



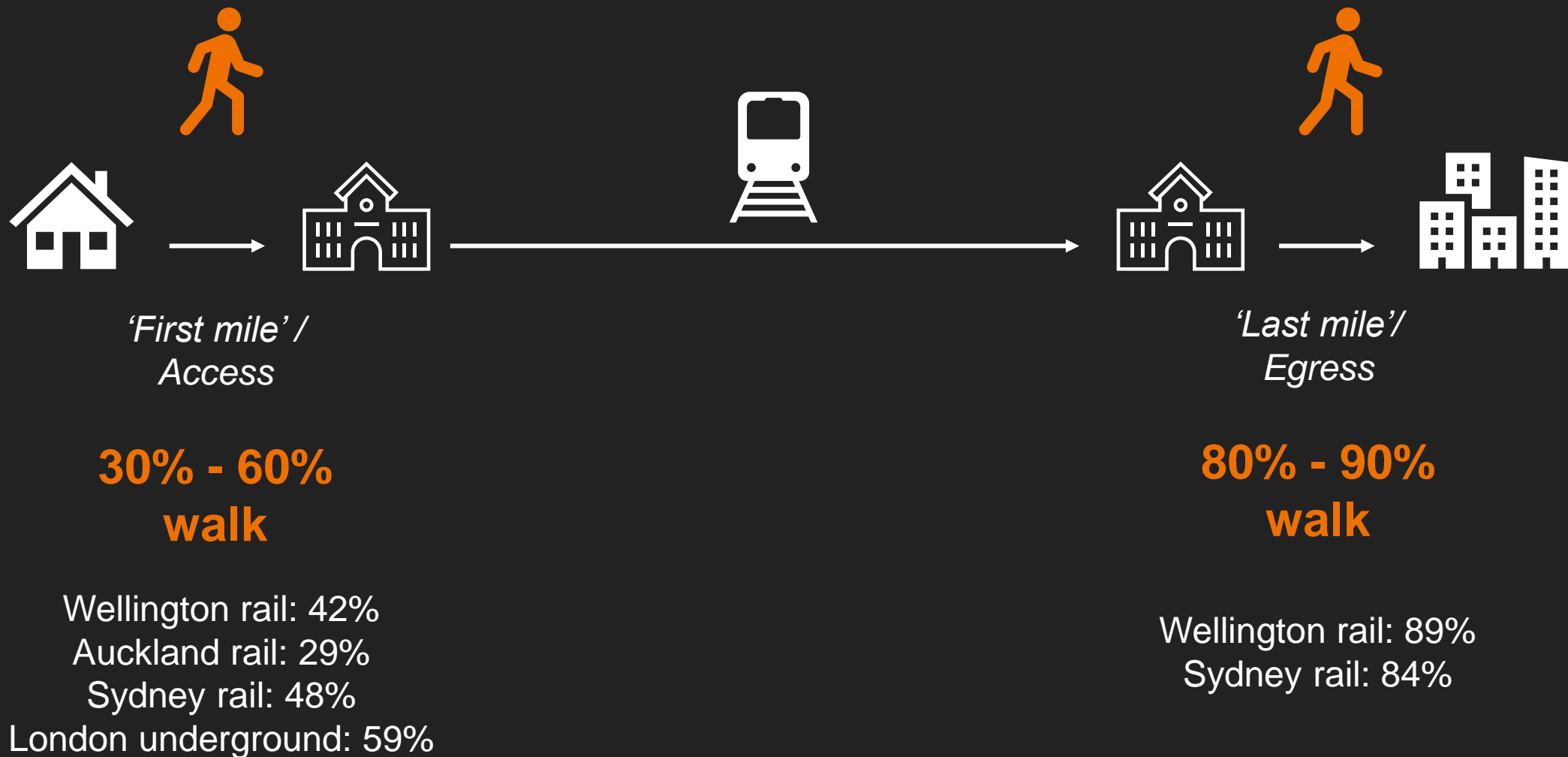
Rapid transit and walkability: a requisite team

