

Peri-urban landscapes

Rethinking the land around cities for housing + food production



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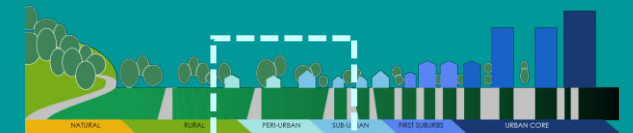


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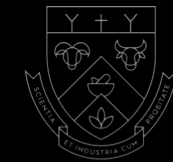


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The issue



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Image credit: Don Royds, 2023



What the research showed

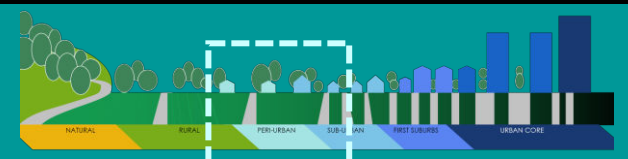




Image credit: Don Royds, 2023



'Pack mob' behaviour of boy racers intimidates North Canterbury residents

Jody O'Callaghan · 17:31, Apr 08 2021



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 KELLOGG RURAL LEADERSHIP PROGRAMME
 NUFFIELD NEW ZEALAND FARMING SCHOLARSHIP
 VALUE CHAIN INNOVATION RURAL LEADERS PROGRAMME

Connection: What are the social and cultural outcomes of peri-urban catchments?

Contact

Dublin Bay development "beggars belief"|reverse sensitivity concerns emerge

Marjorie Cook · 09:16, Sep 08 2015



The future of farming could be up, not out

Daniel Smith · 05:00, Aug 29 2021



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Press release > Transform | Resist

Two thirds of tested rural bore water above cancer risk limit for nitrate

Adam Currie
 17 March 2022 · 0 Comments

Urban farming's popularity rising in New Zealand as low carbon growing alternative

03/01/2022 Alexa Cook



Urban sprawl and the land that keeps on giving

30 Dec, 2017 02:17 PM 10 minutes to read

stuff manawatū standard

Police name last two men who died in fishing boat sinking ... read more

Fonterra's complaining neighbour request

Janine Rankin · 06:38, Nov 07 2012

Fonterra wants to be protected from new neighbours moving in close to its sites in Palmerston North, and then complaining about its activities.

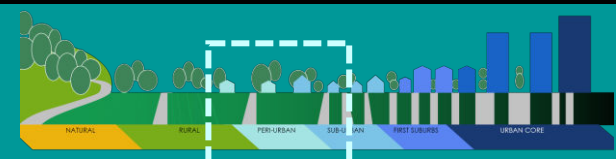
Facts 'overrated' in farming's fight for social licence

Glen Herud · 05:30, May 14 2019

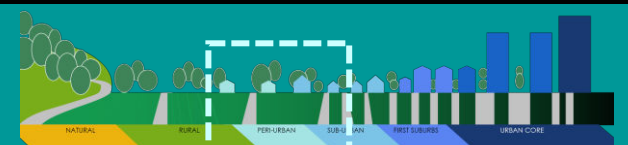


For regions to survive, they must avoid the temptation of urban sprawl

James Goodhue · 05:00, May 09 2021



□ The potential



Food + the City



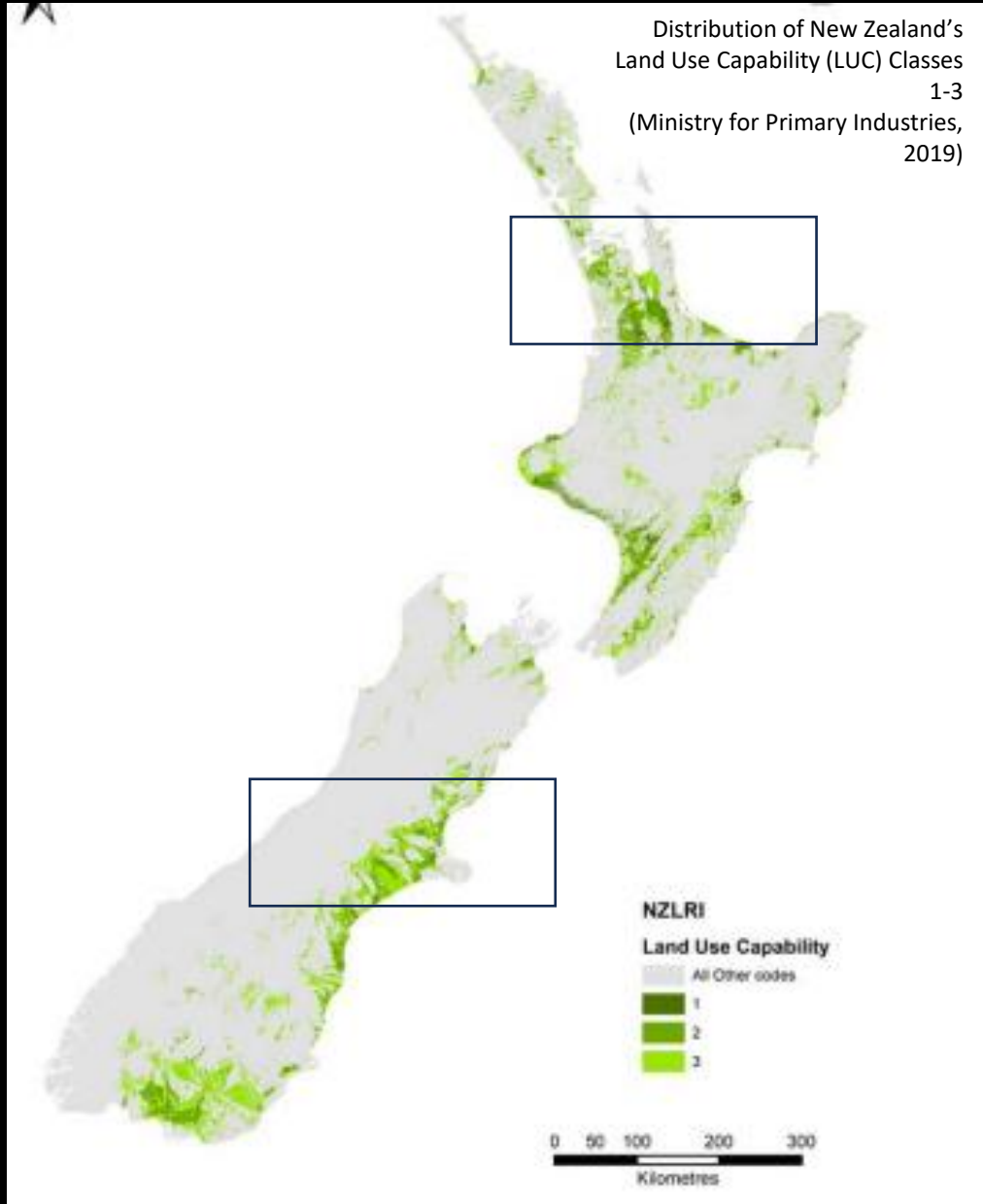
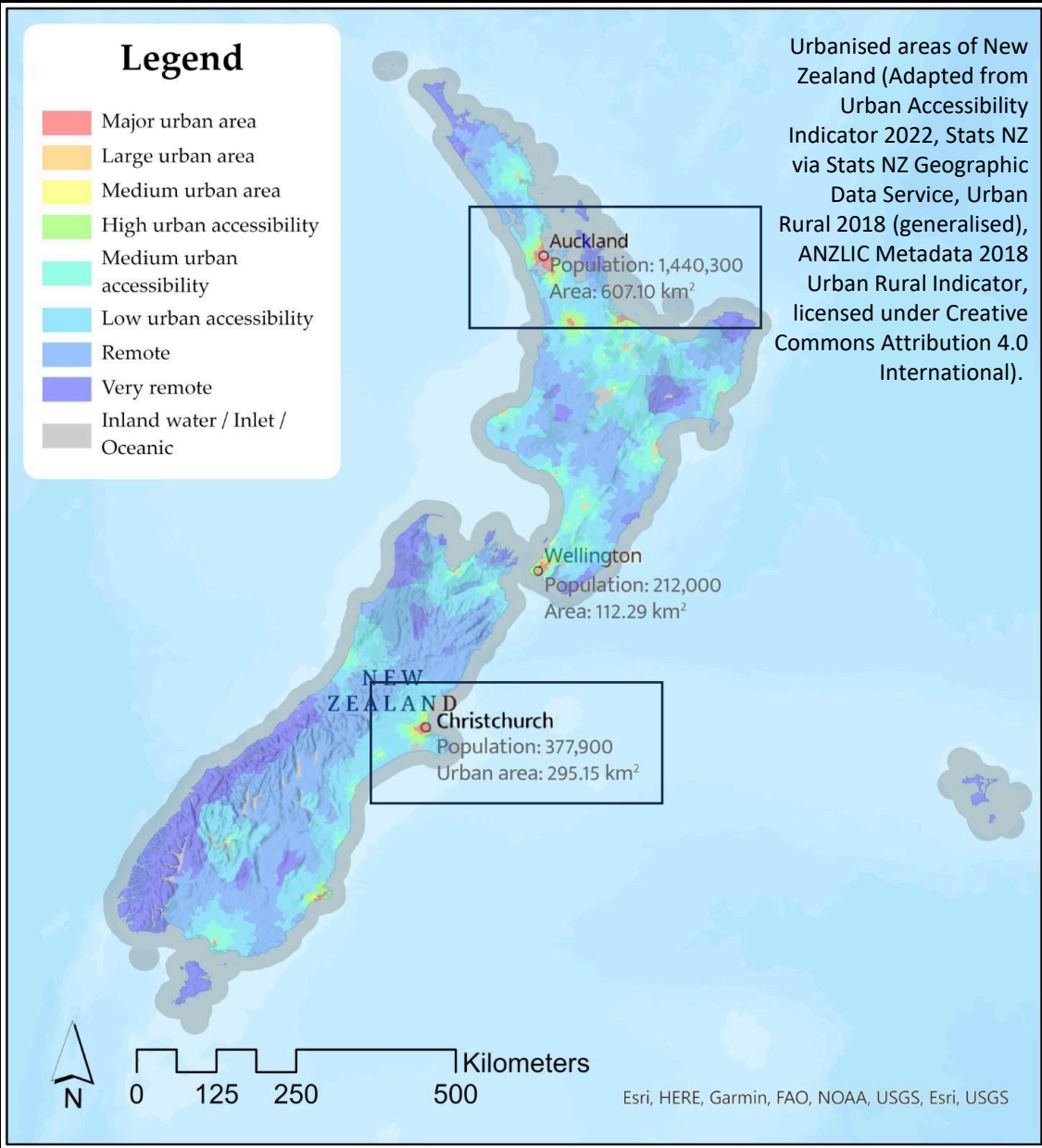
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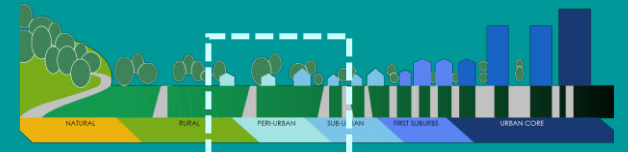
Carolyn Steel, Hungry City:
How Food Shapes Our Lives.
1676 Ogilby's map of London,
shaded to show food markets
and supply routes



Photo credits: Mykal Shaw
Streetsoflondon.com
Accessed from
<https://londonist.com/2016/06/how-london-s-food-and-drink-streets-got-their-names>



