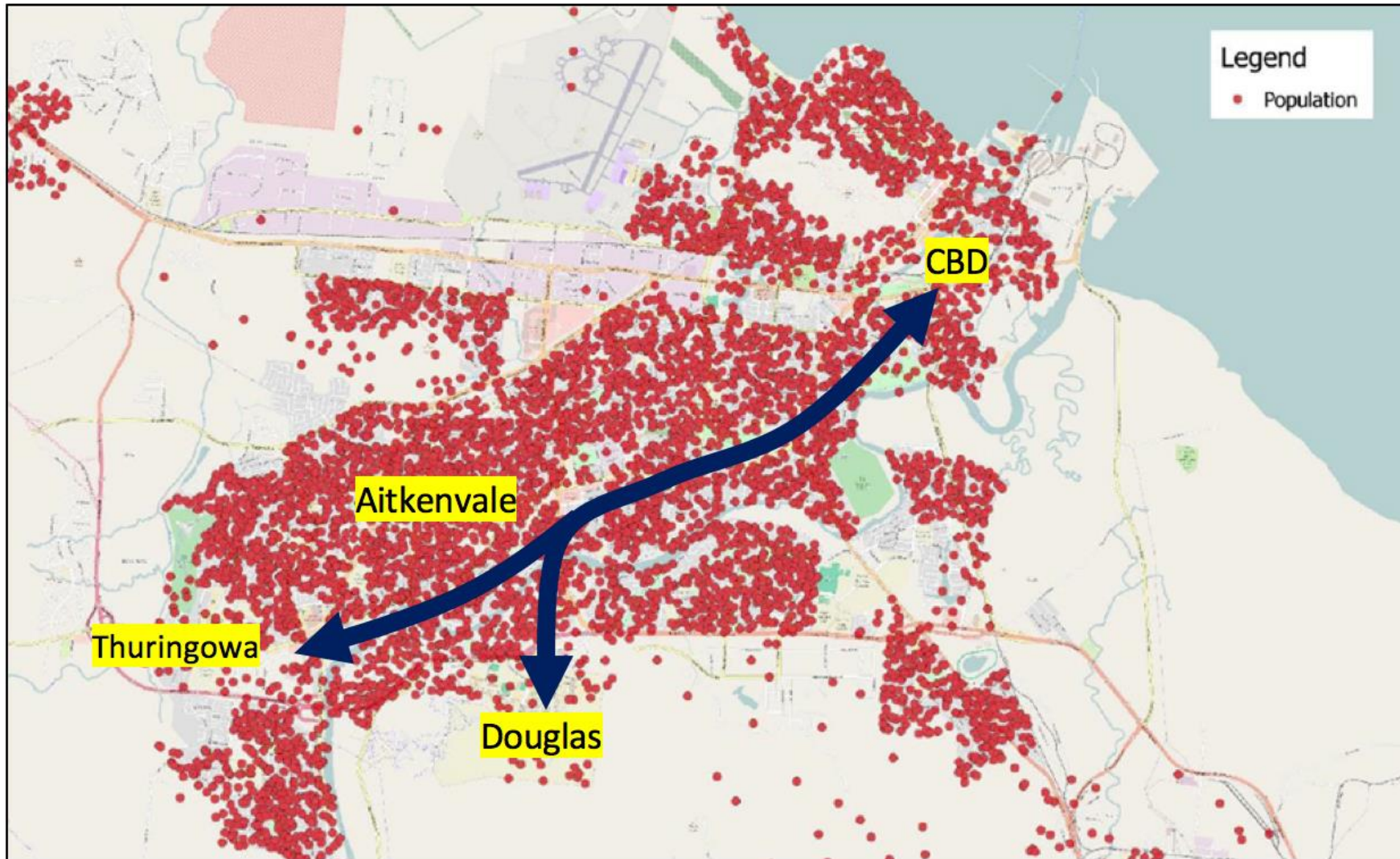
Townsville (Queensland)

