

# The path to delivering Energy Resilience: Measuring transport choice

IPENZ Transportation Group Conference

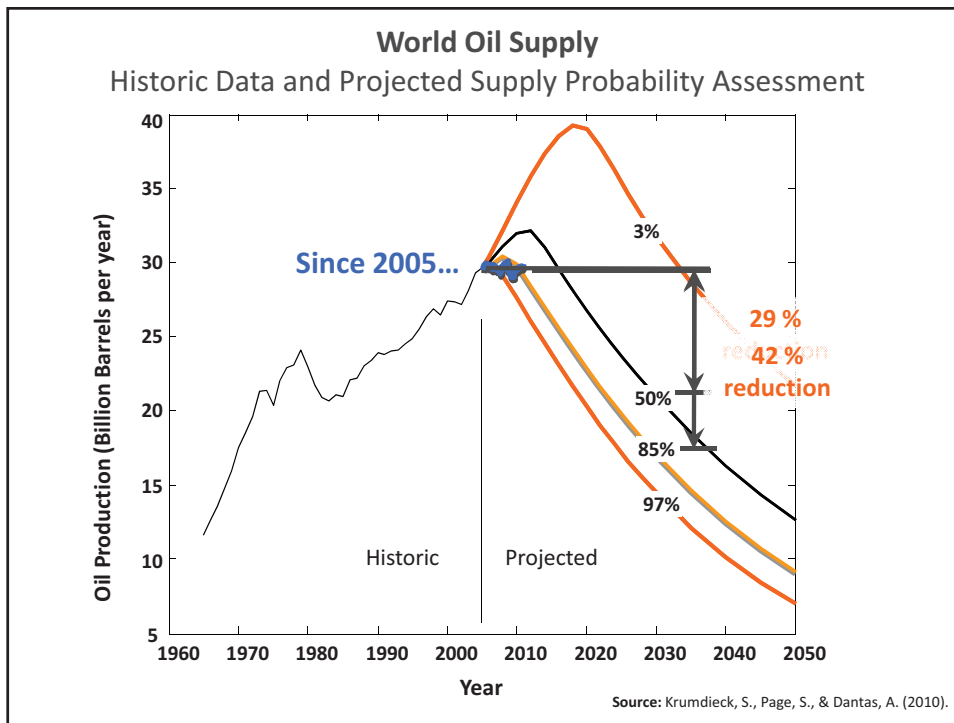
Rotorua, New Zealand, Monday 19<sup>th</sup> of March 2012

Stacy Rendall, Dr. Shannon Page, Dr. Femke Reitsma, Dr. Elijah Van Houten,  
Steve Abley, A/Prof. Susan Krumdieck




## Outline

- Transport energy
- Resilience
- Method
- Case study



## Transport Energy Constraints



- People will attempt to adapt
- There are limits to adaptation
- Trips that cannot be adapted will be lost
- Modern car oriented cities do not allow people to adapt

