

Motonormativity: Implications for Maribyrnong's Future

BikeWest presentation 10/2/25

Who is BikeWest?

- BikeWest is the pre-eminent cycling advocacy group in the west of Melbourne with thousands of members and followers
- BikeWest regularly appears on radio, television and print: ABC radio and 7.30 report, 3AW, The Age, Westsider, Star Weekly
- BikeWest has written over 100 submissions to councils and state government including parliamentary inquiries and successfully obtained numerous grants
- BikeWest regularly organises advocacy rides

Who is
BikeWest?



Who is
BikeWest?



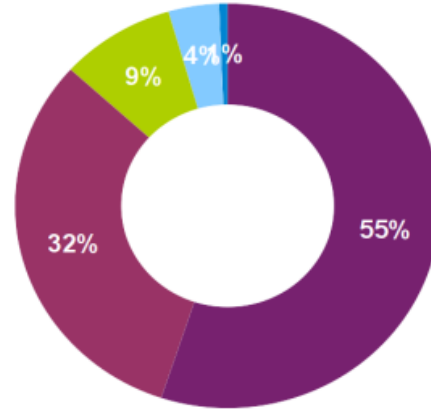
What is Motonormativity?

- Refers to social, cultural, and institutional norms that prioritize and privilege car-centric transport over all other modes, eg cycling,
- Determines how people perceive and value different forms of transport and what gets funded and built
- Is rooted in the assumption that owning and driving a car is not only desirable but essential for participation in modern life.
- Consequently \$billions are spent on tunnels and bridges for motor vehicles but almost nothing for cycling

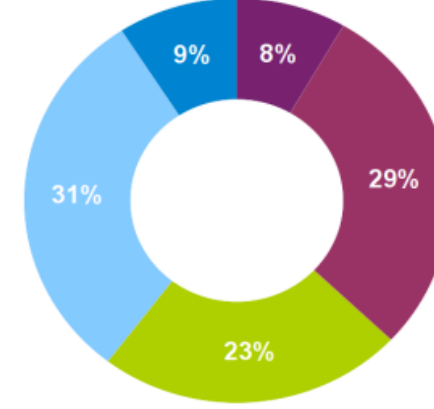
Motonormativity examples

■ Strongly agree ■ Agree ■ Neutral ■ Disagree ■ Strongly disagree

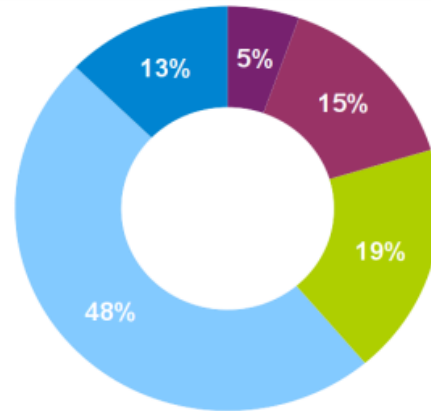
(Ai) If somebody leaves their **car** in the street and **it gets** stolen, it's their own fault for leaving **it** there and the police shouldn't be expected to act



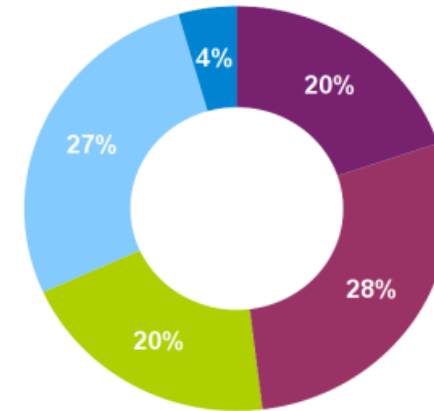
(Aii) If somebody leaves their **belongings** in the street and **they get** stolen, it's their own fault for leaving **them** there and the police shouldn't be expected to act



(Ci) Risk is a natural part of **driving**, and anybody **driving** has to accept they could be seriously injured



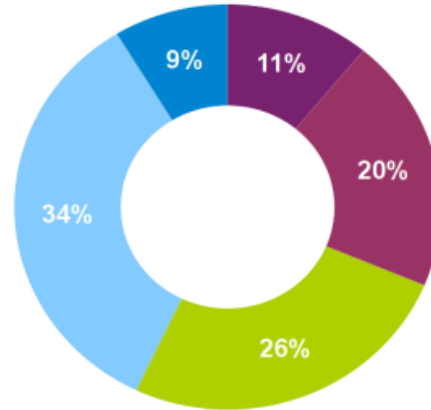
(Cii) Risk is a natural part of **working**, and anybody **working** has to accept they could be seriously injured



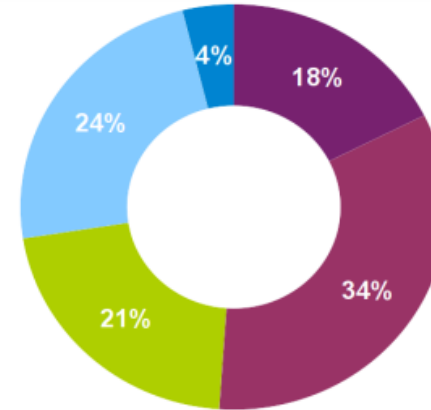
Walker I, Tapp A, Davis A. Motonormativity: how social norms hide a major public health hazard. International Journal of Environment and Health. 2023;11(1):21-33.

Motonormativity examples

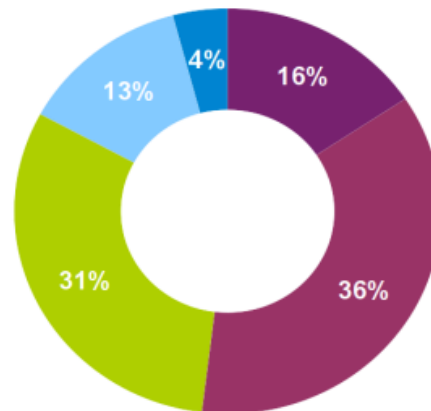
(Di) There is no point expecting people to **drive** less, so society just needs to accept any negative consequences it causes



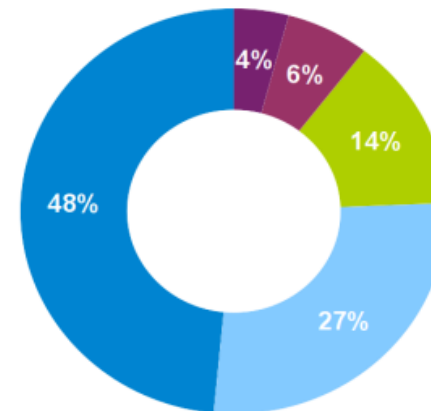
(Dii) There is no point expecting people to **drink alcohol** less, so society just needs to accept any negative consequences it causes



(Ei) People shouldn't **drive** in highly populated areas where other people have to breathe the **car** fumes



(Eii) People shouldn't **smoke** in highly populated areas where other people have to breathe the **cigarette** fumes



Walker I, Tapp A, Davis A. Motonormativity: how social norms hide a major public health hazard. *International Journal of Environment and Health*. 2023;11(1):21-33.

Wasn't always this way: Murder Machines!!

NATION ROUSED AGAINST MOTOR KILLINGS

Secretary Hoover's Conference Will Suggest Many Ways to Check The Alarming Increase of Automobile Fatalities.—Studying Huge Problem

THE need for vigorous nationwide action to promote street and highway safety has prompted Secretary Hoover to call a conference of representatives of the various agencies interested in checking the steady increase in vehicular accidents. The conference will be held in Washington on Dec. 18. It will treat the subject from seven angles, including statistics, traffic control, construction and engineering, city planning and zoning, insurance, education and the motor vehicle and public relations.

THE horrors of war appear to be less appalling than the horrors of peace. The automobile looms up as a far more destructive agent of mechanized death than the machine gun. The reckless motorist deals more death than the artilleryman. The man in the street seems less safe than the man in the trench.

