

Can e-bikes help decarbonise Aotearoa and supercharge our health outcomes?

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Why should we care?

Physical inactivity - 4th leading risk to global mortality (6% deaths globally)

NZ lose over 1 million years of healthy life each year

3% of all health lost in New Zealand is due to physical inactivity

Costs NZ \$3.4 billion per year

Leads to noncommunicable diseases such as:

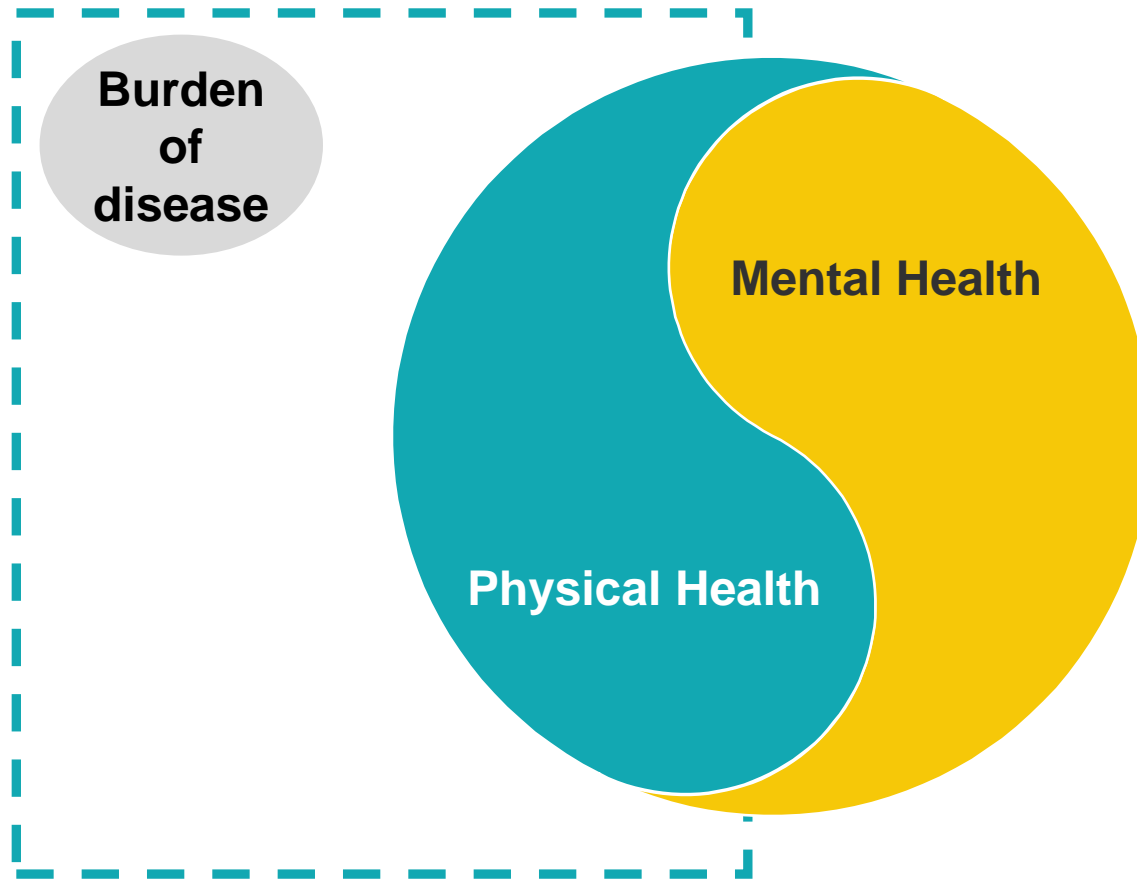
- Cardiovascular diseases
- Cancer
- Type 2 diabetes

246 premature New Zealand deaths (deaths occurring before 65 years old)

Levels of physical inactivity is rising in many countries

Only 51% of adults are achieving WHO physical activity guidelines

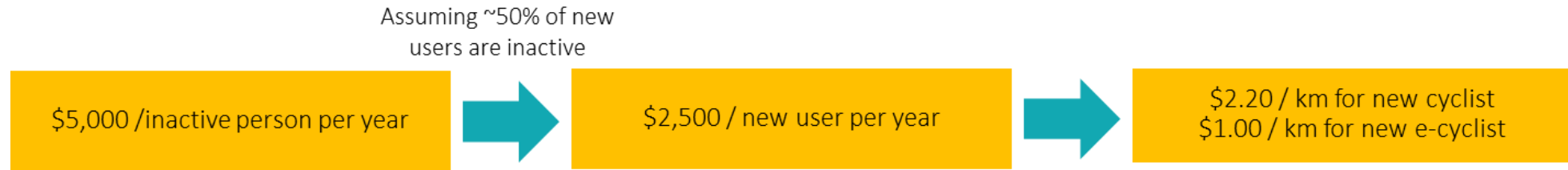
Active Modes Health Impacts



“Cyclists are the happiest commuters”

