



Specific challenges/lessons learned concerning the recruitment and engagement of citizen scientists

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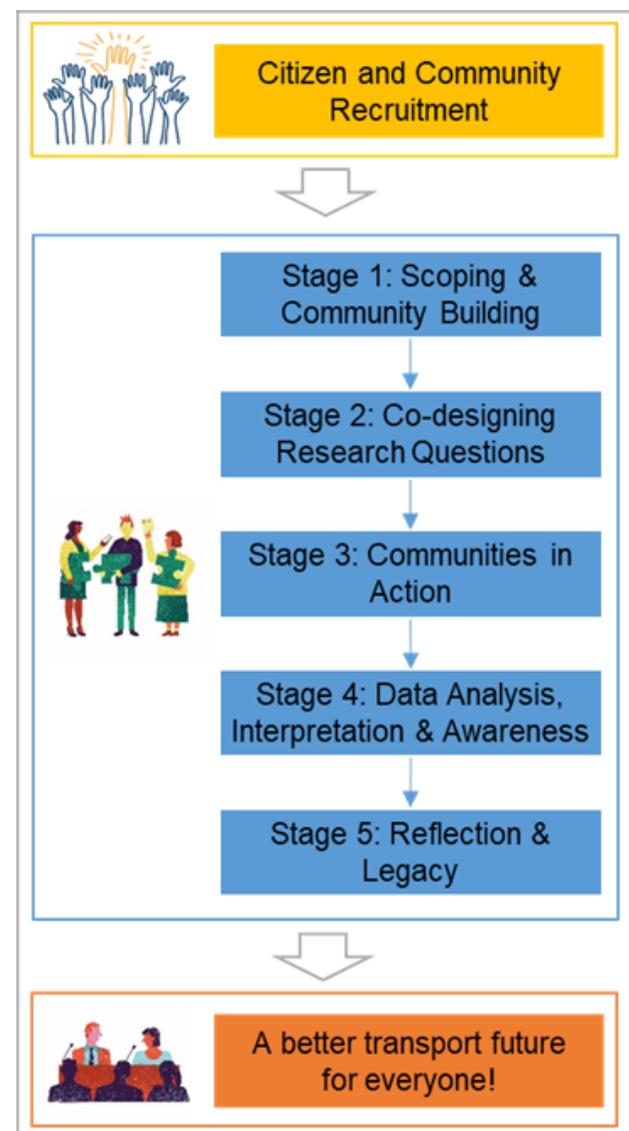
Citizens Observing Urban Transport:

- European project, which has received funding from the European Union's Horizon 2020 Research and Innovation Programme under Grant Agreement No. 872743.
- The project combined existing sensor technologies for measuring local road flow and air quality in a citizen science setting.
- The project enabled citizens to **collect data, to co-design data collection protocol, to analyse the data** (to tell the story behind the data) and **to foster new uses of the data** (to repurpose the data).
- Various approaches were used for engaging citizens and other stakeholders interested in the project.



All partners built their approaches to recruit and engage citizens on:

- Undertaking **stakeholder mapping**: e.g. Stakeholder Mapping Template, Digital Local Ecosystem Mapping, stakeholders from civil society, government/policy, education, private sector;
- **Reaching** larger local communities and the general public through different media: e.g. newspapers, social media;
- Identifying and engaging **local community champions**, and enable the Train the Trainer approach: e.g. Beta Pilot Experience, knowledge transfer resources such as tutorials, guides, templates etc.;
- Following ethical standards: The Telraam sensor is **privacy compliant**.



Challenges:

- After the **tightening of COVID-19 measures**, we had to change the strategy how to proceed with the citizens science project, as this meant that face-to-face workshops were no longer possible. We switched entirely to the **online workshop model**.
- Because of COVID-related restrictions, the distribution of the sensors has proven difficult and required an additional effort. The impossibility of delivering them as part of public events (workshops) or pop-up interventions (initially considered as the most effective ways), forced all partners to organise a **distributed delivery infrastructure**.
- Citizens support for installing the sensors proved to be more difficult.



Lessons learned:

- **Involving younger generations:** WeCount was able to attract a younger demographic than most citizen science projects.
- Dublin: **children would become ambassadors** for the WeCount project and tell their parents and local communities about it, and increasing awareness of the WeCount project.
- Citizens had **a wide range of data analysis skills**, from complete beginners to data professionals, instructions were adapted to this fact.
- Leuven: **use of Personas**, which strengthen the focus on the end user, their tasks, goals and motivation. Personas make the needs of the end-user more explicit and thereby can direct decision-making within design teams more towards those needs' .



An

An is 46 years old. She works for a consultancy firm on mobility so she is career-wise very interested in data on mobility topics. She understands the data but would like to receive them ready to use.