Fifty thousand of our men were killed in action or died of wounds in the sixteen months of this country's participation in the World War. This is at the rate of 2,000 fatalities a month—a month average when compared with the startling toll of 7,000 lives destroyed monthly by accidents in the United States. The greatest single fatal factor is the automobile. It left a statistic in its wake as it crossed through 1923. It accounted for 16,000 victims. According to the traffic statistics reported in the first nine months of this year there will be an increase of more than 2,000 for 1924. At the beginning of October approximately 24,000 motor deaths had already been reported.

A conference called by Secretary Hoover for next month will concentrate its deliberations upon street and highway accidents. A Committee on Statistics was appointed by Mr. Hoover to supply the conference with a clearly defined picture of the public accident situation. This committee is placing particular emphasis upon the annual report of the United States Census Bureau on mortality statistics, which revealed that 22,021 persons died in vehicular mishaps in 1923, an increase of almost 2,000 over 1922.

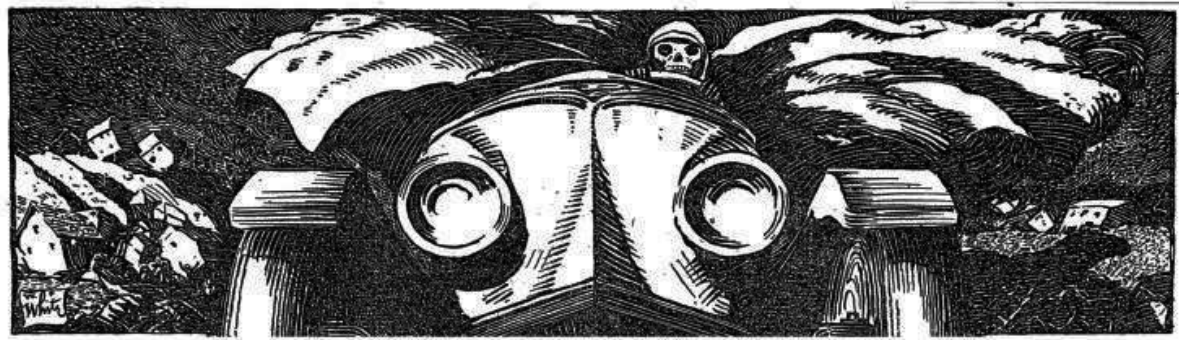
While the number killed in automobile accidents last year was given as 16,000, the motorist car was also reported in other highway fatal cases. The Census Bureau charges each accident in classified as a traffic accident. When street cars are blamed upon the records. There were 2,383 deaths in train grade crossing accidents in 1923. Many of the 2,000 who

roads become negligent by comparison with those caused by automobiles. The huge economic loss caused by street and highway accidents is set forth in a preliminary report prepared by the Committee on Statistics appointed by Secretary Hoover. On this subject the report says in part:

"The economic loss due to these approximately 100,000 accidents in which personal injuries occur can probably never be known. Several estimates have been made. The most conservative is based upon the usual liability of \$5,000 per life and average of \$175 for each personal injury.

"These two items, applied to 25,000 fatalities and 470,000 non-fatal injuries, respectively, give an approximate total of \$22,000,000. Add to this an average actual property damage of \$50 due to all accidents involving either personal injury or property damage (conservatively estimated at 1,000,000), there results a total estimated loss of nearly \$22,000,000 annually.

"In these estimates no account is



to streets and roads. Anarchy, that would be a privileged class who would share such numbers. In reality, the automobile drivers are a privileged class right now.

"Under typical conditions there is a deadly competition between pedestrian and motorist for a use of those strips of territory on main street—a conflict deadly to its wayfarer, with the victory to the motorist.

"Frankly, to be largely a motorist, this other problem, and the man individual it aims to reach, is much altered from his other self, called the wheel. As both meet on the highway and as two bodies cannot occupy the same space at once, when the truth meet, as they so often do, what is the solution?"

"Manifestly, the motorist cannot go on. The mangling and crushing cannot continue. Hence—'In the field. The mangled motorist who must' but this child off to school or out to play, the following hard journey who tirelessly attempts a crossing must have some assurance of their ability. Obviously, the motorist operator who with cross serves sees the foot dart out into his way path from some unexpected direction is entitled to some regard.

"As it stands, the motorist has won his contest for the use of the street over the foot passenger, despite the present efforts of police, courts and motor vehicle authorities to regulate him and his kind. The motorist has inspired fear and the sort of respect that have force behind.

"If we have failed adequately to regulate ourselves shall we succeed if we better in attempts to regulate pedestrians? It is well enough to condemn the 'jay-walkers' if by that term we mean the reckless individual who is bent on getting there, whether in or out of an automobile, without looking or governing his movements. But if we mean the average and the under-average in intelligence and alertness of our population who do not see the best judgment because they cannot, and who, encouraged by the never-ending, never ending train of automobiles that continue to roll steadily toward them, using up the highway as fast as they can find it, then it is a disgraceful emphasis.

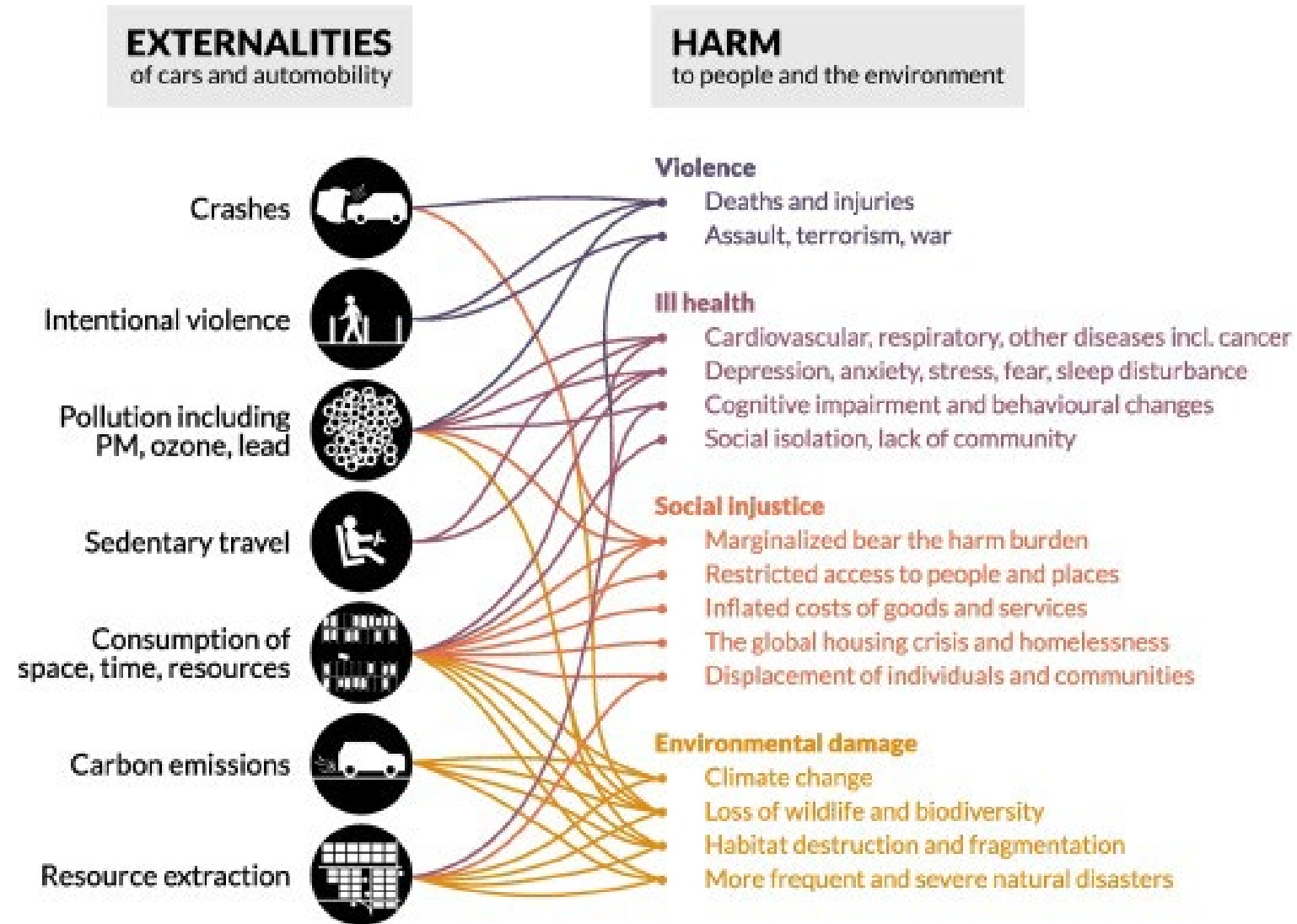
"It is usually only when in court at the post-mortem of an accident or of his own bodily post-mortem from such accident that the pedestrian is, so to speak, allowed to enter his legal rights' list of us prefer not to fall victims as the price of such restraint.

