

# Modular Bus Shelters- Design, Technology, and Innovation

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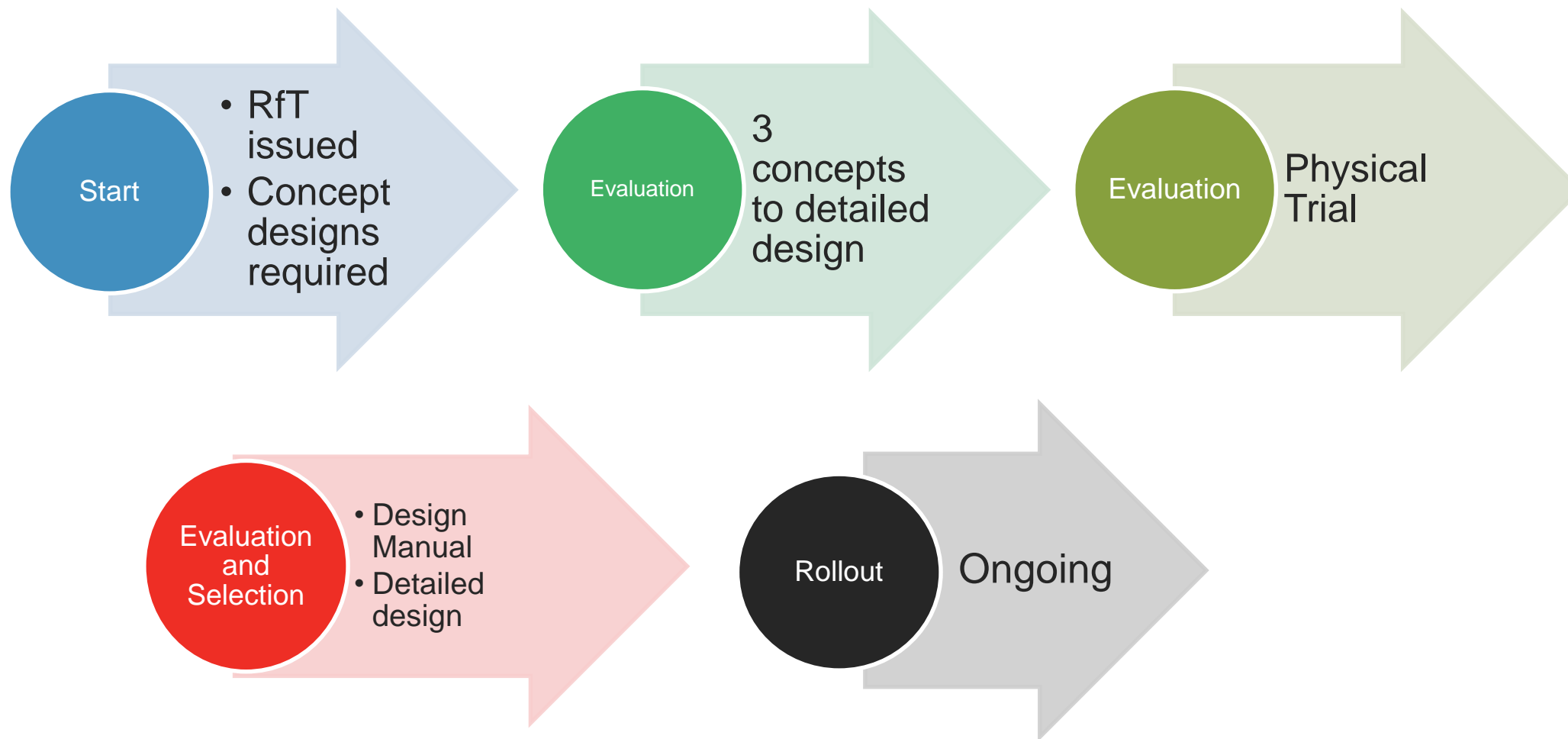


# Background



Objective was for a modular, adaptable design to suit 4 different bus stop types-  
Minor, Intermediate, Major, and Neighbourhood Interchange

