





# Te Whanganui-a-tara Whaitua

22 July 2019



**RiverLink**  
Better flood protection, transport and lifestyle for Lower Hutt

greater WELLINGTON  
REGIONAL COUNCIL  
Te Pūnaha Matua Tokai

HUTT CITY  
Te Kōwhiri

TRANSPORT  
AGENCY  
Te Kōwhiri

## Runsheet

- Overview
- RiverLink Video fly through
- The RiverLink Story
  - Community led design process
  - Placemaking
  - Resilience
  - Melling Transport Improvements
- Belmont Stormwater Treatment Wetland Trial



Introduction

RiverLink Overview Video **[3 mins]**

RiverLink Story Presentation **[short 20 mins]**

# Three Agencies Working Together



**Better Lifestyle**  
Hutt City Council is working to reinvigorate and change the face of the city centre - Making Places



**Better Transport**  
The NZ Transport Agency is looking at transport improvements around Melling / SH2 intersection



**Better Flood Protection**  
GWRC are improving valley flood protection in the area between Ewen and Kennedy Good Bridges



**Rejuvenation of Lower Hutt CBD,**  
linking the city to its river and creating opportunities for new businesses, apartment style living and recreational activities as part of the Council's vision for the city centre.

**Investigation for reduction of congestion**  
and improvement of access and safety of State Highway 2 at the Melling and Block Road intersections.

**Upgrading to higher, stronger stopbanks**  
will protect residents and businesses from flooding as part of the Hutt River Floodplain Management Plan.  
  
This will also improve the health of the river and provide greater opportunities for recreational activities along the river.



PRUE

RiverLink was born from the leadership of GWRC in 2012. Ideally placed in its position of regional governance, from the middle it brought to the table both National Agency and Local Authority (NZTA and Hutt City Council)

GWRC's motivator was its programme for flood safety and security upgrade. Its programme had reached the Hutt City Centre section, and catalysed long standing ideas for urban rejuvenation and associated transport connections to Hutt City

## RiverLink Vision

RiverLink is the most significant transformation initiative ever embarked on for Hutt City. It aspires to deliver a more resilient, accessible and liveable city that will make Hutt City an unbeatable place to live, work and play.



It is a once in a lifetime opportunity to shape Hutt City's future

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The vision had three key, complimentary themes;

Regional Resilience – primarily a concern of GWRC, but one that provided benefit to or enabled the other parties

Placemaking – an urban rebirth story developed by Hutt City Council, to meet the future needs of Hutt City and transform it for the future

Transport Choice – a story of supporting urban growth, improving safety and responding to the changing climate of transport connections



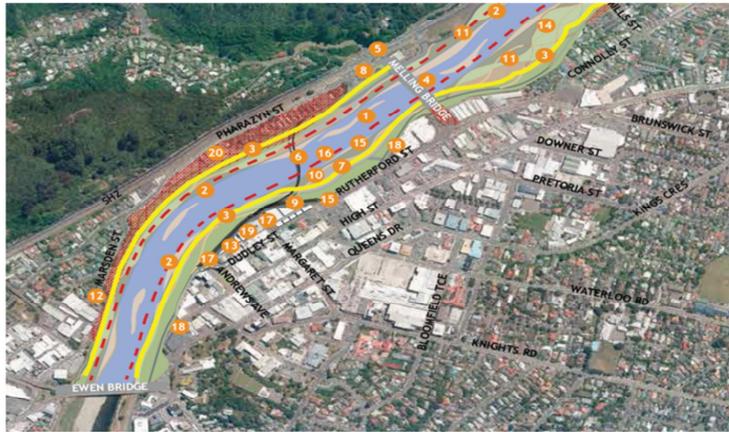
Play Video on File

Communities First;  
A design born from the vision of the people  
of Lower Hutt



## Community First:

A sensitive approach to property acquisition



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The decision in 2015 to proceed with RiverLink also meant locking in creating more space for the river to increase the flood security. This meant property acquisition. GWRC made a choice at that time to commit itself financially to the project, and to purchase of 118 properties required for works that had not yet been designated (this designation will happen in 2020).

Normal Public Works Act process wouldn't require us to purchase until we had completed the designation process, however this would only have given property owners a year or two to come to terms with the need to leave their homes.

