TRANSIT ACCESSIBILITY STUDY

Presenter: Subha Nair

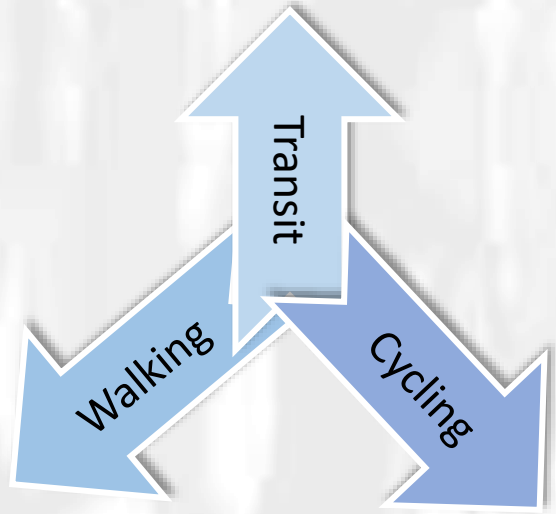
Transport Planner, AECOM

Introduction

- Shift from mobility-centered to accessibility-centered transport planning
- Walking and cycling- ‘Active modes’, ‘Active transport’, ‘ Human-powered form of transport
- Important tool of accessibility planning

De-carbonising using Public Transport

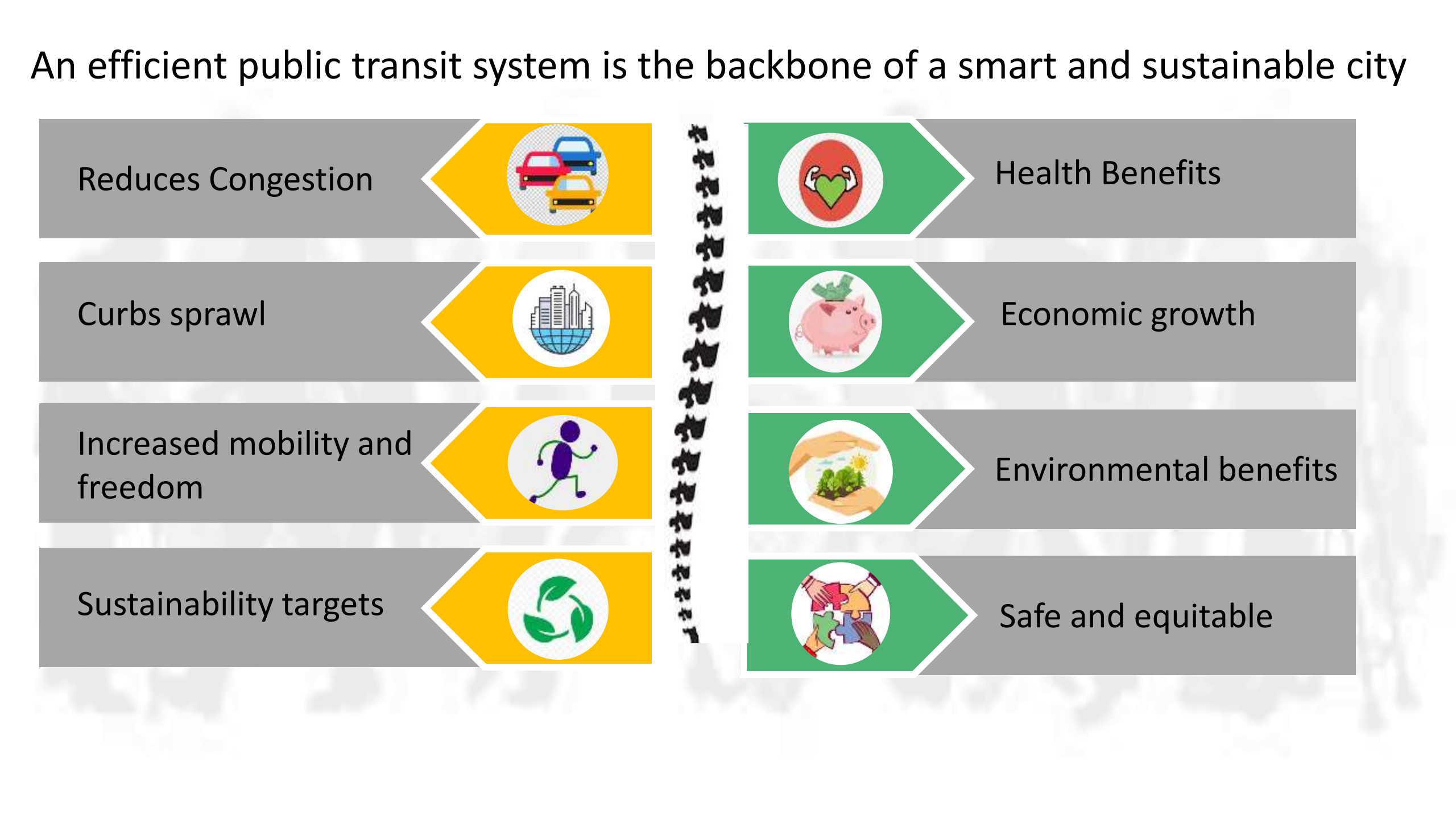
- Reducing the carbon footprint of transport by up to 90% by 2050
- Annual emissions projected to increase by 7% compared to 2018
- Sustainable transport goals, climate change, reduction in greenhouse gas emissions
- Public Transport + Sustainable mobility



Cities with strong public transportation accessibility via active modes can reduce carbon emissions by 37 million tons annually (C2ES)

An efficient public transit system is the backbone of a smart and sustainable city

- Reduces Congestion
- Curbs sprawl
- Increased mobility and freedom
- Sustainability targets



- Health Benefits
- Economic growth
- Environmental benefits
- Safe and equitable

The concept of accessibility


SHOP
SHOP
SHOP
SHOP
SHOP
Commute time


SHOP
SHOP
SHOP
SHOP
SHOP
$
$
$


SHOP
SHOP
SHOP
SHOP
SHOP
SHOP

Transport

Spatial

Accessibility

Environmental

Perception

Challenges of accessibility planning

- Active modes - transport policies, plans & strategies
- Difficult to define a quantitative relationship between accessibility & walking/cycling levels
- Lack of empirical knowledge around transit accessibility measures
- Disconnect between policymaking and accessibility outcomes
- Accessibility index, incorporating them into a planning policy surpassing the institutional layers can be challenging

Transit Accessibility Study

- Transit accessibility studies measure the interaction between a transit station and it's sustainable mode catchment.

