Proactive citizen engagement: a 'new' frontier in air quality management

"What do I know about Euro Standards!

I just drive to the shop for milk"

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SouthWest & Wales Air Quality Conference

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Engagement: a 'new' frontier for AQM?

Common practice to *'provide information'* and *'consult public and stakeholders'.* Is this really engagement?

Legislation and guidelines requires us to engage the public.

- Ambient Air Quality Directive (2008/50/EC)
- Environment Act 2021
- Defra LAQM.PG22 has a dedicated chapter on Consultation and Community Engagement
  - "Local authorities are encouraged to provide local communities with clear, accurate and timely information about local air quality"
  - "Communication [should be] meaningful and practical as possible"
  - "working with trusted messengers"
  - "tie in messaging about co-benefits"
  - "engagement must include the lived experience"
  - "good public engagement should draw upon an assortment of different approaches"

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A changing landscape

- Growing environmentalism and activism (e.g. the Greta Thunberg effect, Extinction Rebellion, Just Stop Oil)

- Impact of socio-economic status - access to data and environmental apathy

- Pathways to evidence – low costs sensors, citizen science, Twitter!

- Does the air quality community still influence the narrative or are we bystanders in a new wave of environmentalism?

Premiership final: Two charged over Just Stop Oil rugby final protest

🕐 28 May

The match was briefly delayed by the protest during the first half

Extinction Rebellion: Traffic delayed on M32 in Bristol

🕐 17 July 2019

Some activists glued themselves to a pink bath in Bristol

Has policy / research / media failed?

Failure of policy to bring citizens, communities and organisations on board?

1. Poor perception of risk: Issues are presented in abstract, descriptive and analytical formats.

2. Psychological distance: Focus on future consequences but costs/health not immediately recognised.

3. Negative framing: issues framed against losses to society e.g. higher taxation, reduced consumption, low quality of life etc

4. Better contextualisation to allow people to make sense of data in relation to the real world

5. Overwhelming people with evidence or are we continually reminding them of the importance of this issues?

Three dimensions of public engagement
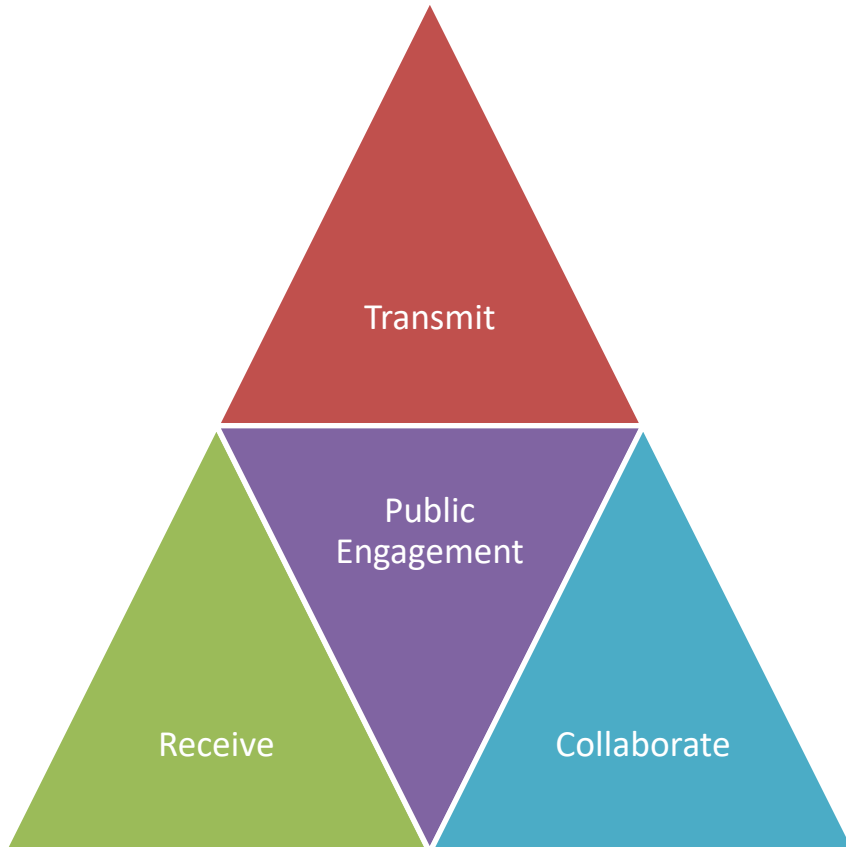
TRANSMIT

Inspire, Inform, change, educate, build capacity, inform of influence the decision of others e.g. public awareness event

RECEIVE

Use the skills, experience, knowledge of others to inspire, inform, change educate or build your own capacity or decisions e.g. surveys

COLLABORATE

To collaborate, consider, create or decide something together e.g. consensus building.

The 'public' and their 'behaviour'

- No two people are the same!
- Their behaviours are different: spatially, temporally and demographically.
- The factors that influence their behaviour vary: socially, income, flexibility, responsibility

