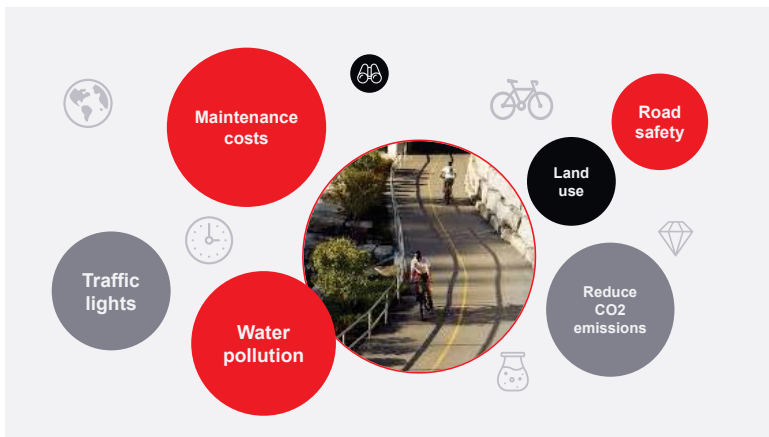


# Cost benefit analysis of cycling interventions:

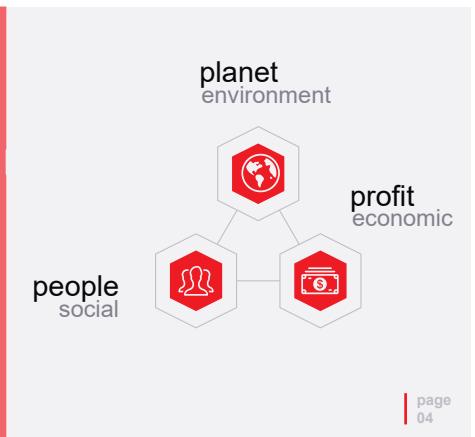
Who decides?  
 What counts?  
 How much?



### Triple bottom line

Safety

- 1 Perceived safety (social)
- 2 Collisions (economic)
- 3 Infrastructure (environment)



benefits		costs
Time value	\$	Reduced on-street parking
Reduced CO2 emissions	\$	Narrower roads
Wildlife protection	\$	Increase in development costs (bicycle traffic lights)
Reduced all-cause mortality	\$	
	\$\$\$	\$

## 3:1

(BCR>1)

### Cost Benefit Analysis

Unit: Benefit Cost Ratio

\$\$\$/\$

## Who decides? What counts?

“Choosing to ride a bicycle is aimed at improving health and gaining other social benefits **but not to reach a destination faster**”  
(Transport for NSW, 2013)



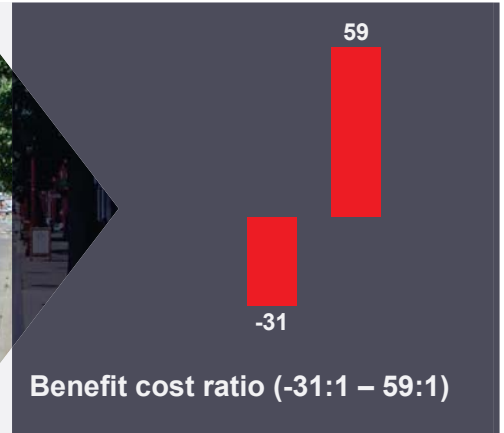
Transport for NSW (2013). Principles and guidelines for economic appraisal of transport investment and initiatives. Sydney, Australia, p.157.

