Participatory Value Evaluation: A New Appraisal Method in the Dutch Planning Process for Large Projects

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POPULYTICS
What would you do?

In a PVE, citizens take a seat in the chair of the decision maker for 20 minutes

Step 1

They see the most important policy options

option

option

option

option

Step 2

But there are constraints such as a limited public budget or other policy goals

Government budget

Maximum € 1.000

Step 3

Participants are asked what they would advice

They experience the dilemma of a policy maker

optie

option

option

optie

Step 4

Participants are asked to provide a motivation for their choices

Please provide arguments

More than 80 applications in the Netherlands

Tweede Kamer
DER STATEN-GENERAAL

Ministerie van Infrastructuur
en Waterstaat

Ministerie van Economische Zaken
en Klimaat

Rijksinstituut voor Volksgezondheid
en Milieu
Ministerie van Volksgezondheid,
Welzijn en Sport

provincie :: Utrecht

PROVINCIE
FLEVOLAND

provincie
Gelderland

Gemeente Rotterdam

Janssen
PHARMACEUTICAL COMPANIES OF
Johnson & Johnson

Gemeente
Amsterdam

gemeente
HEEZE-LEENDE

EINDHOVEN

gemeente
Hoeksche Waard

FWG
Progressional
People

Nationaal Programma
RES Regionale
Energie
Strategie

Amsterdam UMC
Universitair Medische Centra

In the Netherlands PVE is used for multiple purposes

- Calculating the societal value of policy options (Alternative for Cost-Benefit Analysis)

- Involving a large, diverse and representative group of citizens in policy making

- Advanced method to elicit preferences for (impacts of) policy options

Comparing Participatory Value Evaluation and CBA

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Contrasting the recommendations of participatory value evaluation and cost-benefit analysis in the context of urban mobility investments

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ABSTRACT

Participatory Value Evaluation (PVE) is a new method to assess the desirability of government projects. In a PVE, individuals select their preferred portfolio of government projects given a constrained public budget. Individuals' preferences for (the impacts of) government projects can be determined based on these choices. The obtained preferences can be used to rank government projects in terms of their desirability. Cost-Benefit Analysis (CBA) is an alternative appraisal method used to assess the desirability of government projects. CBA establishes the desirability of public projects through analyzing people's trade-offs between their private income and impacts of public projects. The primary objective of this paper is to investigate whether CBA and PVE lead to different policy recommendations in the context of urban mobility investments. We conducted CBAs and a PVE for 16 urban mobility investment projects and find indicative evidence that projects which focus on improving traffic safety and improvements for cyclists/pedestrians rank higher in the PVE, whereas car projects rank higher in the CBA analysis.

