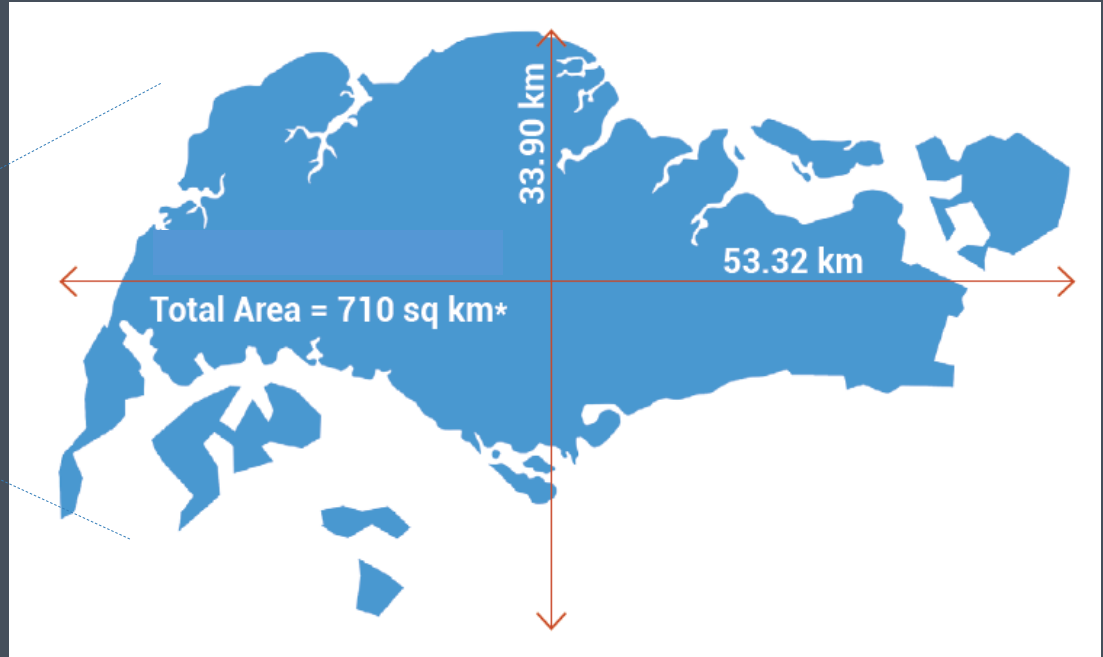


Towards Car-lite Multi-modal Urban Mobility

Dr. Limin HEE
Director, Centre for Liveable Cities

Singapore: A City-State's Challenge



5.61m

**719
sqkm**

**7800
pp/sq
km**



Congestion

Singapore, 1970s



Transit-oriented

Singapore, today

Image Credit: Alantankenghoe (Flickr, CC)



**Develop reliable public
transport as the backbone**

CONCEPT PLAN STRUCTURE (SCP)

1972

Ring Plan 1971

High-density housing towns around central water catchment areas connected by rapid transit network





Public Transport as the Choice Mode

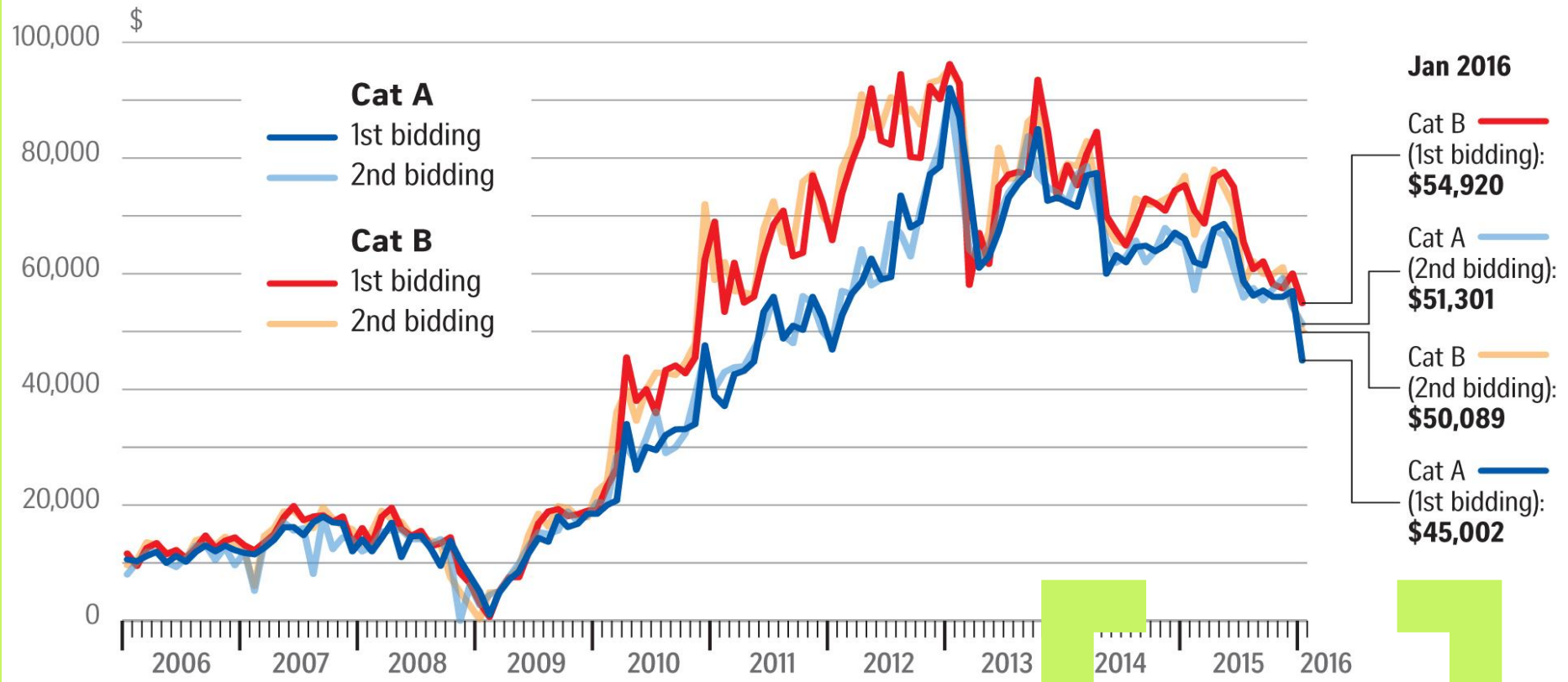


**Reduce reliance on
private transport**

A photograph of an Electronic Road Pricing (ERP) gantry on a multi-lane road. The gantry is white with a central blue section displaying 'ERP' in white letters. To the left of the blue section is a red triangular warning sign with a white 'R'. To the right is a red triangular warning sign with a white 'A'. A green traffic light is visible on the left side of the gantry. Below the gantry, several vehicles are visible: a yellow taxi, a blue taxi with license plate 'SHC 1947B', and a blue bus. The background shows trees, buildings, and a construction crane. The text 'Car usage discouraged through road pricing' is overlaid in white with a black outline.