## Resilience

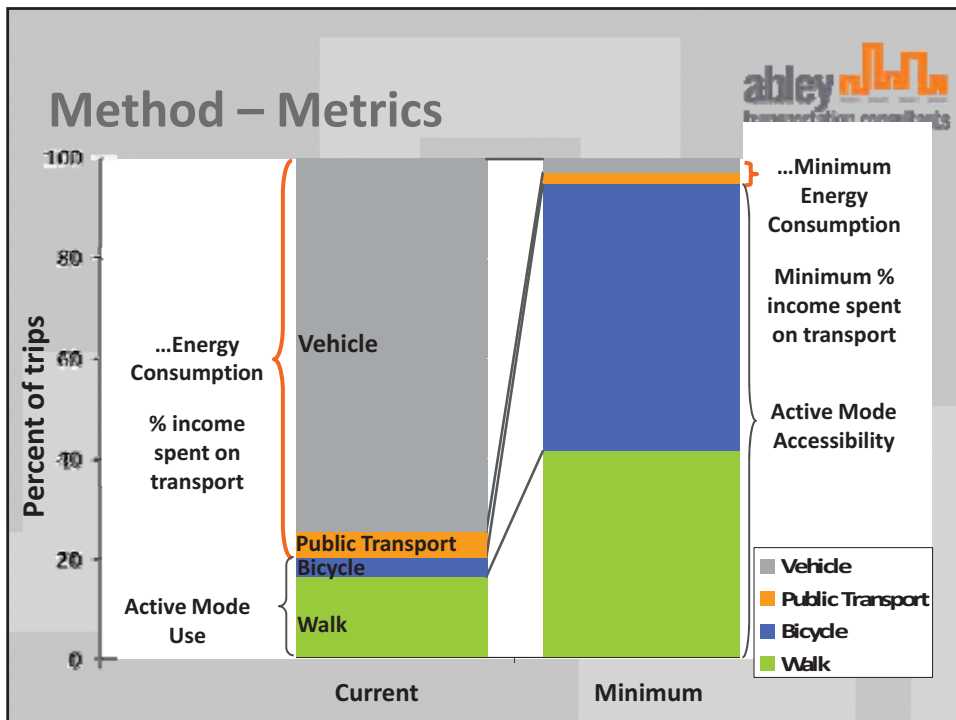
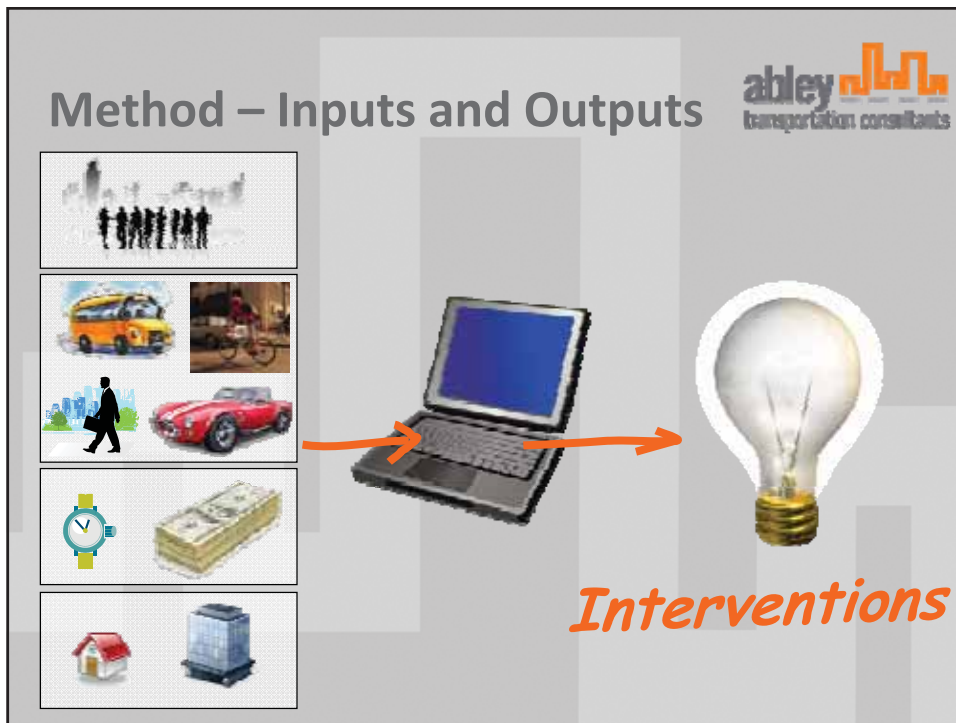