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The peri-urban zone



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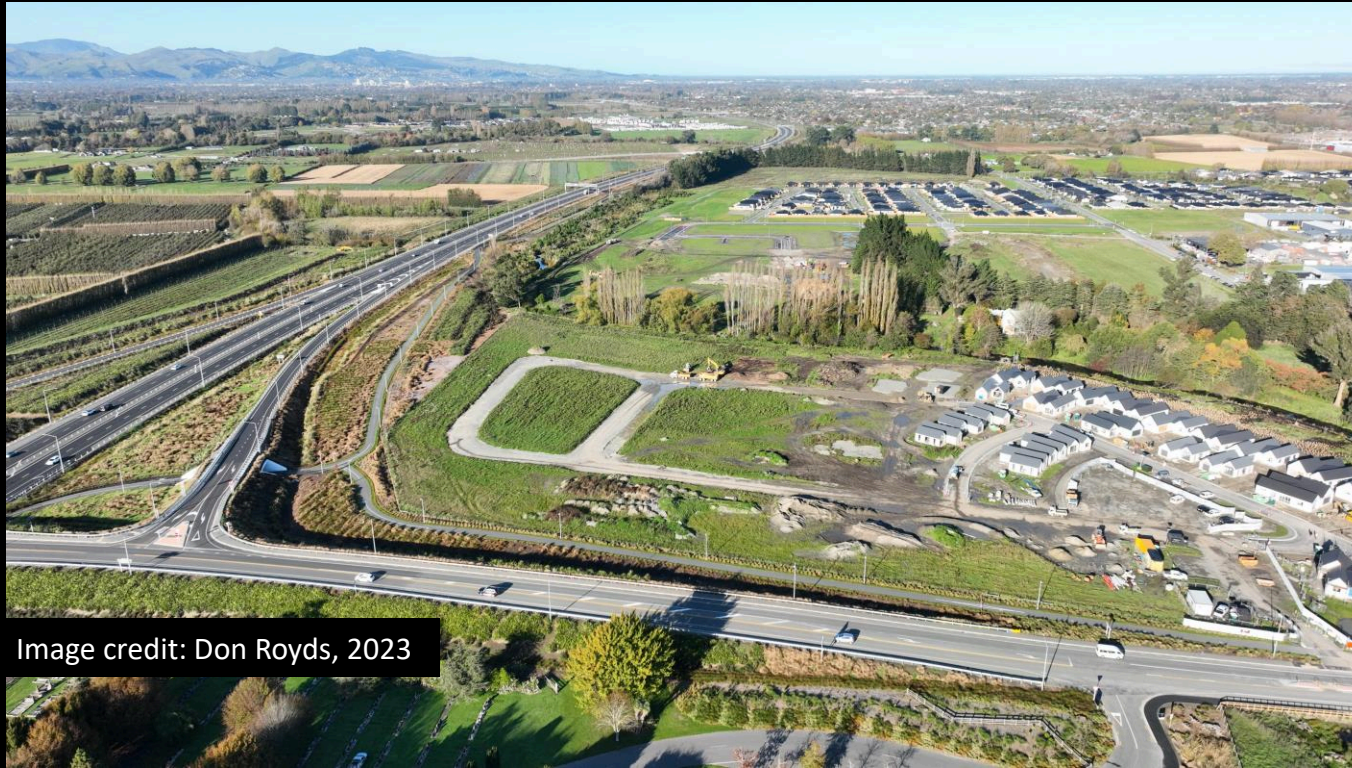
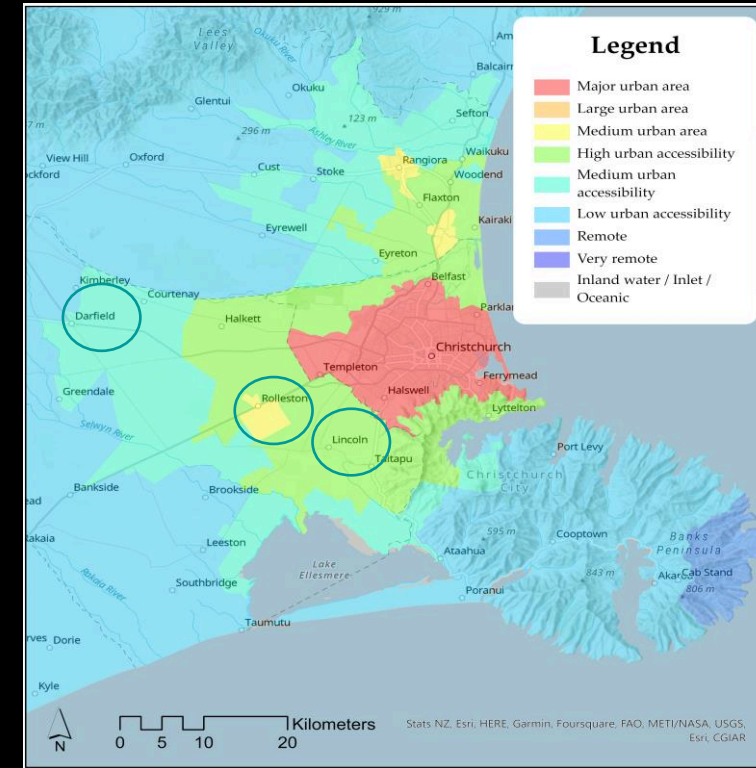
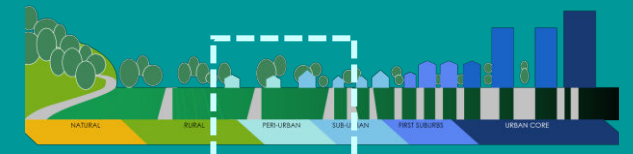


Image credit: Don Royds, 2023

Former? Peri-urban zone in north Christchurch, looking south towards Christchurch city.
Image credit: Don Royds



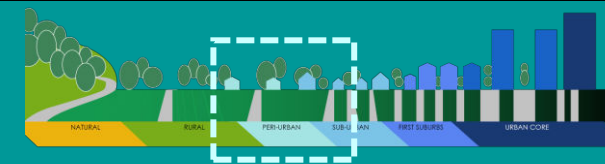
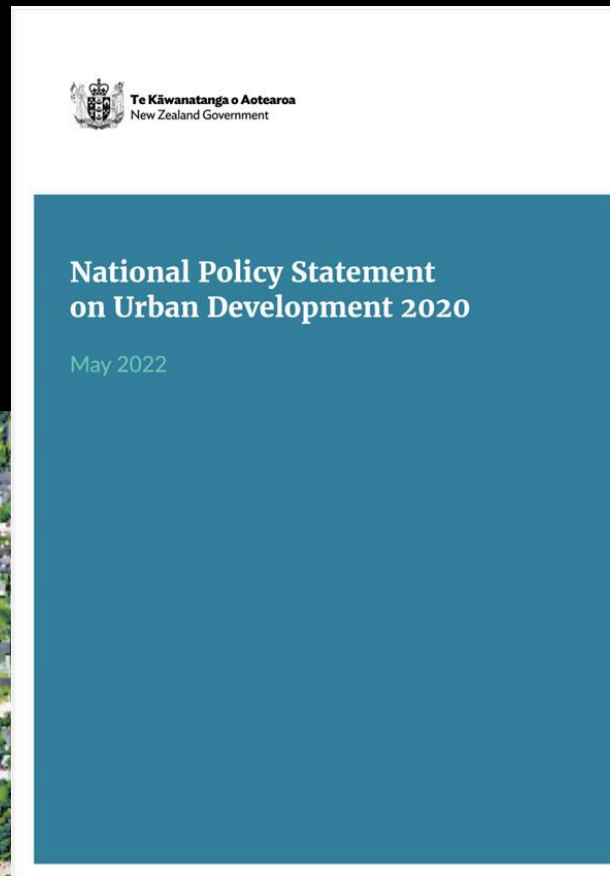
Peri-urban areas (including the medium urban area, high urban accessibility area, and medium urban accessibility area) around Ōtautahi Christchurch (Adapted from Urban Accessibility Indicator 2022, Stats NZ via Stats NZ Geographic Data Service, licensed under Creative Commons Attribution 4.0 International).



Policy Context

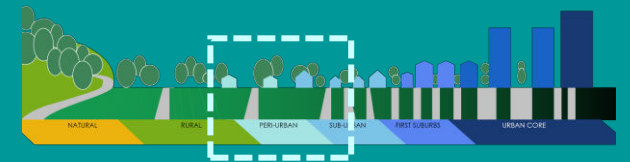


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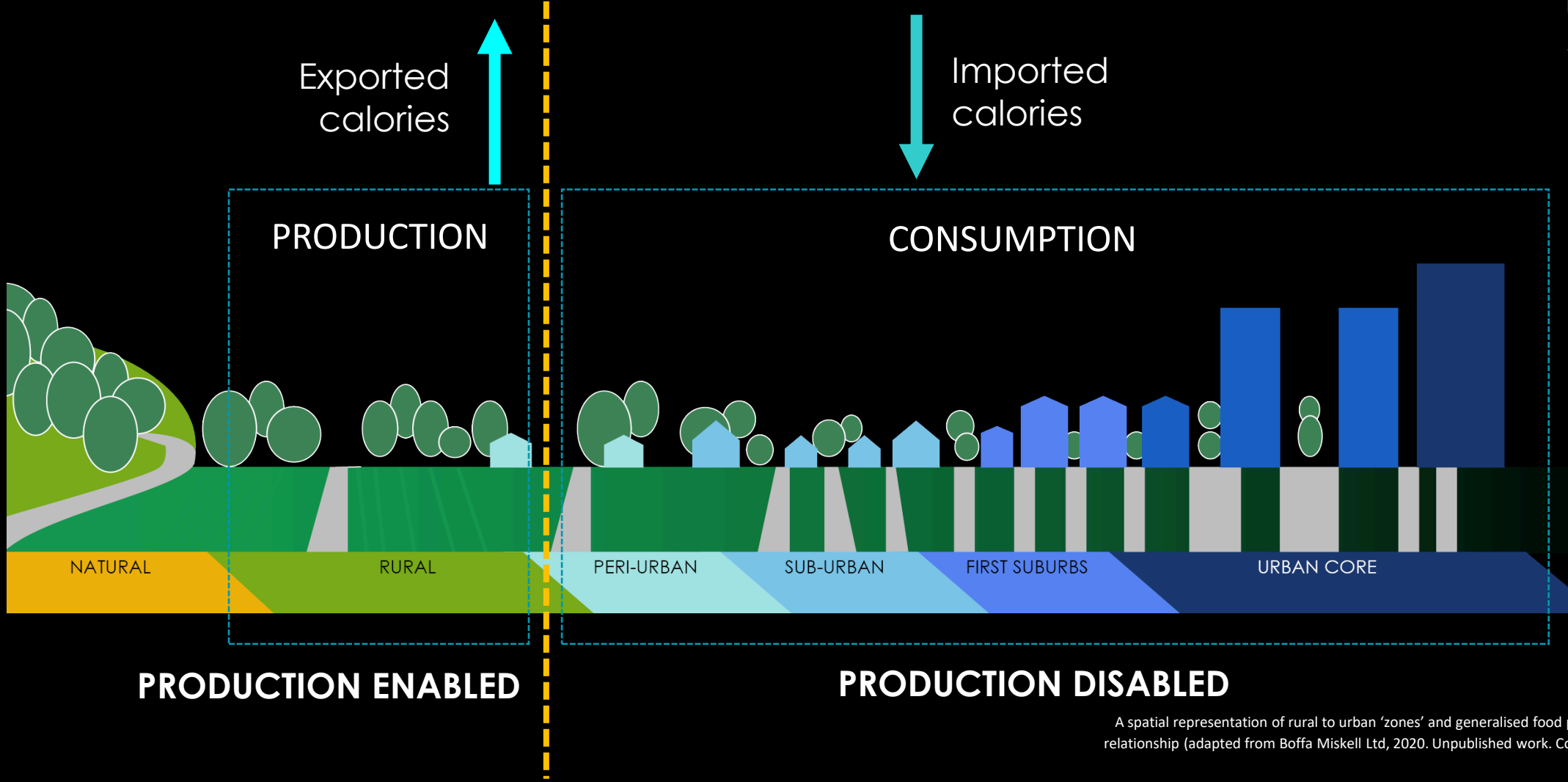




How can landscapes for both food production and people prosper within peri-urban New Zealand?



