

THE VALUE OF THE NEIGHBOURHOOD APPROACH; PILOTS IN REDUCE SPEEDING IN 30 KM-ZONES

Hans Voerknecht CE Delft/ Wilma Slinger, CROW





THE NEIGHBOURHOOD APPROACH

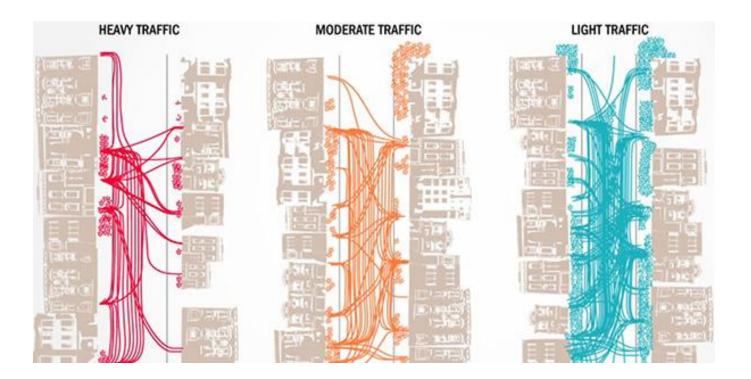
Quality of cities: exchange not movement Busy streets block exchange







DO STREETS CONNECT?



THE MAIN PROBLEMS ASSOCIATED WITH INCREASING URBAN TRAFFIC AND CONGESTION

Negative impact on urban quality of life

EQUITY

Nearly 30 % of households in Europe have no access to a car – they pay the price of traffic without enjoying mobility benefits offered by car ownership.

ECONOMIC EFFICIENCY

Traffic congestion, pollution and accidents result in significant direct and indirect costs. The total bill has been estimated at EUR 502 billion per year across the EU Member States (²).

LOSS OF URBAN 'LIVING SPACE'

Motorised transport infrastructure- such as roads and car parking – takes up highly valuable city centre land, and spoils and threatens existing open spaces.

AIR POLLUTION

Multiple effects including global warming, health problems & building decay. The Department of Health in the United Kingdom estimates the health costs of particulates in urban areas of Britain to be up to GBP 500 million per year (³).

ACCIDENTS

Over 40 000 deaths on Europe's roads/year, of these four times more fatalities occur in urban areas (*).

INCREASING MOTORISED VEHICLE DOMINANCE AND CONGESTION

VISUAL INTRUSION

Diminished quality of the urban environment caused by parked cars and other infrastructure.

NOISE AND VIBRATION

Transport is one of the main sources of urban noise pollution.

ENERGY CONSUMPTION

Transport consumes 4 % more energy every year which represents a doubling of energy used every 20 years (*).

SEVERANCE

Congested urban roads cause severance of communities which can have a social cost.

COMPETITIVENESS

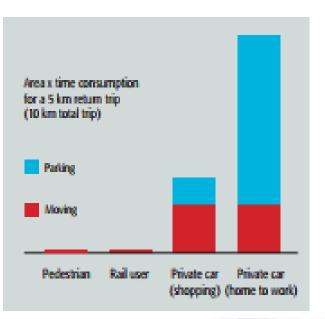
Traditional centres face competition from less congested out-of-town retail centres.

Negative impact on urban quality of life



WHY DOES MOTORIZED TRAFFIC DESTROY URBAN QUALITY?









AND WE ALL KNOW IT

2 1					L
reate more	pedestriani	sed areas			L
creatly reduc	e car traffi	c			
reate more o	cycle lanes				
reatly reduced in town centre		ber of parl	ing space	8.	
Suild new exp	ress route	s within to	wns		
lake motoris	ts pay a to	ll to enter	a town		
ncrease the p	rice of fue	E .			
on't know					
others					
lothing					L

'In your opinion, which one of these would make it possible to most effectively solve environmental problems linked to the traffic in town?'





DO WE WANT TRAFFIC OR A LIVING?







THE CONCEPT OF TRAFFIC EVAPORATION











RESPONSE TO REDUCING TRAFFIC CAPACITY

Short term

• initial cramming of roads was followed by searching for alternative routes and times to travel.