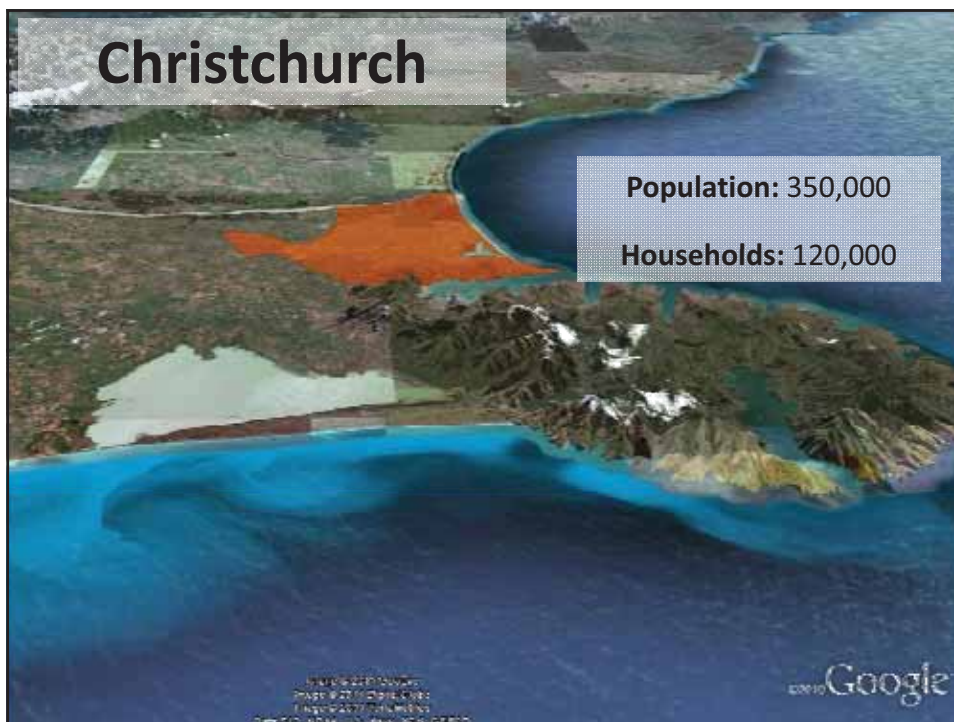
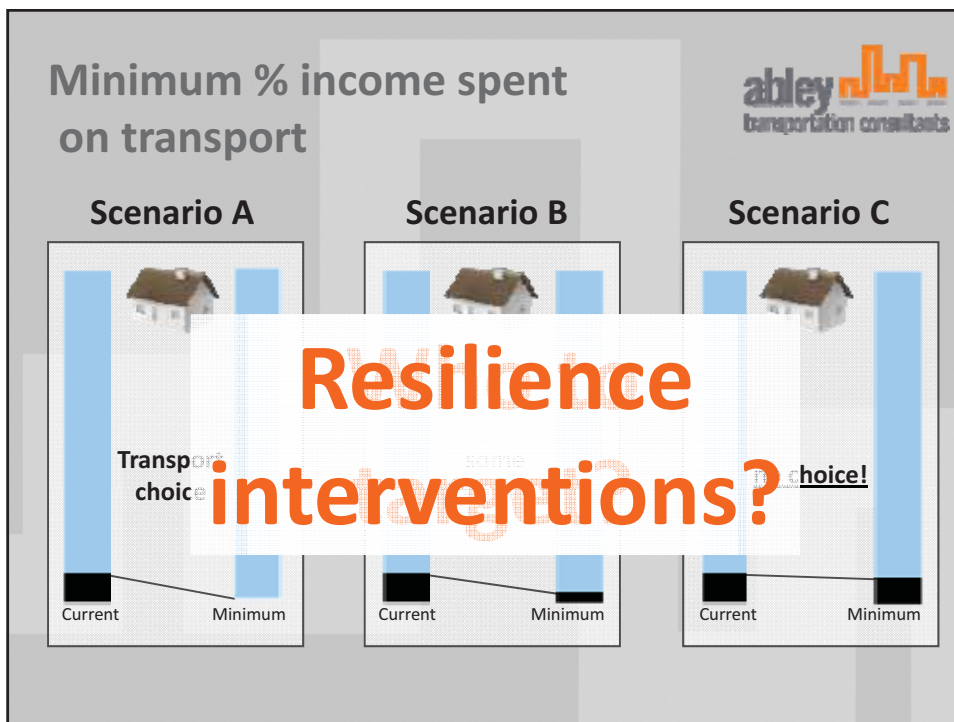
...in terms of transport:

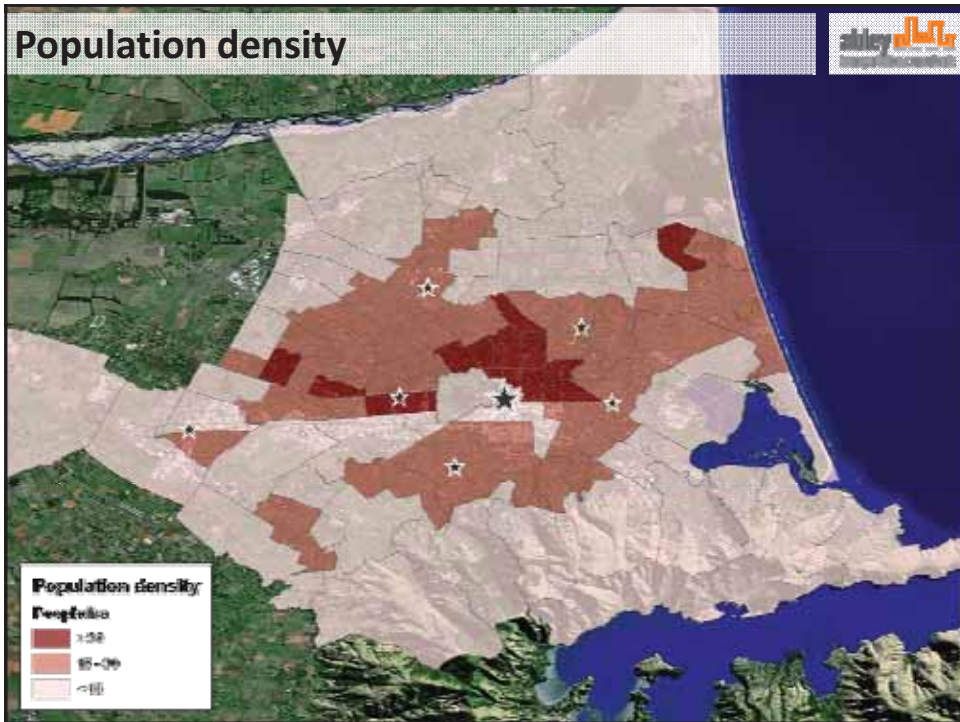
***Ability to continue participating in activities under increasing fuel price pressure.***