## Scoping review economic valuation



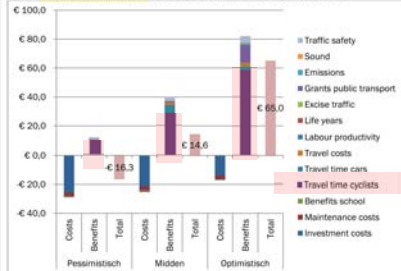
## Themes:

- Health (e.g. multi-use trails on all-cause mortality, morbidity, mental health)
- Economy (e.g. revenue of replacing car parking with bike parking, retailer sales)
- Urban planning (e.g. cycle tracks, urban greenway)
- Environment (e.g. CO2, energy use)
- Transport (e.g. congestion, shift from car to bike share)



## Time value

Figure S.3 Social costs and benefits Bike Bridge Utrecht (millions € net present value)



van Ommeren (2012)

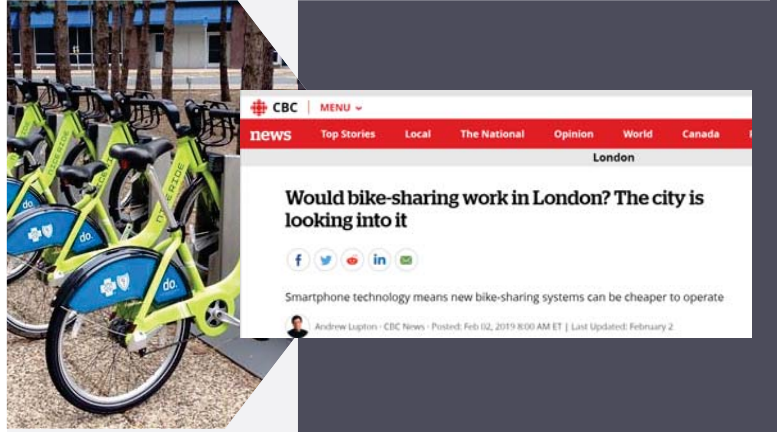


profit	planet	people
Reduced traffic congestion	Emissions reductions	All-cause mortality
Road provision savings	Noise reduction	Comfort/security
Reduced automobile travel	Reduced sprawl costs	Health care cost savings
Vehicle operating costs savings	Reduced water pollution	Worker productivity gains
Reduced income from public transportation demand	Wildlife protections	Journey time reliability
Increased traffic safety	Heritage buildings	Household savings (e.g. auto expense)
Localized economic activity	Open space preservation	Equity
Higher property values	Reduced energy dependence	Journey ambience

## Equity?



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## Investment worthwhile?



## World Health Organization's Health Economic Assessment Tool (HEAT)

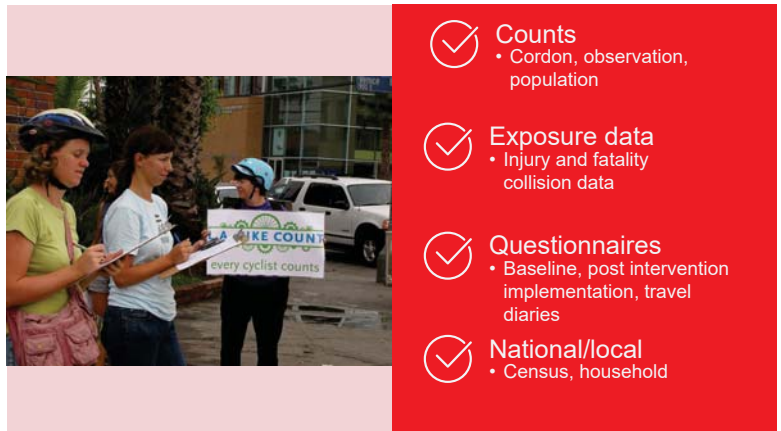
- What would be the value if we doubled cycling in my city?
- What would be the value if every adult in our town biked for 10 minutes more per day?
- What would be the value of building this new bike path?

## Per Bicycle Kilometre Travelled Value

- ✓ A\$0.48 - \$A1.43 (2013)  
Commonwealth of Australia, 2013; PricewaterhouseCoopers, 2009; Yi et al., 2011
- ✓ 19,363 trips/daily; 2.7 km avg  
London ON, IBI Group (2018)
- ✓ \$25,094 - \$74,760 daily (now)  
\$50,188 - \$149,521 (doubled)  
\$38 M and \$115 M yearly  
(increase mode share to 5%)



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- ✓ Counts
  - Cordon, observation, population
- ✓ Exposure data
  - Injury and fatality collision data
- ✓ Questionnaires
  - Baseline, post intervention implementation, travel diaries
- ✓ National/local
  - Census, household



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