

Planning low emission transport – walking and cycling

PRESENTER:
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Topics

01 Transport emissions

02 Benefits of walking and cycling

03 Planning for active transport

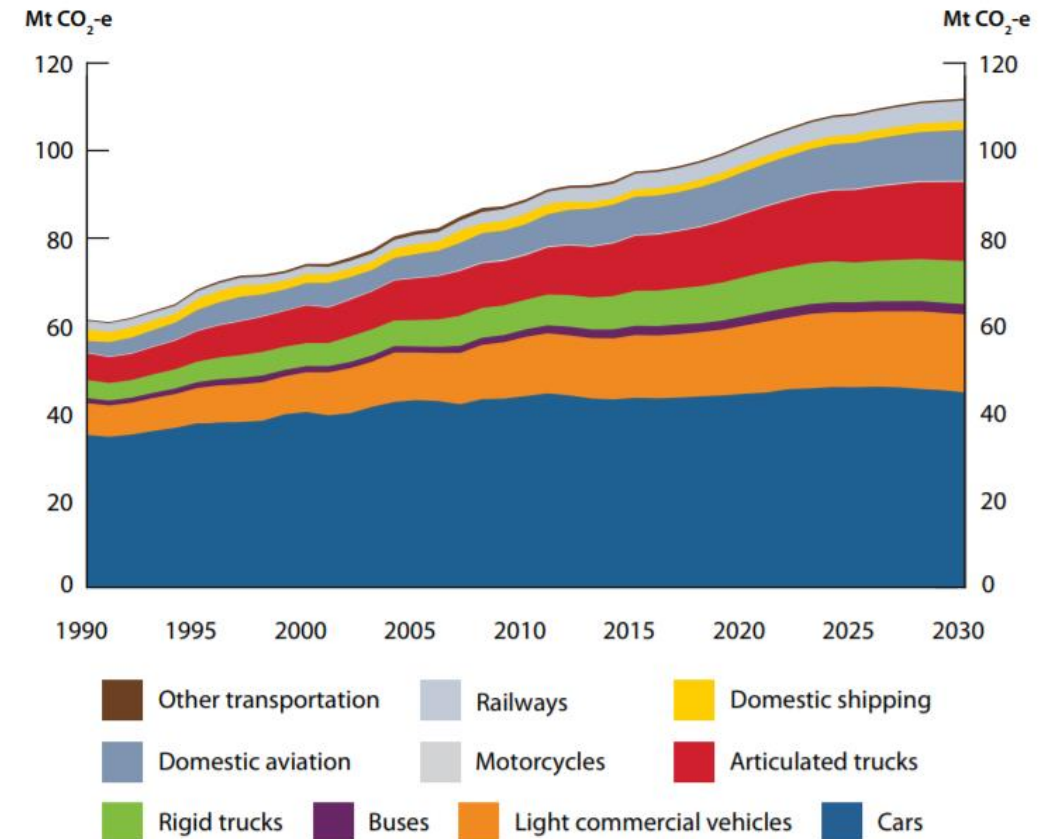
04 Design principles

01 Transport emissions

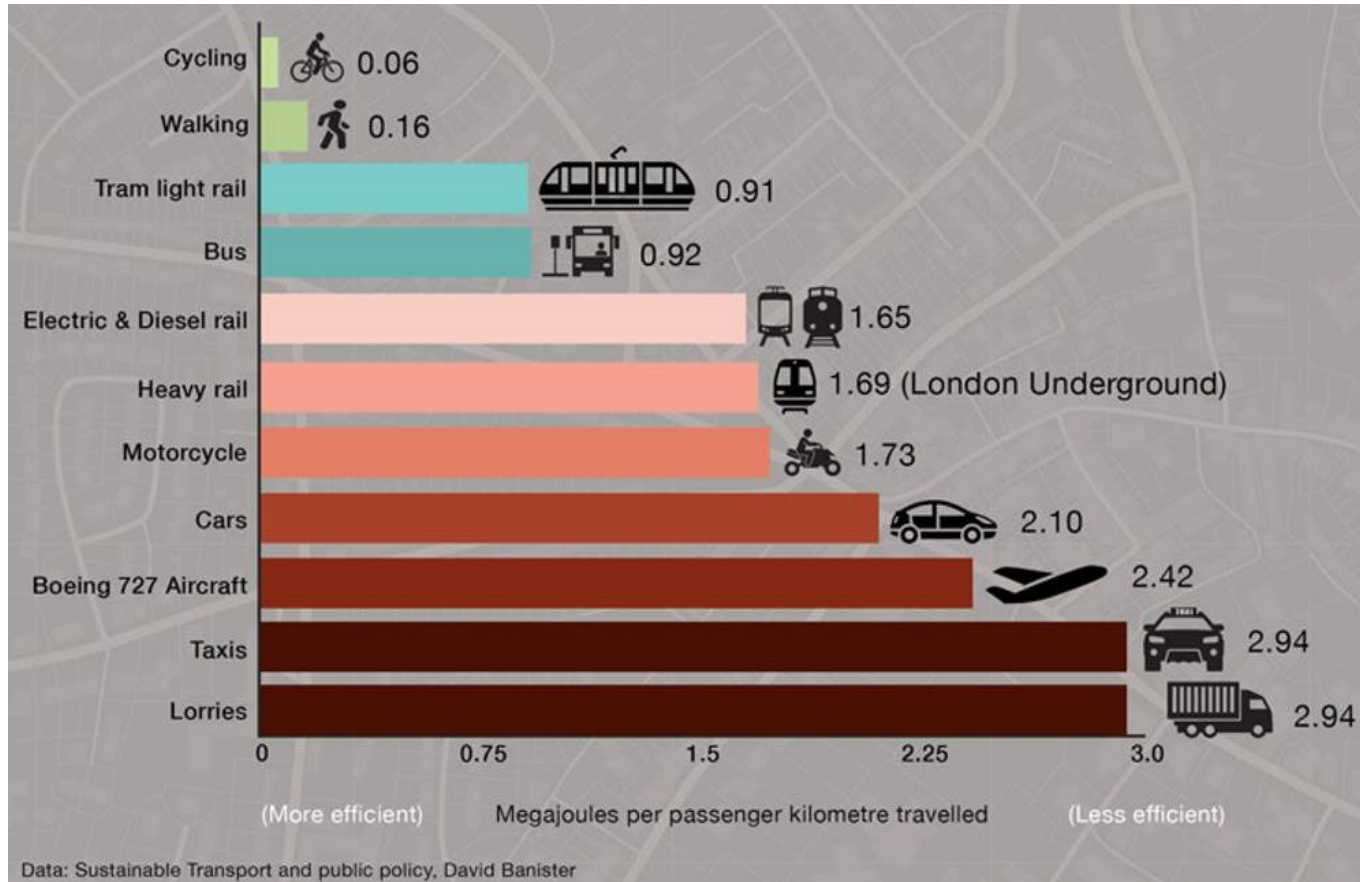
01 Transport emissions

- > IPCC - 12 years to act urgently, or global warming increases by 1.5 degrees between 2030 and 2052.
- > In Australia the transport sector accounts for around 20 per cent of emissions, with private cars representing a major component.
- > IPCC – transport sector must increase low mission travel from a 5 per cent share (2020) to 35 to 65 percent share by 2050.

Australia's emissions projections



01 Transport emissions



- > Walking and cycling are low emission transport modes
- > Around 5 per cent as much emissions as cars
- > Some calculations consider food as fuel for walking and cycling, and attribute more GHG emissions to active transport.

