

Public health and the city

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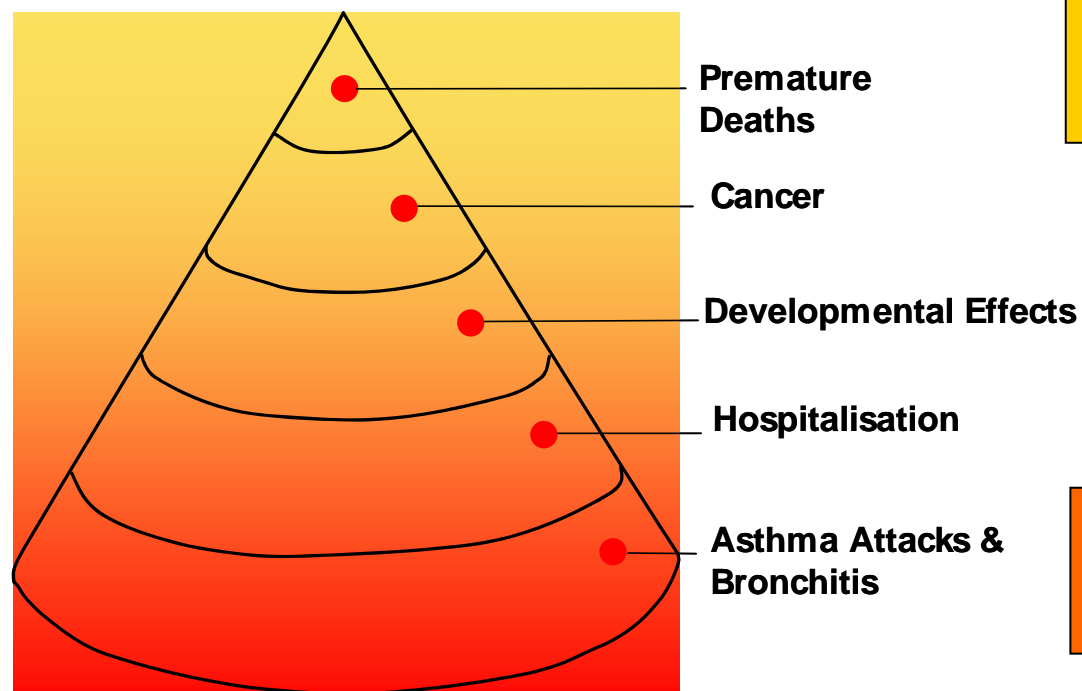


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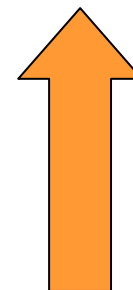


Auckland
Regional Council
TE RAUHITANGA TĀIAO

What are the PM_{10} health impacts?



