

# Examining the wellbeing impacts of urban regeneration using administrative data

LINDA TRAN



NEW ZEALAND  
WORK RESEARCH INSTITUTE

**Supervised by:**

Gail Pacheco

Kabir Dasgupta

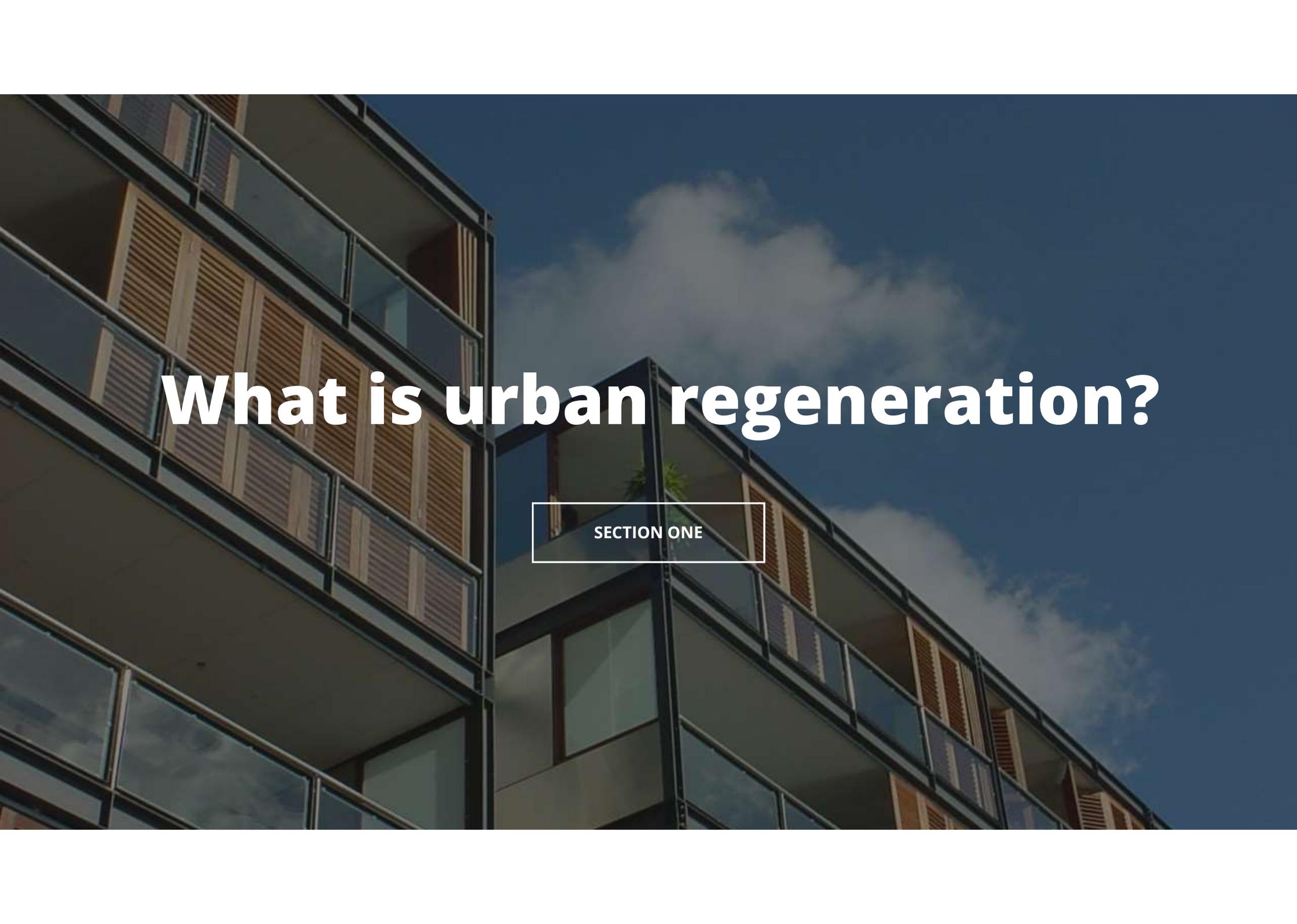
Scott Duncan



BREAKING IT DOWN:

Examining the wellbeing impacts 02  
of urban regeneration 01  
using administrative data 03

This will ensure current and future urban regeneration developments in New Zealand are guided by empirical evidence.

