Project report No. 5-2017

Pål Strandbakken, Randi Lavik and Harald Throne-Holst

iResponse: Crowdsourcing; An Approach to Urban Environmental Governance

SIFO
Consumption Research Norway
OSLO AND AKERSHUS
UNIVERSITY COLLEGE
OF APPLIED SCIENCES

Project Note no 5 – 2017

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Sammendrag Websurveyen denne rapporten omhandler ble gjennomført på høsten 2016 av TNS Gallup. Surveyen omfatter representative utvalg i fem norske byer: Oslo, Drammensregionen, Stavanger, Bergen og Trondheim. I alt 35 % oppga å ha hørt om «crowdsourcing». Ca. en av fire respondenter hadde forsøkt å påvirke byplanlegging, og omtrent 40 % mente at deres inngripen hadde hatt en viss effekt. Så mange som 69 % oppgir at de «sjelden» eller «aldri» kommuniserer digitalt med myndighetene. 40 % antar at de i fremtiden kommer til å kommunisere mer eller mindre som nå (6 % antar til og med at det kommer til å bli mindre), mens offisiell norsk politikk er at myndighetene vil øke mengden av digital kommunikasjon med borgerne. To hovedfunn med hensyn til privacy er 1: at folk blir mer skeptiske til å dele informasjon med myndighetene jo nærmere egen eiendom vi kommer, men at de uansett ikke er veldig skeptiske, og 2: at motviljen mot å dele informasjon er større når man snakker generelt, og blir mindre når typen informasjon blir spesifisert. Vi lurte på om det ville være noen interessante forskjeller mellom norske byer og splittet derfor opp respondentene i Oslo pluss de fire største byområdene i Norge. Dette ga ingen interessante funn. I det store og hele var svarene rimelig like i alle de fem regionene.

Summary . The web-survey that this report is based on was carried out in autumn 2016 by TNS Gallup. Representative samples in five Norwegian cities were selected; Oslo, Region of Drammen, Stavanger, Bergen and Trondheim. A total of 35 % reported to have heard of "crowdsourcing". Approximately one in four respondents (25 %) had tried to influence spatial planning, and of them almost 40 % believed that their interference had had some impact. As many as 69 % report to "seldom" or "never" communicating digitally with authorities. 40 % expected that they in the future would communicate more or less as often as today (with 6 % even expecting it to be less). The stated policy of the Norwegian government however is to *increase* the amount of digital communication with citizens. Two main findings regarding privacy issues are: 1) That people are more skeptical to share information with authorities the closer the information is to the home/property. However, in general they are not very skeptical, and, 2) that the reluctance to share information and digital tracking data is higher when questions are posed as general questions of privacy rather than if they are specified for type of information. We questioned if there would be some interesting differences between Norwegian cities/urban areas. This is the reason to why we split the questionnaire between Oslo and the following four largest Norwegian cities. This split did not yield interesting results. Overall, answers were rather similar in the five cities.

Stikkord Crowdsourcing, spørreundersøkelse, kommunikasjon med myndighetene, informasjonsdeling

Keywords Crowdsourcing, survey, communication with authorities, information sharing

iResponse: Crowdsourcing;

An Approach to Urban Environmental Governance?

by

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2017

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Preface

The project iResponse is financed by the Norwegian Research Council and it runs from 2015 to 2018. It is a research project under the SAMANSVAR programme, and it is led by NILU; the Norwegian Institute for Air Research. In addition to NILU, the project has 6 partners: NIVA, the Norwegian Institute for Water Research, SIFO – Consumption Research Norway, Aalto University, Finland, Mapita Ltd., Finland, the University of Oslo; Dep. of Informatics and Netlife Research AS, Norway.

The web-survey that this report is based on was carried out in the autumn of 2016 by TNS Gallup. Representative samples in five Norwegian cities were selected; Oslo, Region of Drammen, Stavanger, Bergen and Trondheim. A total of 1933 respondents answered the web-questionnaire.

This report is written by Pål Strandbakken, Randi Lavik and Harald Throne-Holst, SIFO, with the aid and comments from Susana Lopez-Aparicio, NILU and Line Johanne Barkved, NIVA.

Oslo, May 2017

Contents

Summary

This report covers a large set of themes and questions on public participation in local decision making, mainly by digital means and platforms. Its 36 figures are not obviously "summarizable".

It starts with a set of questions on citizen participation and attempts at influencing spatial planning, and questions of the preferred means of communication. Approximately one in four respondents (25 %) had tried to influence spatial planning, and of them almost 40 % believed that their interference had had some impact; both of which we regarded as rather high.

Further, we have results for actual digital communication with authorities (how often?) and citizens' expected future frequency, with some surprises. As many as 69 % report to "seldom" or "never" communicating digitally with authorities. More interesting is that 40 % expected that they in the future would communicate more or less as often as today (with 6 % even expecting it to be less). The stated policy of the Norwegian government however is to *increase* the amount of digital communication with citizens.

We asked for citizens' familiarity with the crowdsourcing concept. A total of 35 % reported to have heard of it, with some variations with gender and age (men more than women, young more than old).

Partly connected to our three ongoing case studies, we asked some questions about the willingness to share information with authorities, with businesses, with research institutions or with NGOs. We found it somewhat surprising that people were more negative to give environmental NGOs access to digital tracking information about them than to give the same to the private sector (banks, insurance companies, grocery stores) – 81 % no vs, 76 %.

Two main findings regarding privacy issues are: 1) That people are more skeptical to share information with authorities the closer the information is to the home/property. However, in general they are not very skeptical, and, 2) that the reluctance to share information and digital tracking data is higher when questions are posed as general questions of privacy rather than if they are specified for type of information. Only 12 % are "fairly" or "very" negative to traffic management via surveillance cameras.

We questioned at the outset if there would be some interesting differences between Norwegian cities/urban areas. This is the reason to why we split the questionnaire between Oslo and the following four largest Norwegian cities. This split did not yield interesting results. Overall, answers were rather similar in the five cities, and when there was some variation it seemed to be rather coincidental and hard to theorize.

1 Introduction

1.1 iResponse

The iResponse project, financed by the Norwegian Research Council, runs from 2015 to 2018. It is a research project under the SAMANSVAR Programme. NILU; the Norwegian Institute for Air Research is the coordinator of this project. In addition to NILU, the project has 6 partners: NIVA, the Norwegian Institute for Water Research, SIFO – Consumption Research Norway, Aalto University, Finland, Mapita Ltd., Finland, the University of Oslo; Dep. of Informatics and Netlife Research AS, Norway.

The primary objective of the iResponse project is to *"develop and assess ICT-based crowdsourcing tools for citizen participation in environmental research and decision making through a transparent process based on co-designing"*.

The term *crowdsourcing* refers to a process where we obtain data, other inputs and/or performance of specific tasks from a large group of people; often based on online tools and on participation from communities. One example, relevant for the iResponse project would be the real-time mapping of traffic congestion, based on the location services of smart phones, linked to Google Maps app. The concept has been developed in tandem with the well-known term crowd*funding*. Responsible Research and Innovation (RRI) is at the hearth of the iResponse project; especially by the responsible use of crowdsourcing data.

The iResponse project aims at involving stakeholders, scientists/innovators and citizens in the understanding and development of responsible crowdsourcing tools in general, to develop two specific ICT based tools to address environmental challenges (urban storm water & urban air pollution), based on citizen participation.

Among the secondary objectives, the project should assess social concerns with crowdsourcing tools, as well as proposing ways to overcome such concerns. It should elaborate recommendations for the development and use of crowdsourcing tools for environmental research and decision making, in addition to involving a wide range of stakeholders, among them citizens. The rationale for conducting a web survey is mainly connected to these secondary objectives. Through the survey, we wish to understand citizens' knowledge of or familiarity with the themes and their attitudes towards them.

1.2 The survey

A web-survey was carried out in autumn 2016 by TNS Gallup. Representative samples in five Norwegian cities were selected; Oslo, Region of Drammen, Stavanger, Bergen and Trondheim.

A total of 1933 respondents answered the web-questionnaire. The distribution of respondents per city was:

Oslo 425, the region of Drammen 326, Stavanger 353, Bergen 406 and Trondheim 423.

Most of the feedback to the survey received from the respondents was positive. The participants found it interesting to answer the questions, and they generally found them and the theme important for society.

1.3 Expectations. Theoretical and general perspectives

We expected that the term crowdsourcing would be a rather unfamiliar concept for most of the respondents. There have been surveys conducted on crowdsourcing themes in Europe and the United States of America (CCLA Surveys August 2014 & April 2015, CITYKEYS project 2015, Yuen, King & Leung 2011, Mao, Capra, Harman & Jia 2016, United Nations E-government Survey 2014), but to our knowledge there has not been many surveys on public knowledge and acceptance, and we do not know of any a been undertaken in Norway.

Since we were hesitant about the level of knowledge regarding the crowdsourcing concept and the relevant themes, we limited the web survey to urban dwellers, and in addition we planned to compare the results between five different Norwegian cities. This assumption turned out to yield little, and for most of the questions there were few noteworthy differences between the five cities. This should be viewed as an interesting result in itself.

The gender composition of the samples were more or less identical in all the cities; exactly 50 % vs. % 50 % or 51% vs. 49 %. Respondents' age showed a bit more variation; with Oslo respondents being a bit younger than the five city average and Drammen respondents being older than the five city average. 60 % of Oslo respondents were below 45 years old, compared to 48 % in Drammen. Consequently, 41 % of the Oslo respondents were 45+, compared to 51 % in Drammen. Apart from this, the age composition of the city samples were almost identical, varying at most with 2 % in all age groups between Stavanger, Bergen and Trondheim. Nevertheless, the difference between Oslo and Drammen does not seem to have had any systematic implication.

In this context, the nationally representative survey context, we expected to touch on and to highlight privacy issues; the more or less voluntary sharing of information and the concern over potential misuse of such data among respondents. These aspects make the RRI tradition; Responsible Research and Innovation relevant for our work. *"Responsible innovation means taking care of the future through collective stewardship of science and innovation in the present"* (Stilgoe et al. 2013:1570). Macnaghten (2016) introduced the AIRR framework for RRI; anticipation, inclusion, reflexivity and responsiveness; *"The dimensions are important characteristics of a more responsible vision of innovation, we argue, be heuristically helpful for decision-making on how to shape science and technology in line with societal values"* (Macnaghten 2016:6).

Further, there are strong links to modern ideas about citizen involvement in new technology and to participatory democracy in general (Strandbakken et. al eds. 2013). The questionnaire meets these themes rather commonsensical and with limited theoretical ambitions. Overall, we consider the survey to be an exploratory 'probe' into citizens' familiarity with a set of rather novel concepts.

1.4 Specific contributions on crowdsourcing

Surveying the literature, we found articles and book chapters that present ideas and approaches that might have some relevance for analyzing our material. Brabham (2013) introduces a set of four "urban governance problem types" that might be suitable for understanding citizen participation through crowdsourcing: 1) Knowledge Discovery and Management, 2) Broadcast Search, 3) Peer-Vetted Creative Production, and 4) Distributed Human Intelligence Tasking.

In the framework of the iResponse project, no. 1, the Knowledge Discovery and Management Approach (KDM), and no. 3; the Peer-Vetted Creative Production Approach (PVCP) are the most relevant. The first would typically concern citizens' reporting of non-emergency issues like "potholes in the road and graffiti on buildings" and "malfunctioning traffic signs and clogged storm drains" (Brabham 2013, p. 53), while PVCP would include involving the crowd in design solutions and in decisions on policy ideas.

Both are relevant for the iResponse project, as we include three case studies, 1) storm water management, 2) air pollution – wood burning and 3) urban planning. The three case studies are based on citizen participation, and co-creation processes. As part of our tools and case studies development, we are including elements of co-creating, opening for citizens to contribute to issues related to urban sustainability. For instance, we include elements in the tools to facilitate citizens in contributing with/on ideas on how to reduce air pollution (i.e. air pollution case study), in design solutions for storm water management (i.e. storm water case study) or ideas to design a livable Oslo city center (i.e. urban planning case study). Moreover, the crowdsourcing methods developed within the project enable citizens to report on their activities; i.e. wood burning consumption, in line with KDM approach. A number of our survey questions deal with the idea of crowdsourcing in the shape of KDM and PVCP.

2 The Results

2.1 Introduction to the questionnaire:

In this study, we look at your ability to participate in politics and to be involved in influencing the development of new ways, often through the use of "digital platforms" such as personal computers (PCs), smart phones, tablets and the like. We are particularly concerned with participation in dealing with local environmental urban problems such as air quality, flooding, traffic problems and in decision making processes.

2.2 Information sharing

2.2.1 Have you ever expressed your opinion about, or tried to influence spatial planning in your neighborhood, e.g. planning parks, bicycle paths, small bridges?

The first question was if the respondents had expressed their opinion on planning procedure in their neighborhood:
Have you ever expressed your opinion about, or tried to influence spatial planning in your neighborhood, ex planning parks, bicycle paths, small bridges?

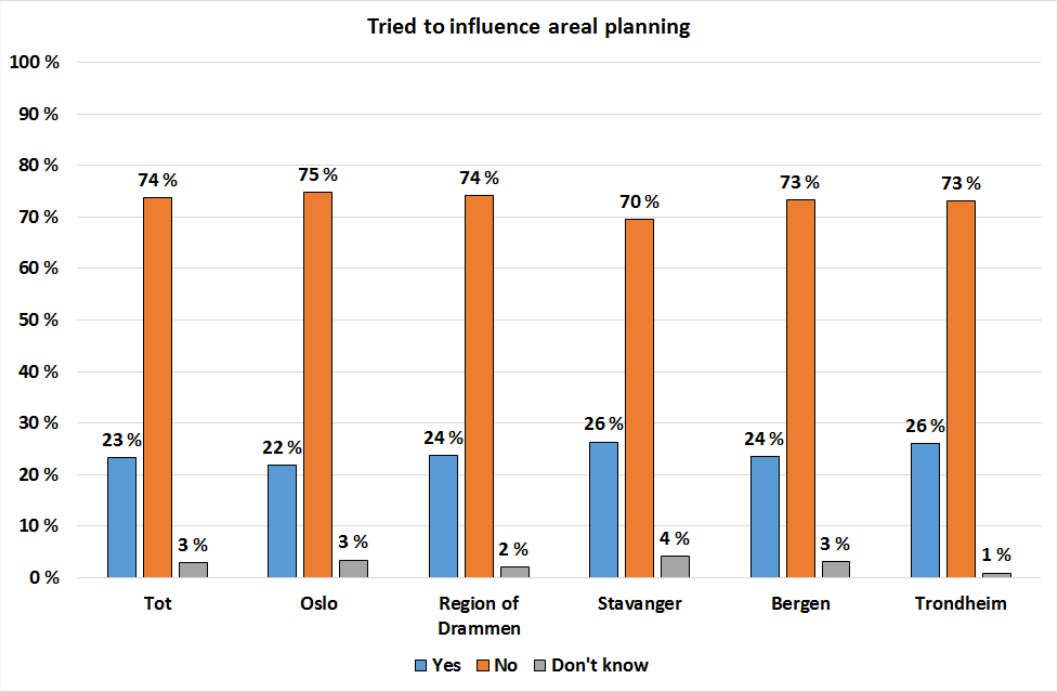

Figure 2-1 Tried to influence areal planning?

About ¼ have tried to influence the planning in their neighborhood like planning parks, bicycle paths, small bridges, etc. There is no differences between the five cities. Intuitively, we sense that this result, 23 % yes, is a rather high number, even if we are uncertain as to what we might have expected or what to compare it with. How?

Those who said 'yes' in the first question were asked how:

In what way did you try to influence the planning?

- *Via an "app"*
- *Via e-mail*
- *Via a web site*
- *By letter*
- *Vocally (by telephone)*
- *At a public meeting*
- *Other*
- *Don't know*

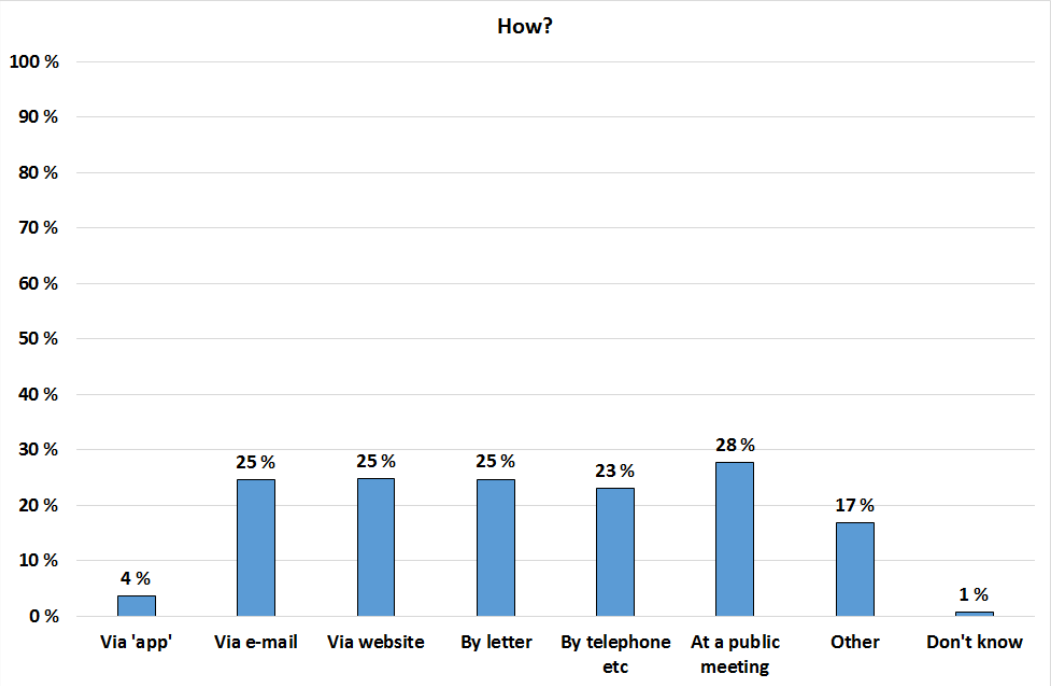

Figure 2-2 In what way did you try to influence the planning? Multiple answers. N=449 (Among those who said 'yes' in figure 2-1)

Very few tried to influence via an app. This may be because such apps have not yet been developed for this kind of communication. There are very few differences between the cities, but this question gave a substantial difference between Oslo and Stavanger where in Oslo 31 % communicated by website compared to 12 % from Stavanger. We do not have an explanation for this difference, but it might be interesting to compare Internet use or technology use between the two cities, or the design of the websites of the two cities? Another possibility could be that the websites of Oslo are more inviting in this respect, or that there have been more contested cases in Oslo, where more citizens have had the need to influence the municipality? We a lso know (chapter 1.3) that the respondents from Oslo are younger than the rest, but the difference between Oslo and Stavanger is not very big (60 % vs. 55 % below 45).