**~400 premature deaths
per year**

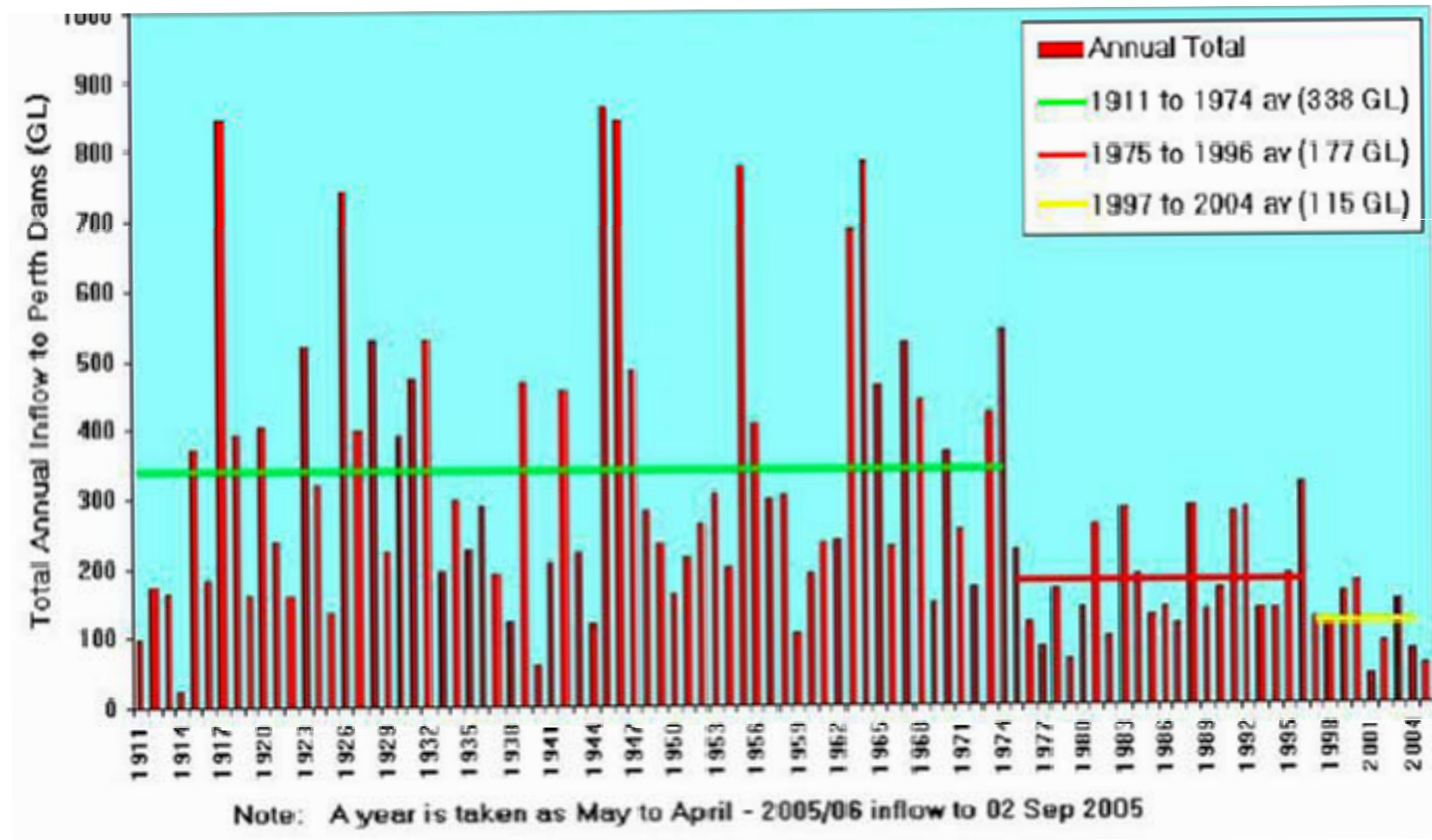


**~750,000 restricted activity
days per year**

Estimated annual health costs ~\$1.3 billion*

** Assuming entire Akl region and based on
\$226k per tonne PM_{10}*

Changes in annual inflow to Perth reservoirs, 1911 - 2004



Elements of quality urban design (MfE 2005)

- Local character
- Connectivity
- Density
- Mixed use
- Adaptability
- High quality public realm
- Integrated decision making
- User participation

Reference: The Value of Urban Design. Ministry for the Environment 2005

Neighbourhood environmental factors associated with walking

Overall walkability score	Walking for recreation	Walking for transport
Low	1.0	1.0
Medium	1.02 (0.78 - 1.32)	1.44 (1.10 - 1.87)
High	1.29 (0.99 - 1.69)	1.95 (1.49 - 2.55)

Adjusted for demographic, individual and social factors and SES of area of residence
Reference: Pikora et al, Med Sci Sports Exerc 2006;38:708-714

Environmental factors associated with depression

Galea et al JECH 2005;59:822-827

	Odds Ratio
% Units with some non-functioning kitchens	1.38 (1.05 - 1.83)
% Buildings in deteriorating condition	1.09 (0.88 - 1.37)
% Acceptably clean sidewalks	0.81 (0.56 - 1.17)
Number of structural fires	1.39 (1.02 - 1.87)