A low-angle photograph of a modern, multi-story apartment building with a glass and metal facade. The building features balconies with glass railings and wooden louvered shutters. The sky is a deep blue with scattered white clouds. The text is overlaid on the right side of the image.

# What is urban regeneration?

SECTION ONE



# NEIGHBOURHOOD IMPROVEMENTS



# REVITALISING TOWN CENTRES



**INCREASING THE HOUSING SUPPLY**



**IMPROVING EXISTING HOUSING STOCK**



# WALKING AND CYCLING FACILITIES



# **PUBLIC TRANSPORT AND ROAD INFRASTRUCTURE**



# **PUBLIC FACILITIES AND GREEN SPACES**



# COMMUNITY INTERVENTIONS AND HUBS



# COMMUNITY INVOLVEMENT

URBAN REGENERATION FOCUS

# Housing Intensification





## Wellbeing through places and communities

- Government agency responsible for social housing and urban development
- Focused on increasing public and private housing through intensification
- Main policy tool used by government to drive its future housing initiatives
- Redevelop own land, purchase new land, or acquire new houses from developers
- Housing supply made up of:
  - State/public
  - KiwiBuild/affordable
  - Community groups
  - Emergency/transitional





## SECTION TWO

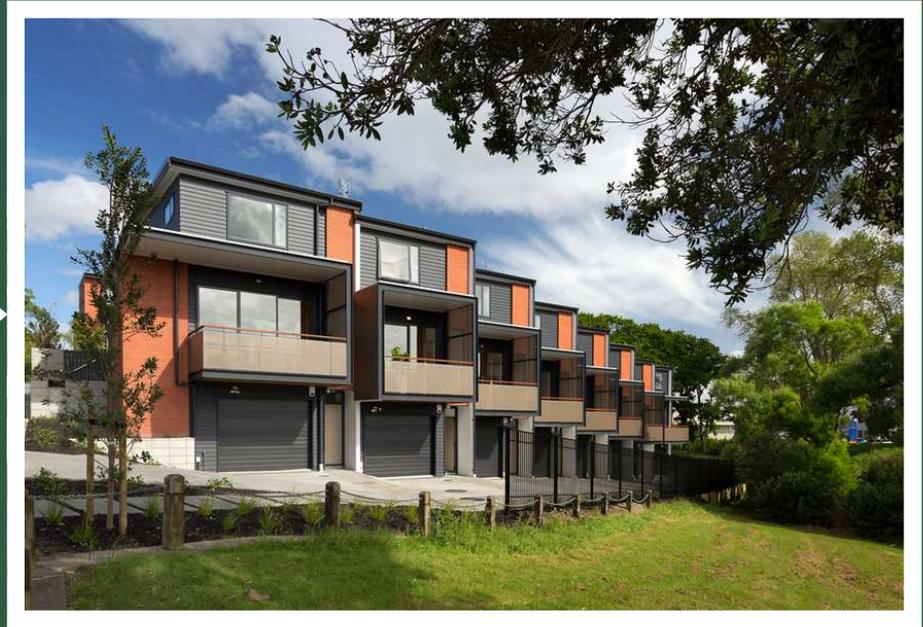
So why am I interested in urban regeneration?