2.2.2 Do you think that your participation had some impact on the planning?

We then asked if the respondents would think that the participation in the planning procedure mattered:
Do you think that our participation had some impact on the planning?

- *Yes, quite sure*
- *Yes, probably*
- *No, probably not*
- *No, quite sure not*
- *Don't know/too early to say*

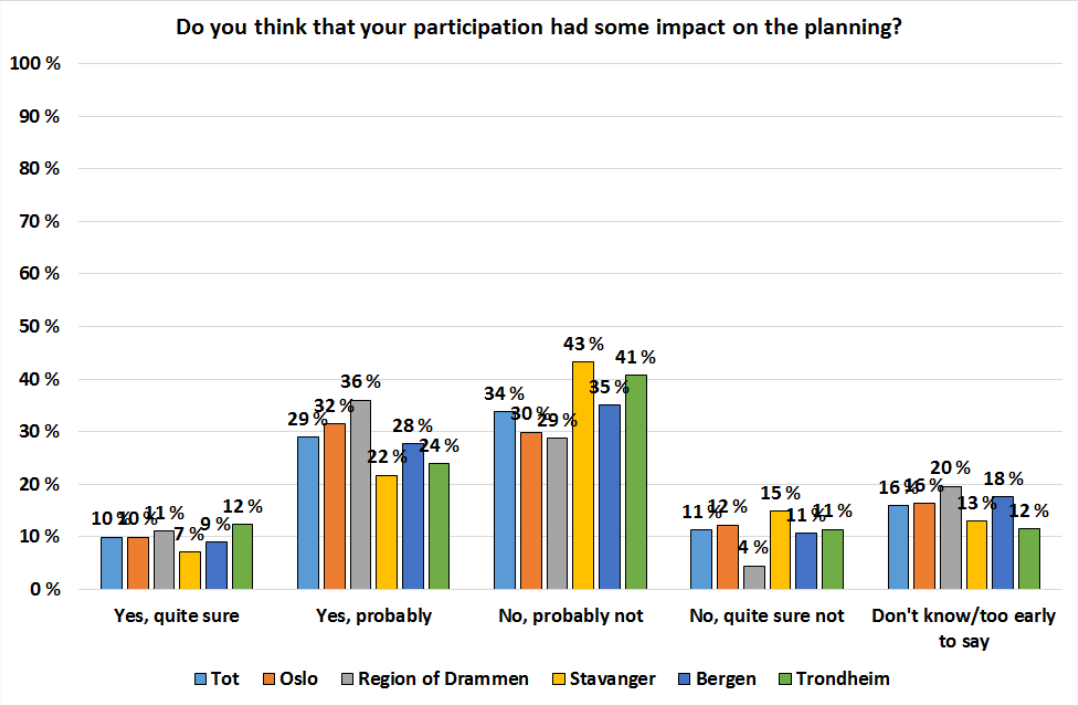

Figure 2-3 Do you think that your participation had some impact? N=451

If we look at the total distribution 39 percent, (10 + 29) thought that their participation had some effect, while 44 percent thought it had not. A siginificant proportion did not know.

That almost 40 % believed that their participation had some effect on the outcome or impact appear rather impressing. This actually leaves an impression of a functioning direct democracy. At least it indicates that municipal authorities might be willing and able to listen to the voice of engaged citizens. For potential future citizen involvement in local planning and local politics, this seems promising, indicating that participatory democracy is relevant for local decision-making.

2.2.3 How often do you communicate digitally with the authorities?

We asked how often they communicated digitally with the authorities:

How often do you communicate digitally with the authorities (via internet, smartphone, PC, etc.)?

- *Often*
- *Sometimes*
- *Seldom*
- *Never*
- *Don't know*

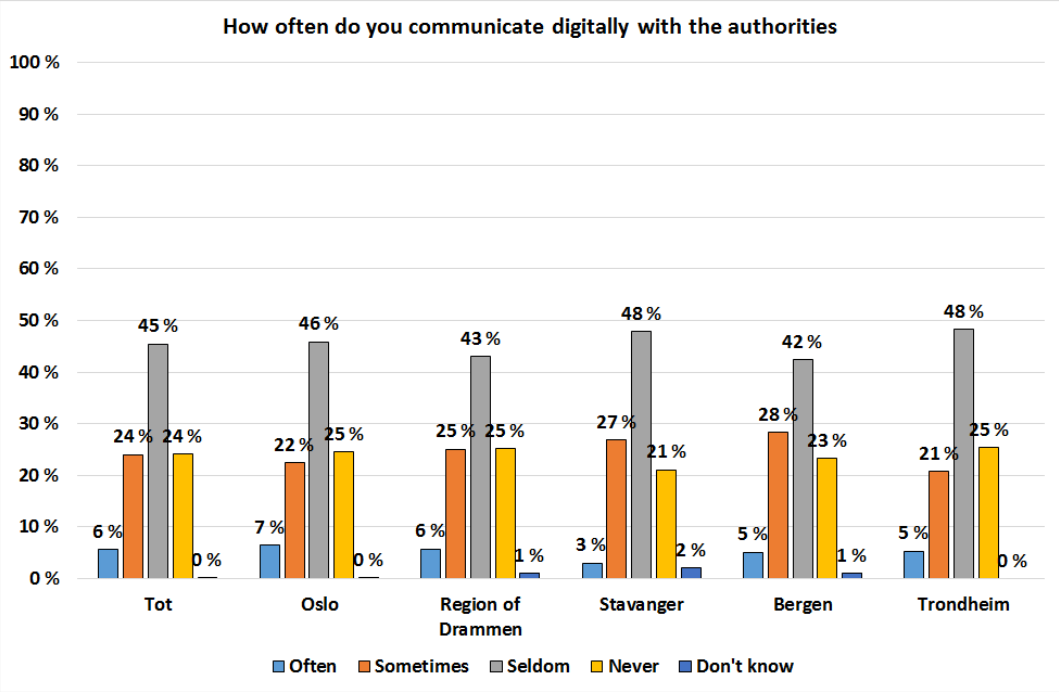

Figure 2-4 How often do you communicate digitally

A great proportion says they seldom or never communicate digitally with the authorities, 69 % in total (45 + 24). There are minor differences between the cities.

This finding appear to be in conflict with the findings of a European study on individuals who used the internet for interaction with public authorities. This study found that close 85% of the Norwegian respondents claimed to have used Internet, in the last 12 months, for interaction with public authorities. That included obtaining information from public authorities web sites, OR downloading official forms OR sending filled in forms (Eurostat 2016).

However, in our survey we asked for digital communication, whereas the European study included several categories like surfing on the webpages of puibliv authorities, that our respondents probably did not view as communication.

Here, we have reasons to believe that this proportion will decrease dramatically in the coming years, with the explicit policy from the Norwegian government that more interaction and information transmission will be on digital platforms in the future (Regjeringen 2016).

2.2.4 How often do you think you will communicate with the authorities digitally in the future?

It was also asked about practice in the future.

How often do you think you will communicate with the authorities digitally in the future?

- *More often*
- *Somewhat more often*
- *Like today*
- *Somewhat more seldom*
- *More seldom/never*
- *Don't know*

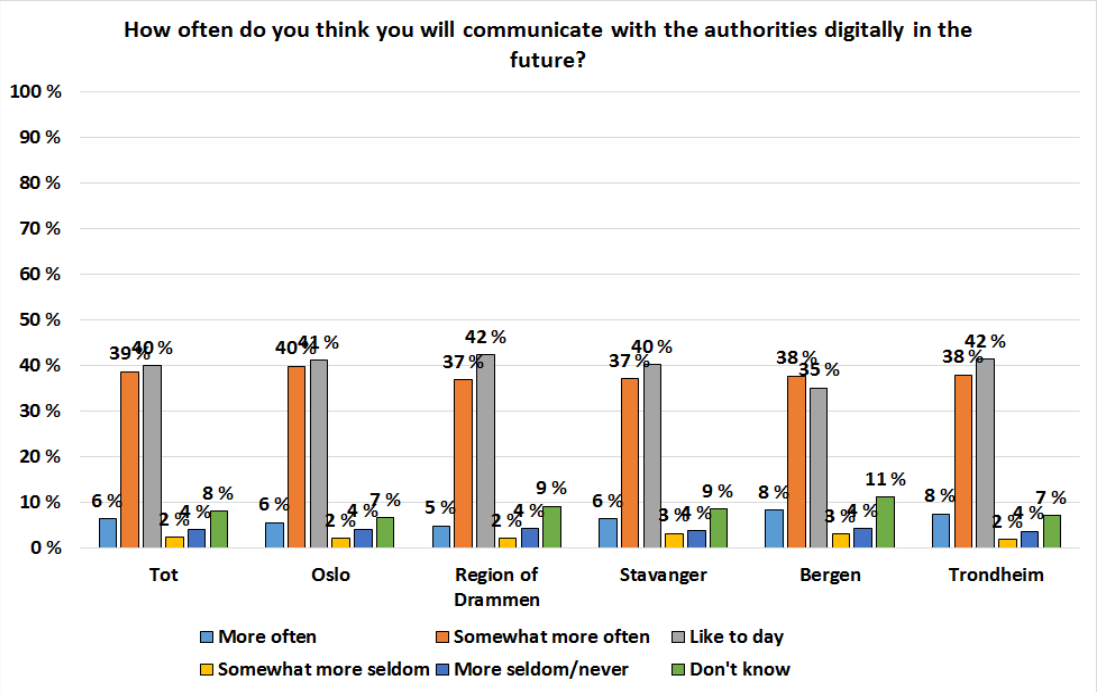

Figure 2-5 How often do you think you will communicate with the authorities digitally in the future

Compared to how much they communicate digitally with the authorities today, it seems like the inhabitants will communicate more often digitally in the future. There are small differences between the cities.

It is obviously meaningless to claim that the respondents are "wrong", when we ask them about their expectations to future digital communication. There is, however every reason to believe that the correct estimate would be "more often" and "somewhat more often". As mentioned, this is the stated policy here. Norwegian authorities have the explicit aim to help the population to digital platforms for more efficient public administration.

So it is a bit puzzling when close to half the population believe that they in the future will communicate digitally with authorities "like today" or more seldom. Since this is a web survey, the sample consists of people who have Internet access, so we could not explain these findings by guessing that we have tapped into some sort of technological backwater. These responses remain puzzling, at least it should be an impetus to the further development of the digital platforms, as we could read this as if the public services would remain as they are today, people would not envisage they actually would not use them anymore

2.2.5 Would you be willing to share some of this information with your local authorities?

Sharing information with the local authorities was one important question.

Would you be willing to share some of this information with your local authorities? Multiple answers possible

- *Information about air pollution in your vicinity*
- *Information about water retention in your vicinity*
- *Information about traffic problems where you move*
- *Not willing to share information*
- *Don't know*

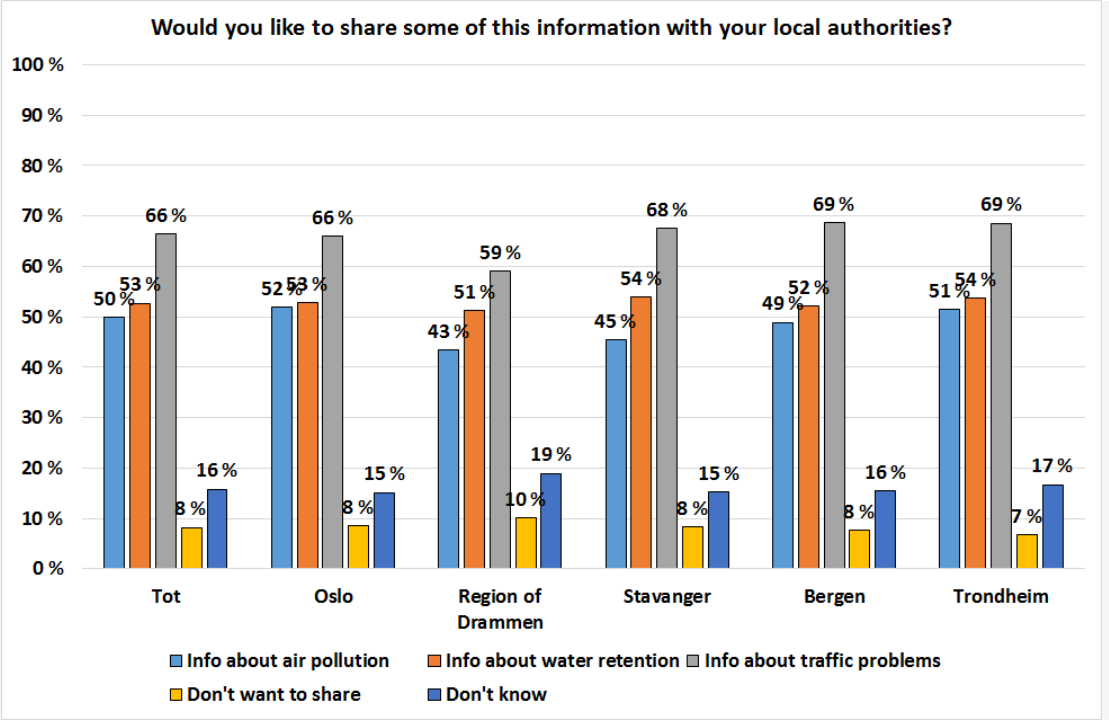

Figure 2-6 Would you like to share some of this information. Multiple answers

Topping the list of information they might be willing to share, is information about traffic problems while info about air pollution receives the lowest score. The tendencies are almost the same for all cities. A small proportion do not want to share, and some do not know. Again, small difference between the cities.

If indeed there is a widespread fear in the population of misuse of personal data, this fear seems to evaporate when the type of information is specified. The mentioned information probably does not seem too private or sensitive.

2.2.6 The types of digital information you would like to receive from local authorities, if any.

We asked about what digital information the respondents would like to receive.

The types of digital information you would like to receive from local authorities, if any? Multiple answers possible

- *News in general*
- *Research news*
- *General information about your city*
- *General information about you neighborhood*
- *Information about air pollution in your vicinity*
- *Information about storm water in your vicinity*
- *Information about traffic problems where you move*
- *Do not want any information from local authorities*
- *Other (note)*
- *Don't know*

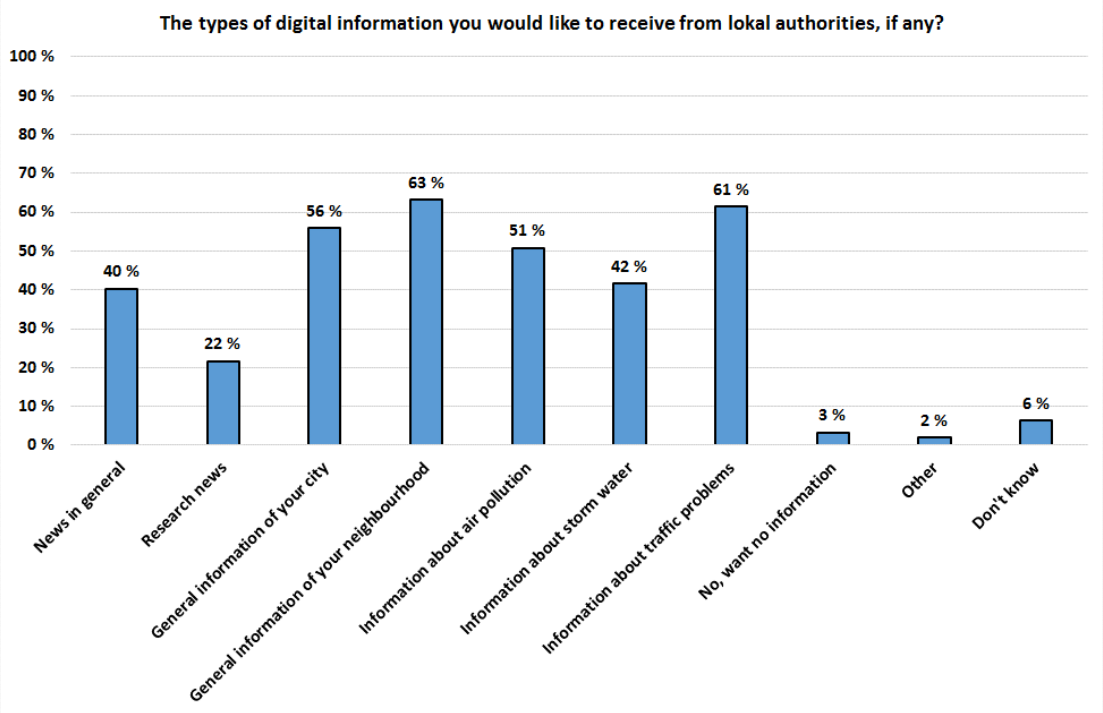

Figure 2-7 Types of information you would like to receive from local authority. Multiple answers

The two most frequent answers to this question of preferred information were: 1) general info about the neighborhood and 2) about local traffic problems. The third was info of their town, and pollution was ranked forth. The fifth and sixth were information about storm water and news in general. There was less interest in information about research news. Also for this question was differences between the cities small.

For the themes of the three case studies in the iResponse project, we are able to establish that there is some public interest in receiving information about them, i.e. air pollution and storm water management, although they are not considered the most interesting topics by the respondents.

2.2.7 Crowdsourcing

We felt that it would probably not be fruitful to ask for familiarity with crowdsourcing directly, so we included an explanation:

The use of digital means of communication opens new ways of communication between citizens and authorities. If everybody reports flooding, traffic problems etc. when they occur, the messages together could give authorities an immediate impression of the issues that come into play, where they take place and the extent to which, and they will be able to respond back to the community via relevant information campaigns: SMS alert, local radio, traffic control, etc. Such exchanges are often called "crowdsourcing" - in Norwegian the concept "dugnad"; meaning voluntary communal work, will cover some of the meaning of crowdsourcing, even if crowdsourcing mainly is about information, while dugnad usually is more physical or practical.

