

Waimakariri District Council – Context

- Medium sized council – population ~50,000
- Located just north of Christchurch
- Challenges identified in 30 Year Infrastructure Strategy



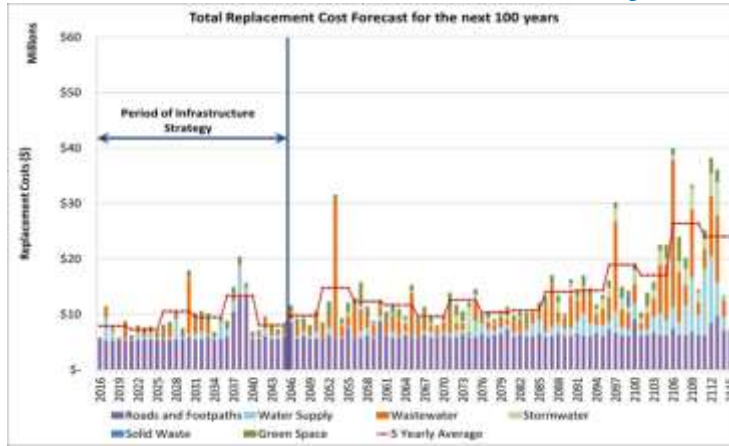
1. Catering for population increases and growth;
2. Meeting increased expectations and regulatory standards;
3. Coping with Major Natural Events, including funding;
4. **Renewing existing infrastructure.**

Waimakariri DC – 3 Waters Assets

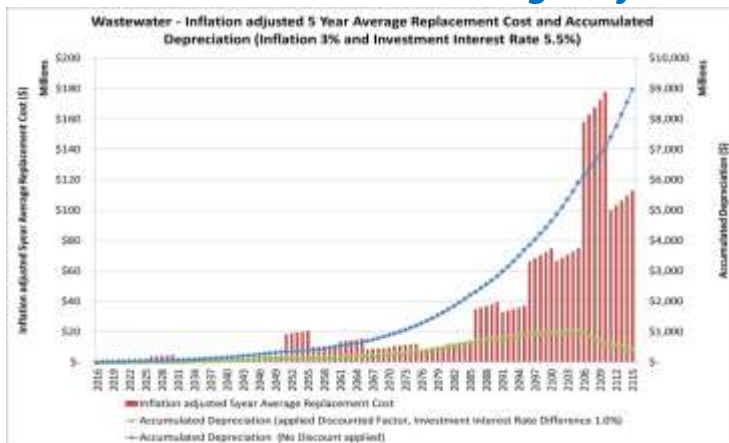
- Average age of 3 Waters assets:
 - Wastewater – 23 years
 - Water – 20 years
 - Stormwater – 17 years
- First sewer laid from 1930s, but most assets in last 40 years
- Peak renewals from 2070 to 2120
- Funding for renewals – managed depreciation fund
- Renewals programme – risk based approach



Waimakariri DC – Renewals Profile



Waimakariri DC – Funding Profile

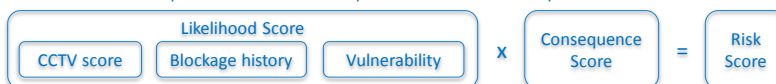


Waimakariri DC – Strategies

- Funding headroom.
 - With insurance in place
 - Without insurance
- *Good condition data is seen as one of the key parts of our renewals approach to ensure we improve the overall resilience of our infrastructure.*
- *Allow for ground conditions in valuations*

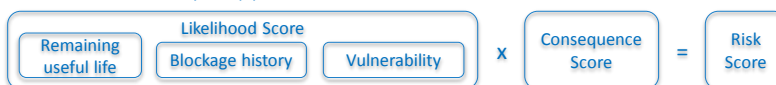
Waimakariri DC – Renewals Approach

- **Wastewater:**
 - CCTV inspection of ~2% network per annum based on risk profile



- Risk score (renewals priority score) to schedule preliminary renewal programme
- Renewal method determined from criteria