# The physical environment in which people live can affect their health and wellbeing

By regenerating urban areas that people live in, we have the potential to improve health and societal outcomes



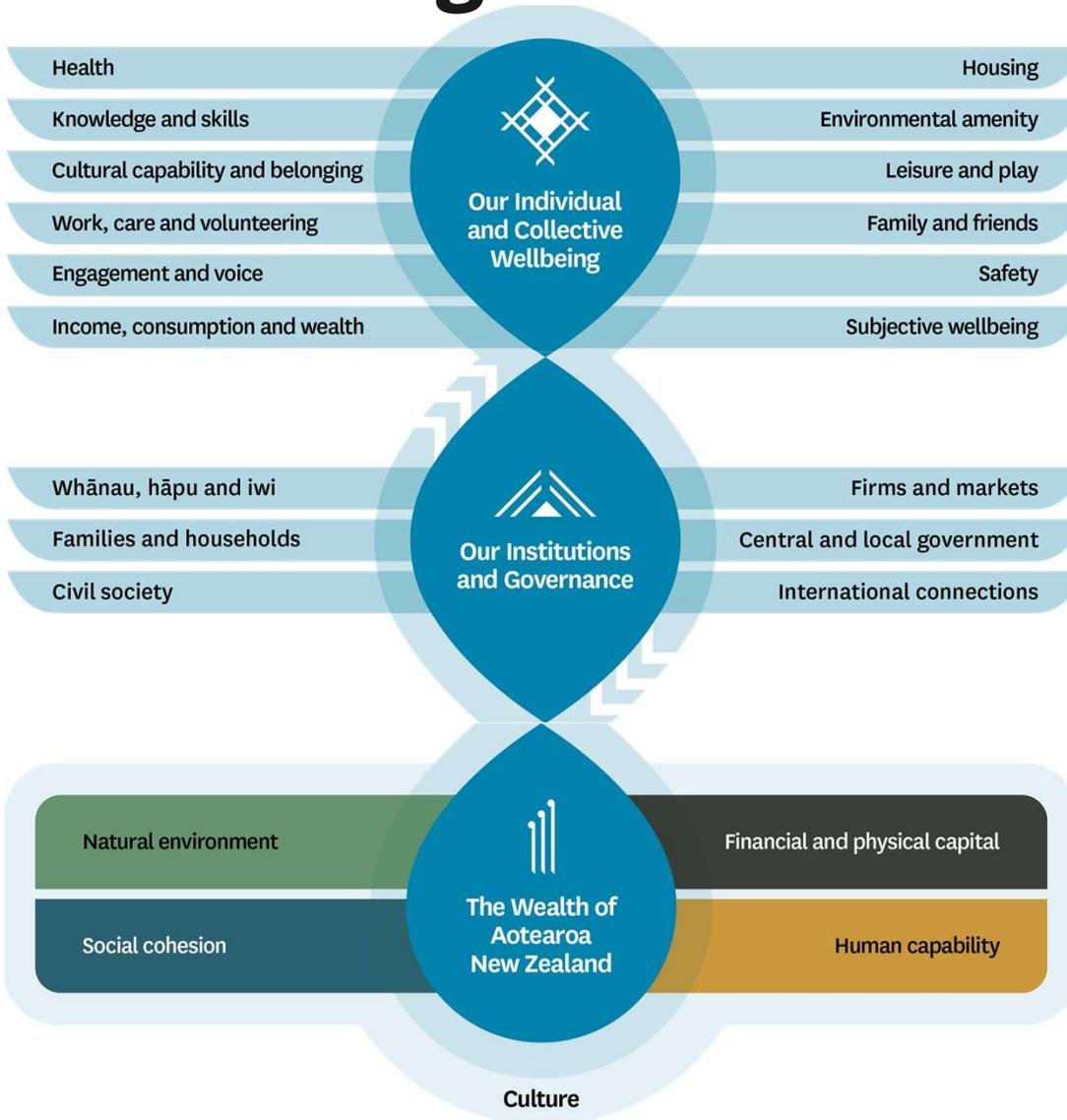
# Glen Innes



# Christchurch



# The Living Standards Framework (LSF)



## Individual and Collective Wellbeing

Point in time measure of what is important to New Zealanders

## Institutions and Governance

How institutions and governance facilitate our wellbeing

## Wealth of Aotearoa New Zealand

New Zealand's wealth measured by four capitals

## Domains

# LSF Wellbeing Indicators

---

## Health

### Healthy life expectancy

Number of years that a person under 1 can expect to live in good health

### Health status

% of adults reporting good health

### Mental health

% of adults reporting high levels of psychological distress

---

## Work, care and volunteering

### Employment rate

% of adults who are employed

### Youth NEET rate

% of young people not in education, employment or training

### Hours worked

Average weekly hours worked

---

## Safety

### Domestic violence

% of adults who were victims of family violence

### Feeling safe

% of adults who feel safe when walking alone in their neighbourhood after dark

### Workplace accident rate

Number of work-related injuries per 1,000 FTE

---

## **LIVING STANDARDS FRAMEWORK DATA**

**Only as recent as the latest survey available and only as often as the timing of survey releases**

**Covers a small proportion of the population**

**Can only be broken down into broad regional levels**

## **DATA REQUIRED FOR MY ANALYSIS**

**Regularly and frequently recorded such as monthly or quarterly observations**

**Covers a larger sample size**

**Geography can be broken down into smaller units**

# The Index of Multiple Deprivation (IMD)

## The New Zealand Index of Multiple Deprivation 2013

Employment	Income	Crime	Housing	Health	Education	Access
<ul style="list-style-type: none"> <li>Number of working age people receiving the Unemployment Benefit</li> <li>Number of working age people receiving the Sickness Benefit</li> </ul>	<ul style="list-style-type: none"> <li>Weekly Working For Families payments (\$ per 1000 population)</li> <li>Weekly payments (\$ per 1000 population) in the form of income related benefits</li> </ul>	<p>Victimisation rates for:</p> <ul