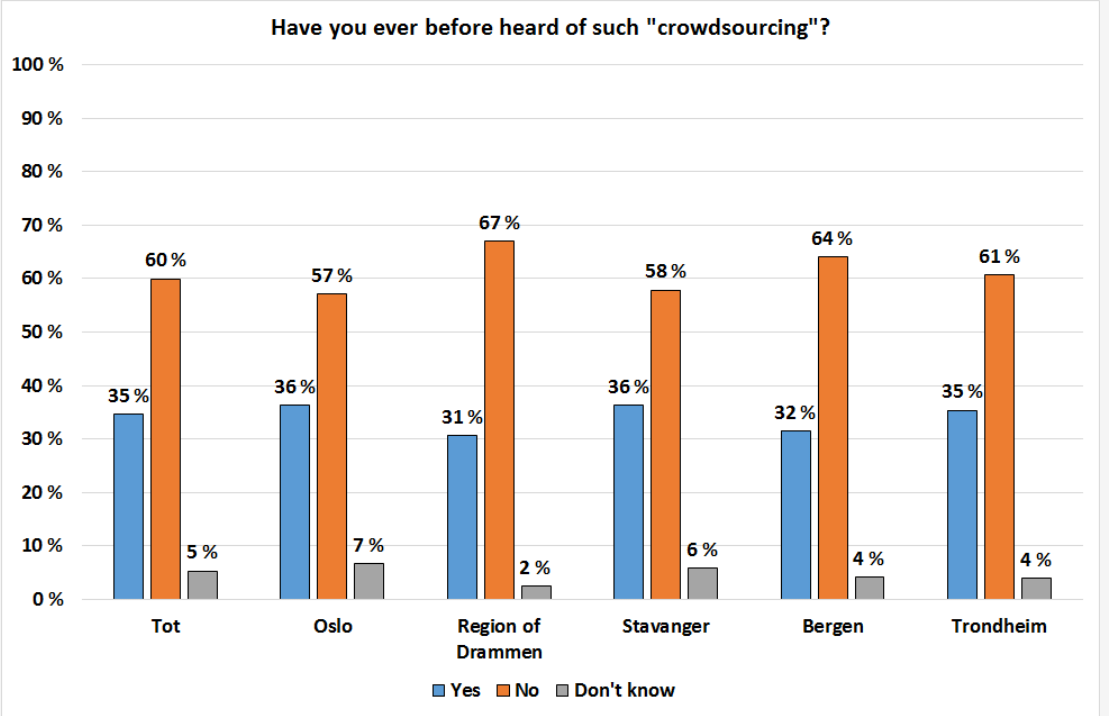

Figure 2-8 Have you ever heard of "crowdsourcing"?

In total 35 % responded positively to this question, and the same tendencies in all cities. This result was somewhat surprising since our hypothesis was that few would had heard of this approach.

When we exclude those who answered "Don't know" and controlled for gender, we found that 43 % of the male population answered yes, meaning that they had heard of crowdsourcing earlier, as opposed to 28 % of the females (N = 936 & 906, respectively). We do not have a clear-cut explanation to why there is a rather large gender difference on the familiarity dimension, but it might partly be explained by women being less involved with technological issues than men. Another possibility is that the introduction was understood more broadly and that some of the respondents had heard about some of the elements of crowdsourcing before, and therefore would say that they were familiar with crowdsourcing. Further, one could speculate if the respondents confuse crowdsourcing with crowdfunding, which is a term we suspect is more widely known.

More in line with our expectations, however, were the results for age: When we controlled for respondents' age, the familiarity with the term falls rather steadily with increasing age, from

48 % yes in the below 30 group, to 46 % in the 30-44 group, 28 % in the 45-59 group and 17 % in the 60+ group. It is not really surprising that newer generations are more familiar with the term crowdsourcing than older generations.

Familiarity with a new term or concept, a concept with strong, even defined links to digital platforms, should be expected to be highest among the young citizens. We should, however be aware that this is a very *low threshold question*, where we first more or less explain what it is, and then ask if respondents have heard about it prior to the survey. It would seem rather easy to answer "yes" in a situation like that. But due to the novelty of the concept it was hard to approach the knowledge question in another way. In addition, we feel that the distribution of answers between the age groups makes sense, increasing our trust in the results.

2.2.8 How positive or negative are you to inform the authorities by "crowdsourcing" of events

We asked how positive or negative the respondents to inform the authorities:

How positive or negative are you to inform the authorities by "crowdsourcing" of events
...in the city you live?

...in your neighborhood?

...on your property?

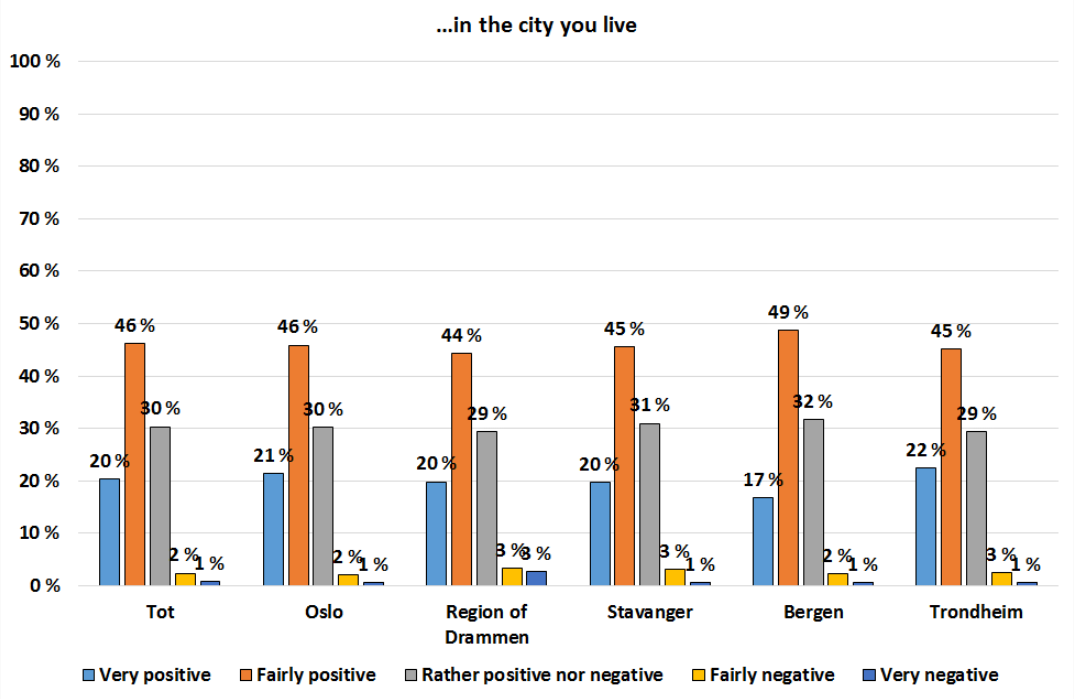

Figure 2-9 How positive or negative are you to inform in the city you live?

The majority was either very positive or positive to inform the authorities in the city they were living in, about two third of the population. Rather few was negative. These tendencies were the same across all cities.

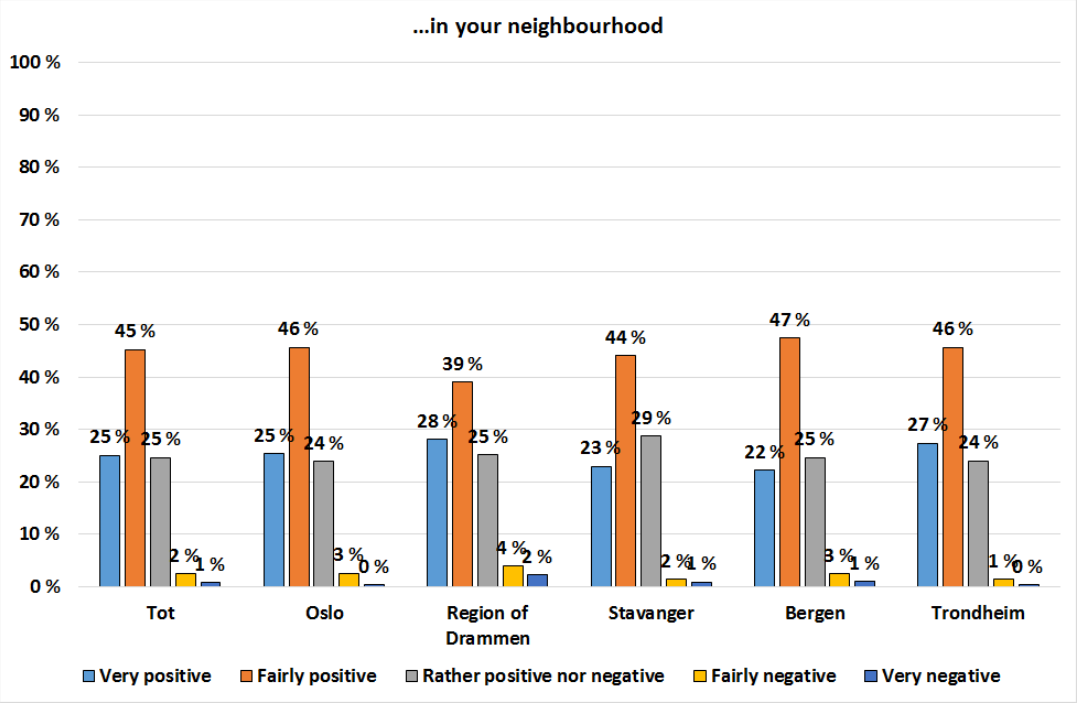

Figure 2-10 How positive or negative are you to inform in your neighborhood?

The willingness to inform the authorities about events in the neighborhood shows the same tendencies as for events in the city.

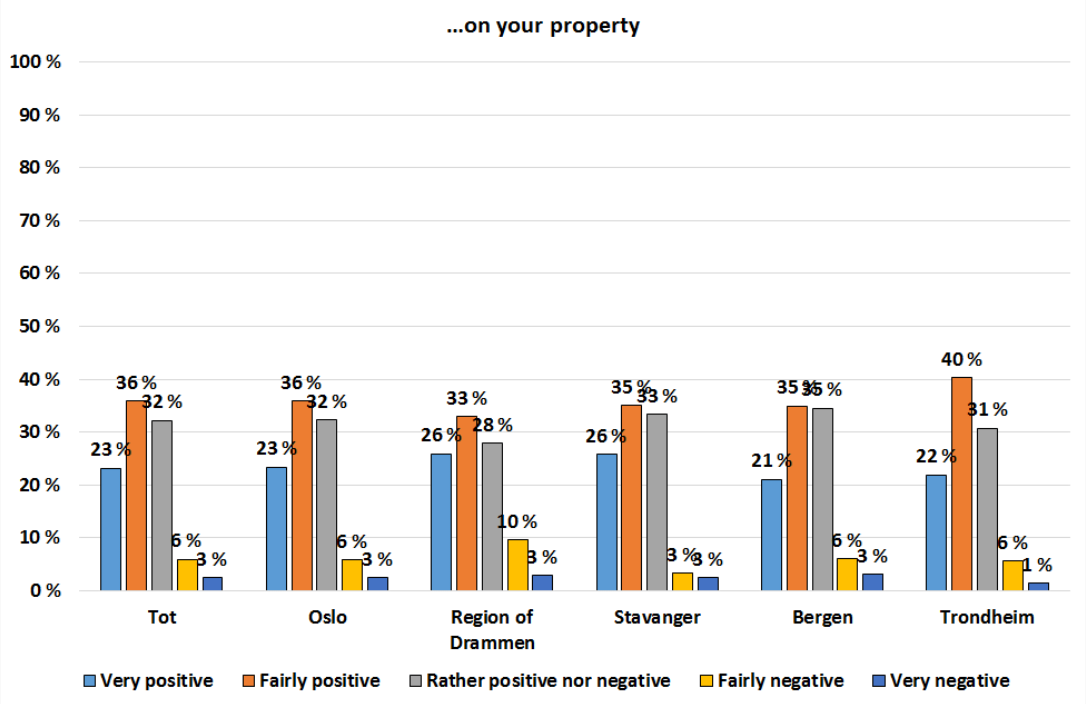

Figure 2-11 How positive or negative are you to inform about your property?

The degree of willingness to inform the authorities about events on the respondents' property is not as positive as for events in the city and neighborhood. However, very few are negative.

We should take the figures 2-9 to 2-11 together, as there is little difference between them; except for a slightly decreased willingness to inform authorities when it concerns occurrences on their property. It seems as if people's concern with data privacy increases when we get closer to home (not surprising, actually), but differences are not large. After all, this might not be considered to go into really sensitive issues?

2.2.9 Would you allow for "surveillance"

Today, there are so-called "cookies" which leave your traces when you use digital media. If you use "Google Maps" to find your way, or "queue-free" chip when driving through a toll ring, others can be able to "see" where you are or have been.
.

Would you allow any of the following to access the digital tracking information about you?

- *Private sector (eg. Banks, insurance companies, grocery stores and the like)*
- *NGOs (like 'The Future in Our Hands' or other environmental organizations)*
- *Universities, colleges, research institutes*

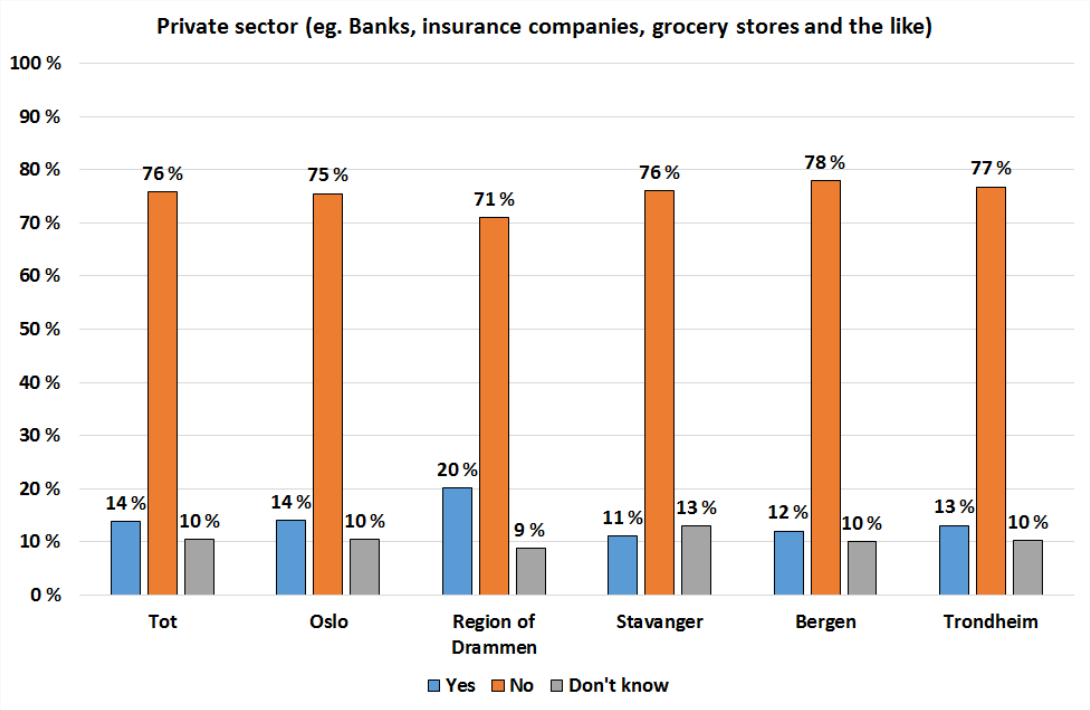

Figure 2-12 Would you allow private sector to access the digital tracking information about you?

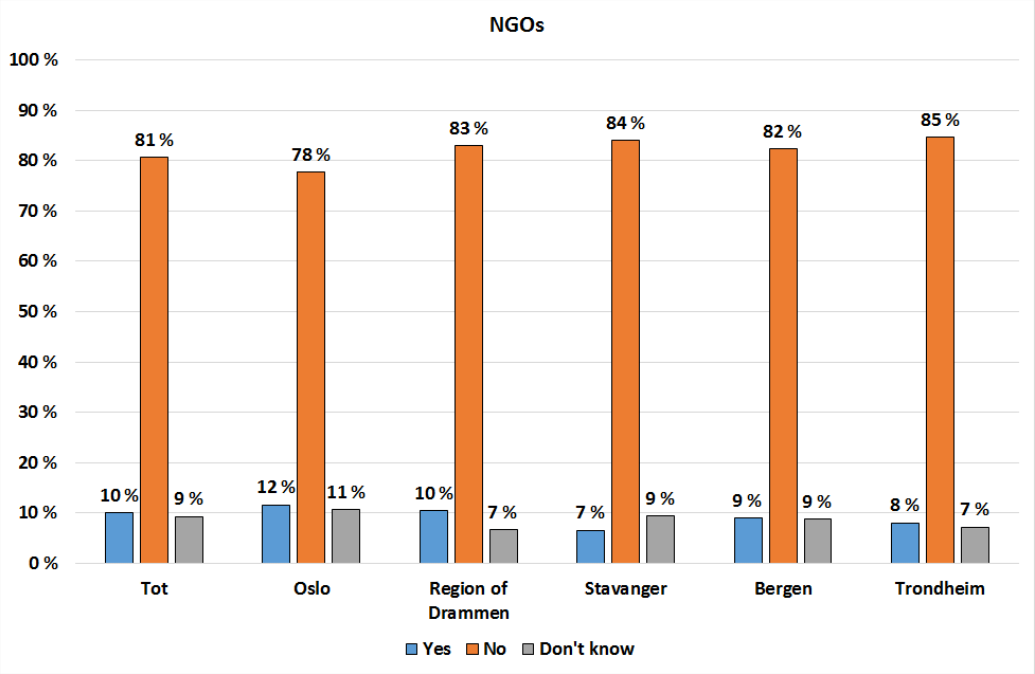

Figure 2-13 Would you allow NGOs to access the digital tracking information about you?

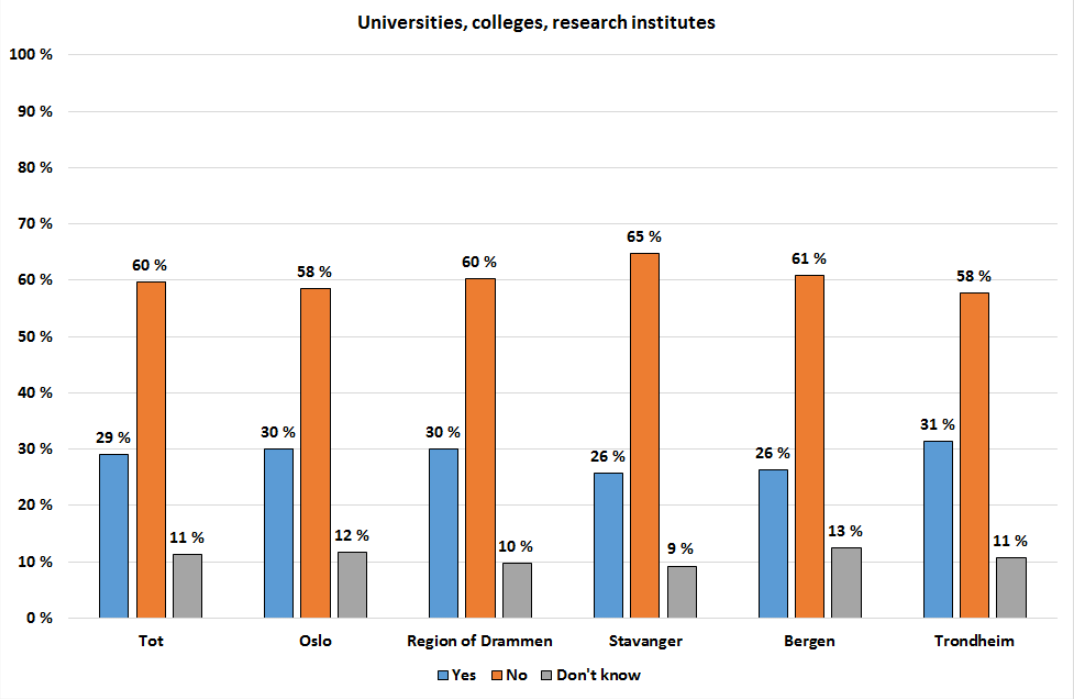

Figure 2-14 Would you allow universities, colleges, research institutes to access the digital tracking information about you?