- Commuting control
- Sensory stimulation
- ‘Feel better’ effect
- Place-making activity
- Social interaction
- Larger life space

Active Modes Health Benefits

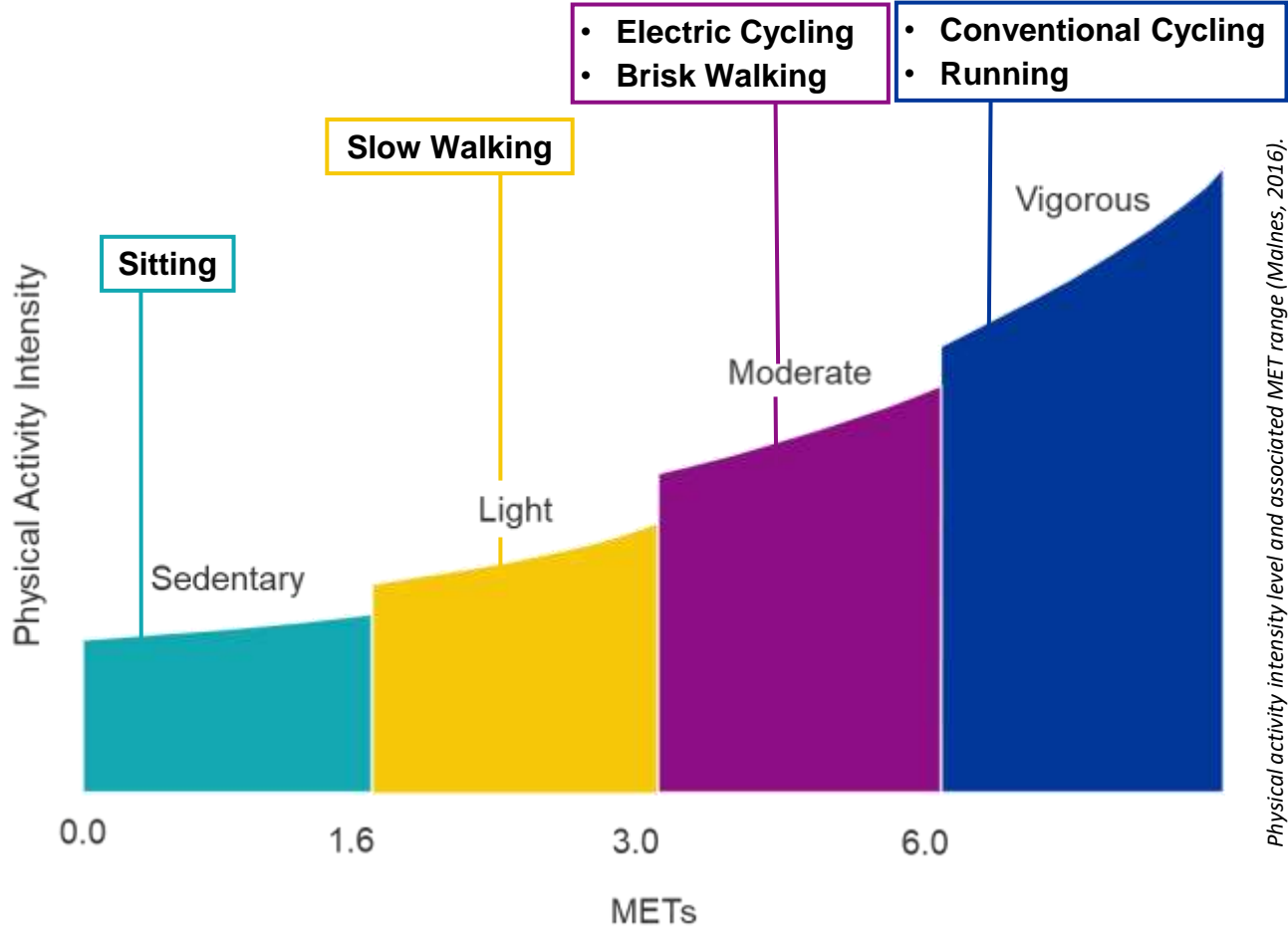


Active Mode Type	Health Benefits for New User (\$/km)	Maximum Annual Benefit per New User (2018 \$)
Conventional cycling	\$2.20	\$2,500
Walking	\$4.40	\$1,250
Electric assisted cycling	\$1.00	\$2,000