UK Committee on Climate Change, Net Zero, 2019: *"Societal change is required for shifts in consumption patterns and the use of technologies......over 60% of the abatement requires some level of change. They also imply co-benefits in terms of cleaner air and healthier lifestyles."*
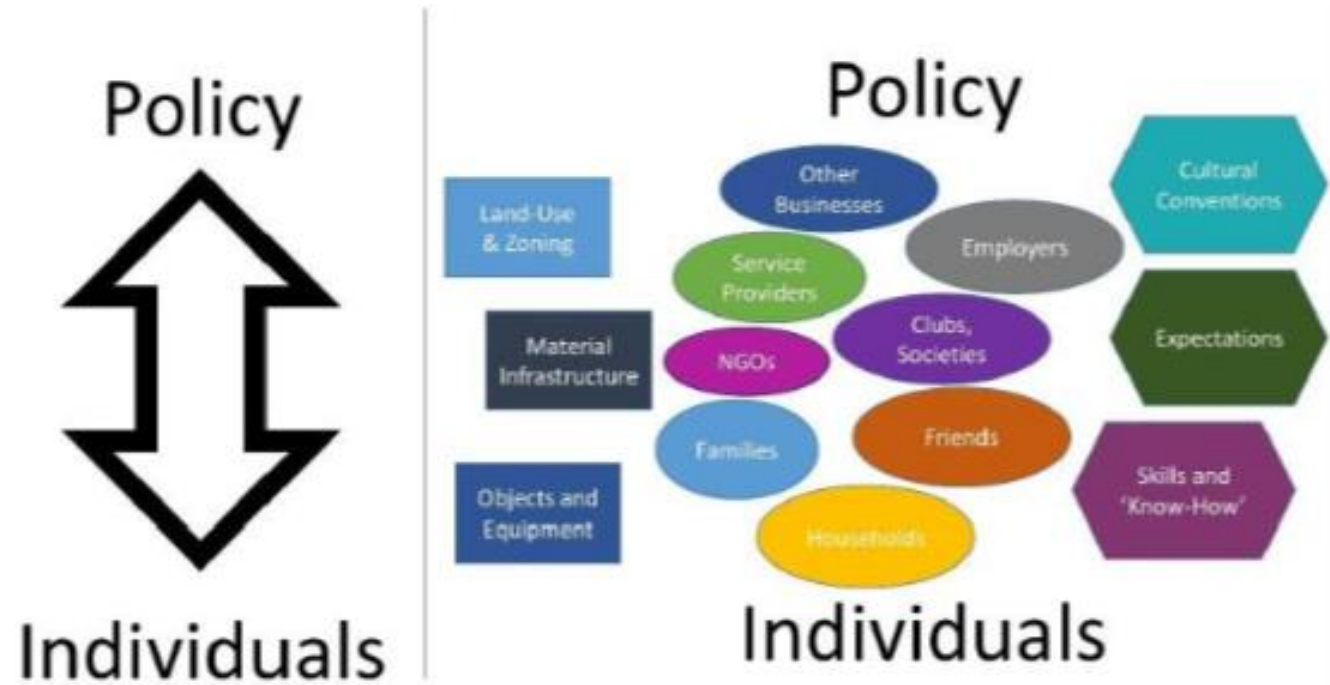
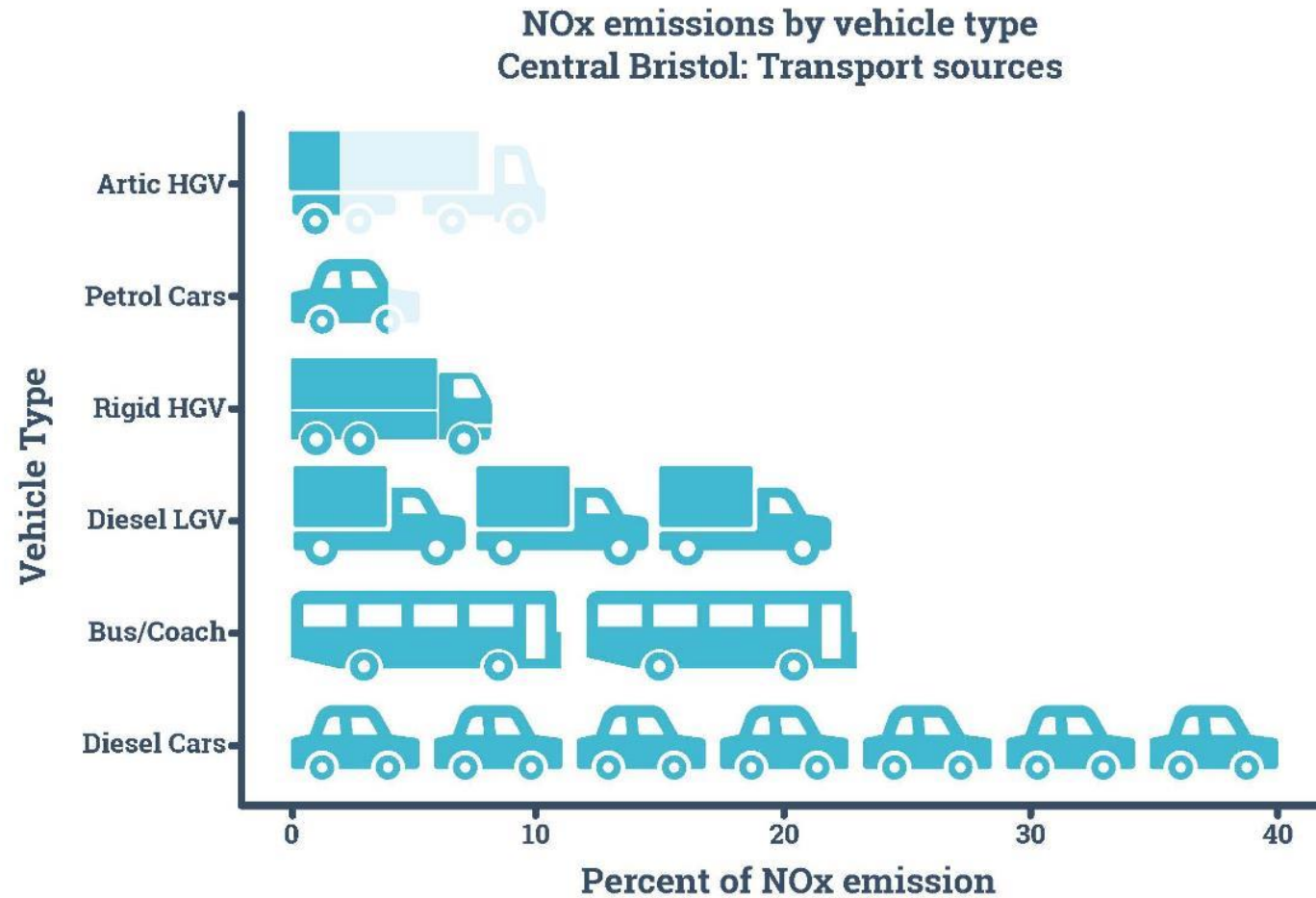# ClairCity: Citizen-led Air Pollution Reduction

Traditional approaches to managing air pollution

⇒

ClairCity

⇒

ClairCity approach to managing air pollution

Look where and what

Look at who and why

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ClairCity

The right conversation? What we want to talk about

NOx emissions by vehicle type
Central Bristol: Transport sources

Data from Bristol City Council Cabinet Agenda, 15 Aug 2017, page 105.
Available from https://democracy.bristol.gov.uk/documents/g2557/Public%20reports%20pack%2015th-Aug-2017%2016.00%20Cabinet.pdf?T=10

The right conversation? What people want to talk about

"I simply don't see accessibility and cost of public transport ever being better"

"What do I know about Euro Standards? I just drive to the shops"

"Heavy loads, steep hills, small children, tired – I just want to get home!"

"I need to pick my kids up and work part time so don't have the time to cycle or take the bus"

"I need flexibility to go where I want, when I want"

Why do car users want to change (or not)?

Current car user who would prefer walk/cycle/bus.

Insufficient/poor quality public transport

"Bus times do not fit with work shifts. Would have to take 2 buses and twice as long to drive. Cycling facilities at my workplace are not great, no shower. Roads feel unsafe at peak times, cycle routes are just on edge of road, often randomly stopping just before difficult areas e.g. junctions"
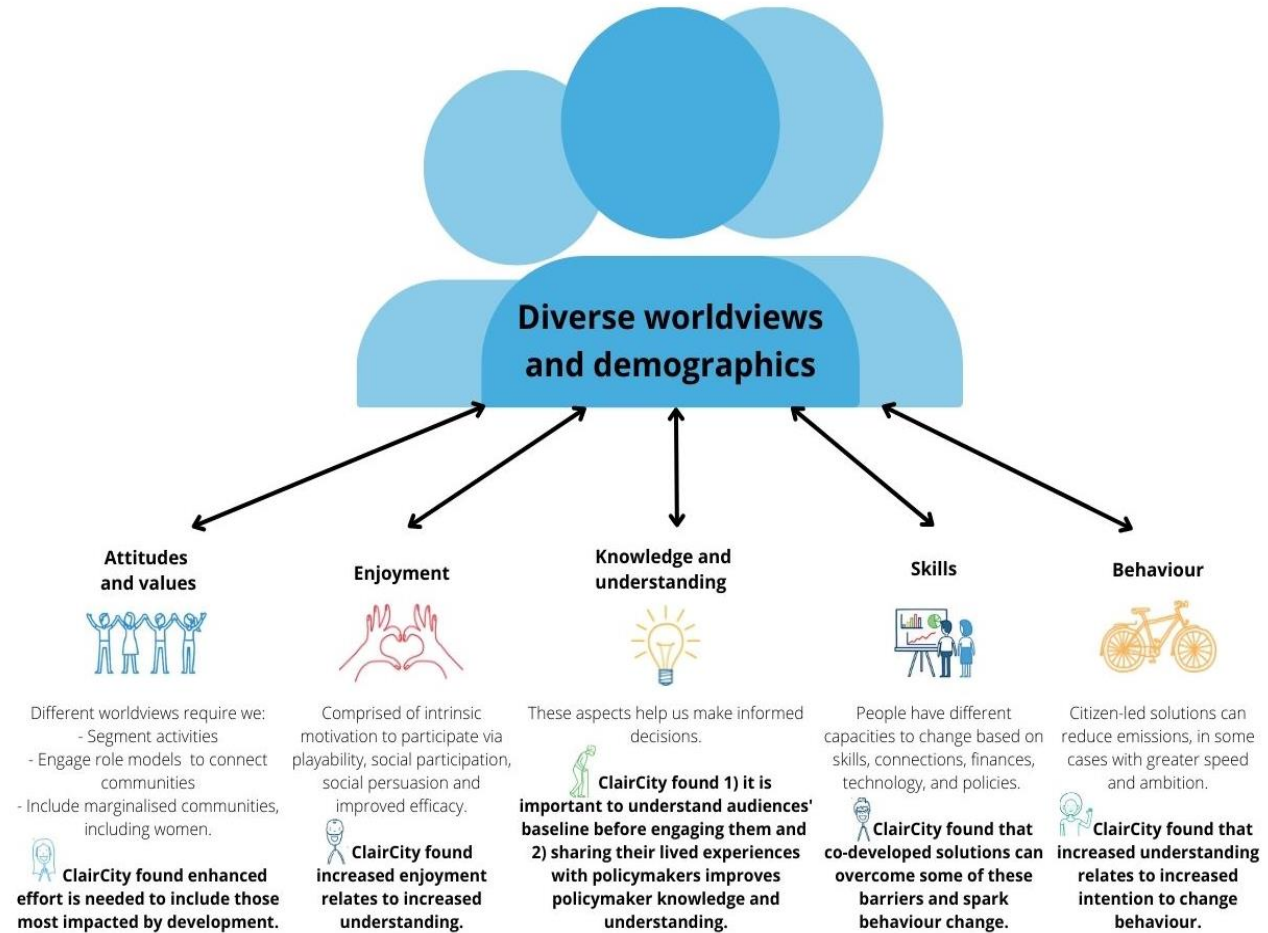
Flexible/convenient

