Stand by:

The future is ~~coming~~ *now!*…

Introduction

"How can accessibility be measured?"

- 1. Engineers
- 2. Outcomes
- 3. Problem ID
- 4. Solutions
- 5. Benefits
- 6. Future

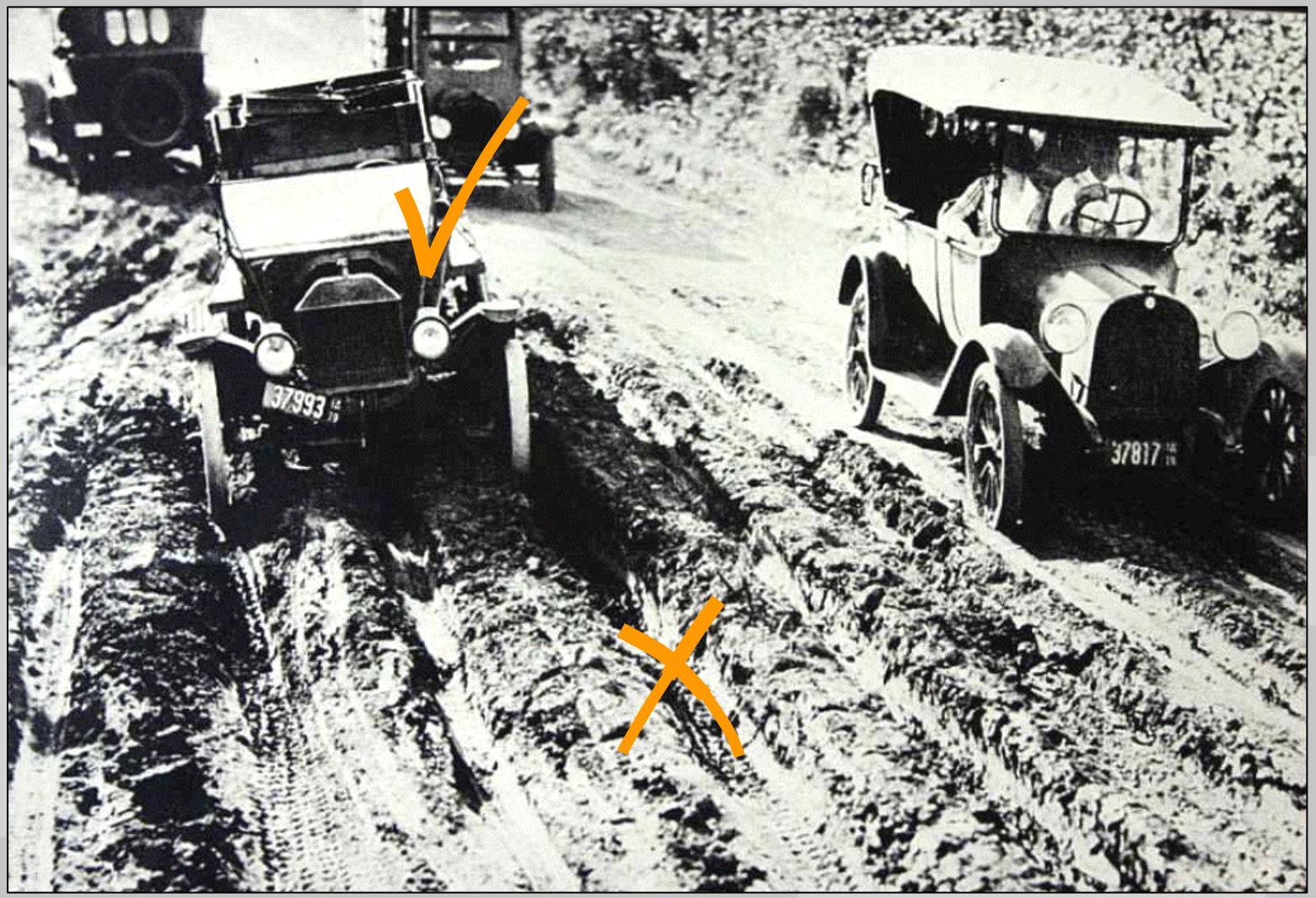
1. Engineers

Sewer pipes in Kearney, Nebraska. 1889. Photo: Solomon D. Butcher, 1856-1927

1. Engineers

United States of America, SP Depot, Santa Margarita, California c.1890

1. Engineers

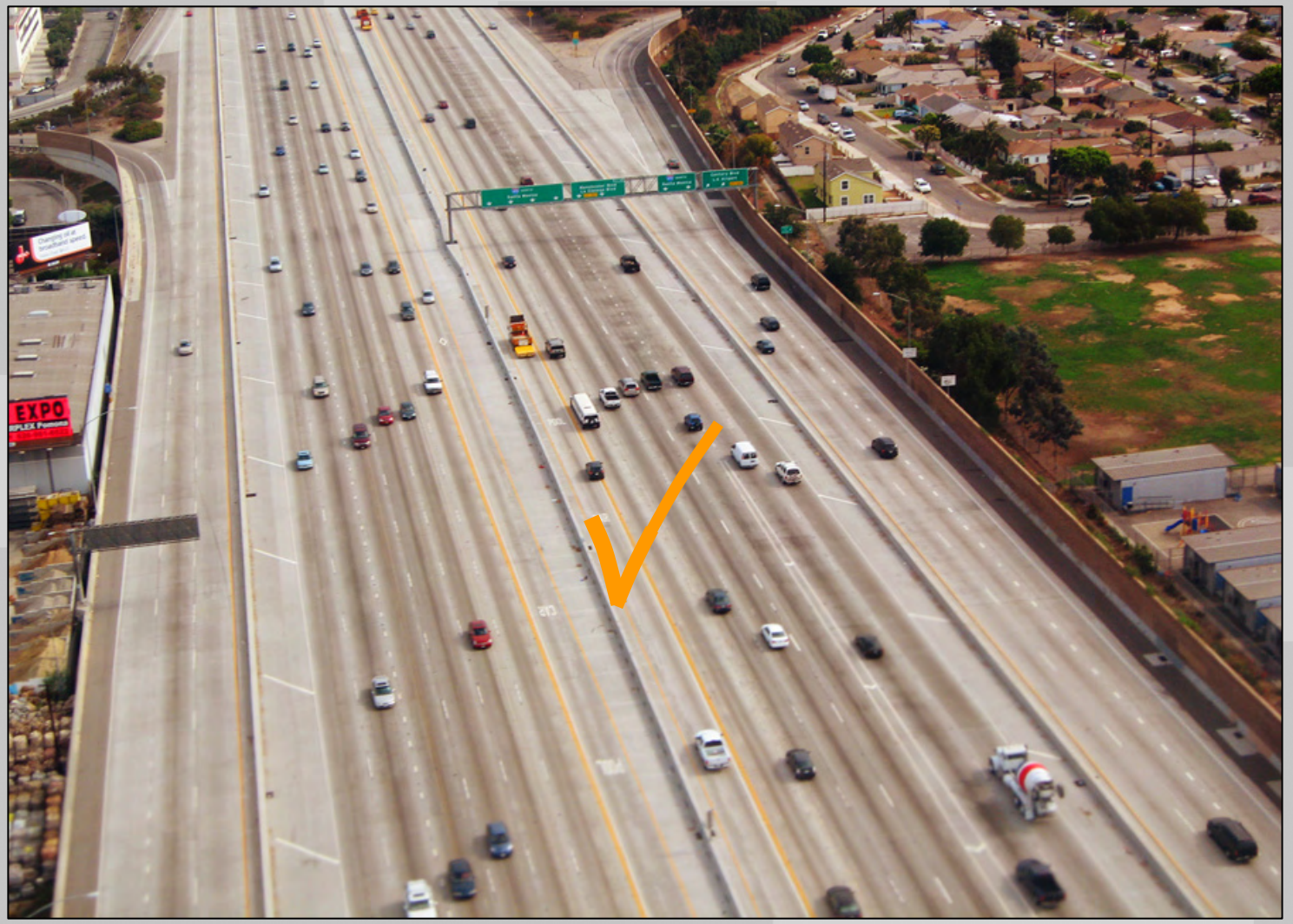


United States of America, Valley Mall, c.1900, poor road construction, Source: Dan Burden, Walkable Communities, Inc.

1. Engineers

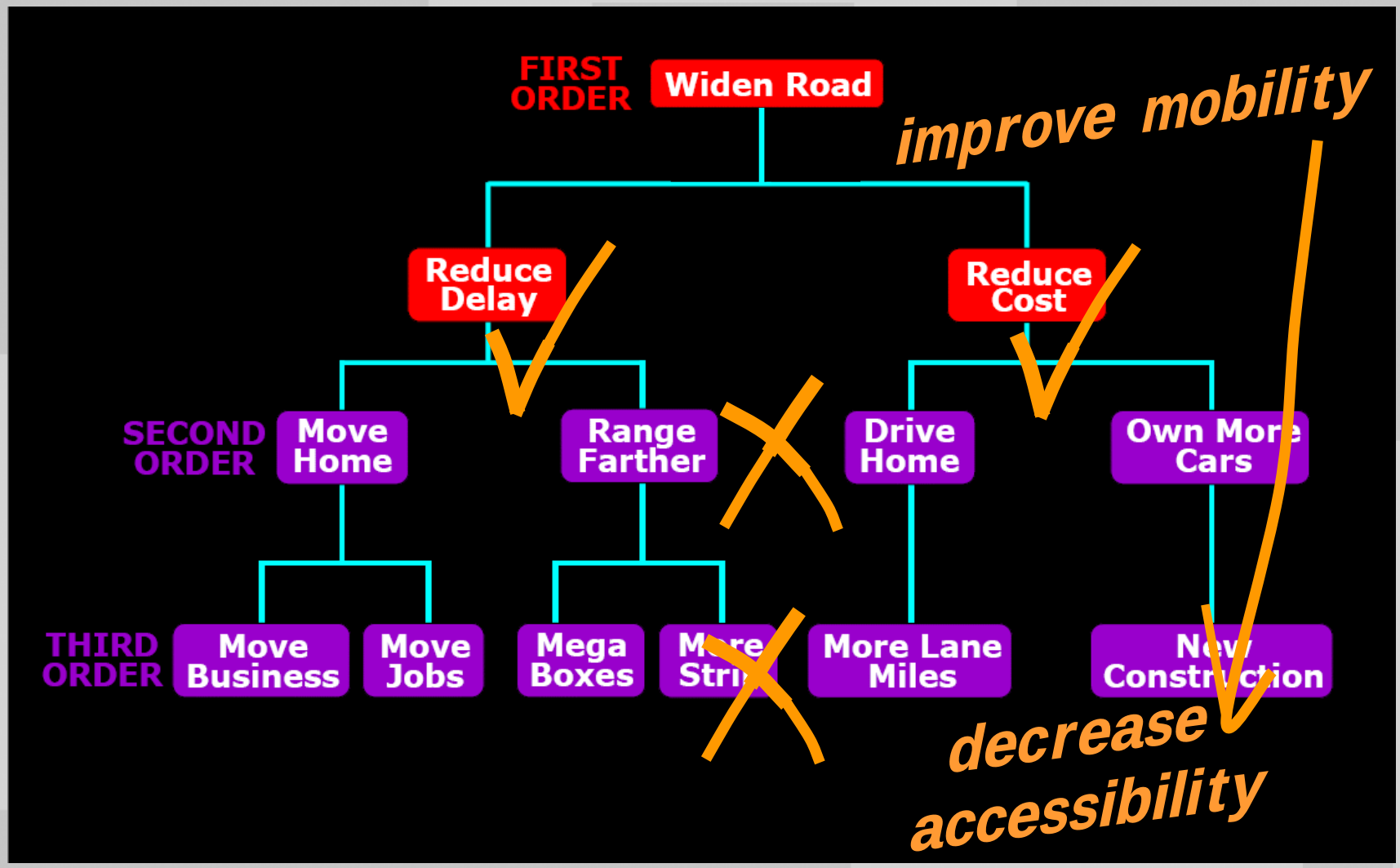
Mexico, Near Colonia Juarez c.1900, new road construction