"Some time ago General O'Brien was quoted as saying that 'most of us are still addicted to habits on the street which were suitable to the life of a generation ago when all vehicles were horse drawn. The modern street calls for an entirely new set of habits and for a kind of alertness and prevention which we did not even dream of twenty years ago.' He recommended that the pedestrian familiar himself with the rules of the road and traffic regulations as well as the problems of the motor vehicle driver.

"Any regulation of the pedestrian is to be done with caution. His constitutional rights must not be taken away. To place in the hands of any single official such as the Police Commissioner of this or any other city the responsibility for promulgating codes for his conduct is an indefensible proposal, no matter how well meaning that official may

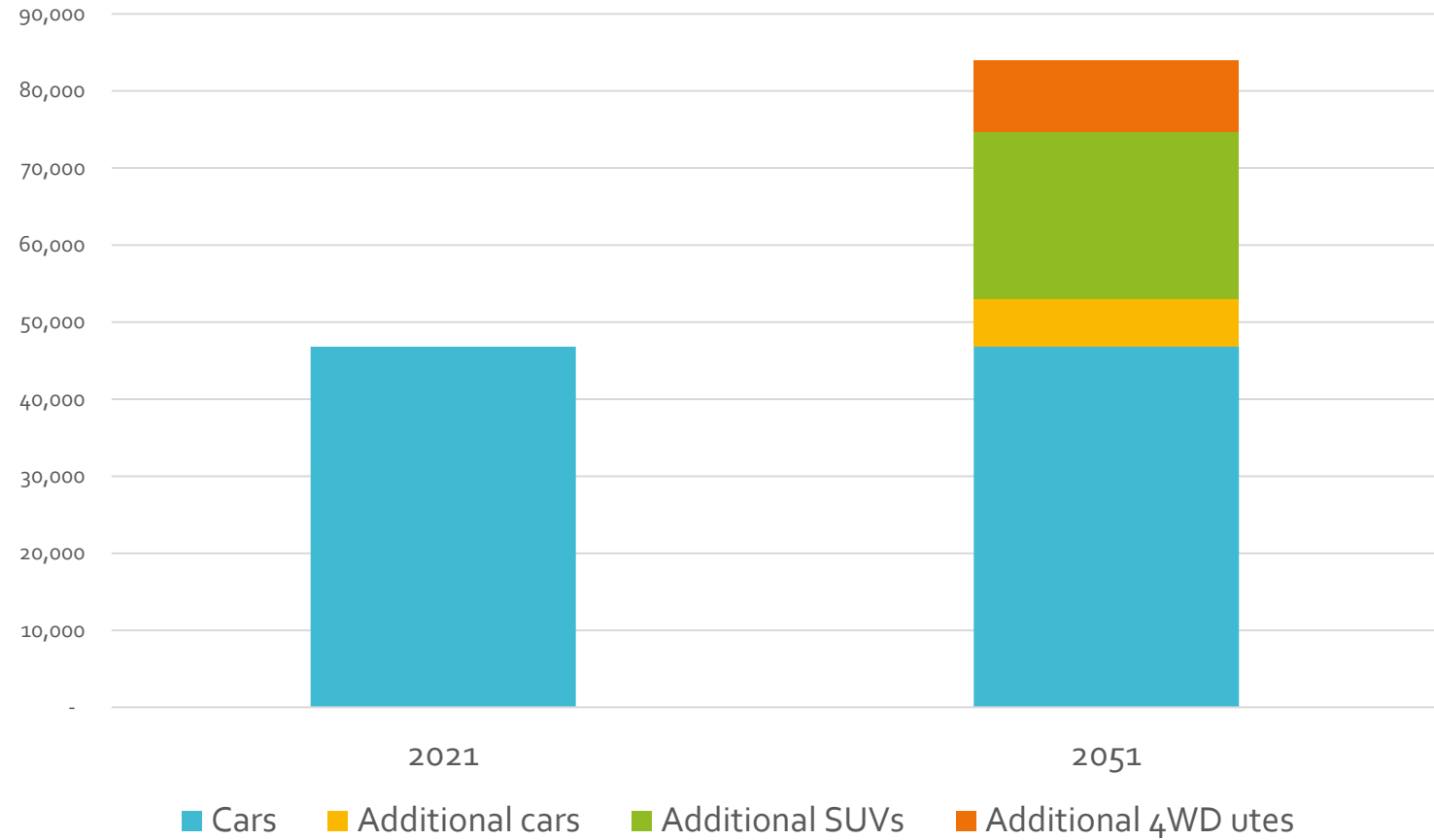
The New York Times November 23, 1924.

Motonormativity Harm



Miner P, Smith BM, Jani A, McNeill G, Gathorne-Hardy A. Car harm: A global review of automobility's harm to people and the environment. *Journal of Transport Geography*. 2024 Feb 1;115:103817.

Motonormativity implications: Motor Vehicles in Maribyrnong



<https://forecast.id.com.au/maribyrnong/>
<https://profile.id.com.au/maribyrnong/car-ownership?WebID=160>

Is this our
destiny? NO!
Downs
Thomson
Paradox

The Downs-Thomson paradox* states:

- Motor traffic will increase without limit until the option of public transport (or any other mode, e.g. cycling) becomes faster and more convenient than the equivalent trip by car.
- Most people do not care whether they drive, walk, bike, or take the bus to any location— they just want to get from A to B in the fastest and most convenient way possible.

(*Not really a paradox as is consistent with economic theory)

Mogridge, Martin J. H.; (1990), *Travel in towns: jam yesterday, jam today and jam tomorrow?* Macmillan Press, London

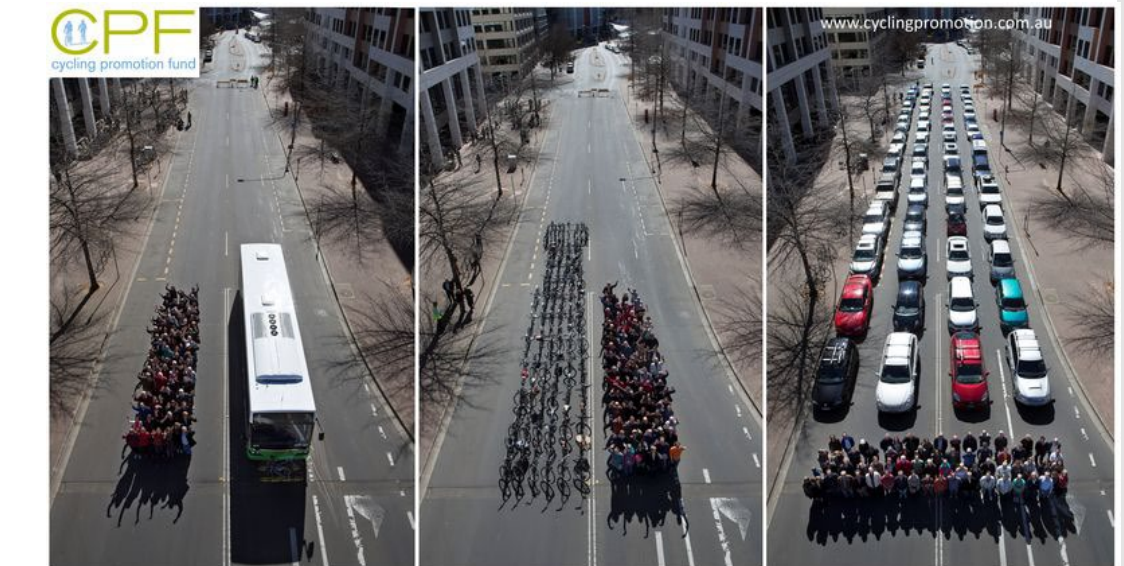
But no one cycles here and other fallacies!!