Liverpool (NSW)

Wyndham (Victoria)

Inner West (Victoria)

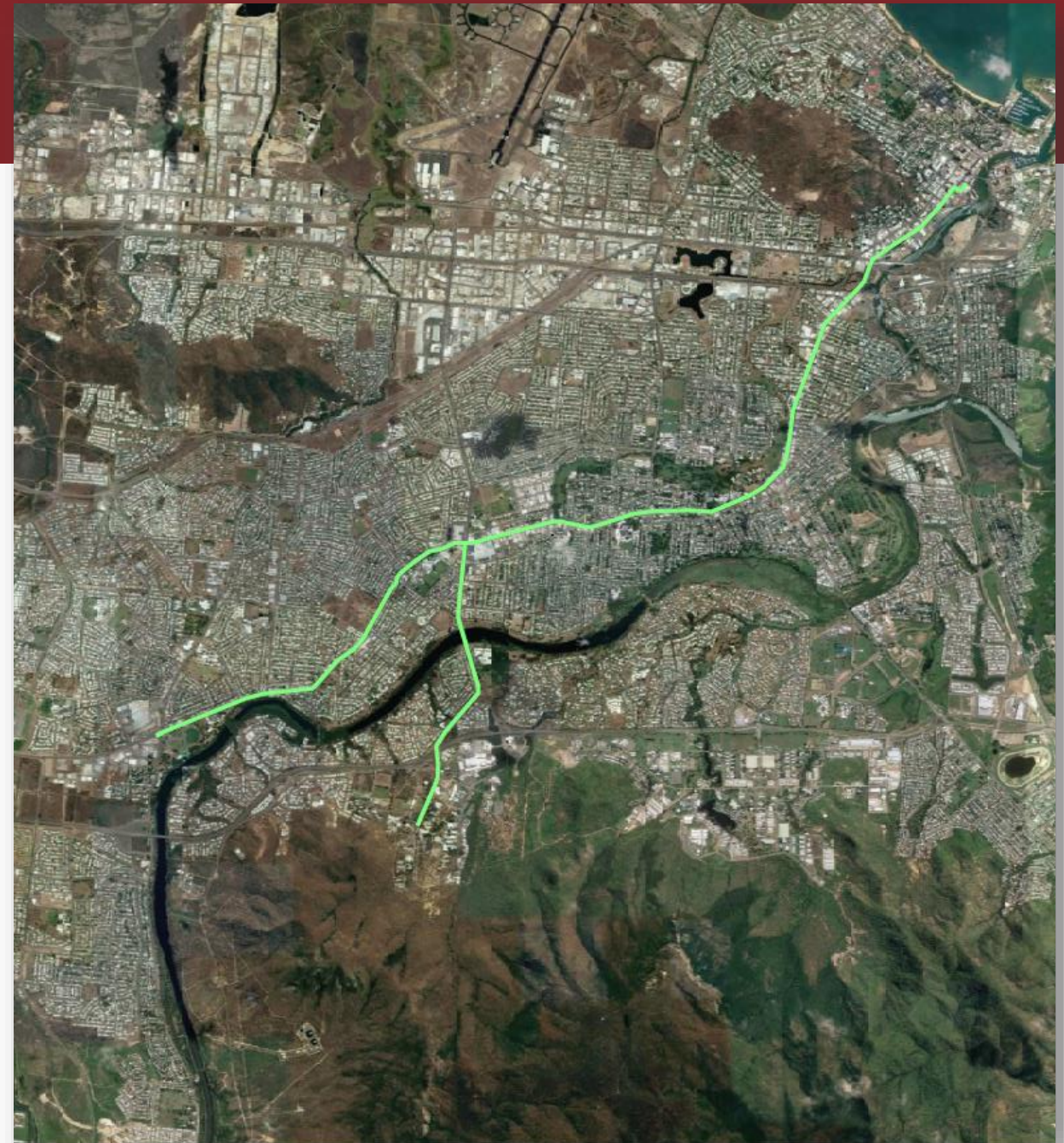