Car usage discouraged through road pricing

COE premiums over the years



Source: LTA ST GRAPHICS

Car ownership discouraged through vehicle quota system



**Minimise travel demand
through good planning**



Good Planning Matters

High-density, mixed-use, walkable



Integrated development

co-location of compatible uses

**Afford-
able
housing**

**Medical
Centre**

**Elder-
care/
Child-
care**

**Shops /
Hawker
Centre**

**Commu-
nity
Park/
Farm**



© HDB

A wide-angle photograph of a modern, brightly lit indoor shopping mall. Numerous people are walking across the polished floor. In the background, there are shops with signs like 'TOAST' and 'Burger King'. Above the shops, there are large digital screens displaying information. The overall atmosphere is one of a bustling, contemporary commercial space.

Seamless connection

At grade, underground, elevated

But, more challenges ahead...





12%

Total percentage of land take
by roads in Singapore

An aerial photograph of a parking lot in a residential or commercial area. The parking lot is filled with various cars, including a silver minivan, a dark van with a Coca-Cola logo, and several sedans. The surrounding area includes multi-story buildings with balconies and trees. The text "2 in 5" is overlaid in the center, flanked by four yellow L-shaped brackets.

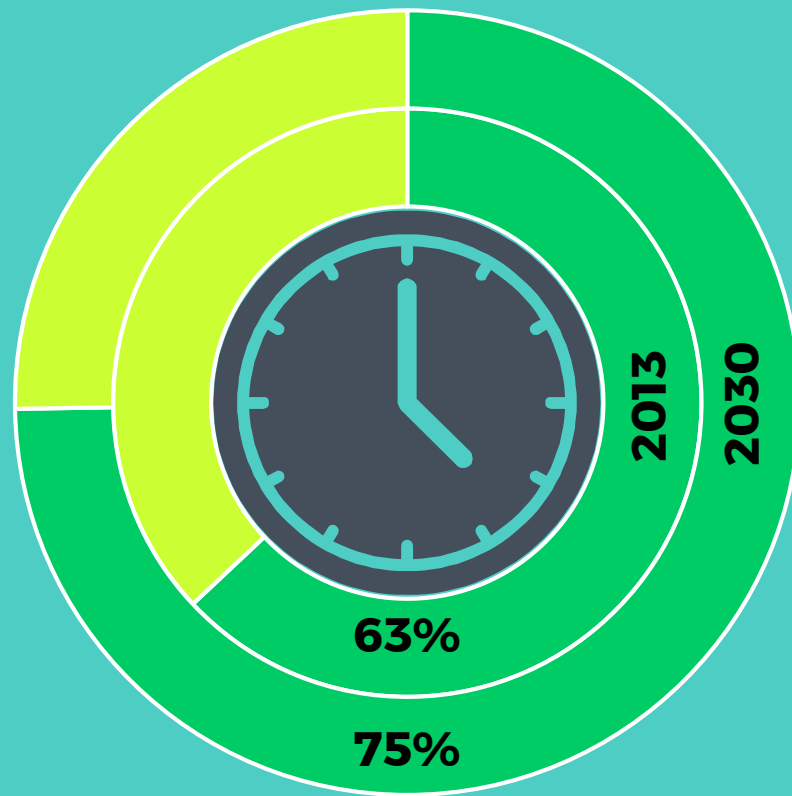
2 in 5

Singapore households
own at least 1 car



Car-lite & Multi-modal

Singapore's urban mobility vision by 2030



- Public transport
- Private transport

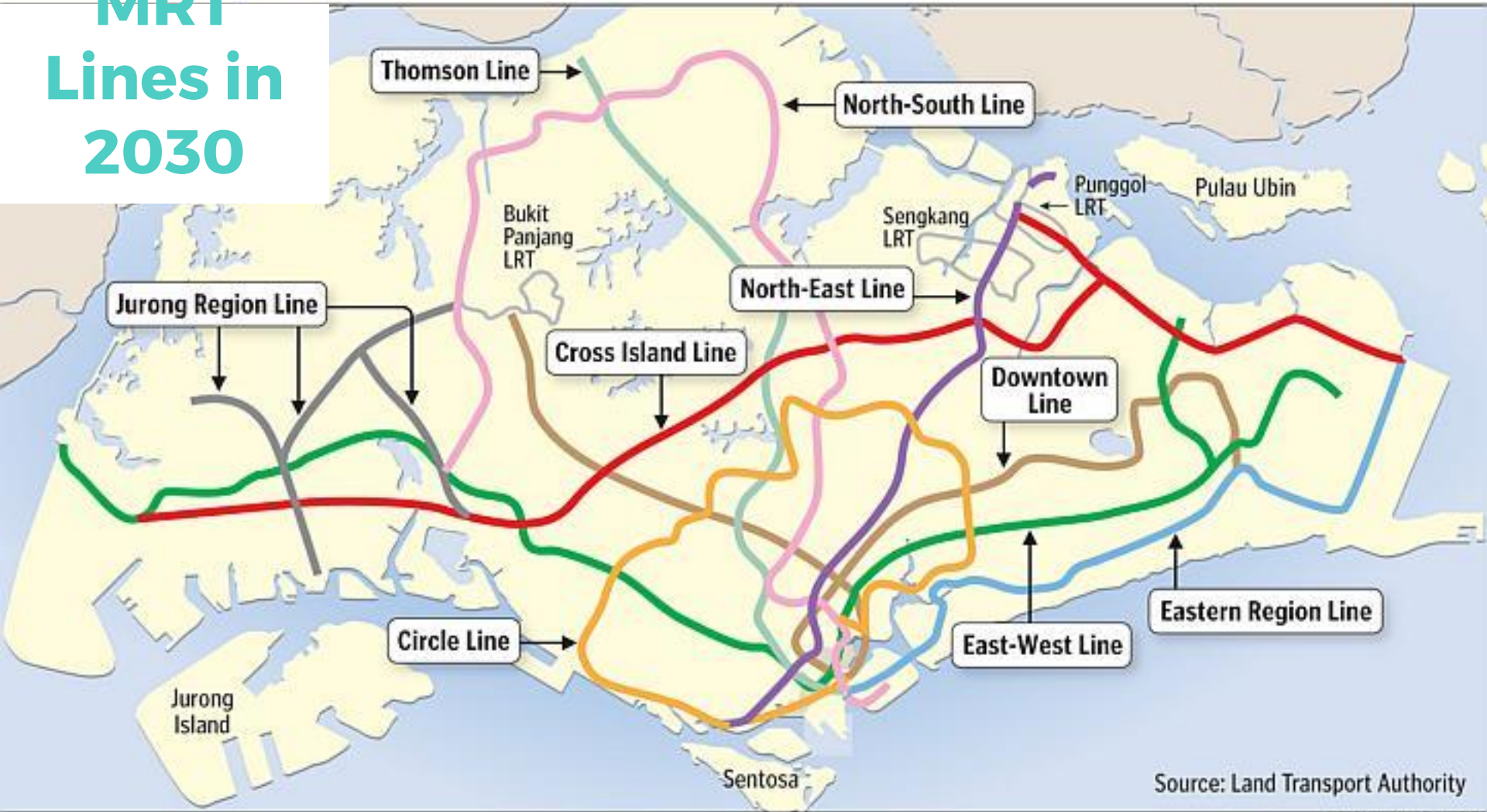
75%
peak hour
travel
made on
public
transport
by 2030