1. Engineers



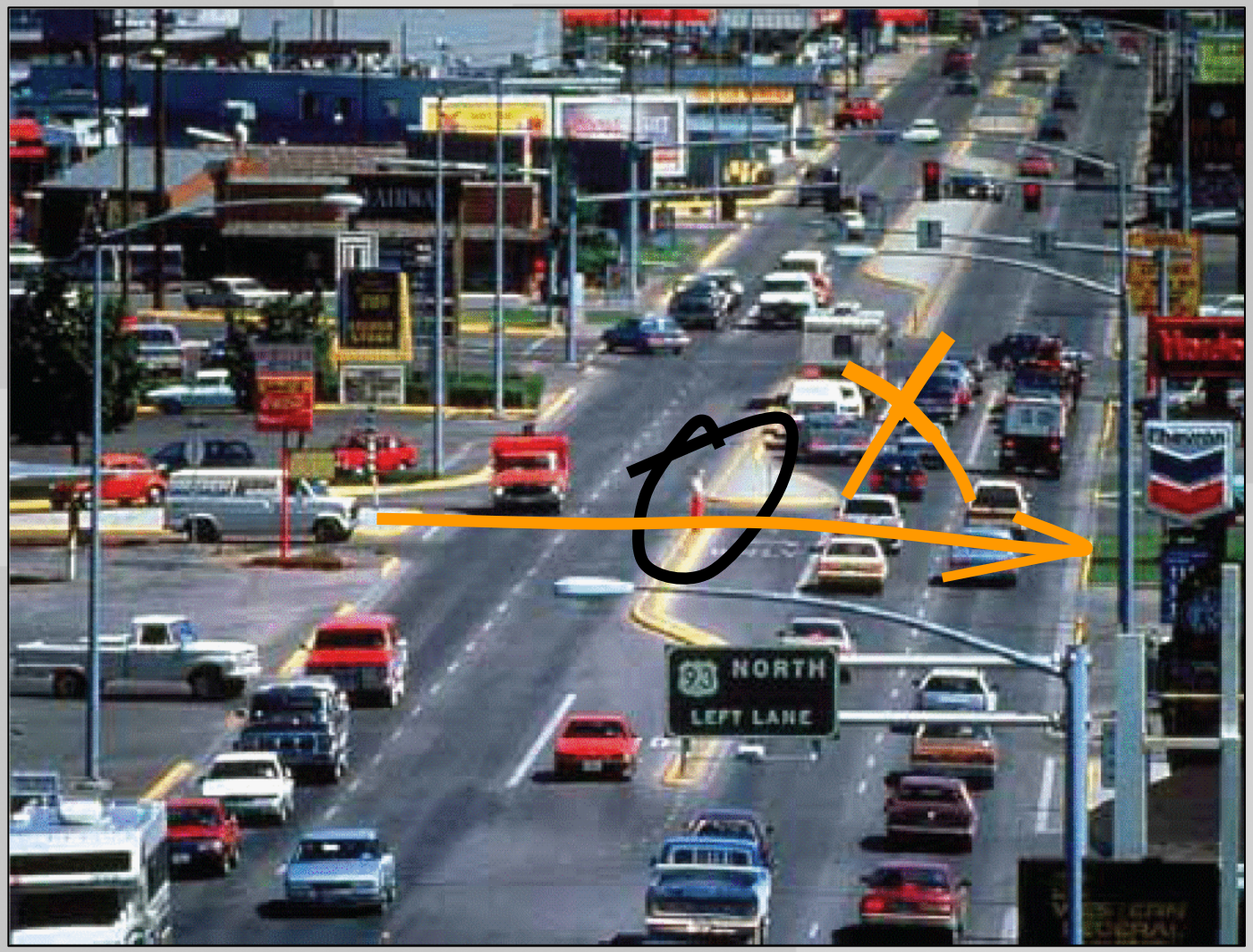
United States of America, Los Angeles, 405 Freeway, near LAX

2. Outcomes - Existing



Source: Dan Burden, Walkable Communities, Inc.

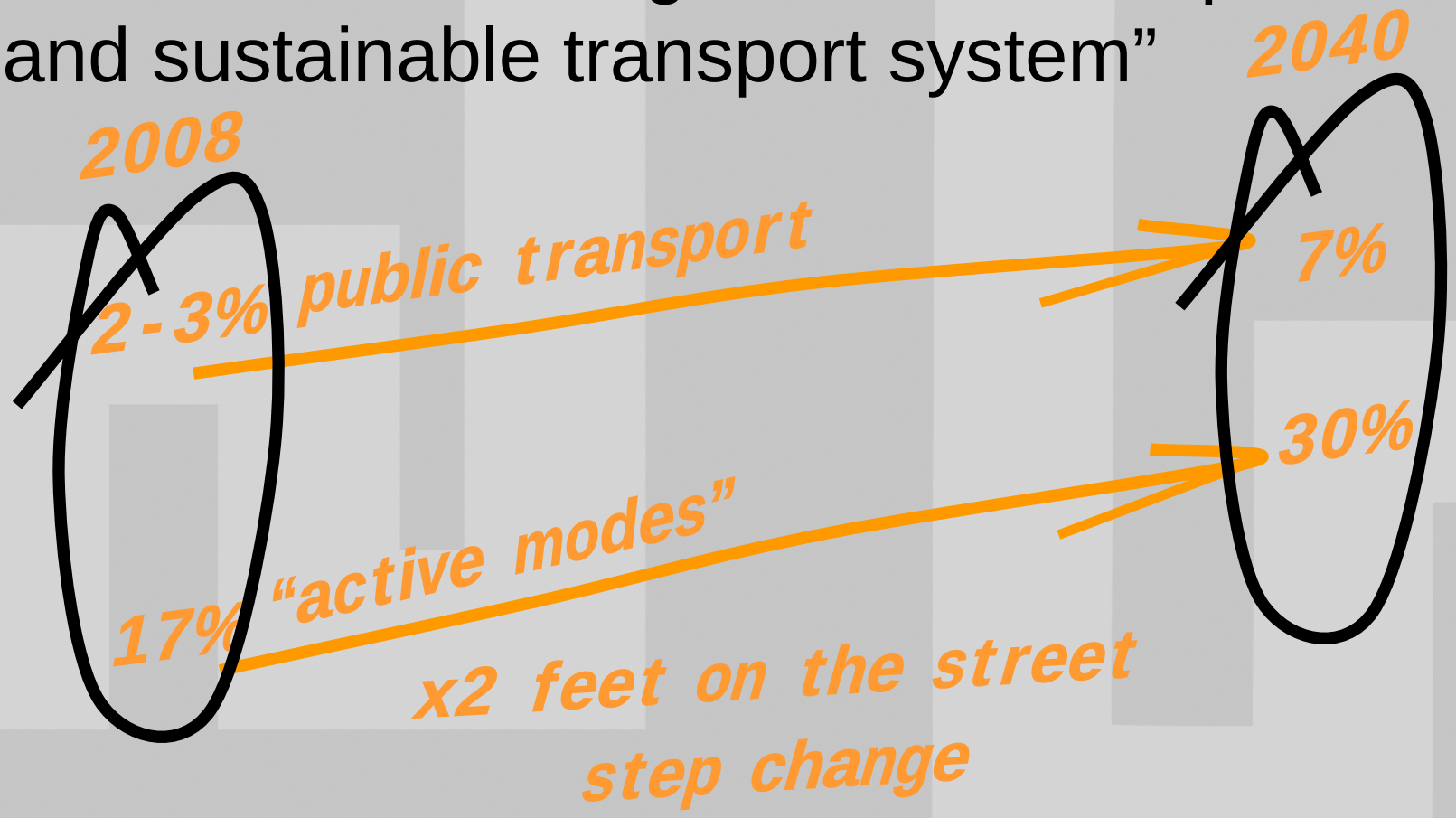
2. Outcomes - Existing



United States of America, Source: Dan Burden, Walkable Communities, Inc.

2. Outcomes - Future

"an affordable, integrated, safe, responsive and sustainable transport system"



2. Outcomes

Only two questions…

- 1. What influences outcome?
- 2. How do we measure?

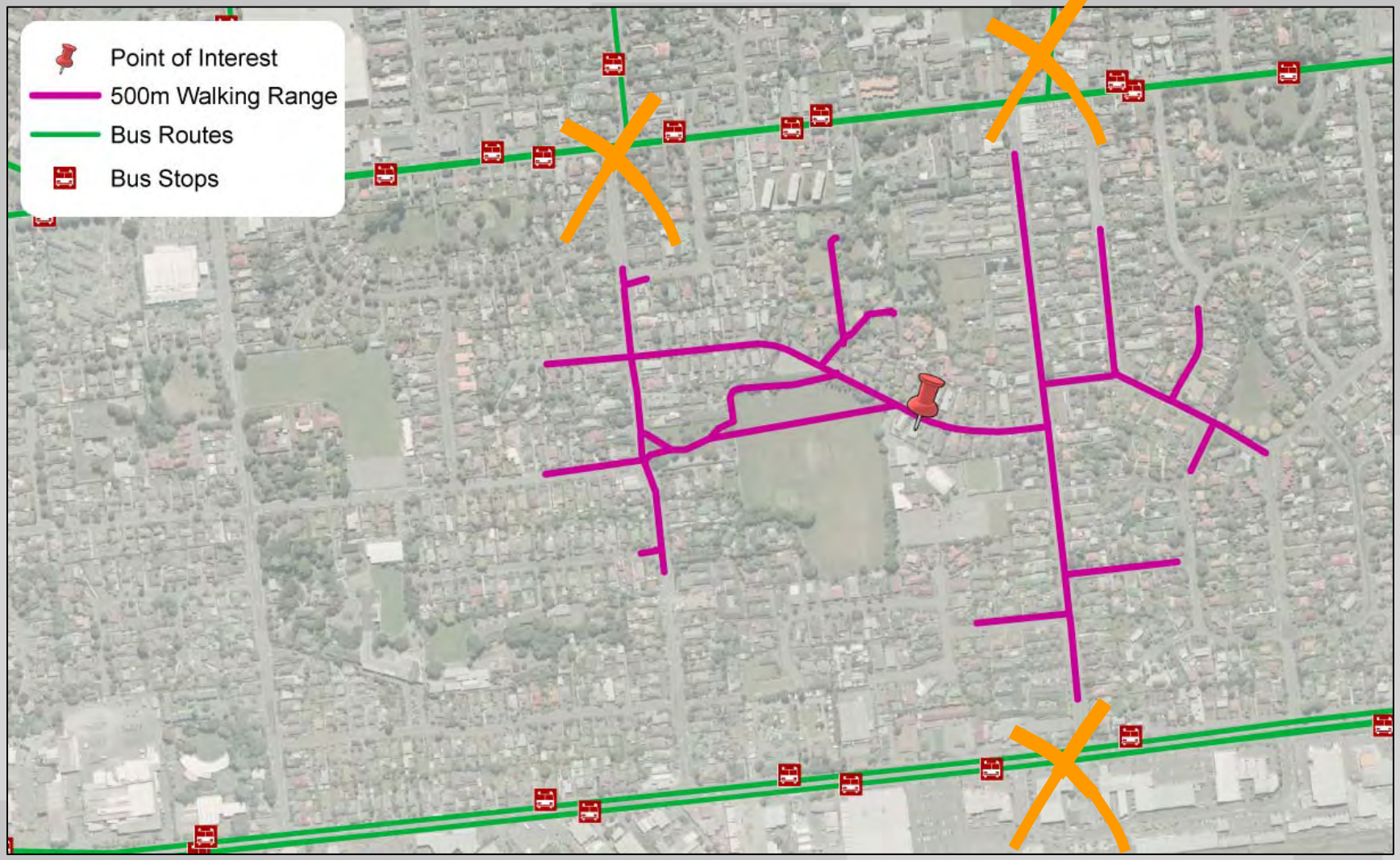
3. Problem ID

Christchurch, ECan RLTS measure of PT access, 400m to bus stop for subdivisions

3. Problem ID

Christchurch, ECan PT Plan measure of PT access, >90% 500m to bus route

3. Problem ID



500m on road network to bus stop

3. Problem ID

4. Solutions

- Measure better!
- Public Transport Accessibility Levels
  - Developed by London Borough of Hammersmith and Fulham (1992)
  - Adopted by Transport for London (T*f*L)
    - Used for transportation assessments
    - Used to vary rate of parking supply
  - Used outside London too
    - Used to determine housing density