01 Transport emissions



02 Benefits of walking and cycling

02 Benefits of walking and cycling

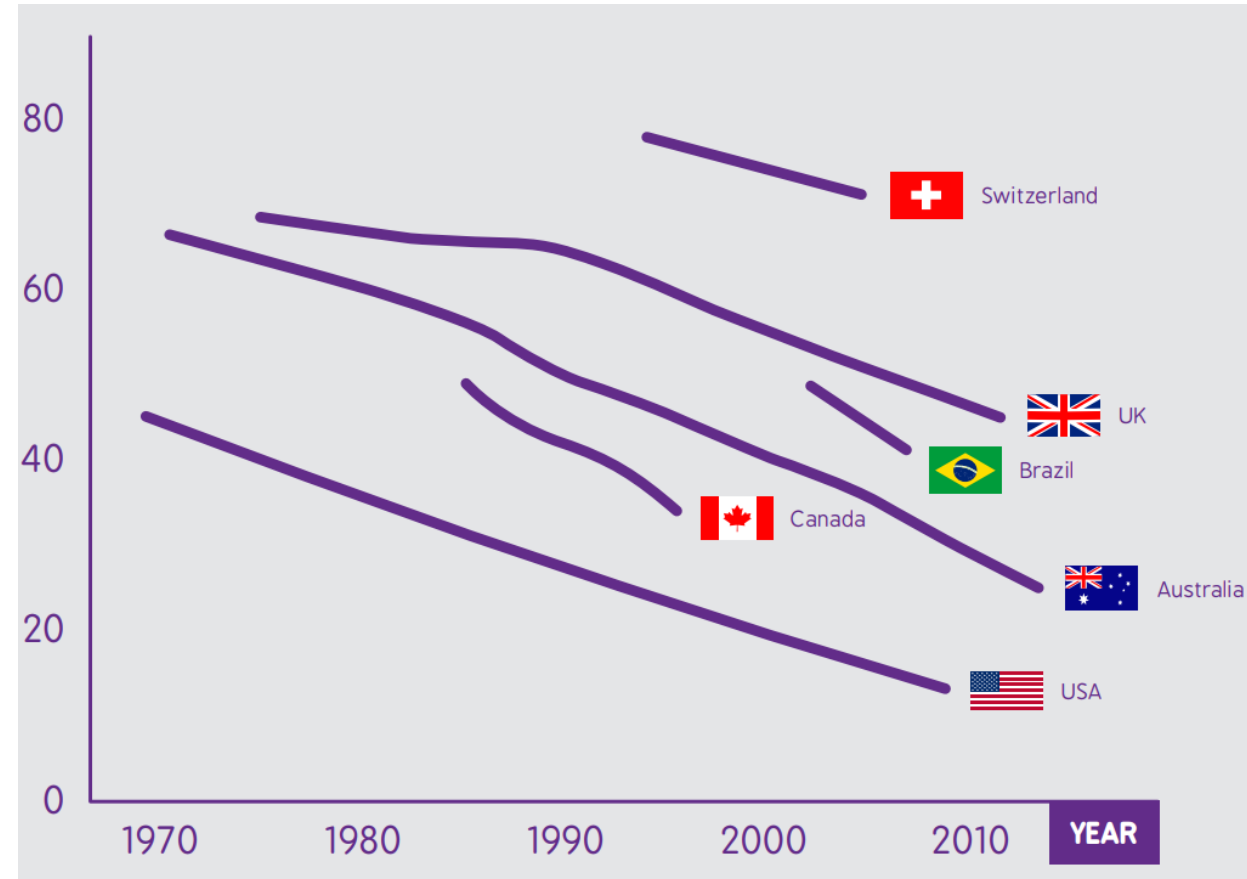
- > Walking is already a part of almost every trip
- > Minimises noise and air pollution
- > Safe
- > Free / equitable
- > Healthy
- > Social
- > Reliable
- > Doesn't contribute to road congestion
- > Good for local business
- > Space efficient
- > Major infrastructure avoidance / delay