GWRC Council decided, because of their certainty of delivering the project, that they would enter into a voluntary willing buyer/seller approach in 2015, five years ahead of the commencement of any forced acquisition process.

To do this funding for the purchases was brought forward in the LTP, a property management company was engaged to retain tenancies within the area and prevent 'ghettoisation', and the offer made, face to face to every property owner in the area required for the works.

This has had the added benefit of managing rating impacts of the works by recovering some of the costs of servicing debt from tenanting the acquired properties, approximately turning what would be a 6% rating impact into a 2% rating impact over a 10 year period. The full rating impact of the remaining debt, being only seen post demolition, in

approximately 2025.

We have had very positive press about this process, and have acquired, without controversy, 76 of the required properties

## Community Design: Capturing the ideas and developing the vision



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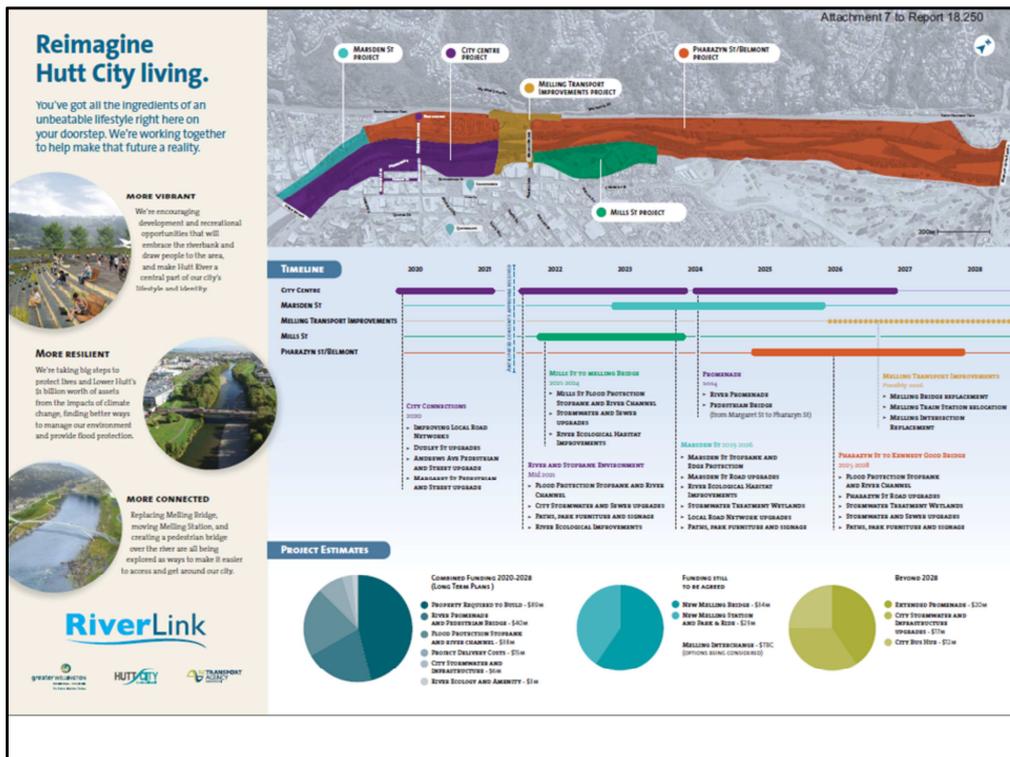
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- From 2015 we have worked hard to put the community of Hutt City at the front of the design process.
- It has been an open design process, reliant on both design workshops and full access for the community to the design team.
- Engagement started in a traditional model, with town hall type workshops held in the Dowse Gallery, Hutt City and moved into having a street front presence in Hutt City, central space in the Queensgate Mall, before creating public space for the project on the riverbank, closely tied into the RiverBank Market, one of Hutt City's busiest weekly attractions and using that space to test and trial how people want to shape their river environment.
- Our future for this stretches this engagement into the city centre along Andrews Avenue and will trial Hutt City making changes to its urban form in conjunction with the CBD businesses at the South End of High Street and Andrews Ave.