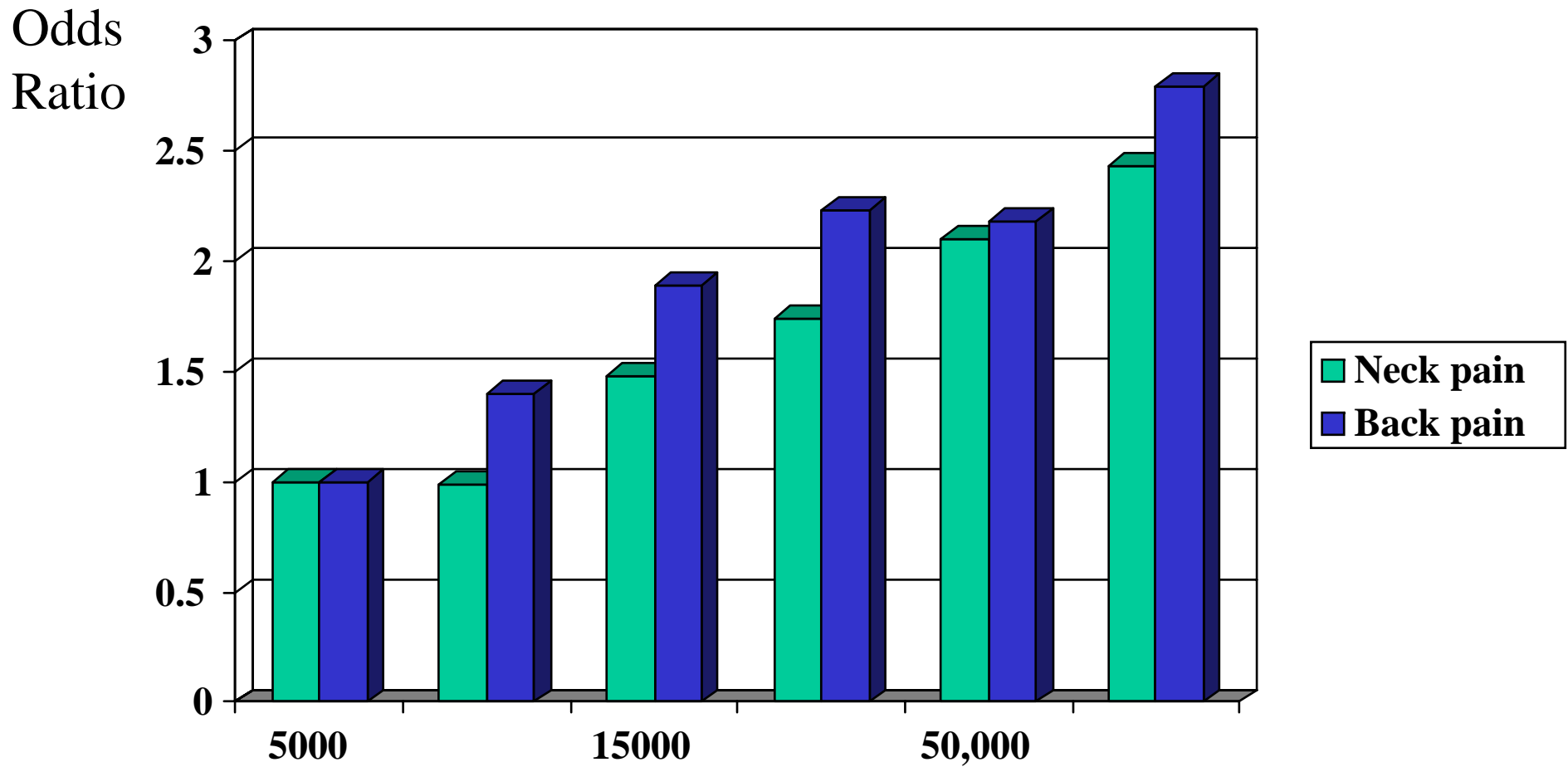
Multi-level analysis adjusted for age, sex, neighbourhood income, personal income and race/ethnicity



