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Bike paths – love them or hate them?

Why do some cyclists prefer separation and others cycling in mixed traffic?

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Infrastructure for cycling

Cycling

- in mixed traffic with motor traffic
- on a bike lane
- on a bike path (not all compulsory, but knowledge level low)

Lower separation preference:

- Men compared to women (Gaffga, 2016; Heesch, Sahlqvist & Garrard, 2012)
- Middle aged adults compared to younger and older adults (Gaffga, 2016)
- Persons who want to cycle faster (Zimmer, 1994)

Who prefers which kind of infrastructure for cycling and **WHY???**

Infrastructure for cycling

Who prefers which kind of infrastructure for cycling and **WHY???**

Amount of traffic?

Practical advantages of different kinds of infrastructure?

Perceived safety?

Questionnaire

Online questionnaire programmed with soscisurvey (Leiner, 2014)

Parts:

- demography,
- preference of infrastructure, perception of other road users and obstacles,
- perception of risk and crashes,
- personal way of cycling and mobility habits

Participants

Living in Germany

424 female, 1330 male

18 to 76 years of age (mean 43 years, SD 14 years)

58% with a bachelor or master degree

60% biked every day

72% bike main means of transport

25% used a car never or almost never

Amount of traffic

"I prefer cycling on/in ... most"(N = 1789)

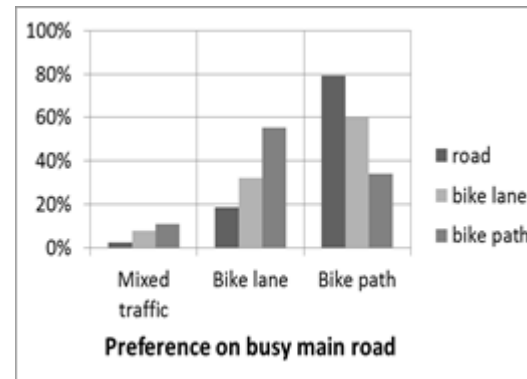
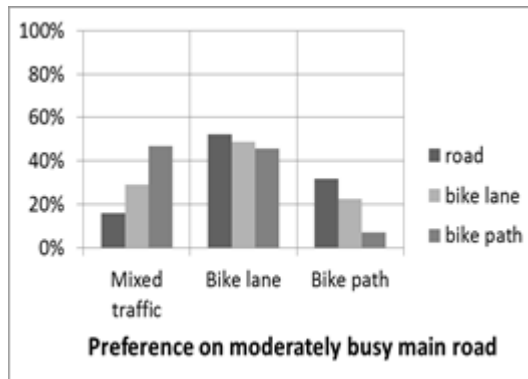
		Busy main road		
		Mixed traffic	Bike lane	Bike path
Moderately busy main road	Mixed traffic	137 (7.7%)	301 (16.8%)	81 (4.5%)
	Bike lane	2 (0.1%)	310 (17.3%)	335 (18.7%)
	Bike path	2 (0.1%)	5 (0.3%)	188 (10.5%)

Note: Table shows persons who only marked one option for each question.

More traffic => more separation preferred on average

Perceived obstacles

When cycling I encounter more obstacles (in the form of cars travelling or parking, objects, pedestrians) on ...



Preferred part of the road:

- Fewer obstacles
- Easier to avoid
- Bothered less

Preferred part of the road: practical advantages

Better on a bike lane or a bike path?

Spearman rho	preference moderately busy main roads	preference busy main roads
Cycling less demanding	.58*	.57*
Crash less likely	.52*	.57*
Have to pay less attention	.46*	.50*
Can best avoid obstacles	.37*	.42*
If I have a crash, it is probably less severe	.33*	-.49*
Fewer obstacles	.21*	.22*

Note. Bike lane = 3, preference lane & path / same on both = 4, bike path = 5.

Preferred separation:

- less attention
- fewer problems with obstacles
- lower crash risk

Better on a bike lane or a bike path?

Spearman rho	preference moderately busy main roads	preference busy main roads
In general it is safe to cycle on a bike path.	.45*	.54*
In general it is safe to cycle on a bike lane.	-.37*	-.30*
In general it is safe to cycle in mixed traffic.	-.32*	-.45*
I prefer to cycle on a bike path because fast cars pass me on the road.	.54*	.67*

Note. 5-point rating scale 1 = "do not agree at all" to 5 = "agree very much". Bike lane = 3, preference lane & path / same on both = 4, bike path = 5.

Preferred separation: safer

What might happen?

When cycling I am very afraid of crashes ... (Spearman rho)	preference moderately busy main roads	preference busy main roads
... with a car travelling in the same direction as me	.32*	.34*
... at rail crossings and along tram rails	.12*	.13*
... with cars that are parking or with opening doors	.09*	.10*
... with cars that are turning	.06	.07
... with cyclists	-.01	.05
... with pedestrians	-.02	-.01

Note. Separation preference: 1 = mixed traffic, 2 = mixed traffic & bike lane, 3 = bike lane, 4 = bike lane & bike path, 5 = bike path. 5-point rating scale 1 = "do not agree at all" to 5 = "agree very much".

Reasons for preferring (complete) separation

Rather general preference for infrastructure:

Cyclists love what they use – or do they use what they love?

The subjective problem which makes separation necessary:

Cars travelling in the same direction

≠ reality: about 2-6% of cyclist crashes (Lieb, 2012)

The objective problem for bike collisions in Germany:

- Cycling on the pavement
- Cycling on the bike path wrong direction

Other options than separation?

Lower speeds in inhabited areas

Stricter enforcement of speed

(Forschungsgesellschaft für Straßen- und Verkehrswesen.
Arbeitsgruppe Straßenentwurf, 2010).

Speed limit 30 km/hour:

Cyclists more willing to cycle in mixed traffic (Gaffga, 2016)

Police controls of passing distances

Bridging the gap between research and practice

Recommendations to make cycling safer

- lower speeds where separation is impossible
- stricter enforcement of speed limits
- police control of passing distances
- information about real risks for cyclists (cycling on pavement, cycling in wrong direction)

Transferable to other countries

- Minimum number of cyclists necessary?

Thank you for your attention!

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