4. Solutions

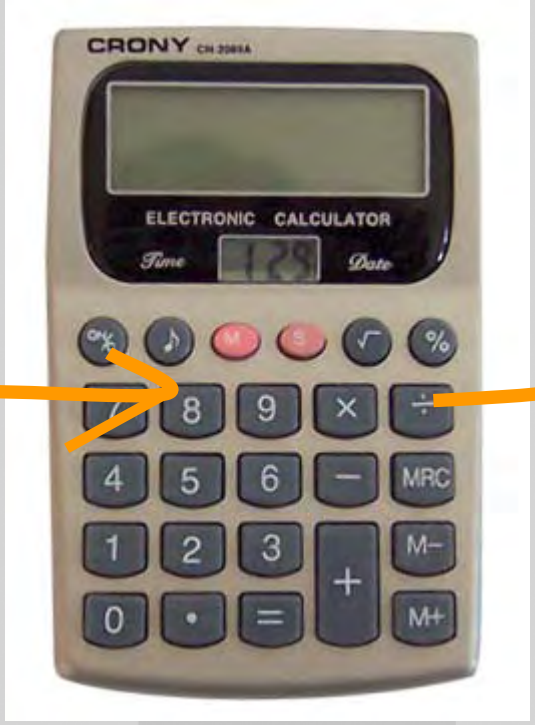
access points

services

frequency

reliability

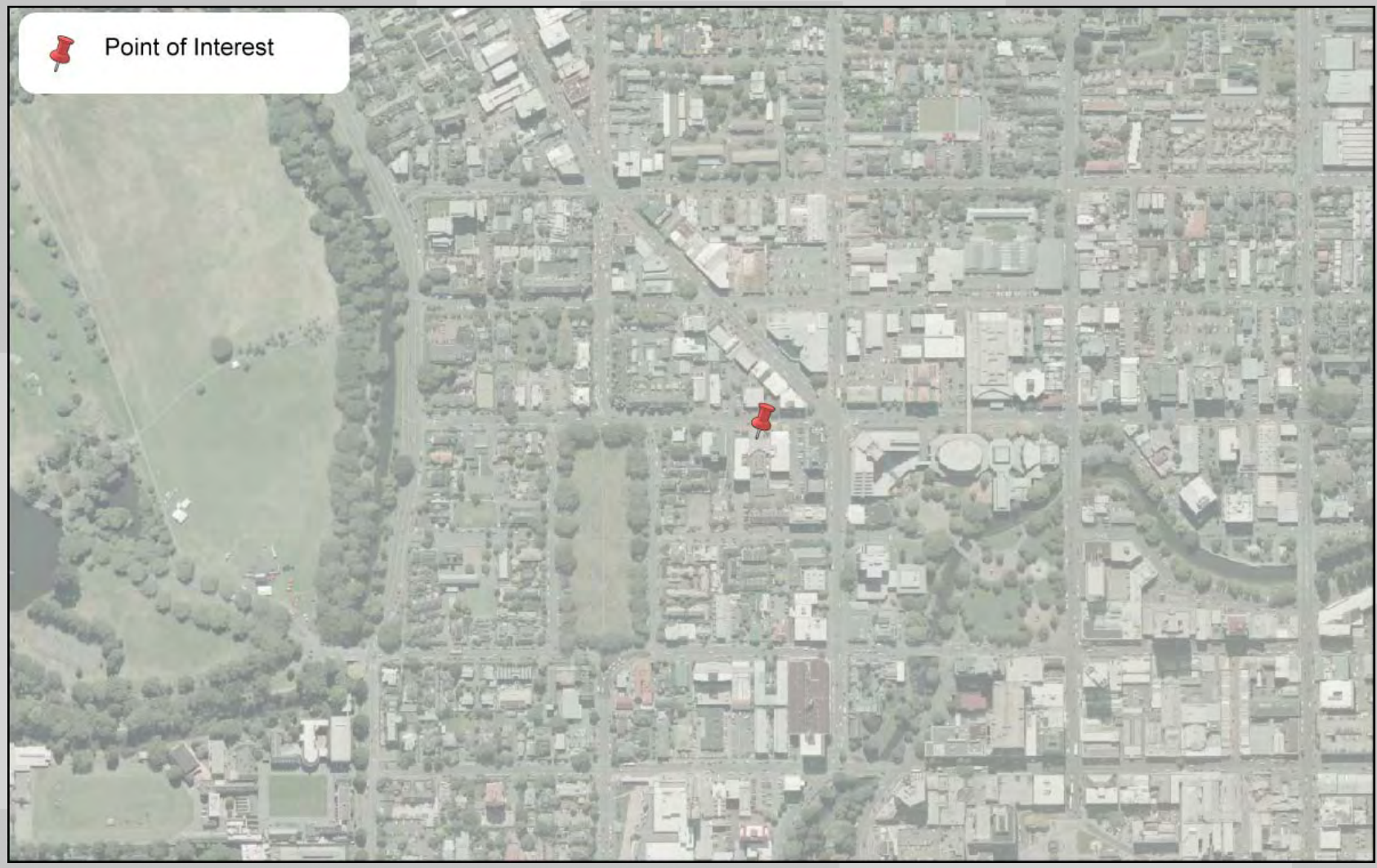
ease of walking



accessibility index

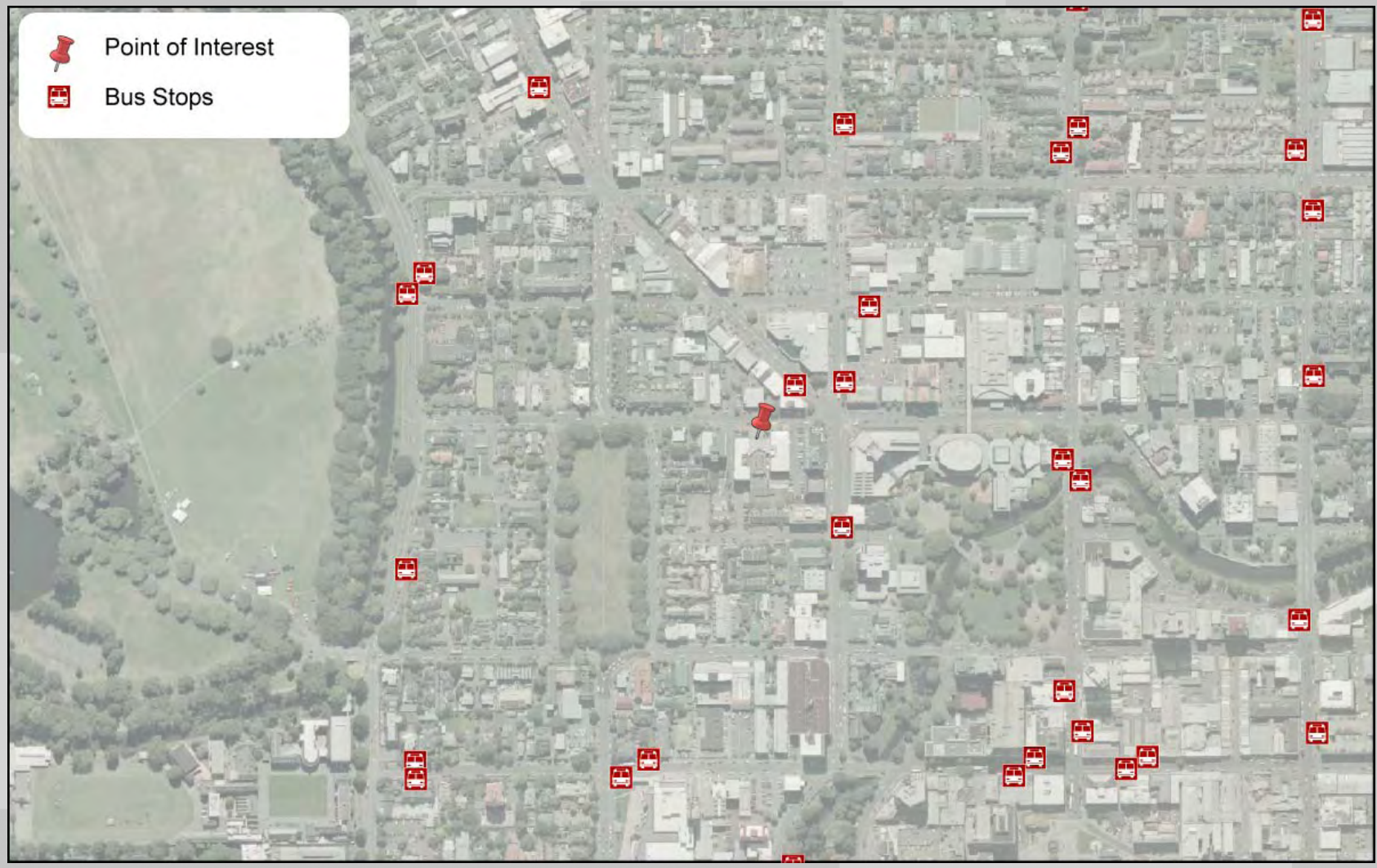
Christchurch mid weekday shopping period

