



Landcare Research  
Manaaki Whenua

## Urban Resilience

An institutional strategy for uncertainty  
and change?

Claire Mortimer  
Manaaki Whenua Landcare Research

## Auckland Sustainability Framework

- Forces of 21st Century Change; climate change, global resource depletion, changing demographics....
- Prospect of large scale, high risk & unpredictable change
- Building a resilient region in response

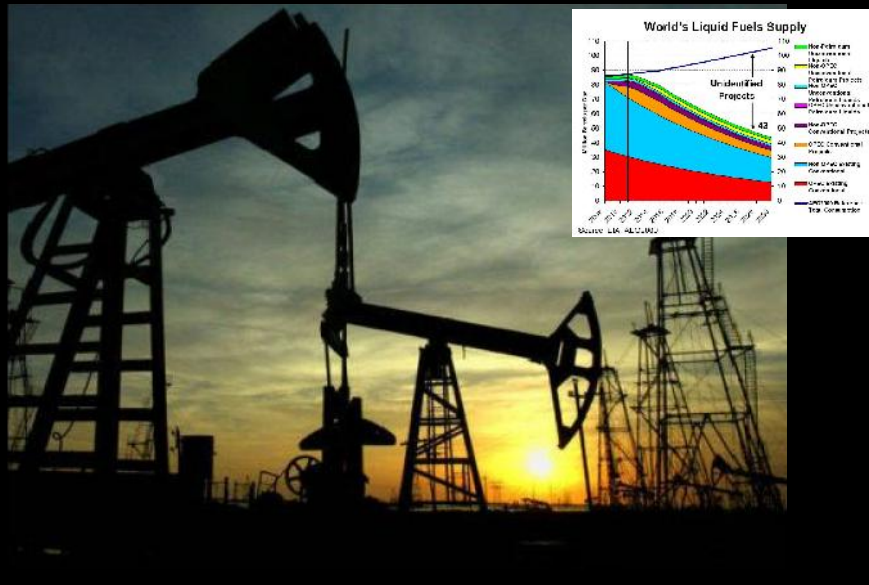


## Outline of presentation

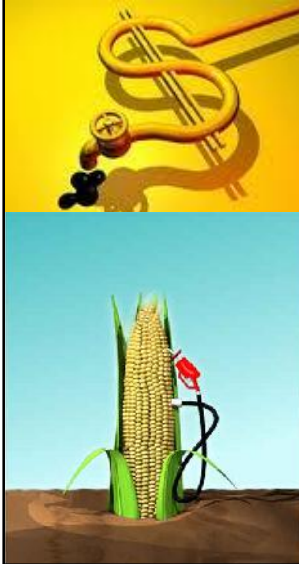


1. Limitations of conventional policy thinking for addressing large-scale urban change and uncertainty.
2. Insights and strategies the concept of resilience provides urban policy when dealing with uncertain and large scale future change?
3. Focus on social aspects of resilience

## Peak oil



## Conventional institutional responses



### 1. Leave it to market

Ensure prices flow swiftly through economy so individual NZrs can make sensible choices.