Where do New Zealanders get their food?



A spatial representation of rural to urban 'zones' and generalised food production/consumption relationship (adapted from Boffa Miskell Ltd, 2020. Unpublished work. Copyright permission from Boffa Miskell Ltd)

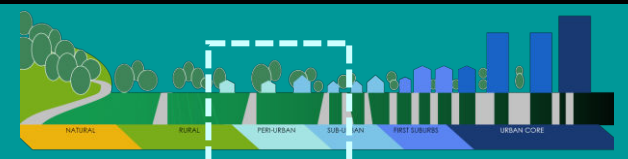






Image credit: Don Royds, 2023



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urban expansion onto agricultural land

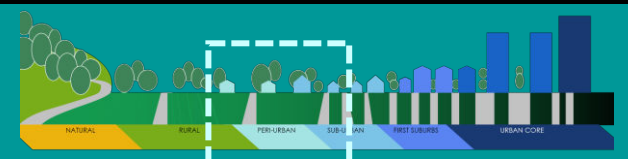


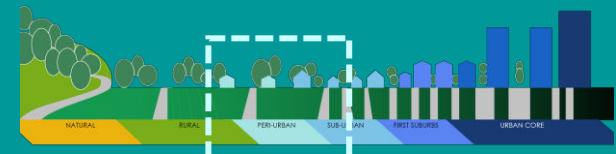


Image credit: Don Royds, 2023



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existing
farms being
'designed out'
of
peri-urban areas



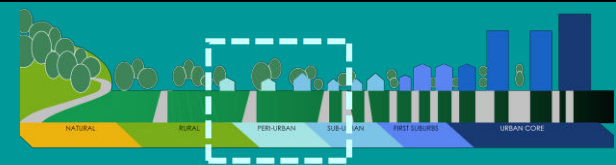


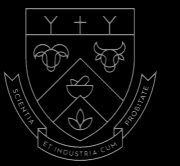
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productive land fragmentation



Image credit: Don Royds, 2023

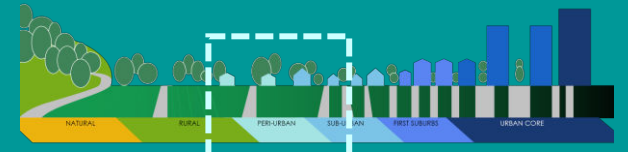




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unproductive land use

Image credit: Don Royds, 2023





large houses, no garden

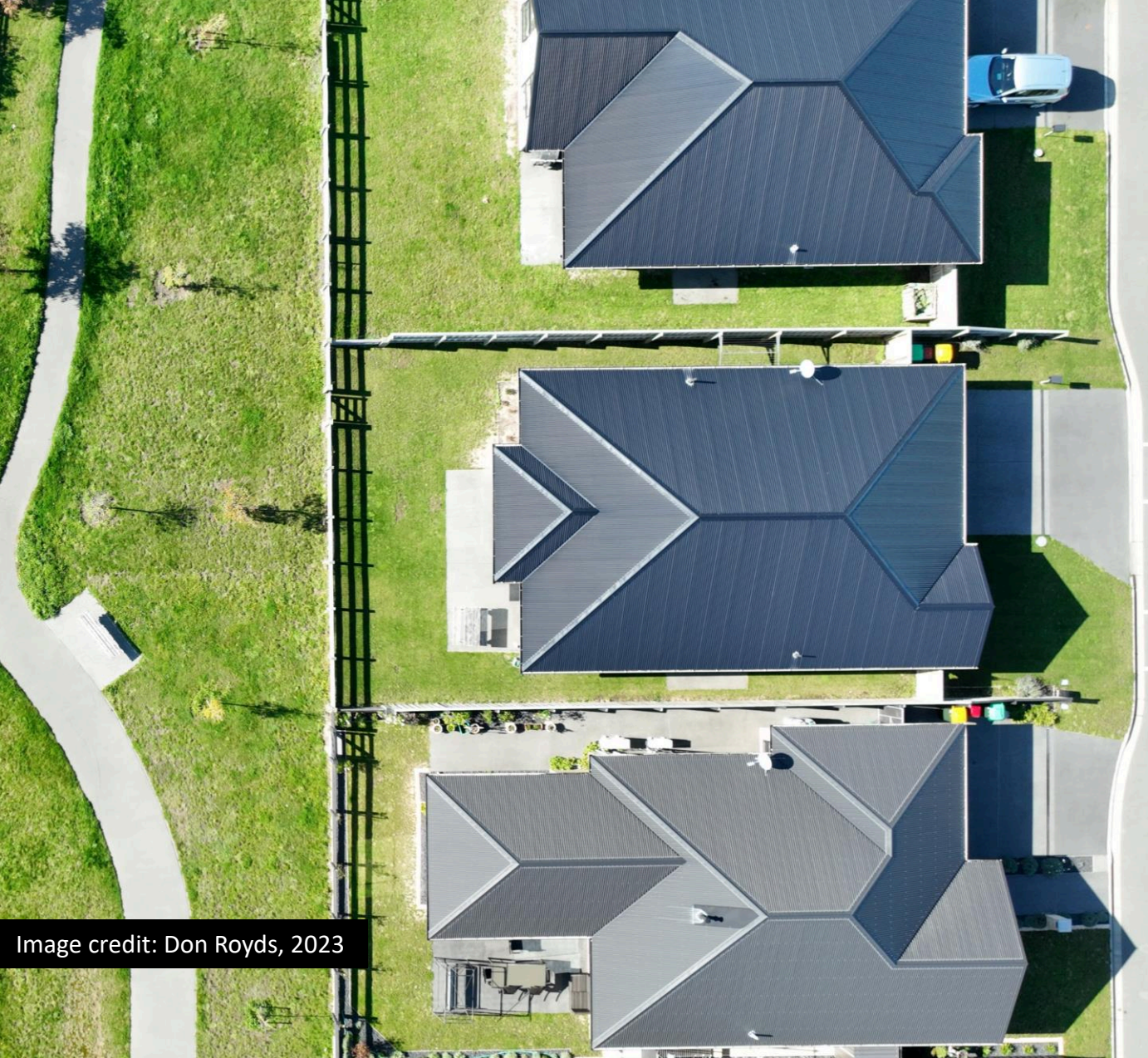
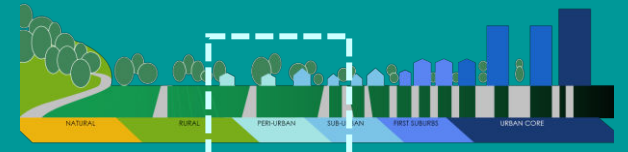


Image credit: Don Royds, 2023



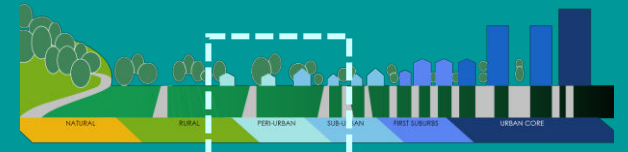


Housing **VERSUS** Food



Housing **AND** Food

Image credit: Don Royds, 2023

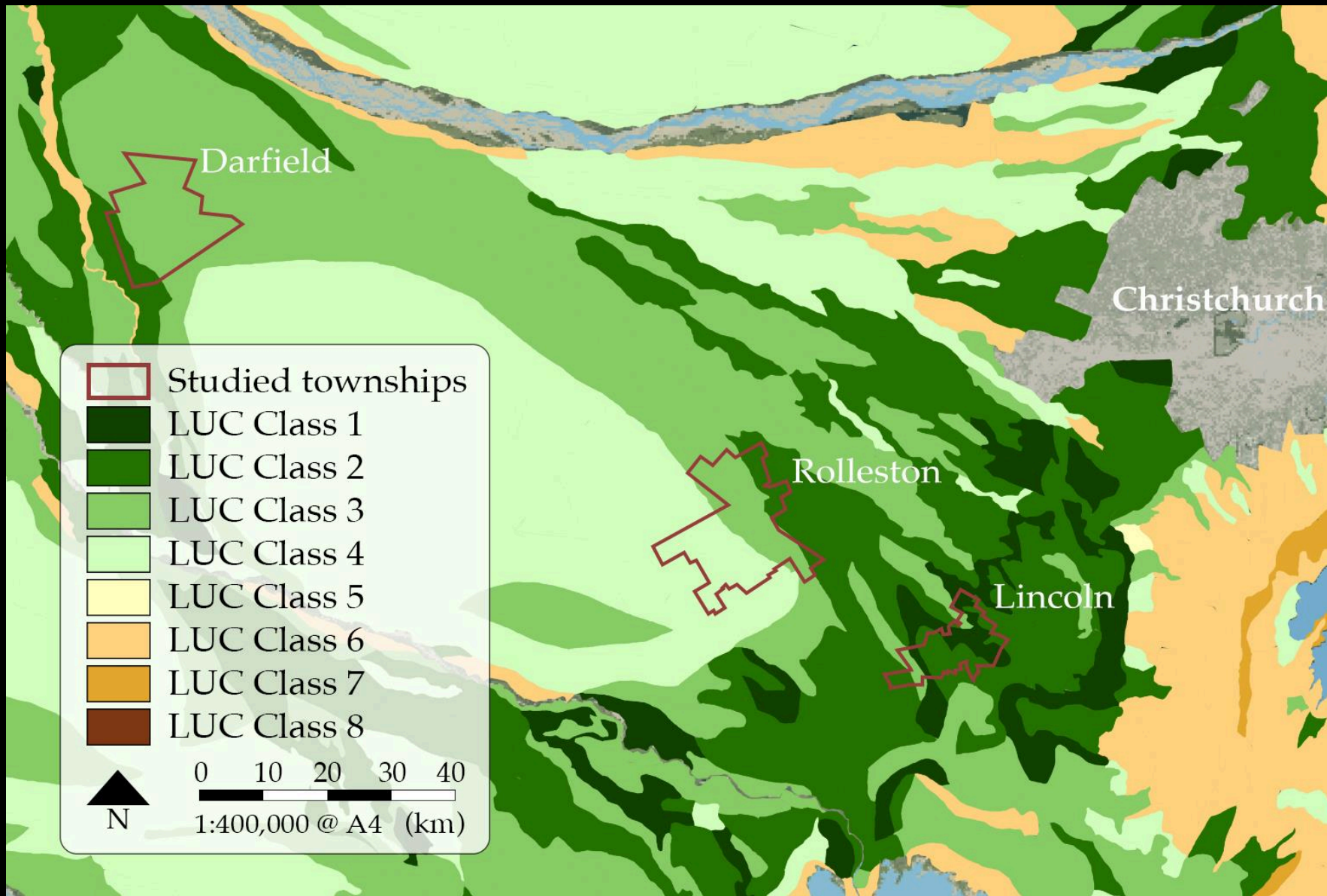




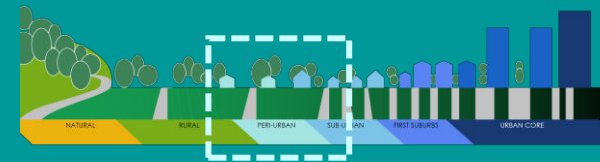
Case study

ŌTAUTAHI CHRISTCHURCH





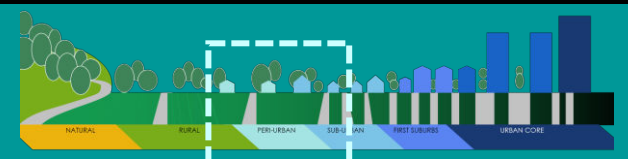
Land Use Capability (LUC) map illustrating the soil productivity of the land around the townships of Lincoln, Rolleston, and Darfield. This soil classification system categorizes land into eight classes according to the physical qualities of the land, soil, and environment. Class 1 is the most versatile multiple-use land highly suitable for all types of agricultural productions, while Class 8 is non-arable land with very severe to extreme limitations to all productive land uses. LUC Class 1-3 are considered 'highly productive' (Adapted from Our Environment by Manaaki Whenua Landcare Research, licensed under Creative Commons Attribution 4.0 International (CC BY 4.0)).