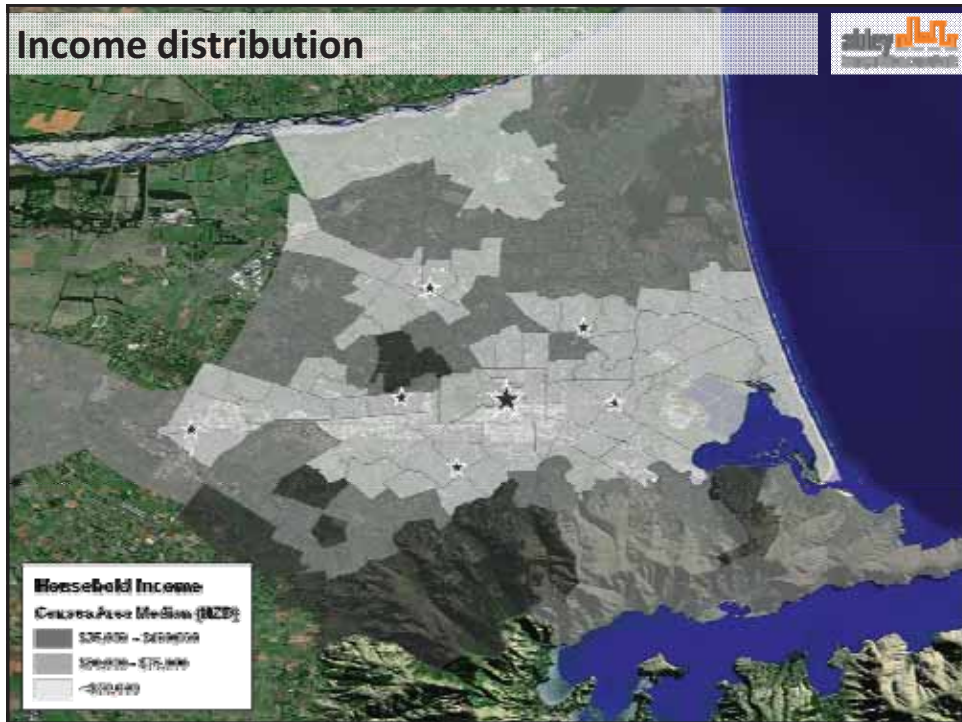
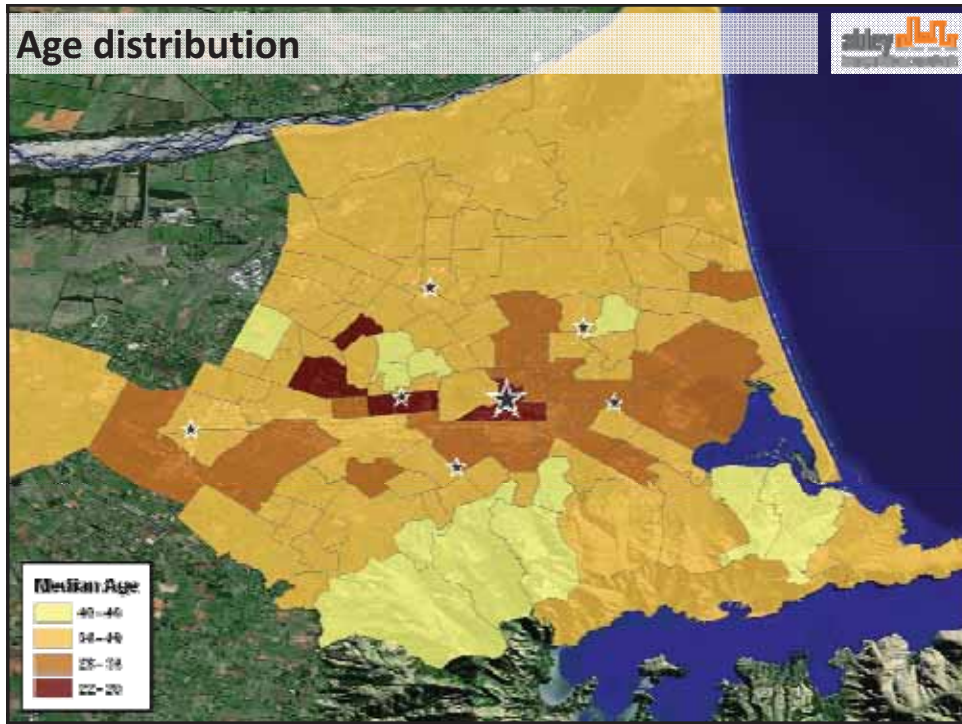
## Method

