

Responsible
Sensing Lab

Driving for Values

Responsible Sensing Lab x ESDiT x Gemeente Amsterdam

Core team



Fabian Geiser

AMS Institute

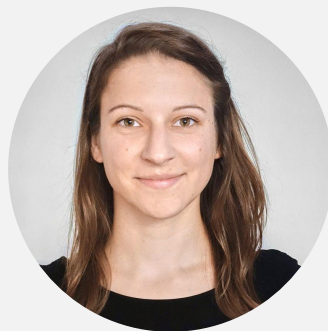
Project manager
Responsible Sensing Lab



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Thijs Turèl

AMS Institute

Initiator Responsible
Sensing Lab & Program
Manager at AMS Institute



Ethics of Socially Disruptive Technologies (ESDiT)

- 10-year long international research programme of 7 academic institutions (2020-2029)
- Funded by the Dutch Organisation for Scientific Research (NWO)
- Breakthrough research at the intersections of ethics, philosophy, technology, engineering and social sciences
- <https://www.esdit.nl/>

Ethics of Socially Disruptive Technologies (ESDiT)

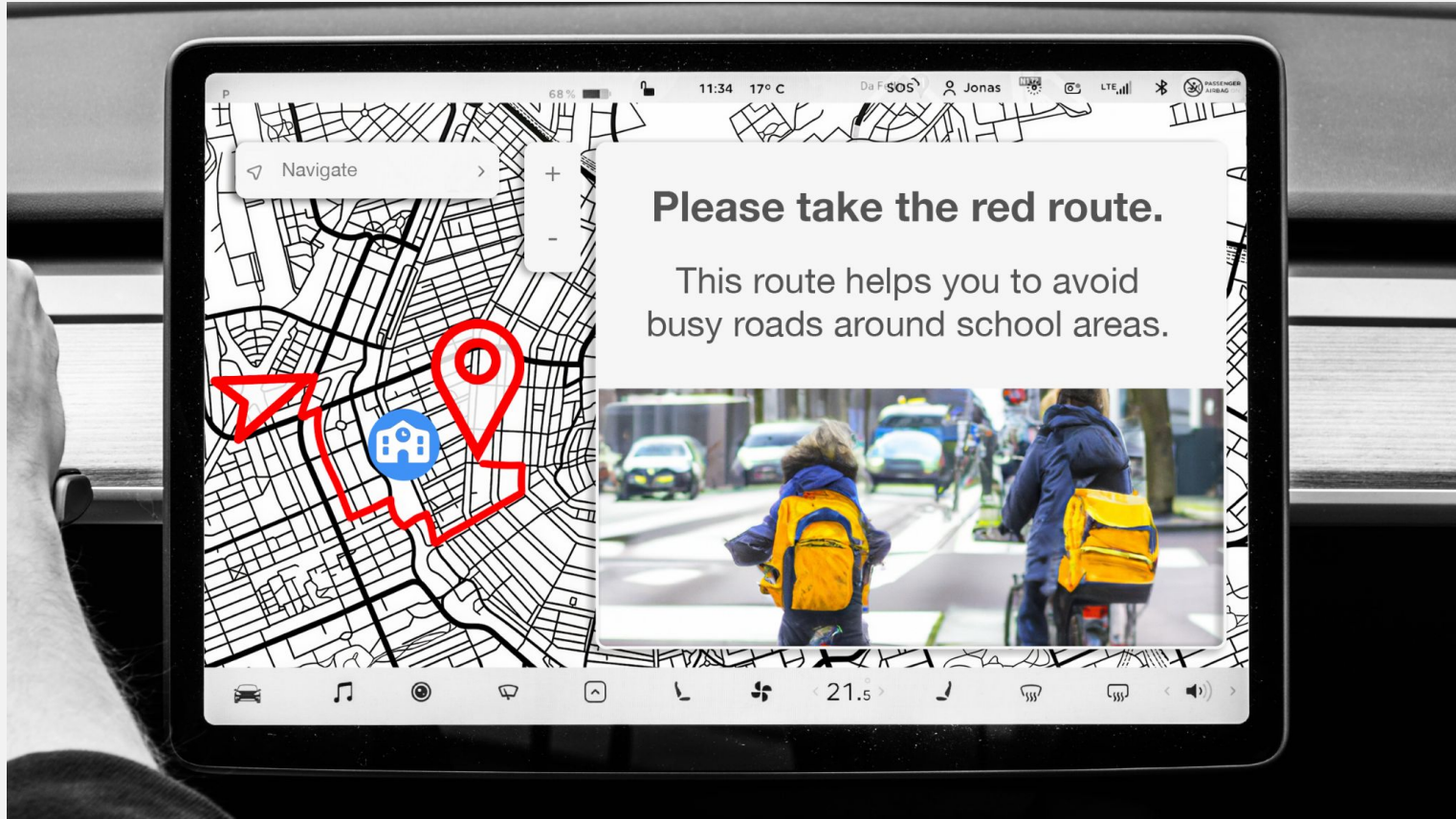
- **3 focal points:**
 - New digital technologies
 - Bio- and brain technologies
 - Environmental and sustainable technologies
- **Objective 4:** develop new collaborative models between philosophers, engineers, social scientists, policy makers, designers, and artists, aimed at improved philosophical and ethical analysis and responsible innovation