style="list-style-type: none"> <li>Homicide and Related Offences</li> <li>Assault</li> <li>Sexual Assault</li> <li>Abduction and Kidnapping</li> <li>Robbery, Extortion and Related Offences</li> <li>Unlawful Entry With Intent/Burglary, Break and Enter</li> <li>Theft and Related Offences</li> </ul>	<ul style="list-style-type: none"> <li>Number of persons in households which are rented</li> <li>Number of persons in households which are overcrowded</li> </ul>	<ul style="list-style-type: none"> <li>Standardised Mortality Ratio</li> <li>Hospitalisations related to selected infectious diseases</li> <li>Hospitalisations related to selected respiratory diseases</li> <li>Emergency admissions to hospital</li> <li>People registered as having selected cancers</li> </ul>	<ul style="list-style-type: none"> <li>School leavers &lt;17 years old</li> <li>School leavers Without NCEA L2</li> <li>School leavers not enrolling into tertiary studies</li> <li>Working age people without qualifications</li> <li>Youth not in Education Employment or Training</li> </ul>	<p>Distance to 3 nearest:</p> <ul style="list-style-type: none"> <li>GPs or A&amp;Ms</li> <li>Supermarkets</li> <li>Service stations</li> <li>Primary or intermediate schools</li> <li>Early Childhood Education Centres</li> </ul>

**For example: health - hospitalisations related to respiratory diseases**

MEASURING THE EFFECTS

# Wellbeing impacts of urban regeneration



## LITERATURE REVIEW

# What are the impacts of urban regeneration on

### Chapter 1



Education



Labour Markets

### Chapter 2



Physical Health



Mental Health

### Chapter 3



Crime



Safety

# Education and labour market outcomes

Children living in higher quality neighbourhoods more likely to complete tertiary education later in life (Brummet & Reed, 2019)

Education improvements in regenerated areas - however, similar improvements in the national average (Thomson, Atkinson, Petticrew, & Kearns, 2006)

However, other studies showed no changes, weak or even negative associations (Batty et al., 2010)

Similar mixed findings when measuring employment effects (Batty et al., 2010; Brummet & Reed, 2019; Thomson, Atkinson, Petticrew, & Kearns, 2006)

# Physical and mental health outcomes

More likely to walk, cycle and take public transport in regenerated areas (Bull, Hooper, Foster, & Giles-Corti, 2015; Giles-Corti, Ryan, & Foster, 2012)