Most of the respondents would not allow private sector or NGOs to access digital track information, about 80 %. However, the respondents were a bit more willing to let universities or research institute to access digital tracking information about them. We assume these institutions have more legitimacy in general; they are generally considered not to misuse information or trying to make money on it. The respondents may foresee that research institutes work under ethical guidelines, and are not influenced by economic interest. Therefore, the use of such information would mainly serve research purposes. Still, we did not expect that citizens may trust

environmental NGOs less than private business. A possible reason behind this outcome is that some Norwegian NGOs could be regarded as activist groups.

2.3 Air quality

2.3.1 Would you be willing to inform authorities about air quality?

Air quality is a potential environmental problem, one where citizens and authorities could interact about solutions.

Imagine that you come to a place in your community, where air quality is perceived as being very poor. Would you be willing to inform authorities about the air quality?

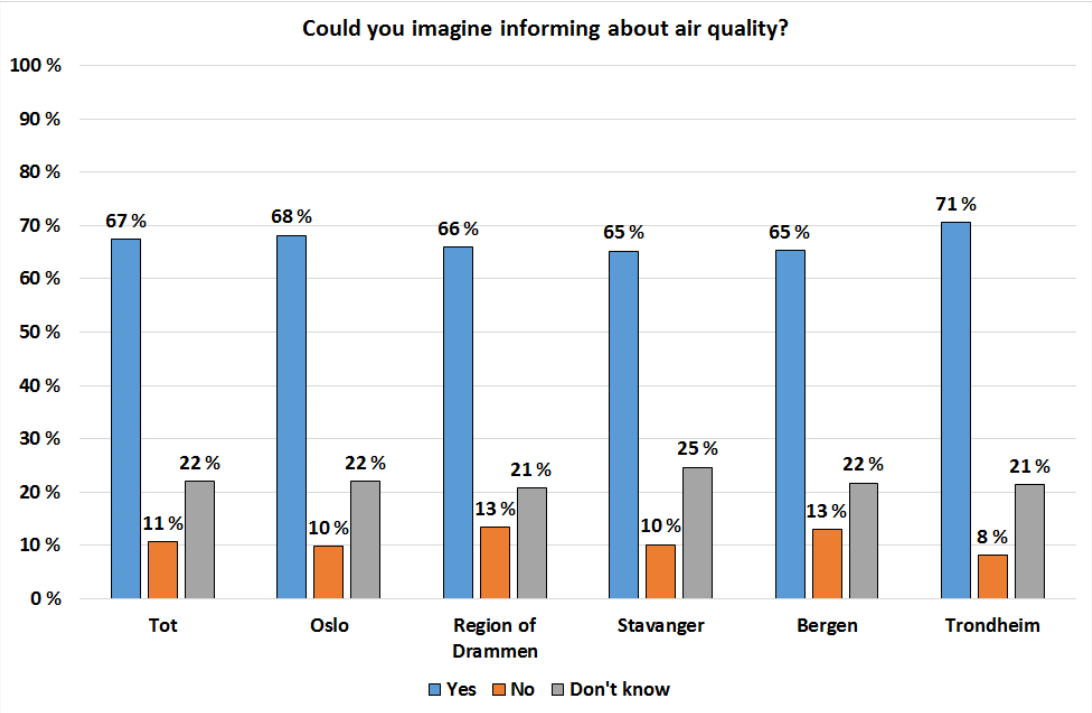

Figure 2-15 Would you be willing to inform authorities about air quality?

Two third of the respondents are positive to inform the authorities about air quality. Very few are negative, but about 20 % of the inhabitants also say they “don’t know”. This could depend on where they imagine they would be relative to their home or work place, to what extent they are passing/driving through a polluted area, or if they actually spend some time there.

2.3.2 How would you inform the authorities?

The next question was:

How would you prefer to inform the authorities?

- *Via an "app"*
- *Via SMS or e-mail*
- *Via a website*
- *Write a letter*
- *Vocally, by telephone or personal talk*
- *Otherwise, note*
- *Don't know*

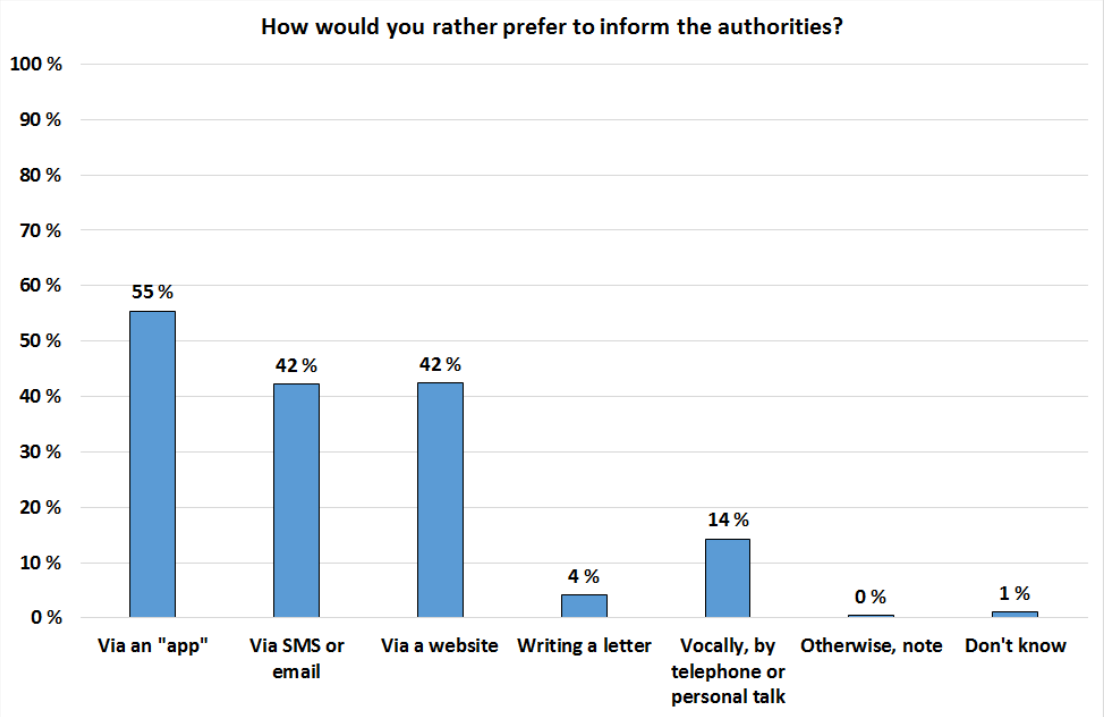

Figure 2-16. Among those who said 'yes' of want to inform. N=1298. Multiple answers

The three most common answers were the digital channels: 'app', SMS/e-mail or via web. We guess that these new media are more convenient in use than other more "old fashion" communication forms; they are efficient, less time consuming and can be used in real time. Potentially respondents would imagine that they are more "anonymous" when using an app, which of course is not the case. There were no big differences between the cities.

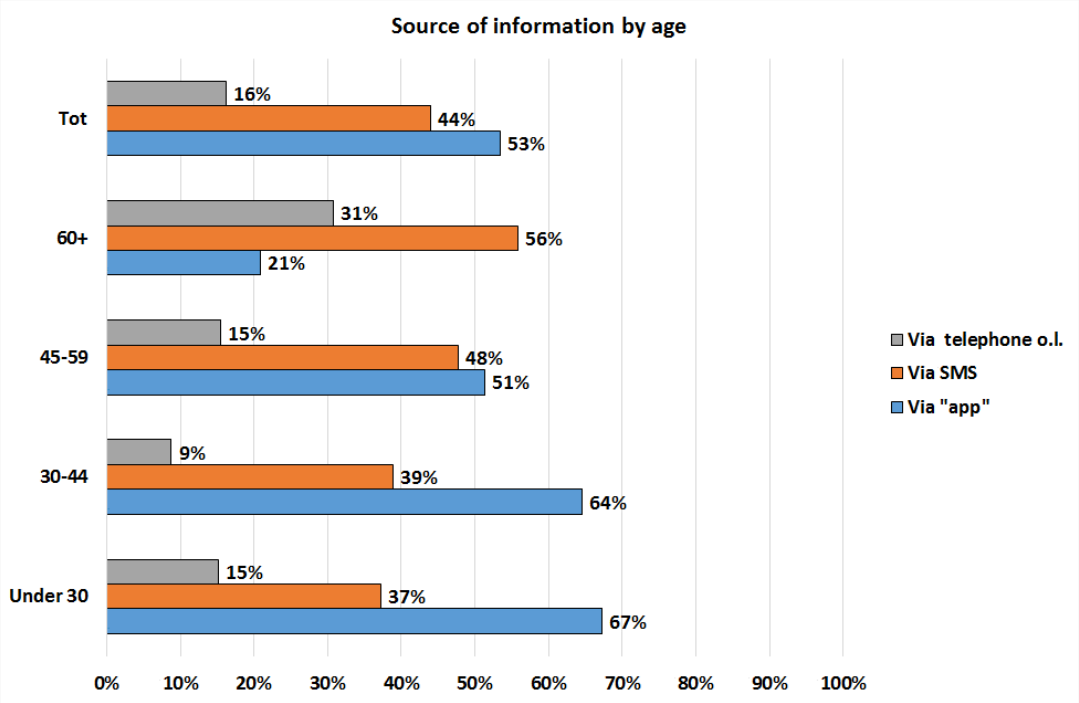

Figure 2-17 How would you inform the authorities, by age

The figure above show a strong correlation between informing via «app», via SMS, via telephone etc., and age; the younger the respondent, the more he or she prefers to inform via «app», while the elderly prefer SMS or telephone. This can partly be explained with the familiarity with apps, where we would expect that the younger generation are more used to this option.

The figures 2-16 and 2-17 together make a strong case for the future prominence of digital media channels in citizen-government exchanges (in an interesting contrast to the answers in 2.2.5). Digital channels are already dominating such information flow today, and increasingly so among the younger (especially the under 45 groups).

We also observe a change from SMSs being preferred over apps in the 60+ group (56 % vs. 21 %), while in the under 30 group was the opposite (37 % vs. 67 %).

2.3.3 Why would you not inform the authorities?

Not everyone wants to inform the authorities about air quality:

Why would you not inform authorities about air quality?

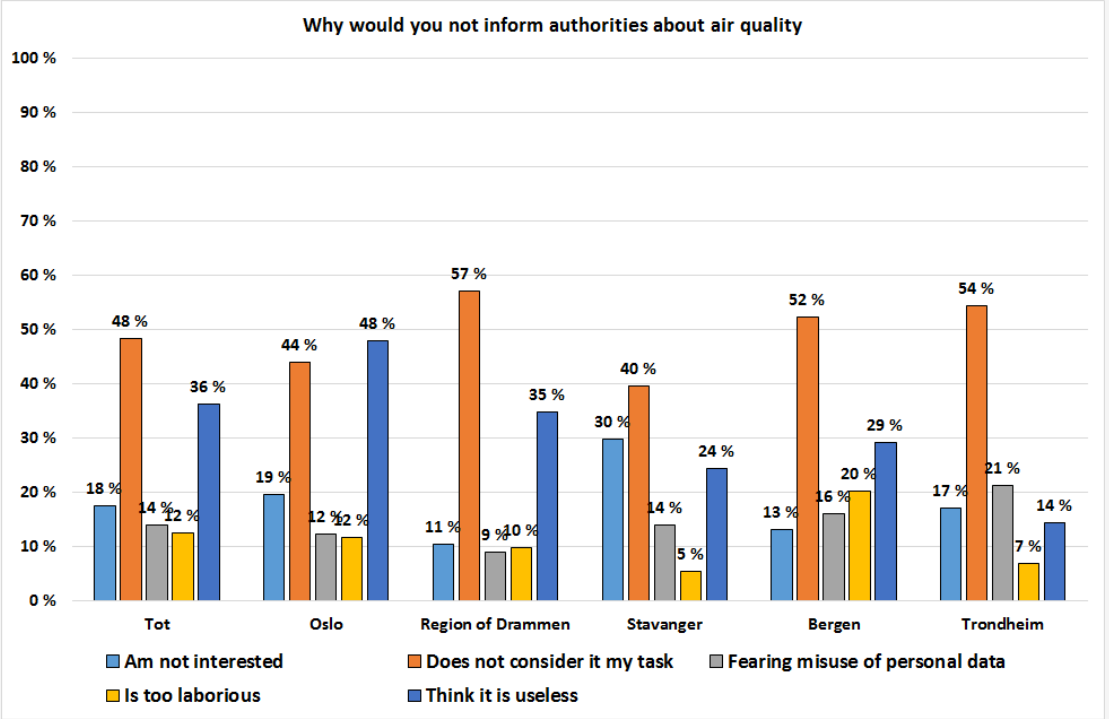

Figure 2-18. Among those who said 'no'. N=209 (Oslo and Trondheim is sig for p<.05 for think it is useless)

The main reason for respondents not wanting to inform the authorities is that they do not consider it as their business, followed by respondents that believe it is useless. A greater proportion of the Oslo inhabitants think it is useless compared to Trondheim.

Interestingly, only very few of our respondents (approximately 30 persons in a total sample of 1933; ca. 1.5 %) report that they would refuse to inform authorities because of fear of misusing personal data.

2.4 Fuelwood

The burning of fuelwood greatly influences the air quality in our cities. Some days air pollution from fuelwood constitutes a real threat to people's health, whether they have respiratory problems or not. For the authorities, it is difficult to keep track of the wood burning activity.

2.4.1 Does your household use fuelwood as a heating source?

The question asked:

Does your household use fuelwood as a heating source?

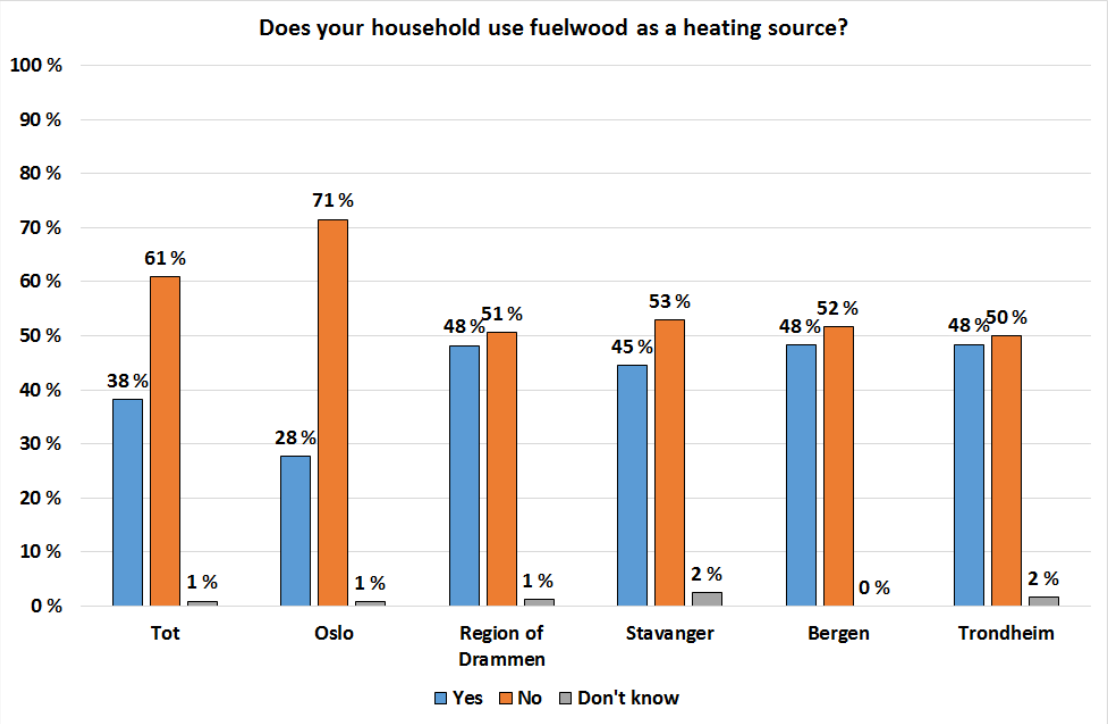

Figure 2-19 Does your household use fuelwood as a heating resource

Fuelwood is less in use as a heating source in Oslo (28 %) than in the other cities, from where close to half of the households use fuelwood.

2.4.2 Reporting to a public register

The following question was asked to those that answered yes on the previous question on the use of fuelwood as heating source:

Would you be willing to join an arrangement where you weekly report your burning of firewood to a public register - reporting what days you heat with wood, and how much?

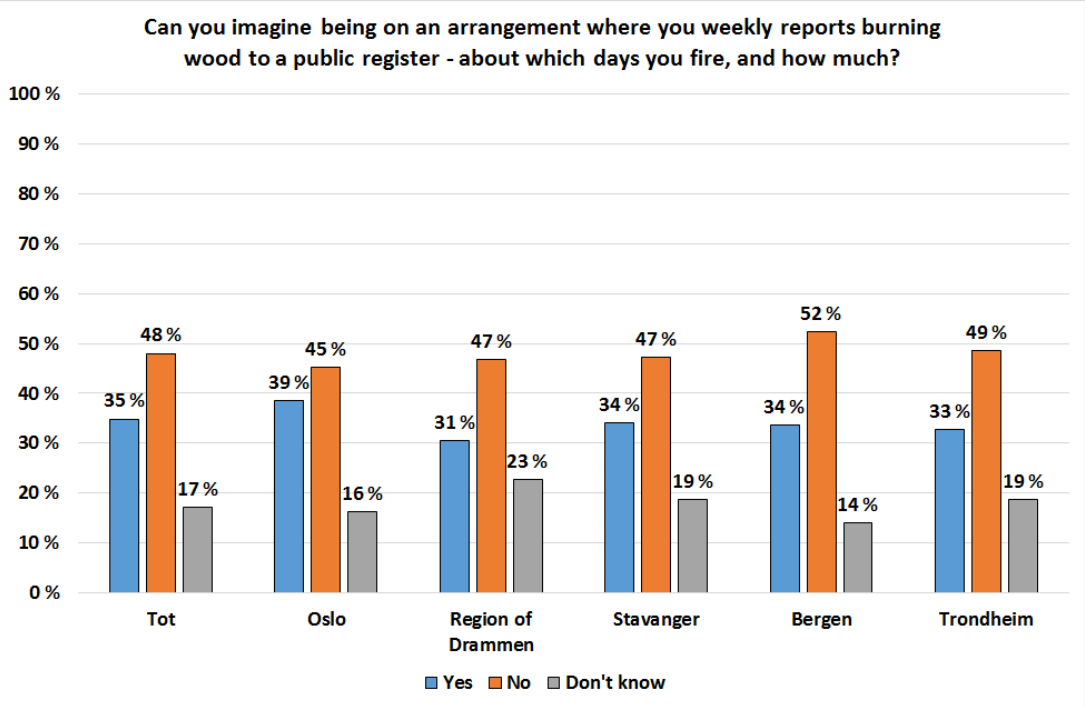

Figure 2-20. Among those who burning wood. N=735

This is very relevant for one of the apps that we would be developing in the iResponse project. About one third of those who used fuelwood as a heating source were willing to report about their wood burning practices. About half of the respondents said ‘no’ and quite a few answered ‘don’t know’.