CBA


POCKET
MONEY


Save Nature
& Save Planet Earth
For our
Children


FOR A FASTER & MORE EFFECTIVE RAPID TRANSIT SYSTEM
Travel
Time
Savings


SAFETY
FIRST


STOP
THE NOISE

PVE


TAX


Save Nature
& Save Planet Earth
For our
Children


FOR A FASTER & MORE EFFECTIVE RAPID TRANSIT SYSTEM
Travel
Time
Savings


SAFETY
FIRST

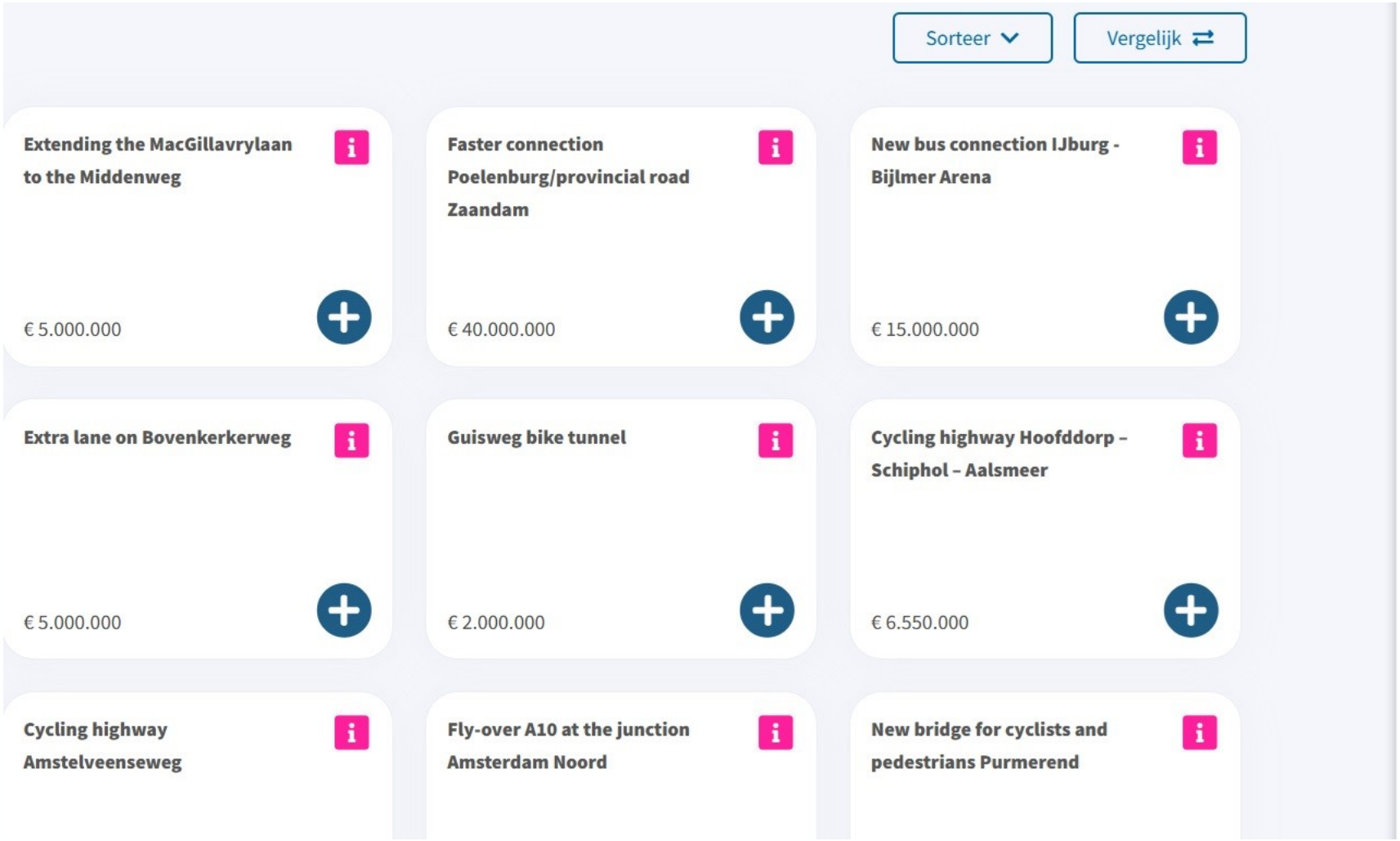

STOP
THE NOISE

Example: Transport Authority Amsterdam

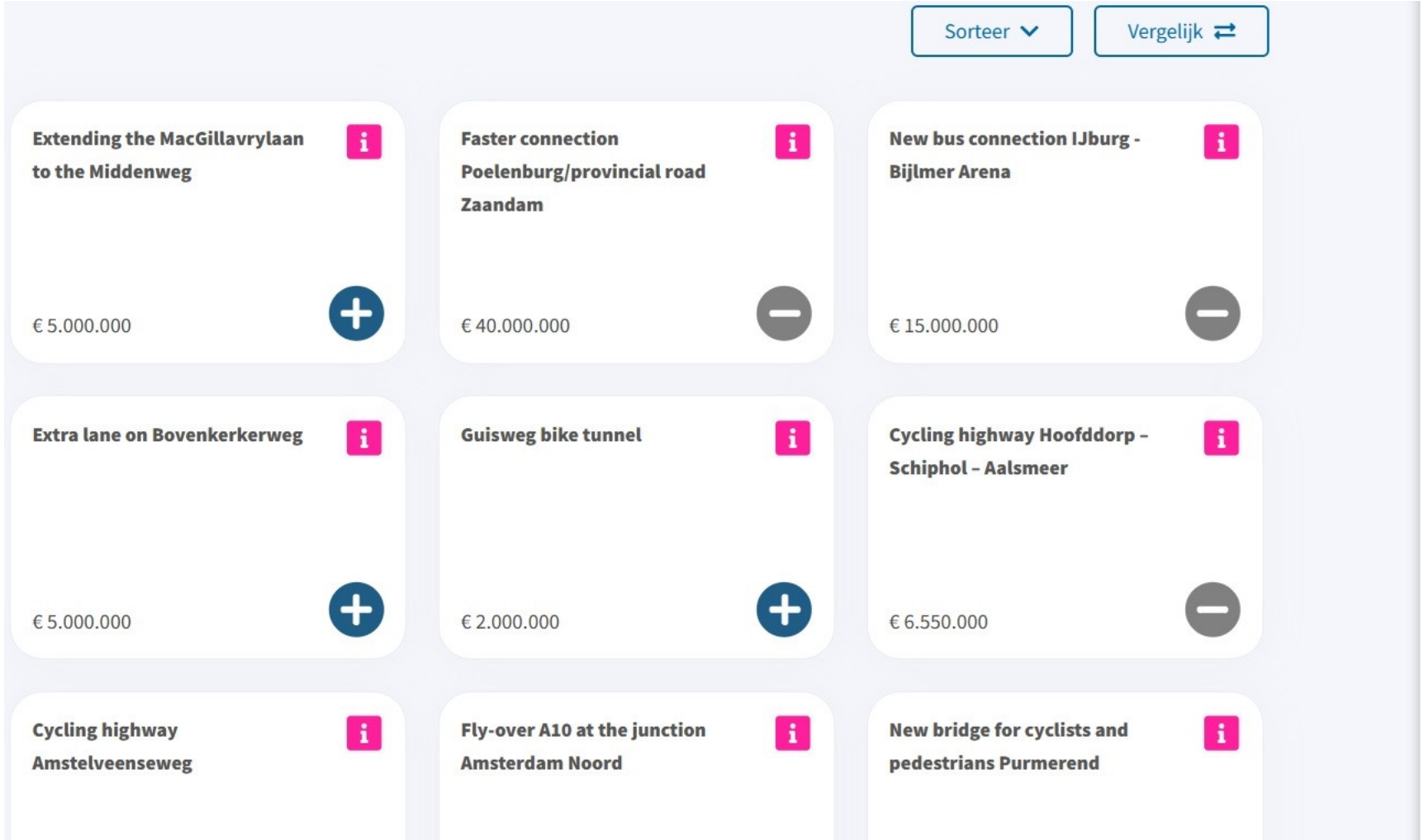
- **Budget TAA:** 100 million
- **Considers 16 projects**
- **Total cost of the 16 projects =** 400 million
- **Question:** which projects produce the highest value?