1. Project overview

Driving for Values

- Fictional **navigation aid** that would enable the municipality to **manage** the public space in **real time** by **steering** the users of this space on the basis of **collective values**.
- Inspired by the **Code the Streets** pilot run by the city of Amsterdam.

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Driving for Values

- We explored the influence of different **features*** of the Driving for Values navigation aid...

*such as:

- Whether or not following the routes is mandatory.
- Whether or not car drivers can influence the values underpinning the social routes.

- ...

Driving for Values

- We explored the influence of different **features*** of the Driving for Values navigation aid...

...on **car drivers' experience** of **Autonomy**, **Acceptance** and **Acceptability**.



Notification from the
city of Amsterdam:

**Follow the
yellow route**

Any deviation from this route will
result in a fine of 5 Euro per 100
meter.

This route contributes to:

**The protection of
Amsterdam's goose
population.**



Responsible Sensing Lab

Very fake, much wow
Driving license
Führerschein
Not really, don't even try

XL
RIJBEWIJS



1. Gerrit van Dijk
2. 21.06.2005
- 3a. 02.11.2028 3b. 02.11.2038
4. Gemeente Amsterdam
5. 983450
6. *Gerrit van Dijk* 7. 7X-94-AB

DI93N

8



9

BSN
0382.938.00

10

AM	A1	A	B	C1	T	ET
11 02.11.28	-	-	02.11.28	-	-	-
12 02.11.38	-	-	02.11.38	-	-	-

13 Drivers ideals

I hereby declare that I Gerrit van Dijk, as a driver of a motorised vehicle, pledge to act in line with the ideals that I chose from the list below proposed by the Ministry for National Road Administration. I understand that authorised road authorities may request me to comply with personalised rules informed by my ideals.

- Safe roads
- Economic growth
- Social cohesion
- Liveable communities
- Climate resilience
- Efficient mobility
- Cultural flourishing
- Healthy ecosystems

Minimum number of ideals selected: 3. More information about what each ideal entails and how it may be used to manage traffic can be found at rijbewijs.nl/ideals. Ideals can be updated up to two times per year at an office of the Ministry for National Road Administration or online.

14

Signature _____


Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Quis ipsum suspendisse ultrices gravida. Risus commodo venena maecenas accumsan lacus vel facilisis. Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua.



15:04 LTE 68%

Your location


Kattenburgerstraat 5



< Return

Route info

14 min, 5.7 km
For a Safe Amsterdam



This route contributies to safer roads around school areas during commuting hours.

You received this route advice because of your personal ideals:

- Safe roads
- Liveable communities

To update your personal ideals, visit amsterdam.nl/myideals

Acceptance, Acceptability, and Autonomy

- **Acceptance:** willingness to use the app
- **Acceptability:** the system's adherence to moral norms and principles
- **Autonomy:**
 - the ability to *freely choose* among different options
 - the availability of *meaningful* options