Cycling Fallacies:

- We're not Dutch or Danish
- Cycling causes congestion
- Cycling is not practical in big cities



Barcelona



69 cyclists, 40 cars, 69 people, 1 bus

New York

Who does cycle?

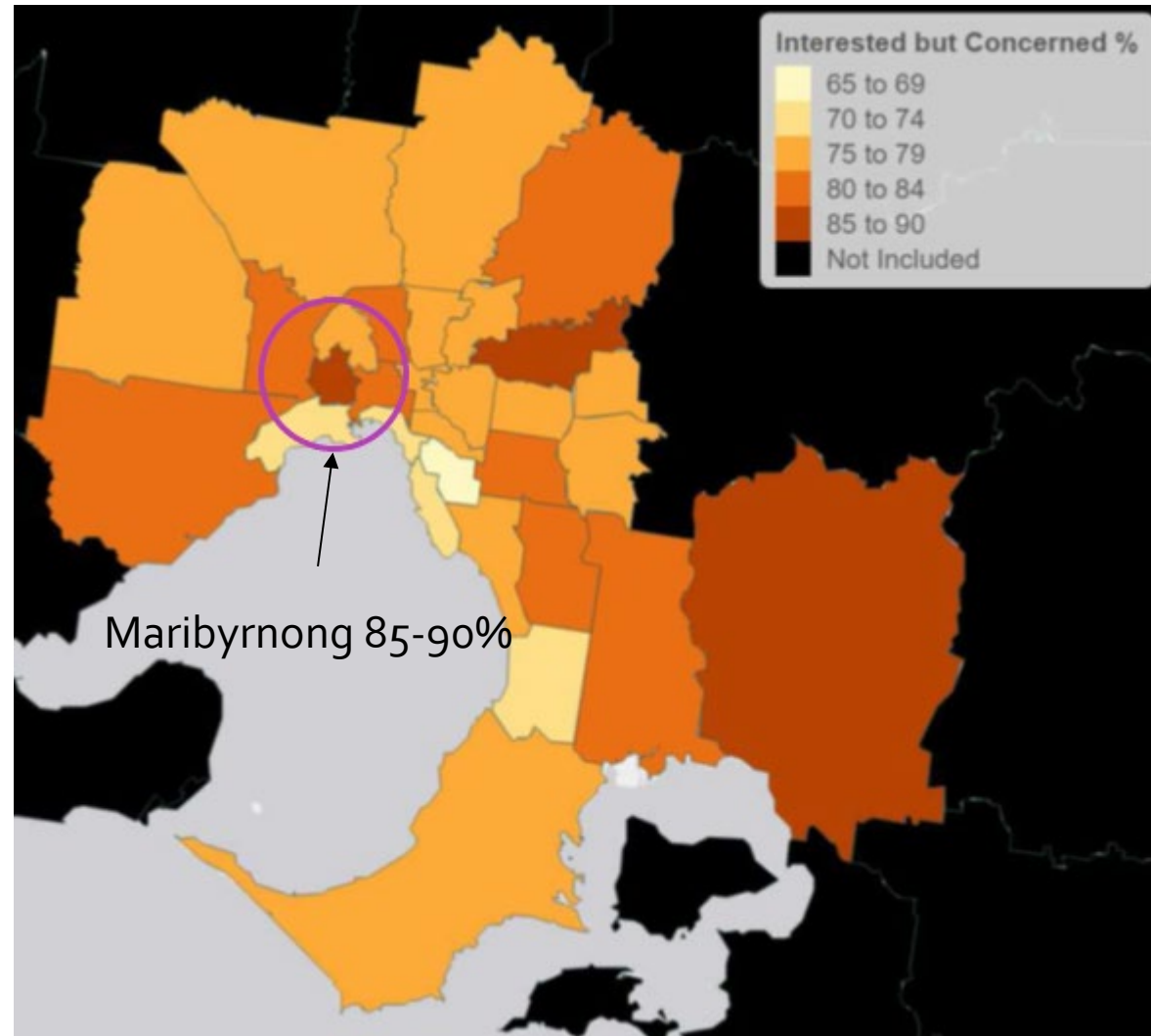
Cycling types	The strong and fearless (Fearless cyclists)	The enthusiastic and sovereign (Everyday cyclists)	The interested but concerned (Interested Cyclists)	No chance, no matter how!
Characteristics	Uses bicycle always, safe and confident	Drives daily routes, confident but medium safety needs	No everyday mobility by bicycle; concerned about safety but open to bicycle	As a rule, no bicycle use
Driving skills	Excellent control of the bicycle	Confident, partly defensive because of safety	Less confident	Insufficient control over the bicycle, lack of riding experience
Stress tolerance	High	Medium	Low	Very Low

Four Types of Transportation Cyclists in Portland By Proportion of Population



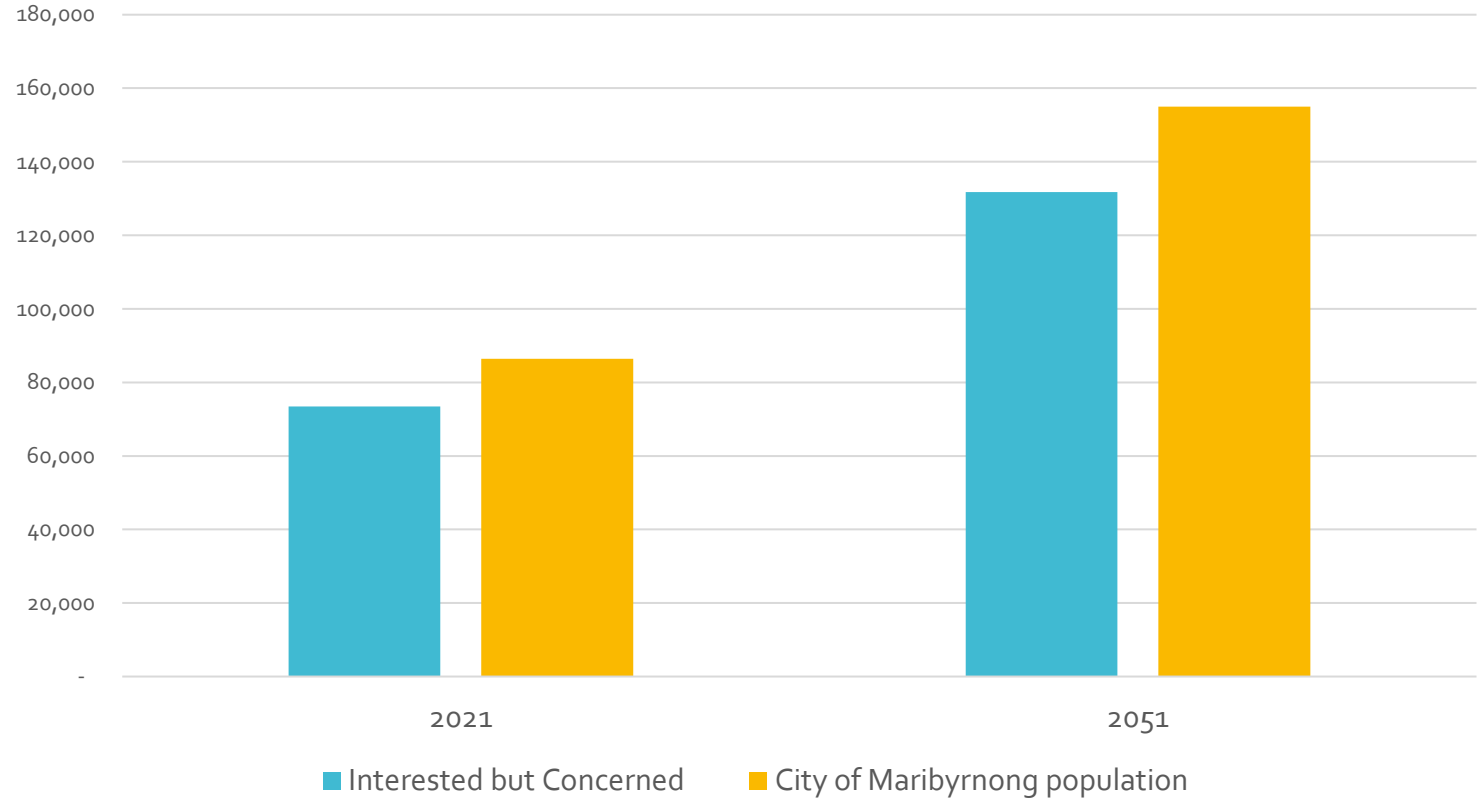
Dill J, McNeil N. Revisiting the four types of cyclists: Findings from a national survey. Transportation research record. 2016;2587(1):90-9.