Loutzenheiser, D.R- For every 500m from a station the likelihood that a person will walk to station decreases by 50 %

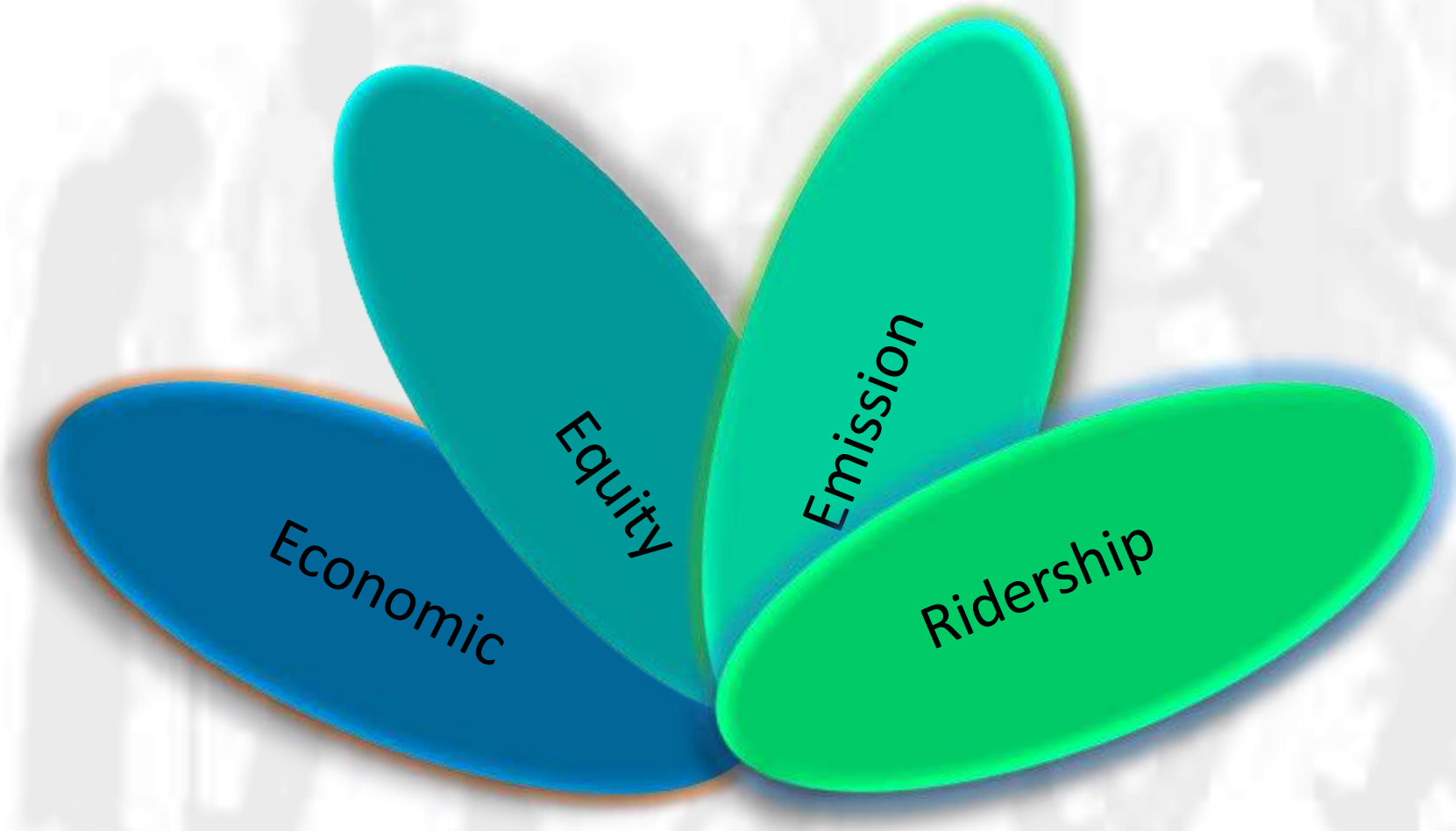
- It is difficult to analyse whether the transit component such as - PT/bus service connection, walking and cycling connectivity around stations or the land use component such as- land use density, proximity is more important for accessibility planning