4. Solutions

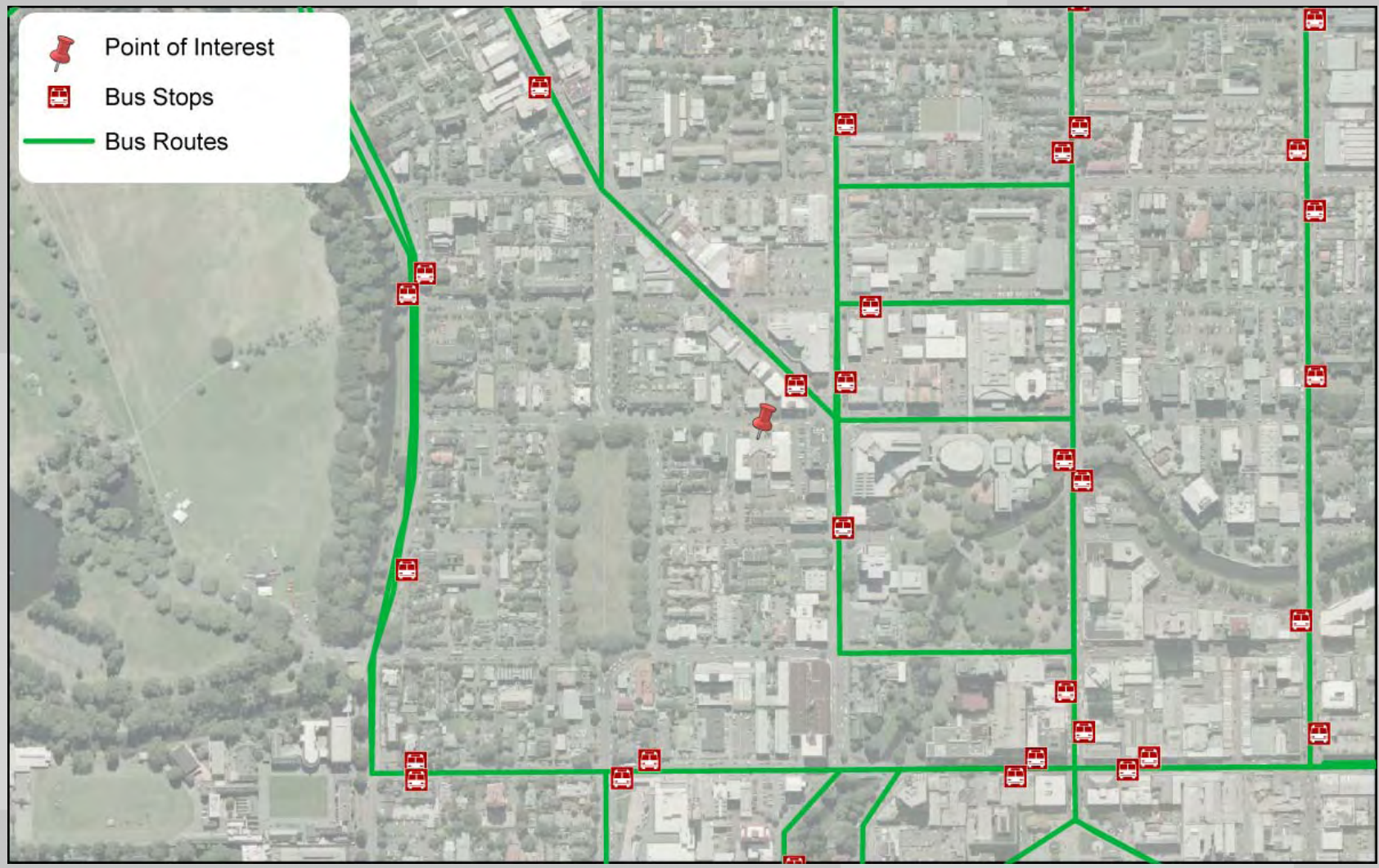


Christchurch City Council, Aerial Photo, Christchurch, Point of Interest is ECan

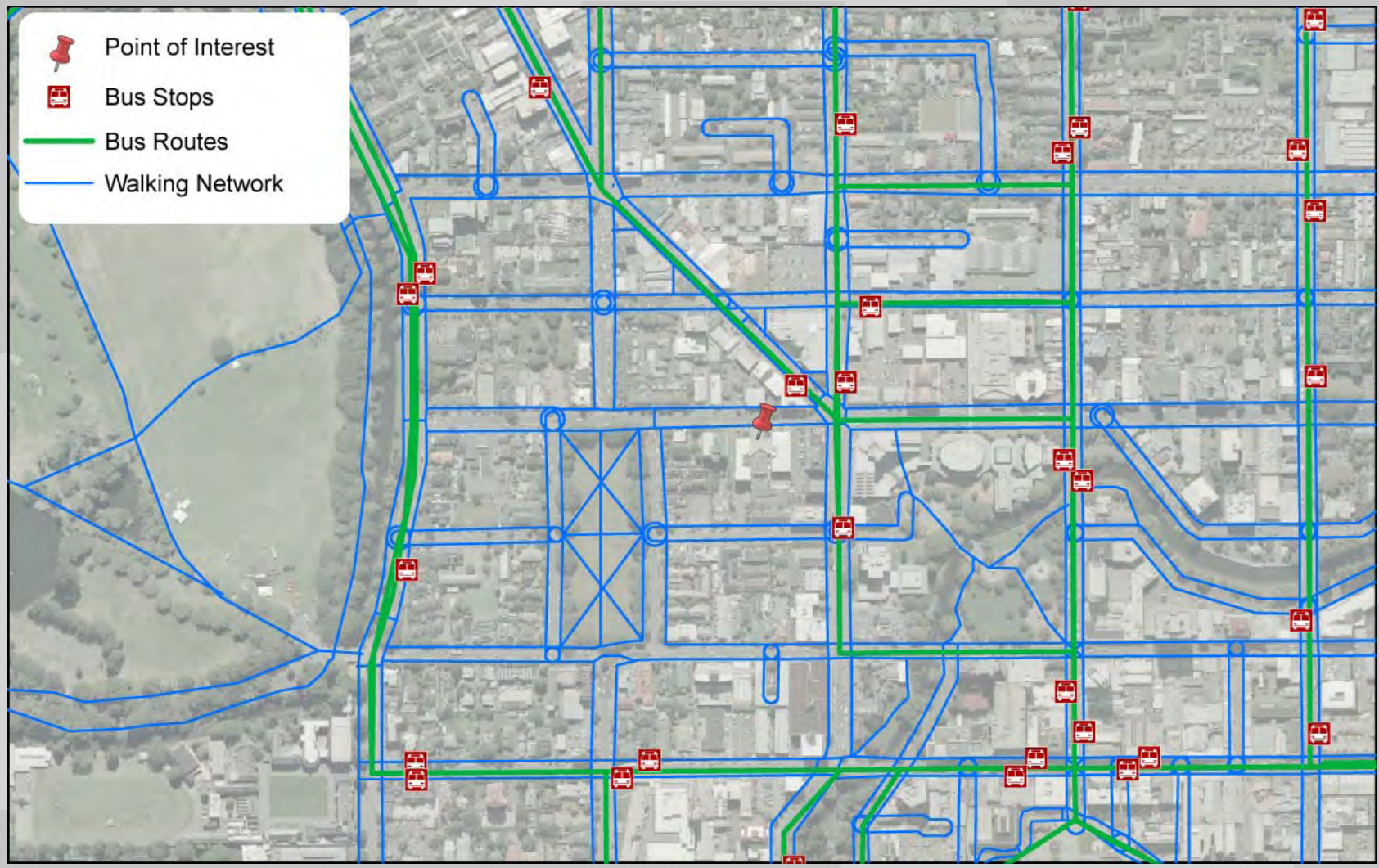
4. Solutions



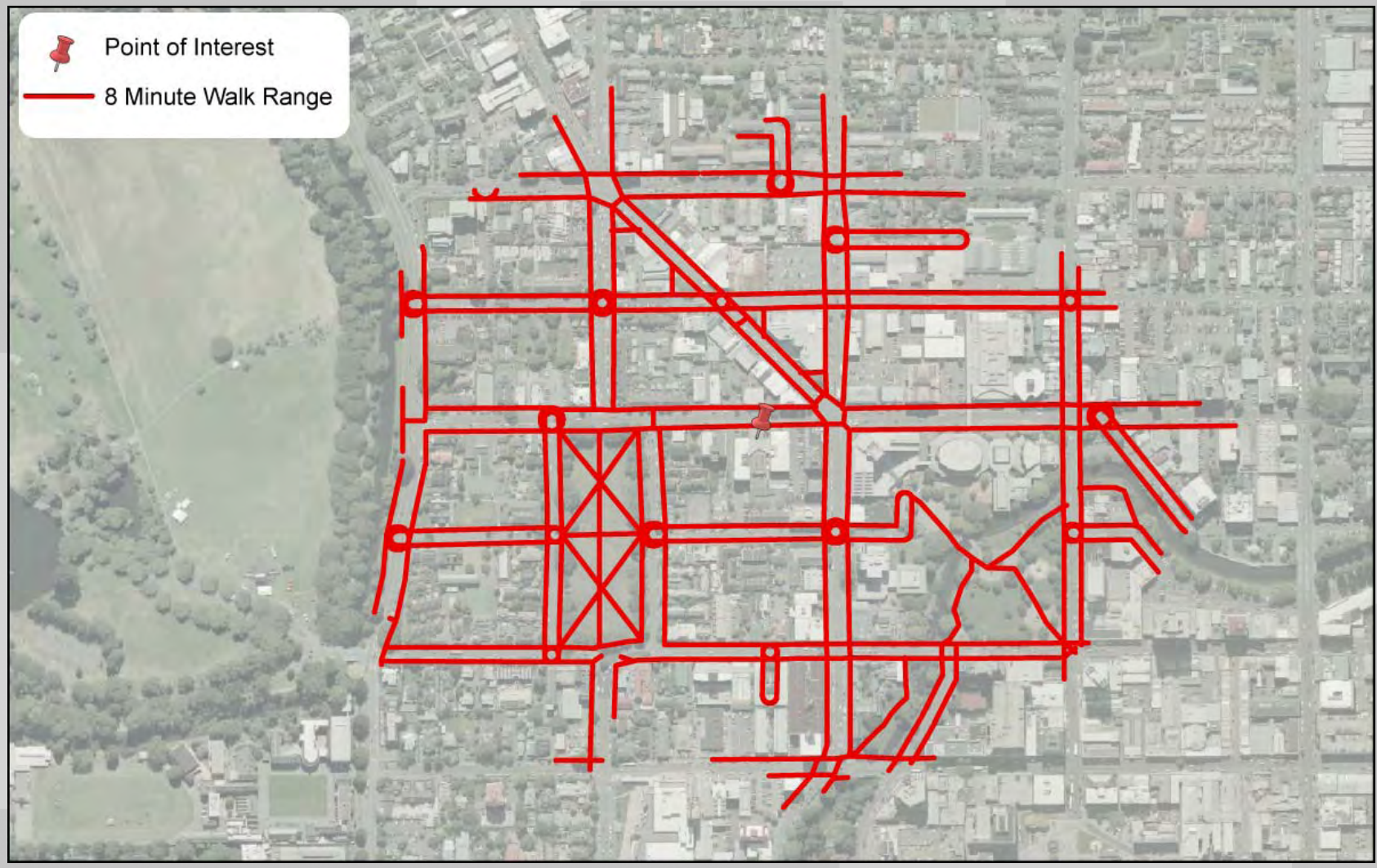
4. Solutions



4. Solutions



4. Solutions

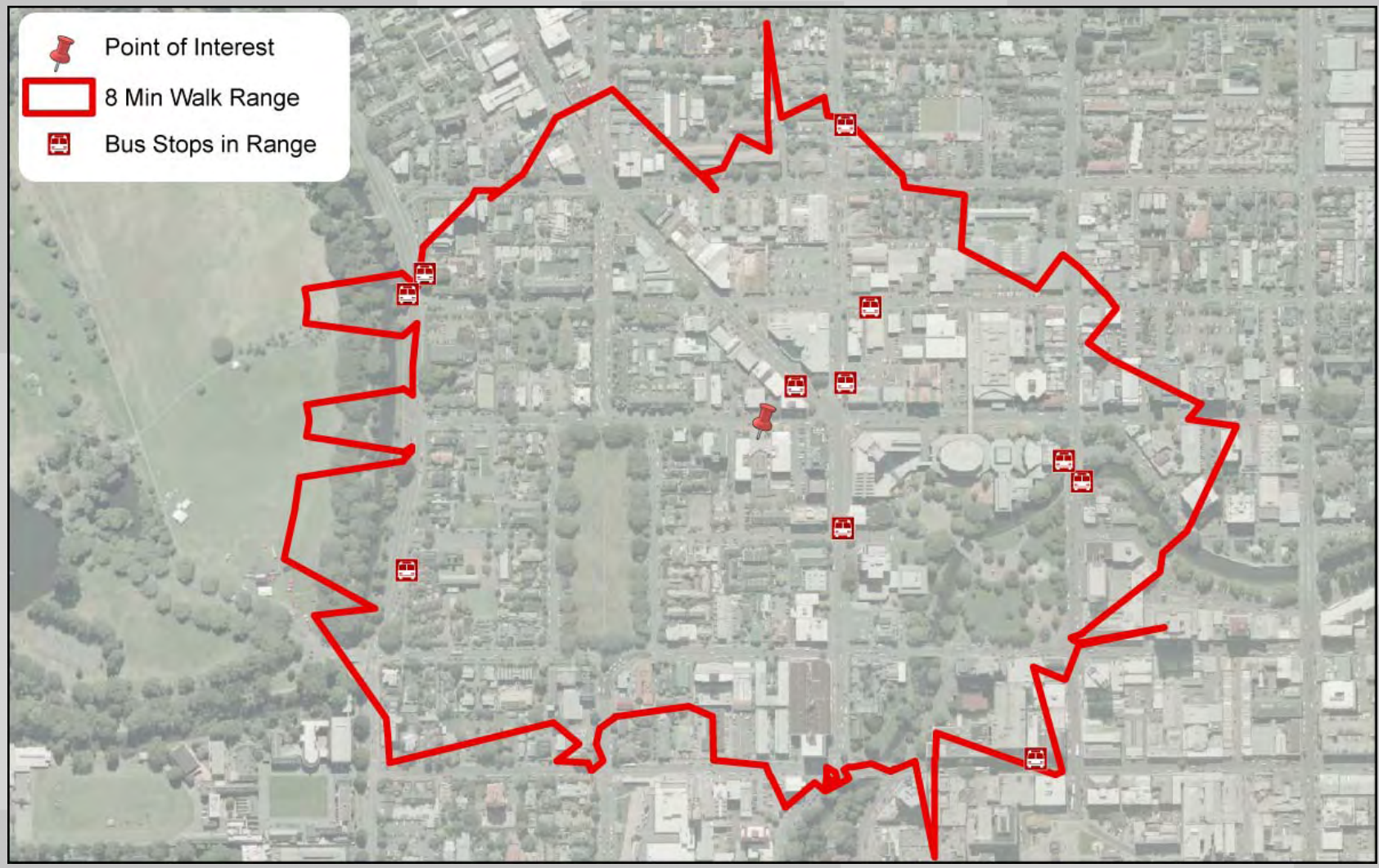


Walk at 1.3m/s, delays when crossing the road, different delays for different crossing types