Trafinz Conference, 6 September 2023

*Karl Baker, Active Transport and Complete
Streets Practice Lead, Stantec Auckland*



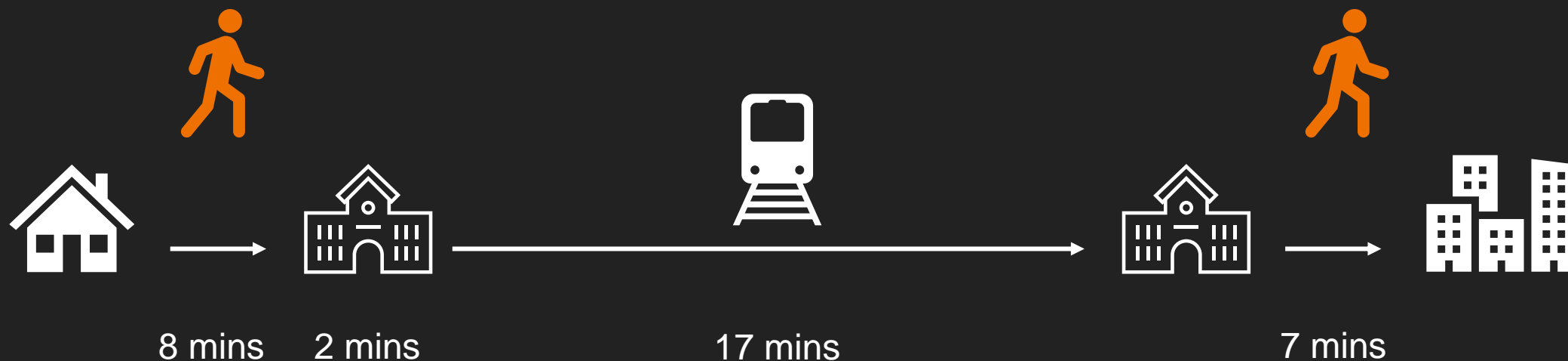
1. Why is walkability so important for rapid transit?



Sources:

Wellington (2011): Greater Wellington (2015)
Auckland (2013): Auckland Council (2013)

Sydney (2004- 2009): Xu, Milthorpe and Tsany (2011)
London (2010-2014): TfL (2018)



Illustrative example only

In this example 15 / 34 mins:

**walking is 44% of
journey time**



Source: <https://nzrailphotos.co.nz/photos/am-class-introduction?page=5#lg=1&slide=1>

How far from stations does walkability matter?