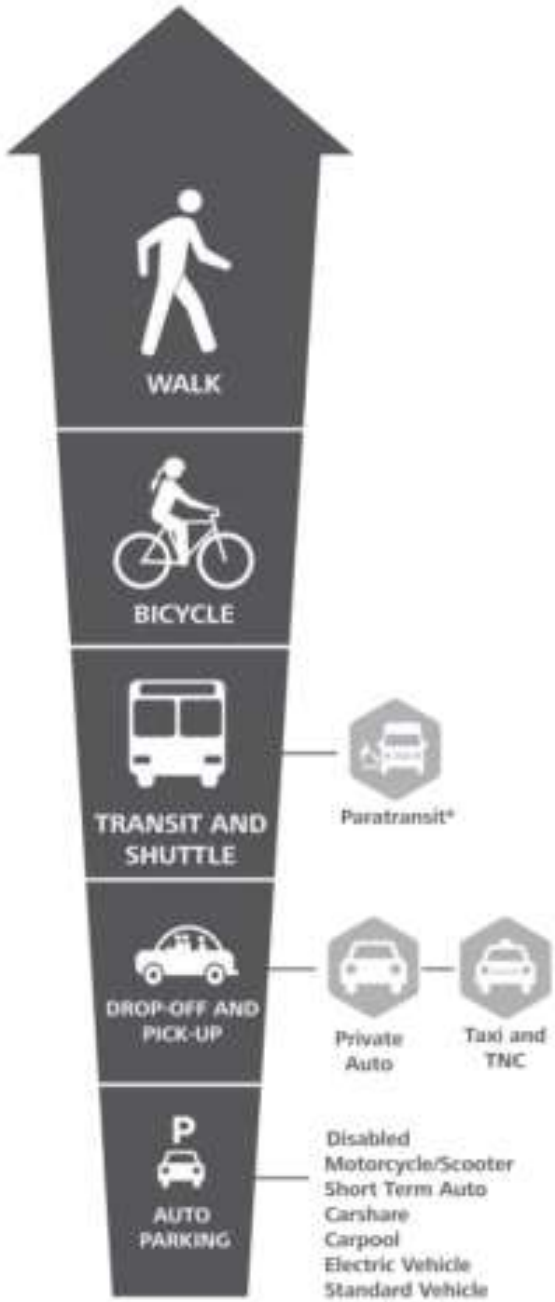
Transport / Land use

How people access the transit stations ?

How can we expand the accessibility ?