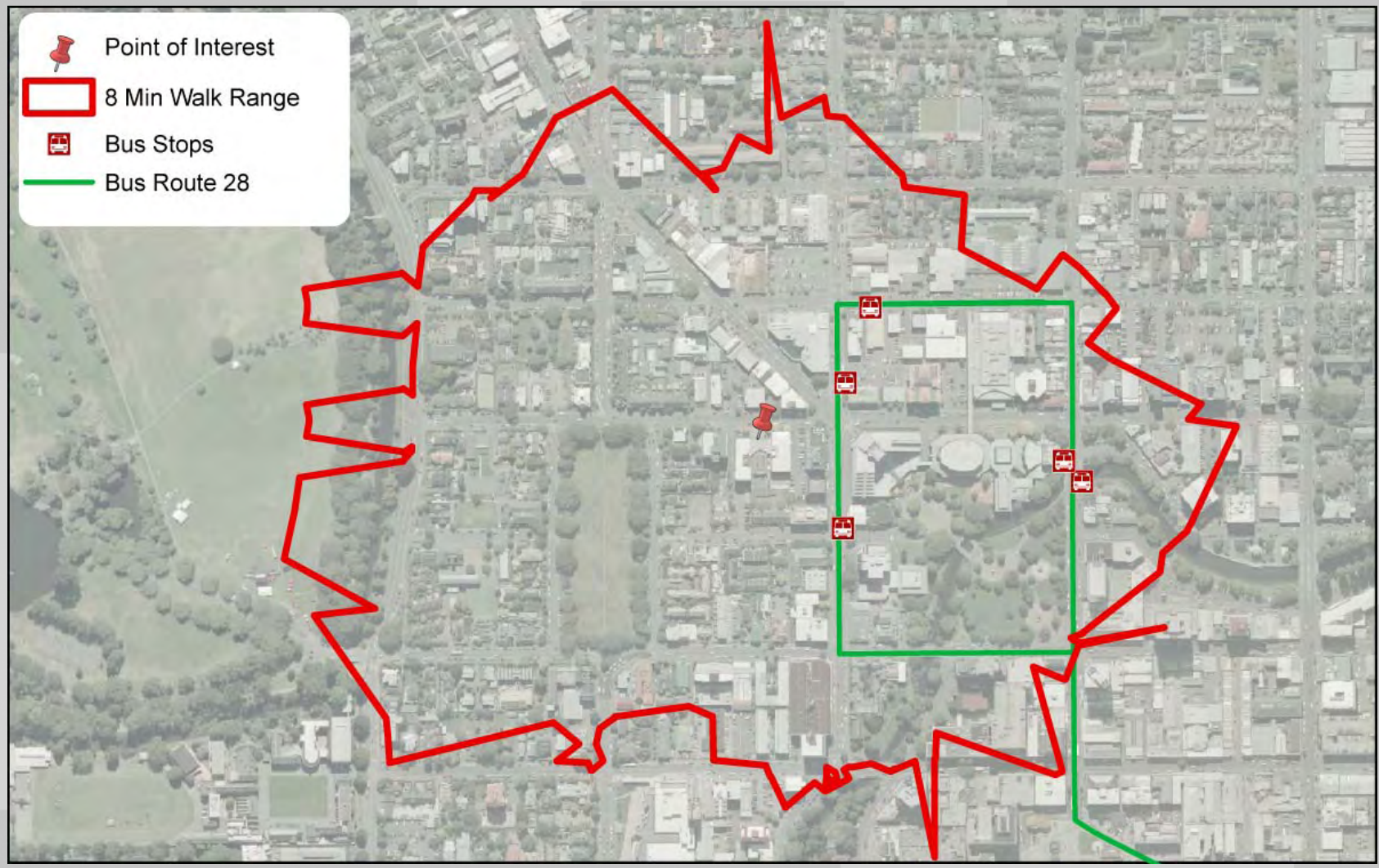
4. Solutions

Walk time service area analysis

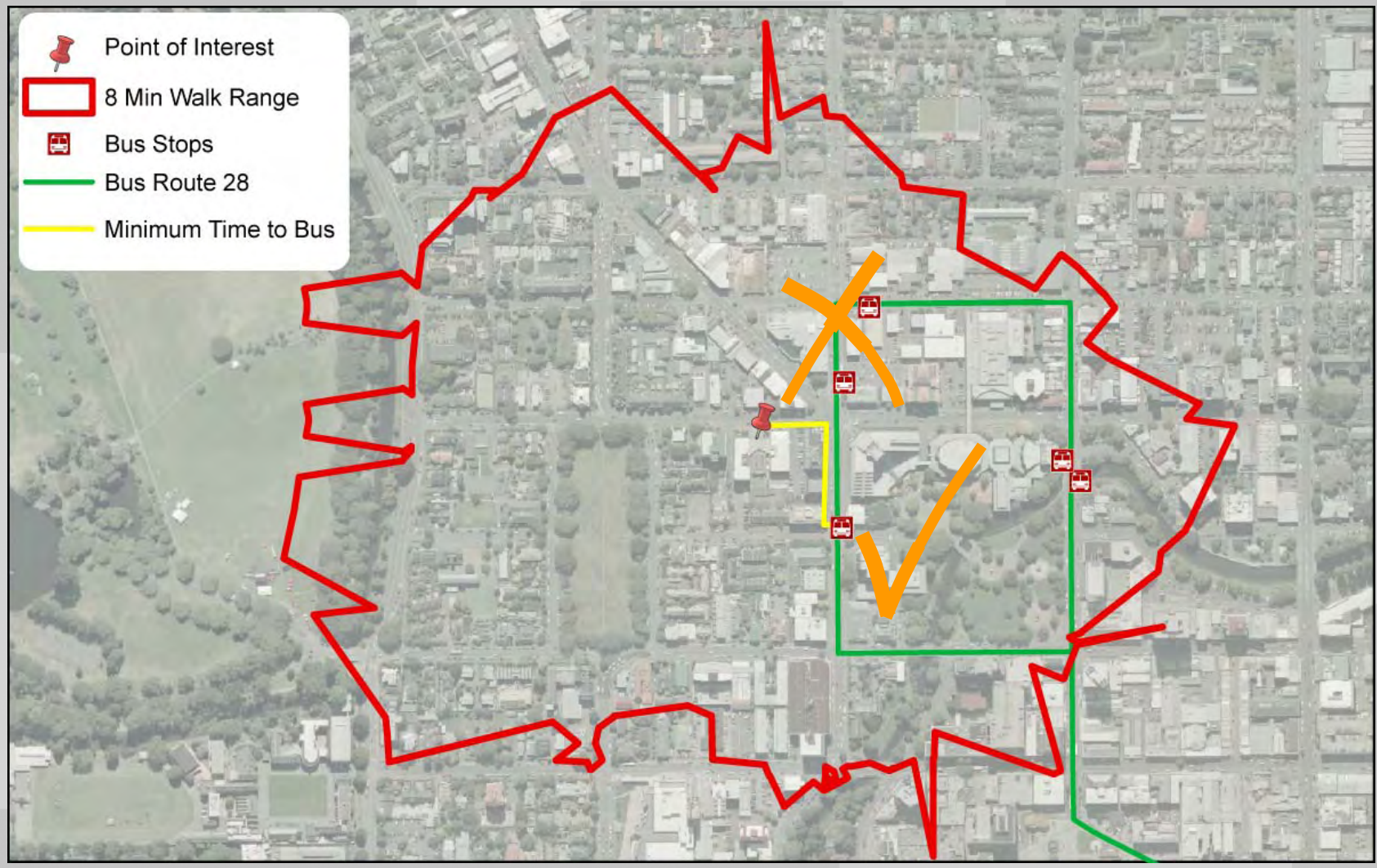
4. Solutions



4. Solutions

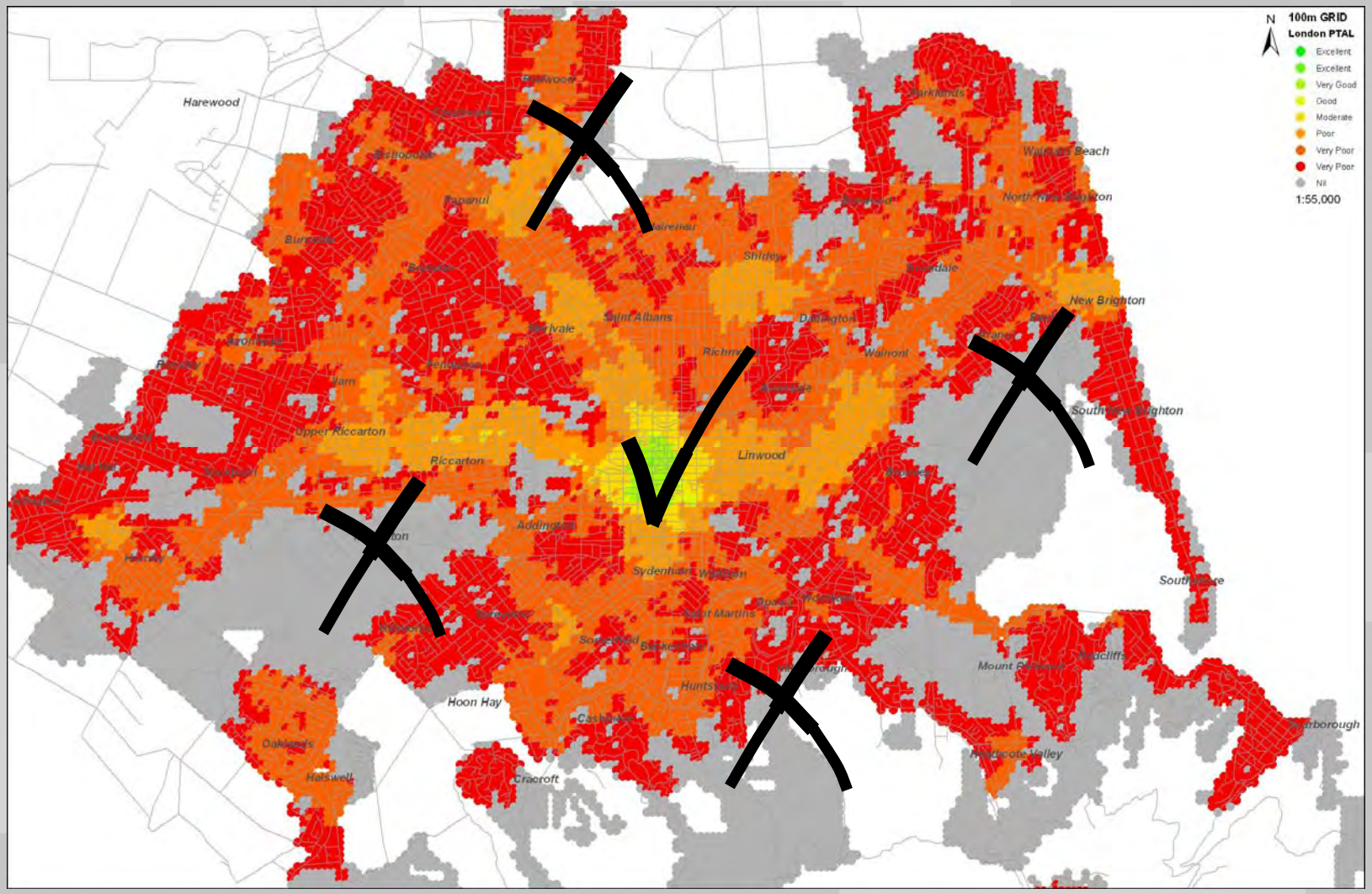


4. Solutions



Equivalent Doorstep Frequency calculations

4. Solutions


N
100m GRID
London PTAL
Excellent
Excellent
Very Good
Good
Moderate
Poor
Very Poor
Very Poor
Nil
1:55,000
Harewood
Parklands
Waltham
Shirley
New Brighton
Linwood
Riccarton
Upper Riccarton
Addington
Sydenham
Hoon Hay
Halswell
Cracroft
Oaklands
Huntsbury
Mount Pleasant
Redcliffs
Redcoate Valley

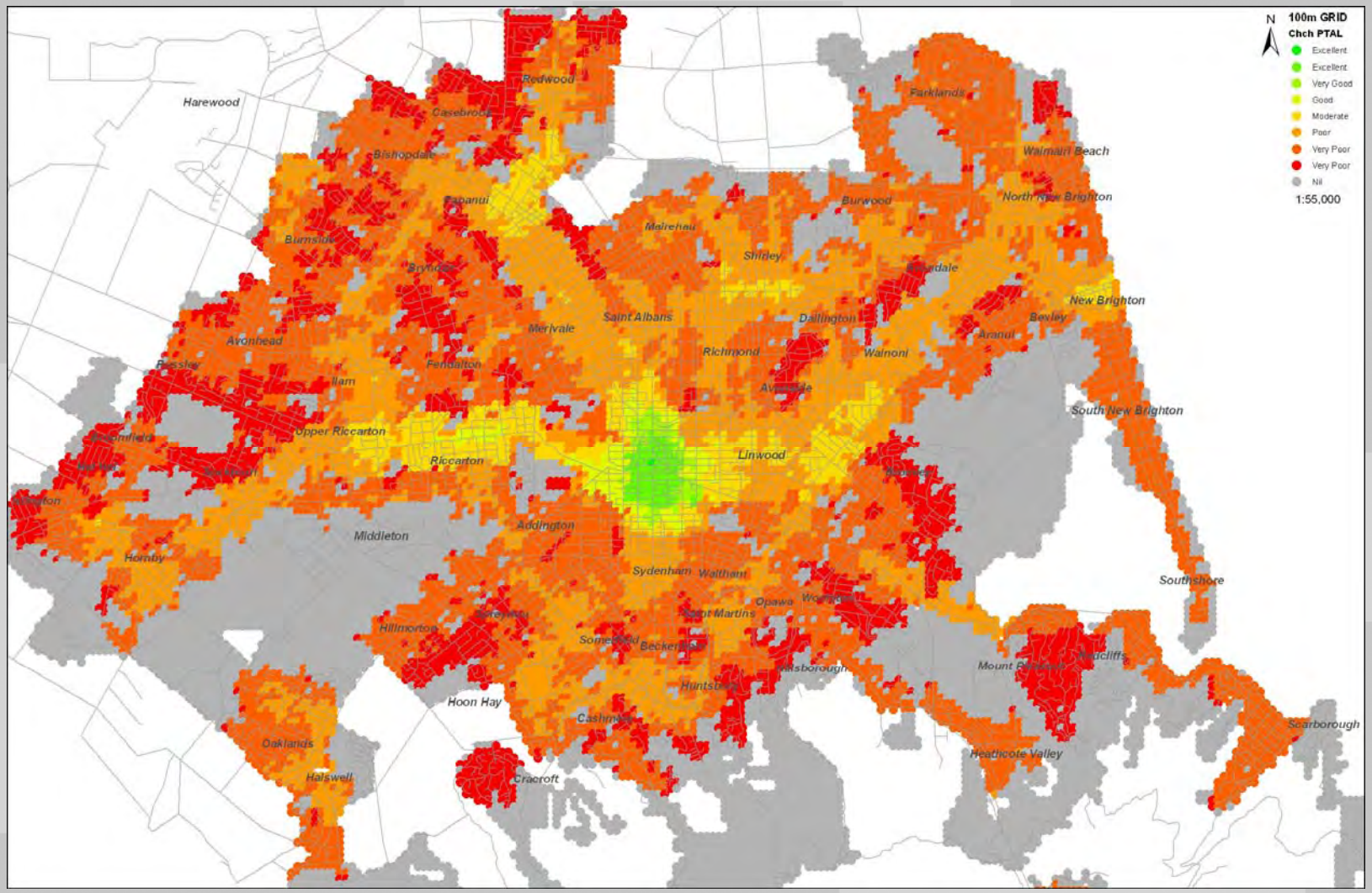
4. Solutions


Better
Bad
Excellent
Excellent
Very Good
Good
Moderate
Poor
Very Poor
Very Poor
London

4. Solutions


Better
Bad
Excellent
Excellent
Very Good
Good
Moderate
Poor
Very Poor
Very Poor
Excellent
Excellent
Good
Poor
Very Poor
London
Christchurch