# Process





# Design – Minor



- Key features

# Design – Intermediate



# Design – Major



+ bespoke Neighbourhood Interchanges

# Design – Slim-line designs





# Technology- Shelter Features - LED Lighting



LED strips flush with framing  
37 lux

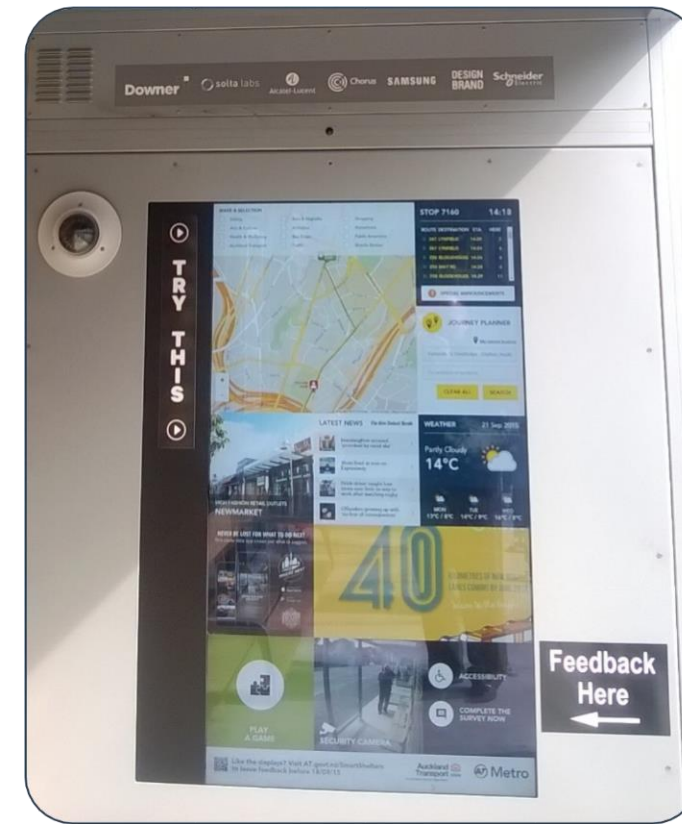
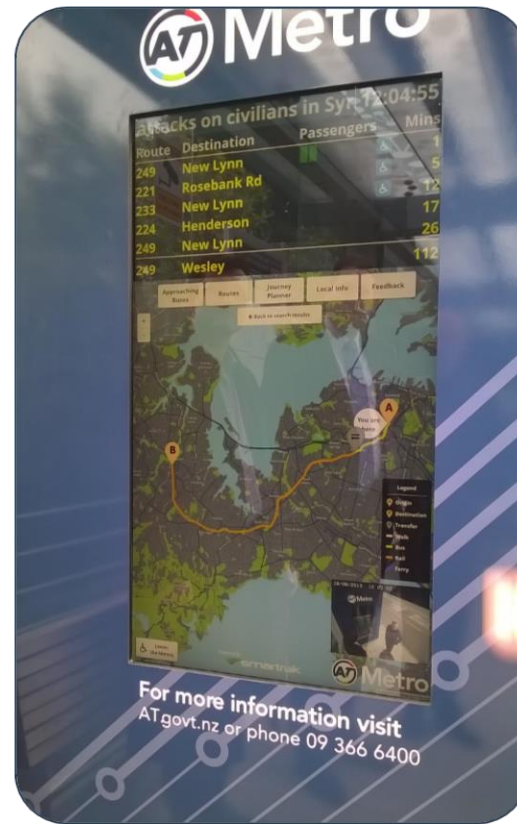