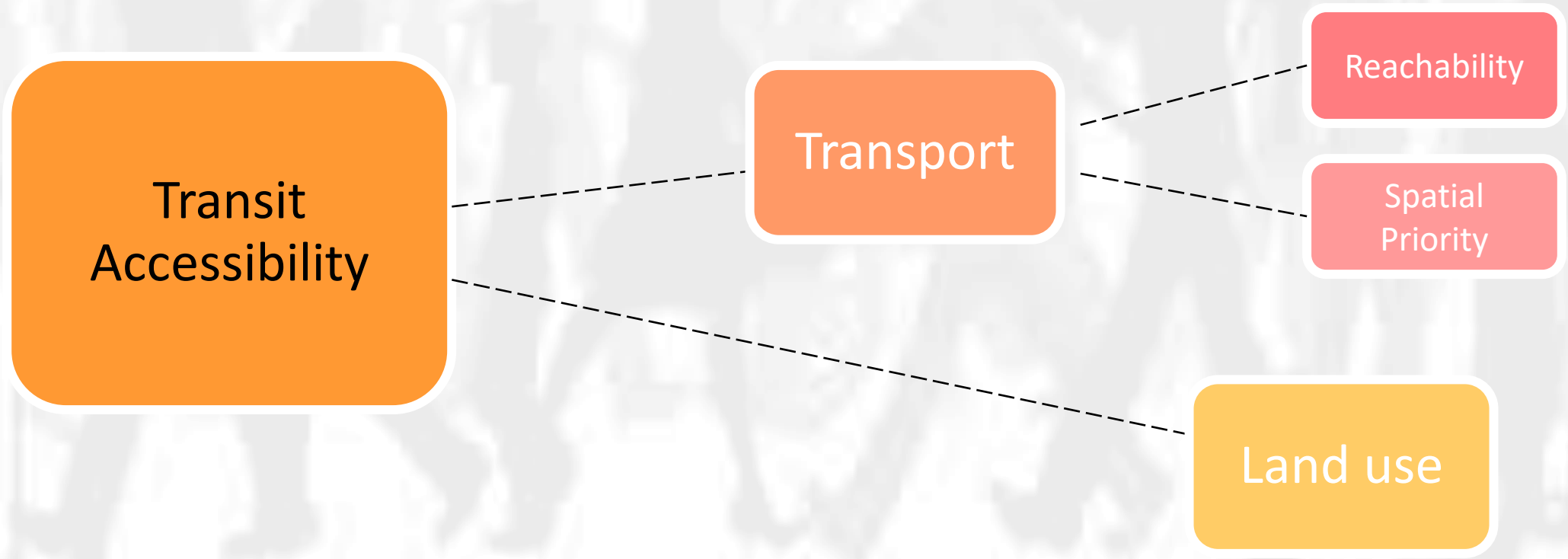
Benefits of Transit Accessibility Study





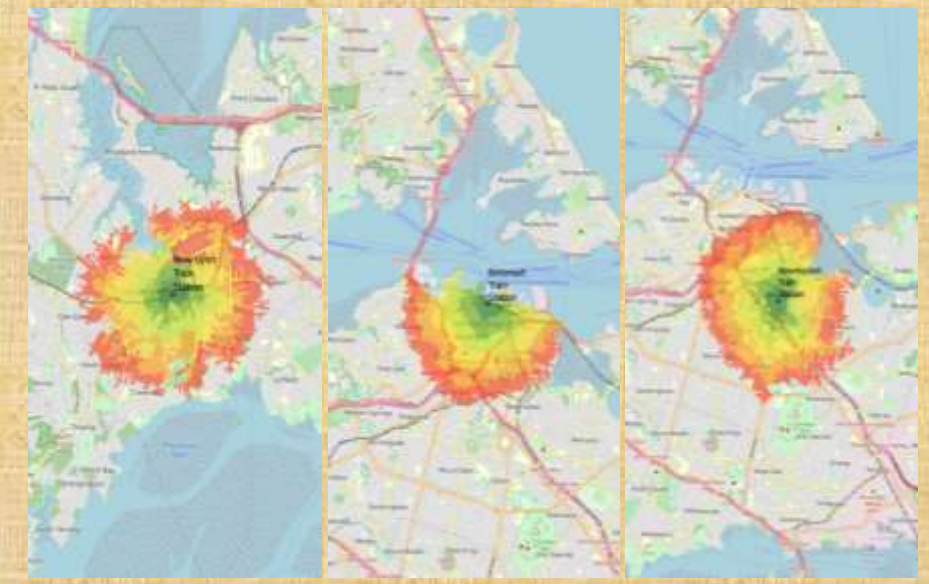
Methodology

There are 2 ways to increase reachability- Transport access, Spatial priority



Reachability

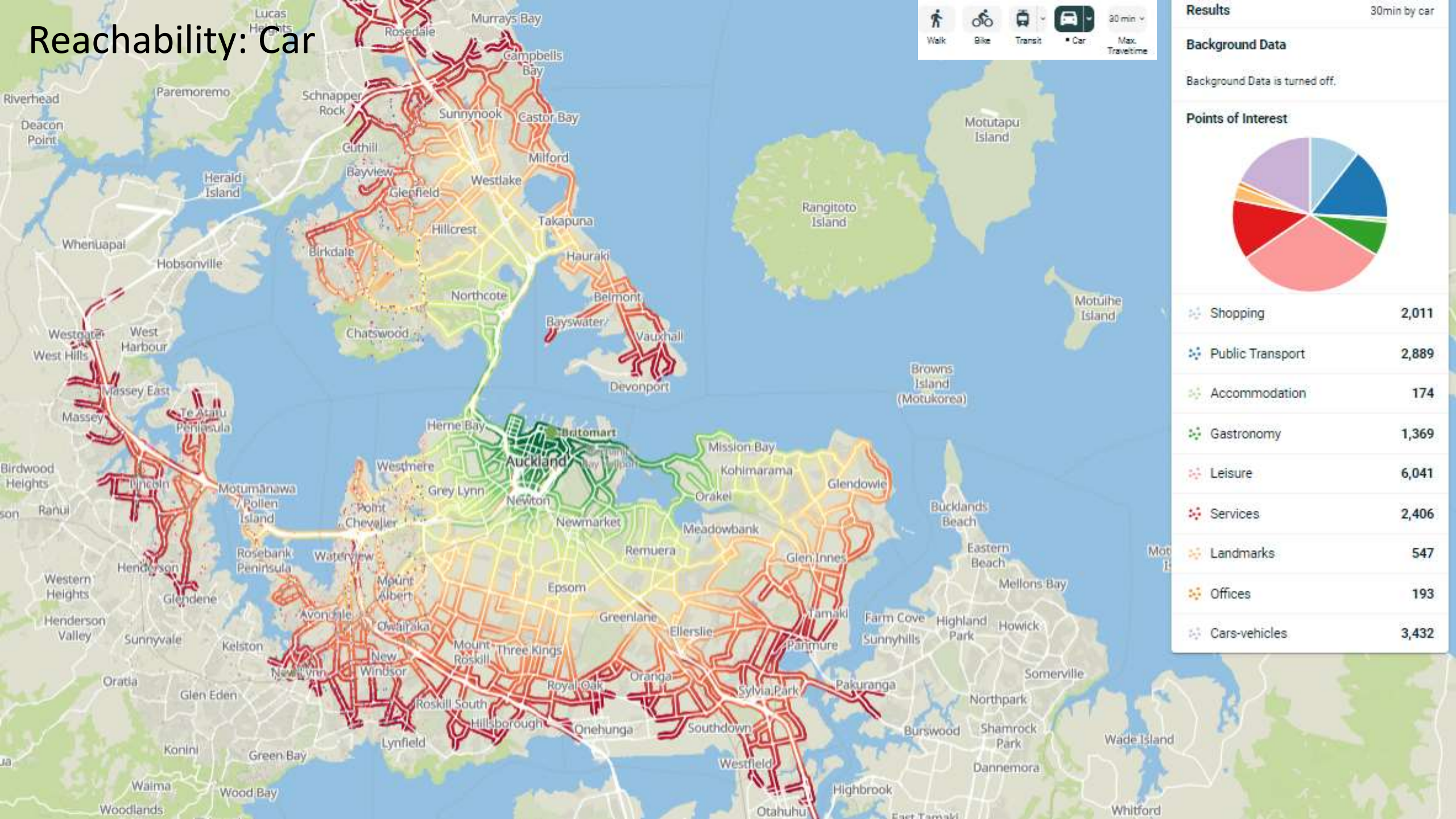
- Represent the quality of a transport system- availability, frequency, speed, comfort
- Ideally more reachability equals higher accessibility
- Highly accessible destinations have reachability by a variety of travel modes