Opportunities ahead...

Major
public
transport
improve-
ments

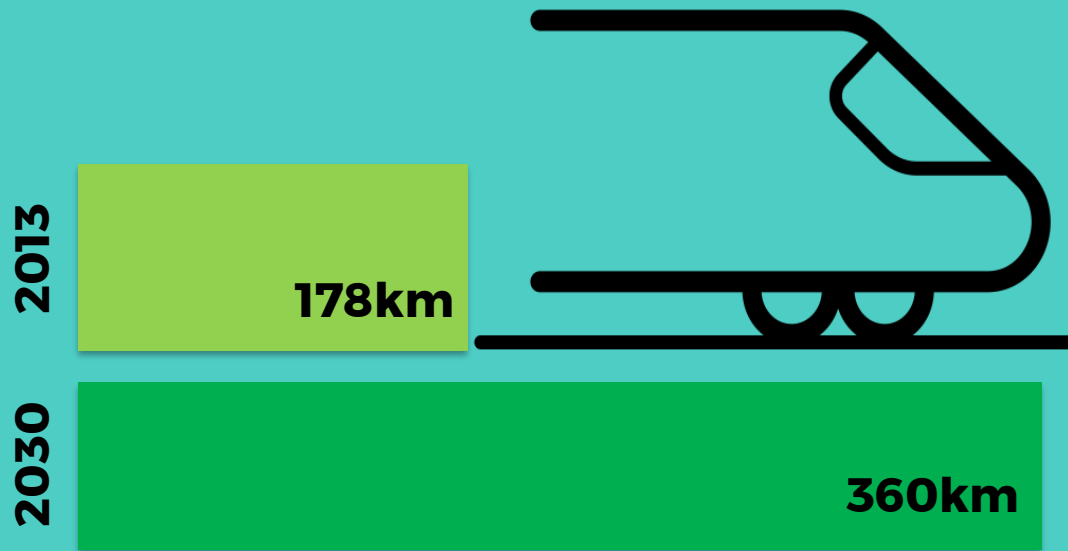


MRT Lines in 2030



Source: Land Transport Authority

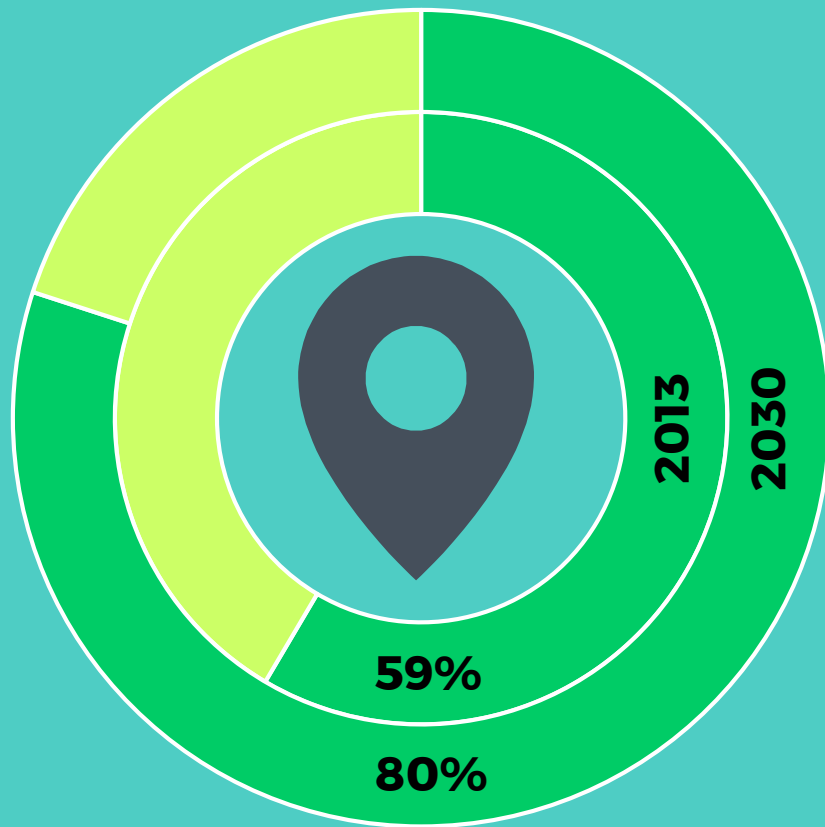
Graphic Credit: LTA/ ST



360
km
of rail
network
by 2030

8in10

homes
within
10-min
walk of
a train
station
by 2030



- Within 10-minutes
- More than 10-minutes

More Buses, Better Rides



800 more buses

**20% bigger bus fleet
by 2016**

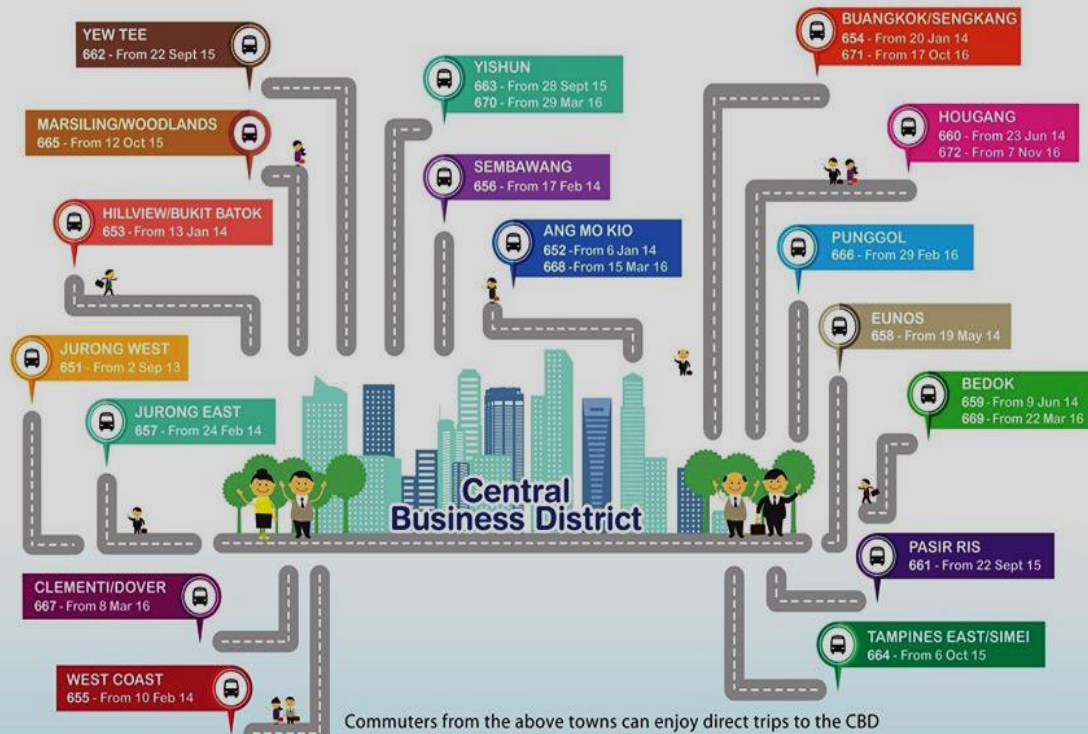
Bus enhancement programme

Graphic Credit: LTA



City Direct Bus Services

Your One Ride to the CBD



More new buses

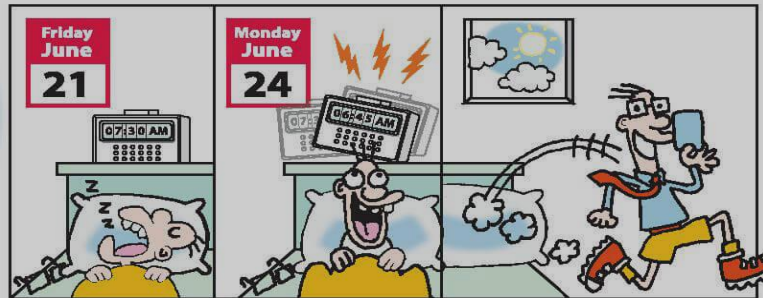
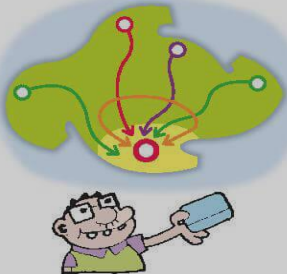
More services

Partnership with
private operators
to further
augment
capacity

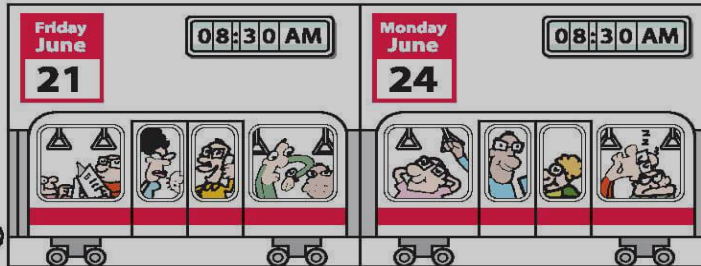
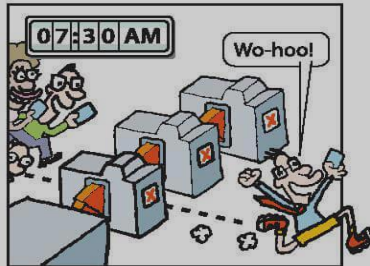
TRAVEL **EARLY** TRAVEL **FREE** ON THE **MRT**



- **Start your train ride** on a weekday from any MRT or LRT station outside the city area
- **Your train ride is free** when you exit any of the city area stations before 7.45 am
- **Enjoy up to 50 cents off** when you exit between 7.45 am and 8.00 am



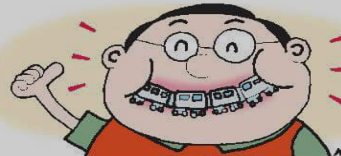
- **The city area MRT stations are** Bayfront, Bras Basah, Bugis, Chinatown, City Hall, Clarke Quay, Dhoby Ghaut, Esplanade, Lavender, Marina Bay, Orchard, Outram Park, Promenade, Raffles Place, Somerset, Tanjong Pagar.



- **A one-year trial to benefit YOU, from 24 June 2013**

Free ride for early commuters.

A more comfortable ride for all!



- For more details, please visit <http://www.lta.gov.sg>

Travel
demand
management

Travel smart
programme

Work with both
individuals and
corporates

Incentivise
preferred travel
behaviours



Image Credit: LTA

**Improve first-
and-last-mile
connectivity:
inclusive and
safe**



Walk2Ride

Silver zones
School zones

Opportunities ahead...

Major
public
transport
improve-
ments

From asset
ownership
to shared
services



The background image shows a typical Singaporean public housing estate. In the foreground, there is a paved area with a bicycle rack containing several white dockless shared bikes. A person is walking past the bikes on the right. In the middle ground, there are some trees and a set of stairs leading up to a building. The background is filled with multi-story apartment buildings. The number '2710' is visible on one of the buildings. The overall scene is in a monochromatic teal color.