Likes

- mobility topics
- time efficiency
- wide context
- General information



Needs

- Telraam background and information
- answer on the question: how can the dataset be used in policy matters?
- ability to compare the data with other datasets
- easy accessible data
- inspiration to work with the data
- not only local information but as wide as possible



Sonu

Sonu is 26 years old has a master in IT. He is very interested in the technical story behind Telraam. He would like to participate in the thinking process of how to improve the technical aspect of Telraam.

Recognition for his effort is important for Sonu and gives him energy to continue working.



Likes

- Sleek lay-out
- playing with technical functionalities
- Gaming



Needs

- technical insights
- exchange
- updates on technical developments
- the opportunity to contribute
- tools to contribute
- recognition

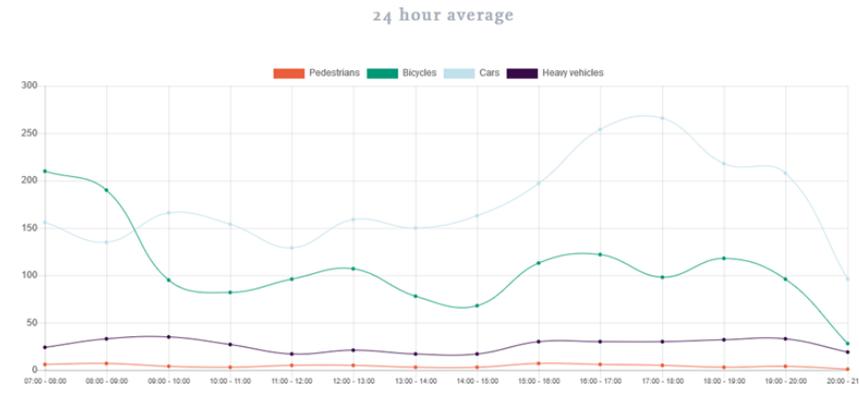
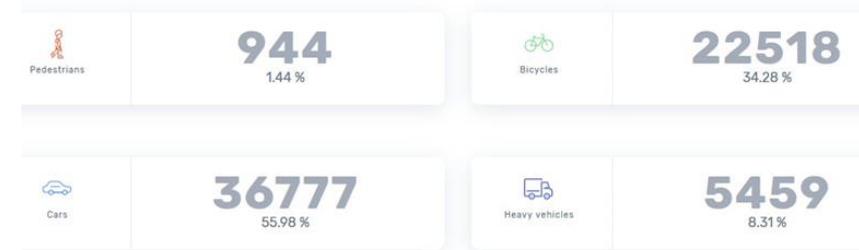
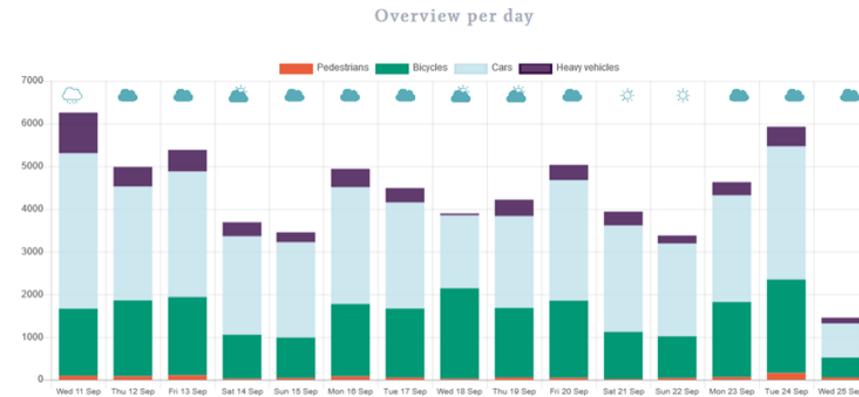
Achievements:

- Madrid: Establishing **important relationship with other institutions dedicated to cultural, social innovation, and citizens-led projects**. The cooperation with Ibercivis and the FECYT within the Spanish Ministry of Science and Technology resulted in the incorporation of the initiative Vigilantes Del Aire within WeCount, through which traffic measuring complemented with air quality monitoring with biosensors - i.e. strawberry plants.
- Cardiff: The majority of the workshop was given to citizen scientists themselves to **present their own data, their own analysis, their own interpretation and their own local street context**. This approach was well received due to the fact that many citizens were worried that data analysis might be too technical and they would not have the skills to do it.



Achievements:

- **Data analysis:** Throughout the project, there are various examples of citizens performing own data analysis, without guidance.
- **Emerging self sustaining community:** There are examples of full grass-roots initiatives that have grown spontaneously (e.g. OpenDataManchester, Ros de Olano in Barcelona), using the WeCount tools, without any direct guidance from the WeCount project team, demonstrating a self-sustaining community is emerging.
- **Co-design of sensors:** Several user have adapted the sensor at own initiative for outdoor use.