Project overview

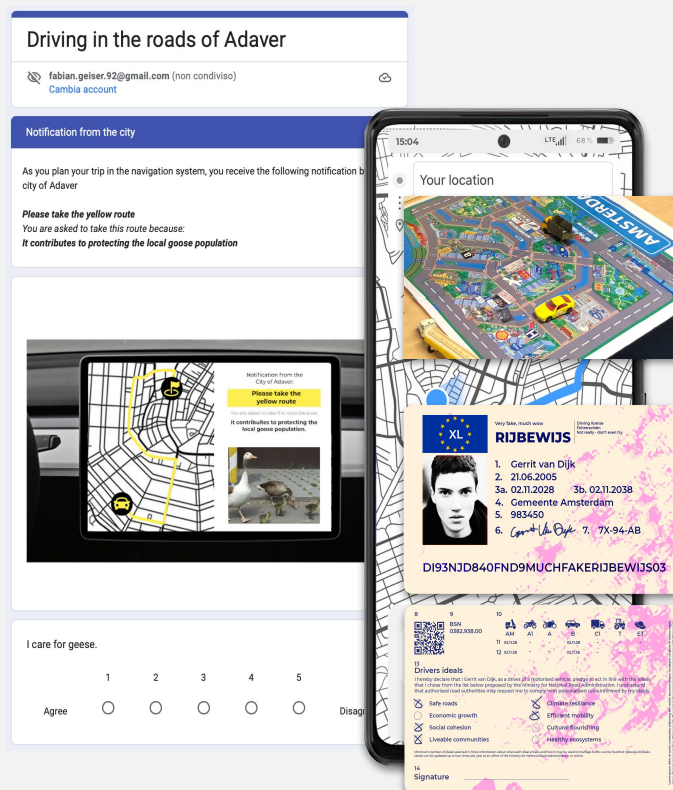
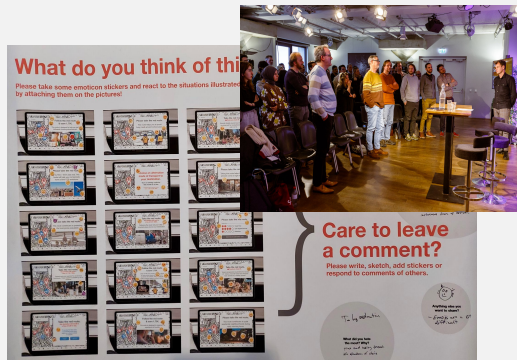
- Total of **7 studies** with approx. **65 participants**.
- Regular **workshops** with philosophy of tech. and human-computer-interaction experts.
- **Literature review**.

Outputs

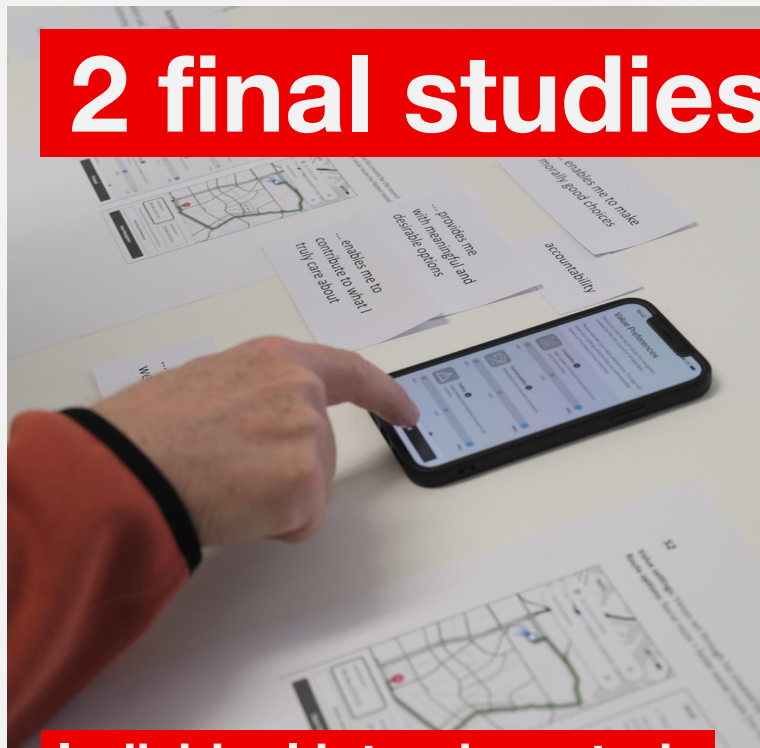
- **Recommendations** for the responsible design of the Driving for Values concepts **for the city of Amsterdam**.
- Insights into how we can study people's experience of values shared in scientific publications.