- **Respondents were asked:** how would you spend 100 million?
- Respondents who disliked all projects could also select **‘tax reduction’.**
- **Experimental design:** we differentiated information about impacts.

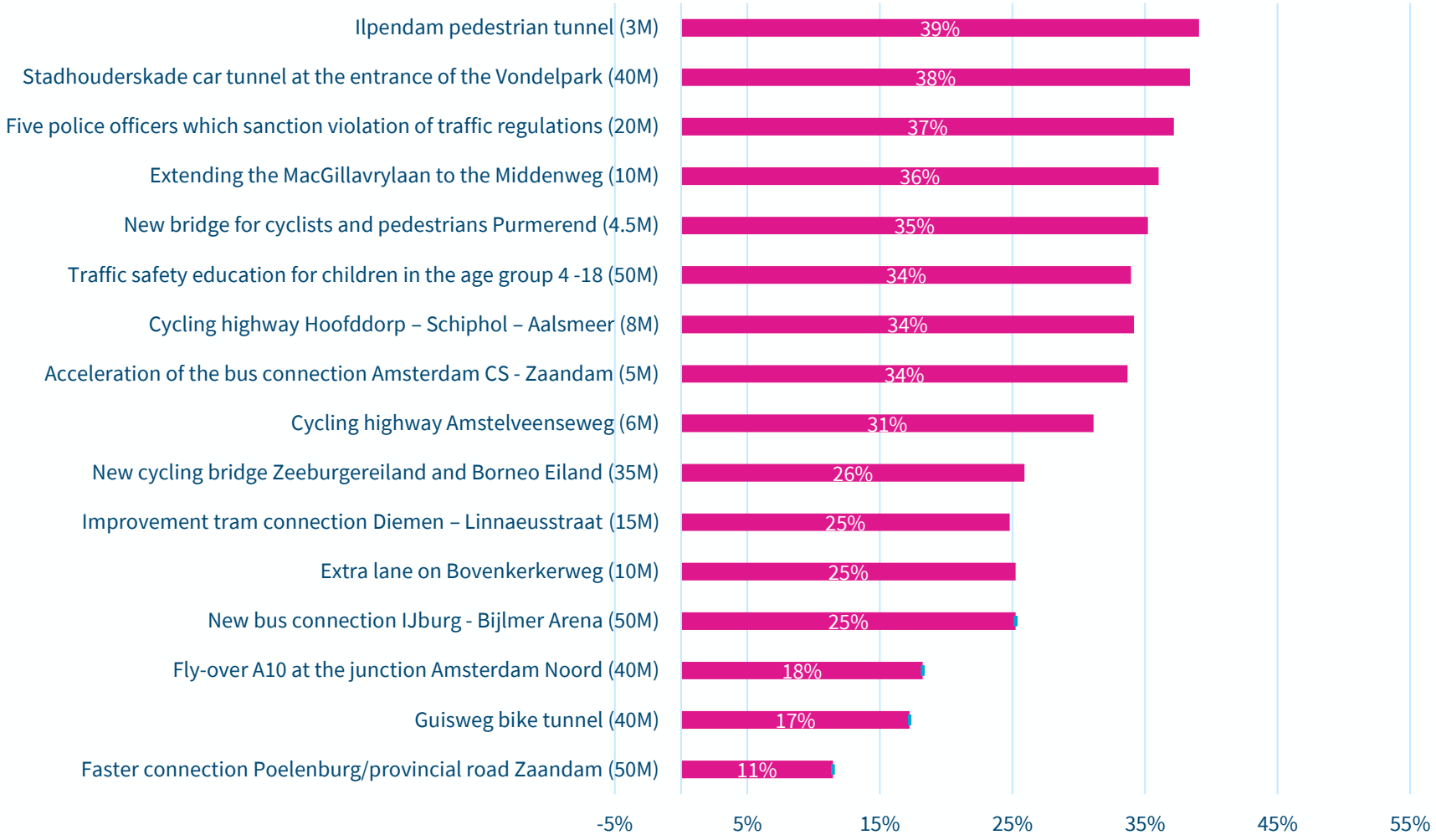
Screenshot PVE



Screenshot PVE



Results: Market share of the different projects



How to derive the social welfare effect?