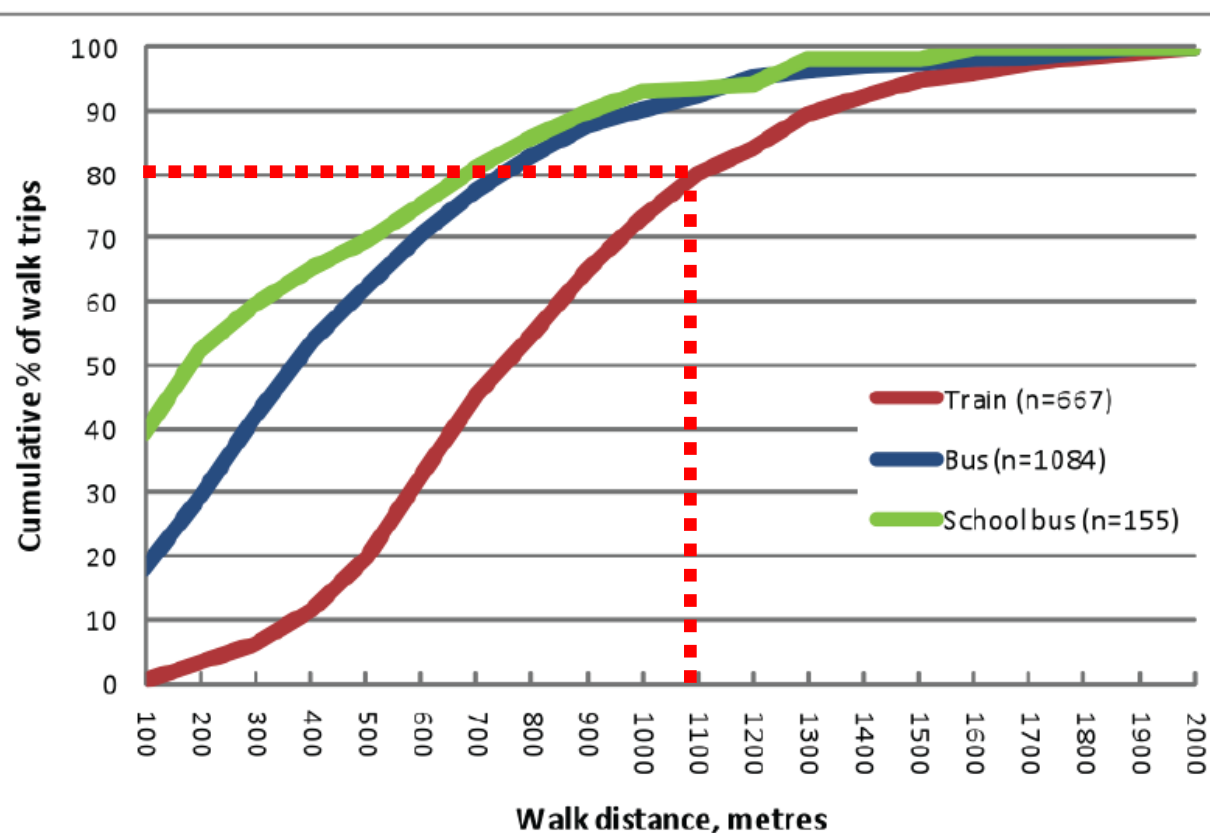
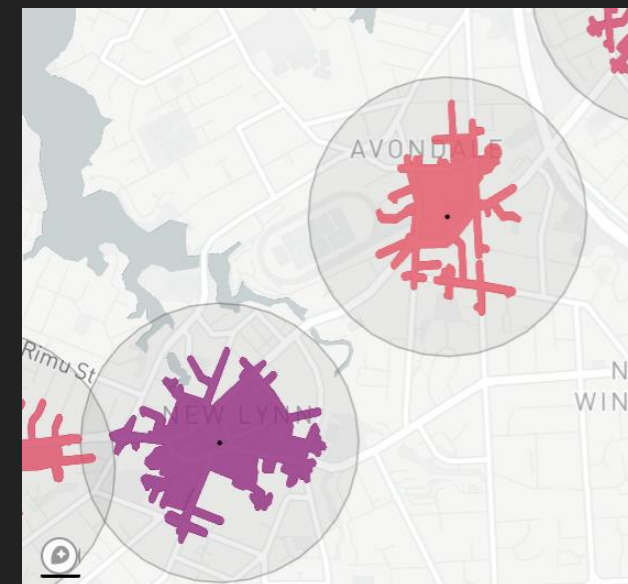


Figure 4: Cumulative frequencies for walking distance by public transport mode.



Source: MRCagney, Alex Raichev
<https://catchies.mrcagney.works/>

Source: Daniels, R and C Mulley (2013) Explaining walking distance to public transport: the dominance of public transport supply, *The Journal of Transport and Land Use*, Vol 6, no. 2.



2. Walkability of station surrounds is often neglected

Example: Auckland's western line rail upgrade

\$420 million spent duplicating the western line and re-building stations (Project DART 2006 – 2010) - but little investment in improving walkability of station surrounds.