Who cycles in Melbourne?



Pearson L, Dipnall J, Gabbe B, Braaf S, White S, Backhouse M, Beck B. The potential for bike riding across entire cities: quantifying spatial variation in interest in bike riding. *Journal of Transport & Health*. 2022 Mar 1;24:101290.

Interested but Concerned in Maribyrnong



By 2051 there will be **130,000** *Interested but Concerned* cyclists in Maribyrnong

<https://forecast.id.com.au/maribyrnong/>

Downs Thomson Implications

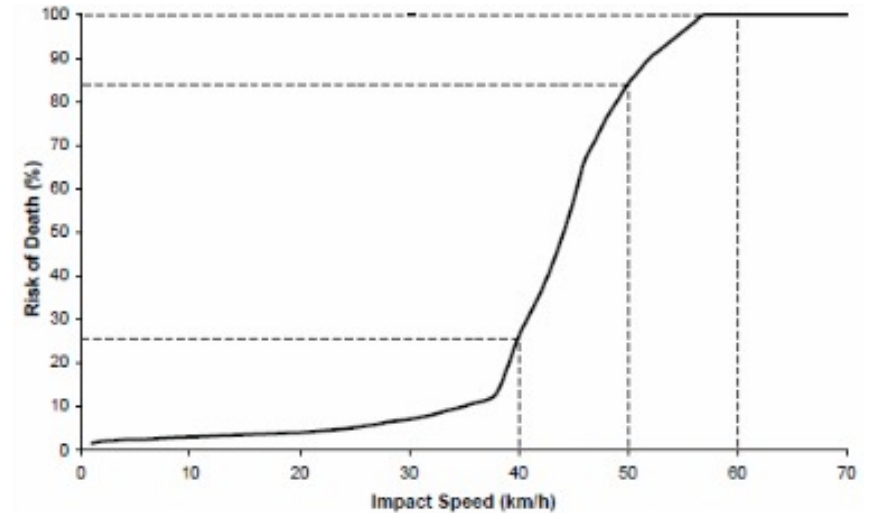
- **BUILD THE
(SAFE and CONNECTED)
BIKE LANES!**

- Evidence from all around the world, eg Spain, USA, Colombia, Ethiopia, China, UK etc etc etc if you build SAFE & CONNECTED bike lanes people use them (just like Downs Thomson predicts)
- However, must be suitable for ALL AGES and ABILITIES (AAA)

Safe

• Safe System Principles

- People make mistakes which can lead to crashes; however, no one should die or be seriously injured on the road as a result of these mistakes.
- The human body has a limited physical ability to tolerate crash forces – any impact greater than **30km/h** increases the risk of dying significantly. If speeds are greater than 30kmh, cyclists must be separated.



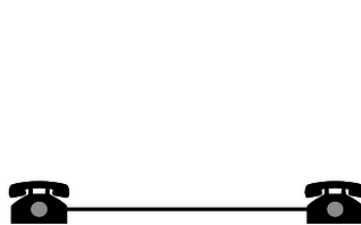
- Road **SAFETY** is a **SHARED** responsibility amongst **EVERYONE**, including those that design, build, operate and use the road system.
- All parts of the road system must be strengthened in combination to multiply the protective effects and if one part fails, the others will still protect people.

Tefft BC. Impact speed and a pedestrian's risk of severe injury or death. Accident Analysis & Prevention. 2013 Jan 1;50:871-8.

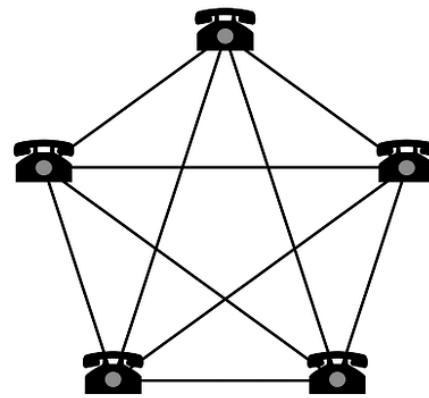
<https://www.towardszerofoundation.org/the-safe-system>

Network or Nothing!

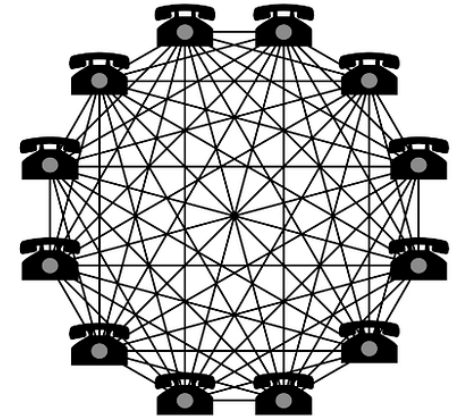
- Need to build a **NETWORK** so people can get from anywhere to everywhere to replace short trips (especially Schools, Shops, Stations and Social/Sport venues SSSS)
- 50% of all trips under 4.2km
- 25% of all trips under 1.6km
- One bike lane in the middle of nowhere offers little benefit. Benefit increases exponentially for each additional connection e.g. telephone network



2 nodes 1 connection



5 nodes 10 connections



12 nodes 66 connections

What's in it for me?
Live longer,
happier and
healthier

- Pick any crisis and cycling will be part of the solution (Chris Boardman Greater Manchester Walking and Cycling Commissioner also Olympic Gold Medallist)



Patterson R, Panter J, Vamos EP, Cummins S, Millett C, Lavery AA. Associations between commute mode and cardiovascular disease, cancer, and all-cause mortality, and cancer incidence, using linked Census data over 25 years in England and Wales: a cohort study. *The Lancet Planetary Health*. 2020 May 1;4(5):e186-94.

What's in it for me?
Make more money!

- Local economy:

High street walking, cycling & public realm improvements can increase retail sales by up to

 **30%**

73% 

of employees who cycle feel it makes them more productive at work.

Cycle parking delivers the retail spend per square metre than the same area of car parking.

5x 

Over a month, people who walk to the high street spend up to

 **40%**

more than those who drive to the high street.