2.4.3 How would you inform about burning wood?

Those who used wood burning as a heating practice and were positive to inform of their practice, were then asked to answer the following question:

How would you prefer to inform about the burning practice?

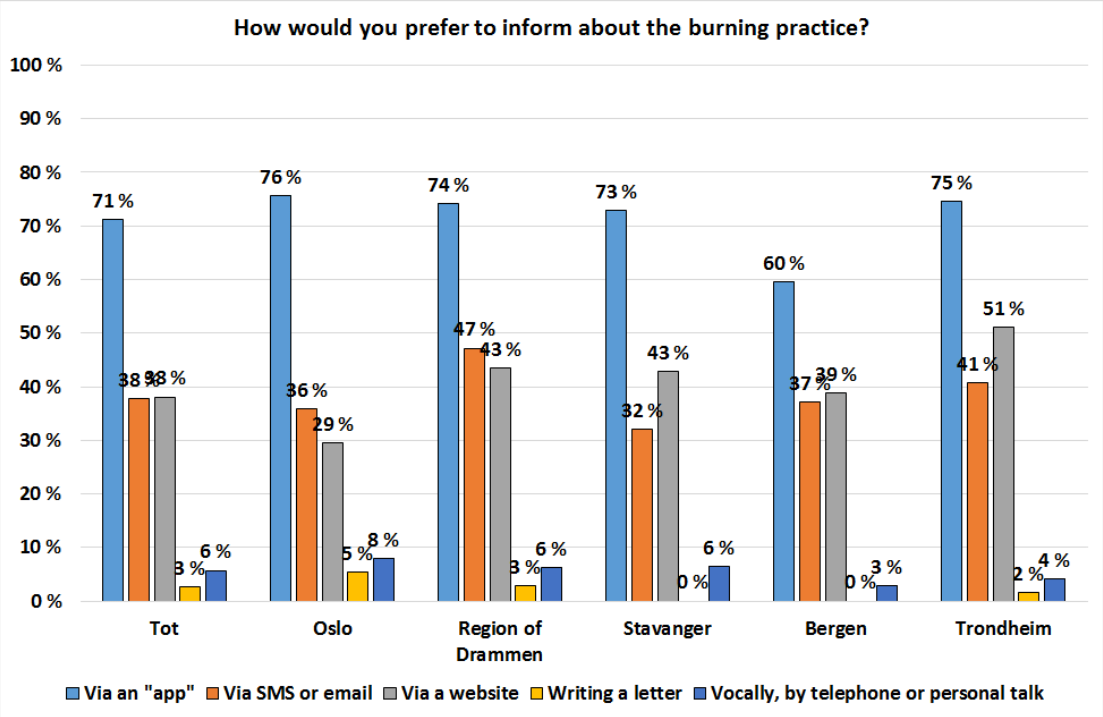

Figure 2-21 How would you prefer to inform. Among those who are burning wood and would like to inform. Multiple answers. N=288

Again, the 'app' is the most popular information channel, with some varieties between the cities. However, the number of observations is rather small, so the sampling errors could be substantial.

2.4.4 Why would you not inform the authorities?

Those who would not inform the authorities about their wood burning practice were asked:

Why would you not inform the authorities?

- *I am not interested*
- *I don't see it as my task*
- *I fear abuse of personal data*
- *It is too laborious*
- *I think it is useless*

- *Other (take note)*
- *Don't know*

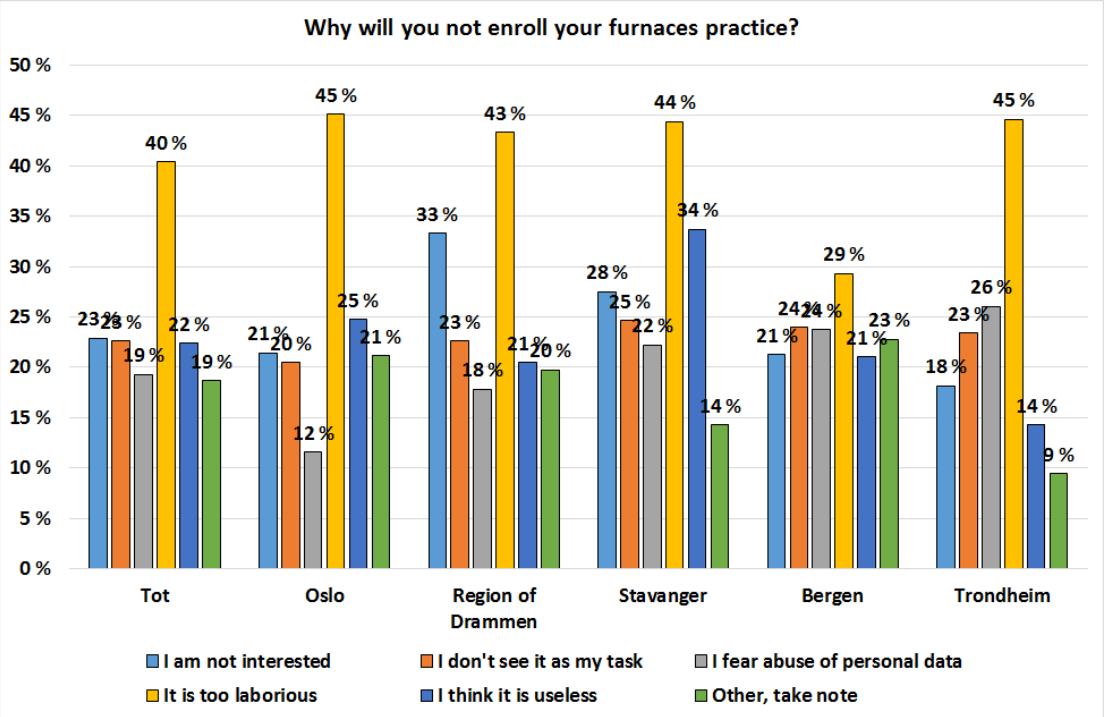

Figure 2-22 Why would you not inform. Among those who use wood as a heating source, but refused to register. N=354

Again, this is relevant for the iResponse app for fuelwood, which should be designed to avoid strong concerns. The most common answer is that it is too laborious for respondents in all the five cities, and again we observe that the fear of abuse of personal data is not very widespread, at least when we specify it into these rather trivial types of information (that is, "trivial" from a privacy perspective).

2.4.5 Register automatically

We also asked those who burned wood if they would let other public institutions register the fire practice:

Would you be willing to let the fire department, researchers or others install a sensor in the chimney that automatically detects wood burning?

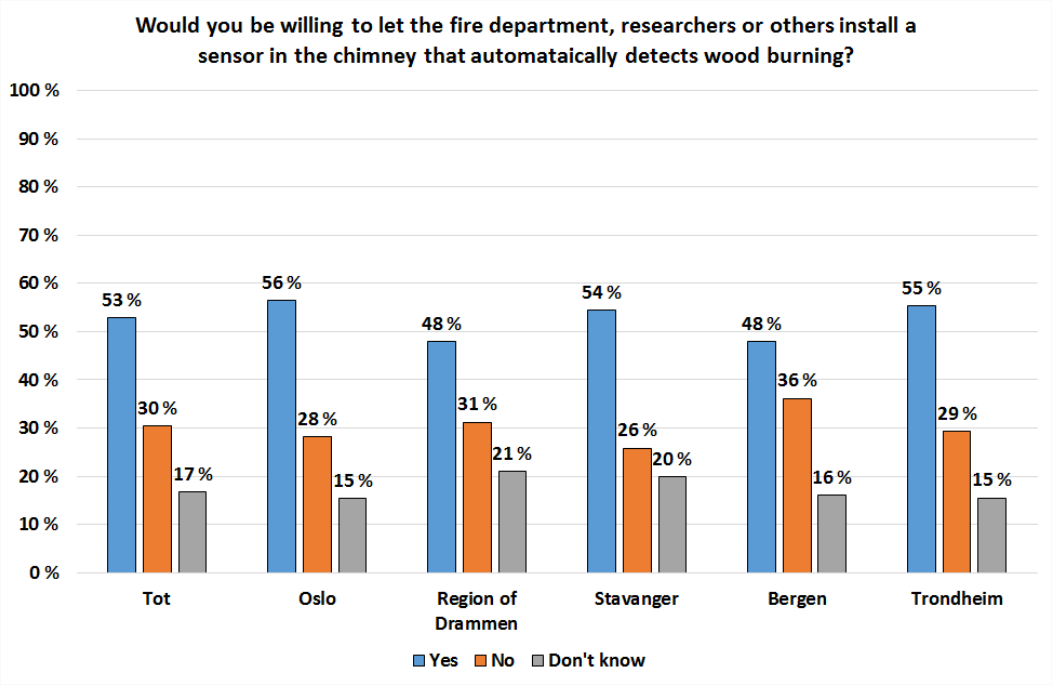

Figure 2-23 Would you be willing to let the fire department, researchers or others install a sensor in the chimney that automatically detects wood burning? Among those who were burning wood N=737

About 50 percent was positive to let an official institution register the burning wood automatically.

However, we wanted to see if those who were negative to self-report would let public institutions register their behavior automatically?

Table 2-1 ***Would you be willing to let the fire department, researchers or others install a sensor in the chimney, that automatically detects wood burning?, by Would you be willing to join an arrangement where you weekly report your burning of firewood to a public register – reporting what days you heat with wood, and how much?***

		Would you be willing to join an arrangement where you weekly report your burning of firewood to a public register – reporting what days you heat with wood, and how much?			
Would you let the fire department, researchers or others install a sensor in the chimney, your automatically detects wood burning?		Yes	No	Don't know	Tot
	Yes	78	38	42	52
	No	12	48	17	30
	Don't know	10	14	41	17
		100	100	100	100
	N	434	254	145	833

Sig p<.001

There is a strong correlation between letting public institution install a sensor in the chimney and register the burning practice; among all those who are positive to report, 78 percent also will let public institutions install a sensor in the chimney, while 38 percent of those who were negative to self report are willing to let public institutions install a sensor. Thus, there is a certain percentage that will allow authorities to install a sensor although they themselves do not want to report. This strengthens the general impression that people are more concerned

with the perceived laboriousness of reporting than with the privacy issues. An alternative explanation would be that a sensor would be perceived as less intrusive.

2.4.6 Why not register

Those who did not want the public institutions to register automatically, were asked why not?

Why would you not be willing to let your wood burning be registered automatically?

- *I am not interested*
- *I don't see it as my task*
- *I fear abuse of personal data*
- *It is too laborious*
- *I think it is useless*

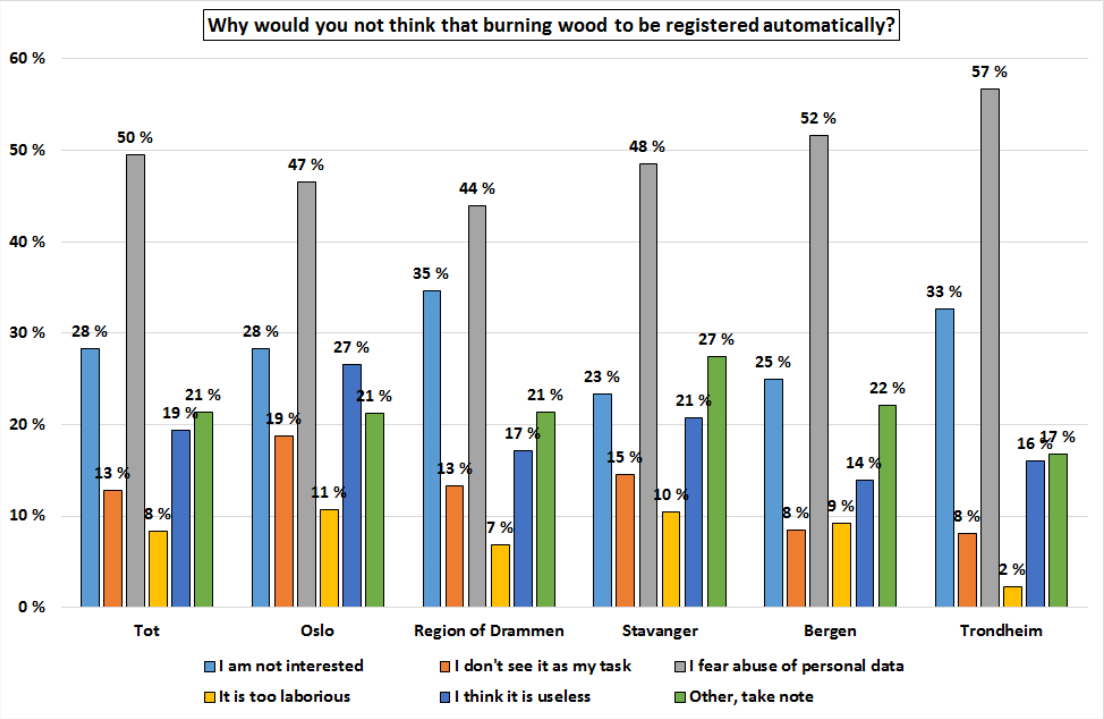

Figure 2-24 Why would you not be willing to let your wood burning be registered automatically? Among those who would not register automatically. Multiple answers. N=225

The most frequent answer was fear that personal data should be misused. This tendency is the same for all five towns. The second most frequent answer was that they were ignorant to the whole question. The distributions of the answers to this question were very different from the question of whether they should do it themselves (figure 2-22).

Here, we see for the first time in our survey that the fear of misuse of personal data is reported on a significant scale. A sensor at home registering your behavior – even if it is wood burning, which might not seem to be very controversial – appears to create certain concern.

2.5 Surface water/storm water

Another environmental issue, which might be effectively addressed by the collaboration between citizens and authorities, is the storm water management.

2.5.1 How often do you observe large amounts of water associated with extreme precipitation events?

How often do you observe large amounts of water after torrential rains, causing problems in

- *your city*
- *your neighborhood*

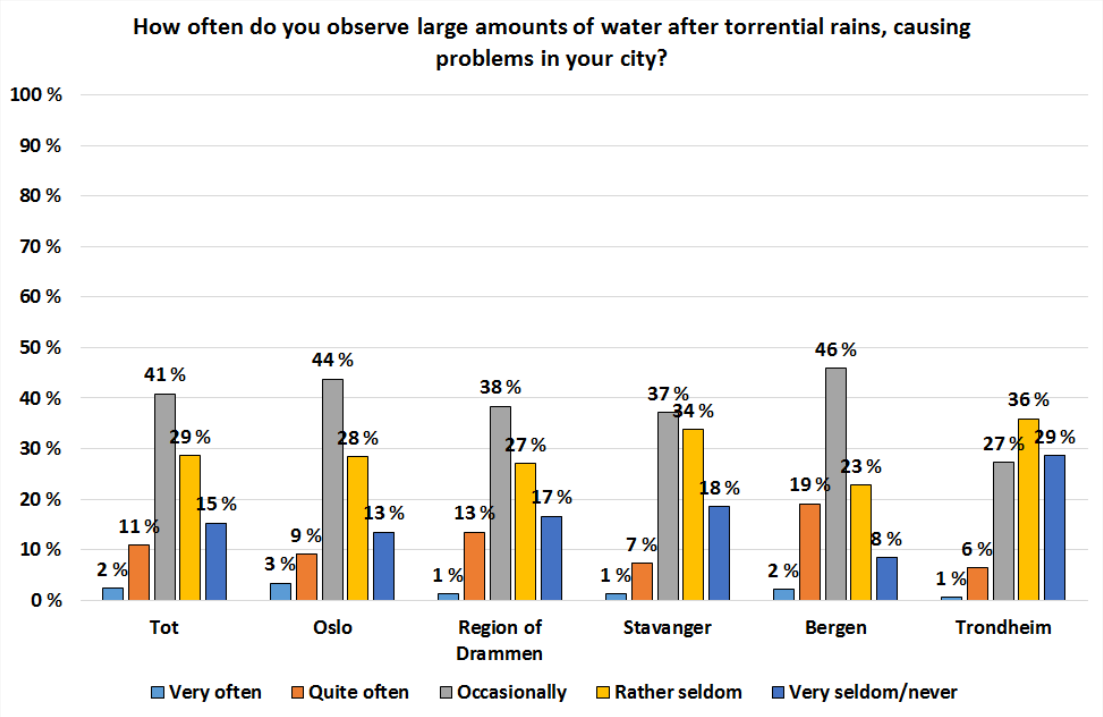

Figure 2-25 How often do you observe large amounts of water in your city? (Don't know excluded in the figure)

From the results of the survey, we see that it is not very often that a large amount of water from extreme events is observed in their cities. The exception is Bergen, where 21 percent observed it very often or quite often. From the total sample, we see that bit less than half the population (41 %), had observed "occasionally" large amounts of water in their cities "occasionally". Taking "very often" and "quite often" together, 54 % of the population reports to observe large amounts of water. We do not know if these results reflect average amounts of rain on each city, or if it is related to the quality of the drainage systems.

If climate change should lead to more extreme weather events (torrential rain, warmer winters etc.), we should expect more pressure on the water infrastructure.