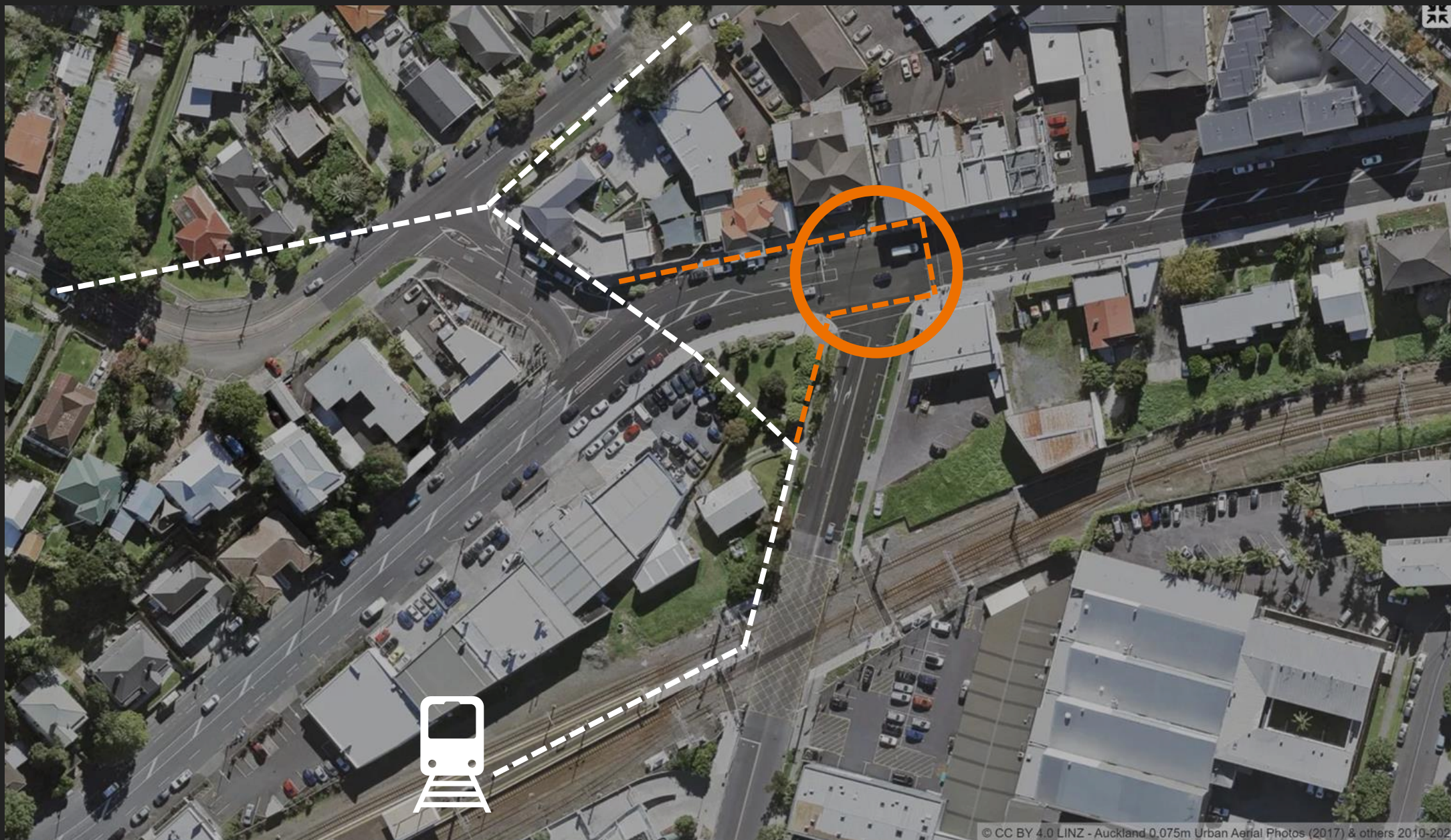
"Kingsland Railway Station, 1980," Source: Claudia Pond Eyley.
Auckland Libraries Heritage Collections 1726-004