Walking distance and time:
400 metres = 5 minutes
800 metres = 10 minutes
1 kilometre = 13 minutes

Cycling distance and time:
1 kilometre = 4 minutes
2 kilometres = 8 minutes
5 kilometres = 20 minutes

02 Challenges of walking

- > Design of streets and land use
- > Quality infrastructure and priority
- > Distance and time
- > Safety and security
- > Lack of amenable street environment
- > Conflict with bicycles on shared paths
- > Creating access for everyone:
 - Mobility: prams, wheelchairs, elderly need.
 - Sight and hearing: Tactile Ground Surface Indicators, audio indicators at signals.



02 Challenges of riding

- > Perception of safety risks
- > Lack of driver awareness
- > Physical separation from vehicles
- > Bicycle facilities are often controversial e.g. removing parking for bike lane
- > Sydney is hilly, and hot – end-of-trip facilities like showers are important
- > Bicycles at intersections and roundabouts
- > Interactions with heavy vehicles
- > Conflict with pedestrians on shared paths
 - Pedestrian perception of safety
 - Should be a slow speed environment



G9-259-1
(a) Keep Left sign encourages all path users to travel on the left



G9-259-2
(b) Warn When Approaching sign encourages path users to call out or use their bells



G9-259-3
(c) Stop Off Path sign encourages path users to keep the path clear