Medium term

• More varied and flexible trip-planning; • changing mode of transport; • reviewing the need to travel; • trip combining.

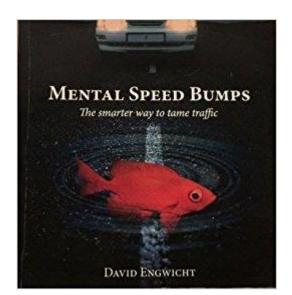
Longer term

• switching locations of activities or even home or workplace.





BUT NOW LET'S TURN TO THE NEIGHBOURHOODS



The speed of traffic on residential streets is governed, to a large extent, by the degree of psychological retreat of the residents











AN EXPERIMENT IN ZWOLLE (NETHERLANDS)

In what kind of street do you want to live?













AND AFTER

- OK then, everyone chooses for the solution with no cars and maximum amount of green...
- Who is going to give up his parking place?





LET'S LOOK AT WHAT CIVITAS DOES

- CIVITAS started SUNRISE Sustainable Urban Neighbourhoods Research and Implementation Support in Europe.
- But look at the examples: It is still planners planning neighbourhoods
- NOT
- Neighbourhoods making neighbourhoods
- AND WHAT WE NEED IS (cf. Vienna)



Participatory street design







WHAT'S THE PROBLEM?

- Complaints about speeding in 30 km-zones in Top 3 traffic complaints in every municipality
- Only physical measures do not help (some people just love to take speed bumps and chicanes at high speed)

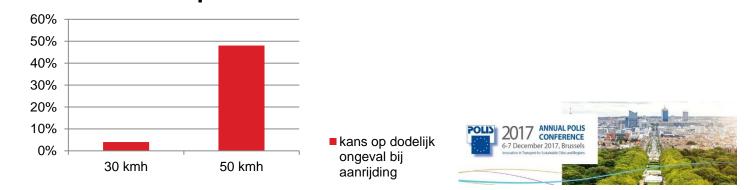




INTRODUCTION OF THE NEIGHBOURHOOD APPROACH

- Suppose the inhabitants themselves decide to slow down
- Joint actions and approach bottom-up
- Awareness raising, intrinsic motivation.
- But: Most car drivers feel ridiculous, driving 'only' 30
- But also:

Mortuality by accident carbike/pedestrian





INTERLUDE: CBA-TOOL

INPUT		RESULTATEN	МКВА					
Gebiedskenmerken		Kosten (€)		Baten				
Aantal km nieuw in te richten 50 km/u-wegen	1				Effecten (30 jaar)	Waardering (€)		
Verkeersintensiteit (auto's per dag)	2000	Inrichting	60.000	Verkeersveiligheid	-1,3 slachtoffers	425.174		
Aandeel vrachtverkeer	3%	Beheer	-	Geluid	-5,6 dB	657.246		
				Luchtkwaliteit		36.622		
Nieuwe situatie				- CO2	-338.613 kg			
Percentage naleving limiet 30 km/u	100%			- NOx	-3.185 kg			
				- PM10	-98 kg			
Kosten				Leefbaarheid		PM		
Kosten herinrichting per km (€)	60.000			Reistijd	292.000 uur	-835.533		
Beheerskosten (€)				Brandstof	-187.055 liter	144.461		
Verkeersveiligheid		Totaal	60.000	Totaal (exclusief leefb	aarheid)	427.969		
- Aantal ernstige slachtoffers per km 50 km/u-wegen per jaar (doden en ziekenhuisgewonden)	0,25							
Effect 50 -> 30 km/u (% aantal slachtoffers)	-25%		Netto contante waarde (€): 367.969					
Trendmatige ontwikkeling aantal slachtoffers (% per jaar)	-0.5%		Baten-kostenverhoudin		7			
5 5 (T,),					-			
Geluid								
Aantal gehinderden per km	150	Toelichting	op input en alternatieve waa	rden				
Geluidsniveau 50 km/u-wegen (dB)	56							
Effect 50 -> 30 km/u (% geluidsniveau)	-10%	Gebiedsken	merken					
		- Aandeel vr	achtverkeer: landelijk is het a	andeel <u>3%</u> (alle wegen)				
Luchtkwaliteit								
Effect 50 -> 30 km/u (% emissie)			atie, percentage naleving lim m Veilige inrichting is het effe					
- CO2	-9%		e inrichting kan worden uitge		reaptage yap ca. 60%			
- NOX	-35%				nalevingspercentage van ca. 40%			
- PM10	-11%	Voormeen	igenence so kiny dur wegen i	an worden angegaan van	narevingspercentage van ea. 4070			
Trendmatige ontwikkeling emissies		Kosten						
- CO2	-1%	- Inrichting:	 - Inrichting: defaultwaarde Duurzaam Veilige inrichting is <u>€60.000</u>, sobere inrichting : <u>€30.000</u> (SWOV-kengetallen) 					
- NOx	-7%	- Beheer: di	t betreft het verschil in behee	erskosten tussen een 50 en	een 30 km/uur-weg. Als default v			
- PM10	-0,4%	beheerskost	en niet verschillen, dwz <u>geen</u>	extra beheerskosten				
Brandstofverbruik		Verkeersvei						
Effect (% brandstofverbruik)	-10%				n/uur-wegen is naar schatting ger	miadela <i>0,25 per k</i> i		
Trendmatige ontwikkeling brandstofverbruik	-0.4%		 politieregistratie (0,12 slachtoffers per km) en de aanname dat 50% niet wordt geregistreerd. Duurzame Veilige inrichting heeft een effect van 25% reductie van slachtoffers. Lagere effecten van sobere inrichting (15%) 					
	0,470	- Duurzame	venige innonung heert een er	reductie van 23% reductie van	siacitioners, Lagere effecten van	sobere inficiting (1		