# Technology- Shelter features - Solar panels



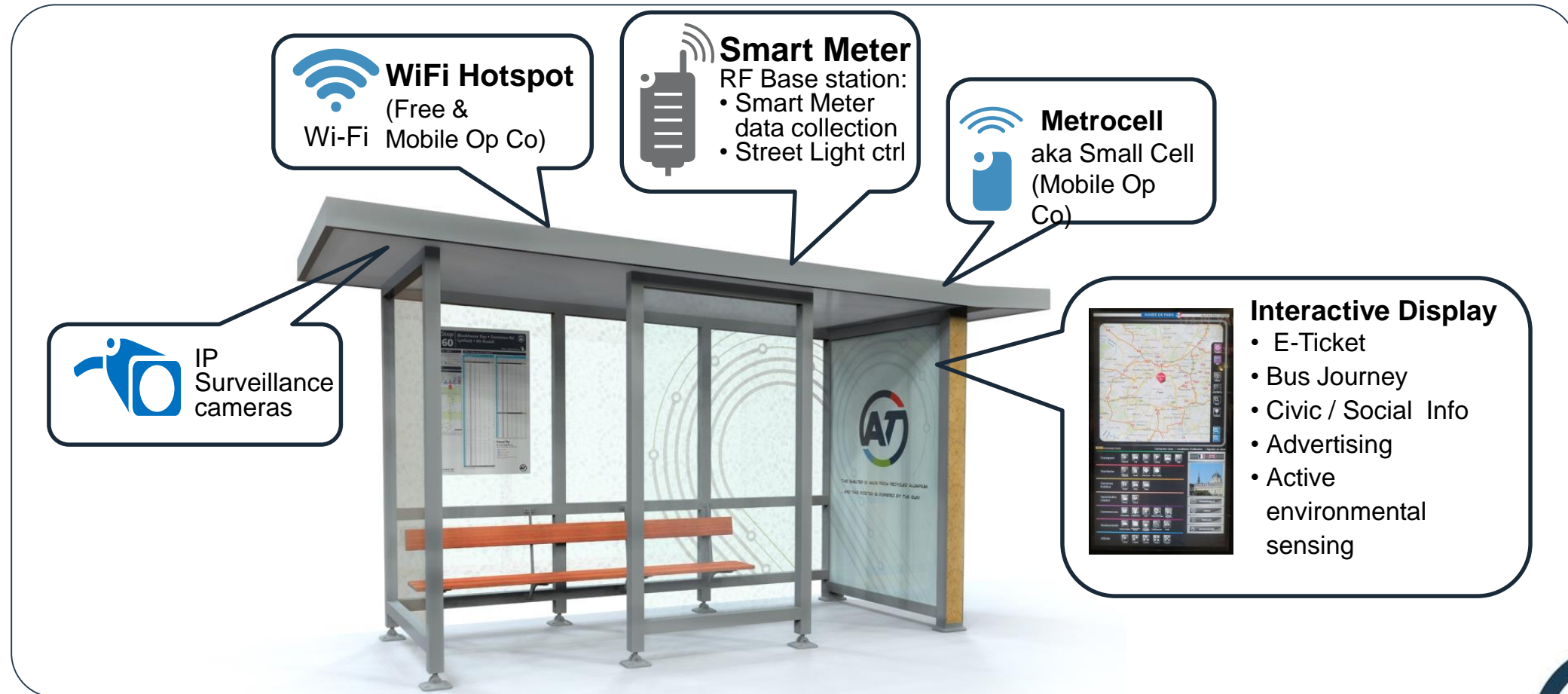
- 5 days power stored on site
- Oriented towards sun
- Power lighting