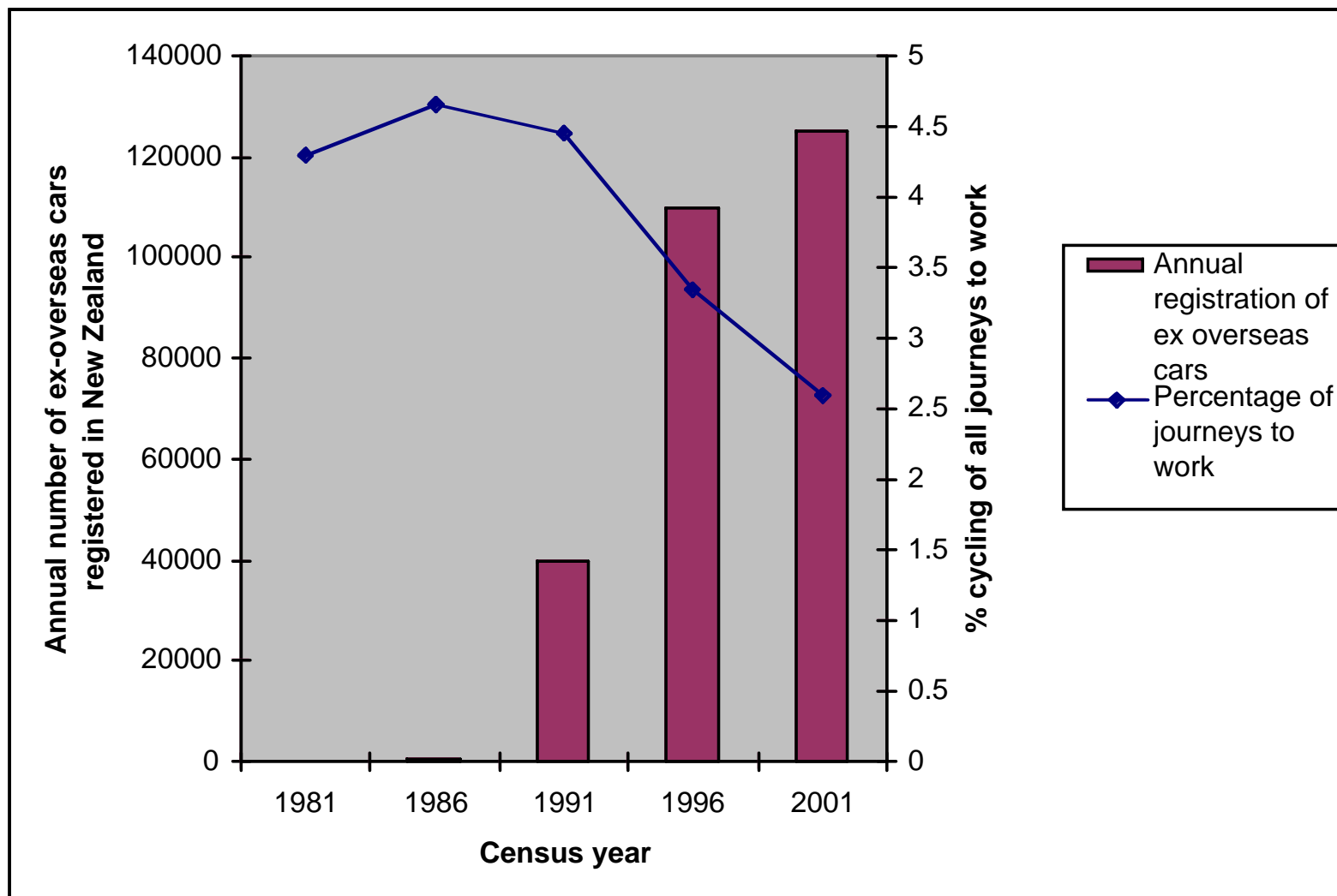
1934: 4000 vehicles and 2000 pedestrians per day