2. Studies

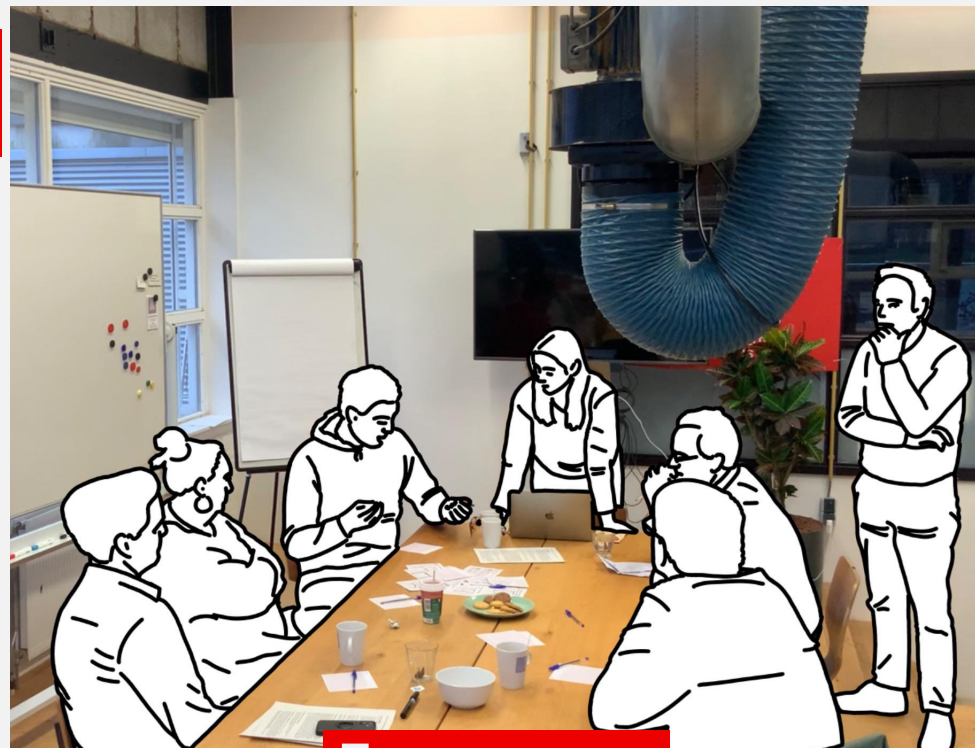
5 Mini studies



2 final studies



Individual interview study



Focus group

Individual interview study

Goal

Gather insights on the **four most promising features** (identified in the mini studies) affecting car driver's autonomy, acceptance and acceptability.

Participants

- 18 participants
- 22-64 years old, 8 female and 10 male,
- Self identified as regular car drivers in Dutch cities.

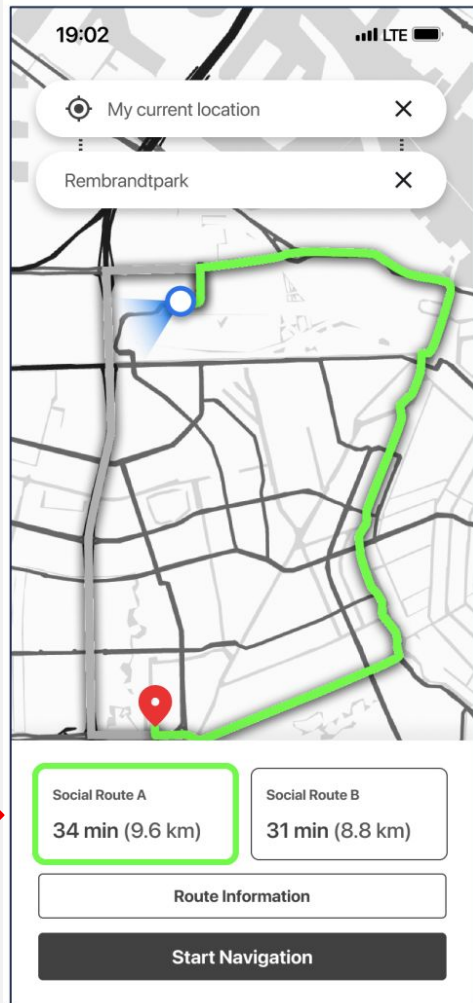
Set-up

We designed **six prototypes**, differing on some of the four features. Each participant compared two prototypes:

1. Participant engages with **one prototype**.
2. Participant engages with a **second prototype**.
3. **Comparison of prototypes** guided by questions.