- Builds upon existing Accessibility methodologies
- Quantifies transport choice and limits to adaptation
- Highlights interventions
- Does not predict; **measures potential**



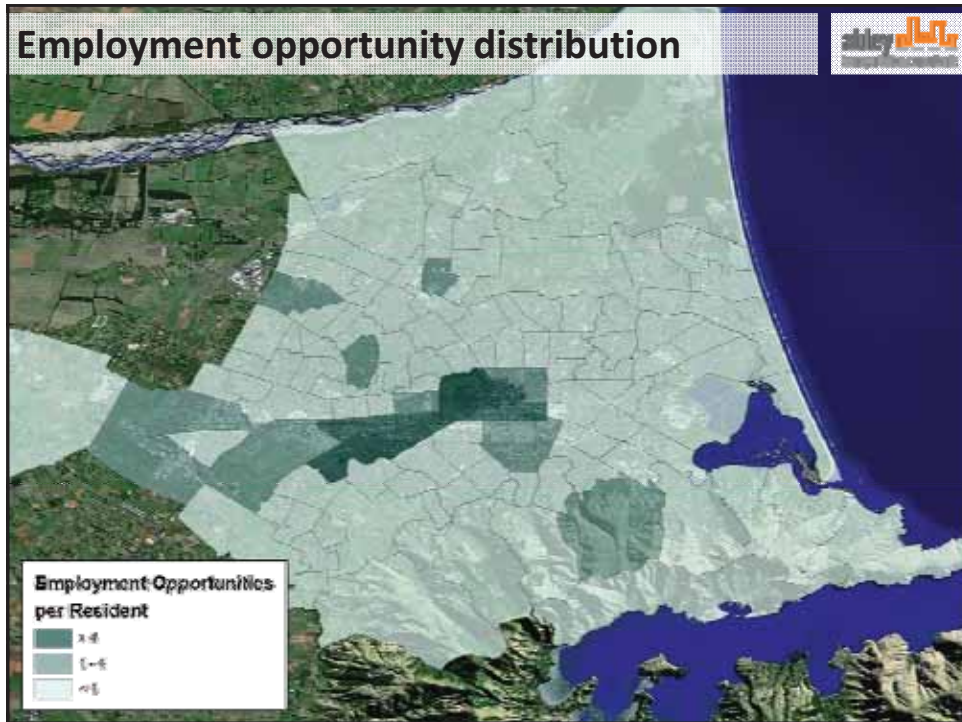
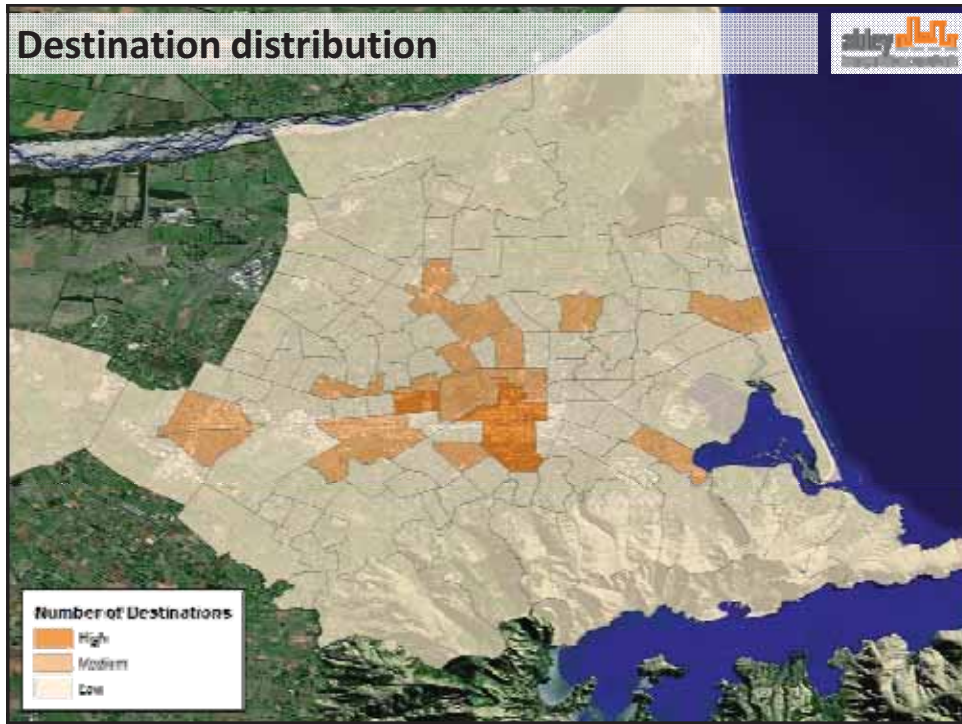