2001: 34,000 vehicles and 350 pedestrians

Neck and back pain in relation to annual driving distance



Skov et al. Occup Environ Med 1996;53:351-56

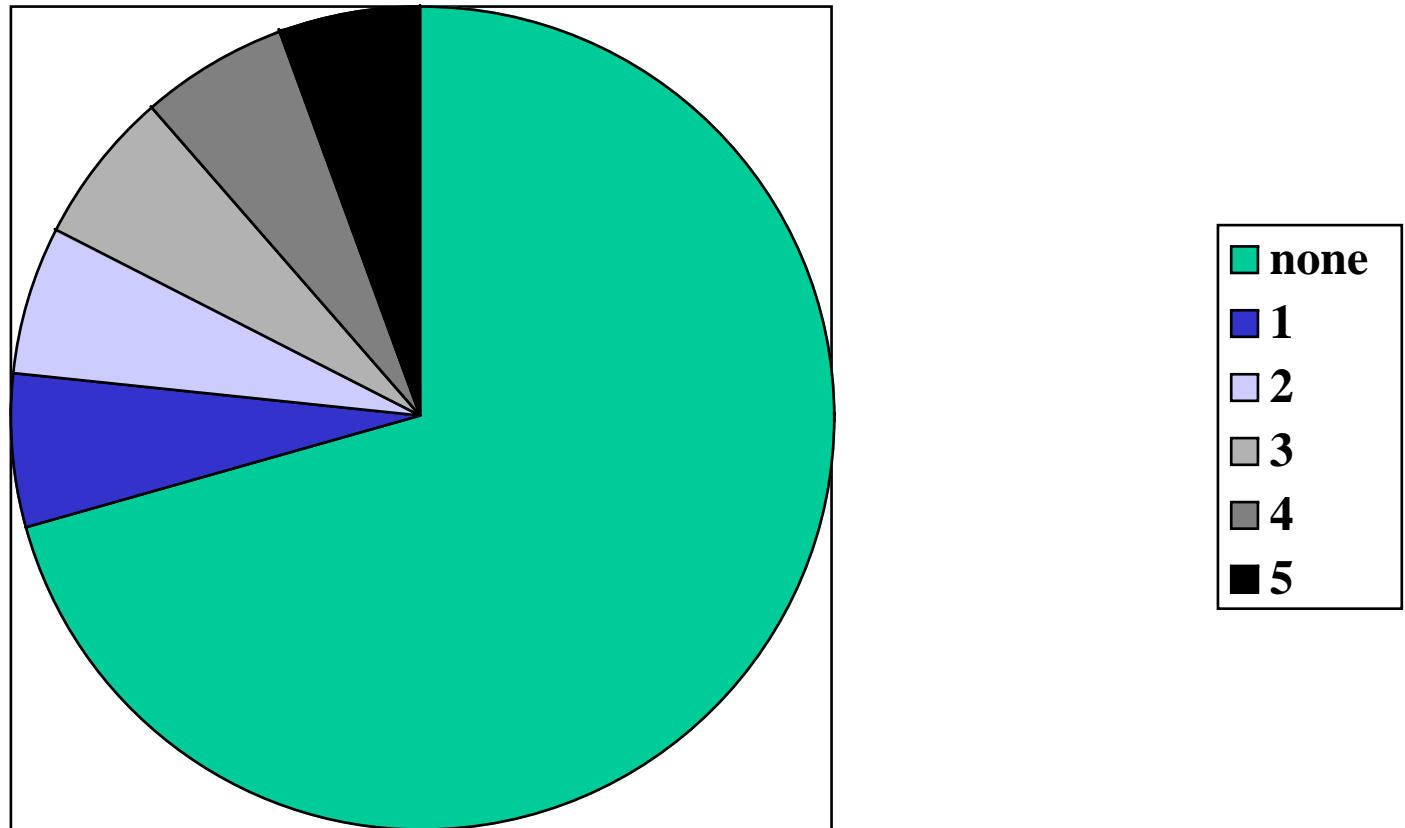




Taupo Cycle Study
2350 cyclists
median 100 km a week