Monetised Benefits and Cost Manual - Derived Health Benefit Values, on a per km basis

Physical Activity Intensity Levels

Metabolic Equivalent of Task (MET):
Ratio of the rate at which a person exerts energy

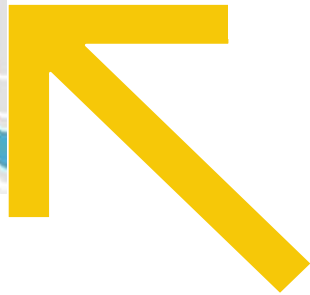


Physical activity intensity level and associated MET range (Malnes, 2016).

Mode	Mean (MET)	Median (MET)
Conventional Cycling	6.1	8.5
Electric Cycling	4.9	8.3



Greater distance journeys

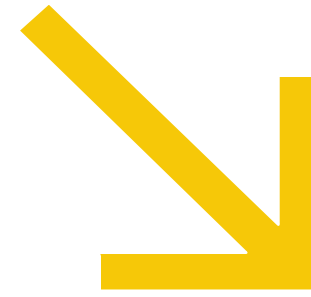
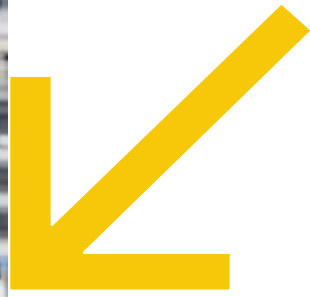


Conquer steep hills

No sweat



NZTA

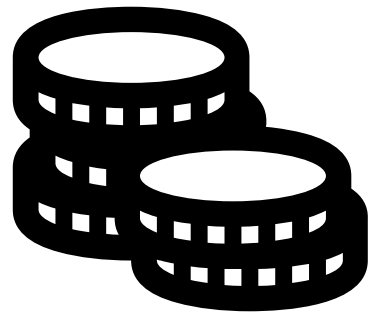
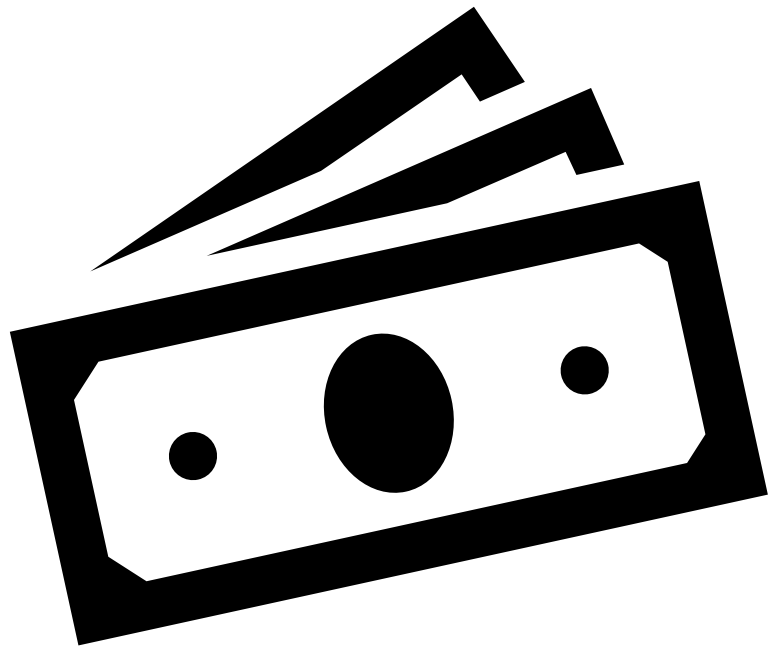


Larger life space



Icebike.org

Why focus on e-bikes?