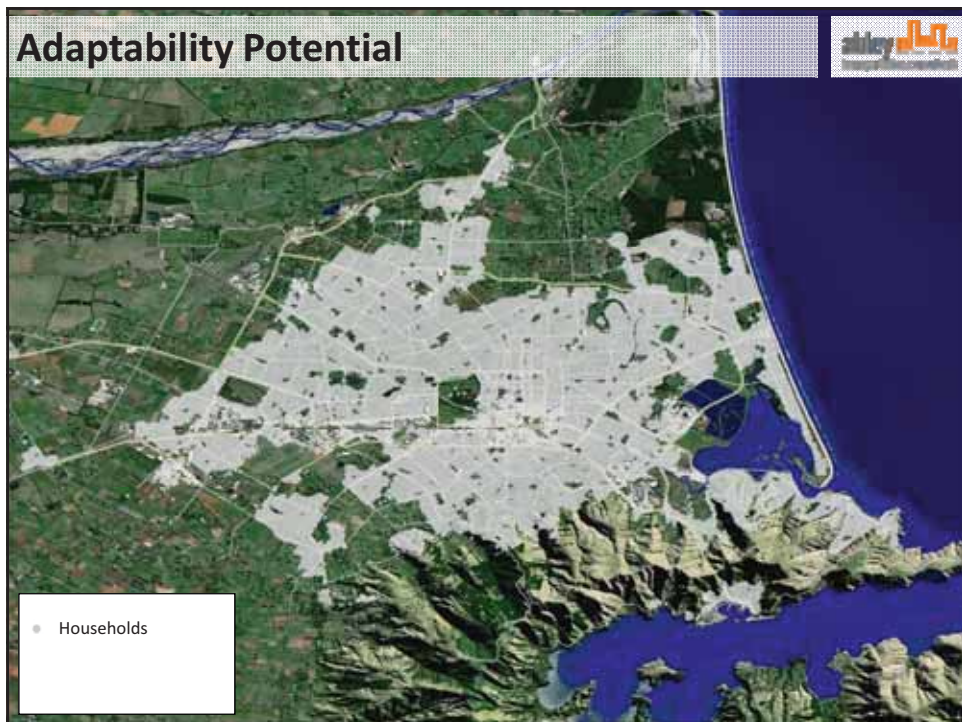
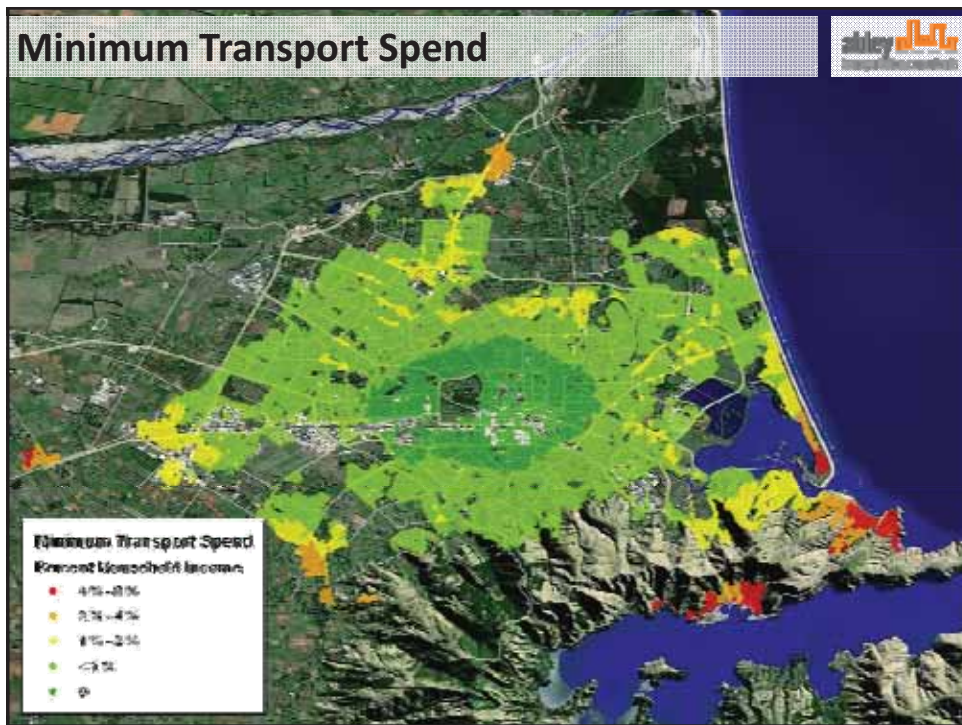