Safety fears

Lack of changing or shower facilities

Exploring a diversity of approaches

Citizens at the centre

Diverse worldviews and demographics

Attitudes and values

Different worldviews require we:
- Segment activities
- Engage role models to connect communities
- Include marginalised communities, including women.

ClairCity found enhanced effort is needed to include those most impacted by development.

Enjoyment

Comprised of intrinsic motivation to participate via playability, social participation, social persuasion and improved efficacy.

ClairCity found increased enjoyment relates to increased understanding.

Knowledge and understanding

These aspects help us make informed decisions.

ClairCity found 1) it is important to understand audiences' baseline before engaging them and 2) sharing their lived experiences with policymakers improves policymaker knowledge and understanding.

Skills

People have different capacities to change based on skills, connections, finances, technology, and policies.

ClairCity found that co-developed solutions can overcome some of these barriers and spark behaviour change.

Behaviour

Citizen-led solutions can reduce emissions, in some cases with greater speed and ambition.

ClairCity found that increased understanding relates to increased intention to change behaviour.

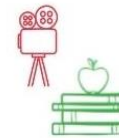**Engage diverse participatory methods for emissions reductions**

Surveys

Engages more educated people. Need to focus on policy setting type questions as well as policy shaping. Can complement other approaches.

Serious games

Engages young people, in particular young men. Appeals to those with less expertise on the topic.

Educational challenges and videos

Fun ways to involve communities, perhaps as a precursor to community workshops.

Community workshops

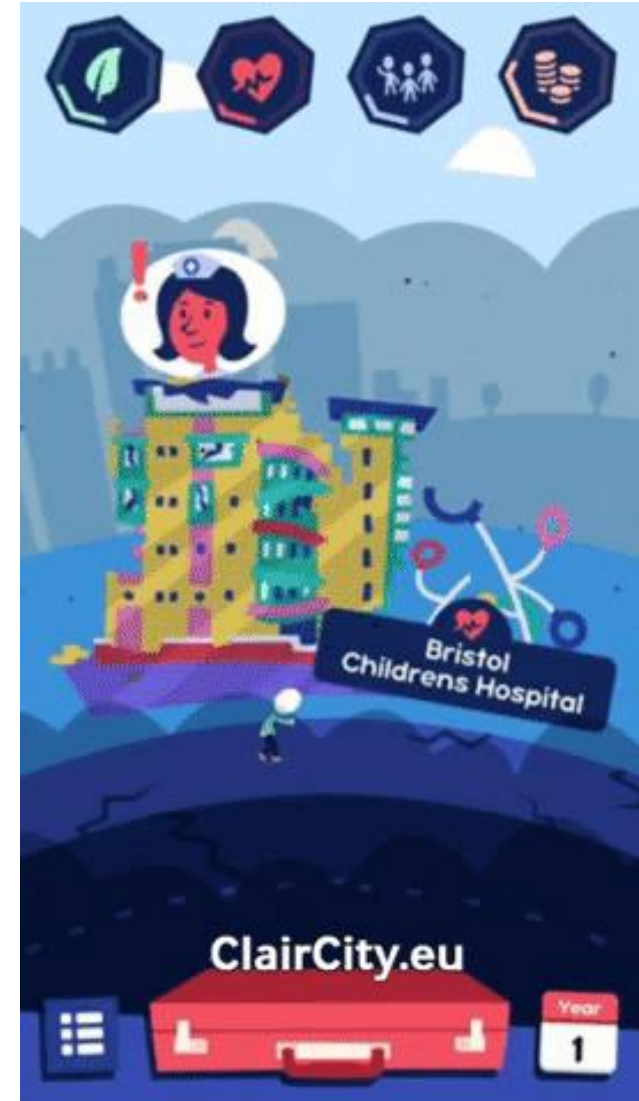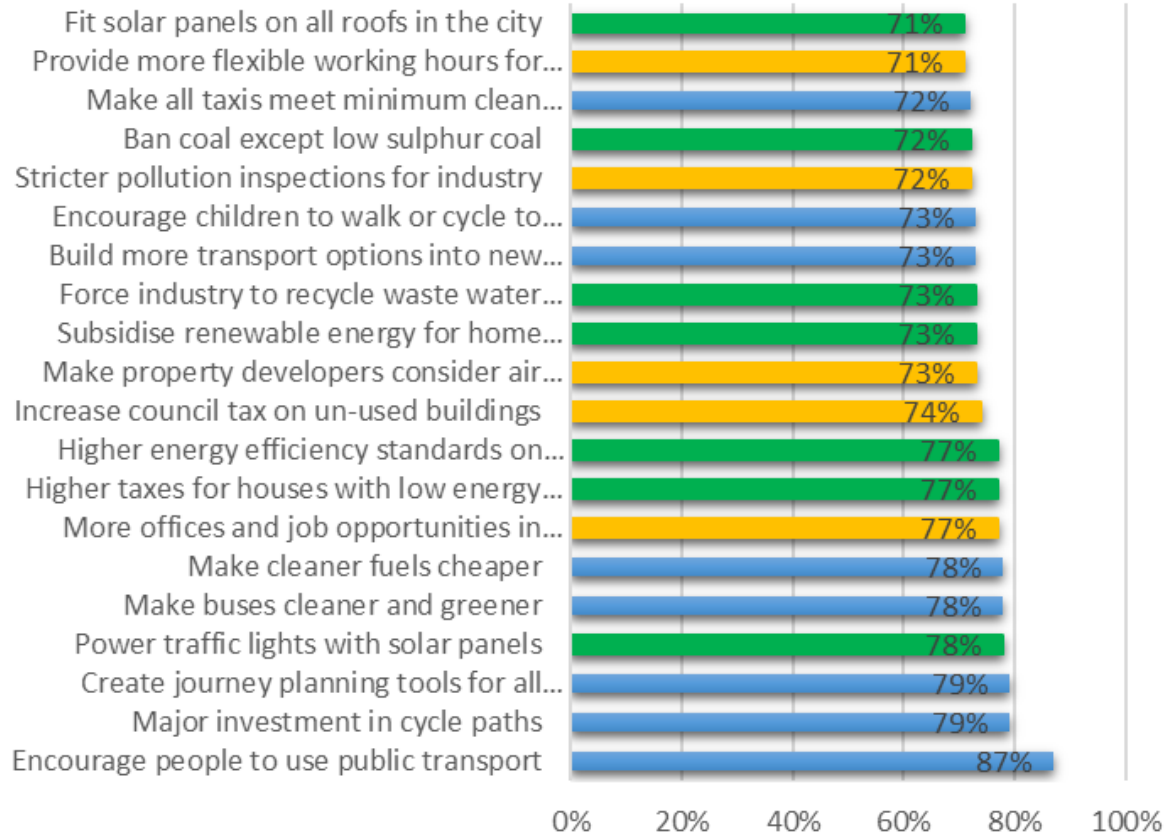Designed with and for communities. Can focus on specific issues and be light touch or in depth.
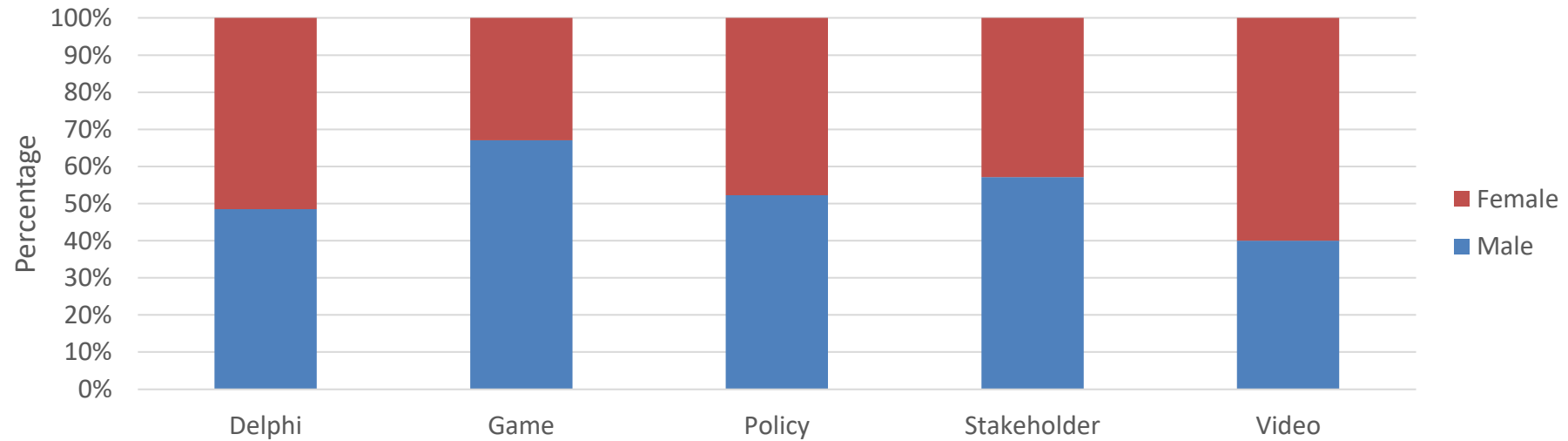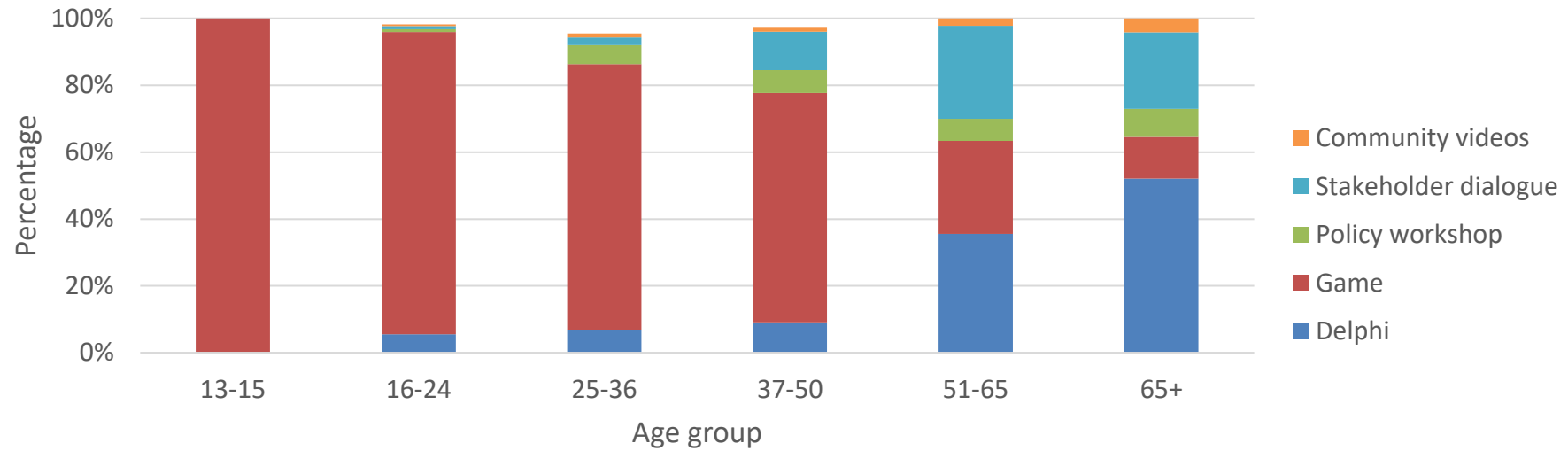
Policy workshops