4. Solutions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Redwood
Casebrook
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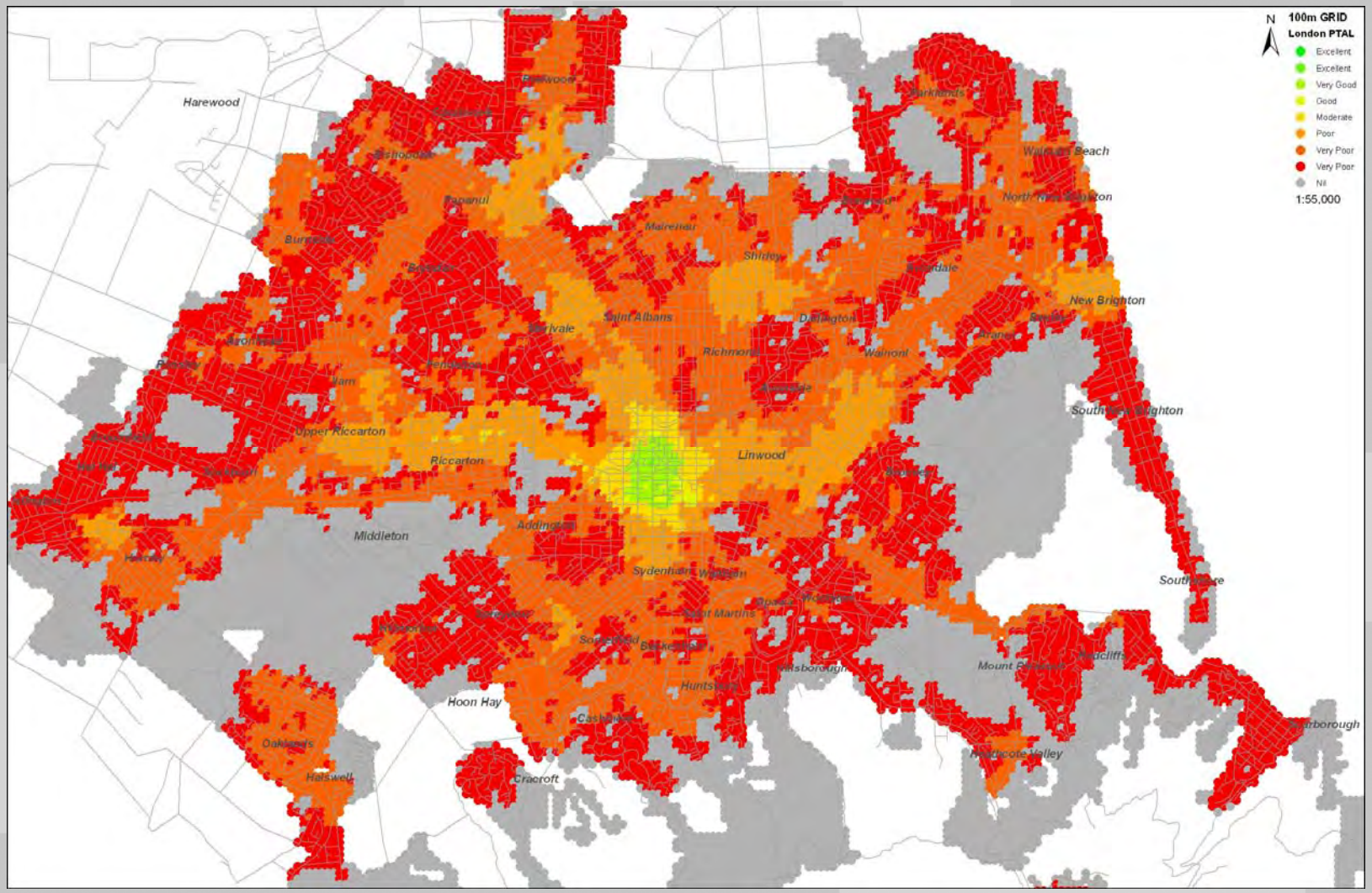
Saint Albans
Shirley
Burwood
Parklands
Waimairi Beach
North New Brighton
New Brighton
Bexley
Aranui
Dallington
Richmond
Avonhead
Fendalton
Ilam
Upper Riccarton
Riccarton
Linwood
Addington
Middleton
Hornby
Sydenham
Waltham
Opawa
Hillmorton
Somerfield
Beckenham
Huntsbury
Hoon Hay
Cashmere
Oaklands
Halswell
Cracroft
South New Brighton
Southshore
Scarborough
Heathcote Valley

4. Solutions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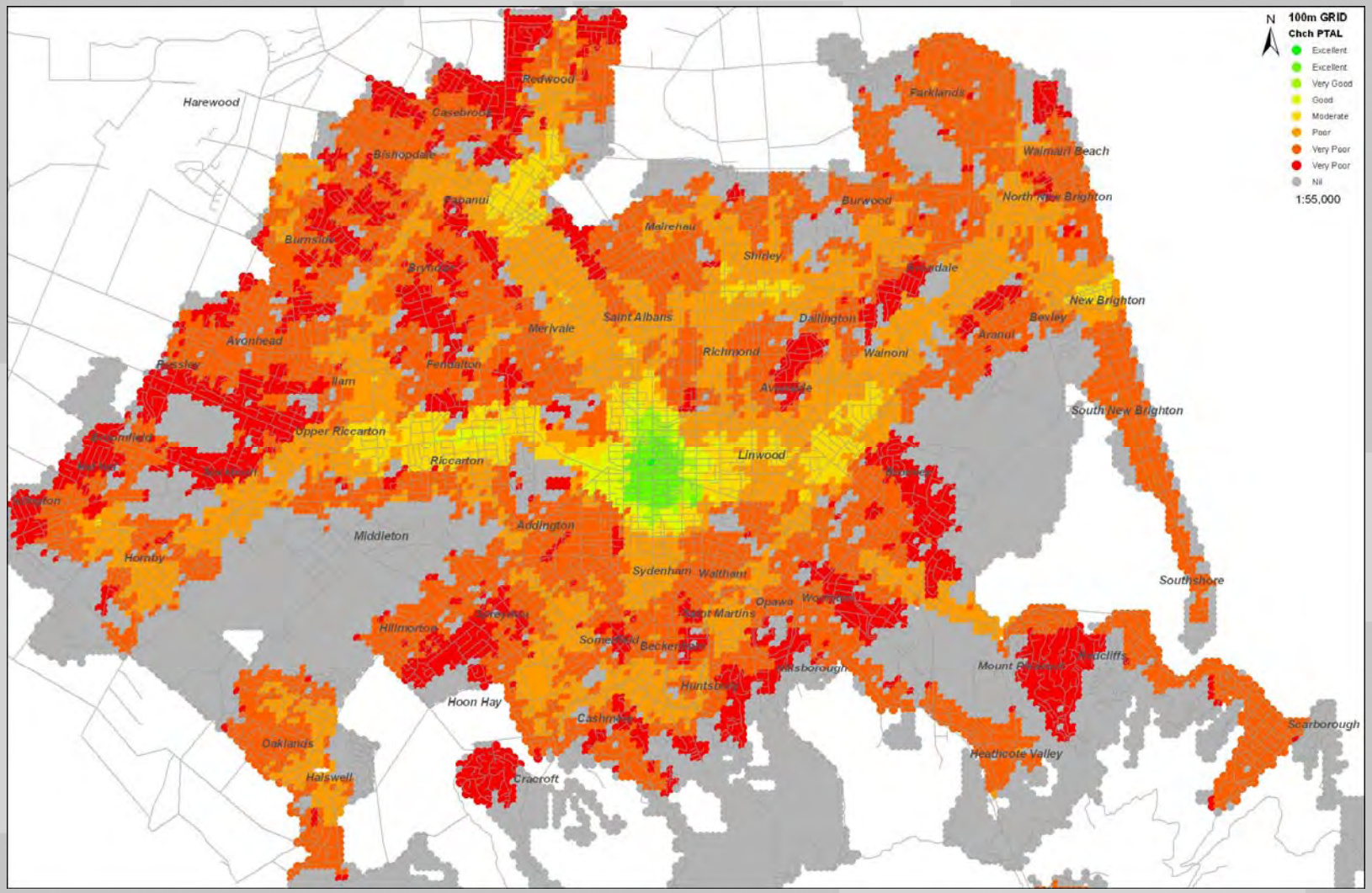
Redcliffs
Redcoate Valley

4. Solutions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Cashmere
Oaklands
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Cracroft
South New Brighton
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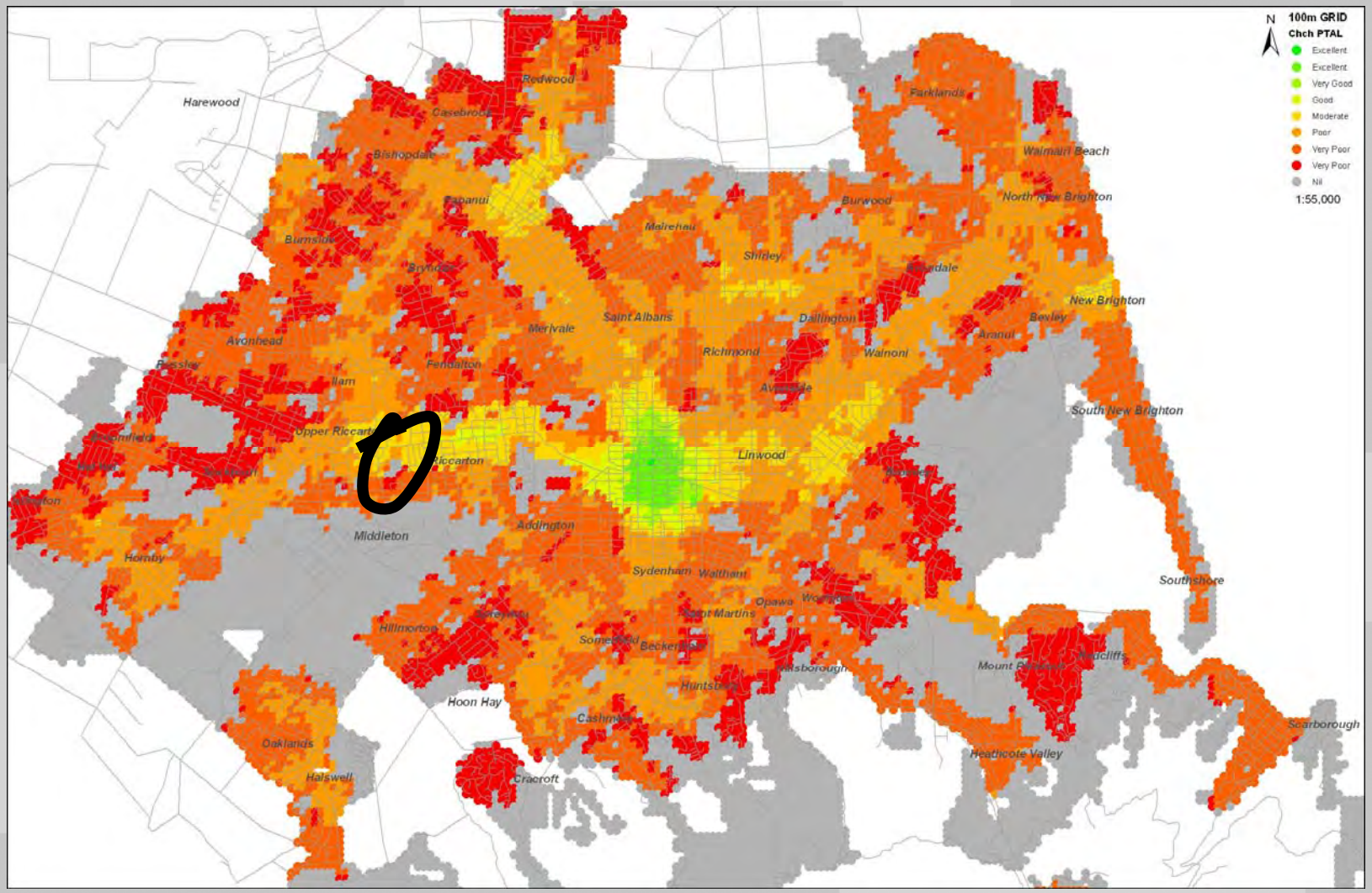
Scarborough
Heathcote Valley

4. Solutions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Casebrook
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Cracroft
Southshore
Scarborough
Heathcote Valley