G9-259-4
(d) Control Your Dog sign reminds dog owners of their responsibilities

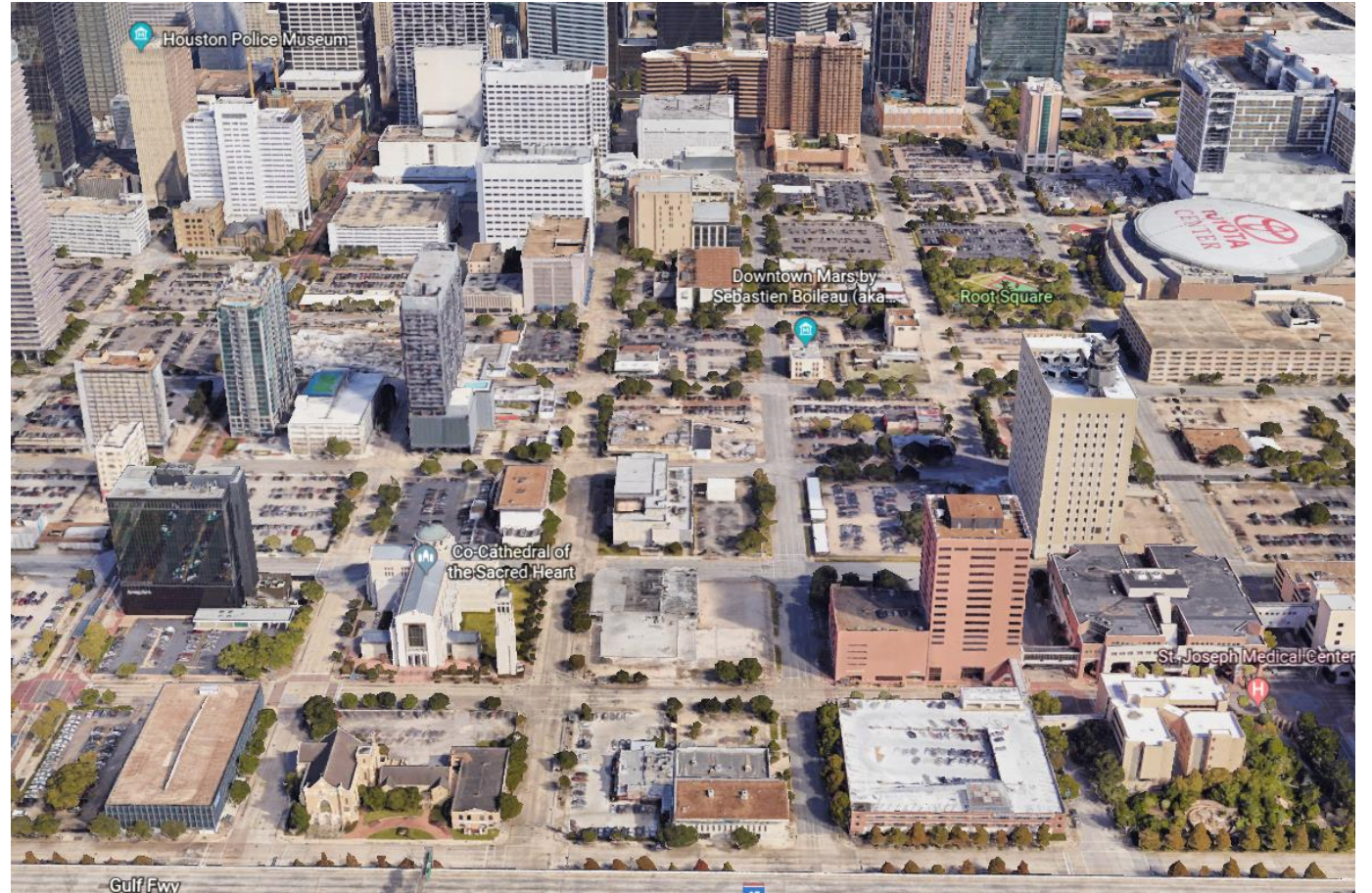
03 Planning for walking and cycling

03 Government context

- > Governments around Australia are committed to encouraging walking and cycling as priority transport modes for short trips.
- > The NSW Government's recent planning strategies (including *A Metropolis of 3 Cities* and *Future Transport 2056*) aim to:
 - Reduce transport-related greenhouse gas emissions,
 - Plan accessible and walkable centres, and
 - Encourage active (walking and cycling) travel.
- > Movement and Place: understanding the balance between 'place' and 'movement' helps define a street's character and role within a network.

03 Planning for walking and cycling

- > Mix of land uses:
 - Residential next to retail
 - Commercial
 - Residential and other social facilities
- > Parking – provision and design



03 Planning for walking



Walking networks should be:

- > Direct
- > Safe
- > Comfortable and attractive
- > Legible
- > Accessible



03 Planning for cycling



Cycling networks should be:

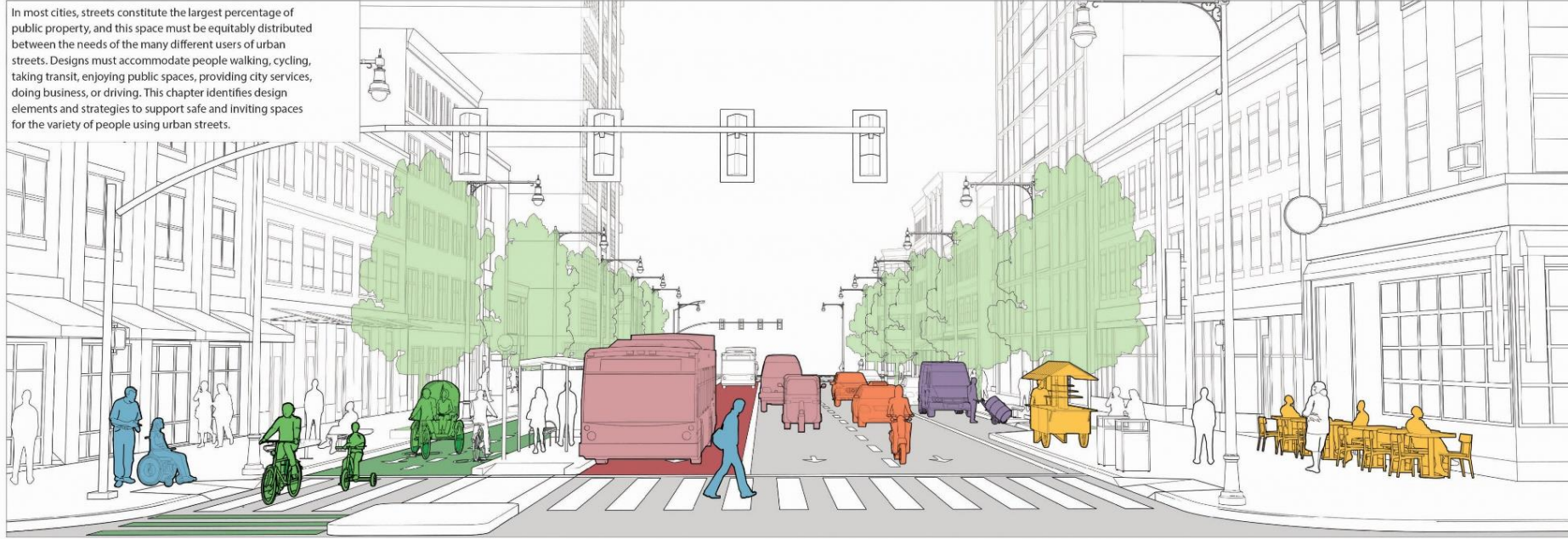
- > Safe
- > Separated
- > Network focused – regional and local
- > Facility specific – separated, shared path etc.
- > Legible
- > Provide bicycle parking – close to entrance and secure