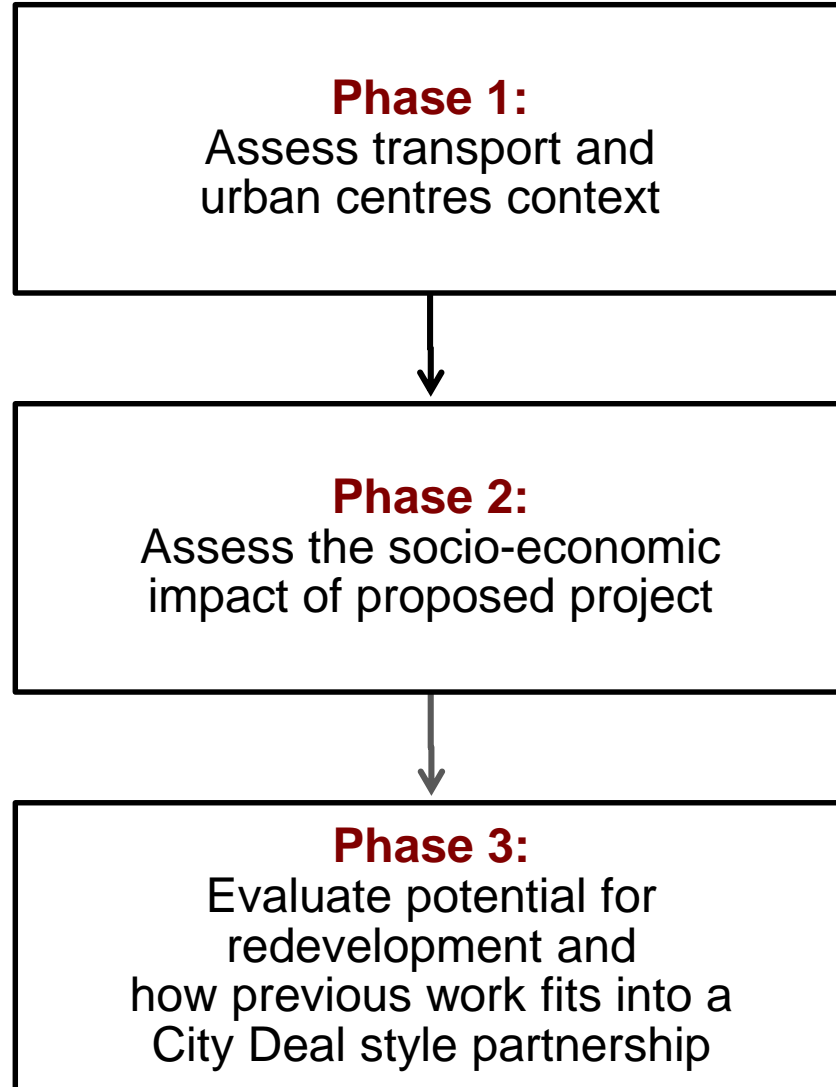
Townsville Case study