Graphic adapted from **Walking and Cycling: the economic benefits, Transport for London**

Data from Lawlor (2013), Raje and Saffery (2016), TfL (2013) and The Prince's Responsible Business Network (2013)

What's in it for
me?
Better for the
environment
Better for
drivers

- Environment
 - Reduced air pollution
 - Reduced noise pollution
 - Reduces energy consumption
 - Reduced CO₂ emissions (10x less than electric cars per km, up to 50x less for ICE cars)
- Drivers
 - Everyone wins, even car drivers benefit when more people cycle due to reduced congestion, cleaner air, healthier and better-connected community

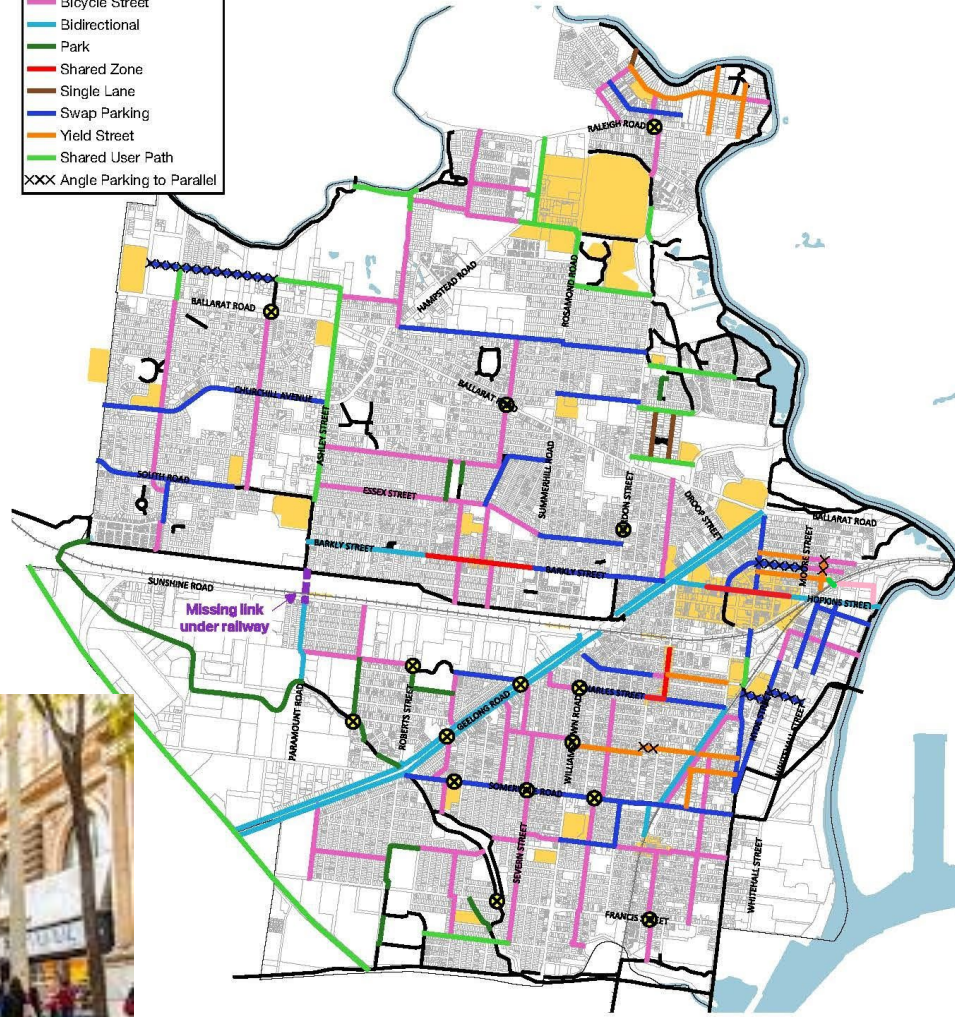
<https://www.sustrans.org.uk/our-blog/get-active/how-does-walking-and-cycling-help-to-protect-the-environment/>

Brand C, Dons E, Anaya-Boig E, Avila-Palencia I, Clark A, de Nazelle A, Gascon M, Gaupp-Berghausen M, Gerike R, Götschi T, Iacorossi F. The climate change mitigation effects of daily active travel in cities. Transportation Research Part D: Transport and Environment. 2021 Apr 1;93:102764.

Overview

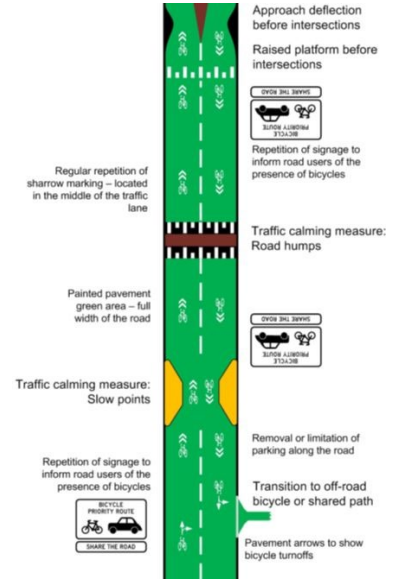


- Legend**
- Existing Infrastructure
 - ⊗ Crossing
 - Bicycle Street
 - Bidirectional
 - Park
 - Shared Zone
 - Single Lane
 - Swap Parking
 - Yield Street
 - Shared User Path
 - XXX Angle Parking to Parallel