Source: https://commons.wikimedia.org/wiki/File:Kingsland_Train_Station_Photos_1.jpg

Basic pedestrian facilities still missing





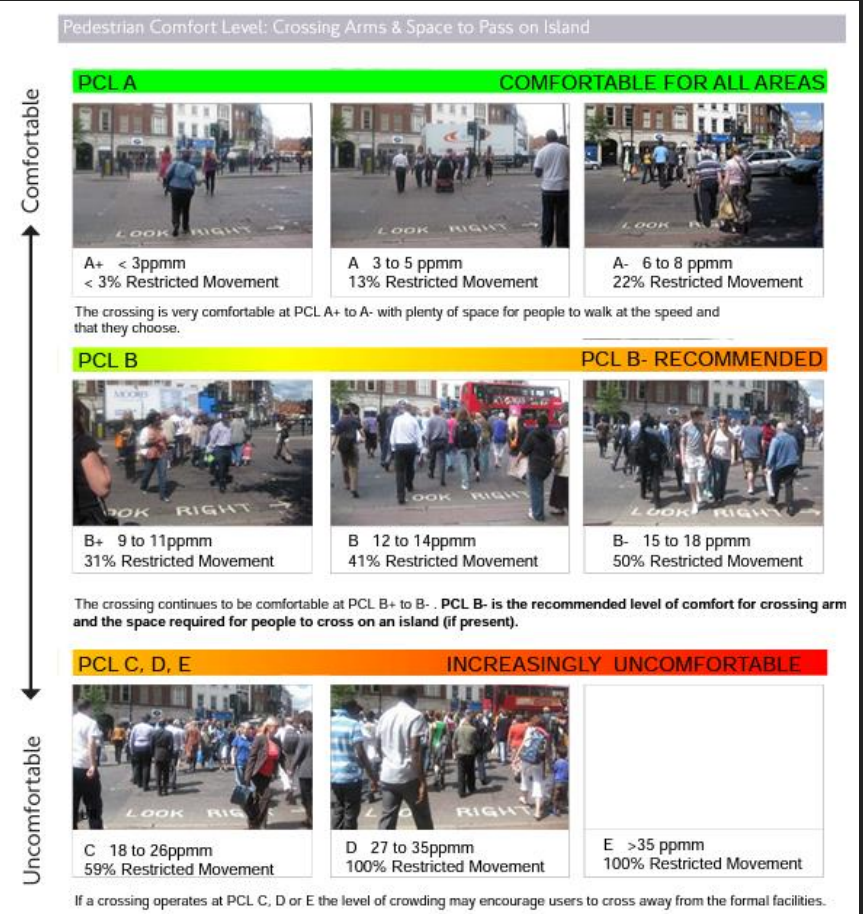
© CC BY 4.0 LINZ - Auckland 0,075m Urban Aerial Photos (2017) & others 2010-2022