Engages older people with higher expertise.

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Making it engaging: ClairCity Skylines

Bristol Top 20

Measure	%
Fit solar panels on all roofs in the city	71%
Provide more flexible working hours for...	71%
Make all taxis meet minimum clean...	72%
Ban coal except low sulphur coal	72%
Stricter pollution inspections for industry	72%
Encourage children to walk or cycle to...	73%
Build more transport options into new...	73%
Force industry to recycle waste water...	73%
Subsidise renewable energy for home...	73%
Make property developers consider air...	73%
Increase council tax on un-used buildings	74%
Higher energy efficiency standards on...	77%
Higher taxes for houses with low energy...	77%
More offices and job opportunities in...	77%
Make cleaner fuels cheaper	78%
Make buses cleaner and greener	78%
Power traffic lights with solar panels	78%
Create journey planning tools for all...	79%
Major investment in cycle paths	79%
Encourage people to use public transport	87%

Bristol Childrens Hospital

ClairCity.eu

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Who is engaging?

Fogg-Rogers et al, (IN REVIEW), Citizen-led emission reductions: behaviour change intention is positively correlated to citizen enjoyment and learning in public engagement activities, Environmental Science and Policy
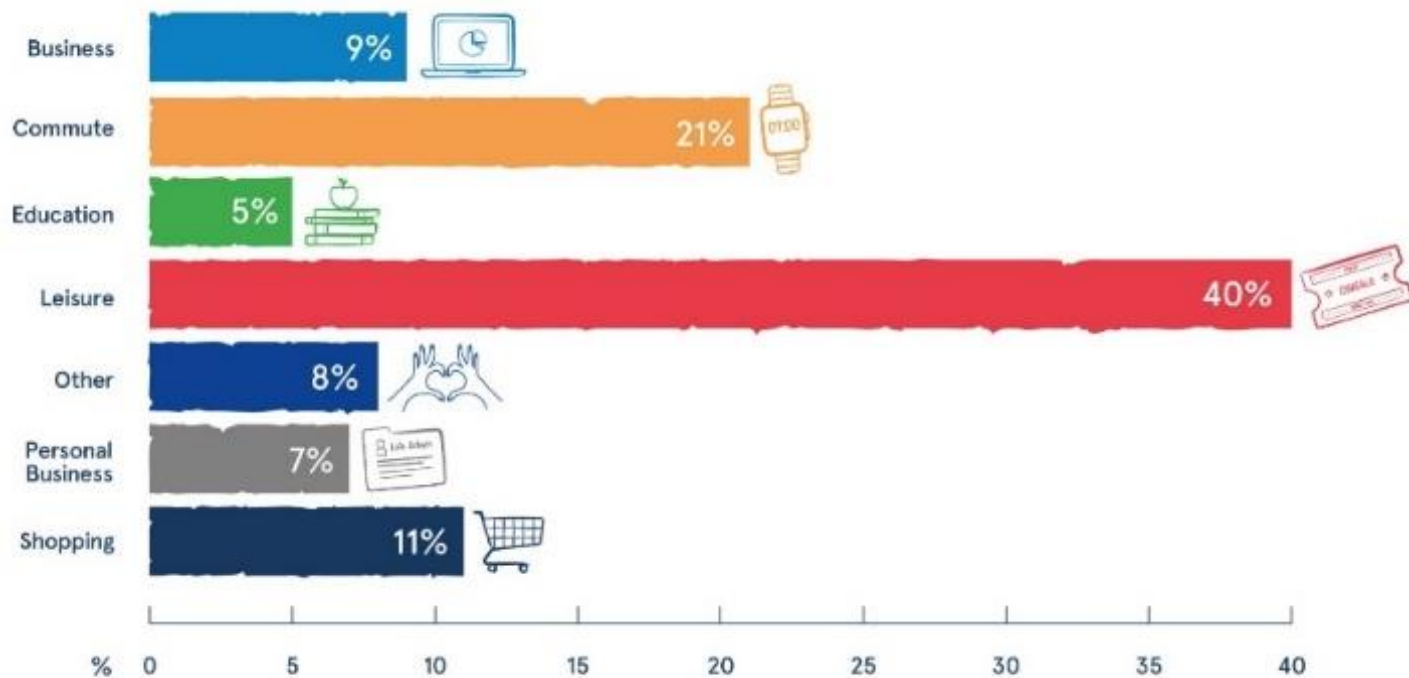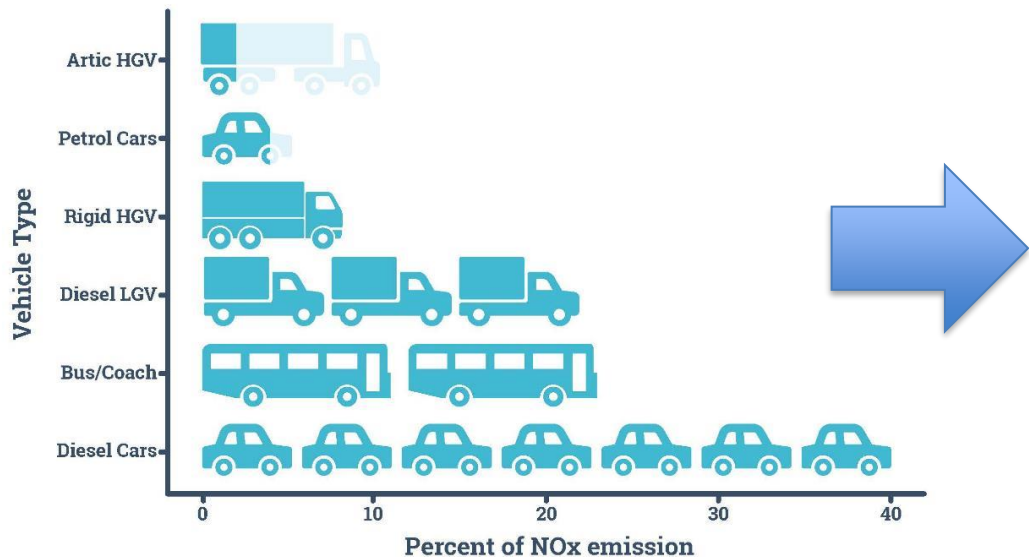
Putting 'people' into the data
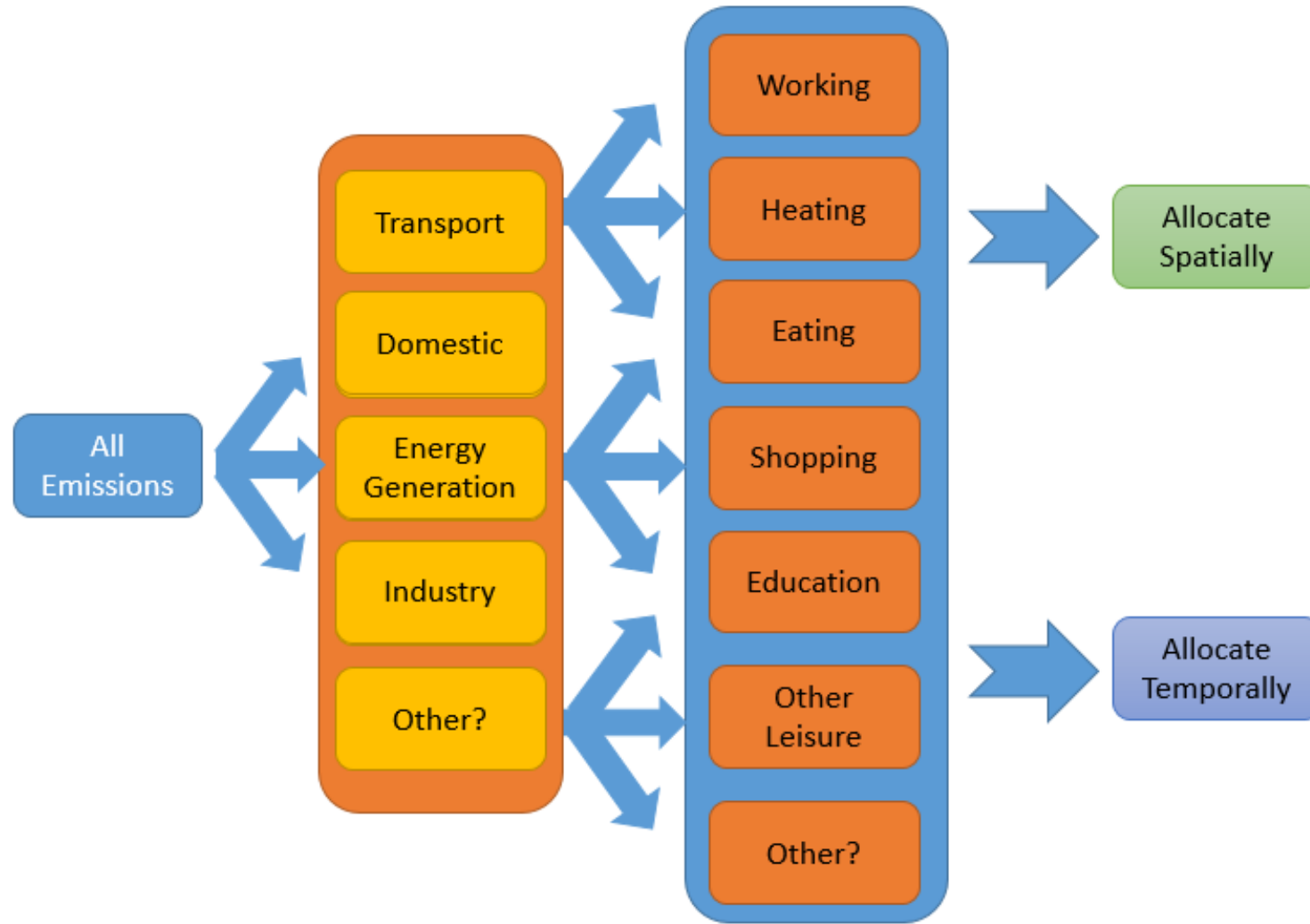
Source Apportionment: Motive & Demographic
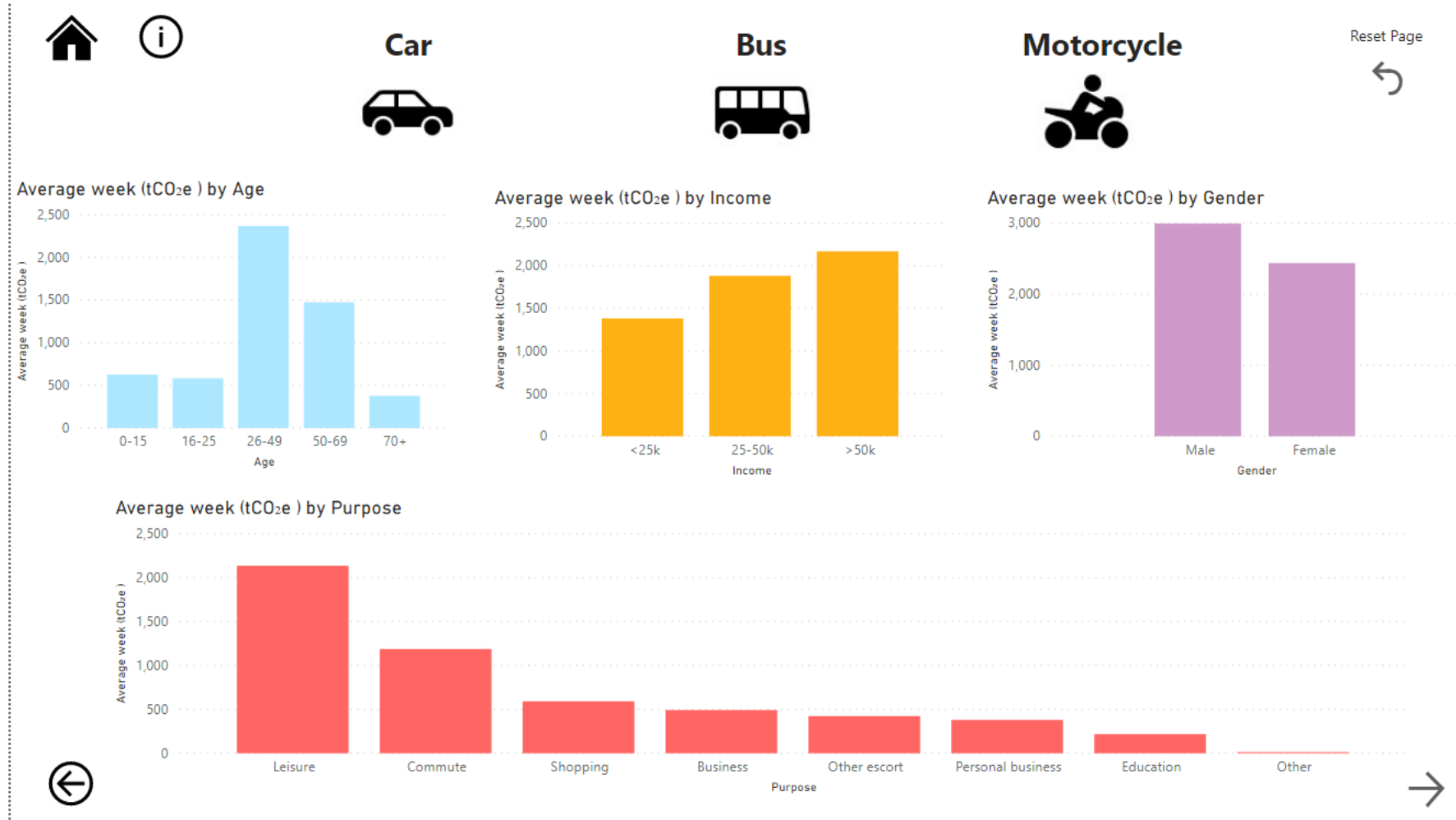
Shifting the conversation from technology to people