Yield St in Sydney

BikeWest Network



Bicycle St VicRoads

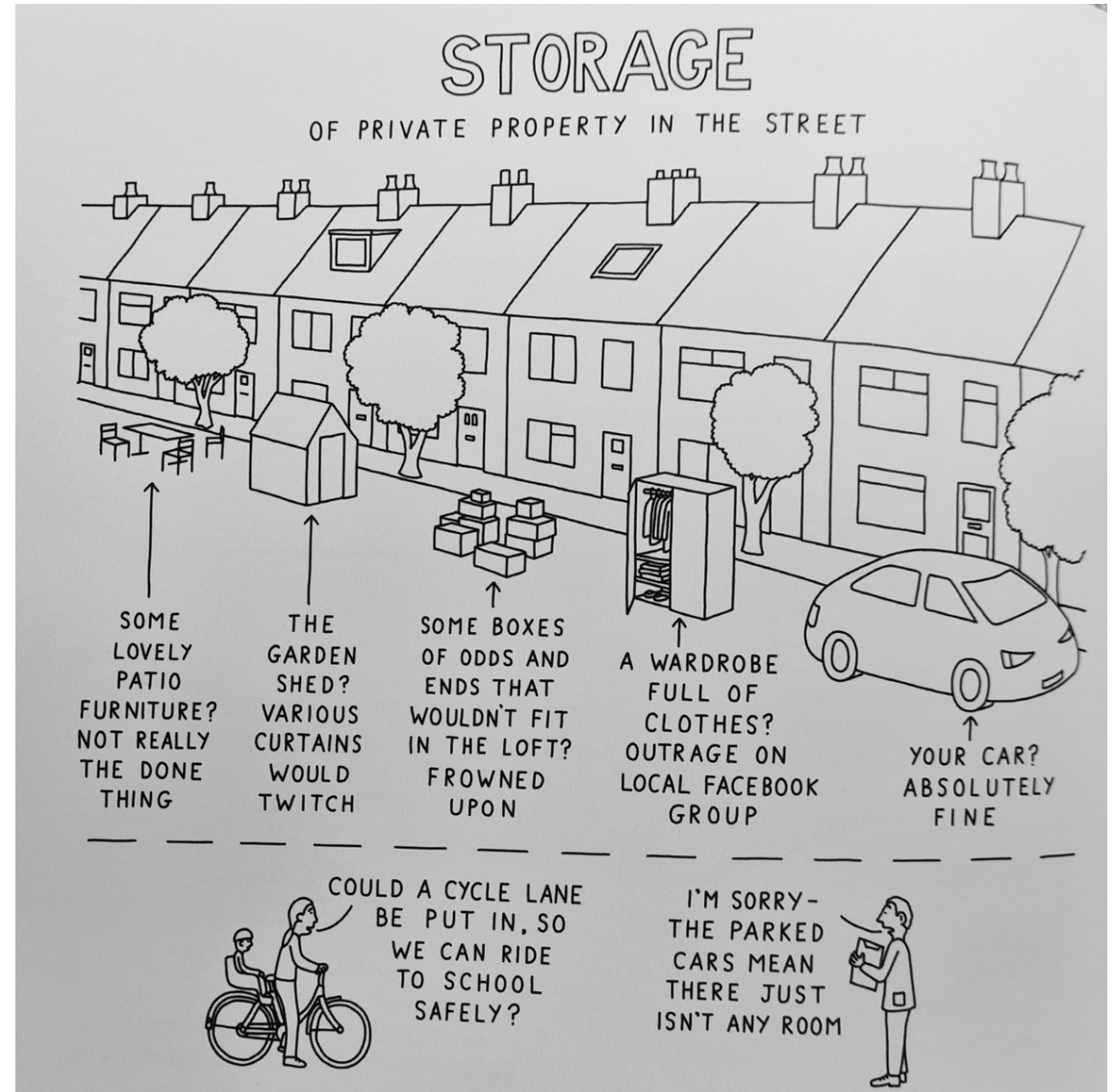
Easy, moderate, trickier

- **Eg EASY WINS:**
- East 2/3 of Franco Cozzo link
- Birmingham St behind car parking between park and Goulburn St (possibly train station)
- Mephan St swap parking and bike lanes
- Pickett St swap parking and bike lanes
- Robbs Rd swap parking and bike lanes
- Donald St swap parking and bike lanes
- Nicholson St north of Donald St swap parking and bike lanes
- Churchill Ave swap parking and bike lanes
- Hyde St swap parking and bike lanes
- Charles St east of Victoria St, swap parking and bike lanes
- Pilgrim St east of Victoria St, yield street
- Pilgrim St west of Victoria, swap parking and bike lanes
- Anderson St west of Fehon St swap parking and bike lanes
- Anderson St east of Fehon St bicycle St
- Limit on street parking on Barkly St west of WeFo to afterhours only, replace painted bike lane with raised kerb
- Barkly St east of WeFo swap parking and bike lanes
- Fix up intersections of existing bike path along Ashley St ie make them at grade
- South Rd Braybrook swap parking and bike lanes
- Beachley st swap parking and bike lanes
- Essex St east of Eleanor, swap parking and bike lanes
- River St convert footpath to SUP

Why don't we?

Motonormativity!

- EG the prioritisation of storage of private property (motor vehicles) in public spaces over everything else



Motonormativity in action

- EG the wildly different acceptance of risk for different modes



Motonormativity in action

- EG the lack of consideration of kids' needs



Motonormativity in action

- EG the logic defying random ending of bike lanes



Motonormativity in action

- EG the refusal to reallocate any space from motor vehicle lanes



Motonormativity in action

- EG the inability to see irony



Why don't we?
Traffic
Engineers are
NOT safety or
cycling
experts!

University of Melbourne Handbook > Subjects > Transport Systems

Transport Systems (CVEN90048)
Graduate coursework / Points: 12.5 / On Campus (Parkville)

You're viewing the 2025 Handbook.

2025

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About this subject

- Overview
- Eligibility and requirements
- Assessment
- Dates and times
- Further information
- Timetable (login required)
- Contact information

Semester 2
Neema Nasir
email: neema.nasir@unimelb.edu.au

Availability Semester 2

Fees [Look us here](#)

Overview

The aim of this subject is to provide students with an introduction to urban traffic engineering and transport planning principles. General theory as well as analytical techniques for solving common transport engineering and modelling problems are presented. The key theme in this subject is how to improve the efficiency and sustainability of transport systems. This includes basics of traffic flow theory, simulation, and operation models, and understanding and predicting travel demand in urban transport networks. Behavioural choice modelling methods are used with real data from the Melbourne Metropolitan Area to predict demand for all modes of transport including public transport and non-motorised transport modes. The concepts of accessibility, efficiency and sustainability are introduced in the context of urban transport systems, and transport safety measures and best practices are also introduced.

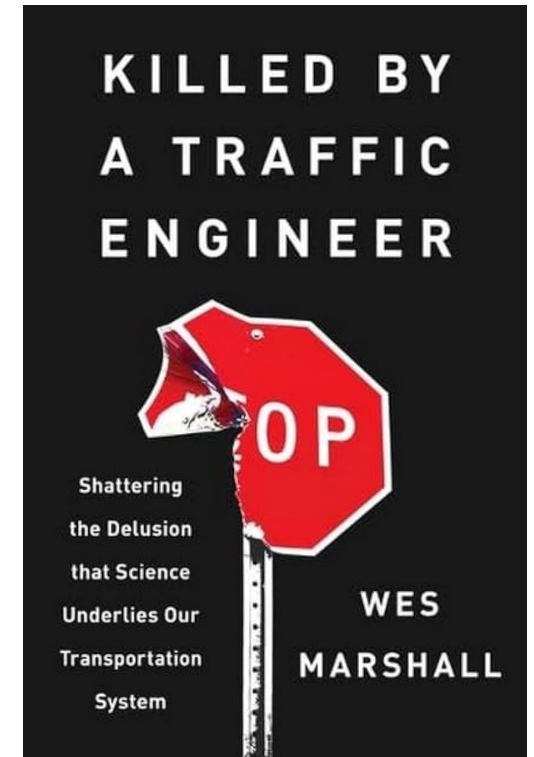
Intended learning outcomes

On completion of this subject the student is expected to:

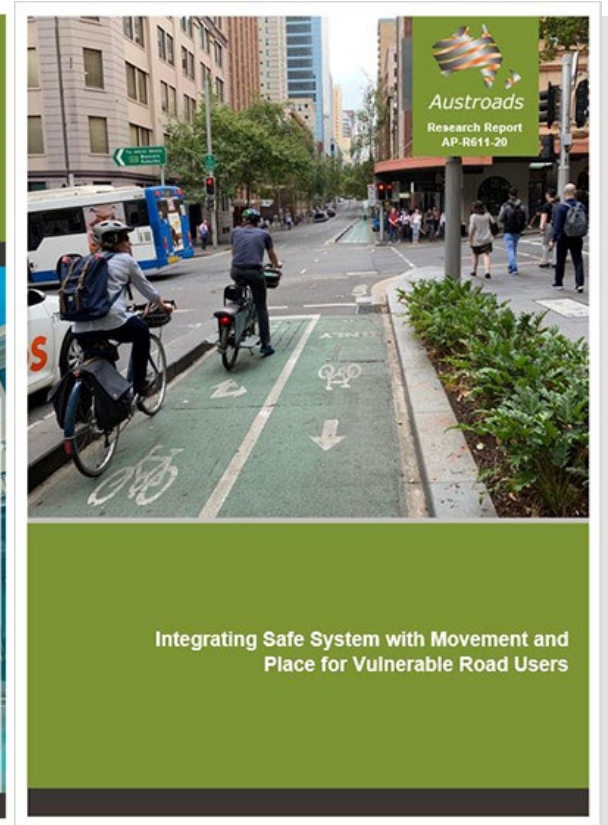
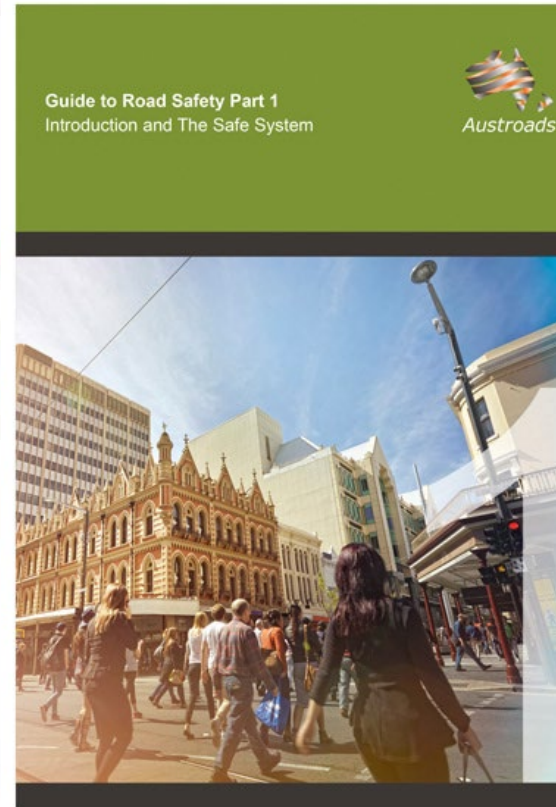
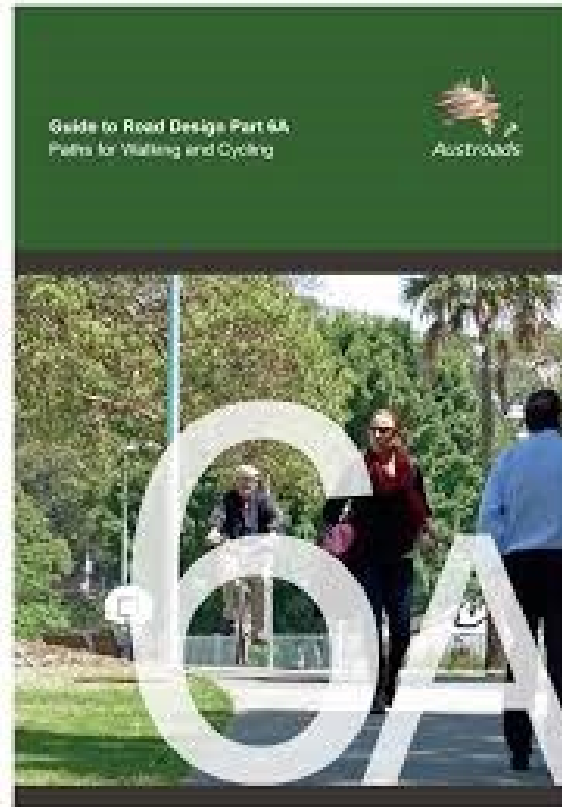
- ✓ ILO1 - Demonstrate knowledge of traffic flow theory
- ✓ ILO2 - Use software and simulate traffic flow operations for urban roads
- ✓ ILO3 - Use software and simulate signalised intersection and optimise signal timing
- ✓ ILO4 - Develop and evaluate travel demand forecasting models
- ✓ ILO5 - Conceptualise, develop and estimate travel mode choice models with real data
- ✓ ILO6 - Evaluate performance of transport projects with respect to sustainability, accessibility, and **safety** **concepts**.