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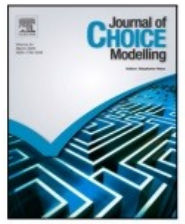

Research note

A micro-econometric framework for Participatory Value Evaluation

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ABSTRACT

This paper presents a micro-econometric framework to analyse choice data from participatory value evaluation (PVE) surveys. In a PVE survey respondents receive, similar to stated choice surveys, information on the social impacts of public sector projects before choosing the best policy portfolio according to their preferences. Respondents' choices are limited by governmental and private budget constraints. The PVE data format is characterised by a mixture of discrete and continuous choice data. Building on recent literature of Kuhn–Tucker models, particularly the MDCEV model, a range of methodological and econometric contributions are provided facilitating model estimation and policy evaluation. We derive a set of closed form choice probabilities explaining the choice for the optimal portfolio with public projects, private consumption levels and whether to spend the public budget in full or not. The proposed policy evaluation framework is centred around the notion of social welfare maximisation. The parameter estimates are used to derive the optimal public sector budget and the corresponding portfolio maximising social welfare, but also to rank the set of feasible portfolios given a restricted budget, including sensitivity analyses. The proposed framework is illustrated using an empirical example on urban mobility investments in Amsterdam, The Netherlands.

Project desirability in PVE and CBA

	Project	Project type	Project desirability		CBA
1	Stadhouderskade car tunnel at the entrance of the Vondelpark (40M)	Safety	56%	✓	6
2	Ilpendam pedestrian tunnel (3M)	Safety	55%	✓	7
3	Traffic safety education for children in the age group 4 -18 (50M)	Safety	54%	✓	8
4	Five police officers which sanction violation of traffic regulations (20M)	Safety	54%	✓	5
5	New bridge for cyclists and pedestrians Purmerend (4.5M)	Cycling	52%	✓	9
6	Extending the MacGillavrylaan to the Middenweg (10M)	Car	52%	✓	2
7	Acceleration of the bus connection Amsterdam CS - Zaandam (5M)	PT	51%	✓	13
8	Cycling highway Hoofddorp – Schiphol – Aalsmeer (8M)	Cycling	50%	?	12
9	Cycling highway Amstelveenseweg (6M)	Cycling	48%	x	10
10	New cycling bridge Zeeburgereiland and Borneo Eiland (35M)	Cycling	46%	x	14
11	Improvement tram connection Diemen – Linnaeusstraat (15m)	PT	44%	x	11
12	Extra lane on Bovenkerkerweg (10M)	Car	44%	x	4
13	Fly-over A10 at the junction Amsterdam Noord (40M)	Car	41%	x	1
14	Guisweg bike tunnel (40M)	Cycling	40%	x	15
15	Faster connection Poelenburg/provincial road Zaandam (50M)	Car	35%	x	3
16	New bus connection IJburg - Bijlmer Arena (50M)	PT	31%	x	16

Why do projects rank differently in PVE and CBA?

In a PVE, citizens express a broader range of preferences

Spatial equality:

- *"As a resident of Amsterdam, I wanted to do something for the regions outside Amsterdam with the funds I had left over."*

Normative belief that mobility system should be cycling friendly:

- *"My choices are based on the idea that Amsterdam is a cycling city par excellence. This idea should be further developed and therefore we should encourage cycling by expanding cycling infrastructure."*
- *"Cycling is good for health and the environment. Those who bike deserve a comfortable route."*

Traffic safety (additional policy officers to enforce rules):

- *"It is about time to enforce the rules we made. Sometimes it feels that no one is obeying the rules. I know a lot of elderly people who do not cycle anymore because they are too afraid. This is madness of course."*

Citizen participation in the Netherlands

PVE might facilitate participation of other group

How to use PVE for large scale public participation?

PLOS ONE

RESEARCH ARTICLE

Public participation in crisis policymaking. How 30,000 Dutch citizens advised their government on relaxing COVID-19 lockdown measures