Days a week cycling to work

Taupo Cycle Study



**Cycling to work %, with incidence of fatality/injury
per 100 million km cycled, by country (2000)**

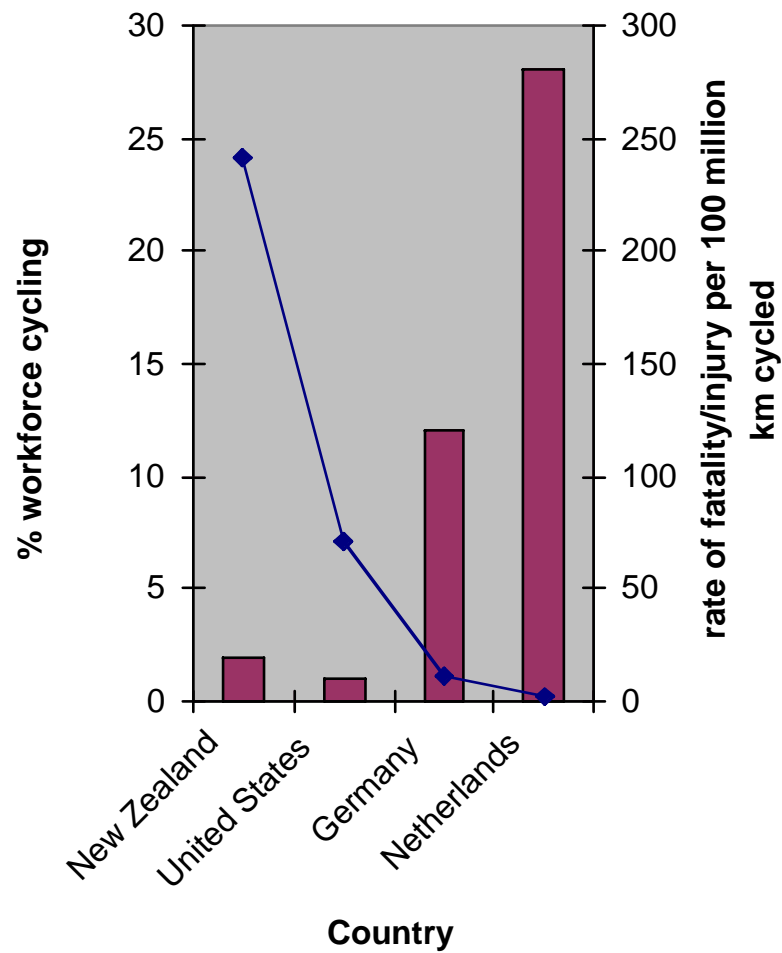
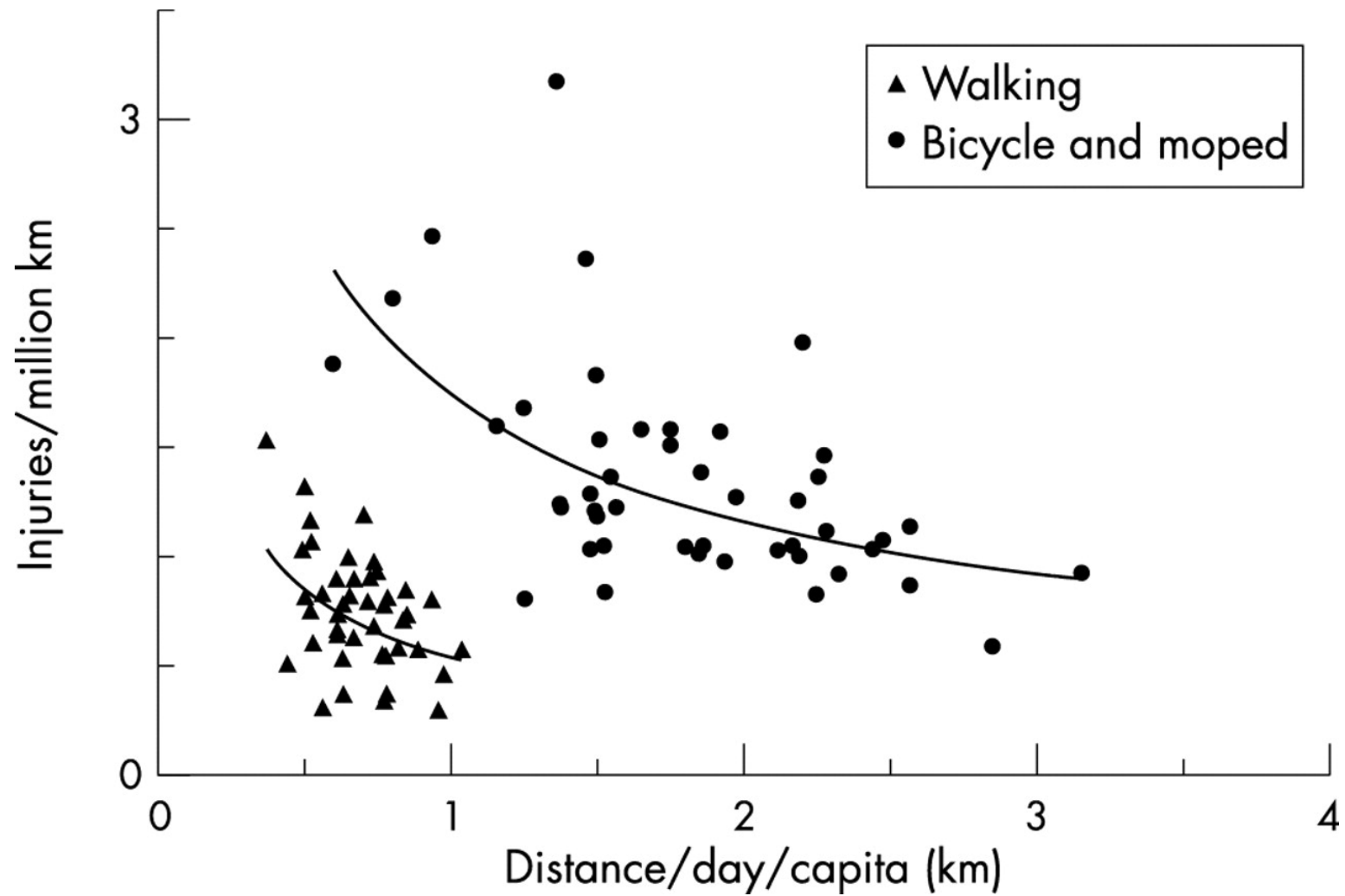