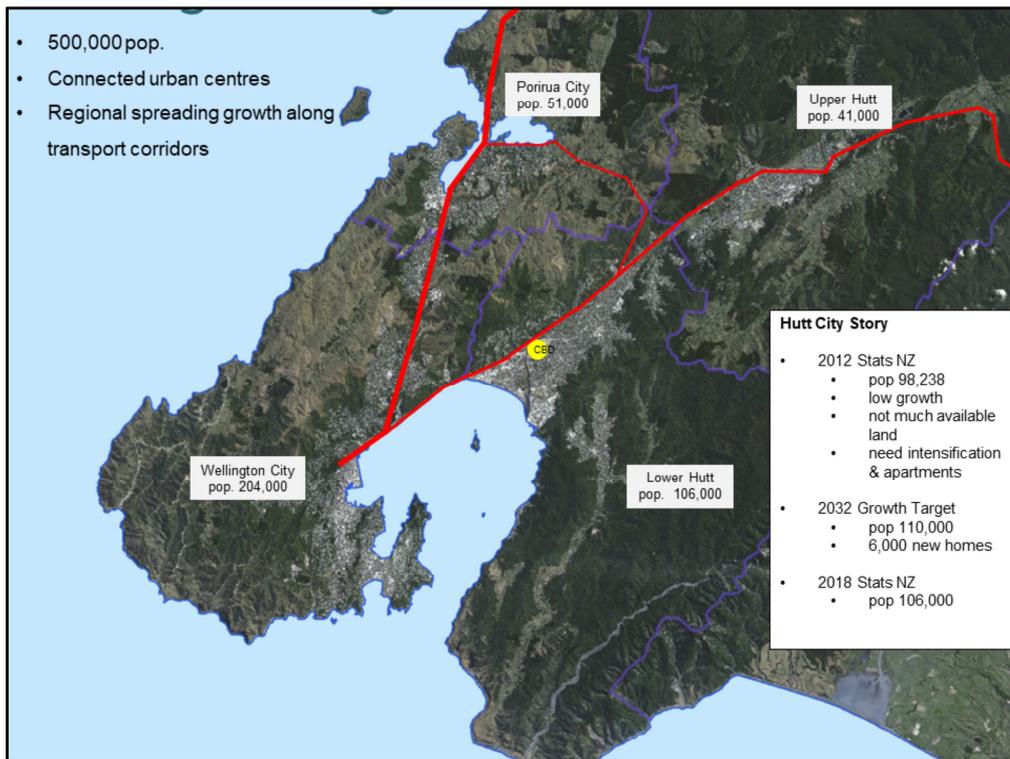
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So how is this going to happen, how much and when  
 - Refer and guide through handout structure

Hutt City Council;  
an urban growth and placemaking story



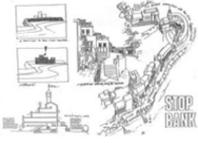


## 2018 Stats NZ numbers on Slide

- 2012 Stats NZ pop 98,238  
 low growth  
 not much available land  
 need intensification &  
 apartments
- 2032 Growth Target    pop 110,000 + 6,000 new homes
- 2018 Stats NZ pop 105,900

## Hutt City - three decades of idea development

1987



2000



2005





Making Places 2009






- 2012 Stats NZ pop 98,238
  - low growth
  - not much available land
  - need intensification & apartments
- 2032 Growth Target    pop 110,000 + 6,000 new homes
- 2018 Stats NZ pop 105,900

## 2019 Central City Transformation Plan



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Shows photos of workshop with chamber of commerce in development of City Centre Transformation Plan  
Engagement models with community that opened the doors to community, lead by RiverLink

## 2019 Central City Transformation Plan

before

after



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Transforming a city from its legacy development choices, catalysed by RiverLink as an enabling project that lead thinking about change

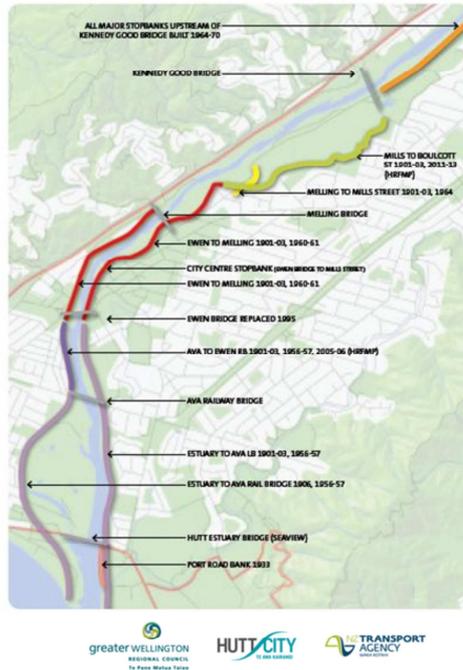
# Greater Wellington Regional Council; a resilience and flood security story