Source of aerial
imagery: LINZ

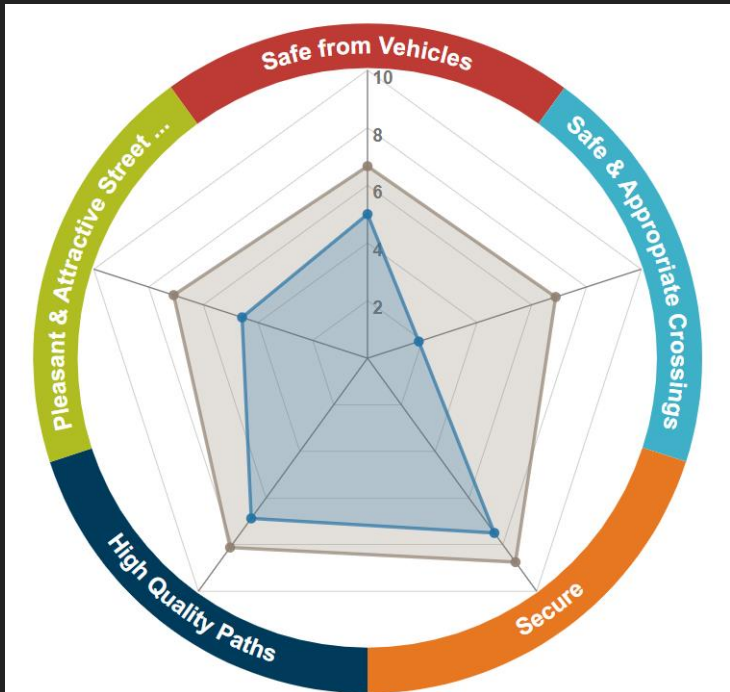


3. Assessing walkability around rapid transit

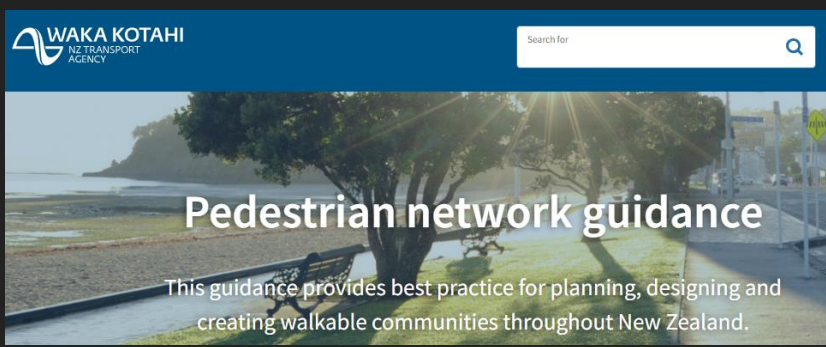
Plenty of guidance



Transport for London (2010 and 2019)
Pedestrian Comfort Level Guidance



Abley, Waka Kotahi (2020) Pedestrian LoS Tool
<https://maps.abley.com/nzta/pedestrian-los-tool>



Waka Kotahi, Pedestrian
Network Guidance



The task

- Rapidly assess impact on walkability of multiple design options for rapid transit station surrounds
- Assess walkability of multiple links within station surrounds
- Designs at early conceptual stage only
- Robust, repeatable method needed

Surrounding built environment, land use and human activity

Transport infrastructure

<i>Quality path</i>	<i>Direct</i>	<i>Safe</i>	<i>Secure</i>	<i>Attractive</i>
<ul style="list-style-type: none"> • Footpath width in relation to pedestrian volumes • Gradient • Crossfall • Extent to which universal access standards are met on footpaths and crossings 	<ul style="list-style-type: none"> • Alignment of paths and crossings with desire lines • Delay at crossings • Legibility 	<ul style="list-style-type: none"> • Presence of appropriate street crossings • Treatment of vehicle crossings 	<ul style="list-style-type: none"> • Passive surveillance from adjacent buildings, passing traffic and pedestrian volumes • Availability of escape routes • Extent of lighting 	<ul style="list-style-type: none"> • Presence of active street fronting buildings • Presence of street trees, greenery • Composition and definition of street • Presence of comfort features (e.g. street furniture) • Traffic volumes and speeds • Extent of separation from traffic