Design Thinking



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Design Thinking

What ideas do you have about how food production and housing can best co-exist at the edges of New Zealand's cities and settlements, in the future?



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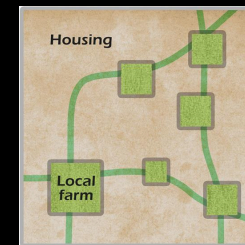
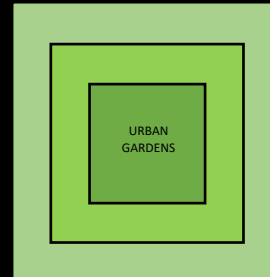
EMPATHISE

DEFINE

IDEATE

PROTOTYPE

TEST

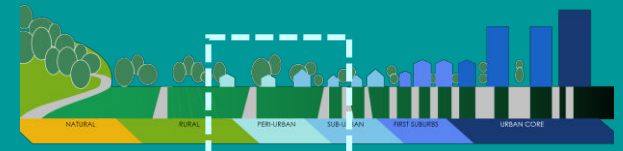


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National Science Challenges

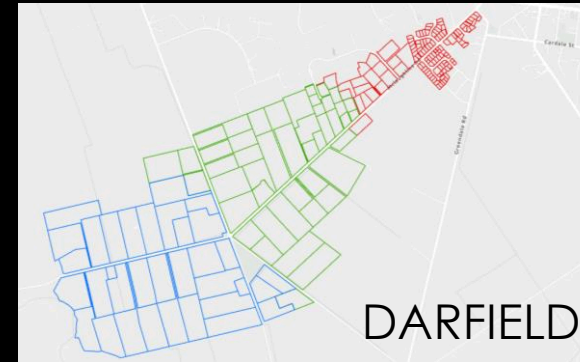
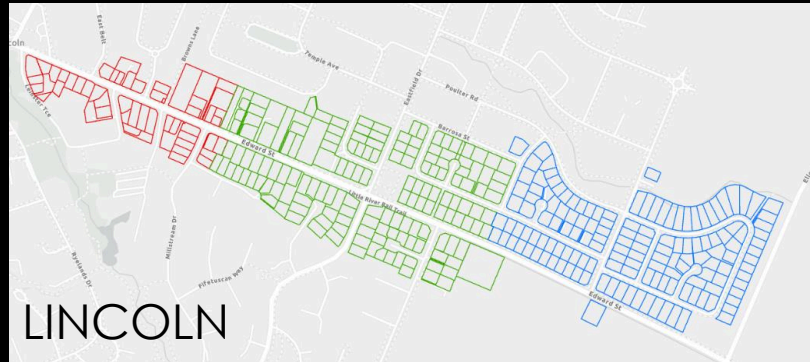
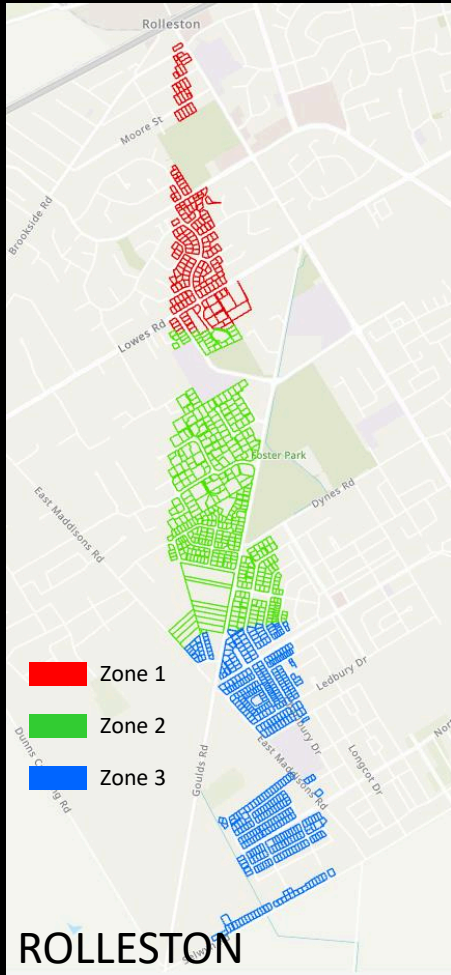
OUR LAND AND WATER

Toitū te Whenua, Toiora te Wai



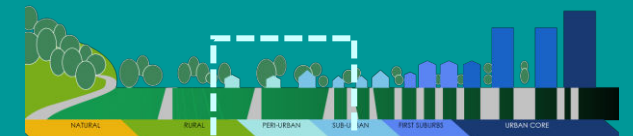
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SURVEY with peri-urban RESIDENTS 2023



RESPONSE RATE BY TOWN AND ZONE

| | ROLLESTON | | | LINCOLN | | | DARFIELD | | | Total |
|---------------------------|-----------|--------|--------|---------|--------|--------|----------|--------|--------|-------|
| | Zone 1 | Zone 2 | Zone 3 | Zone 1 | Zone 2 | Zone 3 | Zone 1 | Zone 2 | Zone 3 | Total |
| Distributed | 180 | 589 | 654 | 79 | 136 | 215 | 126 | 47 | 34 | 2060 |
| Response collected | 15 | 34 | 36 | 21 | 30 | 18 | 19 | 11 | 6 | 190 |
| Response accepted | 15 | 31 | 34 | 20 | 25 | 18 | 19 | 11 | 6 | 179 |
| Response rate | 8.33% | 5.26% | 5.20% | 25.32% | 18.38% | 8.37% | 15.08% | 23.40% | 17.65% | 8.69% |



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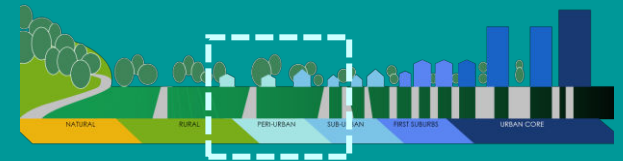
SURVEY with peri-urban RESIDENTS 2023



“

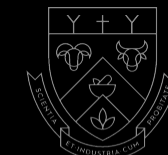
I like seeing cows and sometimes sheep over the back fence. It's important to me for my daughter to have a strong connection to farming and agriculture.

| Attribute | Description | Count | N | Percentage |
|--|--------------------|-------|-----|------------|
| Overall perception towards food-producing landscapes | Extremely positive | 107 | 178 | 60.11% |
| | Mostly positive | 57 | | 32.02% |
| | Neutral | 11 | | 6.18% |
| | Mostly negative | 3 | | 1.69% |
| | Extremely negative | 0 | | 0.00% |



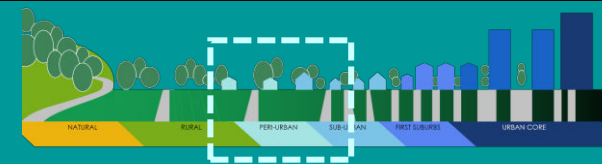
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SURVEY with peri-urban RESIDENTS 2023



The NZ dairy industry practices have moved over recent years to high yields with less concerns over the immediate effects they are having on the environment. We see this locally with shelterbelts being removed, reduced biodiversity and token efforts to remove/reduce herd access to waterways.

| Production practice | Extremely positive | Mostly positive | Neutral | Mostly negative | Extremely negative | No known farms | N |
|-----------------------------------|--------------------|-----------------|---------|-----------------|--------------------|----------------|-----|
| Dairy | 29 | 59 | 22 | 17 | 11 | 40 | 178 |
| Beef | 44 | 52 | 20 | 8 | 2 | 52 | 178 |
| Lamb | 56 | 55 | 14 | 5 | 2 | 46 | 178 |
| Market garden products | 81 | 39 | 14 | 2 | 1 | 39 | 176 |
| Orchard fruits (excl. berries) | 58 | 28 | 11 | 1 | 1 | 75 | 174 |
| Berries | 69 | 33 | 12 | 0 | 0 | 59 | 173 |
| Honey | 72 | 27 | 8 | 1 | 0 | 65 | 173 |
| Field Crops for human consumption | 69 | 34 | 9 | 1 | 0 | 62 | 175 |
| Crops for livestock consumption | 57 | 50 | 20 | 2 | 2 | 45 | 176 |





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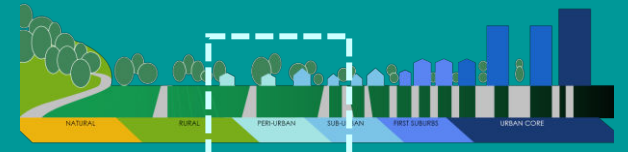
SURVEY with peri-urban RESIDENTS 2023



| Approach | Extremely positive | Mostly positive | Neutral | Mostly negative | Extremely negative | Never heard of it | N |
|-------------------------------------|--------------------|-----------------|---------|-----------------|--------------------|-------------------|-----|
| Conventional farming | 61 | 75 | 27 | 8 | 2 | 5 | 178 |
| Organic farming | 87 | 62 | 22 | 3 | 0 | 3 | 177 |
| Regenerative farming | 75 | 44 | 19 | 2 | 0 | 33 | 173 |
| Mahika kai/Mahinga kai and Māri kai | 49 | 18 | 15 | 0 | 1 | 85 | 168 |
| Community garden | 98 | 53 | 22 | 1 | 0 | 4 | 178 |



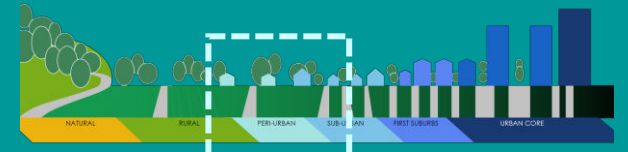
The ... area has a rich history of farming and this should be both encouraged and protected. Far too much arable farming land is being converted to residential use - with little consideration to the selection of less productive ground for housing.