## Te Awa Kairangi/Hutt River Floodplain Management Plan



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### GWRC: Flood Protection Role

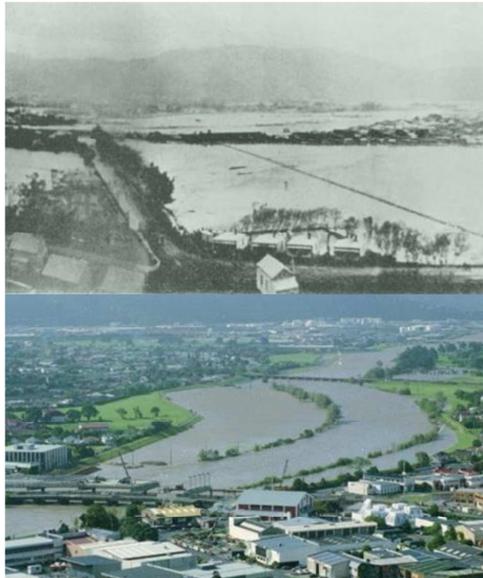
Flood Protection and Control Works, working to protect lives and livelihoods, encouraging sustainable river management, enhancing our river and 'river park'

For te awa kairangi we are doing this guided by the 2001 The Hutt River Floodplain Management Plan and its associated documents. This is a plan developed with the community to set an agreed standard of flood protection for Upper Hutt City and Hutt City.

RiverLink, the upgrade to Hutt City Centre Flood Protection comes from this, including the standard of flood protection that will be delivered

## Flood Vulnerability

- Consequences become more significant with increasing urbanisation
- More growth, means more value on the floodplain, meaning a greater demand for security
- But also a greater consequence if that security fails



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The floodplains of Te Awa Kairangi are one of New Zealand's most densely populated floodplains.

The area now occupied by Hutt City has evolved from a predominantly agricultural to a residential city built on involved with research and high end manufacturing in less than 150 years.

This combination of historic floodplain with its flat easily developable land, proximity Wellington City and Wellington Harbour and space to still meet the housing and section aspirations of the 'kiwi dream' creates an expectation of high standards of flood security to ensure that the lifestyles of the residents of Hutt City are protected

## Flood Vulnerability

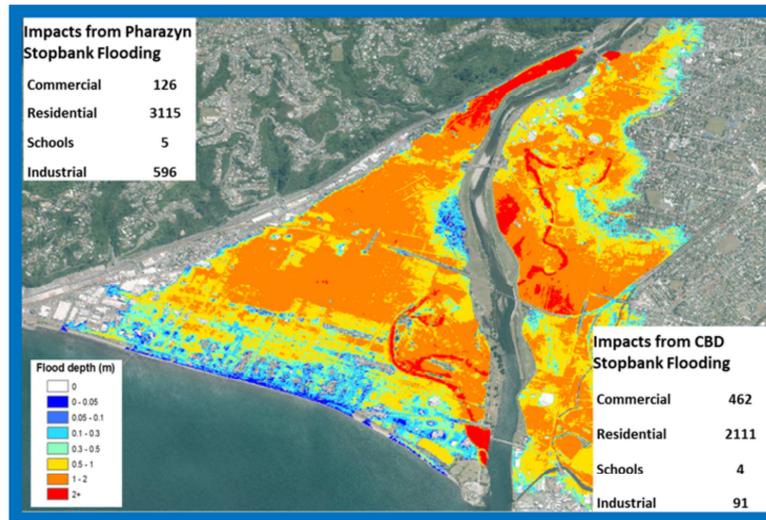
- Hutt River formed the floodplain, much of the ground under foot was laid down by the river
- The valley floor is home to 130,000 people today
- Its one of New Zealand's most densely populated floodplains

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The consequence of this is a river that has been 'boxed in' and one that can no longer shed massive volumes of water out onto the floodplains.