1. Identify alignment of key walking links/ desire lines impacted by the proposal

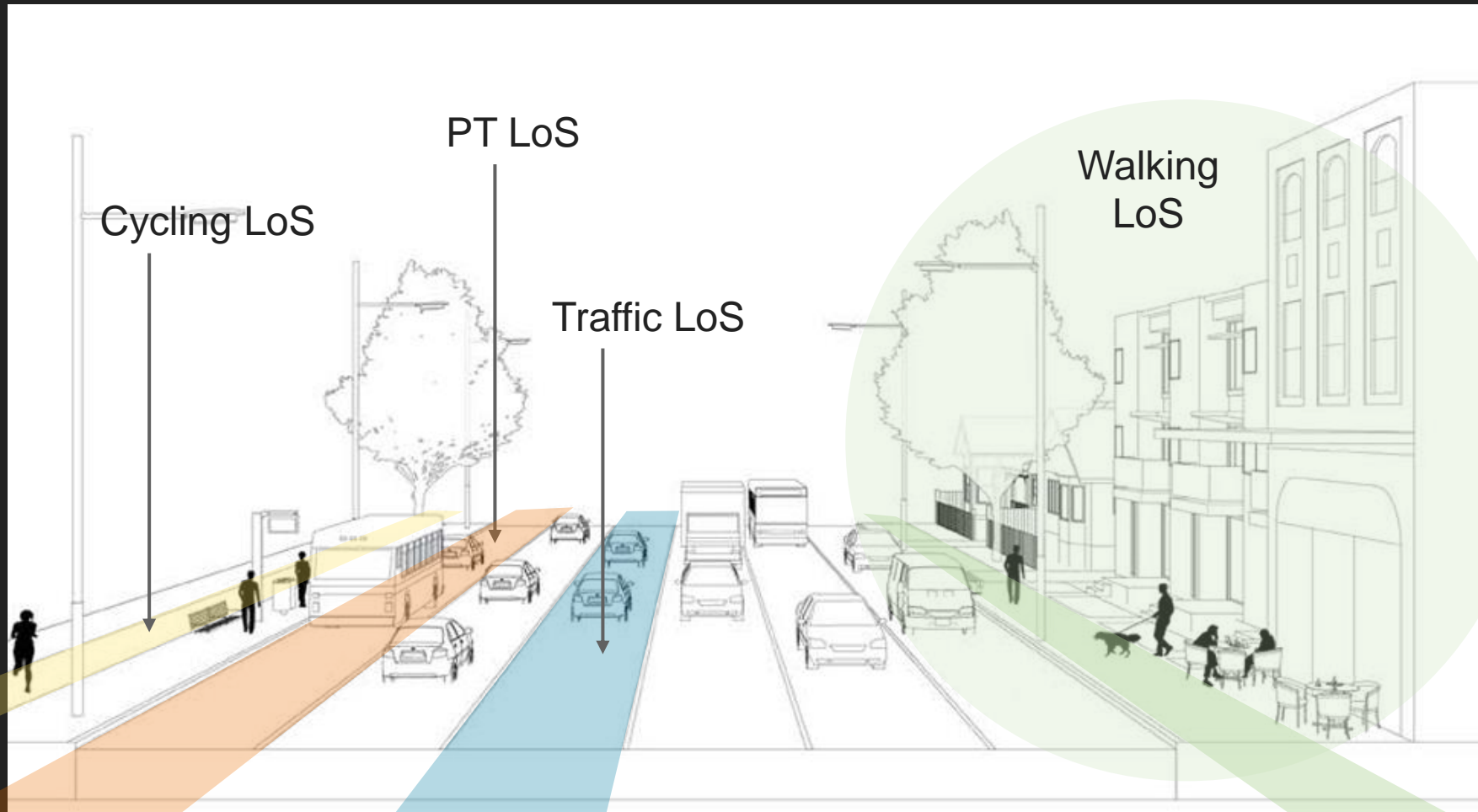


2. Assess each link against five criteria



5. What does this mean for rapid transit planning?

Providing for walking is different



Source of base image: Waka Kotahi (2022) *Aotearoa Urban Street Planning and Design Guide*

Tensions between local and regional access



Mangere Station, Auckland
Light Rail



**Getting
walkability right
requires
collaboration
across agencies**

Crayford Street West, Avondale, Auckland



Working together

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