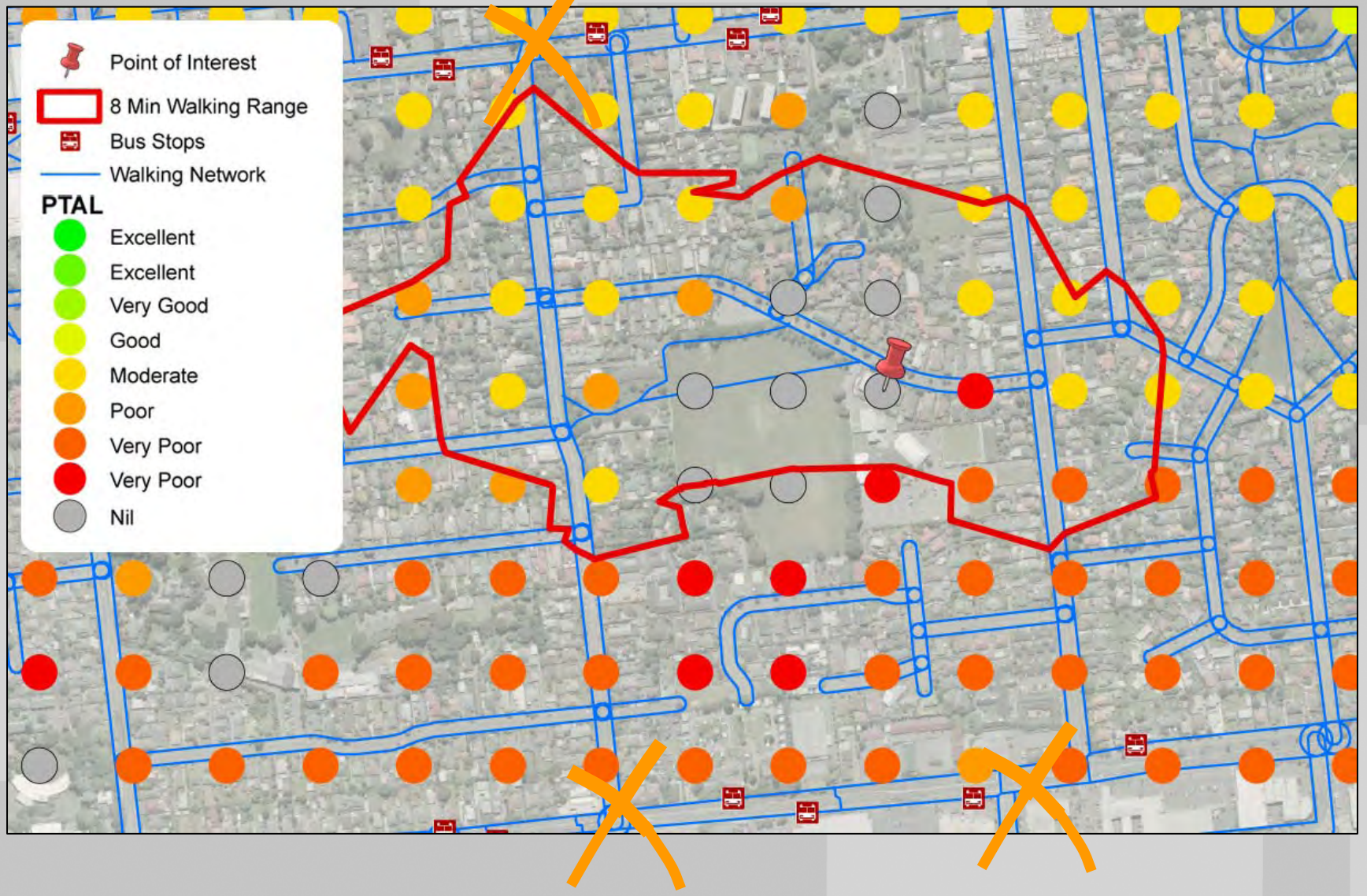
4. Solutions

Christchurch, ECan RLTS measure of PT access, 400m to bus stop for subdivisions

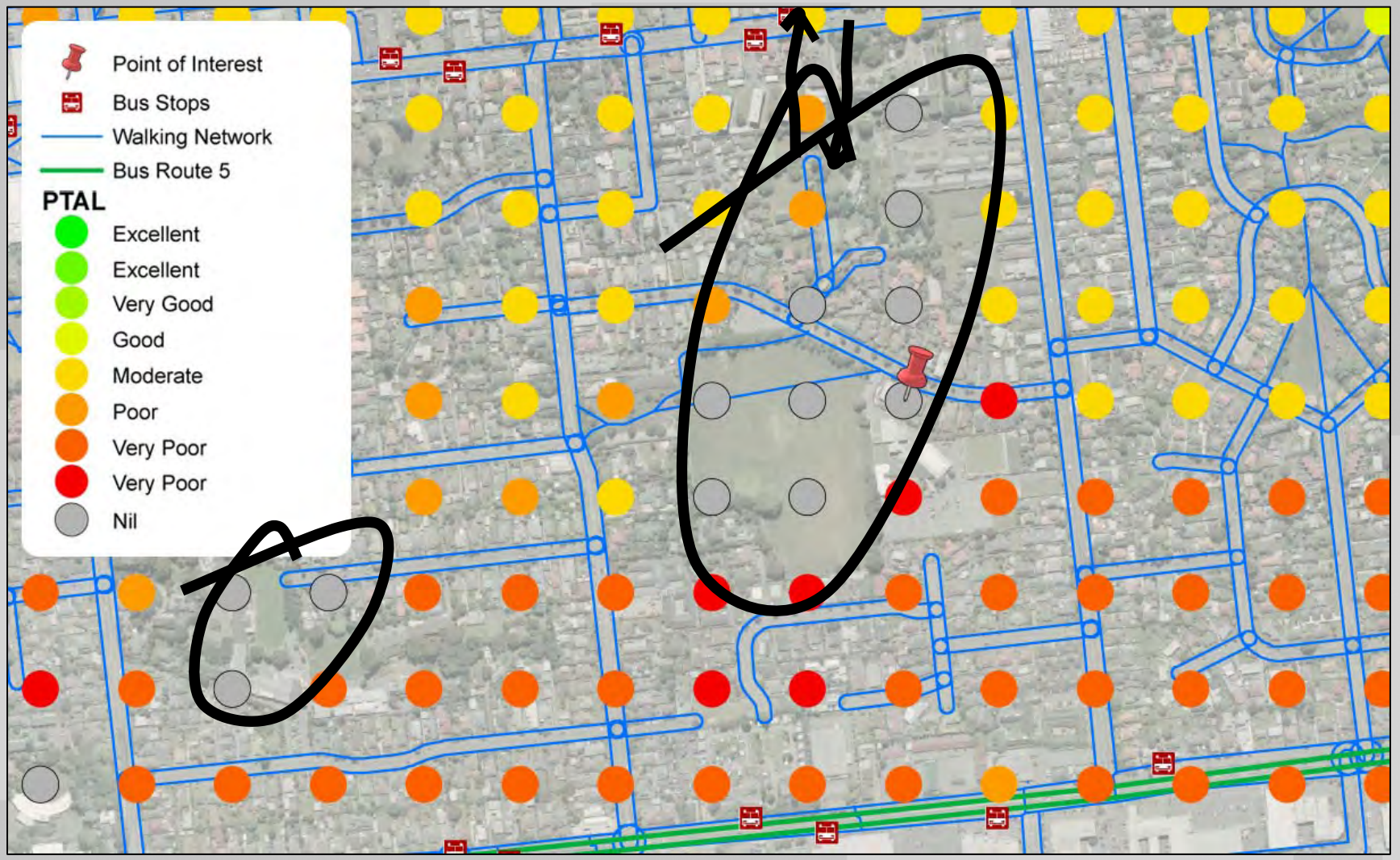
4. Solutions


Point of Interest
Bus Stops
Walking Network
Bus Route 5
PTAL
Excellent
Excellent
Very Good
Good
Moderate
Poor
Very Poor
Very Poor
Nil

4. Solutions


Point of Interest
8 Min Walking Range
Bus Stops
Walking Network
PTAL
Excellent
Excellent
Very Good
Good
Moderate
Poor
Very Poor
Very Poor
Nil

4. Solutions


Point of Interest
Bus Stops
Walking Network
Bus Route 5
PTAL
Excellent
Excellent
Very Good
Good
Moderate
Poor
Very Poor
Very Poor
Nil

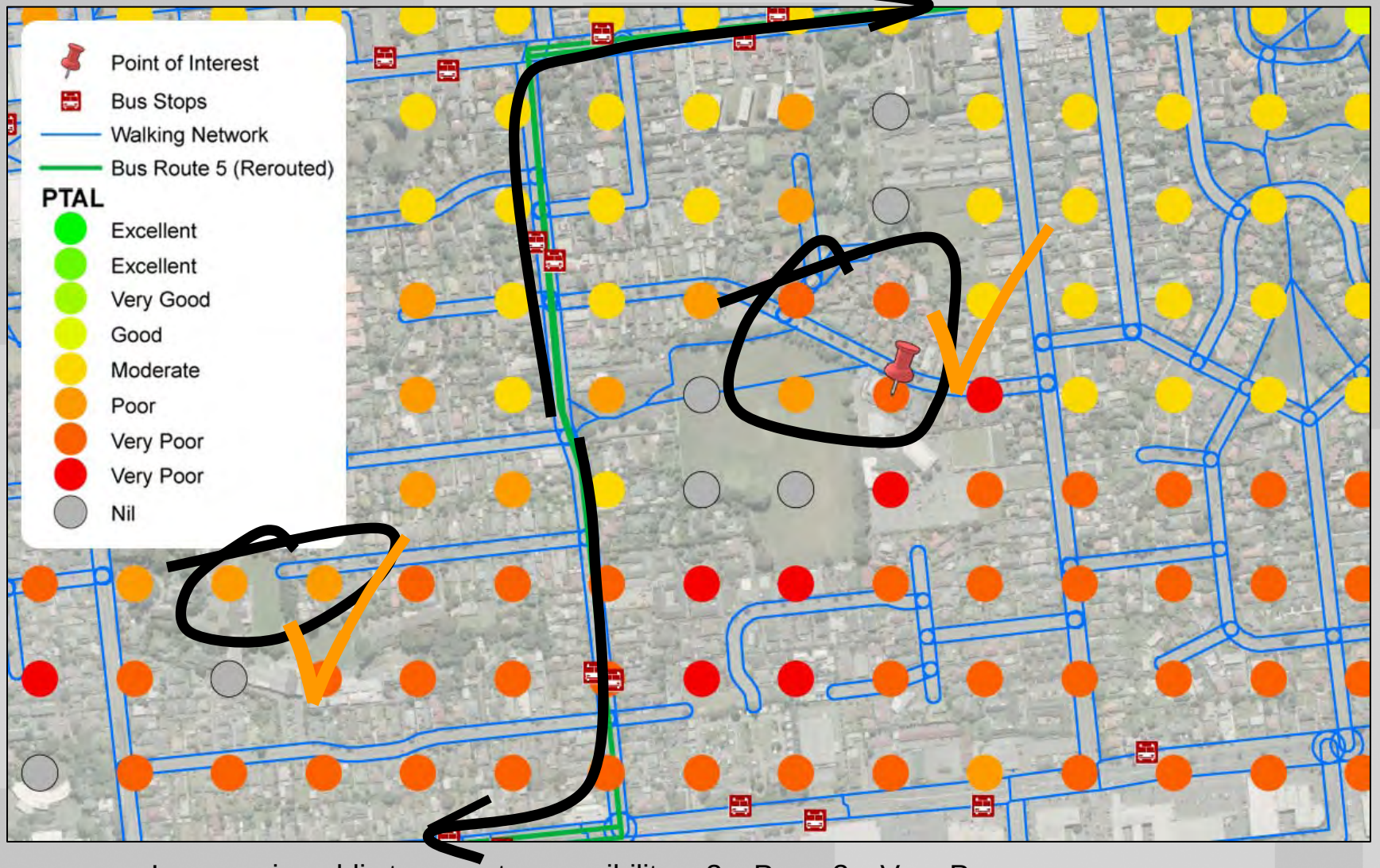
4. Solutions

Increase in public transport accessibility = 4 x Poor

4. Solutions

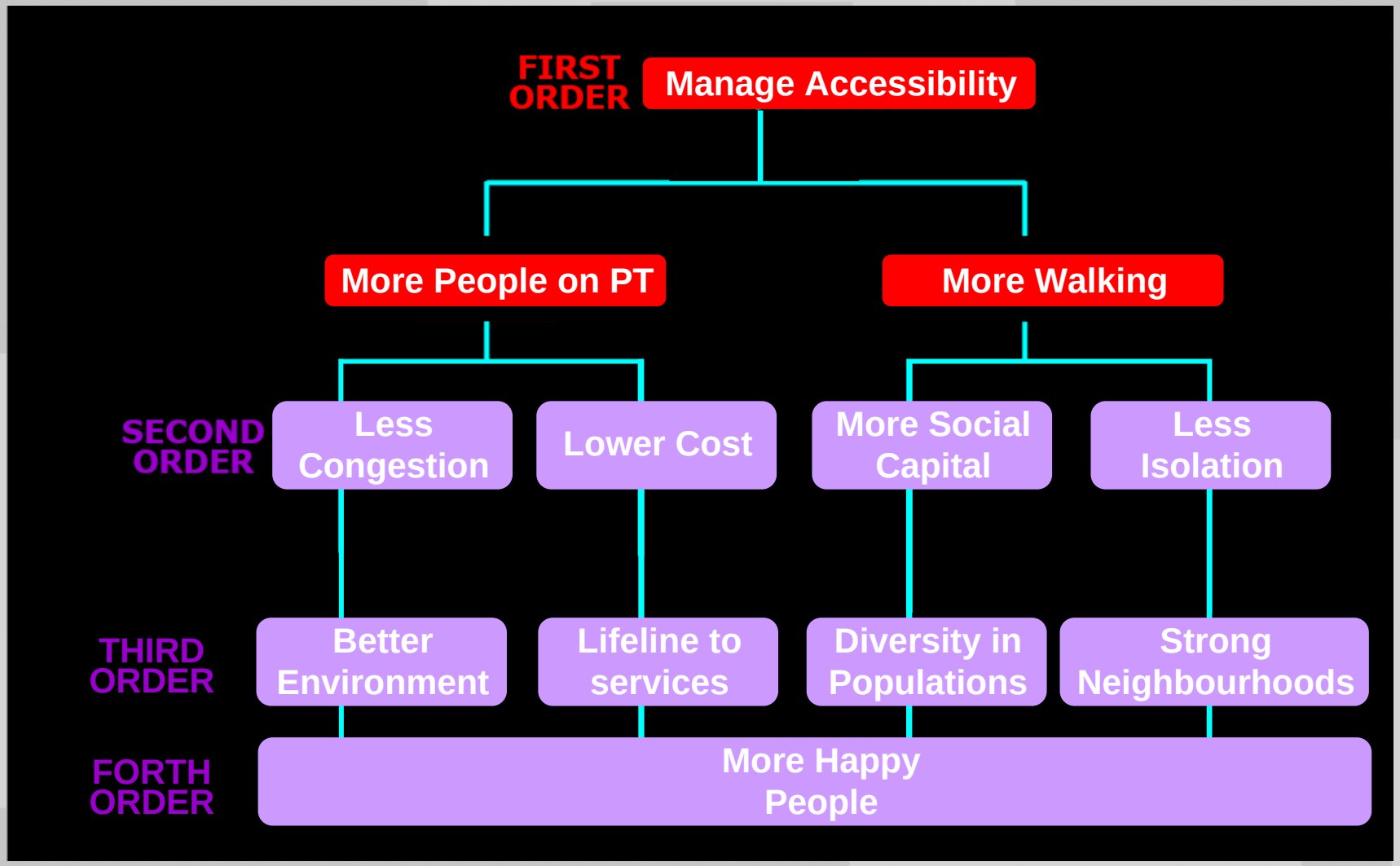

Point of Interest
Bus Stops
Walking Network
Bus Route 5
PTAL
Excellent
Excellent
Very Good
Good
Moderate
Poor
Very Poor
Very Poor
Nil