Residents had better mental wellbeing in neighbourhoods with improved aesthetics (Bond et al., 2012; Kullberg, Timpka, Svensson, Karlsson, & Lindqvist, 2010)

Poor health due to reduced access to green spaces and longer sitting times (Berglund, Westerling, & Lytsy, 2017)

Housing improvements such as heating improved respiratory and mental health (Egan, Lawson, Kearns, Conway, & Neary, 2015)

Some studies where improved health was reported, not significantly different to control groups (Kearns, Ghosh, Mason, & Egan, 2020; Mohan, Longo, & Kee, 2017)

# Crime and safety outcomes

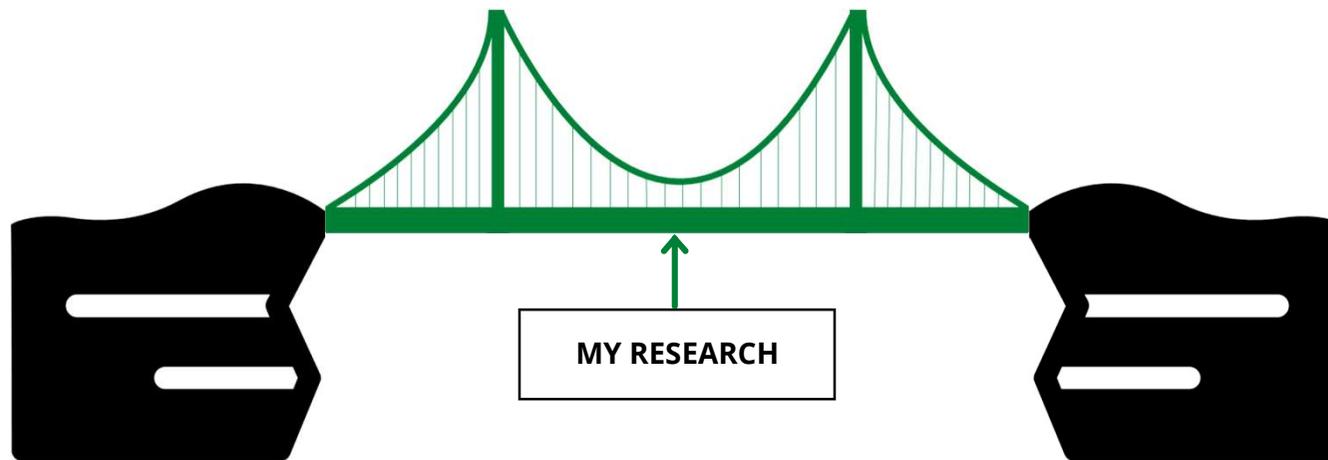
**Neighbourhoods with improved lighting and aesthetics felt safer (Bull, Hooper, Foster, & Giles-Corti, 2015)**

**Dwelling densities not associated with feelings of safety (Badland et al., 2017)**

**Lower crime rates in regenerated neighbourhoods (Batty et al., 2010)**

# Bridging the knowledge gap

- No strong consensus for the direction of urban regeneration impacts
- Studies are survey-based, interviews or case studies
- Covers only a small sample of the population over short periods
- Limited causal evidence between urban regeneration and wellbeing