30,000

Estimated number of dockless
shared bikes in Singapore



1 million

Number of active UBER riders
in Singapore as of May 2017



Image Credit: Helsinki Region Transport

On-demand and AV as part of the future mobility ecosystem

But to be
centred around
public
transport, active
mobility and
shared modes



Image Credit: NuTonomy

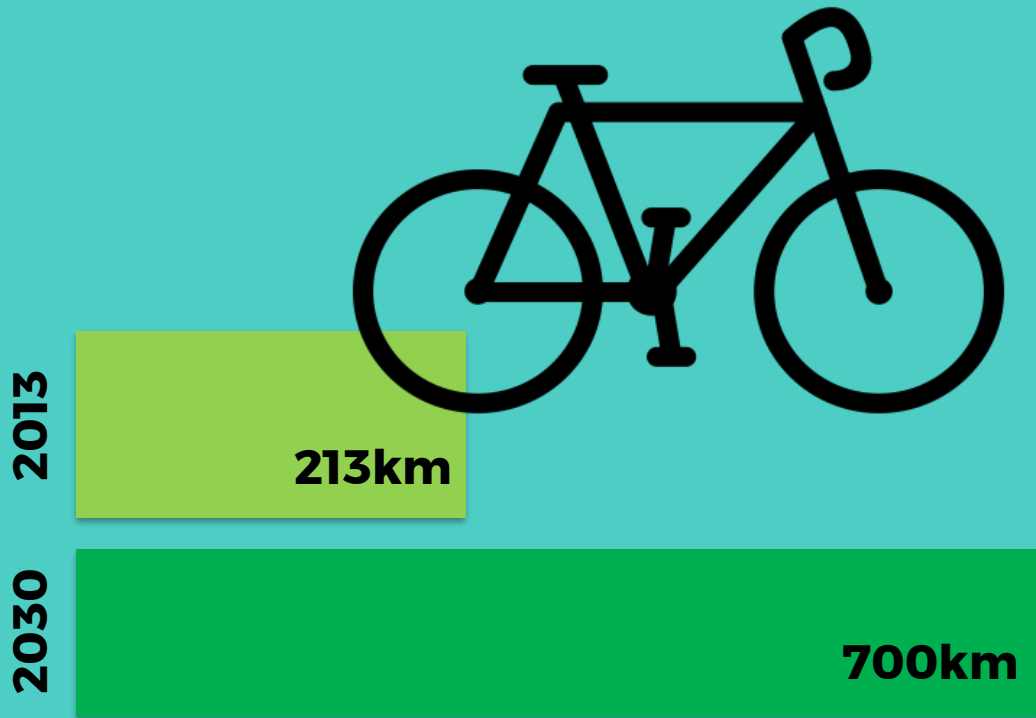
Opportunities ahead...

Major
public
transport
improve-
ment

From asset
ownership
to shared
services

Promote
Active
Mobility





700
km
of cycling
paths
by 2030



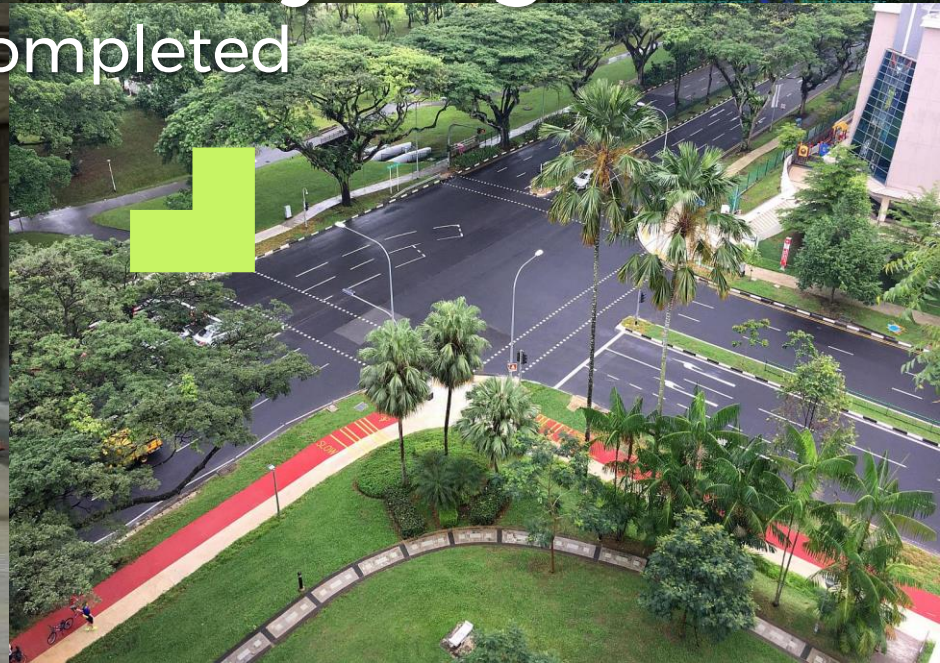
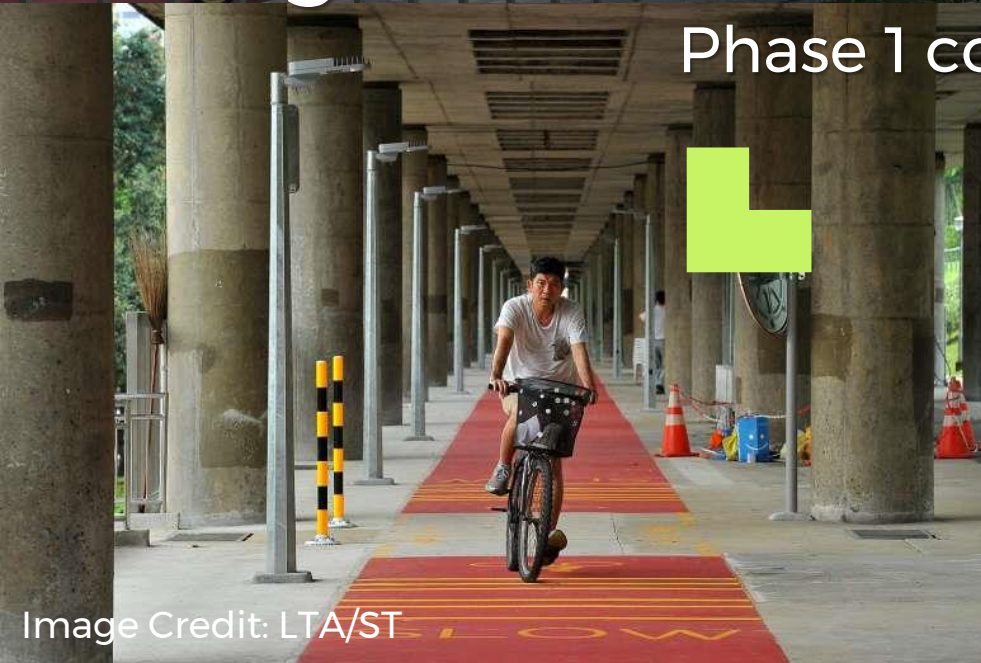
CLC - Collaborative research on Active Mobility