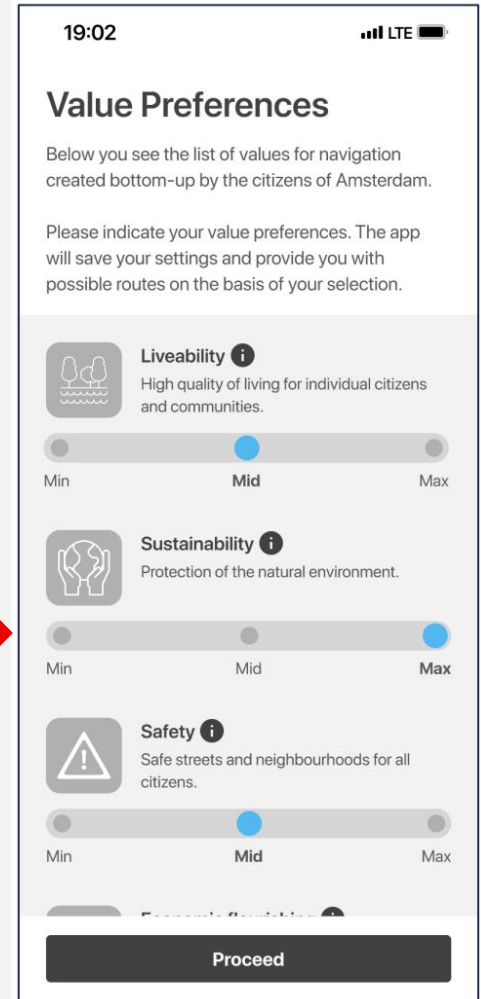
Example features

Drivers **can** / **cannot** choose an **alternative social route**.



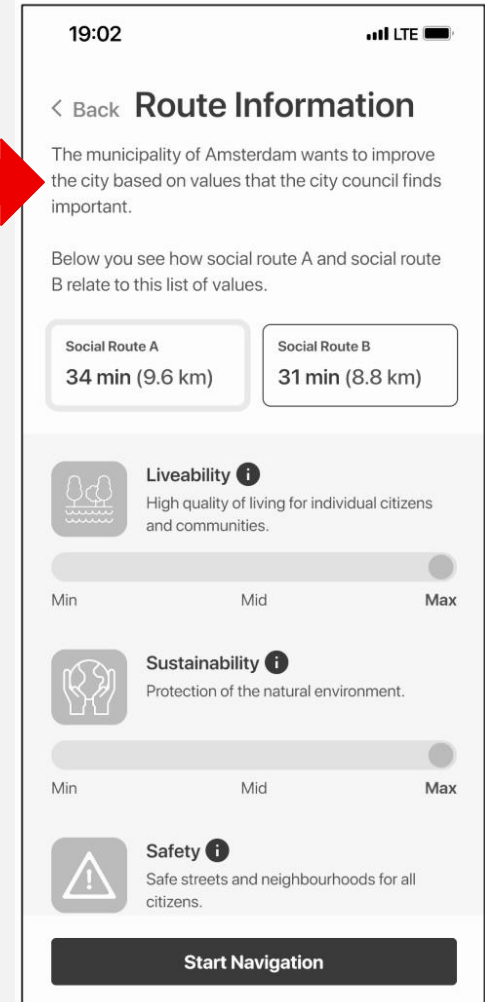
Example features

Drivers **can/ cannot influence the values** for which the system optimizes.



Example features

The **list of values** for which the system optimizes is **defined by the city council of Amsterdam/** defined bottom up by the **citizens of Amsterdam.**



Set-up



Focus group



Goal

Explore whether a group of diverse participants can agree on an ideal version.

Set-up

1.5 hour session in which participants explored all 6 prototypes and build their ideal version of the Driving for Values system.

Participants

- Five participants.
- Had previously participated in the interview study.

Example results

- Predominantly **positive reactions** towards the Driving for Values concept.
- **Citizens' trust** and support necessitates a deeper understanding of the system's **objectives** and **impacts**.
- Being able to **choose between routes** is a desirable option.
- **Values** should be defined in collaboration between the **city representatives** and **citizens**.