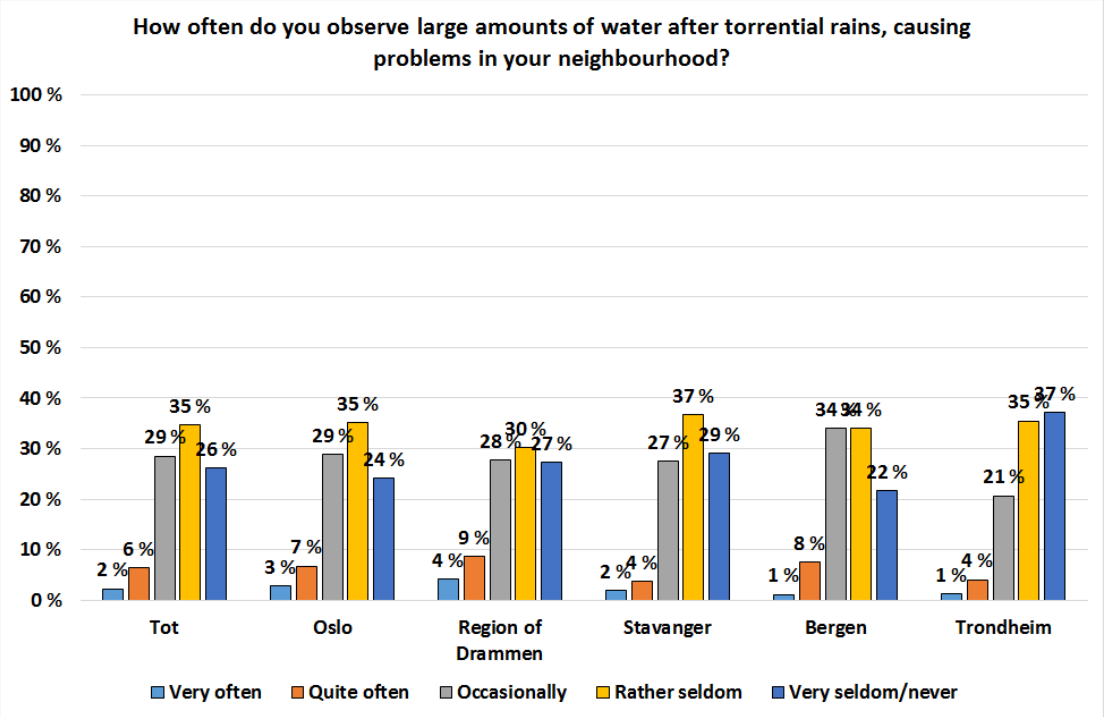

Figure 2-26 How often do you observe large amounts of water in your neighborhood? (Don't know is excluded in the figure)

Very few observes large amounts of water in their neighborhood. This goes for all of the cities. There are fewer observing large amounts of water in their neighborhood, than in their city. This could be perceived as counter-intuitive, but on the other hand one could imagine that in residential areas there are more green spaces (gardens etc) that could absorb water, wheras in the city centre there would be less such spaces, and more impermeable surfaces. This will contribute to more storm water.

2.5.2 How often does large amounts of water create problems

Respondents were asked how often large amounts of water created problems for their maneuverability:

How often does it happen that large amounts of water after torrential rains create problems for your mobility?

- *Very often*
- *Quite often*
- *Occasionally*
- *Rather seldom*
- *Very seldom/never*

- *Don't know*

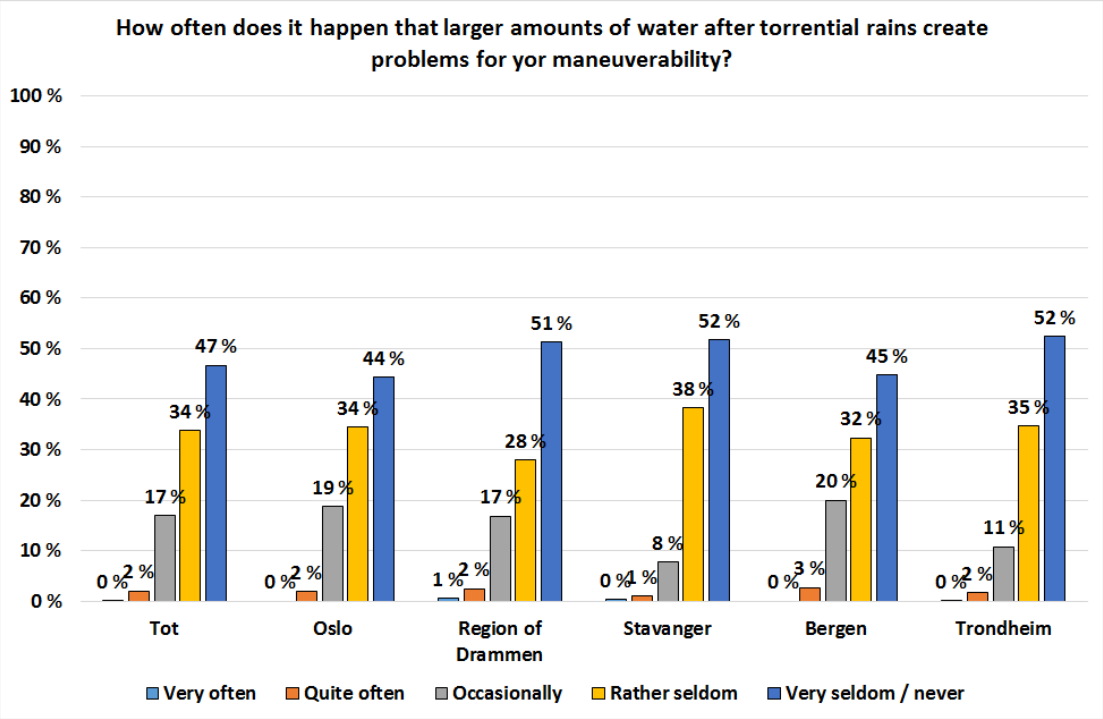

Figure 2-27 How often does it happen that large amounts of water after torrential rains create problems for your mobility? (Don't know excluded in the figure)

Here, numbers might seem rather small, but still 19 % experience problems with their mobility "quite often" or "occasionally". Quite few answered 'very often' or 'quite often'.

2.5.3 How have problems with large amounts of water turned out?

We asked how, if trouble, large amount of water had turned out:

How have problems with large amounts of water turned out?

- *Flooded basement*
- *Water remaining on the plot*
- *Blocked roads*
- *Construction site filled with water*

- *Other (note)*
- *Don't know*

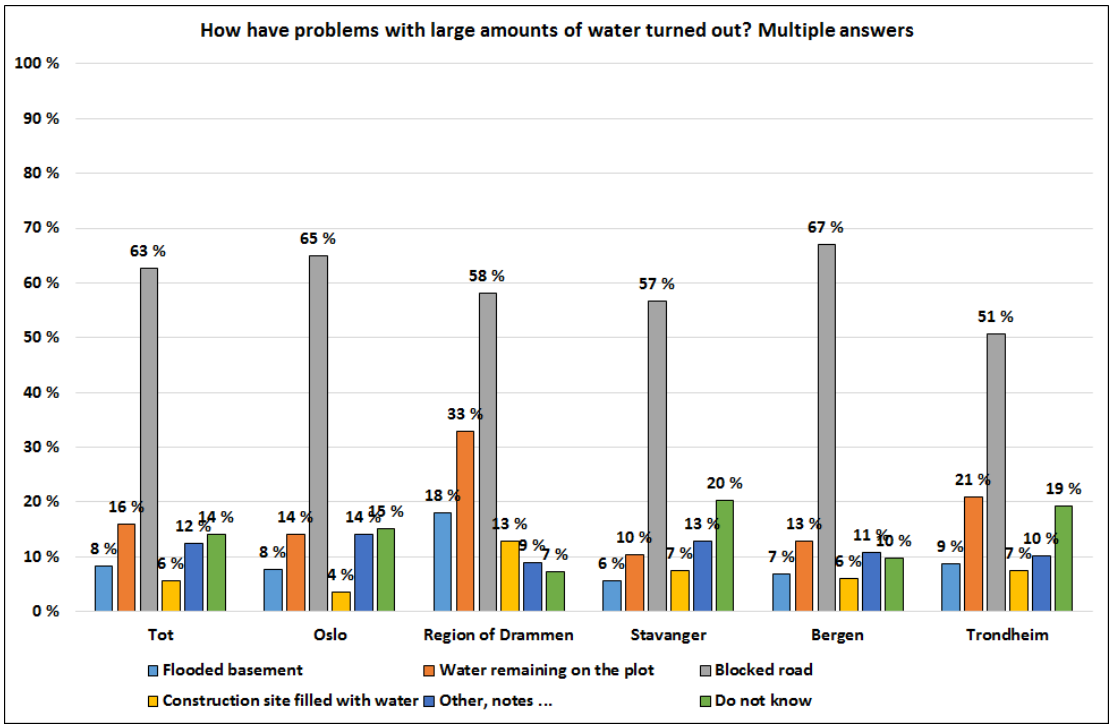

Figure 2-28 How have problems turned out? Multiple answers. N=850

'Blocked' roads was the most common answer to this question. A high proportion also answered 'don't know'. Blocked roads and water remaining on the plot after rain is irritating, but flooded basements, reported by as many as 8 %, is potentially very expensive.

2.5.4 To what extent would you like to be informed?

The amount of surface water increases with the proportion of paved/impermeable surfaces, because asphalt is not allowing water to penetrate into the ground (infiltration). Imagine now that the authorities will inform you about possible new measures against larger volumes of water (surface water) in your neighborhood. These measures may be the creation of green side stripes and ditches along the streets, parklands, smaller rivers, etc. We then asked the following question:

To what extent would you like to be informed about the design of new measures against large amounts of water?

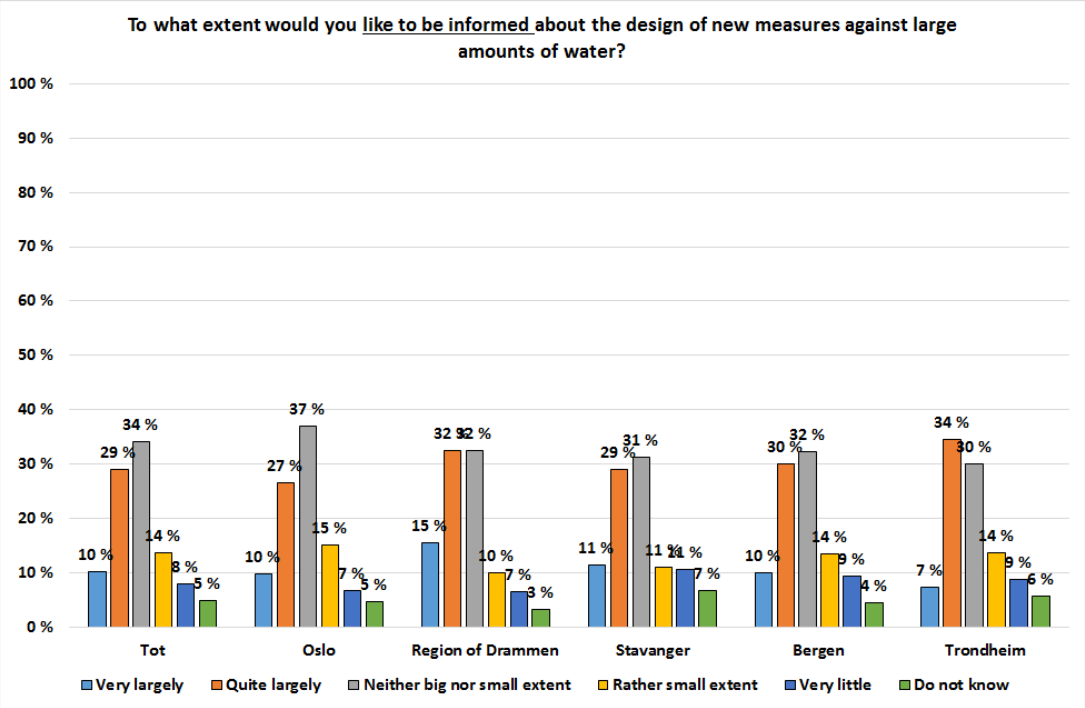

Figure 2-29 To what extent would you like to be informed?

About 70 % would like to be informed of new measures against large amount of water, in greater or lesser degree. This could be less of an result of an interest for storm water, and more about a concern on how intrusive such designs would be.

2.5.5 How would you like to be informed?

How would you like to be informed about the design of new measures against large amounts of water? Multiple answers

- *In a public meeting*
- *Receive photos or drawings via ordinary mail*
- *Receive notification by SMS*
- *Have access to an 'app' that shows measures*
- *Have access to an Internet platform that shows measures*

- *Other (note)*
- *Don't know*

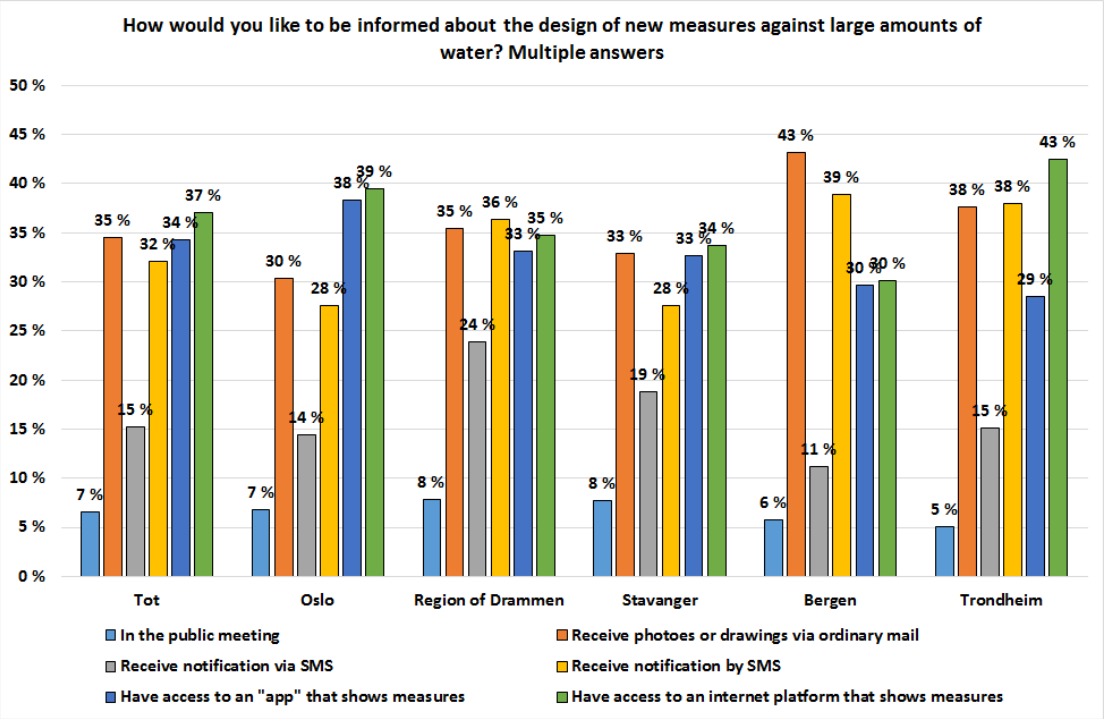

Figure 2-30 How would you like to be informed? Multiple answers. N=1419 (Those who answered 'very largely', 'quite largely' or 'neither nor' on the question ahead (figure 2-29)

The most common answers were 'receiving photos via mail', 'receive notification via SMS', 'have access to 'app' that shows measures' and 'have access to the internet platform that show measure'. Digital channels are important, public meetings and ordinary mail are less so.

2.5.6 To what extent would you get involved?

To what extent would you even get involved in the design of new measures against large amounts of water?

- *To a very large extent*
- *To a quite large extent*
- *Neither large nor small extent*
- *To a quite small extent*
- *To a very small extent*

- *Don't know*

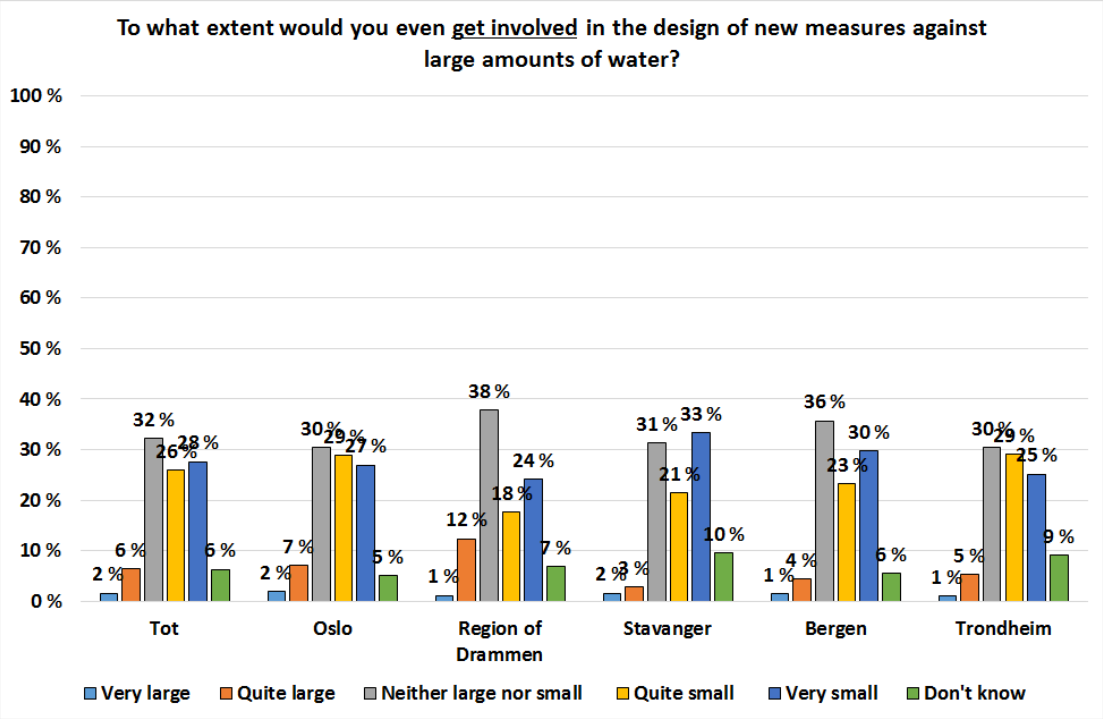

Figure 2-31 To what extent would you get involved

The respondents were not too eager to get involved in new measures against the management of large amounts of storm water, as more than 50% of the respondents answered "to a rather small extent" or "very little". There is an ambiguity in the wording of the question here, where "get involved in" is not necessarily interpreted as "having a say in". So, it could open of for interpretations that the respondents would be explicitly expected to get involved, as a mandatory, rather than a voluntary scheme.