Jan Gehl in Ang Mo Kio

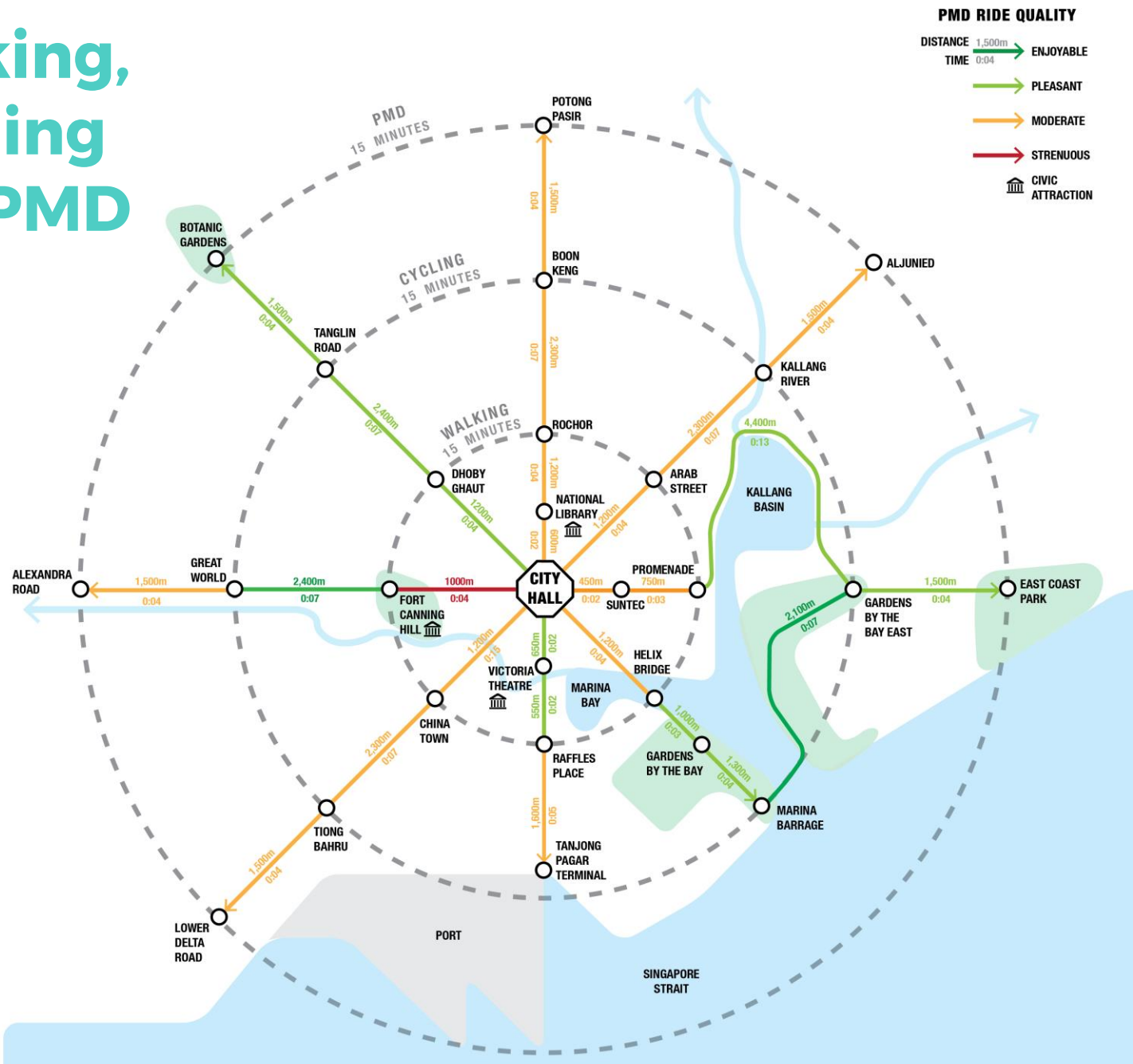


Ang Mo Kio: First Model Cycling Town

Phase 1 completed



Walking, Cycling and PMD



Graphic Credit: CLC



**Towards a truly car-lite
multi-modal urban mobility**

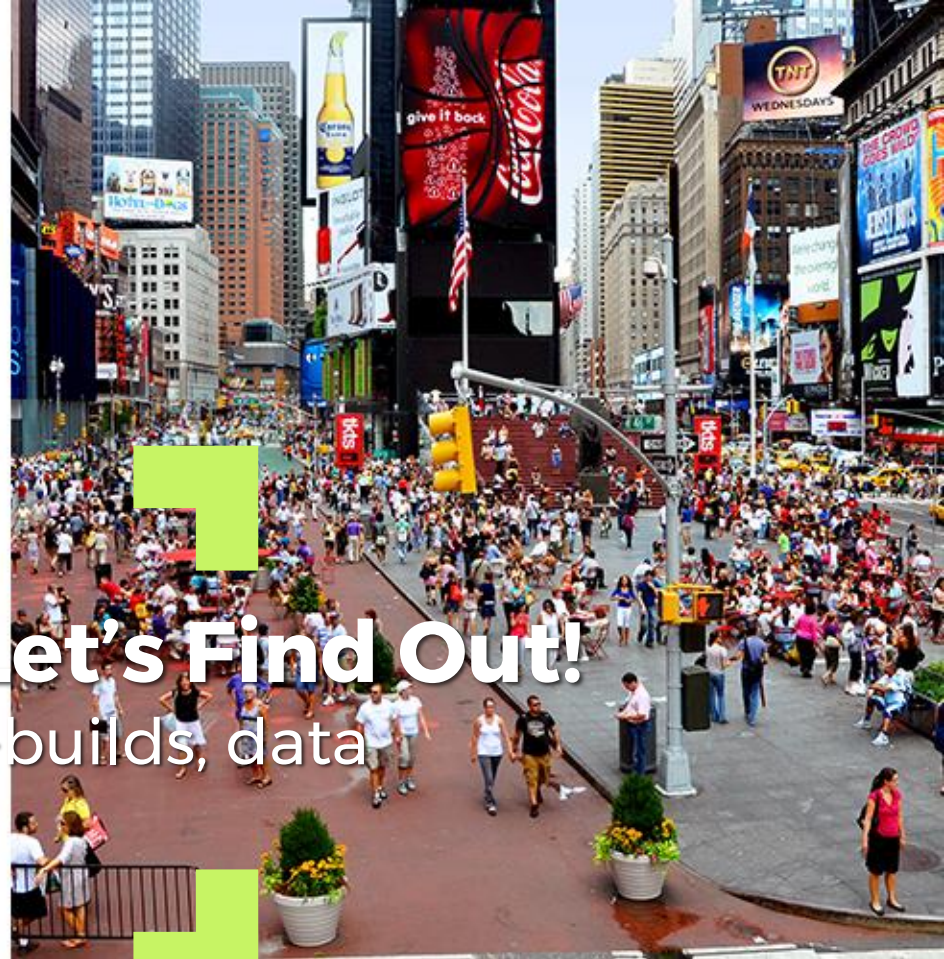
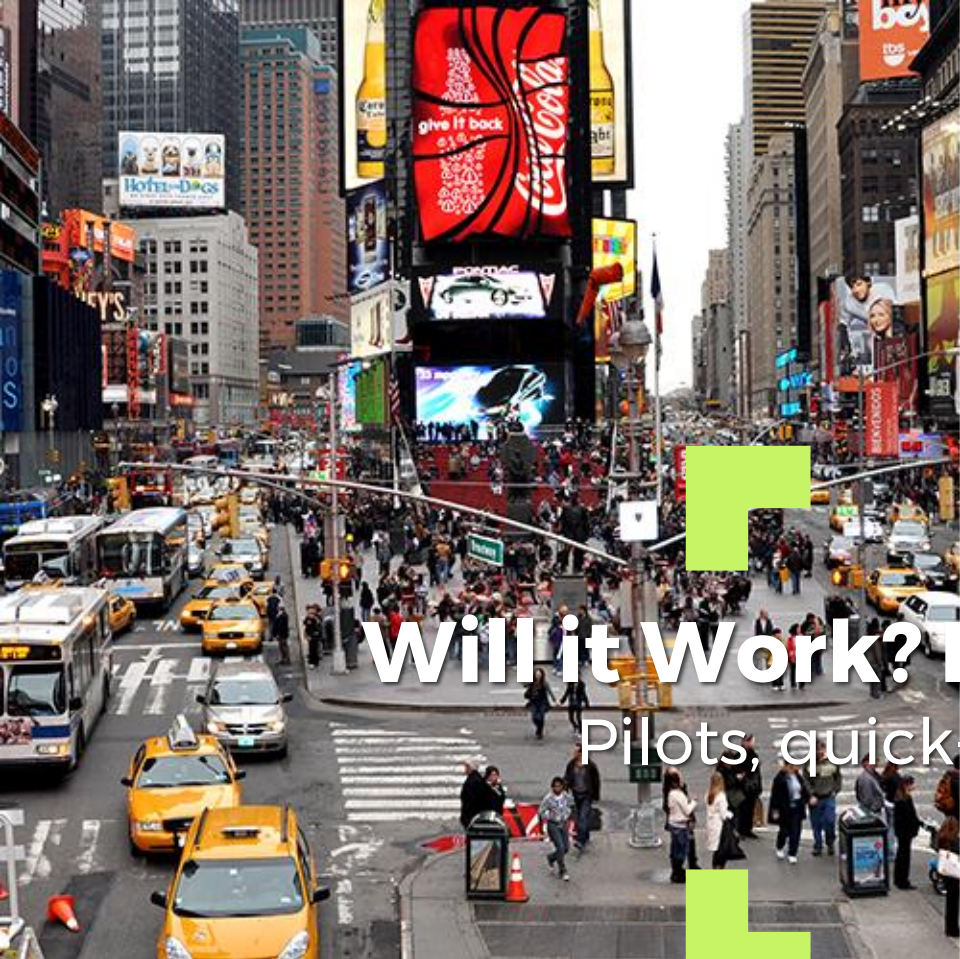


Further reduce the appeal of private cars
put a stop to underpriced parking and car usage



Turn Street Design on its Head System-wide

From one street to one block to one city



Will it Work? Let's Find Out!
Pilots, quick-builds, data



A wide-angle photograph of a bustling city street at dusk. On the left, a modern building with large glass windows and a balcony is visible. In the foreground, a large blue umbrella with the 'Carluccio's' logo covers an outdoor seating area where several people are dining. The street is paved with light-colored tiles and is filled with many pedestrians walking in various directions. In the background, tall modern buildings with illuminated windows line the street, and a few trees are visible on the right side. The overall atmosphere is vibrant and urban.