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This graph shows the relative contribution of each motive to total KM travelled in Bristol in 2015.

Value of Citizen Science

View 1: Not our business....citizens can do it for themselves

View 2: Annoying....gives problems, nasty questions and inaccurate data

View 3: Great fun....count us in! If you invest you get great results beyond just data!

Key tasks for AQ Community

- Explaining: interactive communication
- Assuring quality: validation / calibration
- Making available: open data
- Providing context: link to policies
- Interpretation: understanding units
- Continuity: maintain momentum
- Are they hard to reach or are we not trying hard enough?
- How do we convert citizen scientists into citizen champions and allies?

"...the data collection tool is still a relatively new system and does not necessarily provide robust data for policy development..."
Local Authority

"...I know air pollution is bad in my neighbourhood. The data I've seen proves what I suspected..."
Citizen Scientist

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WeCount: Citizens Observing Urban Traffic

WeCount has:

- worked with citizens to quantify local road transport,

- produced new knowledge on local mobility, and

- co-created informed solutions to tackle various urban mobility challenges such as speeding, rat-running, peak episodes, air pollution, active travel etc.
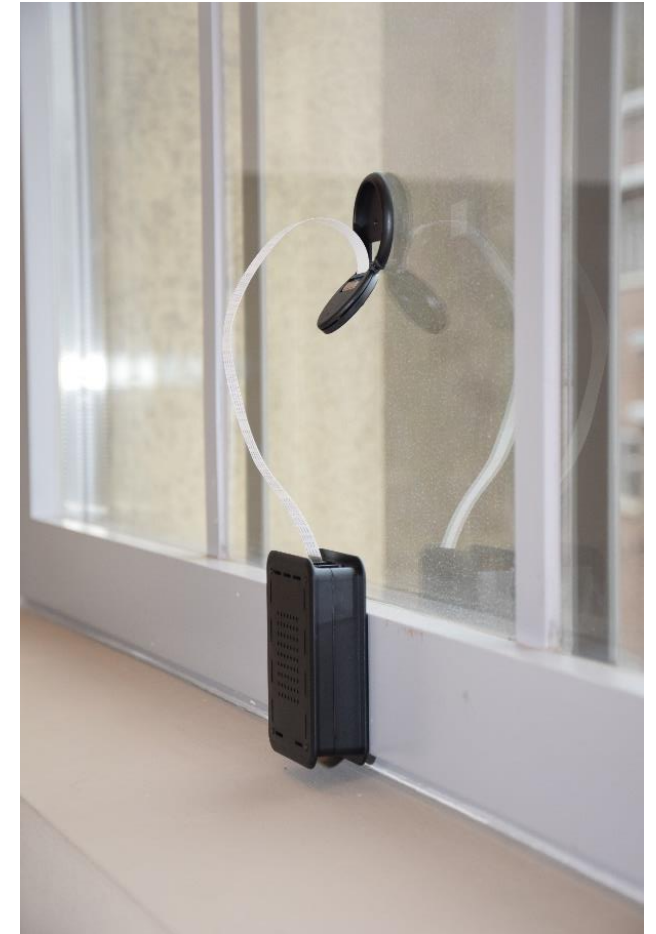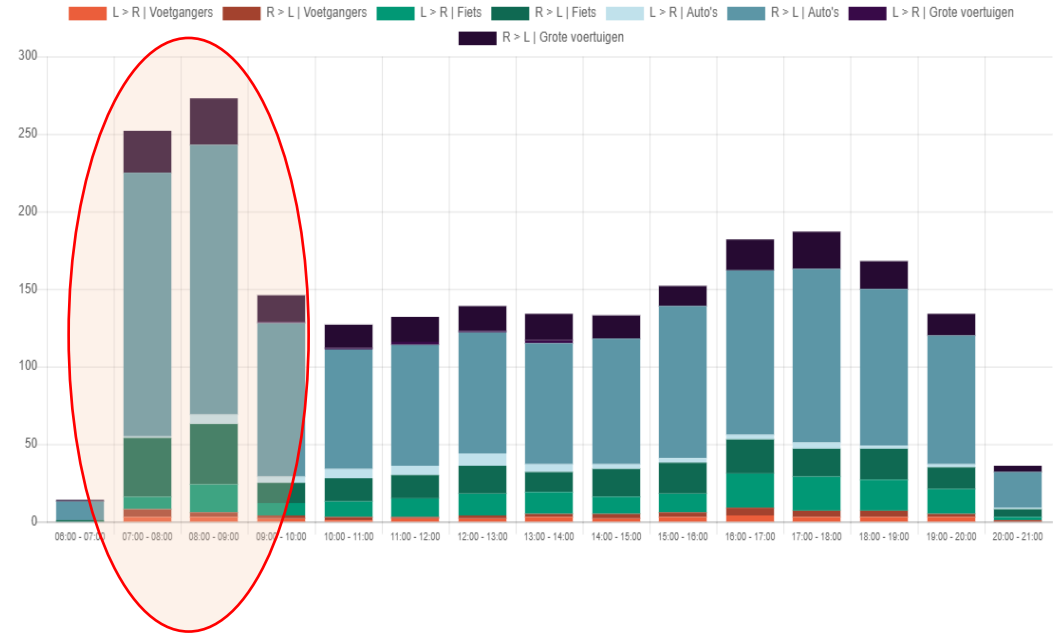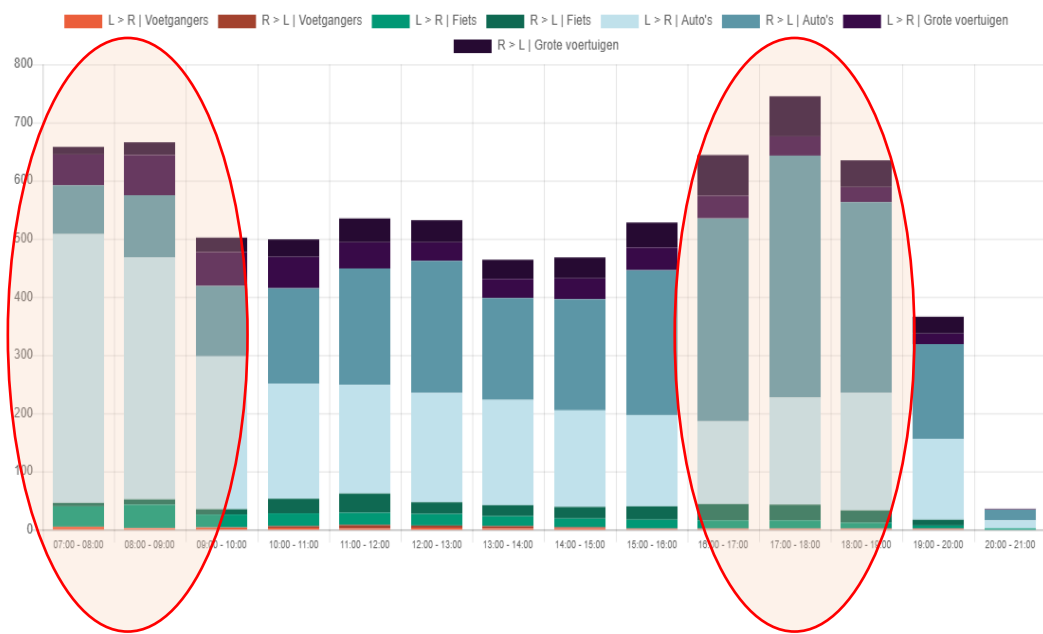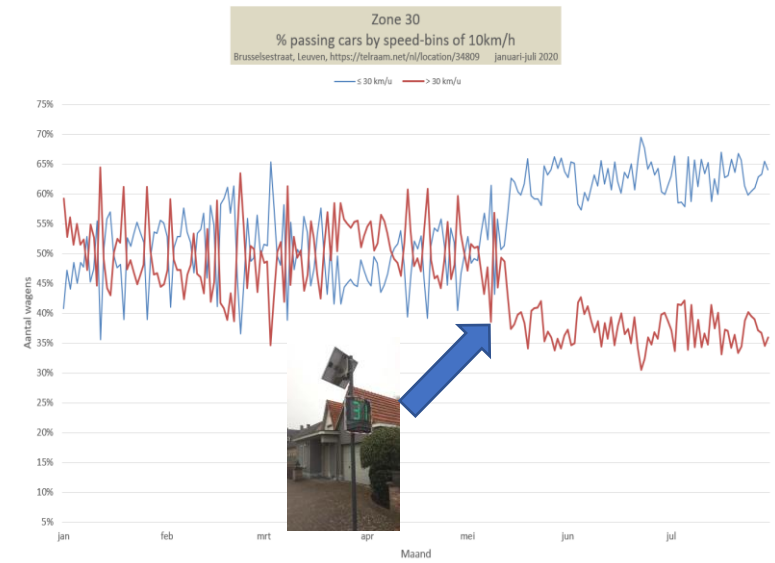
What is the role of the citizen in the process?

- Stage 1: Bringing communities together.
- Stage 2: How can WeCount help answer my local transport problem?
- Stage 3: Communities in Action
- Stage 4: Analyse and discuss among stakeholders to identify areas for action and impact.
- Stage 5: Did we achieve our goals? What transferrable lessons? What are the next steps?
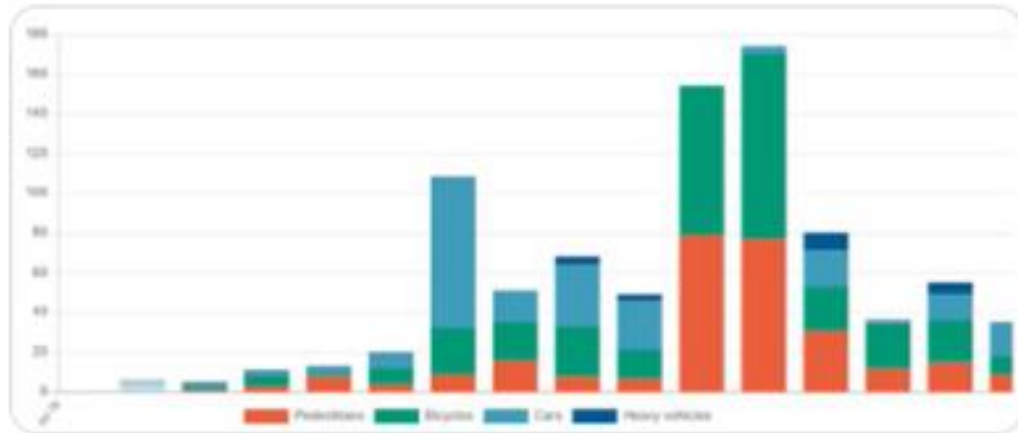
Telraam Dashboard: Data Examples

Telraam Dashboard: Data Examples

Roath Court Road Play Street
@RCRPlayStreet

@BetterRoath @WecountC @PlayWales The Telraam camera in Roath Court Road captures traffic movements. See what a difference holding a play street makes. The absence of cars allows the kids to reclaim the street.
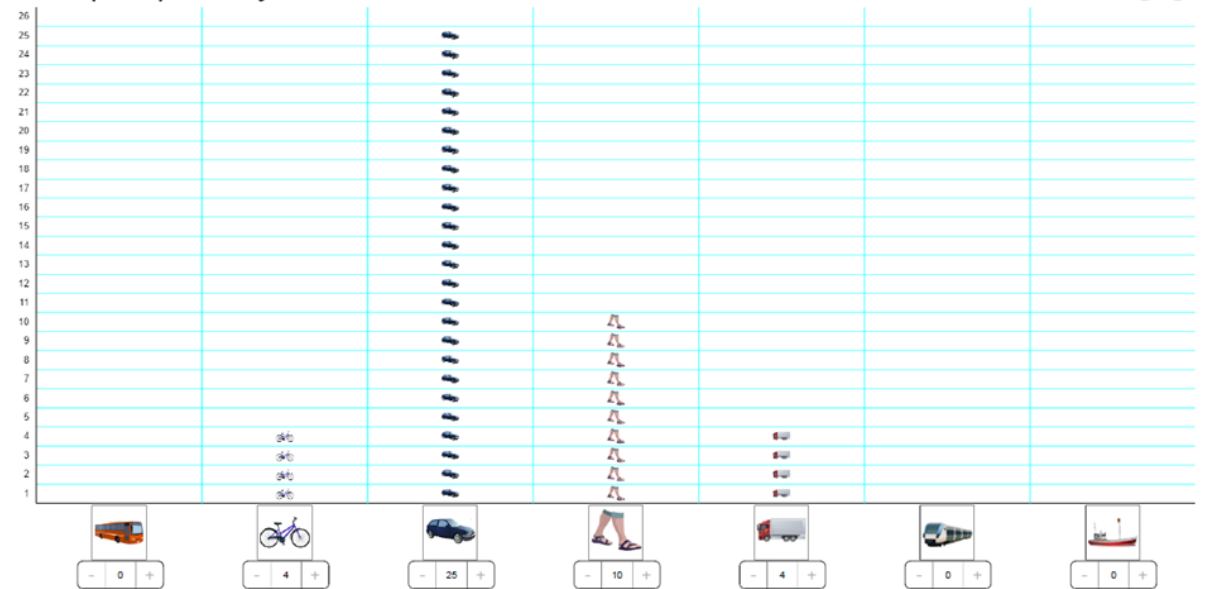
8:40 pm · 18 Jul 2021 · Twitter for Android

