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KARLSRUHE (DE)



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How the Transport Authority for the Amsterdam region directly involves citizens in evaluating to what extent mobility projects contribute to wellbeing 14:30 PM – 16:00 PM 27 November 2024

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Transport Authority for the Amsterdam Region

- 14 municipalities
- 1.4 million inhabitants





From system-centered to human centered







People as the starting point for comfortable, safe, and relaxed travel

STOMP is the basis (non-travel, active, shared, clean)

Mobility and space reinforce each other



Each area requires a different solution

Applying 4 principles





An innovative experiment

Research questions

How can wellbeing indicators be operationalized to make trade-offs between concrete mobility projects?

How do citizens trade-off wellbeing effects?





Oktober 2024

How travel time valuation works



Which route would you have chosen?

□ Option 1: 28 minutes

□ Option 2: 27 minutes

□ Option 3: 25 minutes





If the government had to choose between two options for a highway project, which would you choose?

This is an average 2x2 highway with 80,000 trips per day

choose an option	Option 1	Option 2	Reference
Travel time per trip	21 minutes	21 min, 45 sec	25 minutes
# Road deaths per year	1	0	1
	0	0	



What if we expand this type of experiment?



Designing the experiment

Step 1

9 Broad prosperity indicators operationalized together with the Amsterdam Transport Region

Step 2

Estimate possible effects

Step 3

Create 5 Versions: to keep it understandable, participants weigh a maximum of 5 indicators

Step 4

Approximately 2,000 residents and travelers of the Transport Region complete 5 different optional tasks

If the government had to choose between two mobility approaches, which would you choose?

	Option 1	Option 2
 Accessibility: how many people can reach important facilities within 15 minutes by public transport, bicycle, car or on foot? 	500 people more	1.000 people more
Safety: How many seriously injured people are there in the Amsterdam transport region per year?	0 people more	1 people more
Sustainability: How many trips do travelers make by public transport, bicycle, or on foot instead of by car per day?	500 trips more 1.000 trips more	
Health: How many people experience nuisance from traffic in their environment?	1.000 people more	500 people more
Inclusivity: How many people can reach, understand or use the public and therefore participate fully?	0 people more	750 people more
Costs: One-off additional tax per household	€25 extra	€50 extra
	0	0

Significant results for all 9 indicators

Significant model estimations for all 9 indicators

Coëfficiënt

Accessibility	An additional 100 people can reach their work within 45 minutes by public transport, bicycle, car or on foot	0,019
	An additional 100 people can reach important facilities within 15 minutes by public transport, bicycle, car or on foot	0,107
	1x less often per year travelers arrive at their destination at least 15 minutes later than expected	0,412
	1 fewer road death in the Amsterdam transport region per year	0,291
Road safety	10 fewer seriously injured people in the Amsterdam transport region per year	0,090
	100 extra people dare to cycle independently in traffic	0,029
Sustainability	1000 extra trips per day by public transport, bicycle or on foot instead of by car	0,011
Health	1000 people less experience nuisance from traffic in their area	0,100
Inclusivity	1000 additional people can access, understand or use public transport and therefore participate fully	0,053



Total public willigness to pay in the transport region Amterdam

By dividing the coefficients of all indicators by the public willingness to pay coefficient, the public willingness to pay for the wellbeing indicators can be obtained.



How can this be used in practice?



Two potential applications for these results

Use it in Cost-Benefit analysis

For wellbeing effects that are currently not monetized

Directly compare the weights of wellbeing effects

Let's consider an example



Comparing the weights of wellbeing effects

	Redesign busy Amsterdam city center crossing	New high quality public transport connection	Coëfficiënt voor 1 meer/minder*
Accessibility: how many people can reach important facilities within 15 minutes by public transport, bicycle, car or on foot?	2.000 people more	500 people more	0,0107
Safety: How many seriously injured people are there in the Amsterdam transport region per year?	5 people less	0 people less	0,0291
Sustainability: How many trips do travelers make by public transport, bicycle, or on foot instead of by car per day?	1.000 trips more	3.000 trips more	0,000029
Health: How many people experience nuisance from traffic in their environment?	4.000 people less	150 people less	0,000011
Inclusivity: How many people can reach, understand or use the public and therefore participate fully.	0 people more	100 people more	0,000010
i Costs: Total investment, converted into one-off additional tax expenditure per household required to cover this cost	€47.80 extra one-off tax per household (costs €40,000,000)	€59.75 extra one-off tax per household (costs €50,000,000)	-0,053
Wellbeing weights	19,09	3,17	



Discussion

Question 1

How can you use the results when evaluating specific mobility projects?

Question 2

What else is needed to work in a more human-centered way?



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