Number of e-bike imports hits record high, could soon overtake new cars

Joel MacManus · 17:18, May 26 2020



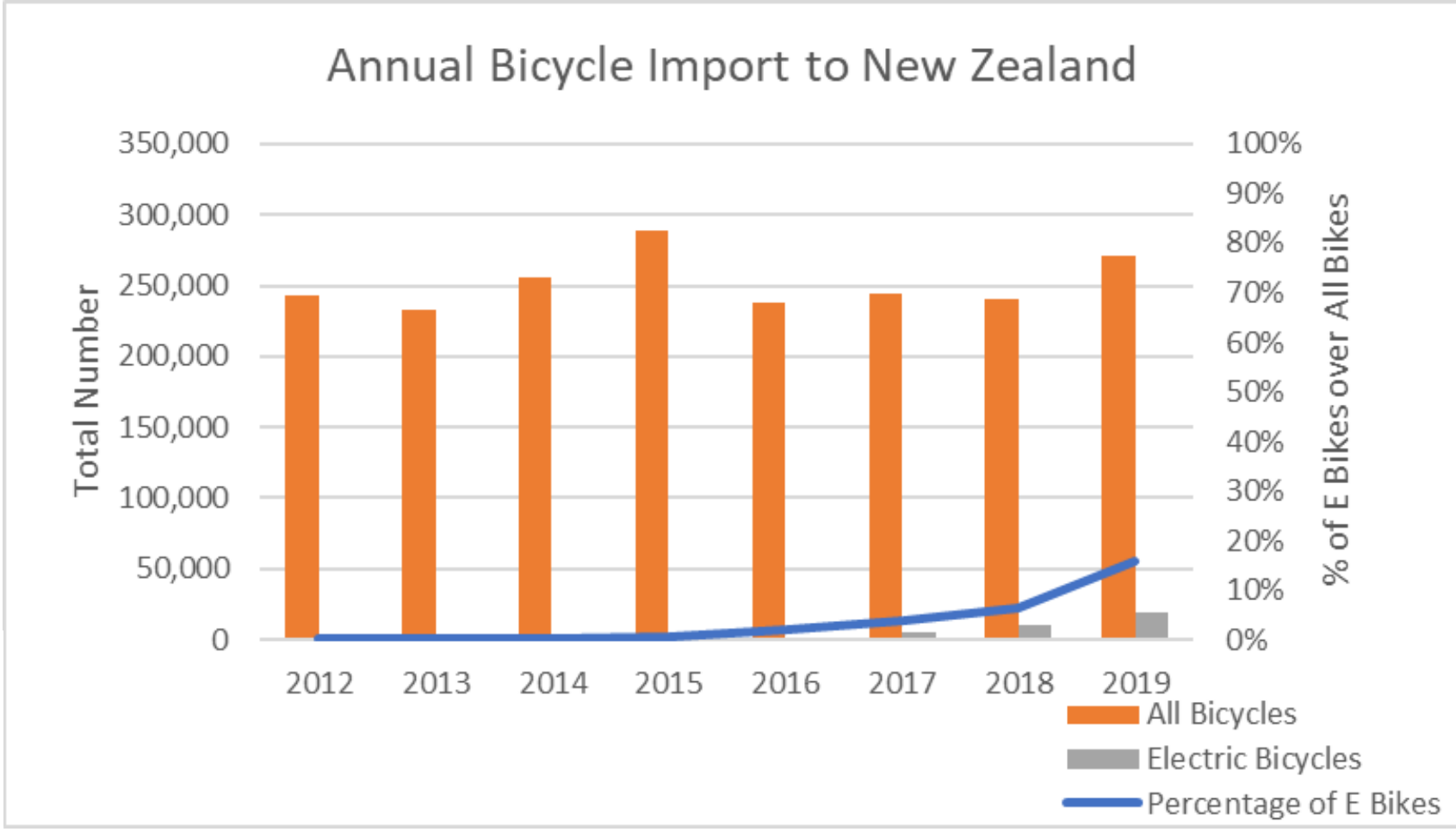
New technology has generated a huge market for the modern e-bike. However, Temuka man Trevor Birt built his own version 34 years ago.

The number of new e-bikes and e-scooters imported into New Zealand has hit a new record high of 65,000 in 2019, according to figures from Statistics NZ.

It's a huge jump year-on-year from 47,000 in 2018 and 23,000 the year before, and suggests they could overtake new passenger car sales within the next few years.

There were 104,000 new passenger cars registered in New Zealand last year, plus an additional 140,000 used imports.

E-bikes have become so ubiquitous that New Zealand may need to start re-building its transport priorities around them, micromobility expert Oliver Bruce said.



Tremendous growth in e-bike sales in NZ

Infrastructure

Dutch CROW Bike Design Manual

-  **COHESION:** Connecting origins and destinations
Cycling from anywhere to everywhere
-  **DIRECTNESS:** Creating short and fast routes
Minimising detours
-  **SAFETY:** Avoid differences in SPEED  and MASS 
Create homogenous traffic flows
-  **COMFORT:** minimal stops or nuisance
-  **ATTRACTIVENESS** Planning links in lively or green areas and providing lighting, street furniture and street art

<https://dtvcapacitybuilding.com/>

Questions?