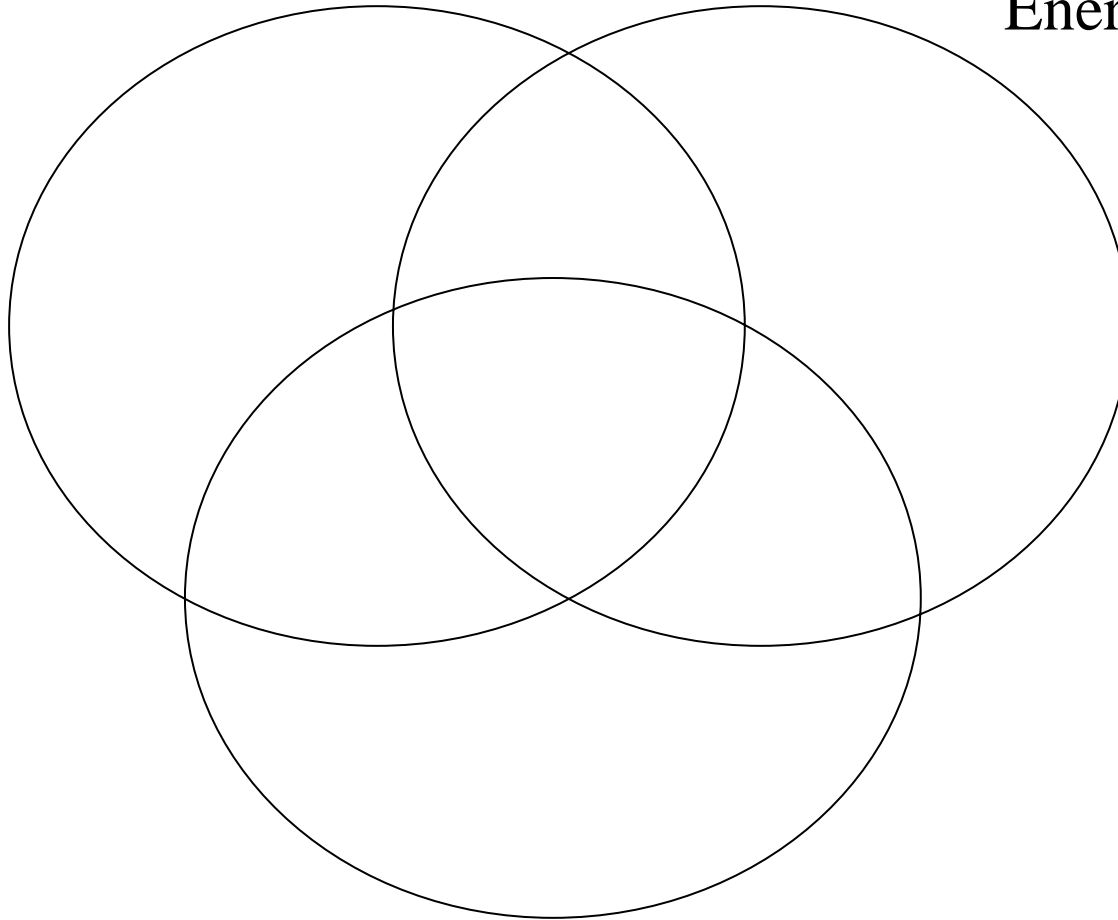
Figure 2 Walking and bicycling in 47 Danish towns in 1993-96.