District-level travel demand management strategies

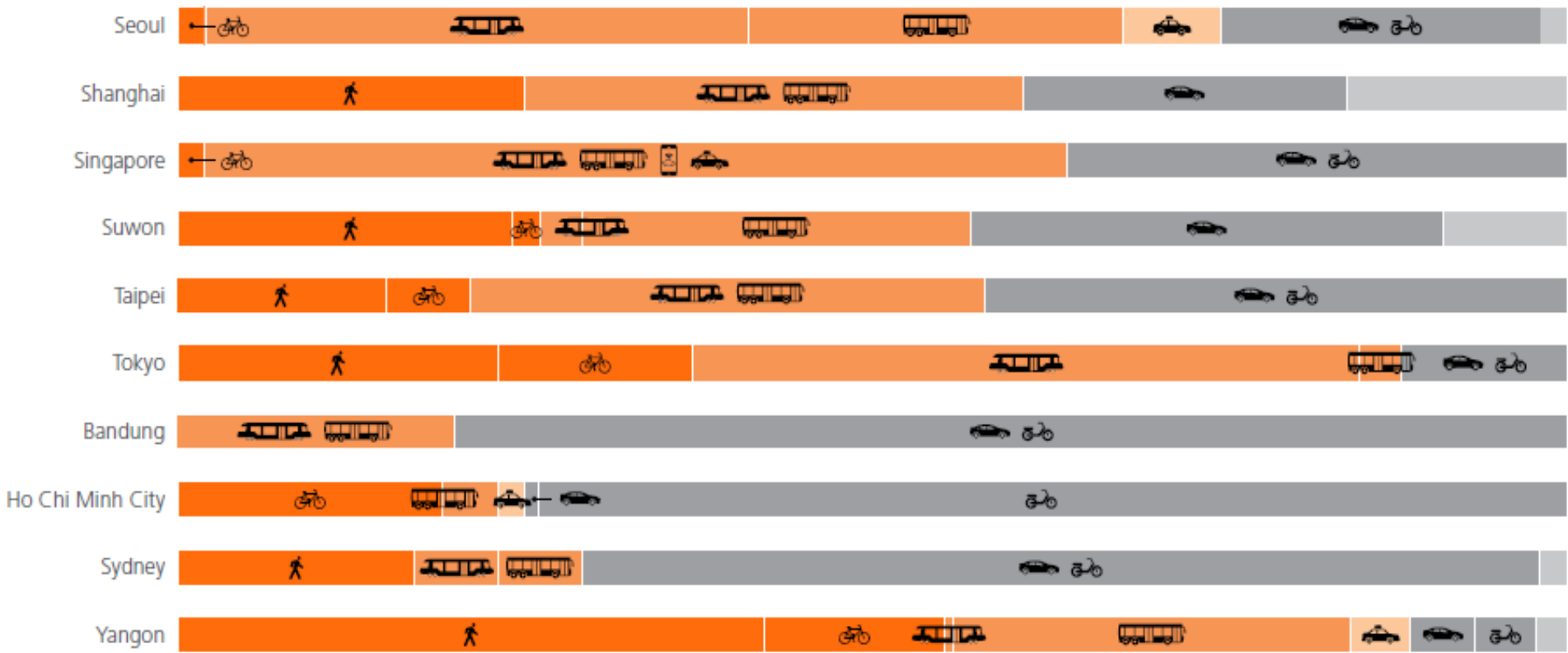
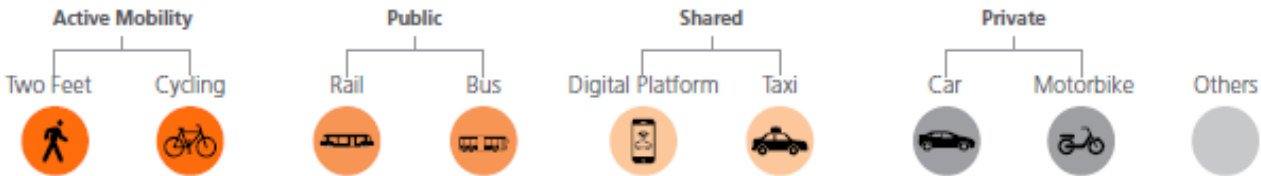
Win-win for all



Change Mindsets & Make Car-lite Cool

Everyone can be the influencer

Mode Share Across the 10 Cities



Graphic Credit: CLC/ULI



Sharing the Ride

Taipei

Starting Off


10 Cities

Takeaways

About

Shaping a Car-free Zone

Seoul

A high-angle, wide shot of a crowded city street during a festival. The street is filled with people of various ages. In the center, a yellow pedicab with a canopy is moving. To its left, a blue tandem bicycle is being ridden. In the foreground, several people are riding segways. To the right, a red pedicab is visible. The background shows more people walking and cycling. The overall atmosphere is festive and busy.

Every Day Can be a Festival

Suwon



“By closing off the roads to cars for a longer period, people would be encouraged to re-organise their daily life around walking, cycling and public transport during the festival period, and adopt a car-free lifestyle even after the festival...”

Mr Konrad Otto-Zimmerman

Former Secretary General of ICLEI &
Creative Director at The Urban Idea

Key thrust towards Car-lite Multi-modal mobility future



1.



**Get the
Fundamentals
Right**

2.



**People-private-
public: New
Forms of
Collaboration**

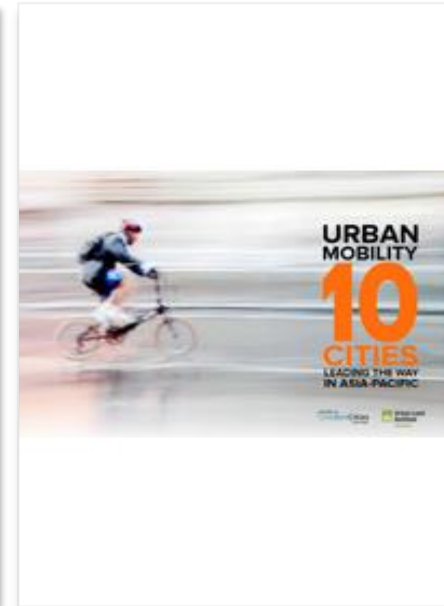
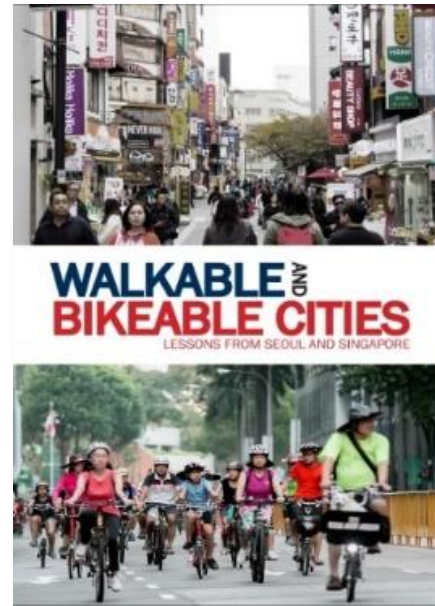
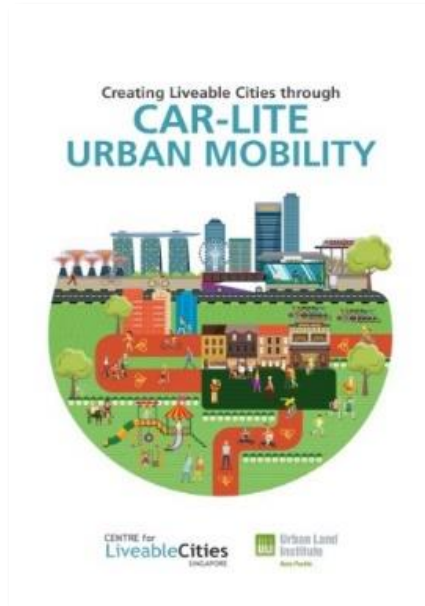


3.

**Multi-pronged
Approach to
Secure Buy-in &
Shape Mindsets**

CLC Research – Our Mobility Collection

To distill, create and share



Available at <http://www.clc.gov.sg/>



CENTRE for
LiveableCities
SINGAPORE



Thank You!

See you at **World Cities Summit** in Singapore
on **8-12 July 2018**

www.clc.gov.sg