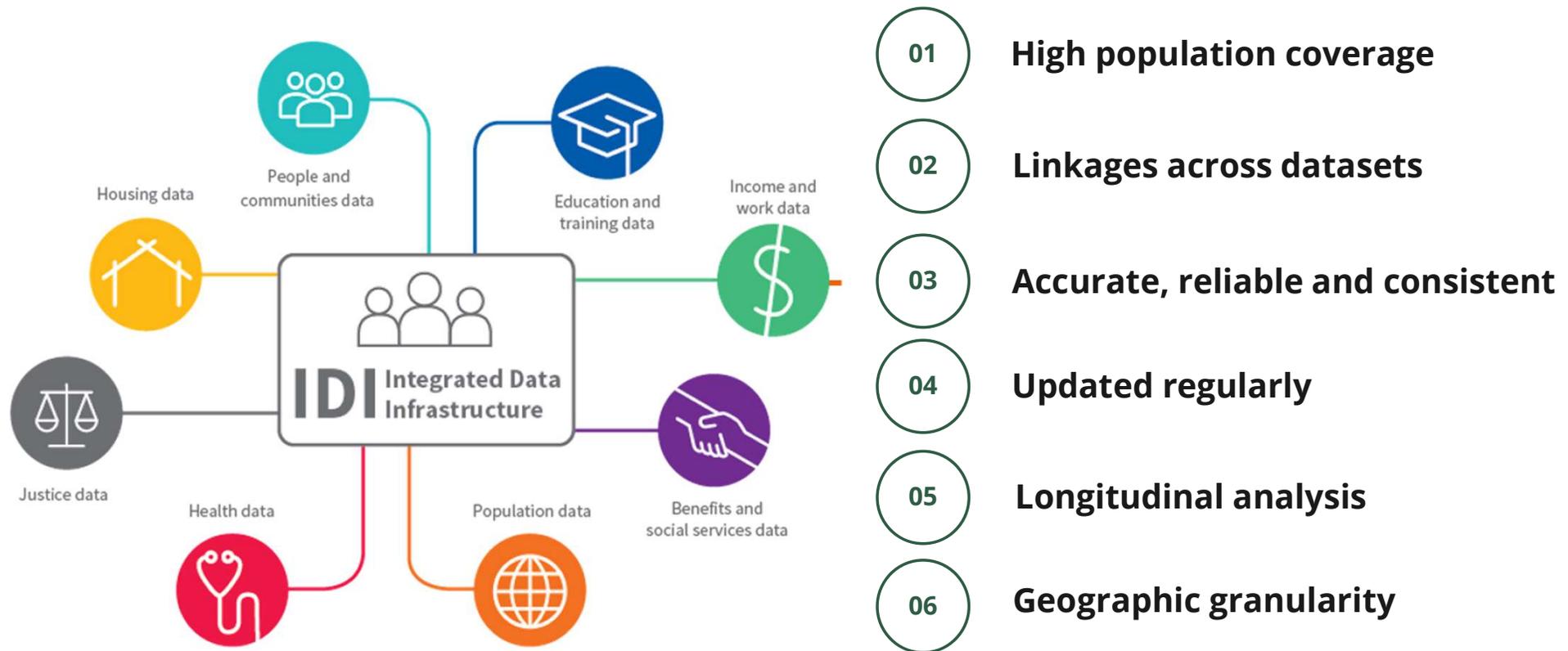
SECTION THREE

# Using administrative data to measure the wellbeing impacts of urban regeneration



# The Integrated Data Infrastructure

Administrative data collected by government agencies while conducting its business or legislative duties



# IDI datasets

---

## Education and labour markets

### Ministry of Education

- Secondary schools
- Tertiary education
- Industry training and education

### Inland Revenue

Tax revenue

### Ministry of Social Development

Benefit dynamics

---

## Physical and mental health

### Department of Internal Affairs

Life events data

### Ministry of Health

- National Non-Admitted Patient Collection
  - National Minimum Dataset
  - Programme for the Integration of Mental Health data
  - Pharmaceutical data
  - Mortality collection
- 