Jacobsen, P L Inj Prev 2003;9:205-209

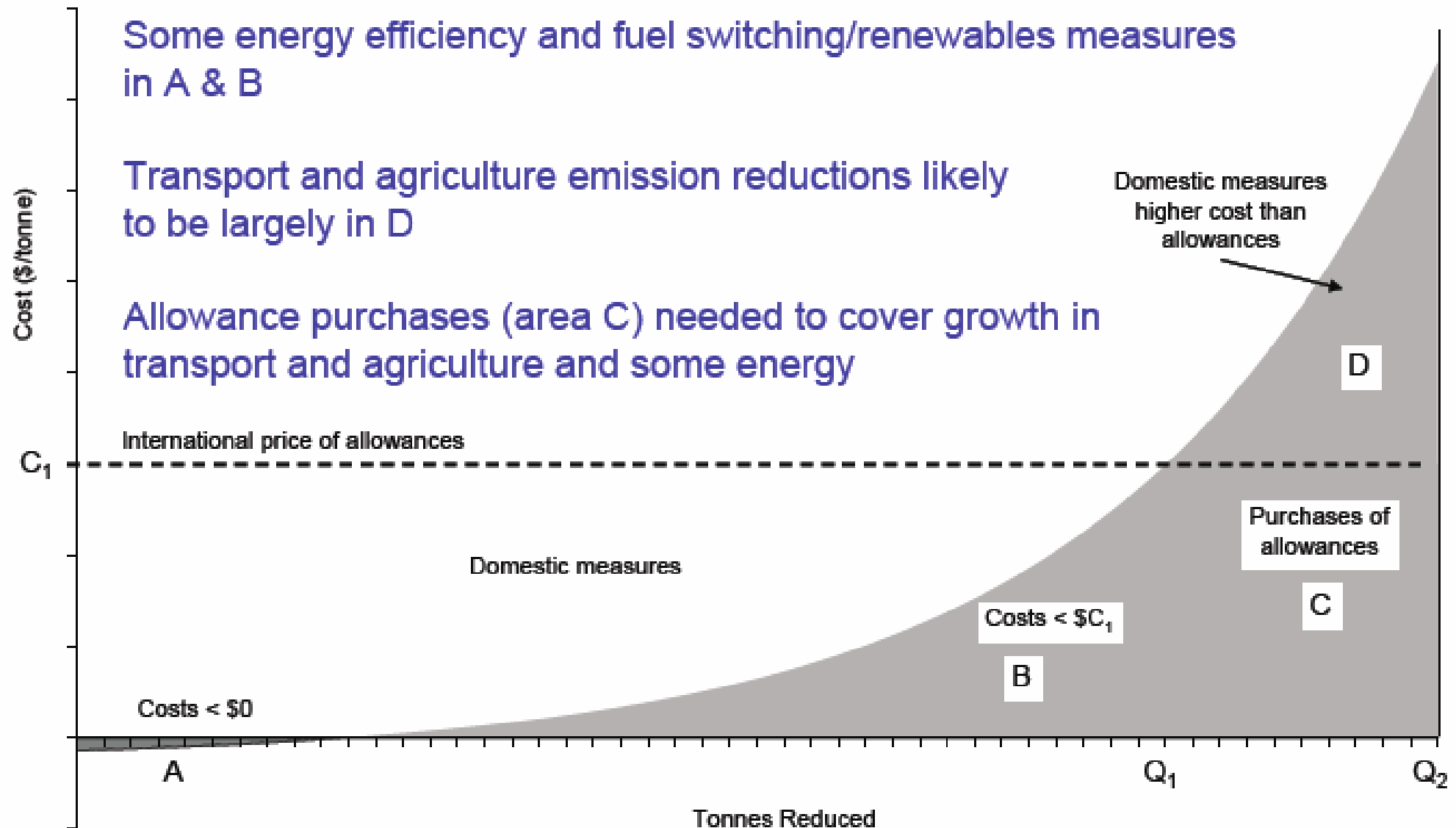
Environment

Energy use - internal



Energy use - external

Best buys for New Zealand in emission reductions?



Urban environments and public health - the way forward?