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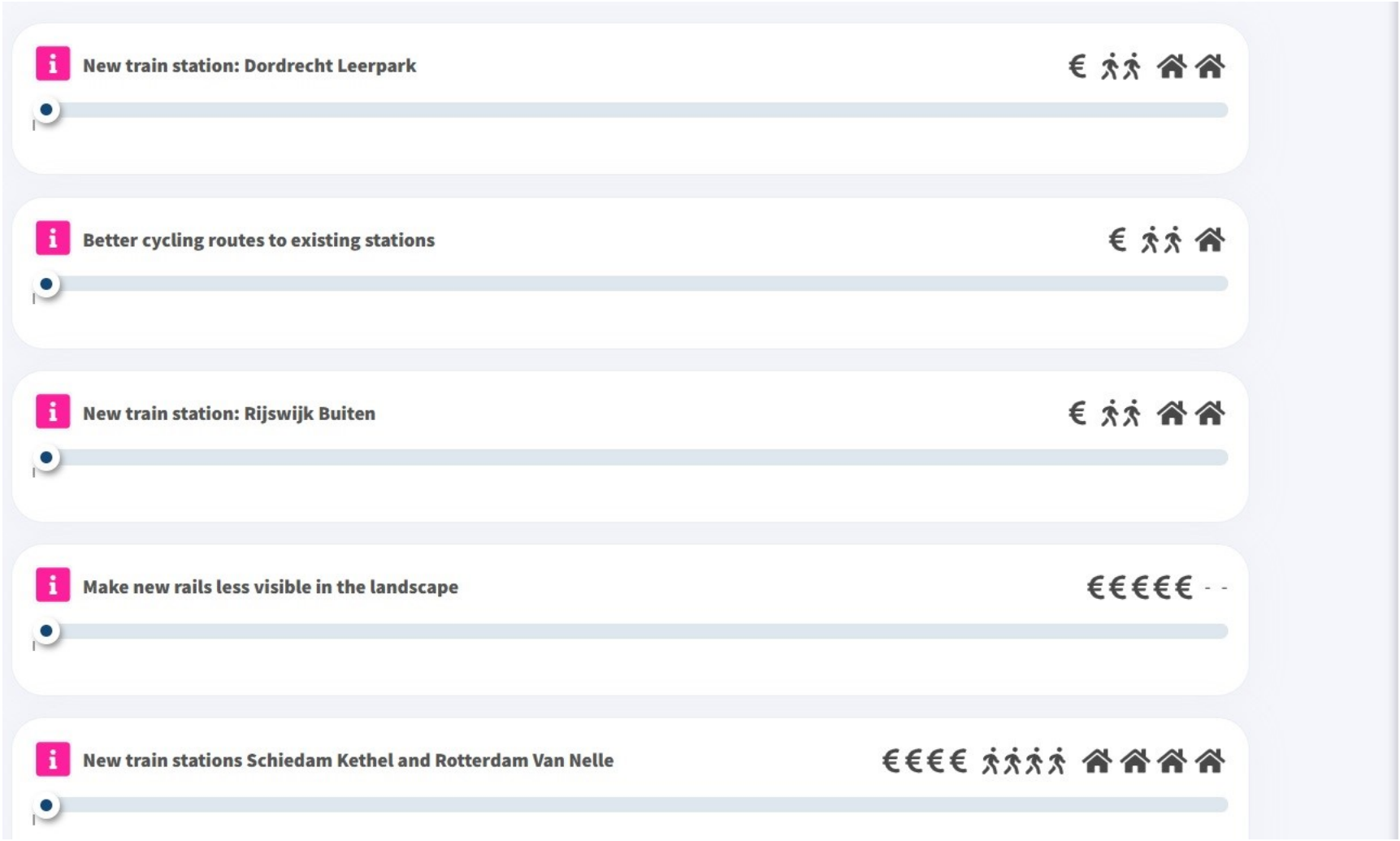
Abstract

Following the outbreak of COVID-19, governments took unprecedented measures to curb the spread of the virus. Public participation in decisions regarding (the relaxation of) these measures has been notably absent, despite being recommended in the literature. Here, as one of the exceptions, we report the results of 30,000 citizens advising the government on eight different possibilities for relaxing lockdown measures in the Netherlands. By making use of the novel method Participatory Value Evaluation (PVE), participants were asked to recommend which out of the eight options they prefer to be relaxed. Participants received information regarding the societal impacts of each relaxation option, such as the impact of the option on the healthcare system. The results of the PVE informed policymakers about people's preferences regarding (the impacts of) the relaxation options. For instance, we established that participants assign an equal value to a reduction of 100 deaths among citizens younger than 70 years and a reduction of 168 deaths among citizens older than 70 years. We show how these preferences can be used to rank options in terms of desirability. Citizens advised to relax lockdown measures, but not to the point at which the healthcare system becomes heavily overloaded. We found wide support for prioritising the re-opening

PVE: five criteria for legitimate public participation

Five criteria for high legitimacy of public participation	How is this safeguarded in the (design of a) PVE?
1 Outcomes are representative for the population	1 Conduct the PVE with a representative group of citizens
2 Everyone can participate	2 Open the PVE for everyone
3 Stakeholders support the participatory process	3 Involve stakeholders in the design of the PVE
4 Critique on the design of the participatory process can be refuted	4 “Methodology document” is made in which all design choices are underpinned
5 The outcomes are actionable. Policy makers can show how they improved their policies based on outcomes of PVE	5 Ensure that the PVE mimics the key choice situation on which a policy maker needs to take a decision