empathise

SURVEY with peri-urban RESIDENTS 2023

| | 00. General farming practice + all production | All production | General farming practices | 01. Dairy | 02. Beef | 03. Sheep or lamb | 04. Market garden products | 05. Orchard fruits | 06. Berries | 07. Honey | 08. Field crops for human | 09. Crops for livestock | 10. Animal-based farming practices | 12. Community garden | Livestock-based production | Pick your own | Pig farm | Taken over by developments | Total |
|---|---|----------------|---------------------------|-----------|-----------|-------------------|----------------------------|--------------------|-------------|-----------|---------------------------|-------------------------|------------------------------------|----------------------|----------------------------|---------------|----------|----------------------------|-----------|
| 1 : 0. Others | 0 | 0 | 0 | 3 | 2 | 2 | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 6 |
| 2 : 1. Impacts on human health and quality of life | 1 | 0 | 1 | 22 | 11 | 6 | 2 | 1 | 0 | 0 | 1 | 2 | 0 | 0 | 1 | 0 | 1 | 0 | 28 |
| 3 : Chemicals and sprays | 1 | 0 | 1 | 2 | 2 | 2 | 1 | 1 | 0 | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 6 |
| 4 : Health issues | 0 | 0 | 0 | 2 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 5 : Noise | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 6 : Smell | 0 | 0 | 0 | 2 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 3 |
| 7 : Traffic related issues | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 8 : Unable to access the produce locally | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 9 : Water pollution; nitrogen | 0 | 0 | 0 | 19 | 9 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 21 |
| 10 : 2. Impacts on the environment | 2 | 0 | 2 | 27 | 12 | 6 | 1 | 1 | 0 | 0 | 1 | 4 | 1 | 0 | 2 | 0 | 0 | 1 | 35 |
| 11 : Chemicals and sprays | 1 | 0 | 1 | 2 | 2 | 2 | 1 | 1 | 0 | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 6 |
| 12 : Environmental impacts | 0 | 0 | 0 | 4 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 6 |
| 13 : Environmentally unsustainable | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 2 |
| 14 : Excessive water consumption | 0 | 0 | 0 | 10 | 4 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 11 |
| 15 : Greenhouse gas emission | 0 | 0 | 0 | 5 | 3 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 8 |
| 16 : Monoculture | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 17 : Negative impacts on biodiversity | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 18 : Negative impacts on the land or soil | 0 | 0 | 0 | 5 | 2 | 2 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 6 |
| 19 : Too intensive | 1 | 0 | 1 | 5 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 |
| 20 : Trees were taken out | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 21 : Water pollution; nitrogen | 0 | 0 | 0 | 19 | 9 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 21 |
| 22 : 3. Unwise land use | 0 | 0 | 0 | 6 | 4 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 9 | 15 |
| 23 : Food production & productive lands should be preserved | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 3 |
| 24 : Not make the best use of the land | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 7 |
| 25 : Unsuitable soil or climate for such production | 0 | 0 | 0 | 5 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 |
| 26 : 4. Ethical concerns | 0 | 0 | 0 | 7 | 3 | 4 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 2 | 0 | 0 | 0 | 8 |
| 27 : Poor animal welfare | 0 | 0 | 0 | 7 | 3 | 4 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 2 | 0 | 0 | 0 | 8 |
| Total | 2 | 0 | 2 | 33 | 15 | 10 | 3 | 1 | 1 | 1 | 1 | 4 | 2 | 0 | 4 | 0 | 1 | 10 | 50 |



empathise

SURVEY with peri-urban RESIDENTS 2023

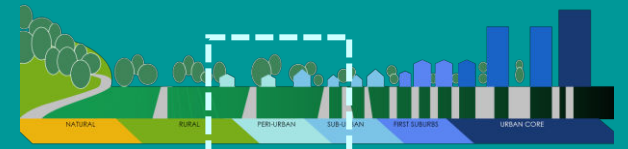
| | A : 00. General farming practice + all production | B : All production | C : General farming practices | D : 01. Dairy | E : 02. Beef | F : 03. Sheep or lamb | G : 04. Market garden products | H : 05. Orchard fruits | I : 06. Berries | J : 07. Honey | K : 08. Field crops for human | L : 09. Crops for livestock | M : 10. Animal-based farming practices | N : 12. Community garden | O : Livestock-based production | P : Pick your own | Q : Pig farm | R : Taken over by developments | Total |
|--|---|--------------------|-------------------------------|---------------|--------------|-----------------------|--------------------------------|------------------------|-----------------|---------------|-------------------------------|-----------------------------|--|--------------------------|--------------------------------|-------------------|--------------|--------------------------------|-----------|
| 1 : 00. Others | | | | 1 | 1 | 1 | | | | | | | | | | | | | 3 |
| 2 : 01. Produce-related benefits | | | | | | | | | | | | | | | | | | | |
| 3 : Access to local produce | | | | 0 | 0 | 0 | 9 | 2 | 9 | 4 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 18 |
| 4 : Better quality | | | | 1 | 1 | 0 | 1 | 1 | 1 | 2 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 4 |
| 5 : Enjoy the produce | | | | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 6 : Fresh | | | | 0 | 0 | 0 | 2 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 |
| 7 : Lower costs of the produce | | | | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 3 |
| 8 : 02. Environmental benefits | | | | | | | | | | | | | | | | | | | |
| 9 : Less transport and fuel consumption | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 10 : Less waste | | | | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 11 : Pollination | | | | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 12 : 03. Associative benefits | | | | | | | | | | | | | | | | | | | |
| 13 : Able to pick your own | | | | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 14 : Fun | | | | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 15 : General positive feeling | | | | 2 | 1 | 2 | 1 | 1 | 4 | 1 | 3 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 8 |
| 16 : 04. Perceptual benefits | | | | | | | | | | | | | | | | | | | |
| 17 : Farming landscape + rural outlook & feel | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 8 |
| 18 : 05. Socio-economic benefits | | | | | | | | | | | | | | | | | | | |
| 19 : Feed the population | | | | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12 |
| 20 : Important for economy | | | | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 11 |
| 21 : Prevents reliance on imported foods | | | | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 |
| 22 : Resilience | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 23 : Social benefits | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 24 : 06. Awareness and education | | | | | | | | | | | | | | | | | | | |
| 25 : Farming practice is something to be expected + links us to the land + educational | | | | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 10 |
| 26 : Good to know where our food comes from | | | | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 3 |
| 27 : 07. Good land use | | | | 3 | 3 | 3 | 7 | 5 | 6 | 2 | 6 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 12 |
| 28 : 08. Good farming practice | | | | | | | | | | | | | | | | | | | |
| 29 : Good animal welfare | | | | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 30 : Responsible and efficient farming practice | | | | 3 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 11 |
| 31 : 09. Being supportive | | | | | | | | | | | | | | | | | | | |
| 32 : Positive image of farmers | | | | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 33 : Support local farmers or farm practice | | | | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 8 |
| 34 : 10. Personal connections to farming practices | | | | 2 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 8 |
| Total | | | | 11 | 8 | 9 | 21 | 11 | 23 | 14 | 10 | 13 | 0 | 0 | 0 | 1 | 0 | 0 | 95 |

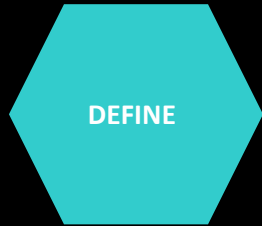
empathise

SURVEY with peri-urban GROWERS 2023



“ Communication is key. Farmers meeting with community groups and discussing their enterprises. Also, farmers organising farm visits so local communities get an appreciation of farming and food production.





define

thematic analysis of question 21

“what ideas do you have for the future of the peri-urban zone”?



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Farm + Food accessibility

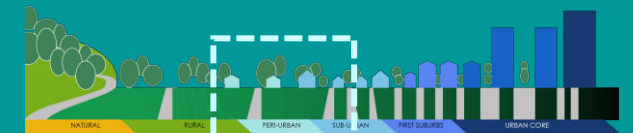
| | | | | | | | |
|---|---|---|--|--|--|--|---|
| <p>01</p> <p>Sell and buy locally-produced food, locally</p> | <p>02</p> <p>Open farms to the public and make them accessible</p> | <p>03</p> <p>Create community gardens within the peri-urban zone</p> | <p>04</p> <p>Plant fruit trees, berries, vegetables, and herbs on public land for local community</p> | <p>05</p> <p>Create greenbelts and buffer zones between housing and farms to reduce reverse sensitivity</p> | <p>06</p> <p>Protect high class soils for food production</p> | <p>07</p> <p>Create small scale and diverse production systems, with low stocking rates</p> | <p>08</p> <p>Create higher-density housing areas within existing urban footprint to reduce pressure on the productive hinterland</p> |
|---|---|---|--|--|--|--|---|

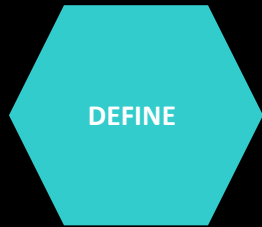
Environmental Health + Protection

Health + Wealth

| | | | | | | |
|--|--|--|--|---|---|--|
| <p>09</p> <p>Reduce artificial inputs (chemical sprays and fertiliser) to reduce negative environmental impacts</p> | <p>10</p> <p>Reduce artificial inputs (chemical sprays and fertiliser) to reduce negative human impacts reverse</p> | <p>11</p> <p>Manage production ‘type’ within impactful distance of residents to reduce reverse sensitivity issues</p> | <p>12</p> <p>Organic farms only</p> | <p>13</p> <p>Create and support wealth for families and communities through selling local and global</p> | <p>14</p> <p>Support consumer cost saving through buying direct from the producers</p> | <p>15</p> <p>Make food production visible and accessible for community groups, schools, children and neighbours</p> |
|--|--|--|--|---|---|--|

Education + Communication





define

thematic analysis of question 21

“what ideas do you have for the future of the peri-urban zone”?

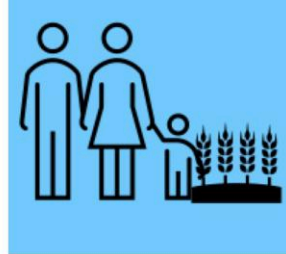


01



Sell and buy locally-produced food,

02



Open farms to the public and make them accessible

03



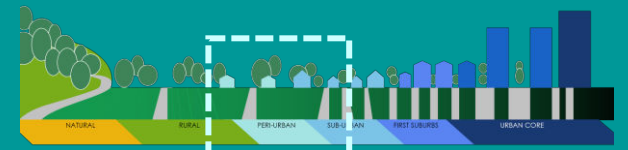
Create community gardens within the peri-urban zone

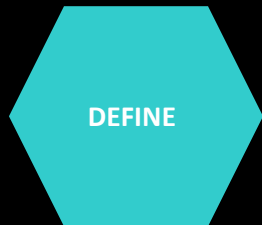
04



Plant fruit trees, berries, vegetables, and herbs on public land for local community

Farm + Food accessibility





define

thematic analysis of question 21

“what ideas do you have for the future of the peri-urban zone”?



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05



Create greenbelts and buffer zones between housing and farms to reduce reverse sensitivity

06



Protect high class soils for food production

07



Create small scale and diverse production systems, with low stocking rates

08



Create higher-density housing areas within existing urban footprint to reduce pressure on the productive hinterland

Environmental Health + Protection



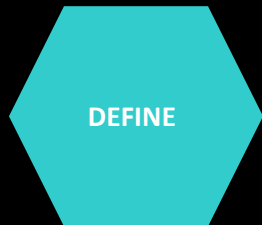
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National Science Challenges

OUR LAND AND WATER

Toitū te Whenua, Toiora te Wai

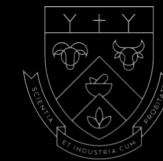




define

thematic analysis of question 21

“what ideas do you have for the future of the peri-urban zone”?



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Health +
Wealth

| | | | | | |
|---|---|---|---------------------------|--|--|
| <p>09</p> | <p>10</p> | <p>11</p> | <p>12</p> | <p>13</p> | <p>14</p> |
| <p>Reduce artificial inputs (chemical sprays and fertiliser) to reduce negative environmental impacts</p> | <p>Reduce artificial inputs (chemical sprays and fertilizer) to reduce negative human impacts reverse</p> | <p>Manage production 'type' within impactful distance of residents to reduce reverse sensitivity issues</p> | <p>Organic farms only</p> | <p>Create and support wealth for families and communities through selling local and global</p> | <p>Support consumer cost saving through buying direct from the producers</p> |

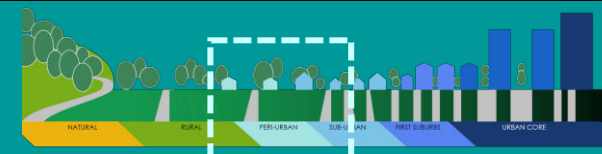


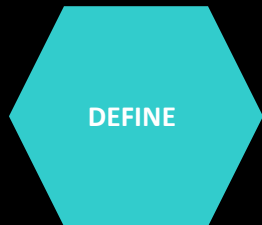
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National
science
Challenges

OUR LAND
AND WATER

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define

thematic analysis of question 21

“what ideas do you have for the future of the peri-urban zone”?



