



From living city to living street



TRANSPORT

WWW.MOBYCON.COM









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Some stats: congestion



The car is dominating the streets

Fatalities



n one

4.5/hr USA 2016 40,000 people didn't come home

Travel cost



For every \$100 that a USA household deserves, it spends max \$25 on mobility

Mobility is a basic need



Mobility is taken for granted. It is a basic need for everyone to function well and flourish in society.

Mobility is a consumed good



We consume mobility within the boundaries set by our environment, government, employers and other parties

Mobility is a condition to participate





The Meaning of Mobility for Me



PARTICIPATE IN SOCIETY THE RIGHT TO COME HOME INDEPENDENCE

SUSTAINABLE

Born on the bike





On my way to school





Your first serious test





Cycling is not a status thing, it's universal





'I will love you all the days of my life...'



'...until death do us part'





Meet the Dutch





Todays offer









London Commute: more bikes than cars crossing the Thames



Effects of Cycling on commuters (Britain)

- 89% said cycling home allowed them to switch off from work
- As a result, 66% think their relationships have improved
- Many said their work productivity had also improved thanks to cycling in
- 50% felt they could manage a heavy workload more easily since they started cycling to work,
- 82% felt less stressed.
- 33% said they felt more creative as they had many of their best ideas when cycling.
- 15% also thought their careers were progressing faster than their non-cycling colleagues.



WHAT DO CYCLISTS BRING OUR SOCIETY AND ECONOMY?

In cities, cyclists are faster

Cyclists are healthier

Cyclists are moreCyclists areproductivecheaper

Fastest < 5.0 km Prevent congestion Improve the accessibility Higher quality of life Live longer and healthier Less health care Happiest road user More productive at work 1,3 days/year less sick "Zero" usage costs 7-11 times less space Less infrastructure

+18.51 million USD per year: Utrecht

+38.25 billion USD per year: NL +450 USD per employer / year

+0.82 USD per mile

Sources: Decisio (2017) "Bruto Utrechts Fietsproduct, Wat levert een toename van fietsgebruik de stad op?"; Fietsersbond (2017) "De fiets in de stad"; Fietsberaad CROW (2016) "De factor tijd"; TNO (2010) "Fietsen is groen, gezond en voordelig"; TNO (2009) "Regelmatig fietsen naar het werk leidt tot lager ziekteverzuim"; E. Fishman, P. Schepers & C.B.M. Kamphuis (2016)"Dutch Cycling: Quantifying the Health and Related Economic Benefits"; Fietsersbond (2012), "Wijken voor de fiets"; KiM (2007) "Beleving en beeldvorming van mobiliteit"; CE Delft (2014), "Externe- en infrastructuurkosten van verkeer"; KpVV CROW (2014) "Prestaties van vervoerswijzen".

Categorize the mobilist



Active independent	Active with accessories	Passive with active behavior	Passive with passive behavior
Pedestrians	CyclistsRollerbladesScooter	MopedCar	• Public transportation

Space index





Categorize the mobilist



Active independent	Active with accessories	Passive with active behavior	Passive with passive behavior	
• Pedestrians	CyclistsRollerbladesScooter		 Public transportation Car Moped 	

Possibility to substitute car on short distance



Journeys related to distance and transportation mode



Brever Law





Brever Law



The Law of Conservation of travel time and movements known as the Brever Law, a traffic engineering principle.

A person always spends an almost constant quantity of time on travel.

For decades, around the world, humans have spent an average of 70-90 minutes/day moving (across various trips and modes)

Kinetic energy: $E = \frac{1}{2} mv^2$ (at 'maximum' speed)





Vehicle families: examples and speed



Designing for which family



They are both vehicles, so sharing the road is an option?



Safe design for vulnerable road users





Ar 50 km/h ir septiņas reizes lielāka iespējamība, ka tu mani nogalināsi.

Tu vari izglābt dzīvību.

Nepārsniedz atļauto ātrumu!

Lancashire



50

30

Tu vari izglābt dzīvību.

Nepārsniedz atļauto ātrumu!



Gouda





Determine the mesh width



• Road categorization City of Gouda



Determine the mesh width



• Traffic calmed neighborhoods, City of Gouda



Determine the mesh width safety



• Cycle route categorization City of Gouda



Determine the mesh width







Regional Desire Lines



Figure 8: Ideal city region network



Downtown Desire Lines



CYCLE LANE CALGARY





What is on the menu tomorrow?





Taking Action Together



- > Orgware
- > Hardware
- Software



Orgware



Orgware describes the roles of the primary actors in decision making and the degree of mutual collaboration and coordination between

groups.

(Harms, Bertolini & Brömmelstroet, 2015)

- Decision making process
- Partnership/collaboration between government and NGOs
- Political climate
- Local engagement



Collaboration





Partnership with NGOs



Decision Makers





WHAT IS THE GOAL?





Hardware



Hardware are the physical elements/infrastructure which increase attractiveness and opportunities to (cycle) (Graham-Rowe, Skippon, Gardner, & Abraham, 2011)

- Transportation networks
- Separated lanes/facilities
- Street design



Vision Zero / Sustainable Safety



Existing traffic concept, implemented from the '90s

Reduce the car speed when mixing, separate cars and cyclists at higher speeds

Limited, logical and understandable road categories



no cycle path

bike lane or adjacent path

mixed use

Intersections: the weakest link - 20 mph







local road entrance: continuous sidewalk



Intersections: the weakest link - 30 mph







• Roundabouts (single, double, turbo)



Separated Facilities



Cycle Facilities for Night





Software



Software refers to initiatives that are designed to change perceptions, beliefs and attitudes; motivating voluntary change in transportation choices

(Castillo-Manzano & Sánchez-Braza, 2013)

- Education
- Marketing
- Culture
- Incentives

Promotion & Marketing





Education





Behavior Change



Alter Tripe on Accel Cent and West Sides of the Barrard Science

BIKO VANCIOUVOR



School children: Independent and healthy

• Around the world in (less than) 80 days



promo





INTGRATED APPROACH FOR MOBILITY





Our goal



TODAY WE WOULD LIKE TO INSPIRE YOU TO CREATE 'LIVING CITIES' IN NORTH CAROLINA!

Thank you for your attention!