# Technology - Smart Shelters – Information Integration trials





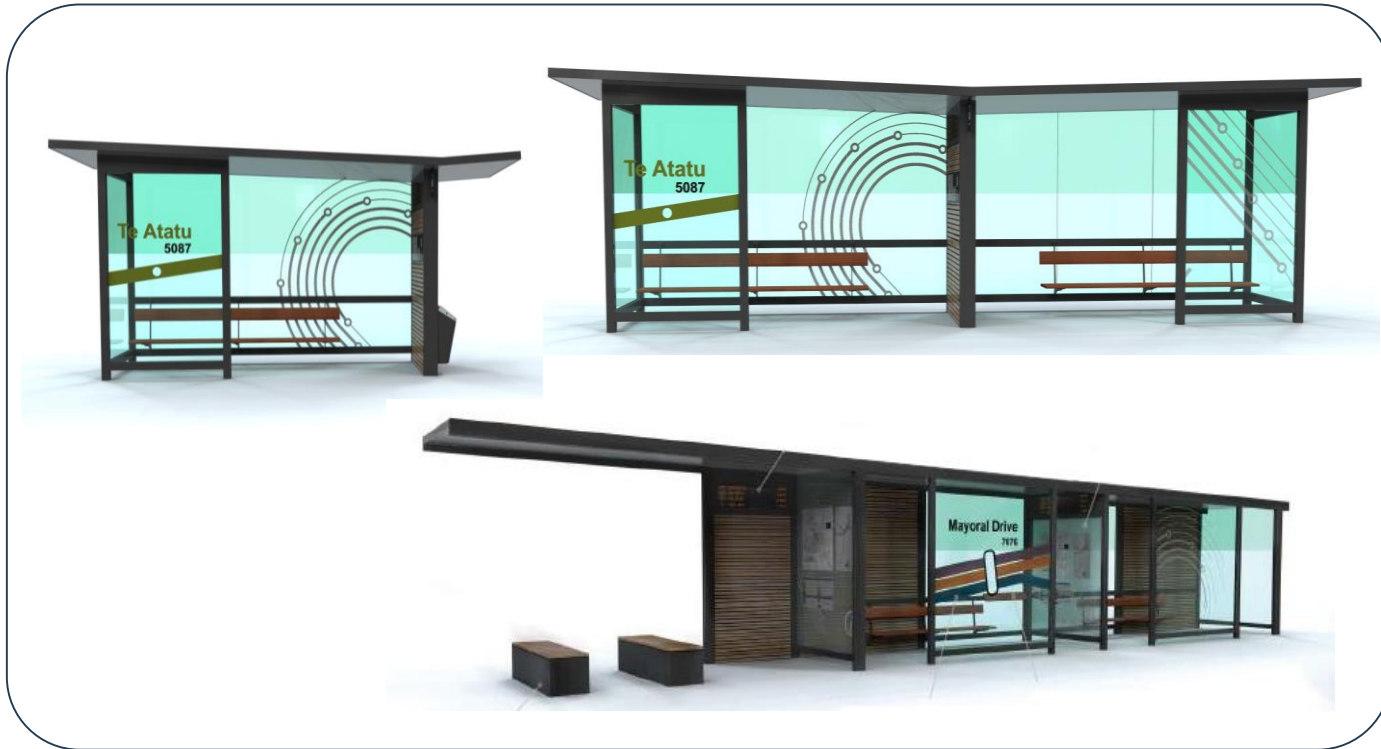
# Technology - Smart Shelters - Connected Bus Shelter - Chorus Lab prototype