7,500 citizens advise on options to improve a railway



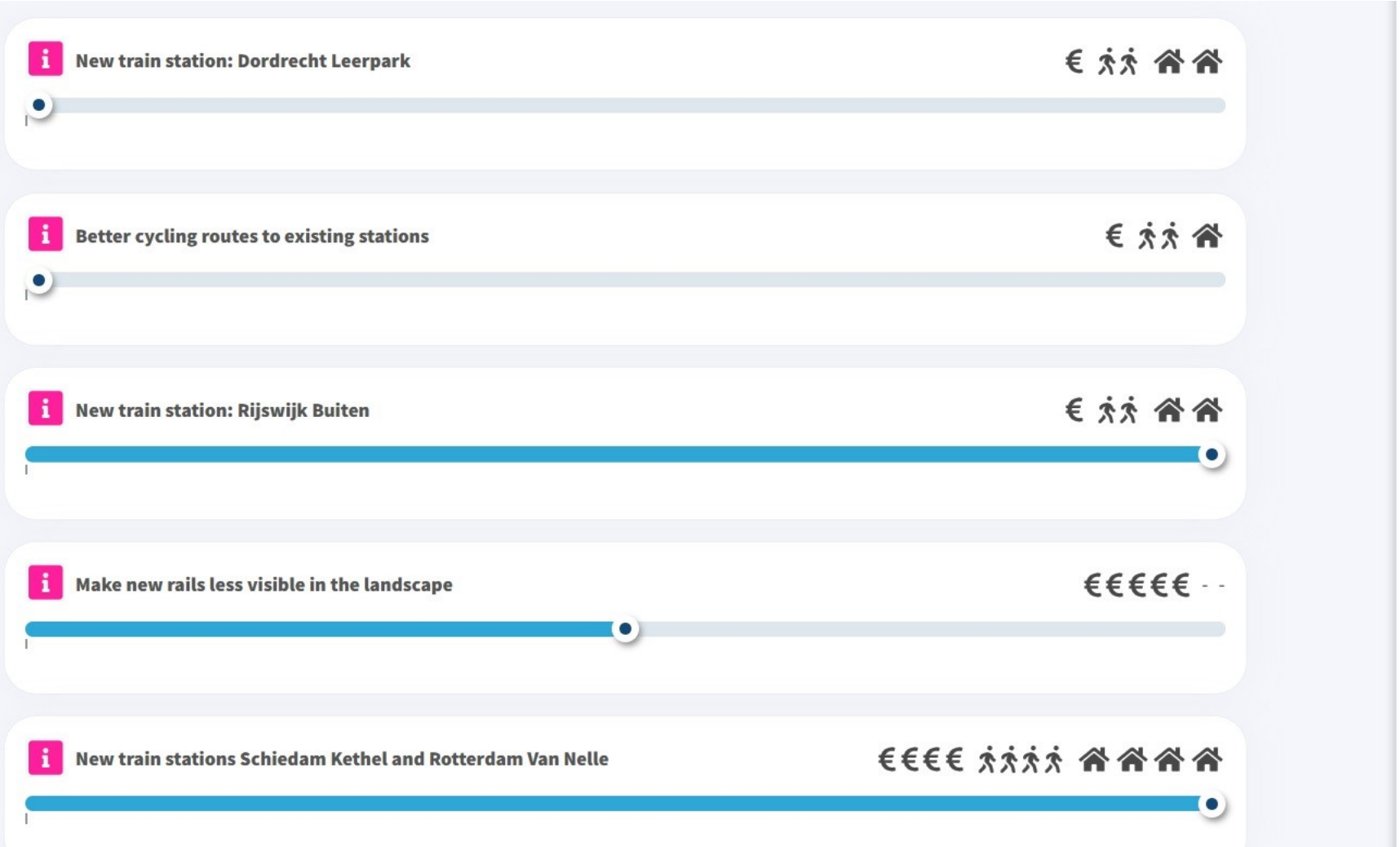
Beperkingen

Costs government

Extra people who can properly access destinations with PT

Opportunities to build additional houses close to stations

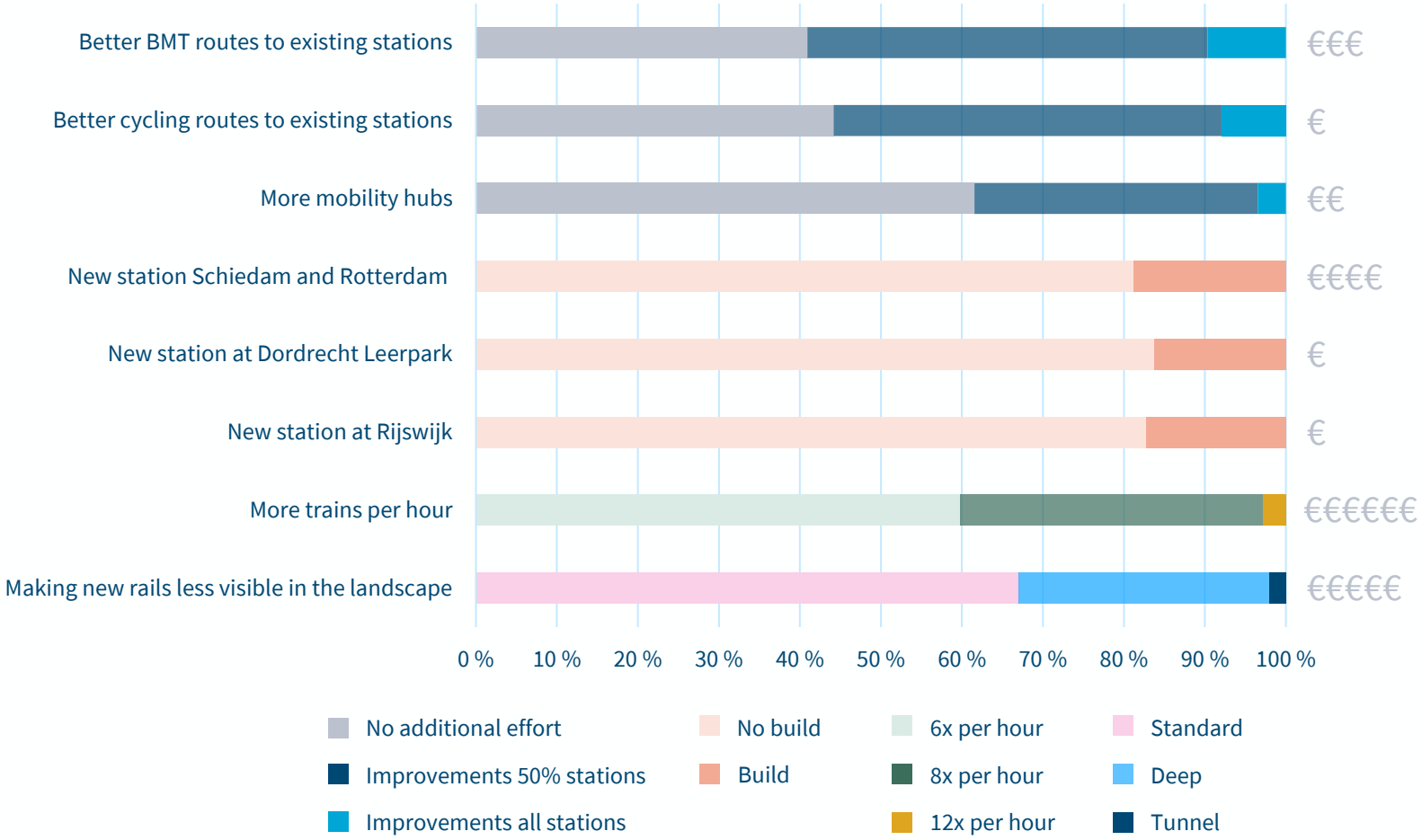
7,500 citizens advise options to improve a railway