Project partners



Research Approach

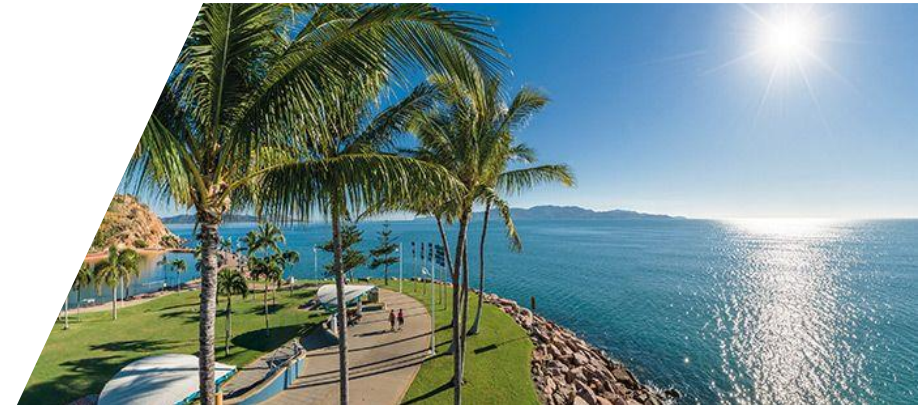


Phase 1: Assess transport and urban centres context



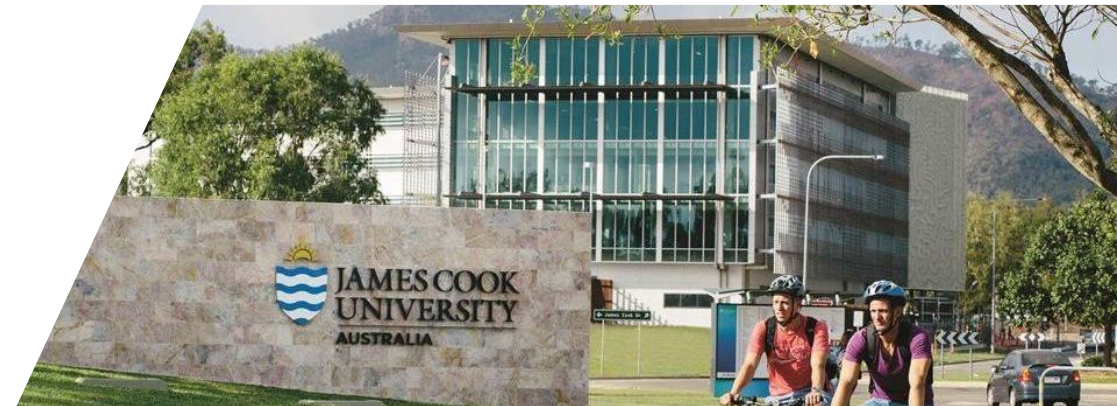
1. Destinations and origins

- Review background planning and transport information
- Identify and map key attributes of centres, sub-centres and destinations in the corridors.



2. Applying a Place-Making Framework

- Create a Framework from global best practice
- Provide the principles for use



Phase 2: Assess the socio-economic impact of proposed project, including two dimensions