## Flood vulnerability 2015



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The flood modelling completed in 2015 shows the extent of vulnerability from a flood at the design standard of 2,800 cumecs in the city centre area.

The image compiles two modelled failure scenarios (only one or the other, left or right, is likely to happen);

- The constriction at Melling Bridge causing the water to go over the top of and break the stopbanks on the city side of the river (current protection is about 1-in-65 year)
- The flood going over the top of the flood defences and breaking the stopbanks on the Marsden bend and Pharazyn St side of the river

These are both caused by not enough space in the channel for the flood water, the river 'pinches' in these locations, and old infrastructure that hasn't been upgraded since the 70's/80's, infrastructure that doesn't meet modern national and international standards.

Total damage under each scenario is about \$1.2B direct damages, this doesn't account for loss of revenue, health costs, etc. It in general would double that amount to account for that.



An image of the original Melling Bridge with its own flooding issues. The Western, pharazyn St stopbanks had not yet been built, and the area was largely farmland.

You can see the railway line, which now doesn't go this far north, at the back of the picture

## Past floods: Jan 2005 (25 yr event)



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The 2005 flood event was the largest since 2000. This was only a 25 year return period event, but came within a metre of the top of the stopbanks at Strand Park (just down the river from the City Centre and upgraded in 2007-2009) and Marsden St (to be upgraded as part of RiverLink).

Eyewitnesses to this flood report;

- Standing on top of the stopbanks during the flood and feeling them vibrating with the water rushing past in the main part of the river
- Water 'seeping' out the back of the stopbanks during the peak of the flood (probably due to the pressure of water being 'piped' through the old stopbank structures)



Edgecombe floodwall, Apr 2017

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What we're worried about;

Edgecombe, this is exactly the type of failure and consequence that means we want to drive this project forward and bring our infrastructure up to modern standards. 2017 Edgecombe flooding was a wakeup call for flood security in NZ and shone a spotlight on the vulnerabilities in flood security across the country



## Flood Protection and Landscape Design

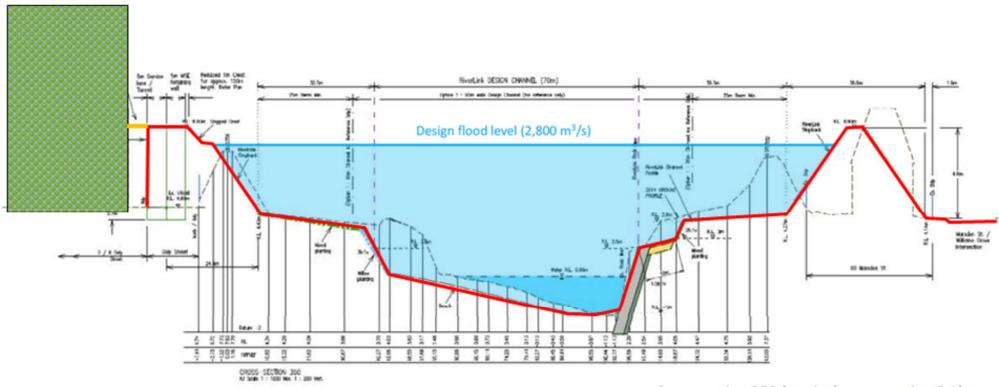


City Centre, we are buying 118 properties to enable us to move the stopbanks back and give more space for the water in a flood. These are a mix of residential and commercial.

The stopbanks are being moved back to give approximately another 25m of space to the river to help with both the flood capacity, but also space for people and nature when the river is not in flood.

The NZTA preferred option is the left hand red dotted line, this was confirmed this year in April, however a decision has not yet been made on funding the consents or construction of this.