4. Solutions

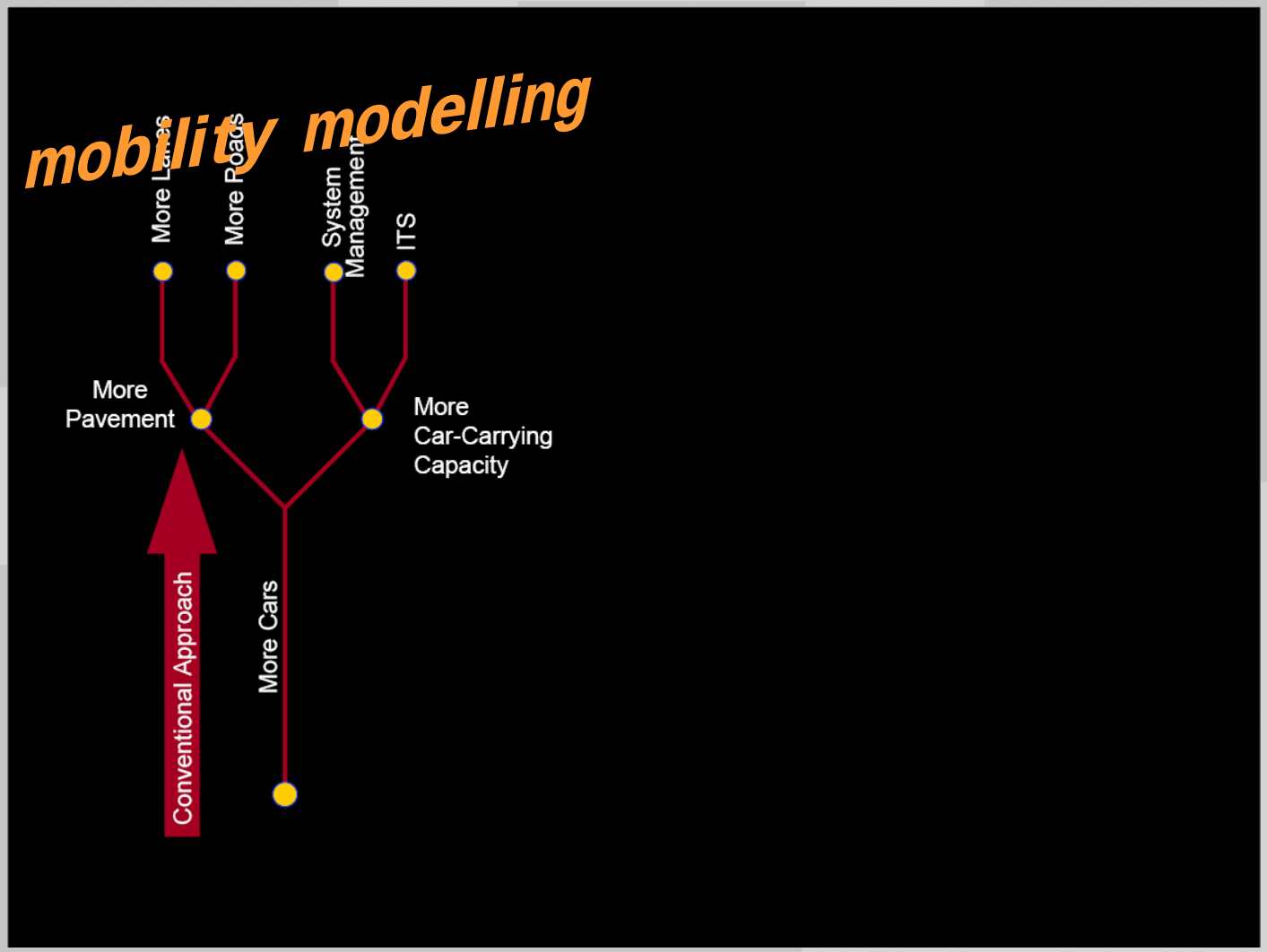


Increase in public transport accessibility = 3 x Poor, 3 x Very Poor

2. Benefits

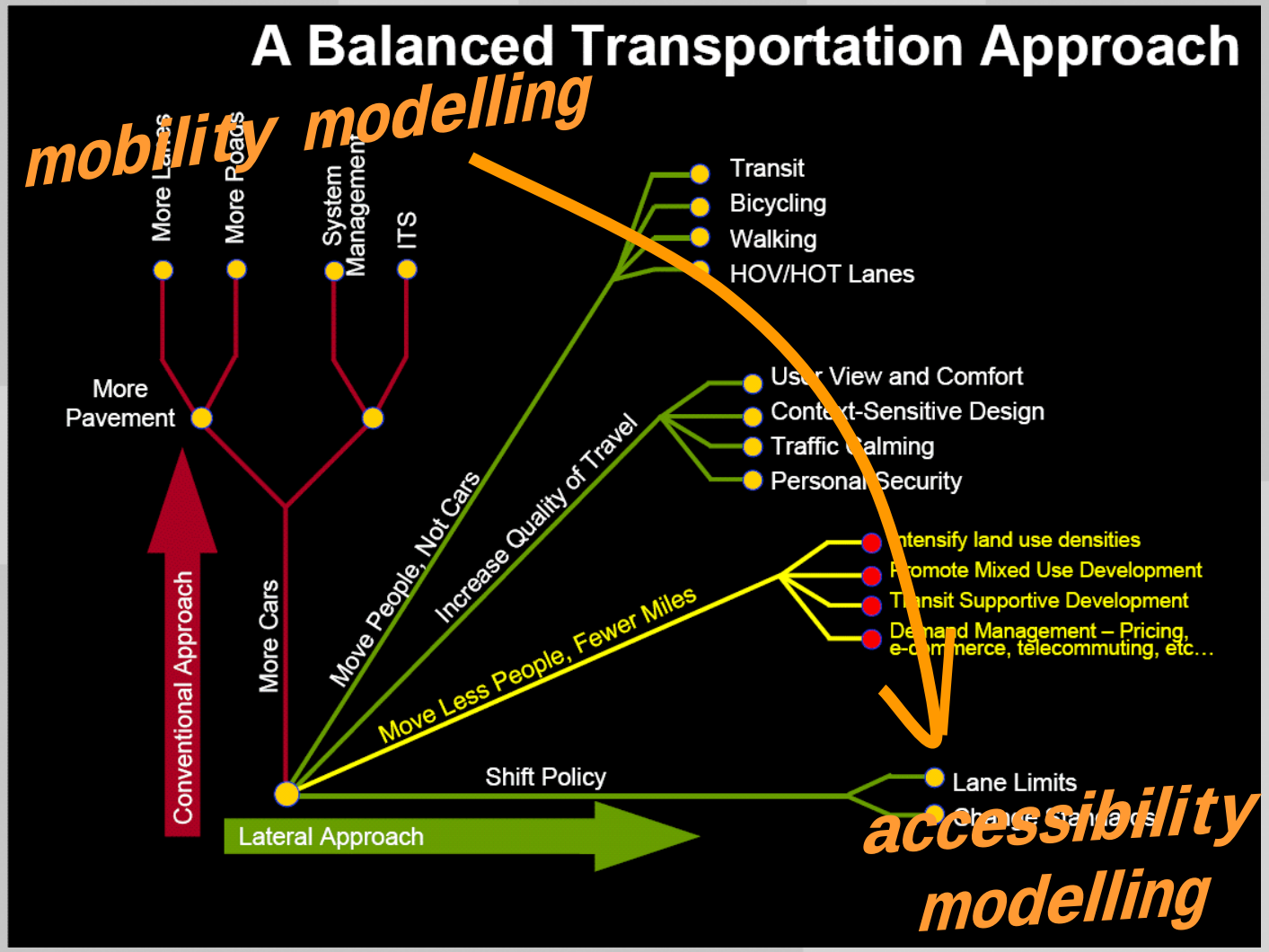

FIRST ORDER
Manage Accessibility
More People on PT
More Walking
SECOND ORDER
Less Congestion
Lower Cost
More Social Capital
Less Isolation
THIRD ORDER
Better Environment
Lifeline to services
Diversity in Populations
Strong Neighbourhoods
FORTH ORDER
More Happy People

6. Future



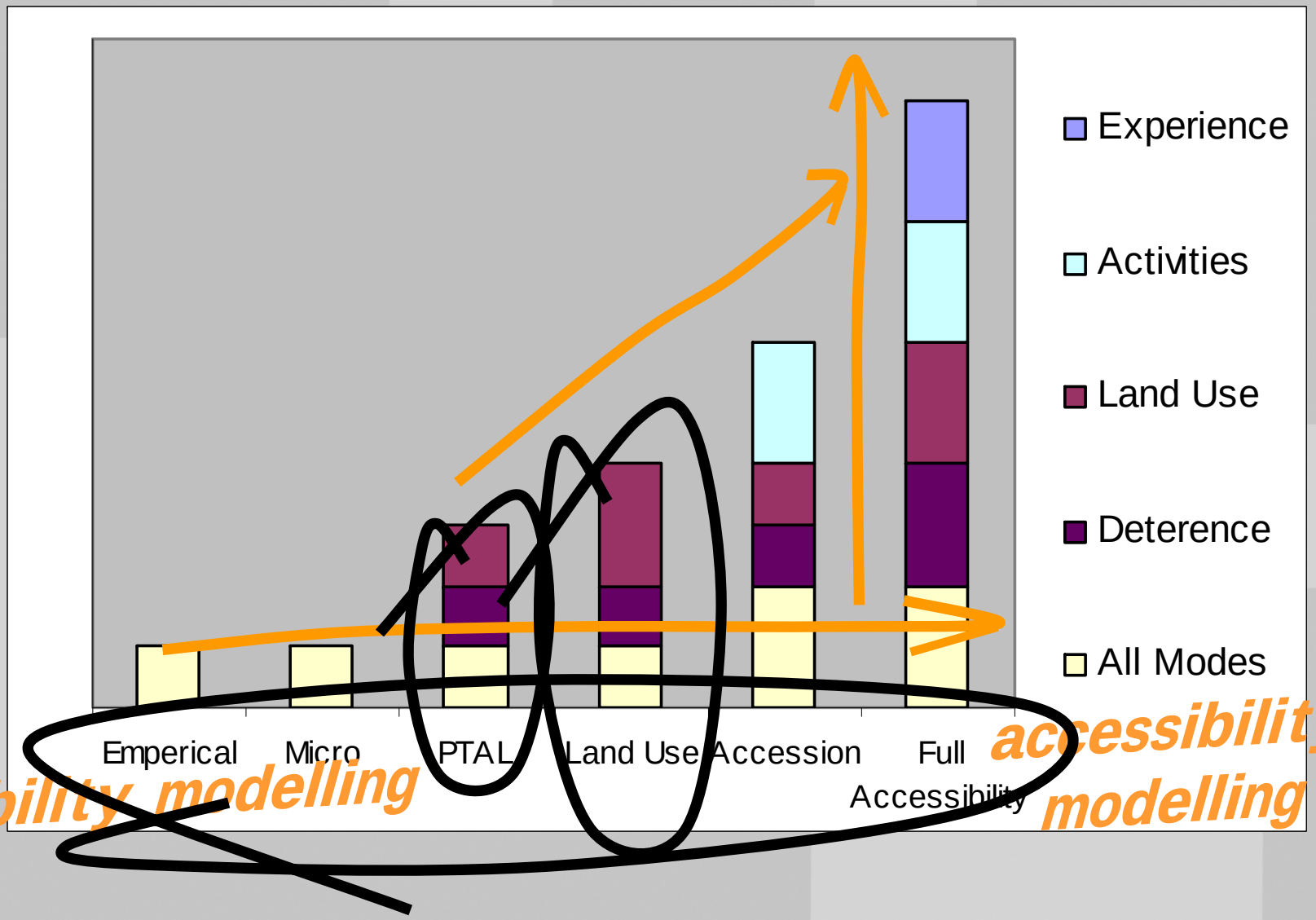
Source: Dan Burden, Walkable Communities, Inc.

6. Future



Source: Dan Burden, Walkable Communities, Inc.

6. Future


Experience
Activities
Land Use
Deterence
All Modes
Emperical
Micro
PTAL
Land Use
Accession
Full Accessibility
mobility modelling
accessibility modelling

6. Future

- Other periods e.g. commuter
- Different walking speeds e.g. young, old
- Link with demographics – low income and low PT accessibility?
- Benchmark other NZ cities
- Create levels customised to NZ
- Link with policy – e.g. RLTS, LTCCP
- Use as part of other assessments e.g. ITA

Summary

- Engineers are problem solvers
- If you measure you manage

public transport

Q. *"How can accessibility be measured?"*

A. *"Public Transport Accessibility Levels"*

- Full Accessibility modelling is coming soon

Contact

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New Zealand

www.abley.com

For further information please contact:

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