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Education +
Communication

15



Make food production visible and accessible for community groups, schools, children and neighbours



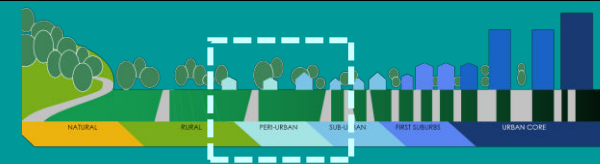
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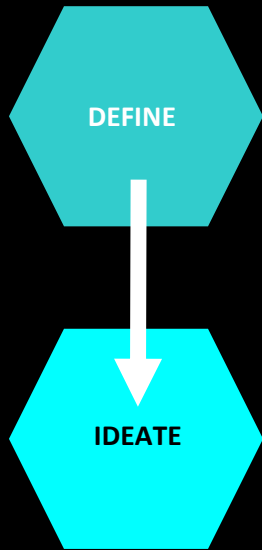
TE WHARE WĀNAKA O AORAKI

National
science
Challenges

OUR LAND
AND WATER

Toitū te Whenua,
Toiora te Wai

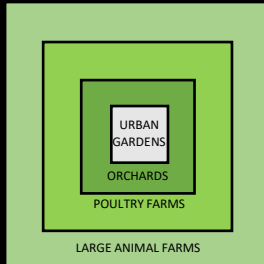




Define - ideate

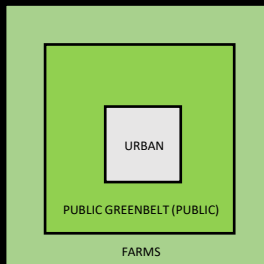
thematic analysis of question 21

“what ideas do you have for the future of the peri-urban zone”?



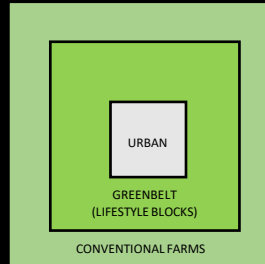
KEY POINTS:

Food production is a component of all zones. The urban settlement includes community gardens, this is surrounded by orchards, then poultry and then large-animal farms.



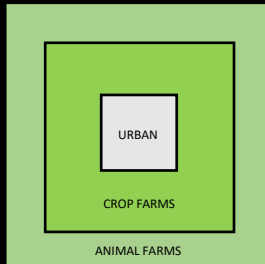
KEY POINTS:

Urban settlement is surrounded by a public greenbelt that acts as a 'buffer' and amenity space for urban zoned households.



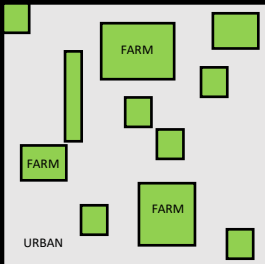
KEY POINTS:

The urban settlement area is surrounded by a belt of Lifestyle Blocks to buffer the conventional farms and their activities.



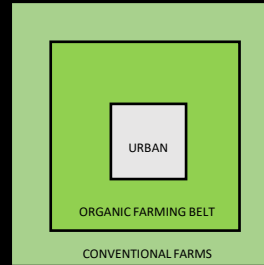
KEY POINTS:

The urban settlement area is surrounded by an area of crop-only farms. Animal farming is located away from the urbanised area.



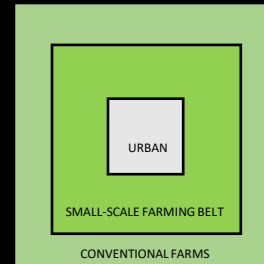
KEY POINTS:

Small-medium scale farms and market gardens located within existing urban settlement area and new urban zones, including public parks.



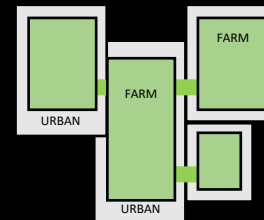
KEY POINTS:

The urban settlement area is surrounded by an organic-only farming belt to buffer the conventional farms and their activities.



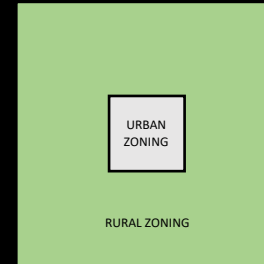
KEY POINTS:

The urban settlement area is surrounded by a small-scale commercial farming belt that buffers the conventional large-scale farms and their activities.



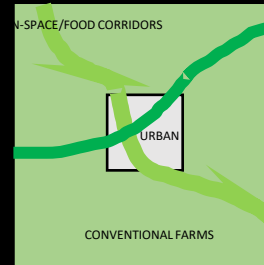
KEY POINTS:

New urban settlement areas are built around farms. These farms are connected through the urban zones by public 'right of ways'.



KEY POINTS:

Hard urban boundary is placed around the existing urban area. The rural zone is protected and retained for rural land use. No residential expansion.



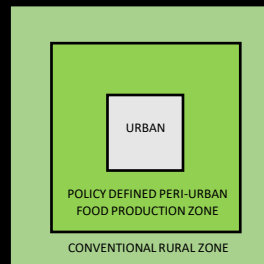
KEY POINTS:

Public green corridors traverse rural and urban zones.



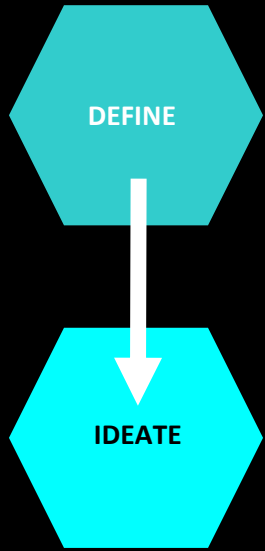
KEY POINTS:

Farmers' Markets are located within the urban settlement area. A small-scale farming belt sits directly around the urban area to supply the local markets. Then outside that, conventional/export focused agriculture is located.



KEY POINTS:

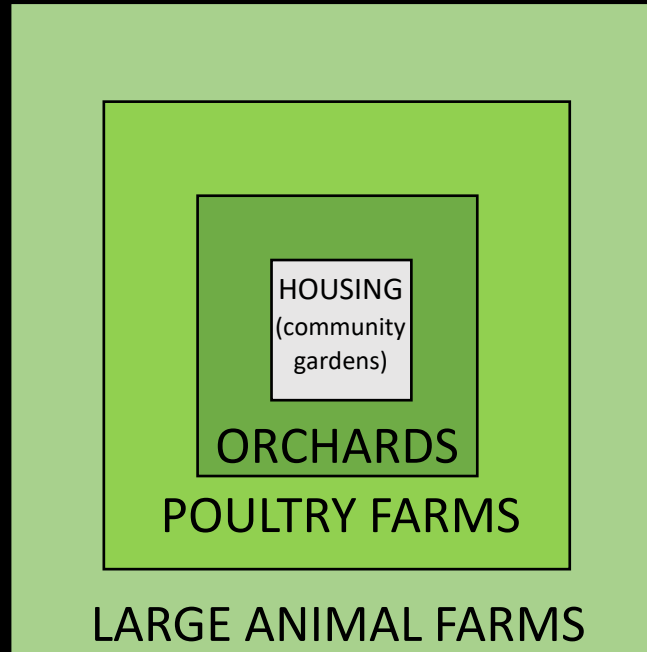
A new land use zoning is created dedicated to a defined peri-urban area. This zoning has policy specifically set for farming close to urban settlements, being different to both urban zoning or rural zoning.



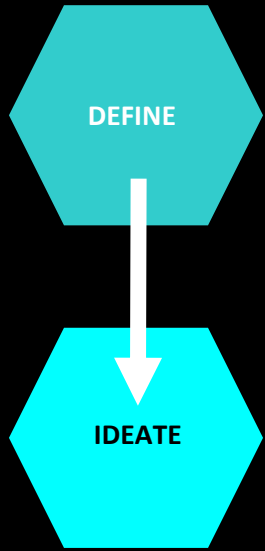
Define - ideate

thematic analysis of question 21

“what ideas do you have for the future of the peri-urban zone”?



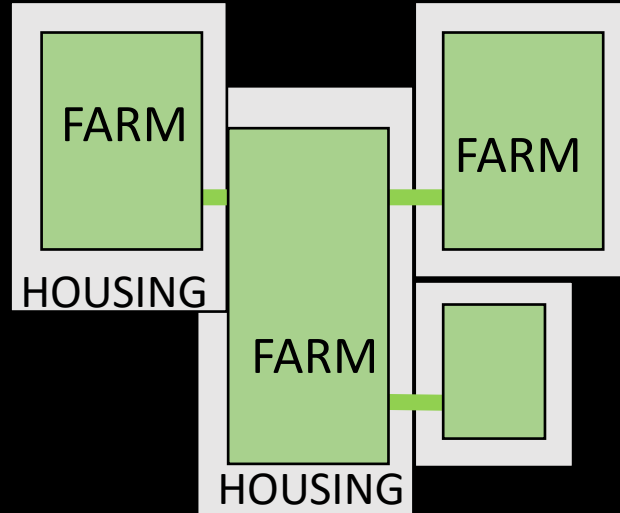
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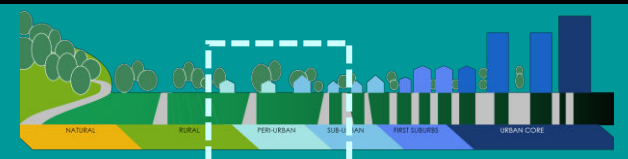
Define - ideate

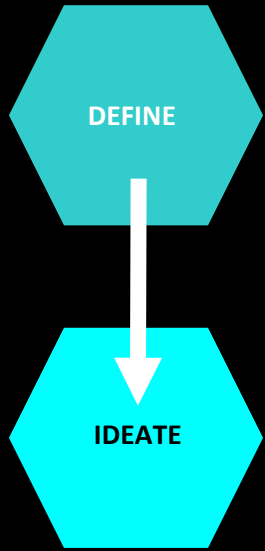
thematic analysis of question 21

“what ideas do you have for the future of the peri-urban zone”?



New urban settlement areas are built around farms. These farms are connected through the urban zones by public ‘right of ways’.

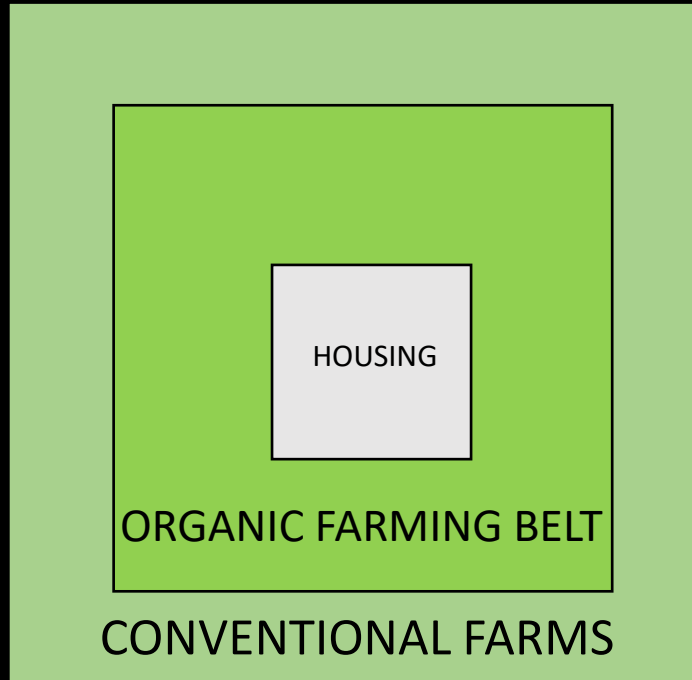




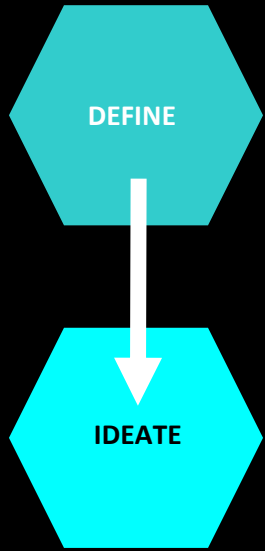
Define - ideate

thematic analysis of question 21

“what ideas do you have for the future of the peri-urban zone”?