# Flood Protection Upgrades



Cross-section 350 (vertical exaggeration 5:1)

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A cross section view of the upgrades. Scale is exaggerated 5 times vertical

## Opportunities

- Habitat and biodiversity improvement through creation of new spaces along and in the river
- Change from current to a less uniform river edge
- Use of river spaces for stormwater treatment, and step change in stormwater treatment from urban streams and drains
- Addressing fish passage disconnects between river and tributary streams
- Improvements to pest and waste controls on activities like the market
- Land use and development changes through controls and incentives (moving to greener infrastructure and development)



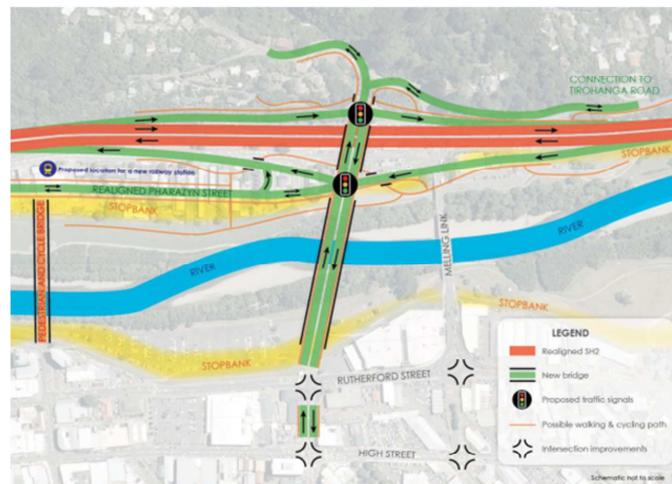
A partnership project funded by 2 of the 3 partners, that has included allowance for carrying out the above improvements

These have been considered and included both to deliver ecological and environmental outcomes, but also to provide a space for education and awareness

# NZ Transport Agency; Melling Transport Improvements



## Preferred Option for Melling



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**Melling transport review complete** - <https://createsend.com/t/t-2E2B0FC1CEC333D52540EF23F30FEDED>

In August we told you we were taking a fresh look at the Melling transport improvements project - the NZ Transport Agency's component of the RiverLink partnership. This was to ensure the Melling transport improvements project met the new priorities set out in the Government Policy Statement on Land Transport (GPS).

The re-evaluation is now complete and it has confirmed the project meets those strategic priorities. Our next step will be to complete the detailed business case (DBC) for the project, before seeking funding for further design and consent.

A preferred interchange option has also been selected from the shortlist shared with the community in 2018. The preferred interchange option is a Diamond Interchange Connecting with Queens Drive.

## Next steps

- Completion of Detailed Business Case
- Funding Consideration for consenting and design
- Funding consideration for construction



### **Next steps**

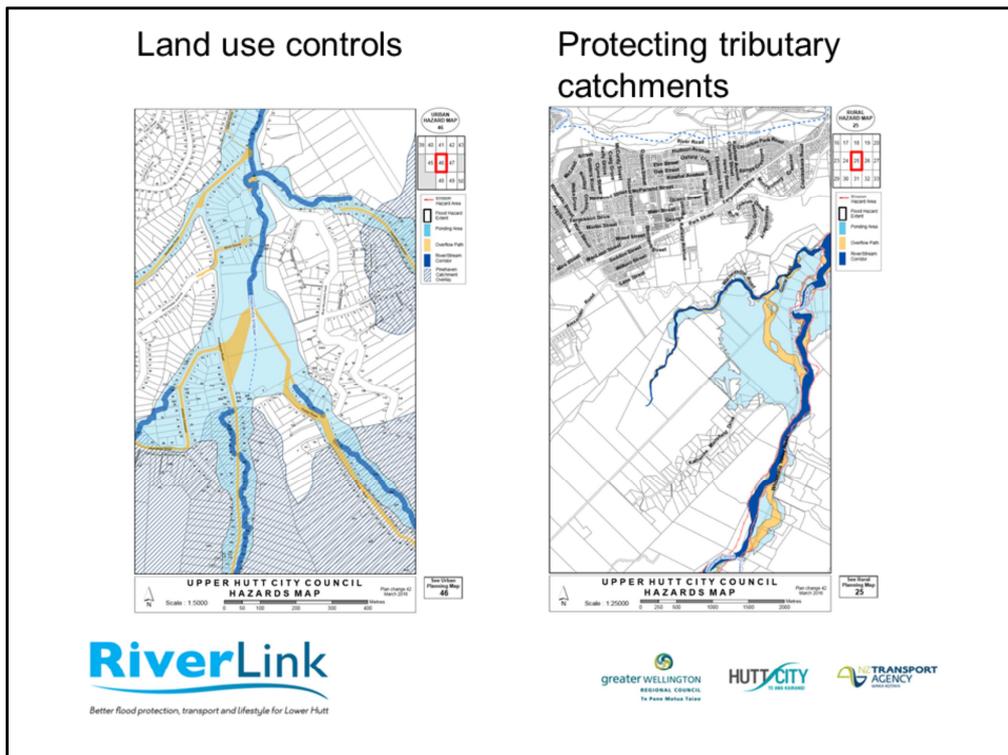
We will now complete the detailed business case for the project, including preliminary design work.