- **Water:**
 - Burst history and pipe condition recorded



- Risk score (renewals priority score) to schedule preliminary renewal programme

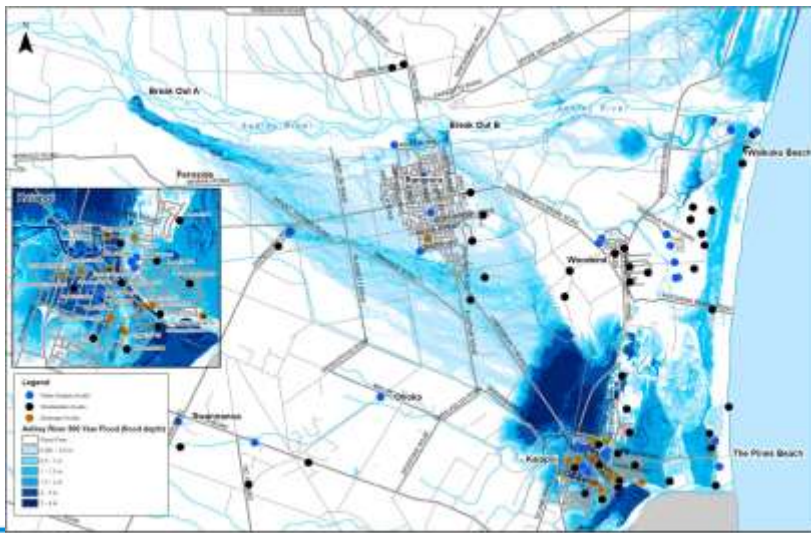
- **Stormwater:**
 - CCTV inspection of pipes on private property
 - Renewals is currently reactive
 - Challenge is around accuracy of asset data

VULNERABILITY
LOCATION OF
INFRASTRUCTURE IN
RELATION TO
HAZARD IS CRITICAL.



waimakariri.govt.nz

IT'S NOT JUST EARTHQUAKES



govt.nz

Risk based reticulation renewals

- The burst history of the water main
- The remaining useful life
- The vulnerability, made up of:
 - Location
 - Material ductility
 - Jointing method
- Criticality

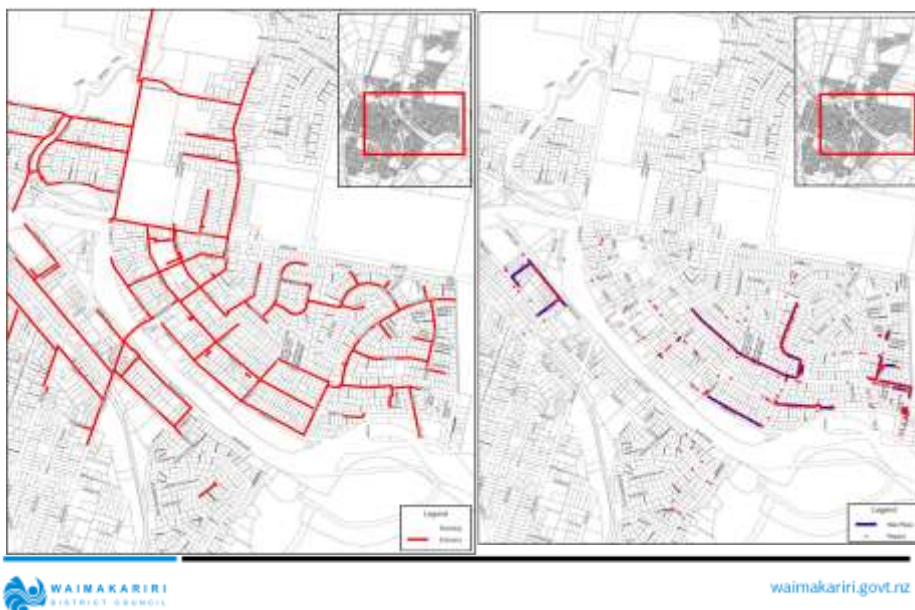


Risk Based Reticulation Renewals

Location	Diameter (mm)	Material	Criticality	Vulnerability	Remaining Useful Life	Risk Score
Sewell St, Kaiapoi	375	Asbestos Cement	AA	Extreme	27	6500
Holland Dr, Kaiapoi	100	Polyethylene	C	Medium	15	248



Risk based reticulation renewals



Future resilience

- •Protection of pipe joints and pipe haunching in liquefaction prone areas with geotextile
- •Long sleeve joints at manholes
- •Depth of sewer mains (<3.5m)
- •Location suitable for future repair / replacement
- •Consider different solutions e.g. Vacuum or Pumped wastewater services.