2.5.7 In what ways do you prefer to get involved?

In what way (s) do you prefer to get involved in the design of new measures against large amounts of water? Multiple answers (those who answered To a very large degree, To a quite large degree *or* Neither large nor small degree *to the previous question about involvement in the design of new measures against storm water). How would you like to get involved?*

- *By participating in a public meeting*
- *Commenting photos or drawings via e-mail*
- *Commenting photos or drawings via ordinary mail*
- *Write SMSs*
- *Answer via an 'app' that shows measures*
- *Answer via an Internet platform that shows measures*

- *Other (note)*
- *Don't know*

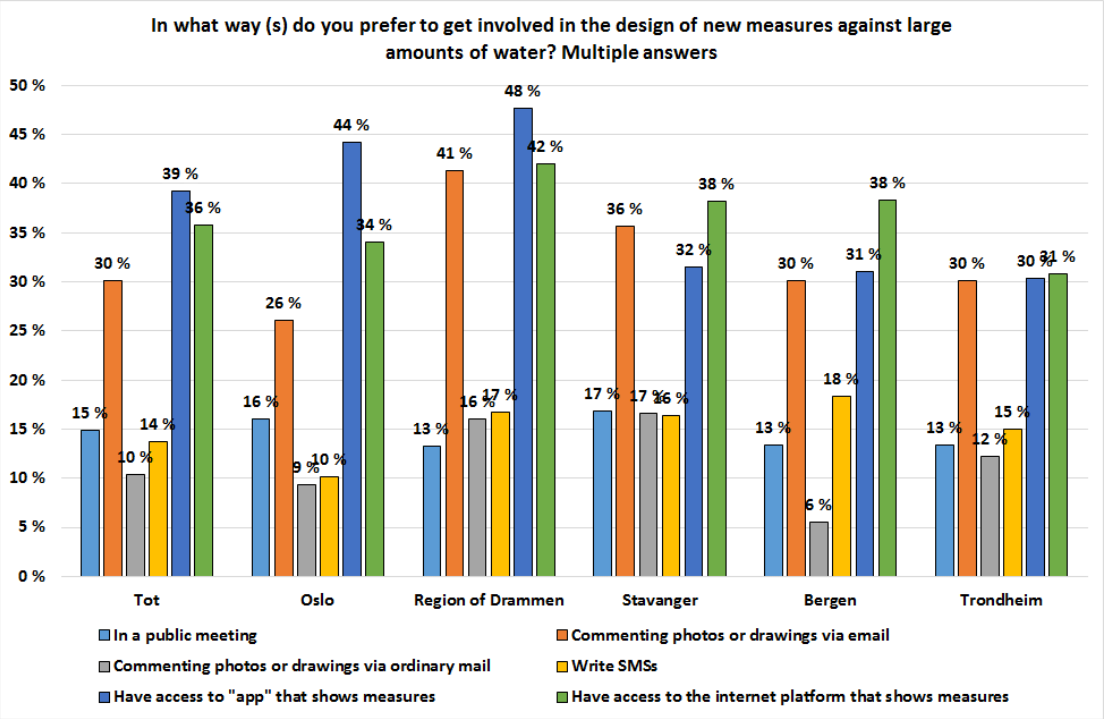

Figure 2-32 In what way(s) would you prefer to get involved. Multiple answers. N=776 (Those who answered 'very largely', 'quite largely' or 'neither nor' on the question ahead (figure 2-31)

For respondents, it is preferable to get involved through digital channels, like receiving photos or drawings via email, have access to an 'app', and access to an internet platform that shows measure. This is the same tendencies as for how they would like to be informed (figure 2-30) with one exception. To receive notification via SMS was ok when the question was how to be informed (figure 2-30), but this was not the case when it came to getting involved.

2.5.8 Would you be willing to establish green side stripes, etc.?

It was interesting to know what would be the conditions for the respondents to participate in solving storm water problems. So we asked:

Would you be willing to establish green side stripes, dig ditches, or do similar measures to help solve storm water problems on your property, and what conditions are there for your willingness? Multiple answers. (If you live in some sort of collectively owned neighborhood, we presuppose a board decision or common agreement).

- *That the municipality contributes*
- *That the municipality takes some measures*
- *That other in the locality takes some measures*
- *That I am informed about how my measure works*
- *That the measure is displayed, so that it might inspire others*
- *That the measure also contributes to making the neighborhood prettier*
- *Do not want to contribute with measures*

- *Other (note)*
- *Does not own property/have no potential for infiltration on my property*
- *Don't know*

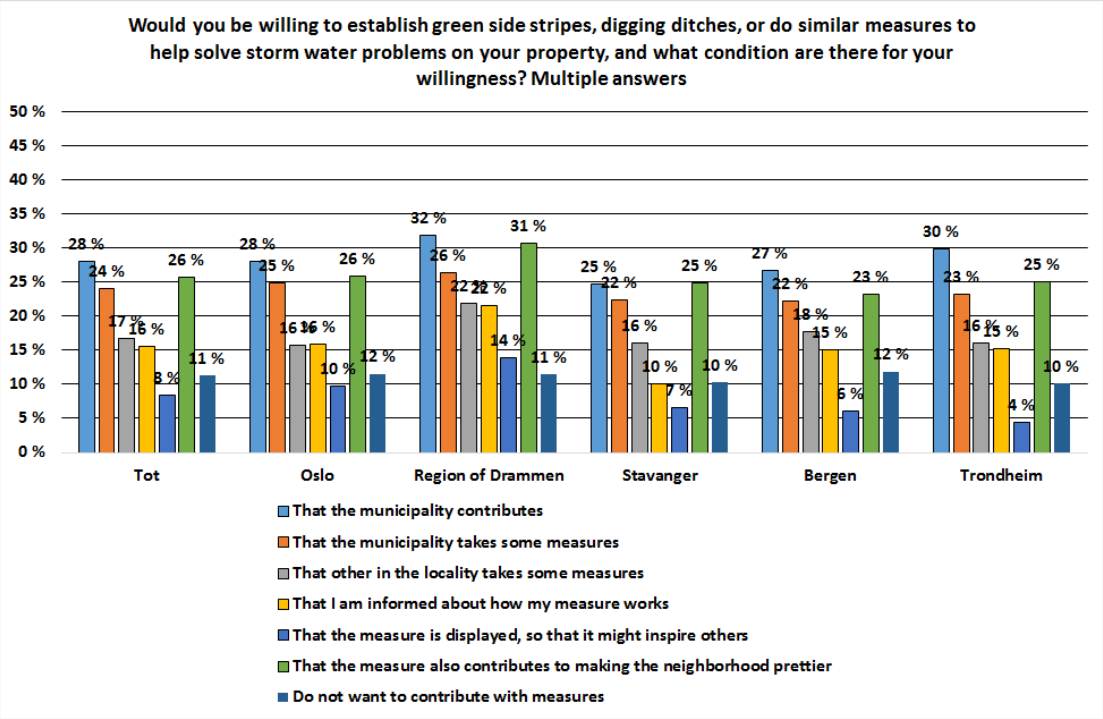

Figure 2-33 Would you be willing to establish green side stripes, digging ditches, or do similar measures to help solve storm water problems on your property, and what condition are there for your willingness? Multiple answers

The premise for the respondents to contribute to measures for solving storm water problems, the two most common answers for all cities are 1) that the municipality should contribute/get involved and 2) that the measures should look nice from an aesthetic point of view. About 10 percent did not want to contribute anyway. This connects well with other research on sustainable consumption – consumers are more willing to contribute if other, and especially the public authorities do their share.

2.6 Traffic Monitoring

A third problem is related to traffic management. In some European countries, traffic management is supported by surveillance cameras. An automatic system records the number of cars and car types. Data is collected only for environmental reasons, and does not record personal information.

2.6.1 Have you ever heard of traffic management via surveillance cameras?

We first asked:
Have you ever heard of traffic management via surveillance cameras?

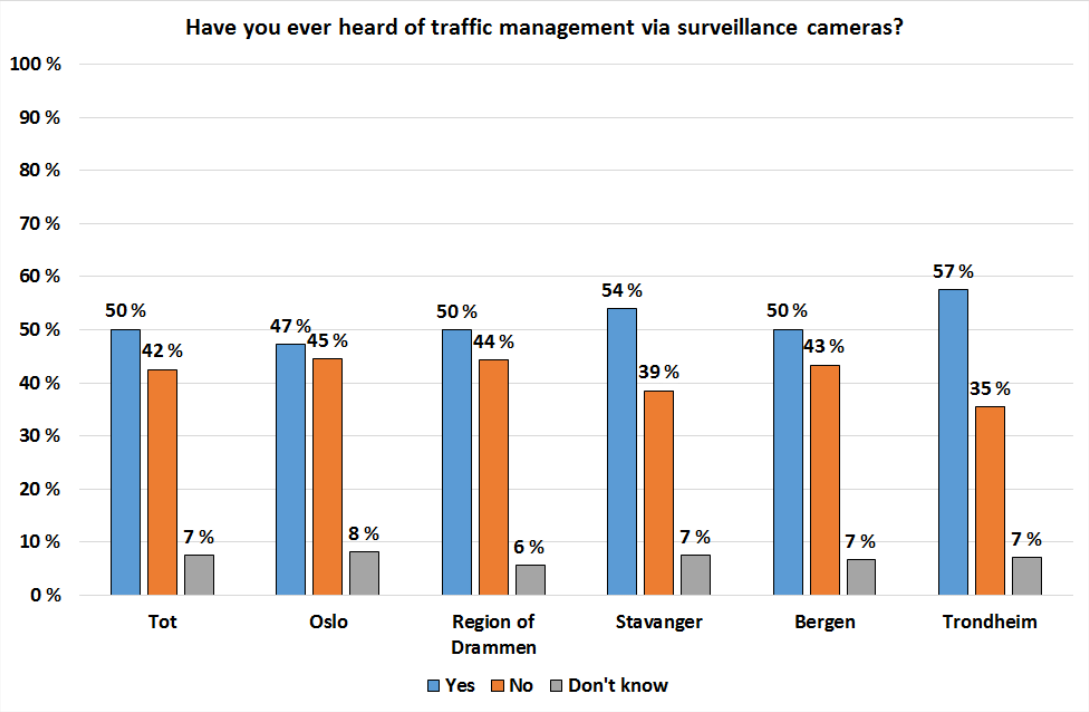

Figure 2-34 Have you ever heard of traffic management via surveillance cameras?

About half of the respondents had heard of this form of traffic management. The tendencies were the same in all five cities.

2.6.2 How positive or negative are you that traffic management via surveillance cameras will be introduced in Norway?

We then asked if they were positive or negative to such an arrangement.
How positive or negative are you that traffic management via surveillance cameras will be introduced in Norway?

- *Very positive*
- *Rather positive*
- *Neither positive nor negative*
- *Rather negative*
- *Very negative*
- *Don't know*

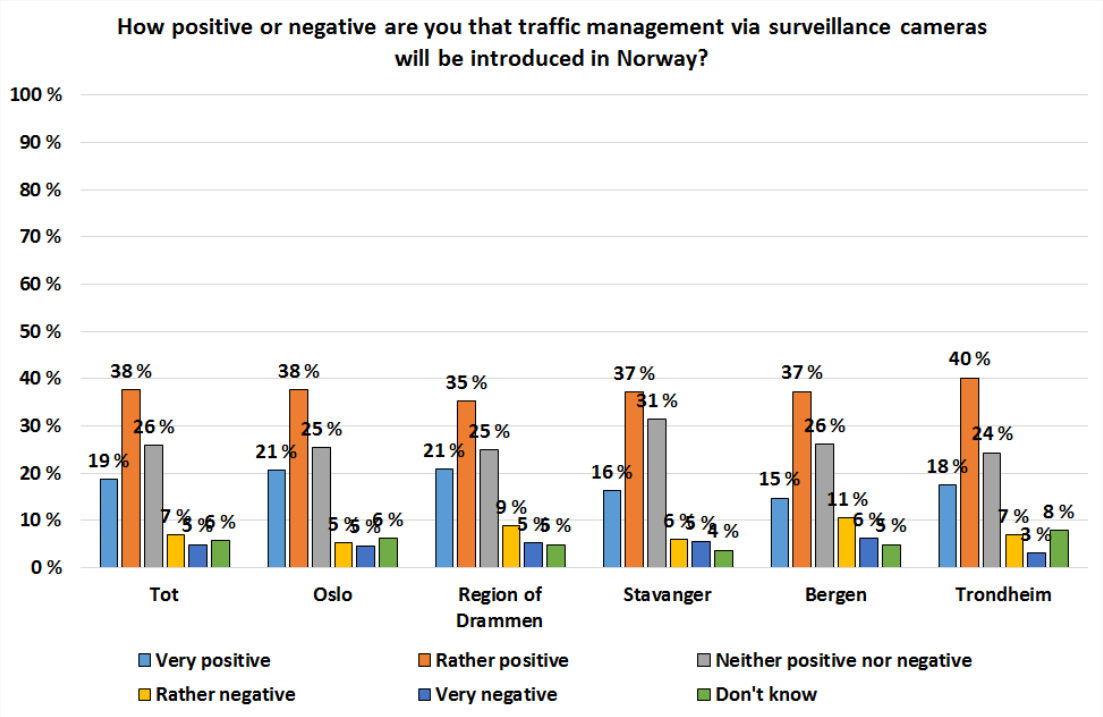

Figure 2-35 How positive or negative are you that traffic management via surveillance cameras will be introduced in Norway?

Between 50 and 60 percent of the respondents were positive, either 'very positive' or 'rather positive'. Very few respondents were negative. In one way this could be viewed as surprising, as cameras in public places have something of a negative ring to it. On the other hand, given the significant trust in public institutions by the Norwegian public, this result might not be that surprising.

2.6.3 Has citizen's input in public processes any effect?

At the end of the questionnaire, we asked:

Finally, and generally speaking, how big or little confidence do you have that people's input in public processes have an impact?

- *Very high confidence*
- *Rather high confidence*
- *Neither high nor low confidence*
- *Rather low confidence*
- *Very low confidence*
- *Don't know*

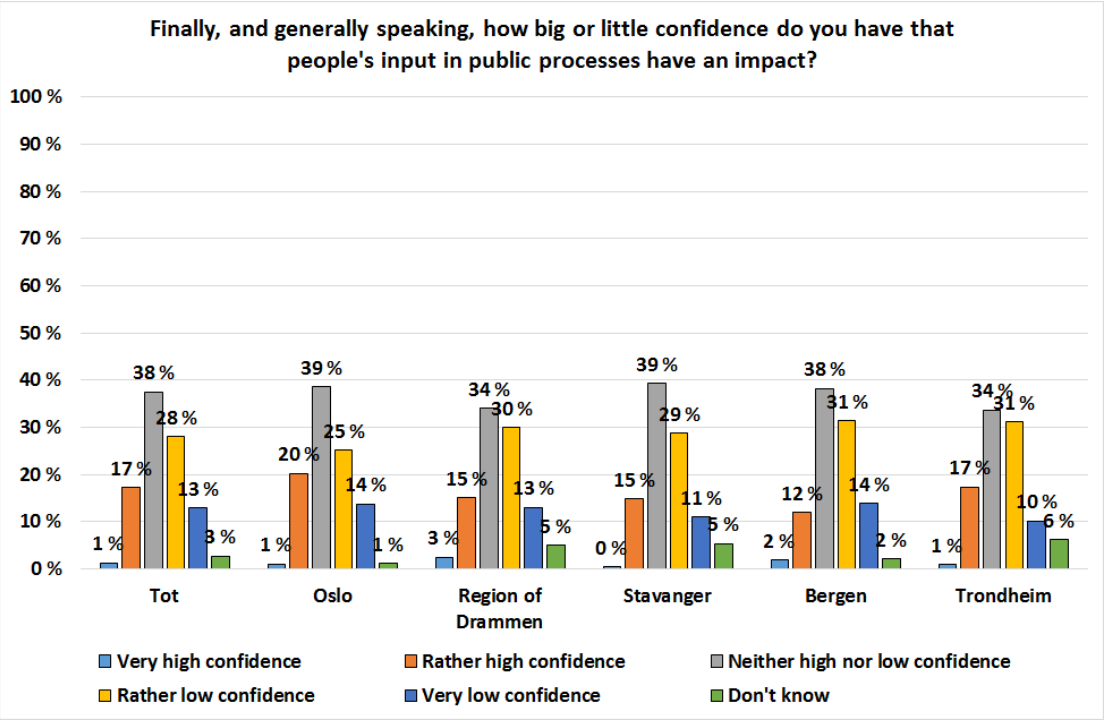

Figure 2-36 Finally, and generally speaking, how high or low confidence do you have that people's input in public processes have an impact?

As a total picture, some more respondents report to have 'pretty little confidence' and 'very little confidence' (41 %) than those who tends towards 'confident' (18 %), and again this tendency was the same for all the cities.

3 Conclusions

Approximately one in four (25 %) had tried to influence spatial planning, and of them almost 40 % believed that their interference had had some impact; both of which we regarded as rather high.

Further, we have results for actual digital communication with authorities (how often?) and expected future frequency, with some surprises. 69 % report to "seldom" or "never" communicating digitally with authorities. Perhaps more interesting is that 40 % expected that they in the future would communicate more or less as often as today (with 6 % even expecting it to be less). The stated policy of the Norwegian government, however, is to increase the amount of digital communication.

Perhaps the core question here is the one about citizens' familiarity with the crowdsourcing concept. A total of 35 % reported to have heard of it, with some variations after gender and age (men more than women, young more than old). We find the familiarity with the concept to a bit higher than we expected, but have to bear in mind that this was formulated as a low threshold question, where we first more or less explain it and then ask if people have heard of it previously. It seemed difficult to approach the question in other ways, however.

The iResponse project includes three case studies; wood burning, storm water and urban planning. Connected to the case studies, we asked some questions about willingness to share information with authorities, with businesses, with research institutions and with NGOs. We found it a bit surprising that people were more negative to give environmental NGOs access to digital tracking information about them than to give the same to the private sector (banks, insurance companies, grocery stores) – 81 % no vs, 76 %. The two main findings from privacy issues are 1) that people get more skeptical to share information with authorities the closer the information is to the home/property, but generally they are not very skeptical, and 2) that the reluctance to share information and digital tracking data is higher when questions are posed as general questions of privacy than when they are specified on type of information. As few as 12 % are "fairly" or "very" negative to traffic management via surveillance cameras.

We wondered at the outset if there would be any interesting differences between Norwegian cities/urban areas, so we split the questionnaire between Oslo and the four largest remaining cities. This split did not really yield interesting results. Basically, answers were rather similar in the five areas, and when there was a little variation it seemed to be rather coincidental.

On an overall level, we conclude that crowdsourcing by digital platforms is a promising approach to participatory democracy and local involvement/engagement in environmental research and decision-making. However, to motivate uptake and use of the solutions we develop and try out in this project, we cannot afford to push the various dimensions of Responsible Research and Innovation in the background. On the contrary, to succed they most continue to be in the heart of our project, and guide our decisions, big or small.

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Appendix

Vedlegg 1. Spørreskjemaet

Q001 - Q001: **Text**

Not back

I denne undersøkelsen ser vi på dine muligheter til å delta i politikk, og å være med på å påvirke samfunnsutviklingen på nye måter, gjerne gjennom bruk av "digitale plattformer" som PC, mobiltelefon, nettbrett, o.l. Vi er særlig opptatt av deltakelse i håndteringen av lokale miljøproblemer som luftkvalitet, nedbør og trafikkproblemer.