### 2. Technology will fix it

We will just carry on as we were with an alternative fuel

## 1. Oil embedded within urban systems



## 2. Cascading non-linear impacts



## 3. Lack of equivalent substitutions

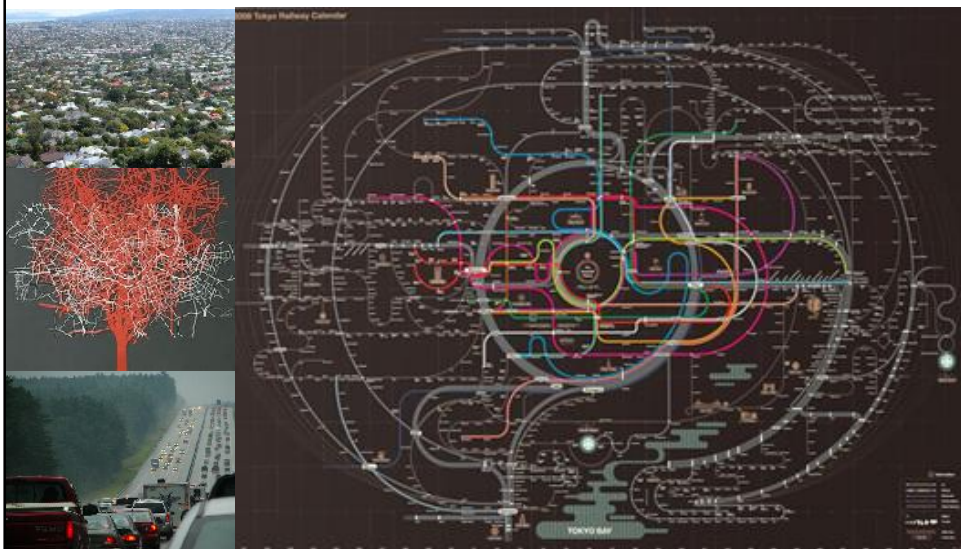
*“this is a classical economist’s view: something will turn up, when the price is high enough ... But there isn’t anything conceivable that could replace conventional oil, in the same quantities or energy densities, at any meaningful price ....”*

Richard Miller, BP exploration manager (2004)

## 4. Alternatives could intensify other global issues



## 5. Structural changes required



## 6. Time is running out



## Urban Resilience



*A measure of how well an urban settlement, its residents and its subsystems can adapt to shocks and persistent change in a complex, dynamic and interdependent world*



## 1. Resilience is about Adaptability

Adaptability not resistance

Systems adaptations  
not  
changes at the margins



## 2. It's a collective characteristic

- Sense of community, place attachment, social networks and citizen participation;
- Individual and collective efficacy
- Empowerment, trust and active democracy
- Resources, equity and social support
- Leadership and collaboration
- Critical awareness & communication

## 3. Build general & specific resilience

1. General resilience  
*adaptive capacity*  
providing building blocks for adaptation and for surprise events
2. Specific resilience  
*adaptation* to a specific threat/opportunity



### 3. Social/economic **general resilience** measures

Evidence of joined-up planning between public agencies in settlement.

Residents' level of confidence in council decision making

Household ability to cover costs of everyday needs

Number children living in poverty

% residents who feel a sense of community in their local neighbourhood

% formal unpaid work outside of the home

Diversity of businesses sectors

Educational Attainment of Adult Population

### 3. Social/economic **specific resilience** measures

#### Peak oil adaptation measures

% of residents aware of climate change & peak oil impacts on their settlement & support action to address those impacts

% of oil vulnerability assessments undertaken for settlement's key business sectors

Sprawl index based on; low density, low mixed use, connectedness to centres

Mode transport used and distance travelled to work

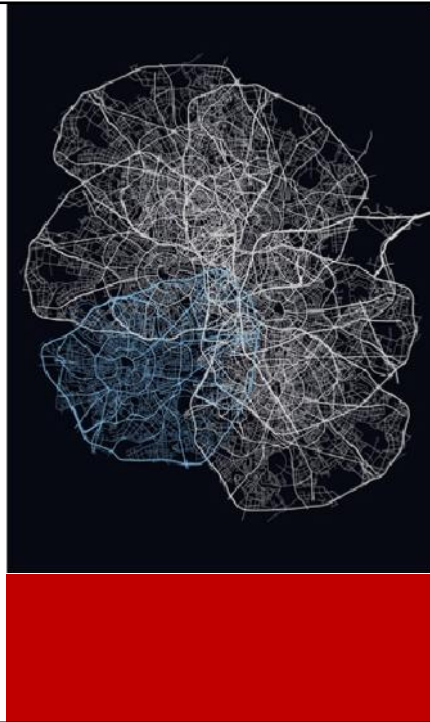
Vehicle trips to work mapped against low income households

Ease of access and affordability of public transport

% public investment in public transport against road investment over last 10 years

#### 4. Resilience thinking requires systems thinking

- Resilience is a system characteristic
- Resilient patterns of system behavior
- Requires thinking of a city as a system made up of many interrelated subsystems



#### 5. Diverse & integrated thinking



## In conclusion



- Markets & technology assumptions inadequate
- Resilience offers strategy for a changing uncertain future
- Resilience is a collective ability
- It relies on long term processes of community development
- On systems thinking, on diversity
- And a 'preparedness to adopt new basic operating assumptions'