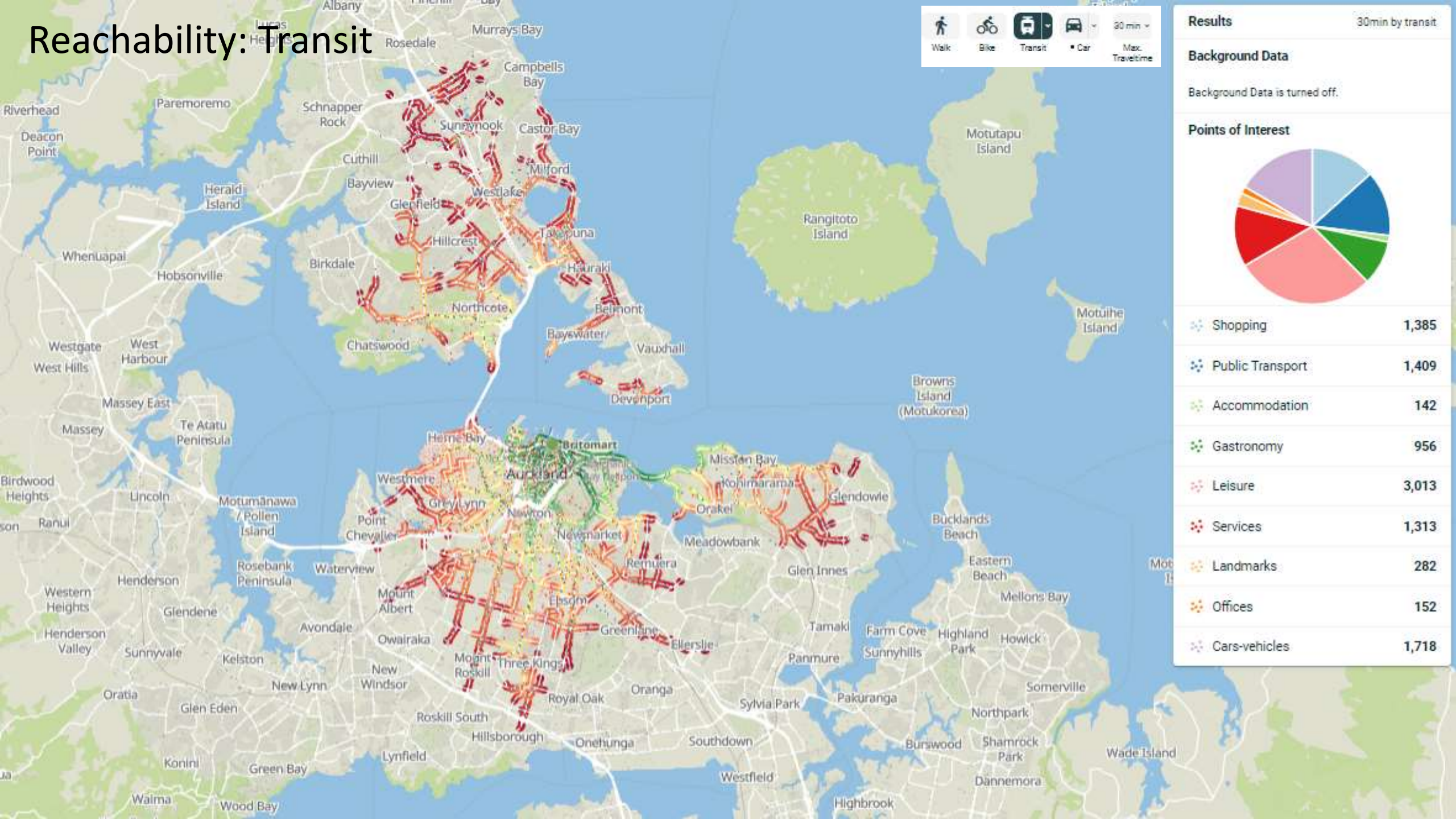
Reachability

- Active modes provide last-mile connectivity
- Gaps in the active mode network could be a setback for accessible PT connectivity
- Last-mile connections more than 3 km depend on buses and shuttle services
- Cycleways should comfortable, safe, segregated from traffic