04 Good design

04 Street design

A Variety of Street Users

In most cities, streets constitute the largest percentage of public property, and this space must be equitably distributed between the needs of the many different users of urban streets. Designs must accommodate people walking, cycling, taking transit, enjoying public spaces, providing city services, doing business, or driving. This chapter identifies design elements and strategies to support safe and inviting spaces for the variety of people using urban streets.



Pedestrians

Pedestrians include people of all abilities and ages, sitting, walking, pausing, and resting within urban streets. Designing for pedestrians means making streets accessible to the most vulnerable users. Design safe spaces with continuous, unobstructed sidewalks. Include visual variety, engage building frontages, design for human scale, and incorporate protection from extreme weather to ensure an enjoyable street experience.



Cyclists

Cyclists include people on bicycles, cycle-rickshaws, and cargo bikes. Facilities should be safe, direct, intuitive, clearly delineated, and part of a cohesive, connected network to encourage use by people of all ages and confidence levels. Cycle tracks that create an effective division from traffic, are well coordinated with signal timing, and are incorporated in intersection design form the basis of an accessible and connected cycle network.



Transit Riders

Transit riders are people using collective transport such as rail, bus, or small collective vehicles. This sustainable mode of transportation dramatically increases the overall capacity and efficiency of the street. Dedicated space for transit supports convenient, reliable, and predictable service for riders. Accessible boarding areas promote safe and equitable use. The space dedicated to a transit network should be aligned with demand, meeting service needs without sacrificing streetscape quality.



Motorists

Motorists are people driving personal motor vehicles for on-demand, point-to-point transportation. This includes drivers of private cars, for-hire vehicles, and motorized two- and three-wheelers. Streets and intersections must be designed to facilitate safe movement and manage interactions between motor vehicles, pedestrians, and cyclists.



Freight Operators and Service Providers

Freight operators and service providers are people driving vehicles that move goods or conduct critical city services. These users benefit from dedicated curb access and allocation of space for easy loading and unloading as well as dedicated routes and hours of operation. Emergency responders and cleaning vehicles need adequate space to operate, which must be accommodated while ensuring the safety of all other street users.



People Doing Business

People doing business include vendors, street stall operators, and owners or renters of commercial storefronts. These users provide important services that support vibrant, active, and engaging street environments. Adequate space should be allocated to these uses. Provide regular cleaning, maintenance schedules, power, and water to support commercial activity and improve local quality of life.



04 Walking



04 Cycling



Thank you

For more information

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