Benefits of 30kmh in stead of 50 kmh about €450.000 higher than costs per

km





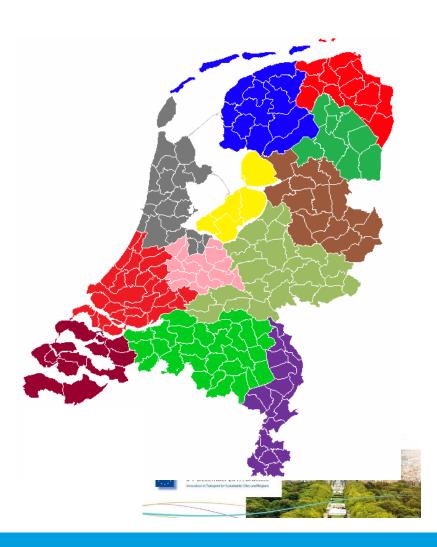
SO WE TRIED IT!





PARTICIPANTS

- Groningen
- Leeuwarden
- Houten
- Nijkerk
- Rotterdam





STEPS



Measuring two topics:

- speeds
- feelings about road safety





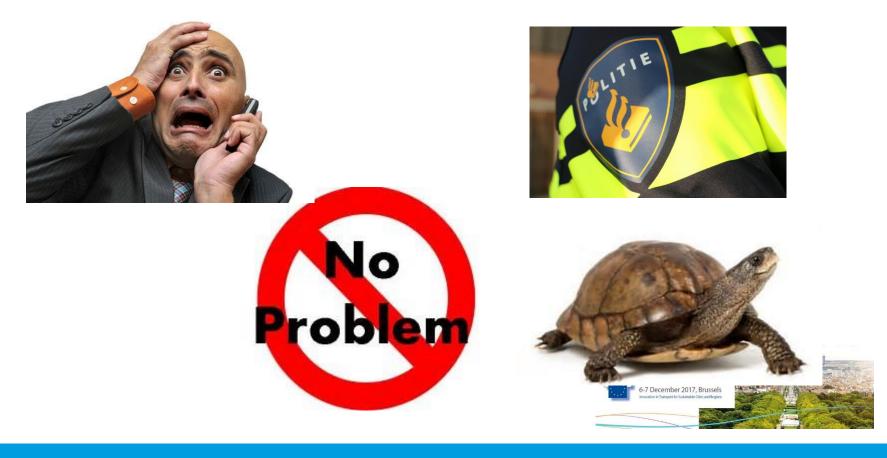








CONCLUSIONS SO FAR



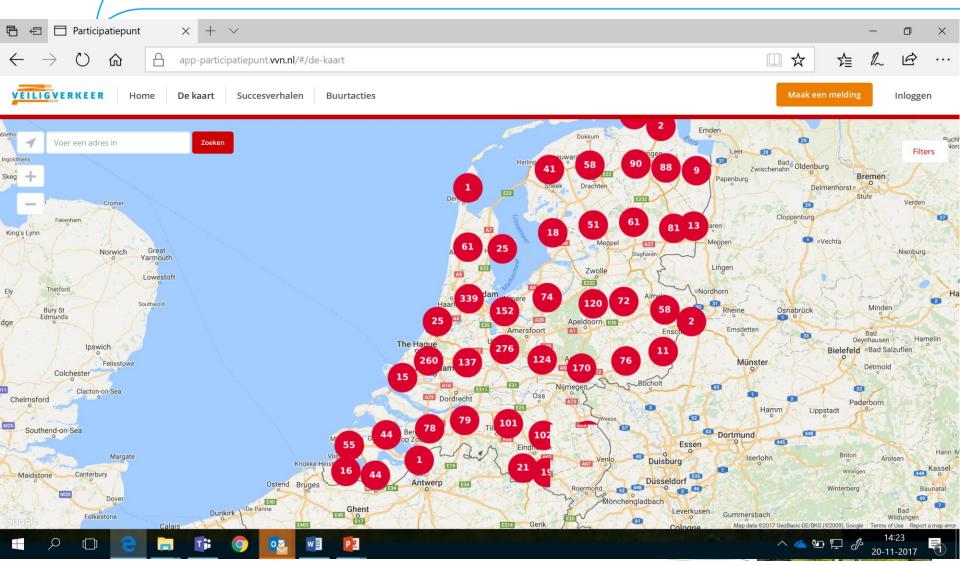


FOLLOW UP

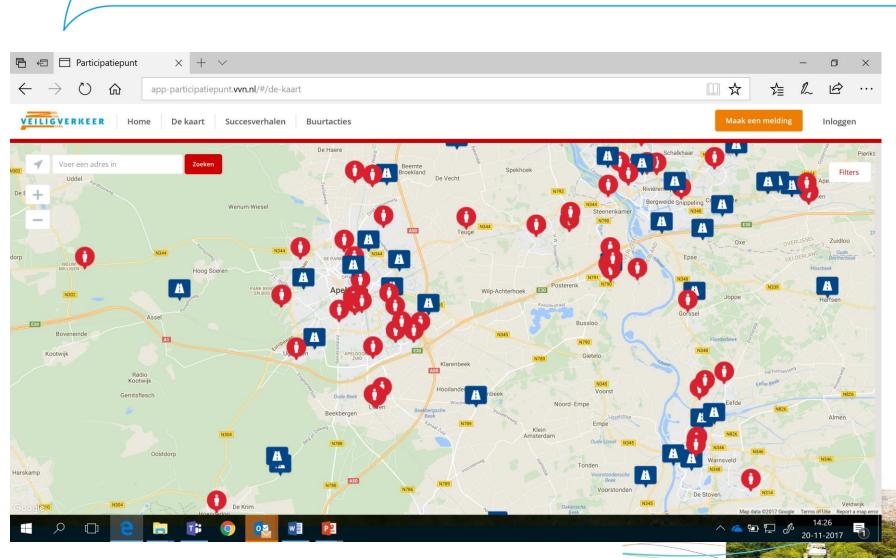
- Manual, questionnaire
- Summer 2018 publication of results
- Seeking connection with other initiatives













QUESTIONS?

CROU



Wilma.slinger@crow.nl

Voerknecht@CE.nl

www.crow.nl









DISCUSSION

- Do we really need physical measures like chicanes and speed bumps for a few excesses (mostly neighbours)?
- This neighbourhood approach is a golden opportunity for improving the relationship with the neighbourhood
- This neighbourhood approach should be default for reducing speeding instead of physical measures