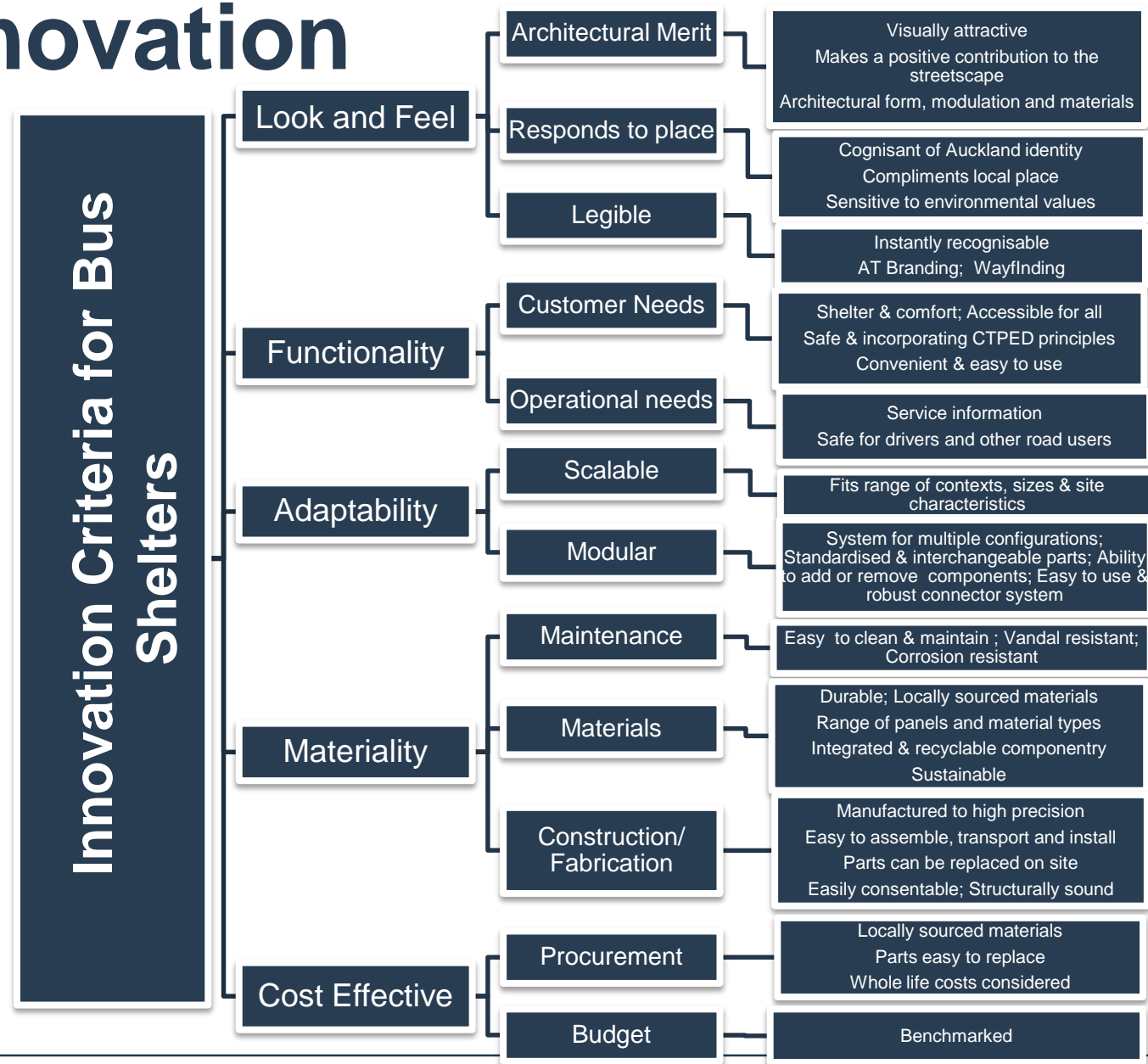
# Innovation - Procurement Process

- Concept designs submitted with tender



- Intellectual Property covered
- Future procurement approach

# Innovation - Innovation criteria



# Innovation – Trial Process

- 3 designs to trial
- Primary site
- Secondary site
- Extensive Public Consultation
- Trial was hugely beneficial



Symonds Street





# Trial Shelters



Symonds Street



Silverdale

# Innovation - Modular design and materials



# Innovation - Shelter Configurator

## [Link to Shelter Configurator](#)

Create a shelter:

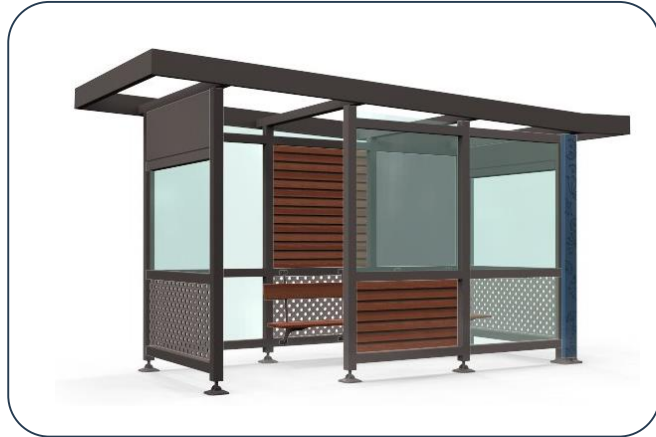


Submit shelter (for manufacture)





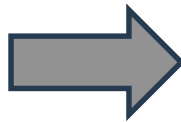
# Care required...



The configurator can be abused....it doesn't design for you...



From this...



...to this...



...to this...the future of bus shelters in Auckland



# The rollout and benefits