4 Retweets   4 Quote Tweets   18 Likes

Transport past my house in the last hour

Amplifying the citizen voice

"It made me feel empowered"
"I was a bit nervous about if I wanted to join but it was friendly and idiot proof"

"[It] has given me actual data with which to lobby the council for traffic calming measurements - I now have actual data to submit to the council not just my personal observation"

"I knew there were patterns of traffic behaviour but my feelings about peak traffic levels and speeds were not correct. Having the data has helped me have a clearer picture"

"I think it does give an interesting potential boost to your activism... as in its empowering I suppose is the word...I know at least two other sites have opened up because of my agency"

Citizen advocates for change: but only if we value them


Trends in Ecology & Evolution
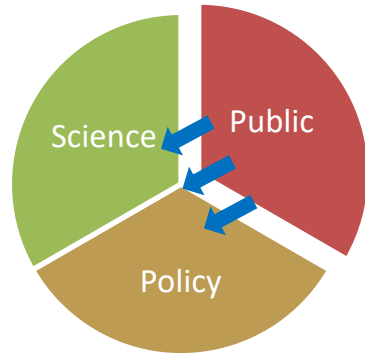
- **Need 'enabling' policies that breakdown social practice barriers so that greener choices become the social norm for everyone!**

- Must understand how social practices influence the generation of pollution and stop blaming the individual for their lack of willingness to change.

- How to engage the public
    - Know your audience
    - Connect to their lived experience / expertise
    - Find common ground to discuss the challenges and solutions
    - Need mechanisms that allow for continuation of engagement
    - Need multiple engagement pathways: they way we engage young people will be very different from older people

- The bottom-up approach raised ambition levels in the cities: policy-makers feel empowered to be more ambitious.

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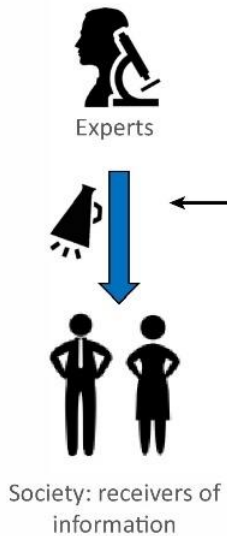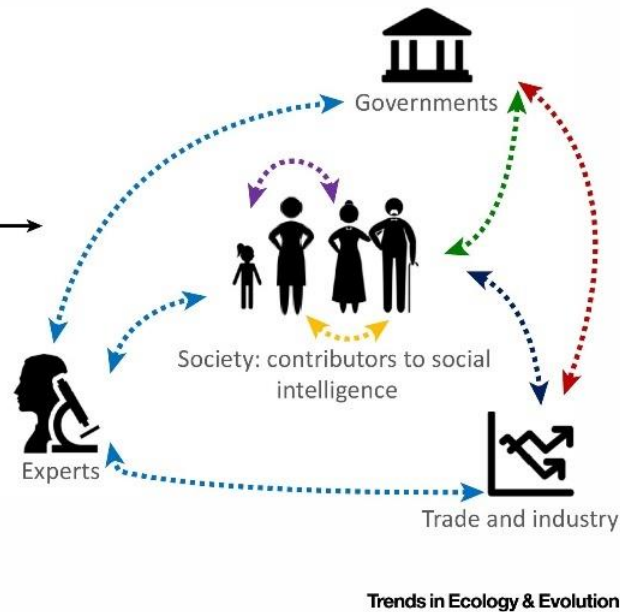
Communication Principles: 15-Point Plan (a)

- Consider a holistic approach that **reflects citizens' lived experiences** rather than focusing exclusively on air quality.

- Use a range of **pre-piloted engagement approaches**, informed by communications and subject experts.

- Ensure engagement approaches are **inclusive** of all sectors of society and appropriately communicated.

- **Target specific groups** separately, e.g. vulnerable groups, user groups.

- Gain support from and include a **range of actors**, e.g. national and local government, public health agencies, public transport providers, businesses and schools.

- Research the affected communities and actively engage with them to **understand the socio-cultural contexts** and complexities of their needs.

- **Co-create solutions** that work for the affected communities, through citizens' panels, and 'living labs', ensuring participants are demographically representative.

https://www.gov.scot/publications/cleaner-air-scotland-air-quality-public-attitudes-behaviour-review-final-report/pages/3/

Communication Principles: 15-Point Plan (b)

- Support **citizen-led engagement** events and activities

- Ensure **promoted behavioural changes** are easier, more convenient and preferably cheaper than the status quo.

- **Raise awareness responsibly**, ensuring that risk perceptions and data interpretation are managed and achievable behavioural responses are provided.

- Focus communication on **health impacts**, rather than concentrations or emissions.

- **Use change agents**, influencers and middle actors to help raise awareness and promote behaviour change to affect normative behaviours.

- **Use social media** to spread awareness through wider social connections and families.

- Plan **longitudinal monitoring and evaluation**, coupled with citizen feedback, into the public engagement design.

- Ensure materials and evaluation are **made available to benefit other public engagement** strategies.

https://www.gov.scot/publications/cleaner-air-scotland-air-quality-public-attitudes-behaviour-review-final-report/pages/3/

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Some Resources

ClairCity - http://www.claircity.eu/take-action/

1. Community Activator Pack - https://zenodo.org/record/4045909#.Y1fpVHbMKUl
2. Educator Pack - https://zenodo.org/record/4045897#.Y1fpo3bMKUm
3. Our City Our Future: 6-week STEAM Eco Club Challenge - https://zenodo.org/record/4073019#.Y1fpdnbMKUm
4. British Science Week Secondary Activity Pack - http://www.claircity.eu/wp-content/uploads/2020/01/BSA_BSW_secondary_ClairCity-p23.pdf
5. Clean Air Top Trumps - https://zenodo.org/record/4046632#.Y1fp-HbMKUm
6. ClairCity Board Game - https://zenodo.org/record/4266664#.Y1fqD3bMKUm
7. ClairCity Air Pollution Infographic - https://zenodo.org/record/4268193#.Y1fqN3bMKUl

WeCount - https://we-count.net/

1. P1: Scoping and Community Building Toolkit - https://zenodo.org/record/5666231#.Y1fronbMKUk
2. P2: Co-Design Toolkit - https://zenodo.org/record/5666870#.Y1fr0HbMKUk
3. P3: Data Collection Toolkit - https://zenodo.org/record/5667082#.Y1fr7XbMKUk
4. P4: Data Analysis and Awareness Toolkit - https://zenodo.org/record/5668088#.Y1fsBHbMKUk
5. P5: Reflection and Legacy Toolkit - https://zenodo.org/record/5668123#.Y1fsKXbMKUk
6. WeCount Schools Pack (KS2) - https://zenodo.org/record/5361919#.Y1fsRnbMKUk
7. A practitioner's guide to evaluation, engagement and policy change - https://zenodo.org/record/5742726#.Y1frQnbMKUk
8. Community Advocacy Toolkit - https://zenodo.org/record/5879127#.Y1frfnbMKUk
9. British Science Week Activity Packs 2022 - https://www.britishscienceweek.org/plan-your-activities/activity-packs/

Thank You

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