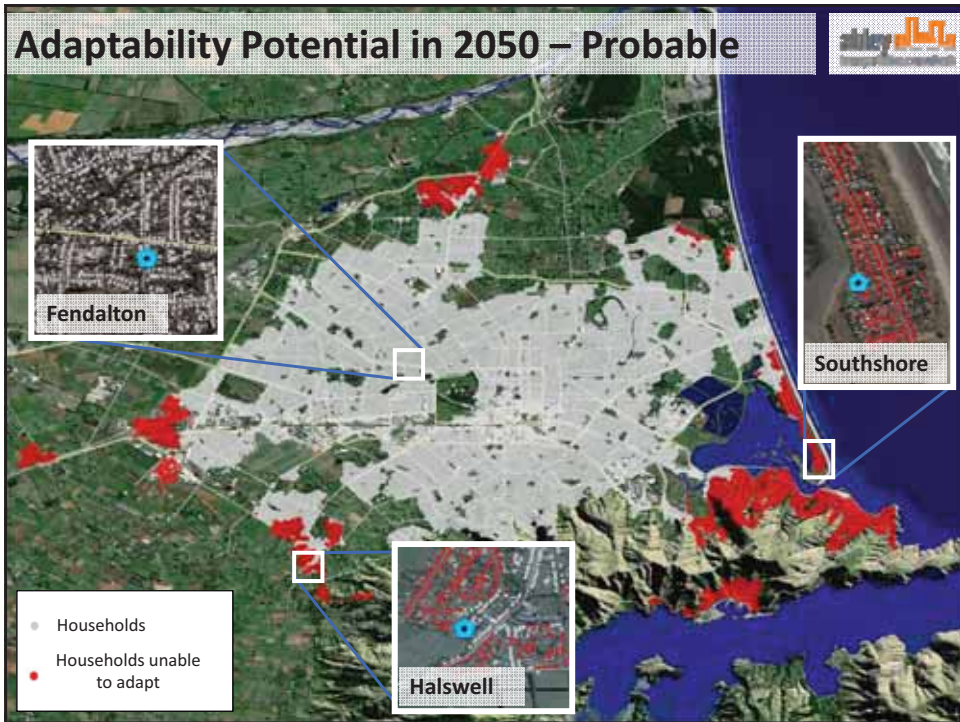
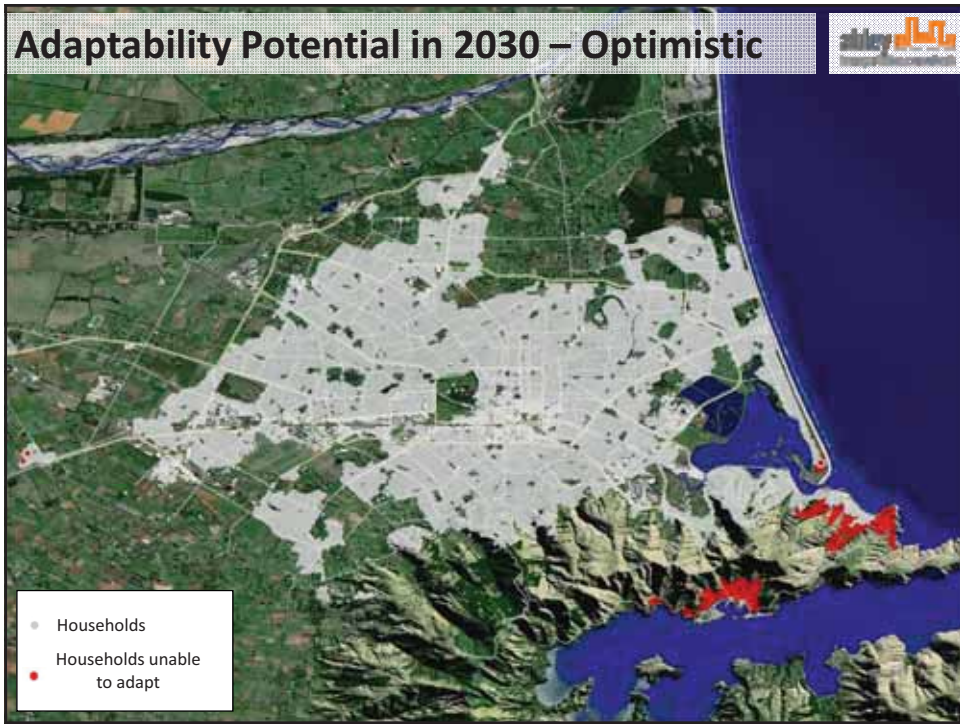