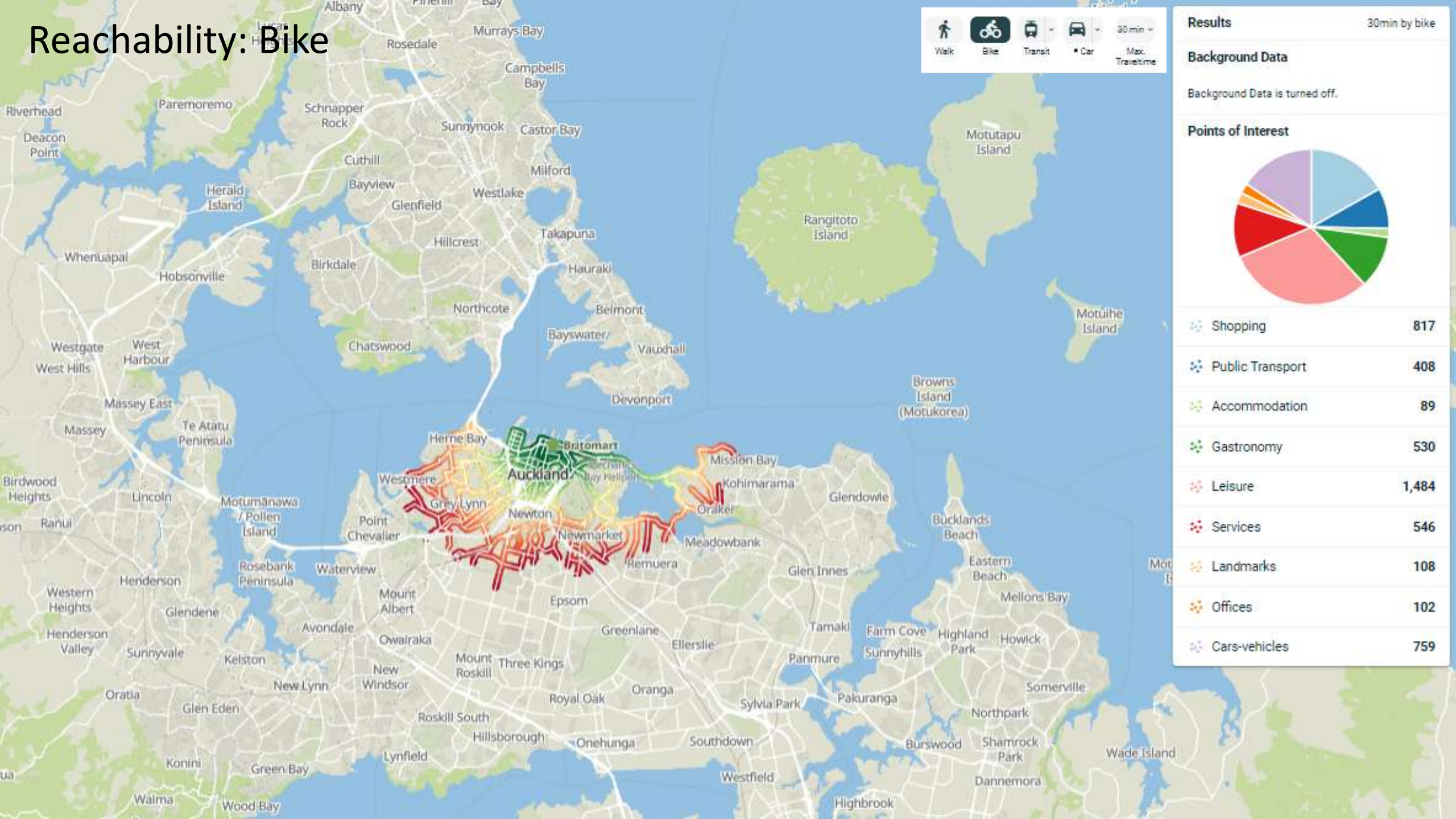
Reachability: Car



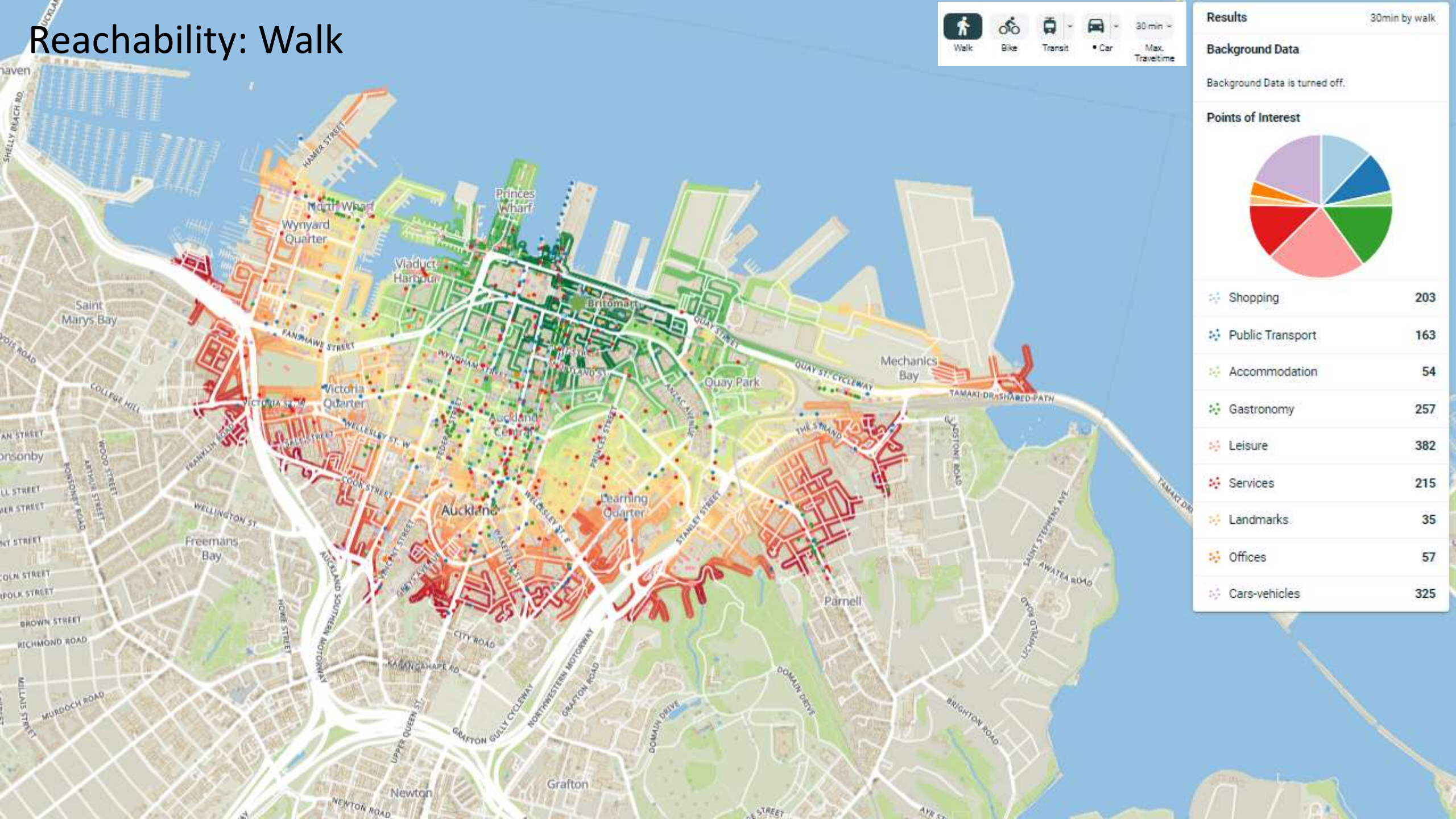
Reachability: Transit

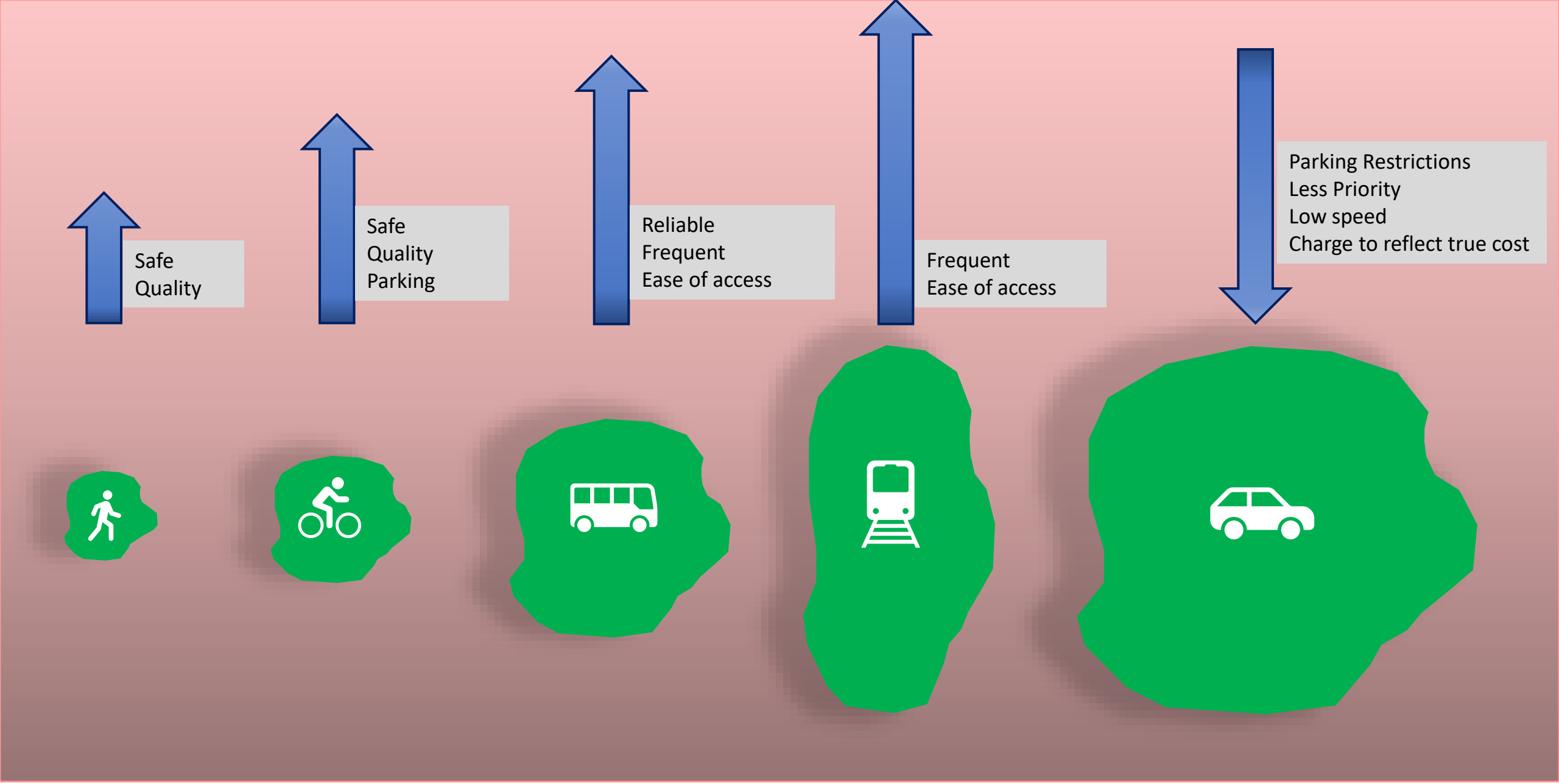


Reachability: Bike



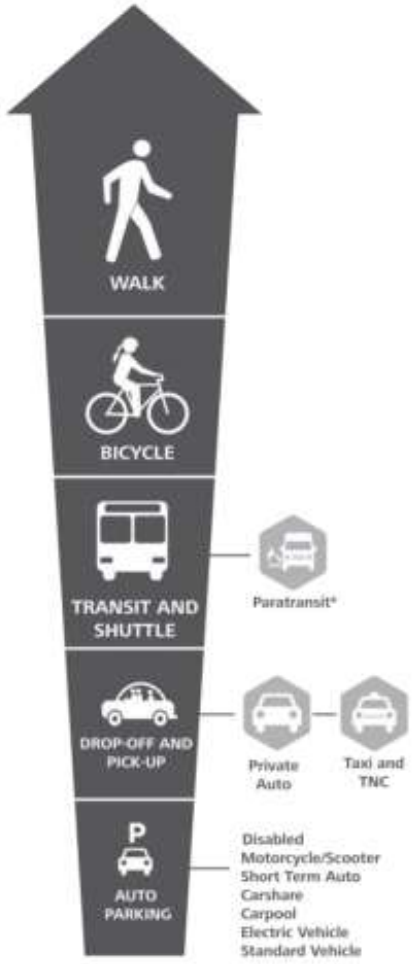
Reachability: Walk

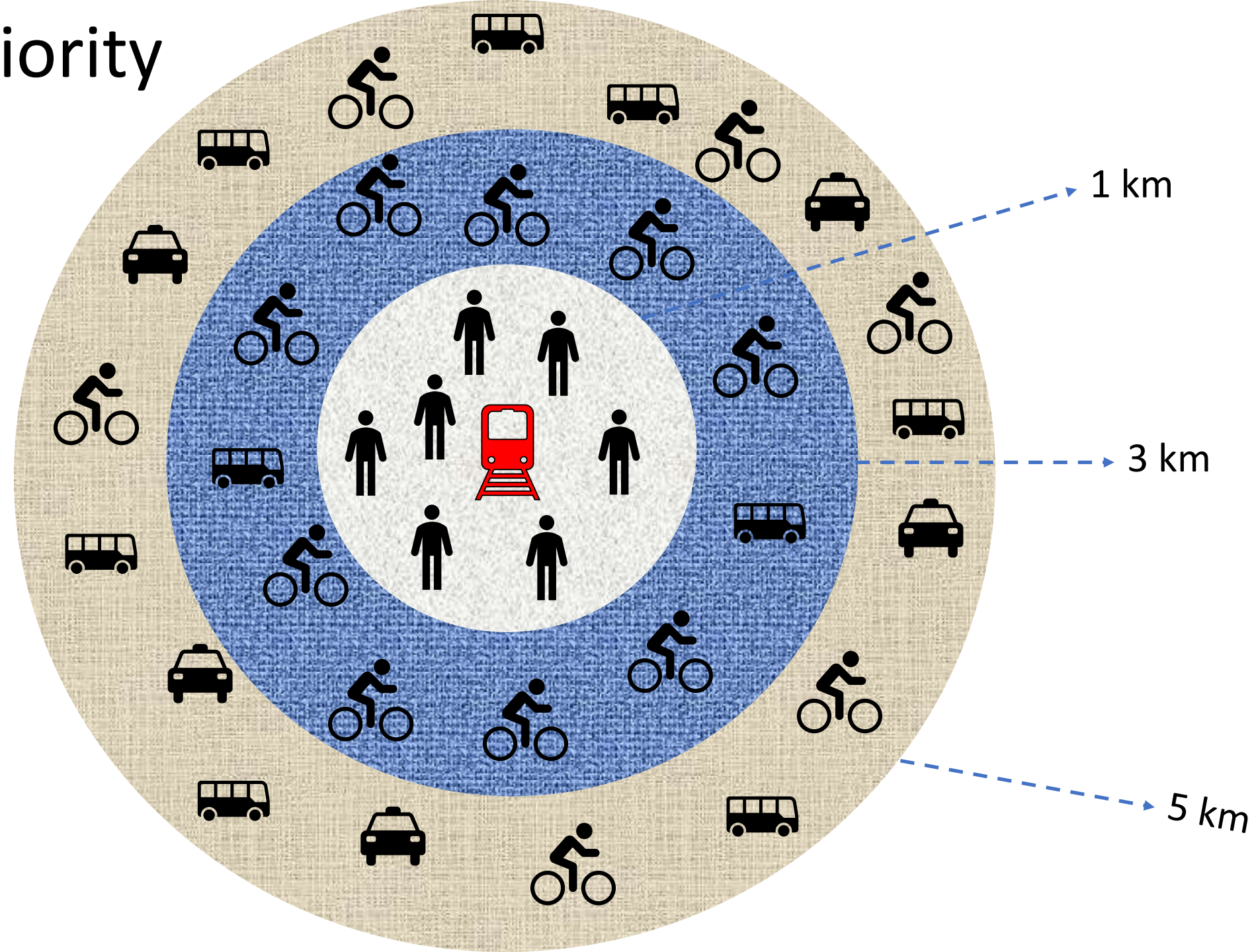




Transport Access

Spatial Priority

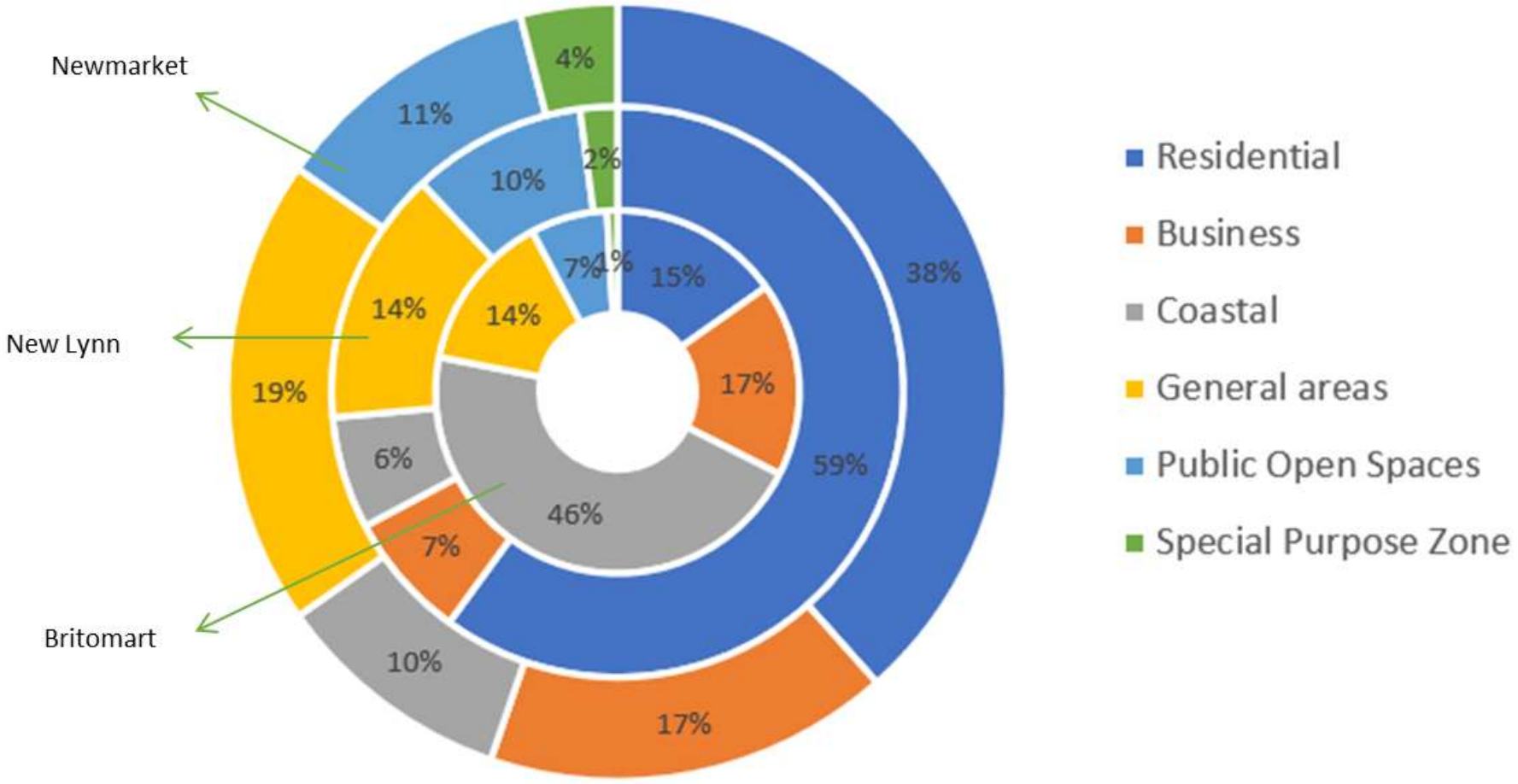




Land Use Proximity

- Accessibility is directly related to the spatial characteristics such as functional density and land use mix
- Every transit station area should serves a primary function which influence the quality of sustainable accessibility around it
- Influencing the proximity of destinations can be difficult and time-consuming
- Land use development changes has to be an intentional

Land Use Zoning around Study Stations



Safety

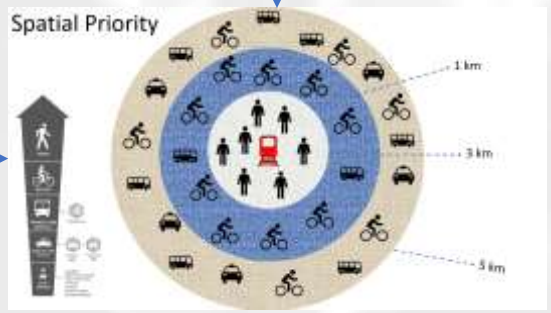
- Safety is important and the least popular factor affecting accessibility
- A safe and comfortable environment is crucial to bring transit accessibility from concept to reality
- For example unsafe crossings, high speed roads

Conclusion

Accessibility

Increase Access

Increase Sustainable Access + Safety



Increase Access

Thank you