3. Recommendations for Amsterdam

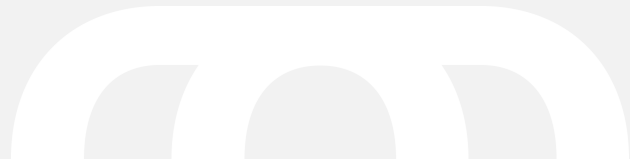
Recommendation example

Autonomy is not about having complete freedom or as many choices as possible but about having options which facilitate meaningful choices:

1. **Influence the high level public values** that the system promotes across the city (valid for all drivers in the city).
2. **Set personal value preferences** to receive routes that are in line with one's own ideals.
3. ...

Recommendation example

The introduction of such a system should be accompanied by a campaign in which people are informed about the purpose, the ideas behind it, the precise workings of the system and in which discussions with citizens are organized.



4. Wrap-up

Full report



Want to collaborate?

Get in touch with: fabian.geiser@ams-institute.org



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[/esdit-research-programme](#)

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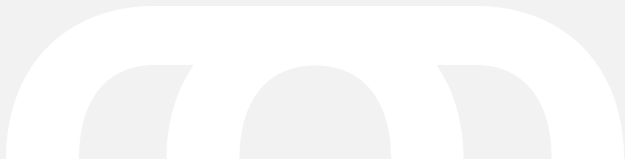


Recommendation example

Not everybody has to contribute to every goal: The **level of compliance with route advice** correlates with the **public value** created. For example: every car that does not go past a primary school at school opening time reduces the risk of a traffic accident in which a child gets hurt. This means that **not everybody has to abide** by the advice, allowing people who really do not like this not to do so, thereby **minimizing infringement on people's autonomy**.

Reflection on collaboration

- Having a core team and an advisory team worked well
- Bi-weekly meetings of the core team important for making progress and transdisciplinary learning
- **Highlight:** moment in which we realised we had successfully moved from individual research questions to **shared questions and goals**.



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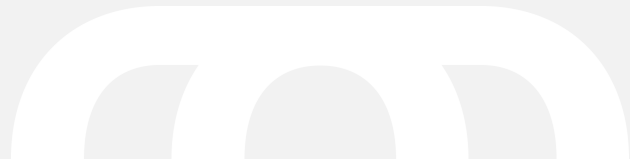
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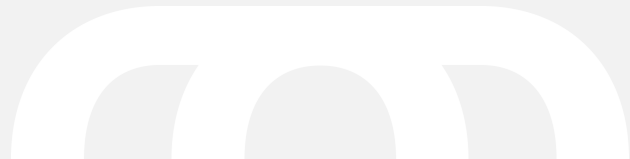
Recommendation example

Please add more



Driving for Values

- Is inspired by the **Code the Streets** pilot run by the city of Amsterdam:
 - Navigation aid
 - Providing social routes
 - Informed by collective values



Tested features

1. The system is **voluntary / mandatory**:

- **Voluntary**

Drivers can choose between the fastest route and a social route.

- **Mandatory**

Follow the route or no navigation provided (all navigation aids use social routes).

**The Responsible Sensing Lab
explores how to integrate public
values in the design of smart systems
in public space.**

Example questions

Acceptance

- Can you imagine actually using the app? Which app version?

Acceptability

- Is there anything that you find morally problematic about the design of the two app versions?

Example results

Participants ideal system:

- Is **voluntary** (fastest and social route are available),
- Strikes a **balance** between sufficient **information on the impact** of routes and **information overload**,
- **Values** are defined by **city representatives** and **citizens** in a yearly referendum,

- ...

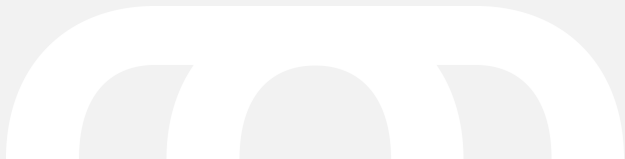
Example questions

Autonomy

- The system (or feature)...
 - ... constraints my individual freedom;
 - ... enables me to make morally good choices;
 - ... allows me to make well-informed decisions;
 - ...

Driving for Values

Different in that we explore a broader set of features



We explored the influence of different **features*** of the Driving for Values navigation aid...

*such as:

- Whether car drivers can influence the values underpinning the social routes.
- Whether following the routes is mandatory or voluntary.
- Whether car drivers can choose alternative routes.
- ...