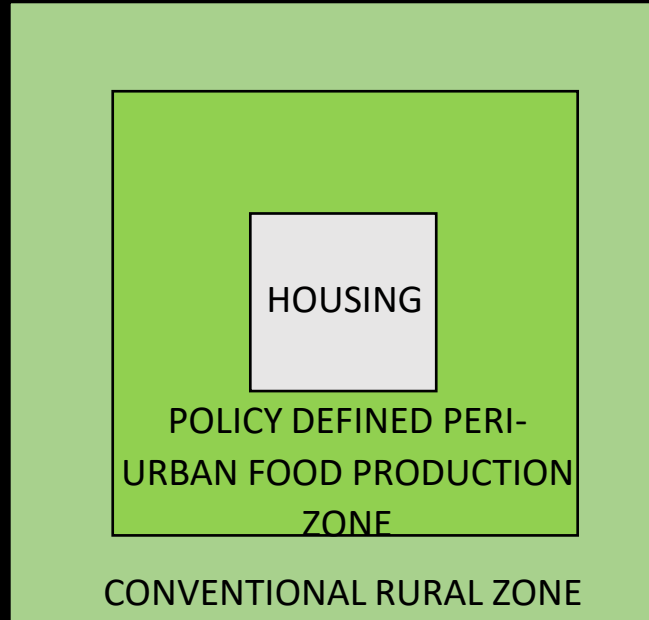
The urban settlement area is surrounded by an organic-only farming belt to buffer the conventional farms and their activities.



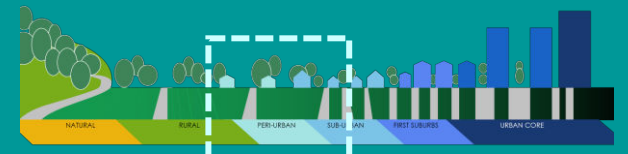
Define - ideate

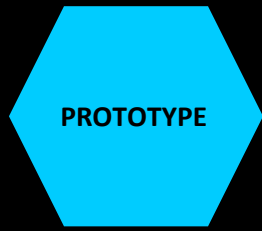
thematic analysis of question 21

“what ideas do you have for the future of the peri-urban zone”?



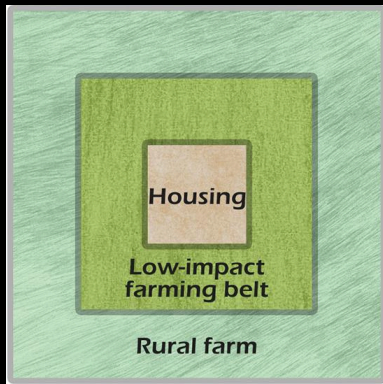
A new land use zoning is created dedicated to a defined peri-urban area. This zoning has policy specifically set for farming close to urban settlements, being different to both urban zoning or rural zoning.





prototype

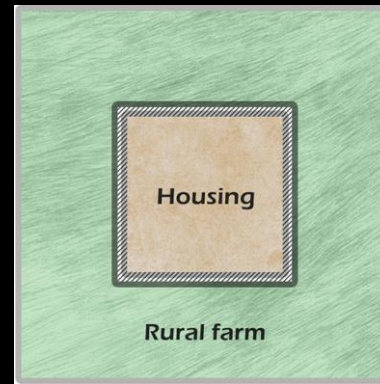
survey-driven land use scenarios



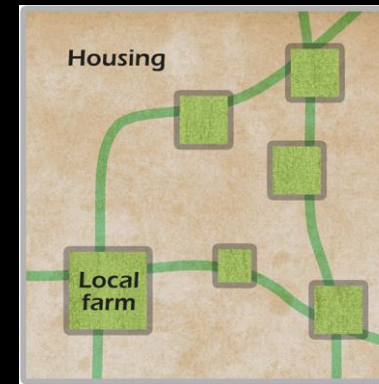
SCENARIO 1
Low-impact farming belt



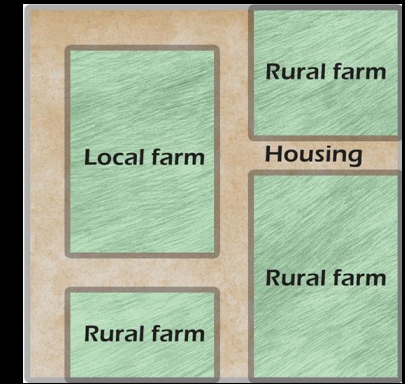
SCENARIO 2
Multi-functional green belt



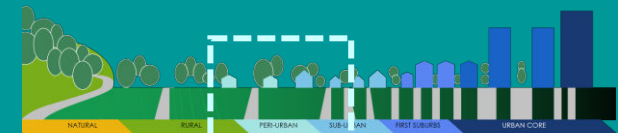
SCENARIO 3
Hard urban/rural boundary



SCENARIO 4
Urban + peri-urban farms



SCENARIO 5
Farm-based neighbourhoods

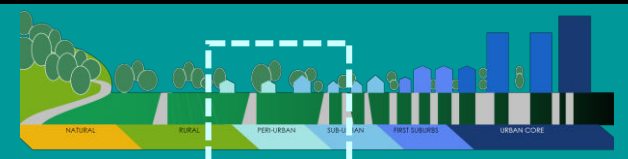


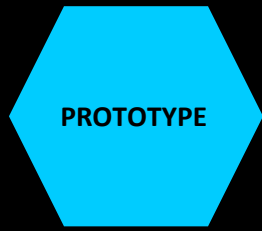
TEST

test resident + grower workshop



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prototype survey-driven land use scenarios



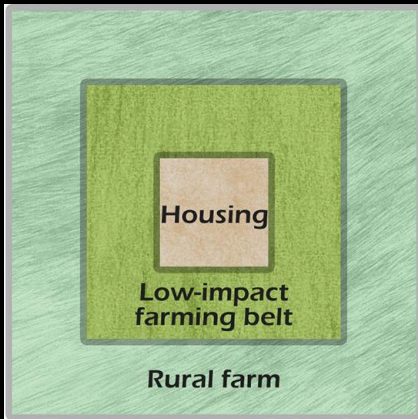
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SCENARIO 1

Low-impact farming belt

The **Low Impact Farming Belt** consists of organic, small scale, plant-based farms that produced kai primarily for the local market. The belt would not be publicly accessible but would host a range of community food outreach.

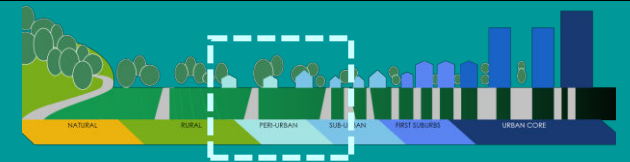


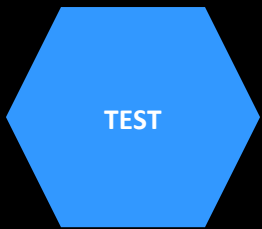
CONCEPT



ACTIVITY

LAND-BASED
APPLICATION





test resident + grower workshop



SCENARIO 1

Low-impact farming belt

Participant code: _____

Scenario 1

Low-impact farming belt

Evaluation sheet

When thinking about scenario 1, please comment in the boxes below

Strength of this scenario

Food production

Accessing the food produced locally

Housing

Weakness of this scenario

Food production

Accessing the food produced locally

Housing

Housing

- Town centre (highest density)
- Current or higher density residential

Low-impact farming belt

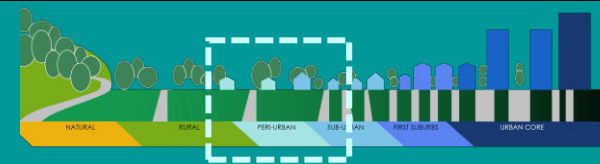
- Organic
- Small scale
- Plant-based
- Primarily for local market
- Not publicly accessible
- Community Supported Agriculture

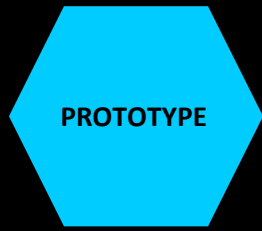
Rural farm

- Conventional farming
- Large scale
- For export market

“ Local grown low impact farming. Direct link between residents and farmers

“ Housing still encroaching on farmland.





prototype survey-driven land use scenarios



SCENARIO 2

Multifunctional greenbelt

The **Multifunctional Green Belt** acts as a buffer to the rural farms, and includes such activities as public open spaces, community gardens, sports fields, allotments, walking tracks, native plantings, stormwater management zones and playgrounds. The greenbelt is publicly accessible.

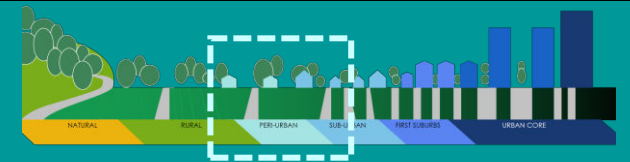
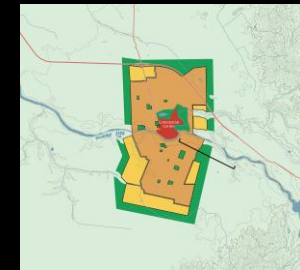


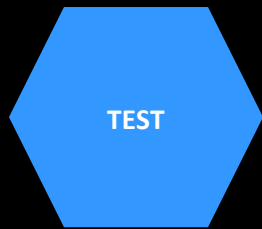
CONCEPT



ACTIVITY

LAND-BASED
APPLICATION





test resident + grower workshop



SCENARIO 2

Multifunctional greenbelt



Love the idea of amenity horticulture - we don't focus on this enough in urban planning.



Large scale produce must still be accessed from large retail complexes.

Participant code:

Scenario 2

Multi-functional green belt

■ Highest density housing
 ■ Higher density housing
 ■ Public open space
 ■ Commercial centre

Evaluation sheet

When thinking about scenario 2, please comment in the boxes below

Strength of this scenario

Food production

Accessing the food produced locally

Housing

Weakness of this scenario

Food production

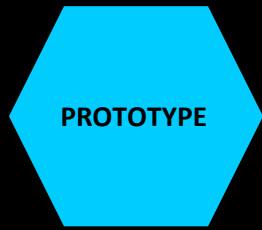
Accessing the food produced locally

Housing

Housing
 Town centre (highest density)
 Current or higher density residential

Multi-functional green belt
 • Public open space
 • Community garden
 • Other landscape features
 • Farmer's markets
 • Sport fields
 • Playgrounds

Rural farm
 • Fruit trees
 • Allotments
 • Conventional farming
 • Large scale
 • Commercial



prototype survey-driven land use scenarios



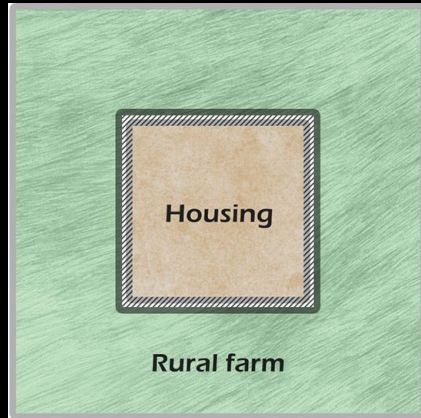
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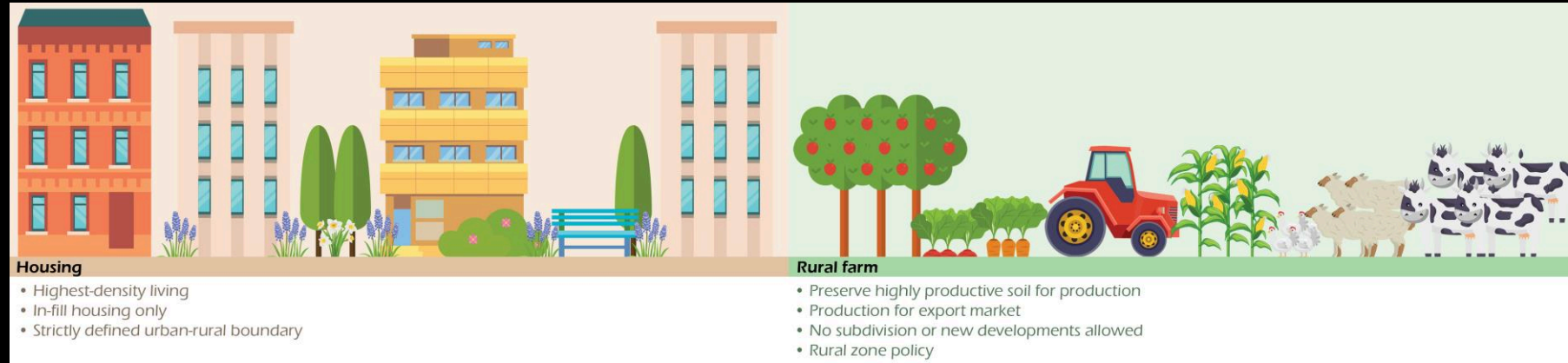
SCENARIO 3

Hard urban/rural boundary

The **Hard Boundary** approach sees housing and urban growth occur only on the existing footprint of the urban area protecting the soil that surrounds the township and leaving the agricultural land to produce food. In this scenario it is proposed that the food produced is primarily for the export market.