Generic skills

Most traffic engineering courses do **NOT** teach road safety, let alone cycling infrastructure.



Why don't we?
Traffic
engineers are
NOT safety or
cycling
experts.
Guidelines
from the
Jurassic!



Austrroads Guide Part 6A 2016. Key references are from 1977 and 1991!!!!
Latest AASHTO guide 5th edition published Jan 2025 *“roadways should accommodate bicyclists and those facilities should be accessible to people of all ages and abilities, connected, and prioritized”*

Cross, KD & Fisher, GA 1977, *A study of bicycle/motor-vehicle accidents: identification of problem types and countermeasure approaches*, DOT-HS-4-00982, National Highway Transport Safety Administration, Washington, DC, USA

AASHTO 1991, *Guide for the development of bicycle facilities*, American Association of State Highway and Transportation Officials, Washington DC 3rd edn

Why don't we?
Traffic
engineers
stuck in old
paradigm

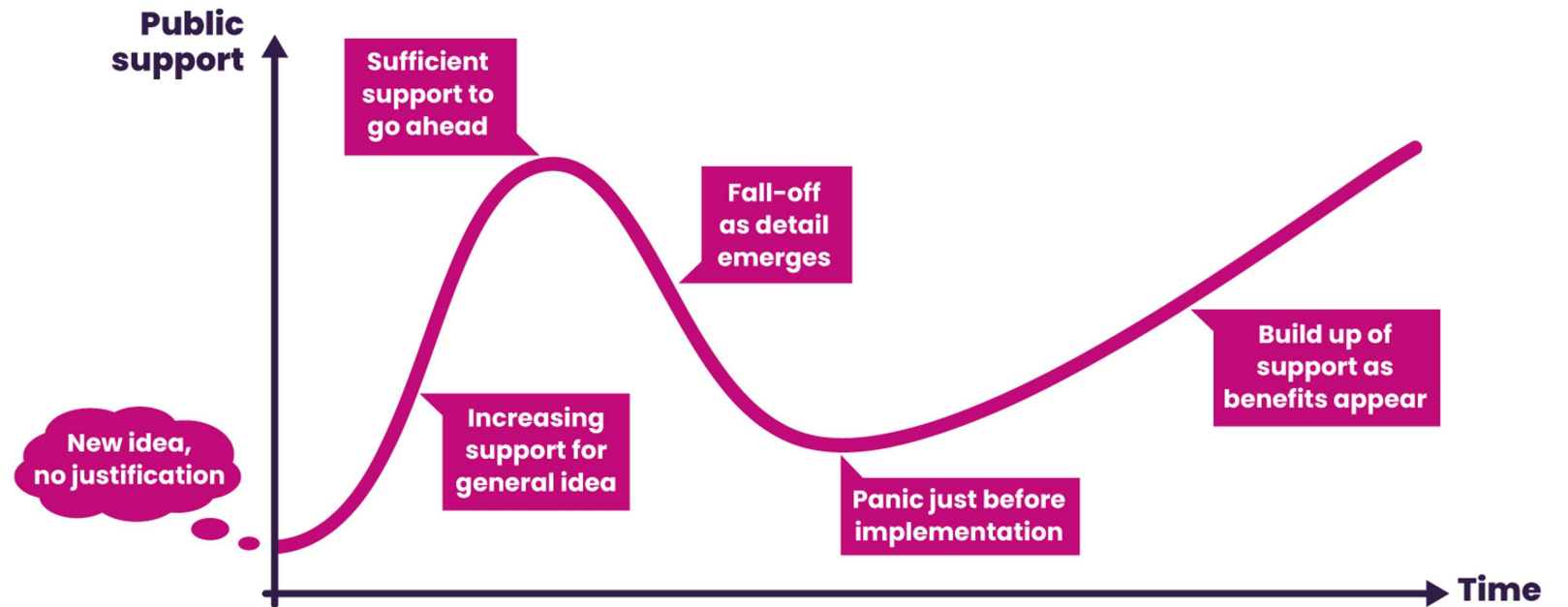
Conventional vs. Safe System Approaches



	Conventional	Safe System
What is the problem?	Accidents	Fatalities and Serious Injuries
What causes the problem?	Speeding, drink driving, inattention, deliberate risk taking	System Failures
Who is ultimately responsible?	Individual road users	System designers and operators
What is the major planning approach?	Incremental approach to reduce residual crashes	A systemic approach to build a safe road system and minimise the harm
What is the appropriate goal?	"Optimum number of fatalities and serious injuries" based on competing objectives	Virtual elimination of death and serious injuries
What is the trade-off?	A balance between mobility and safety	Maximising safe mobility
How is the effort coordinated?	Incremental gain within individual pillars (roads / speeds / vehicles / people)	Optimise solutions across pillars (roads / speeds / vehicles / people) – pillars compensate for each other
What are the cultural manifestations?	Legal liability avoidance and risk aversion	Experimental: Risk assessment, innovation, trials and demonstrations

Source: Austroads AP-560-18 Table 2.6: Differences between the conventional and Vision Zero approach to road safety. Adapted from Swedish Transport Administration. (2015). Dr. Matts Ake-Belin [Powerpoint slides] and Austroads

Why don't we? The Roller Coaster of public support



Source: Goodwin P (2006) *The gestation process for road pricing schemes*, *Local Transport Today* LTT444, 1.6.2006.

Who's getting past the dip?



- Bangkok Thailand



- Santiago Chile



- Houston USA



- Addis Ababa Ethiopia



- Bogota Colombia

Getting past the dip in Maribyrnong

- Pilots and Trials, measure key data before and 1-2 years after
- Council concierges, Regular, sincere, engagement with different groups about benefits
- Positive messaging, “Not closing roads, opening them to walking and cycling”
- Be willing to tinker, won’t get it right first time
- Be a visionary

Where to from here?

- BUSINESS AS USUAL:
 - Congestion- 60% more motor traffic by 2050
 - More air pollution
 - More climate change
 - More physical and mental ill health
 - Smaller local economy
 - More serious injuries and death

OR.....

- BETTER FUTURE: BUILD THE BIKE LANES
 - Happier, healthier, more connected community
 - Better environment
 - Better local economy
 - Reduced serious injuries and deaths