Impact stories:

- Can citizens science greatly improve the data available on traffic? Dublin citizens say YES!
- Advancing sustainable mobility in Ljubljana through citizens science: designing better street profile based on actual rather than imaginary and speculative street use.
- Which street is the most polluted, according to strawberry leaves? Madrid and Barcelona replies.



Published results:

- Fogg-Rogers L, Hayes E, Vanherle K, Pápics PI, Chatterton T, Barnes J, Slingerland S, Boushel C, Laggan S, Longhurst J. (2021) Applying Social Learning to Climate Communications—Visualising ‘People Like Me’ in Air Pollution and Climate Change Data. *Sustainability* 13(6), 3406. <https://doi.org/10.3390/su13063406>
- Ažman Momirski L, Berčič T (2022) Southern inner ring road in Ljubljana: 2021 data set from traffic sensors installed as part of the citizen science project WeCount. *Data in brief* 41, 107878, doi: 10.1016/j.dib.2022.107878.

Bristol's top five Citizen-led clean air policies



- 1. Ban/phase out polluting vehicles**
- 2. Make buses greener and cleaner**
- 3. Make public transport more affordable**
- 4. Create alternatives to car use through better walking and cycling infrastructure**
- 5. Reduce vehicle road space and increase public transport space**



Ljubljana Case Study

Scoping and community building

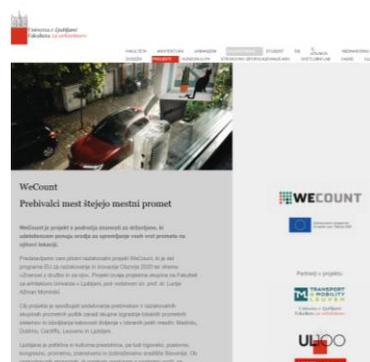
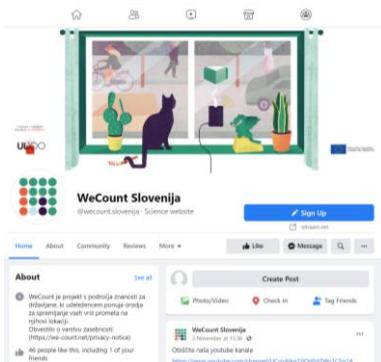
Raising awareness: through social media: Facebook, Twitter, LinkedIn, YouTube, web site in local language

Meetings with local stakeholders: Ljubljana Cycling Network, SPTM, Ministry of infrastructure of Republic of Slovenia

Posters with QR codes were hung in strategic places in Ljubljana, linked to information about the project and to attract interested passers-by.

Focusing on targeting specific locations with suitable window sites rather than seeking volunteer participants.
Actions: Does your window fit?

Expanding new subnetworks: Littoral, Novo mesto
Local champions: Involving schools and informatics teachers



Ljubljana Case Study

Displays with the results of the traffic data on digital screens were installed in public buses to involve citizens in the data analysis and to encourage all project participants and all Ljubljana residents to send their reactions to the highlighted data via the project media (Facebook, Twitter).

Did you know advertisements focused on number of cyclists, vehicles and trucks:

- On Zaloška street: 1,500 cyclists per day;
- On Dunajska cesta: 1600 cyclists per day;
- On Dalmatinova ulica: 1650 cyclists per day;
- On Litijska cesta: 820 freight vehicles per day;
- On Zoisova cesta: 13000 vehicles per day

Ste vedeli?



13000 vozil/dan
Zoisova cesta



Ste vedeli?



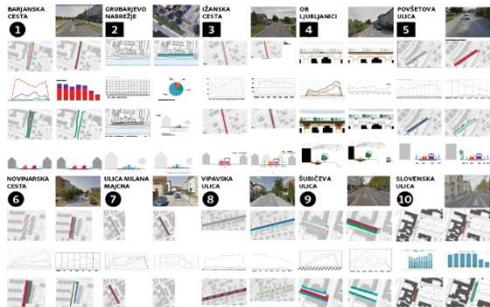
820 tovornih vozil/dan
Litijska cesta



Ljubljana Case Study

The activities with university students/urban residents/citizens in the form of design thinking and co-creation workshop aimed to engage young citizen scientists. The activities focused on urban planning students who were engaged in a process of design thinking in a very interactive and hands-on session to come up with new ideas for new street layouts, with deliberate attention to providing enough space to cycling.

The first step was to outline the existing situation without Telraam data, with an analysis of the traffic structure on the selected section and an analysis of the width of the street profile in relation to the users. The second step was to sketch the situation on the selected section with Telraam data. The third step was to compare the situation without and with Telraam data and **to propose improvements in traffic regulation based on the Telraam data obtained.**



Viška cesta



Rožna dolina C. VII





www.telraam.net

www.we-count.net

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Facebook: WeCount Slovenija

Twitter: WeCount Ljubljana

Linkedin: WeCount Ljubljana



Univerza v Ljubljani



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