Advises of the participants

Percentage participants choosing an option

Representative panel



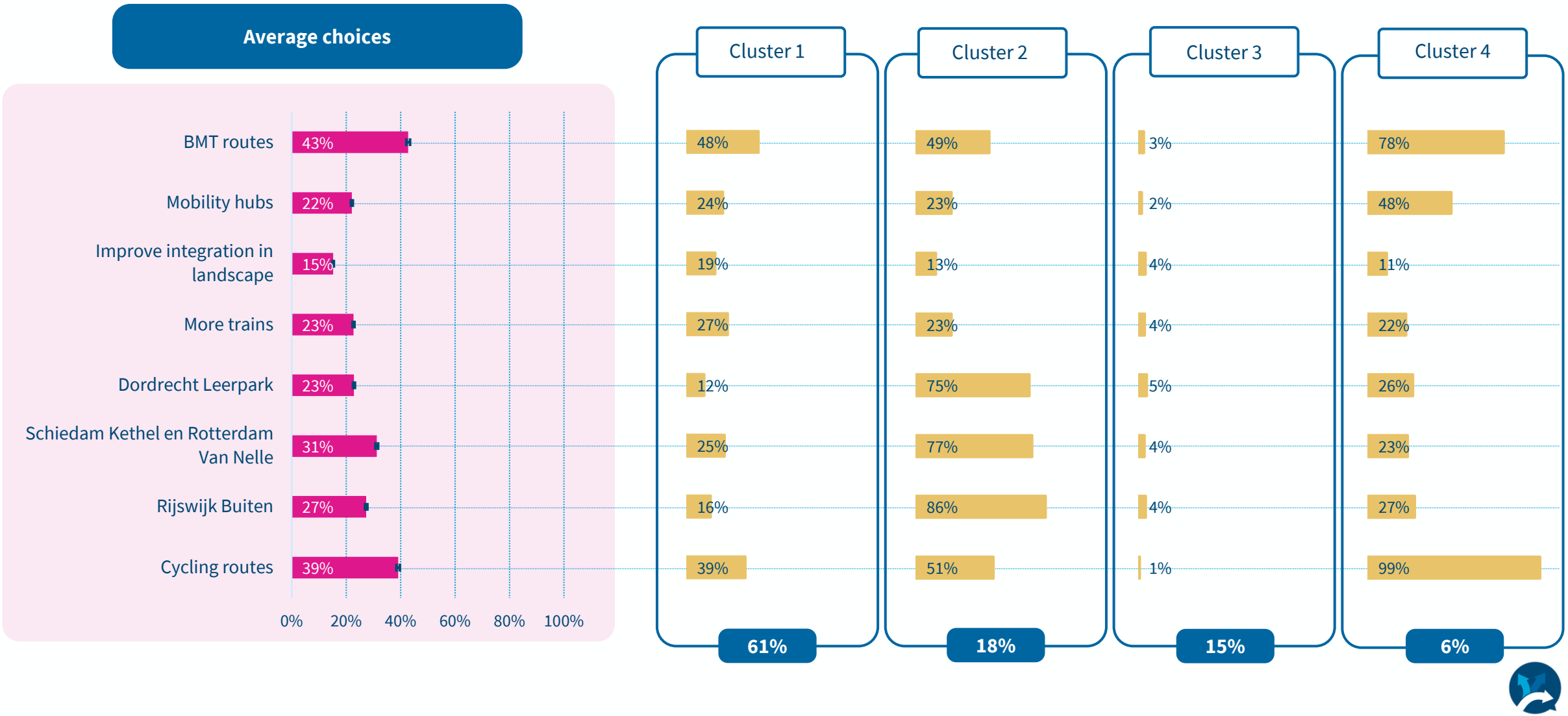
Insights

More than half of the participants believe that additional investments should be made in better public transport connections and bicycle connections to the stations.

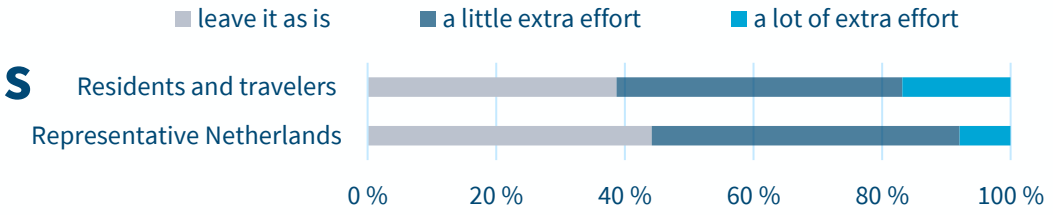
For each new station, about 20% of the participants advise building it.

A very small proportion of participants recommend a tunnel to fit the new tracks between Delft and Schiedam (2%) or running a sprinter 12 times an hour (3%). According to most participants, this is not the best way to spend the limited amount of money.

Latent Class Cluster Analysis derives four clusters



Elaboration: Better bicycle routes to train stations



Why do participants advice to (not) give more attention to this option? (Most mentioned arguments. The more stars, the more often mentioned)

Argument for 'Leave it as is'	Frequency	Argument for 'Extra effort'	Frequency
The current bicycle routes are adequate	★★★★	Fewer people will take the car	★★★
I don't use bicycle routes myself	★	The train stations will be better accesible	★★
Other options are preferred	★	More people will use public transport	★★

Further mentioned

- Extra effort, because that will make it safer
- Extra effort, because more people will go by bike
- Extra effort, because cycling is good for the environment
- Extra effort, because cycling should be encouraged in general
- Conditional, if there are also sufficient bicycle parking facilities at the stations

Illustrative quotes of participants

"This lowers the barrier to taking public transport. Absolutely put a lot of money into it because this is how you get people out of the extremely inefficient car."

"Attracts more passengers and is good for the environment"

"Integration with bike is essential to get more people to use pt"

"More bike routes, safer for cyclists and more accessible"

"Easy access but also make sure they can be parked."

Leave it as is

"The bicycle routes to the stations are fine. There is no need to change them. As long as the maintenance is good that there are no breaks/holes in the asphalt that could cause cyclists to take an unpleasant fall."

"There are enough bike routes/opportunities"

"That's not a priority"

Why do Dutch governments often use PVE to involve citizens?

Reasons mentioned by policy makers in 9 case studies

1. Good that you reach a representative group of citizens and also a new group of citizens.
2. Results of PVE are more actionable because citizens experience your dilemma before giving an advice.
3. PVE provides nuanced (quantitative) insights and insights about values underlying preferences.
4. Insights can be used to make policies more ‘citizen oriented’.
5. The method is efficient. Low costs per participant.

Citizens are satisfied

1. 75% - 85% wants the government to use the method more frequently.
2. Through PVE citizens can easily express their preferences and they learn about the complexity of policies and policy options
2. 50% says that the PVE increases trust in government

“You experience the responsibility that people in government also experience.”

“It's great that you get a look at all the considerations that go into the decision-making process! Gives a more nuanced picture that is still conveyed powerfully and concisely.”

Ambition to conduct pilot projects abroad

PVE is applied for transport, energy, ICT, military and social projects.

Examples of transport projects:

- Parking policies in the city of Haarlem (10,000 participants)
- Allocation of space towards transport and other types of land use in Amsterdam
- Design choices and trade-offs regarding a highspeed rail from Amsterdam to Groningen (11,000 participants)
- Design and planning choices maintenance work Sijtwende tunnel
- National policies to reduce energy use of the transport sector
- Prioritization of the 14 mobility and accessibility goals of the Ministry of Transport (e.g. investment in basic levels of accessibility, reducing travel times, improving sustainability etc.)
- Improving various aspects of the N65 highway in Vught.

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