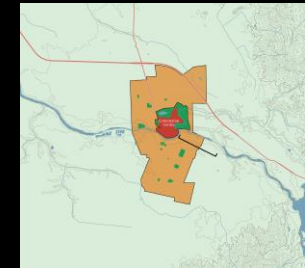


CONCEPT



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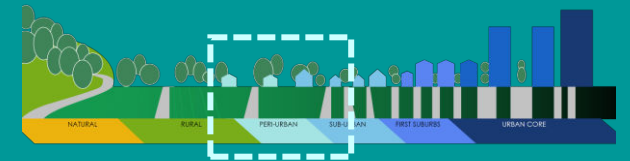


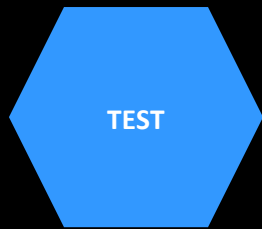
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SCENARIO 3

Hard urban/rural boundary

Participant code: _____

Scenario 3
Hard housing / rural farm boundary

Evaluation sheet

When thinking about scenario 3, please comment in the boxes below

Strength of this scenario

Food production

Accessing the food produced locally

Housing

Weakness of this scenario

Food production

Accessing the food produced locally

Housing

Housing

- Highest density living
- In-fill housing only
- Strictly defined urban/rural boundary

Rural farm

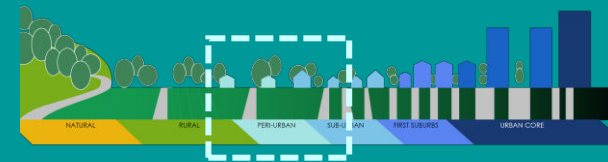
- Preserve highly productive soil for production
- Production for export markets
- No subdivision or new developments allowed
- Rural zone policy

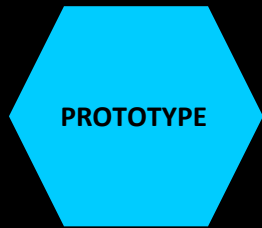


Clear zones for development. Developers would need to rethink 'expansionist' strategies. Residents could learn more about farming practices and the work to get food to plate.



The 'hard boundary' will just get pushed out under pressure from developers.



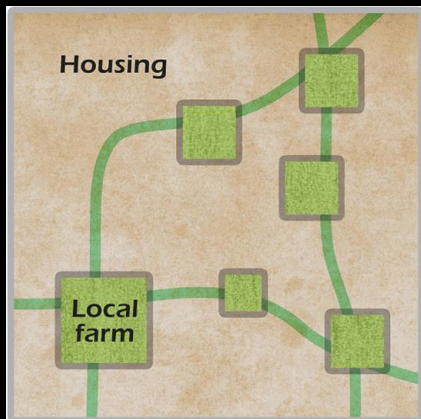


prototype survey-driven land use scenarios



SCENARIO 4 Urban Farms

The **Urban Farms Connected by Green Corridors** scenario sees existing public open spaces converted to farms, along with any new residential development required to include planned urban farms. These farms would be linked by public 'right of ways' / green corridors, and would be small, diverse and would produce products primarily for the local market.

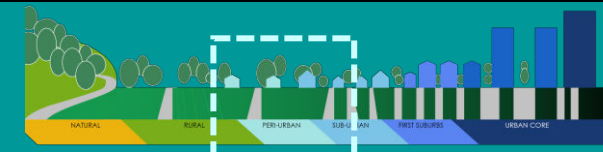
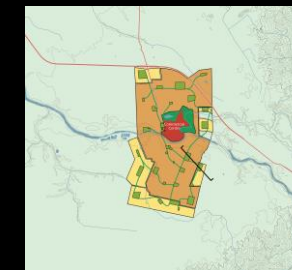


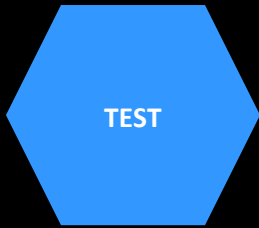
CONCEPT



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SCENARIO 4 Urban Farms



Love this! Great opportunity for producer/consumer relationships.

Participant code: _____

Scenario 4

Urban farms connected by green corridors

Evaluation sheet

When thinking about scenario 4, please comment in the boxes below

Strength of this scenario

Food production

Accessing the food produced locally

Housing

Weakness of this scenario

Food production

Accessing the food produced locally

Housing

Housing

- Higher density housing with urban infill
- Limited urban expansion
- Housing neighbourhoods directly border farms
- Urban farms accessible to neighbourhoods

Local farm

- Small urban farms
- Connected by greenways
- Farmer's markets
- Produce for local market

Green corridor

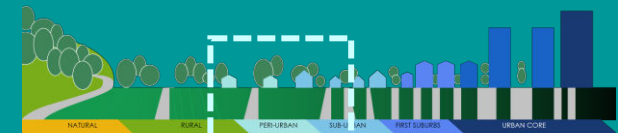
- River
- Reserves
- Trees
- Wetlands

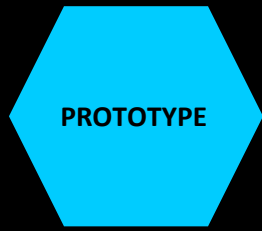
Rural farm

- For export market



Access to farms by trucks and farm machinery might be disruptive for other residents.





prototype survey-driven land use scenarios



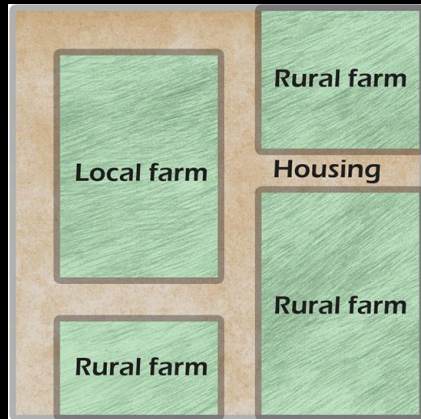
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SCENARIO 5

Farm-based neighbourhoods

The **Farm-based Neighbourhoods** concept sees farming within the peri-urban zone being the dominant landscape 'matrix' (the predominant land use sitting as the foundation to housing). Highest density housing corridors would sit between farms. Produce from the agricultural land is focused on supplying the local market when it is situated close to the existing township and dense housing areas and would be export orientated the further away from housing it is located.

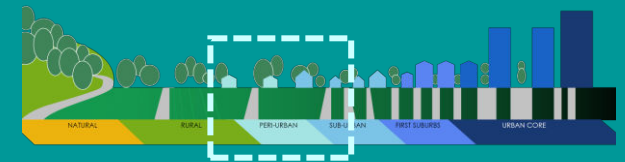


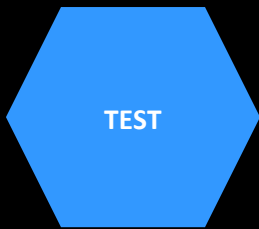
CONCEPT



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SCENARIO 5

Farm-based neighbourhoods

“ Population base is higher to help support and fund this idea.

Participant code: _____

Scenario 5

Farm-based dense neighbourhoods

Evaluation sheet

When thinking about scenario 5, please comment in the boxes below

Strength of this scenario

Food production

Accessing the food produced locally

Housing

Weakness of this scenario

Food production

Accessing the food produced locally

Housing

Housing

- Higher density housing
- Highest-density housing around farms
- Housing neighbourhoods directly border farms

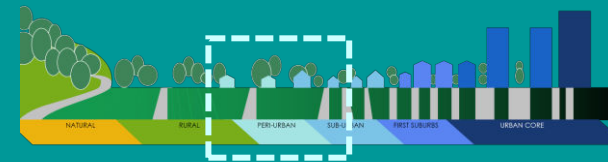
Local farm

- Conventional farming
- Maximised rural outlook
- Produce for local market

Rural farm

- For export market

“ Having high density housing in the midst of farm and rural cart work. Infrastructure conflicts.



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Scenario Rating Sheet

Please rate the following peri-urban spatial scenarios according to your level of preference for future planning.

Scenario 1 - Low-impact farming belt

0 1 2 3 4 5 6 7 8 9 10

Not desirable Desirable

3rd

Scenario 2 - Multi-functional green belt

0 1 2 3 4 5 6 7 8 9 10

Not desirable Desirable

1st

Scenario 3 - Hard housing / rural farm boundary

0 1 2 3 4 5 6 7 8 9 10

Not desirable Desirable

4th

Scenario 4 - Urban farms connected by green corridors

0 1 2 3 4 5 6 7 8 9 10

Not desirable Desirable

2nd

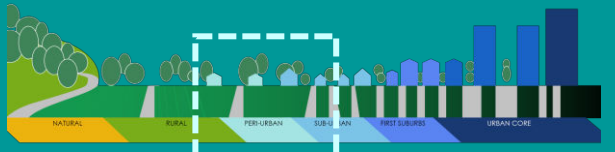
Scenario 5 - Farm-based dense neighbourhoods

0 1 2 3 4 5 6 7 8 9 10

Not desirable Desirable

5th

Additional comments



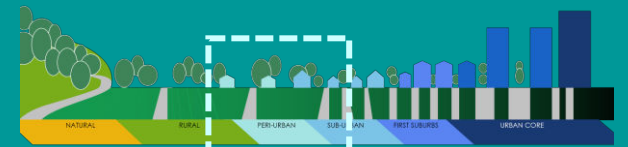


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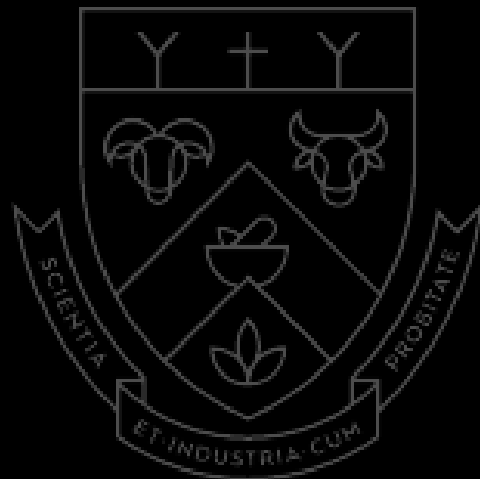
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Ngā mihi | Thank you



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