## Crime and safety

### New Zealand Police

Recorded crimes victim data

### Ministry of Justice

Court charges

### Accident Compensation Corporation

Claims data

---

## Demographic data

### Address Notification

Geographic information

### Census 2013/2018

Population descriptives

### Department of Internal Affairs

Marriage, civil union and deceased status

### Personal details

Demographic information

### Ministry of Business Innovation and Employment

Border movements

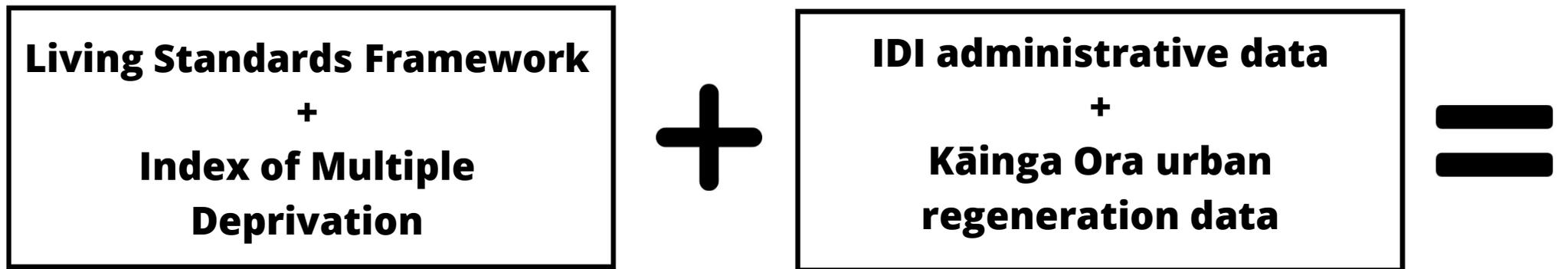
# Measuring urban regeneration

## Housing intensification data from Kāinga Ora

- Covers time period: 2017 - 2020
- Geographic unit of analysis at suburb level
- Project beginning and completion date
- Urban regeneration phases such as planning, under construction or delivered
- Type of supply, amount and typology of housing built



# Examining the wellbeing impacts of urban regeneration using administrative data



Education



Labour Markets



Physical Health



Mental Health



Crime



Safety

**Wellbeing  
impacts**

## ESTIMATING WELLBEING IMPACTS OF URBAN REGENERATION

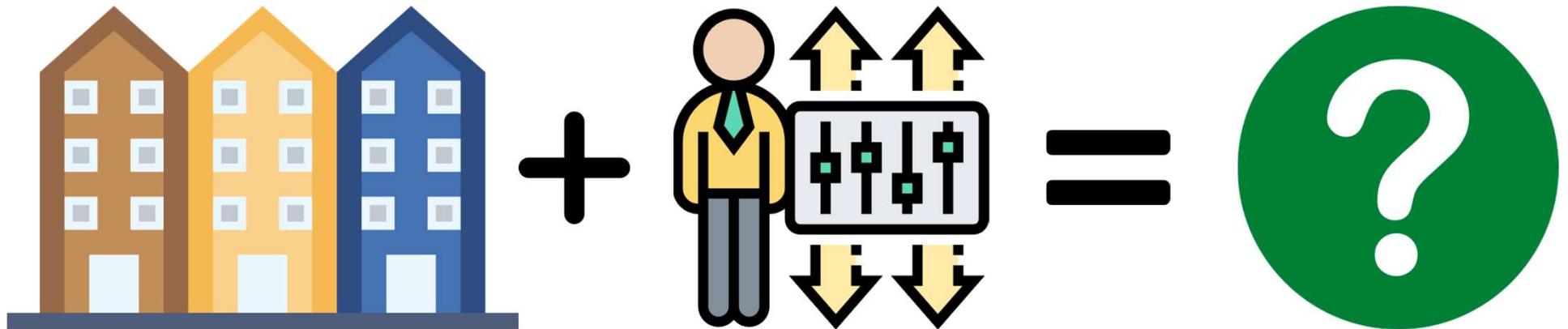
# Difference-in-difference model (DiD)

$$Y_{st} = \mu_s + \lambda_t + \beta \cdot Regen_{st} + \delta \cdot X_{st} + v_{st}$$

- $Y_{st}$  is the wellbeing indicator for suburb  $s$  at time  $t$
- $\mu_s$  measures suburb-specific fixed effects
- $\lambda_t$  measures time-specific fixed effects
- $Regen_{st}$  incorporates housing intensification characteristics
- $X_{st}$  incorporates suburb and time-specific covariates

where  $t$  = months between January 2015 - December 2021 inclusive

# Forming the evidence base



**Thank you**