Funding for the next phase, involving further design and consenting, will then be considered against funding availability and nationwide funding priorities. We expect this to be in early 2020.

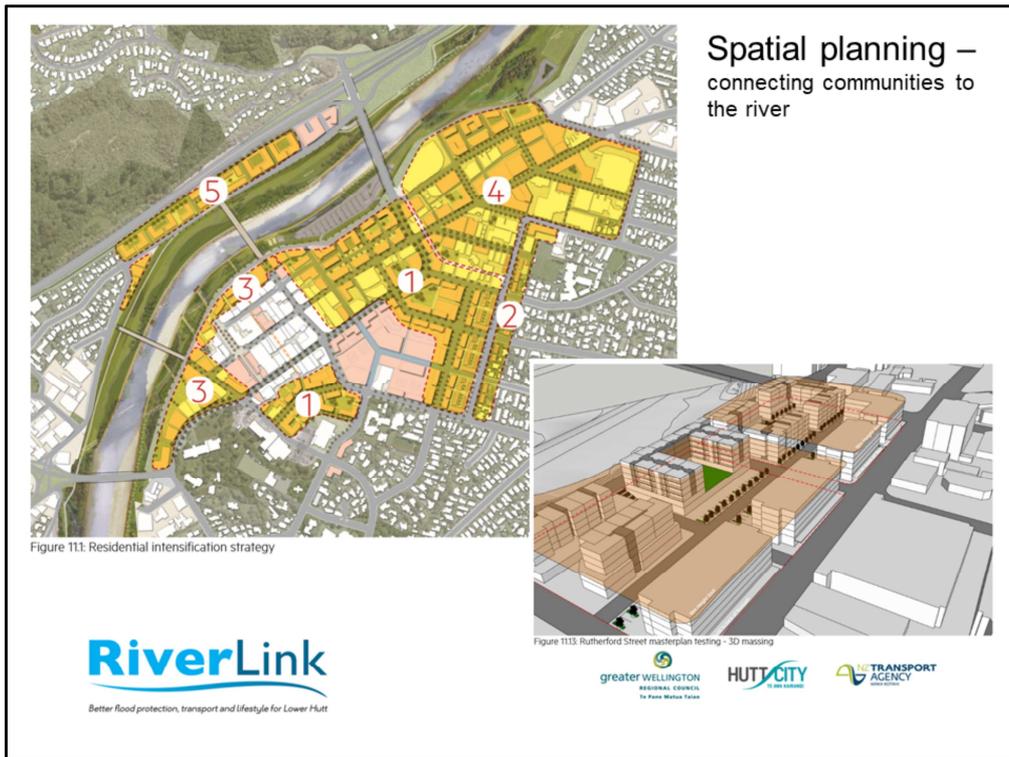
Funding for construction of the Melling transport improvements will be considered beyond 2028.