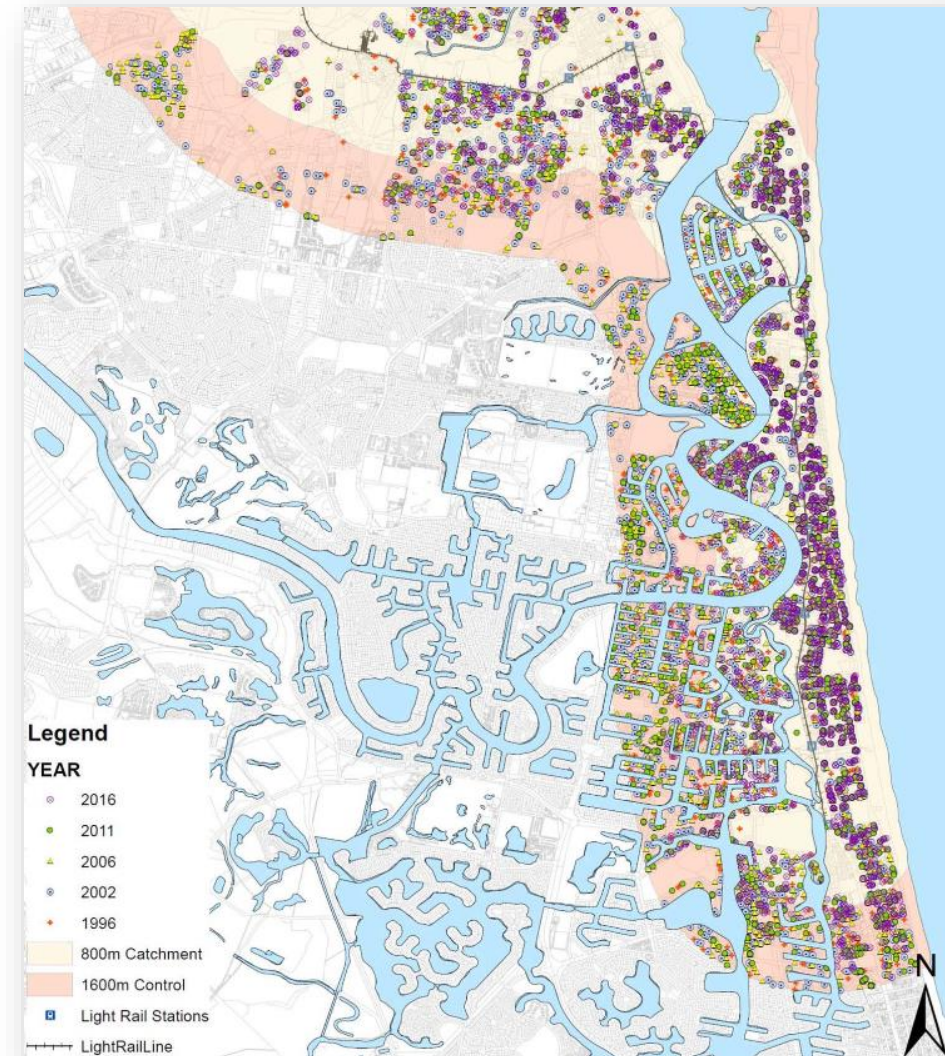


1. Transient population dynamics

Assess of the enablers and barriers to growing international student market in Townsville.

2. Transit orientated corridor Value Uplift study

- Assess value Uplift potential along and surrounding the proposed corridor
- Applying geographic and econometric modelling



Phase 3: Evaluate the potential for redevelopment opportunities along the route and how all the previous work fits into a City Deal style partnership



1. Redevelopment Potential

Evaluate the potential to integrate medium density, transit-oriented development

2. Place Making Assessment

Inform any other planning and design work that might be commissioned as part of City Deal

3. Risk Assessment

To feed into a Business Case for the City Deal discussions



Work Plan

Activity	GU Leads (team)	RF Hours Budget	Status	June	July	August	Sep	Oct	Nov	Dec	Jan	Feb	March	April
Delivery of Research Scope of Works	SR, CD (SC)	-	Complete											
Signing of Research Contract	SR, CD	-	Complete											
Phase 1: Assess transport and urban centres context														
Obtain documentation of transport	SR (RF)													
Review organisational political and in	SR (RF)													
Geographic mapping of centres, sub	Heather Shearer, SR, CD (RF)													
Overlay of City Plan by geographical	Heather Shearer, SR, CD (RF)													
Review of existing Queensland Best	SR, CD (RF)													
Review of Place Making Framework	SR, CD (RF)													
Phase 2: Assess socio-economic impact of proposed project														
Site Visit by GU team - review sites, r	SR, CD, Heather Shearer, RF													
Transient population dynamics - revi	SR													
Overlay of geographic mapping by ar	Heather Shearer, SR, CD (RF)													
Transit orientated corridor Value Up	SR, BY, CD													
Review appropriate geographic and	SR, Barbara Yen													
Assess urban amenity improvements	SR, BY, CD													
Assess DV of land areas based on wi	SR, BY, CD													
Phase 3: Evaluate potential for redevelopment/development														
Redevelopment potential - develop r	SR, CD (RF)													
Place making assessment - assess im	SR, CD (RF)													
Workshop with GU team and THKP r	CD, SR (RF)													
Risk assessment - consideration of th	CD, SR (RF)													
Delivery of Research Report to Client	SR, CD (RF)													
		0												

Townsville visit dates