## Case Studies



		
<b>Fendalton</b>	<b>Halswell</b>	<b>Southshore</b>
High Income	Medium Income	Low Income
Some destinations: <b>1km</b>	Some destinations: <b>1.5km</b>	Some destinations: <b>6km</b>
Closest major shopping centre: <b>1.5km</b>	Closest major shopping centre: <b>7km</b>	Closest major shopping centre: <b>11km</b>
Central city: <b>4km</b>	Central city: <b>10km</b>	Central city: <b>13km</b>
Bus routes within 500m: <b>Three</b>	Bus routes within 500m: <b>Two</b>	Bus routes within 500m: <b>One</b>
<b>Transport choice</b>	<b>Limited choice</b>	<b>No choice</b>

## Fendalton





**Already resilient...**

- Low priority...
- Education and TDM measures

## Halswell



### To improve resilience:

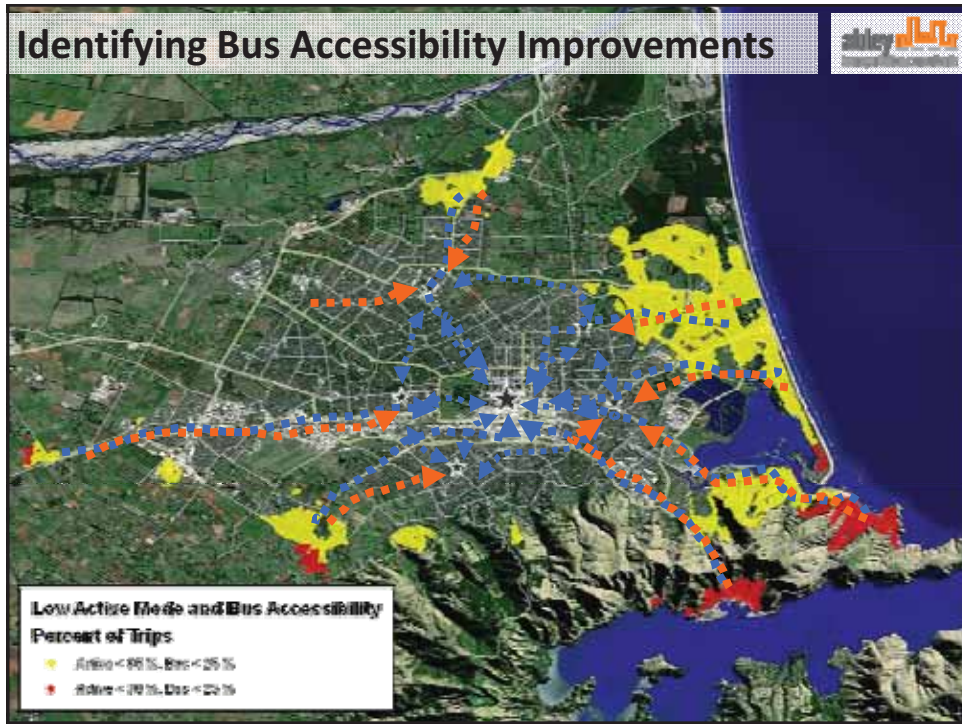
- Improve Public Transport
  - Express routes
  - Local hub
- New destinations...
- Increase population & public transport accessibility

## Southshore



### To improve resilience:

- Public Transport
  - Higher frequency smaller bus
  - Travel on Demand service
- Active Mode links...



### Further Applications

**abley**  
transportation consultants

Source: ukia

Source: rmdchola.org

Source: tmz.co.nz

Source: westwoodblog.org

Source: kiwimagonline.com

## Conclusions



- Oil supply issues = Inevitable transport system change
- Transport energy resilience = Transport choice
- Highlight communities at risk, timeframes
- Identify interventions to increase accessibility
- Ultimate outcomes: Resilience, Liveability

## To find out more



- Contact me:  
[stacy@abley.com](mailto:stacy@abley.com)
- Read about the project in our newsletter  
[www.abley.com/newsletters](http://www.abley.com/newsletters)
- Learn more about us  
[www.abley.com](http://www.abley.com)

**In**no**va**tion **Pro**fe**ss**ionalism **Qua**lity **Re**lationships