## Opportunities (and needs)

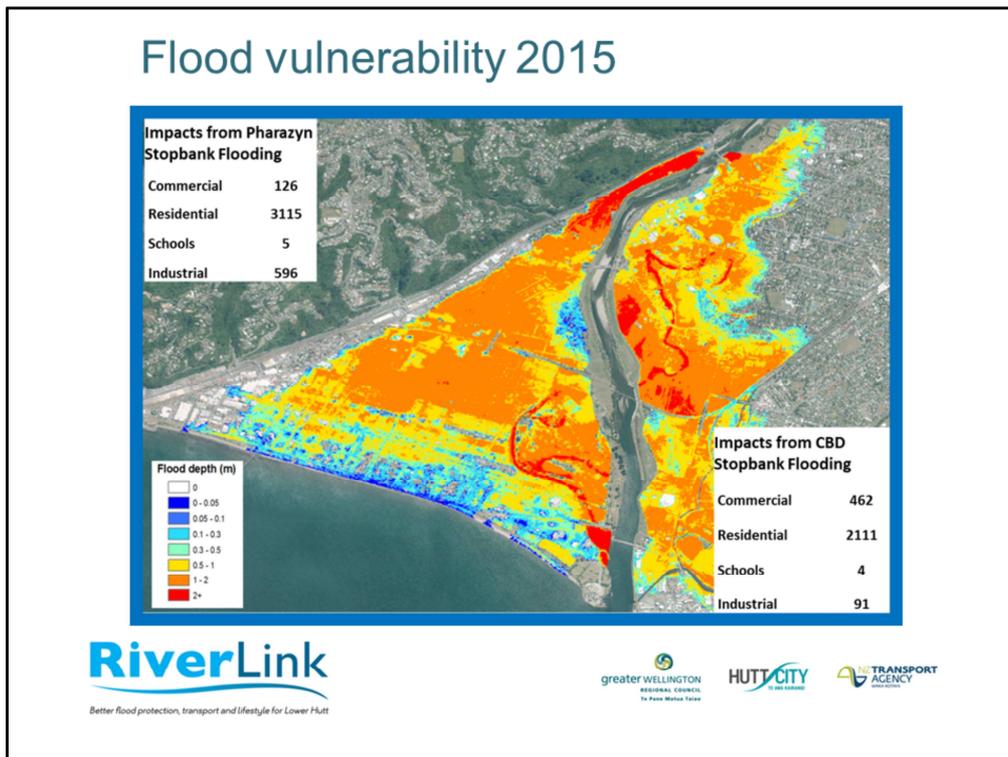




- Land use development controls both for hazards and to slow water entering the river (*halt encroachment + permeable surfaces*)
- Protection for tributary catchments (*halt encroachment + permeable surfaces*)
- More space for the rivers and streams (*halt encroachment*)



Hutt City's future being planned now, City Centre transformation plan  
Inset 3D image shows the current countdown site and adjacent bits, near number 1 central  
on map above



We use maps like this to influence development controls and plans in regard to hazards, by working with and recommending to the TA's controls to go in place to reduce consequences from hazards.

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## Riddiford Gardens Redevelopment

The project objectives are to:

- develop a popular, safe and vibrant garden which residents and people working in the CBD can be proud of
- provide an obvious, accessible and high quality connection between the CBD, the War Memorial Library, the Dowse Art Museum and the new Events Centre
- improve the appearance of Opahu Stream
- provide surprises and fun to attract families and community
- provide opportunities for active recreation and outdoor settings for people to meet.

Didn't have a core objective of stormwater retention or water quality, it focused in on amenity and space usage at its heart

## RiverLink things happening right now

- Geotechnical investigations
- Kiwibuild apartment and laneways development
- Belmont stream pilot stormwater treatment Wetland
- Contained dog exercise area



# Geotechnical Investigations:





Work to assist with design and future consents for the RiverLink construction. We are looking for the aquifer, Wellington Fault Line and below ground material types. Where the aquifer is found we will be installing monitoring equipment to provide information about the changes in pressure within the aquifer and ground above it.

Some of the bores are going 30m deep, these are expected to find the aquifer, the shallower bores are only going 12m to 15m deep.

# Kiwibuild Urban Development:



## Laneway by Former BNZ High Street

- Wellington Company KiwiBuild Mixed Use Development
- Complete Christmas 2019



The first signs of progress, Wellington Company investing in apartment, office and retail development one block back from RiverLink.

Showing trust in investment by Councils (both GWRC and HCC)

This is being done under current development rules, but is taking into account new urban design guidelines to improve the city spaces (Laneways)

Future developments of similar nature could include and give effect to urban greening and dealing with impermeable surfaces issues.

# Belmont Stormwater Treatment Wetland; Learning lessons for design and maintenance



# Belmont Stormwater Treatment Wetland Trial

- Trialing use of river berm area for stormwater treatment
- Working out sustainable maintenance responsibilities
- Learning lessons for the wetlands in the remaining RiverLink design