Q002 - Q004: **Single coded**

Not back

INFORMASJONSDELING

Har du noen gang sagt din mening om-, eller forsøkt å påvirke utformingen av arealplaner i nærområdet ditt, f.eks. planlegging av parkanlegg, sykkelstier, gangbroer, etc?

Normal

1	❍	Ja
2	❍	Nei
9999	❍	Vet ikke *Position fixed *Exclusive

Ask only if **Q002 - Q004**,1

Q003 - Q005: **Multi coded**

Answer not required | Not back

På hvilken(n) måte(r) prøvde du å påvirke planleggingen?

Du kan gi flere svar.

Normal

1	❑	Ga innspill via "app"
2	❑	Ga innspill via e-post
6	❑	Ga innspill via nettside
3	❑	Ga innspill skriftlig (i brev, el.l)
4	❑	Ga innspill muntlig (telefon el.l.)
5	❑	Stilte spørsmål i folkemøte
9997	❑	Annet, noter... *Open *Position fixed
9999	❍	Vet ikke *Position fixed *Exclusive

Ask only if **Q002 - Q004**,1

Q004 - Q006: **Single coded**

Answer not required | Not back

Tror du medvirkningen din hadde noen betydning for planleggingen?

Normal

1	❍	Ja, helt sikkert
3	❍	Ja, antakelig
2	❍	Nei, antakelig ikke
4	❍	Nei, helt sikkert ikke
9999	❍	Vet ikke / for tidlig å si **Position fixed *Exclusive*

Q005 - Q008: **Single coded**

Answer not required | Not back

Hvor ofte kommuniserer du digitalt (via internett, mobiltelefon, PC, el.l.) med myndighetene?

Normal

1	❍	Ofte
2	❍	Av og til
3	❍	Sjelden
4	❍	Aldri
9999	❍	Vet ikke **Position fixed *Exclusive*

Q006 - Q010: **Single coded**

Answer not required | Not back

Hvor ofte tror du at du vil kommunisere med myndighetene via digitale kommunikasjonsmidler i årene som kommer, sammenliknet med i dag?

Normal

1	❍	Mye oftere
2	❍	Noe oftere
3	❍	Som i dag
4	❍	Noe sjeldnere
5	❍	Mye sjeldnere / aldri
9999	❍	Vet ikke **Position fixed *Exclusive*

Q007 - Q011: **Multi coded**

Answer not required | Not back

Kan du tenke deg å dele noen av disse typene informasjon med dine lokale myndigheter?

Du kan gi flere svar

Normal

1	❑	Informasjon om eventuell luftforurensning der du oppholder deg
2	❑	Informasjon om eventuelle vannansamlinger der du oppholder deg
3	❑	Informasjon om eventuelle trafikkproblemer der du ferdes
4	❑	Ønsker ikke å dele noen av disse informasjonene
9999	❍	Vet ikke **Position fixed *Exclusive*

Q008 - Q012: **Multi coded**

Answer not required | Not back

Hvilke typer digital informasjon ønsker du å motta fra lokale myndigheter, om noen?

Du kan gi flere svar

Normal

1	❑	Generelle nyheter
2	❑	Forskningsnyheter
3	❑	Generell informasjon om byen din
4	❑	Generell informasjon om nabolaget ditt
5	❑	Informasjon om eventuell luftforurensning der du oppholder deg
6	❑	Informasjon om eventuelle vannansamlinger der du oppholder deg
7	❑	Informasjon om eventuelle trafikkproblemer der du ferdes
8	❑	Ønsker ingen informasjon fra lokale myndigheter
9997	❑	Annet, noter... **Open *Position fixed*
9999	❍	Vet ikke **Position fixed *Exclusive*

Q009 - Q002: **Single coded**

Answer not required | Not back

Bruken av digitale kommunikasjonsmidler åpner for nye måter å kommunisere på, mellom innbyggere og myndigheter. Dersom hver enkelt for eksempel rapporterer en oversvømmelse, et trafikkproblem, o.l. når de oppstår, vil meldingene til sammen kunne gi myndighetene et umiddelbart inntrykk av hvilke problemer som gjør seg gjeldende, hvor de finner sted og med hvilket omfang, og vil kunne respondere tilbake til lokalsamfunnet via relevante informasjonstiltak: SMS-varsel, lokalradio, trafikkdirigering, etc. Slik informasjonsutveksling kalles gjerne "crowdsurcing" - på norsk "folkedugnad".

Har du noen gang tidligere hørt om slik "crowdsourcing"?

Normal

1	❍	Ja
2	❍	Nei
9999	❍	Vet ikke **Position fixed *Exclusive*

Q010 - Q003: **Matrix**

Answer not required | Not back | Number of statements: 3 | Number of Scales: 5

Hvor positiv eller negativ er du selv til å informere myndighetene ved "crowdsourcing" om hendelser som oppstår ...

Normal

	Svært positiv	Ganske positiv	Verken positiv eller negativ	Ganske negativ	Svært negativ
.. i byen du bor i	❍	❍	❍	❍	❍
.. i nabolaget ditt	❍	❍	❍	❍	❍
.. på eiendommen din	❍	❍	❍	❍	❍

Q011 - Q013: **Matrix**

Answer not required | Not back | Number of statements: 3 | Number of Scales: 3

Det finnes i dag såkalte «cookies» som legger igjen spor etter deg, når du bruker digitale medier. Bruker du f.eks. «Google Maps» for å finne veien, eller «køfri»-brikke når du kjører gjennom en bomring, vil andre kunne «se» hvor du er eller har vært.
Vil du tillate at noen av de følgende får tilgang til digital sporingsinformasjon om deg?

Normal

	Ja	Nei	Vet ikke
Privat næringsliv (f.eks. bank, forsikring, dagligvarebutikker, o.l.)	❍	❍	❍
Frivillige organisasjoner ("Fremtiden i våre hender", "Bellona", o.l.)	❍	❍	❍
Universiteter, høgskoler, forskningsinstitusjoner	❍	❍	❍

Q012 - Q014: **Single coded**

Not back

LUFTKVALITET
Luftkvalitet er et mulig miljøproblem, der innbyggere og myndigheter kan samhandle om løsningen.

Tenk deg at du kommer til et sted i nærmiljøet ditt, der luftkvaliteten oppleves som svært dårlig. Kunne du da tenke deg å informere myndighetene om luftkvaliteten?

Normal

1	❍	Ja
2	❍	Nei
3	❍	Vet ikke

Ask only if **Q012 - Q014**,1

Q013 - Q015: **Multi coded**

Answer not required | Not back

Hvordan ville du helst foretrekke å informere myndighetene?

Du kan gi flere svar

Normal

1	❑	Via "app"
2	❑	Via SMS, e-post
3	❑	Via nettside
4	❑	Skriftlig, via brev, el.l.
5	❑	Muntlig, via samtale, telefon, el.l.
9997	❑	På annen måte, noter... **Open *Position fixed*
9999	❍	Vet ikke **Position fixed *Exclusive*

Ask only if **Q012 - Q014**,2

Q014 - Q016: **Multi coded**

Answer not required | Not back

Hvorfor ønsker du ikke å informere myndighetene om luftkvaliteten?

Du kan gi flere svar

Normal

1	❑	Er ikke interessert
2	❑	Anser det ikke som min oppgave
3	❑	Frykter misbruk av personopplysninger
4	❑	Er for arbeidskrevende
5	❑	Tror ikke det nytter
9997	❑	Annet, noter... **Open *Position fixed*
9999	❍	Vet ikke **Position fixed *Exclusive*

Q015 - Q017: **Single coded**

Not back

Vedfyring har stor betydning for luftkvaliteten i byene våre. Enkelte dager utgjør vedfyring en trussel mot folks helse, enten man har luftveisproblemer eller ikke. For myndighetene er det vanskelig å få oversikt over, for ikke å si måle, luftkvaliteten.

Fyrer husholdet ditt med ved?

Normal

1	❍	Ja
2	❍	Nei
9999	❍	Vet ikke **Position fixed *Exclusive*

Ask only if **Q015 - Q017**,1

B001: Fyrer med ved **Begin block**

Q016 - Q018: **Single coded**

Not back

Kan du tenke deg å være med på en ordning, der du ukentlig melder vedfyringen din til et offentlig register - om hvilke dager du fyrer, og hvor mye?

Normal

1	❍	Ja
2	❍	Nei
9999	❍	Vet ikke **Position fixed *Exclusive*

Ask only if **Q016 - Q018**,1

Q017 - Q019: **Multi coded**

Answer not required | Not back

På hvilke(n) måte(r) ønsker du å melde fyringspraksisen?

Du kan gi flere svar

Normal

1	❑	Via "app"
2	❑	Via SMS, e-post
3	❑	Via nettside
4	❑	Skriftlig, via brev el.l.
5	❑	Muntlig, via telefon, samtale, el.l.
9997	❑	På annen måte, noter... **Open *Position fixed*
9999	❍	Vet ikke **Position fixed *Exclusive*

Ask only if **Q016 - Q018**,2

Q018 - Q020: **Multi coded**

Answer not required | Not back

Hvorfor vil du ikke melde inn fyringspraksisen din?

Du kan gi flere svar

Normal

1	❑	Er ikke interessert
2	❑	Anser det ikke som min oppgave
3	❑	Er redd for misbruk av personopplysninger
4	❑	Er for arbeidskrevende
5	❑	Tror ikke det nytter
9997	❑	Annet, noter... **Open *Position fixed*
9999	❍	Vet ikke **Position fixed *Exclusive*

Q019 - Q021: **Single coded**

Not back

Kunne du tenke deg å la brannvesenet, forskere eller andre installere en sensor i pipen din, som automatisk registrerer vedfyringen?

Normal

1	❍	Ja
2	❍	Nei
9999	❍	Vet ikke **Position fixed *Exclusive*

Ask only if **Q019 - Q021**,2

Q020 - Q022: **Multi coded**

Not back

Hvorfor ønsker du ikke at vedfyringen skal kunne registreres automatisk?

Skriv kort tekst

Normal

1	❑	Er ikke interessert
2	❑	Anser det ikke som min oppgave
3	❑	Frykter misbruk av personopplysninger
4	❑	Er for arbeidskrevende
5	❑	Tror ikke det nytter
9997	❑	Annet, noter... **Open *Position fixed*
9999	❍	Vet ikke **Position fixed *Exclusive*

B001: Fyrer med ved **End block**

Q021 - Q023: **Matrix**

Not back | Number of statements: 2 | Number of Scales: 6

OVERFLATEVANN
Et annet miljøproblem, der innbyggere og myndigheter kan samhandle om løsningen, er overflate-vann.

Hvor ofte observerer du større vannmengder, etter styrtregn, som skaper problemer...

Normal

	Svært ofte	Ganske ofte	Av og til	Ganske sjelden	Svært sjelden / aldri	Vet ikke
.. i byen din	❍	❍	❍	❍	❍	❍
.. i nabolaget ditt	❍	❍	❍	❍	❍	❍

Ask only if **Q021 - Q023** ST=1 & SC=1,2,3,4 or **Q021 - Q023** ST=2 & SC=1,2,3,4

Q022 - Q033: **Single coded**

Not back

Hvor ofte hender det at større vannmengder etter styrtregn skaper problemer for fremkommeligheten din?

Normal

1	❍	Svært ofte
2	❍	Ganske ofte
3	❍	Av og til
4	❍	Ganske sjelden
5	❍	Svært sjelden
9999	❍	Vet ikke **Position fixed *Exclusive*

Ask only if **Q021 - Q023** ST=1 & SC=1,2,3,4

Q023 - Q024: **Multi coded**

Answer not required | Not back

Hvordan har problemene med store vannmengder artet seg?

Du kan gi flere svar

Normal

1	❑	Oversvømt kjeller
2	❑	Vann stående på tomten
3	❑	Sperret bilveg
4	❑	Byggeplass full av vann
9997	❑	Annet, noter... **Open *Position fixed*
9999	❍	Vet ikke **Position fixed *Exclusive*

Q024 - Q025: **Single coded**

Not back

Mengden av overflatevann øker ved andelen asfalterte overflater, fordi asfalt ikke lar vannet trenge ned i bakken (Infiltrering). Tenk deg nå at myndighetene skal informere deg om mulige nye tiltak mot større vannmengder (overflatevann) i nabolaget ditt. Tiltakene kan være etablering av grønne side-striper og grøfter langs gatene, parkområder, mindre vassdrag, el.l.

I hvilken grad ønsker du å bli informert om utformingen av nye tiltak mot store vannmengder?

Normal

1	❍	Svært stor grad
2	❍	Ganske stor grad
3	❍	Verken stor eller liten grad
4	❍	Ganske liten grad
5	❍	Svært liten grad
9999	❍	Vet ikke **Position fixed *Exclusive*

Ask only if **Q024 - Q025**,1,2,3

Q025 - Q026: **Multi coded**

Answer not required | Not back

Hvordan ønsker du å bli informert om utformingen av nye tiltak mot store vannmengder?

Du kan gi flere svar

Normal

1	❑	I offentlig møte
2	❑	Motta bilder eller plantegninger via e-post
3	❑	Motta bilder eller plantegninger via ordinær post
4	❑	Motta varsel via SMS
5	❑	Ha tilgang til "app" som viser tiltak
6	❑	Ha tilgang til internettplattform som viser tiltak
9997	❑	Annet, noter... **Open *Position fixed*
9999	❍	Vet ikke **Position fixed *Exclusive*

Q026 - Q027: **Single coded**

Not back

I hvilken grad ønsker du selv å involvere deg i utformingen av nye tiltak mot store vannmengder?

Normal

1	❍	Svært stor grad
2	❍	Ganske stor gard
3	❍	Verken stor eller liten grad
4	❍	Ganske liten grad
5	❍	Svært liten grad
9999	❍	Vet ikke **Position fixed *Exclusive*

Ask only if **Q026 - Q027**,1,2,3

Q027 - Q028: **Multi coded**

Answer not required | Not back

På hvilke(n) måte(r) foretrekker du å involvere deg i utformingen av nye tiltak mot store vannmengder?

Du kan gi flere svar

Normal

1	❑	Delta i offentlig møte
2	❑	Kommentere bilder eller plantegninger via e-post
3	❑	Kommentere bilder eller plantegninger via ordinær post
4	❑	Skrive SMS
5	❑	Svare via "app" som viser tiltakene
6	❑	Svare via internettplattform som viser tiltakene
9997	❑	Annet, noter... **Open *Position fixed*
9999	❍	Vet ikke **Position fixed *Exclusive*

Q028 - Q029: **Multi coded**

Answer not required | Not back

Kan du tenke deg å etablere grønne sidestriper, grave grøfter, eller lignende tiltak for å bidra til å løse overvannsproblemene på eiendommen din, og hva skal i så fall til for at du bidrar? (Dersom du bor i borettslag, sameie, el.l. forutsetter vi at du får samtykke/styregodkjenning).

Normal

1	❑	At kommunen hjelper til
2	❑	At kommunen gjør egne tiltak
3	❑	At andre i nabolaget gjør tiltak
4	❑	At jeg får tilbakemelding på om tiltaket mitt virker
5	❑	At tiltaket synliggjøres, slik at det blir et forbilde for andre
6	❑	At tiltaket også medfører at det blir pent
7	❑	Ønsker ikke å bidra med egne tiltak
9997	❑	Annet, noter... **Open *Position fixed*
9998	❍	Har ingen eiendom/mulighet for infiltrering på egen eiendom **Position fixed *Exclusive*
9999	❍	Vet ikke **Position fixed *Exclusive*

Q029 - Q030: **Single coded**

Not back

TRAFIKKSTYRING

Et tredje problem er knyttet til trafikkavvikling. I noen europeiske land blir trafikkstyring støttet av overvåkningskameraer. Et automatisk system registrerer antall biler, og biltyper. Data samles kun inn av miljømessige årsaker, og registrerer ikke privat informasjon.

Har du noen gang hørt om trafikkstyring via overvåkningskameraer?

Normal

1	❍	Ja
2	❍	Nei
9999	❍	Vet ikke **Position fixed *Exclusive*

Q030 - Q031: **Single coded**

Not back

Hvor positiv eller negativ er du til at trafikkstyring via overvåkningskameraer innføres i Norge?

Normal

1	❍	Svært positiv
2	❍	Ganske positiv
3	❍	Verken positiv eller negativ
4	❍	Ganske negativ
5	❍	Svært negativ
9999	❍	Vet ikke **Position fixed *Exclusive*

Q031 - Q032: **Single coded**

Not back

Til slutt, og generelt sett, hvor stor eller liten tillit har du til at folks innspill i offentlige prosesser får gjennomslag?

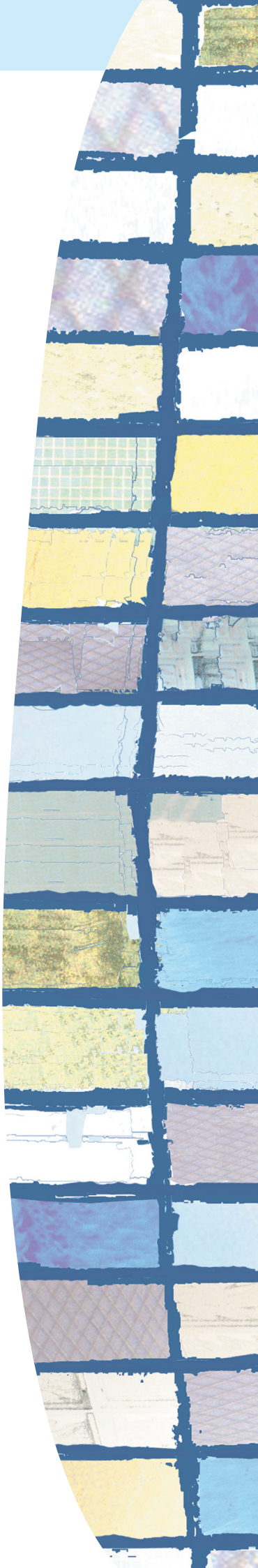
Normal

1	❍	Svært stor tillit
2	❍	Ganske stor tillit
3	❍	Verken stor eller liten tillit
4	❍	Ganske liten tillit
5	❍	Svært litentillit
9999	❍	Vet ikke **Position fixed *Exclusive*

Consumption Research Norway SIFO at Oslo and Akershus University College of Applied Sciences (HiOA) has a special responsibility to contribute to the knowledge base for consumer policy in Norway and will develop new knowledge about consumption, consumer policy and consumer position and role in society.

Key research topics are:

- consumers in the market and consumer choice
- household resource allocations
- consumer economy - debt development and poverty
- technological development and consumers' every day life
- digital daily life and coping
- environmental effects of different types of consumption
- food and eating habits
- textiles - value chains - consequences for everyday life and environment
- consumption significance for social inclusion
- consumer policy



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