PEDAL STAL

Speeding up cycling culture

# Research Document

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# Introduction

This toolkit collects a selection of methods used by our team to work on a Service Design project with the Royal College of Art and the City of Bradford Metropolitan District. The goal was to create urban resilience to climatic change by better enabling city planners and local authorities to work with communities in the delivery of Blue Green Infrastructure (BGI).

This project runs in the context of Begin research project.
Begin is an EU funded Interreg project working with 10 cities across Europe in the north sea region.
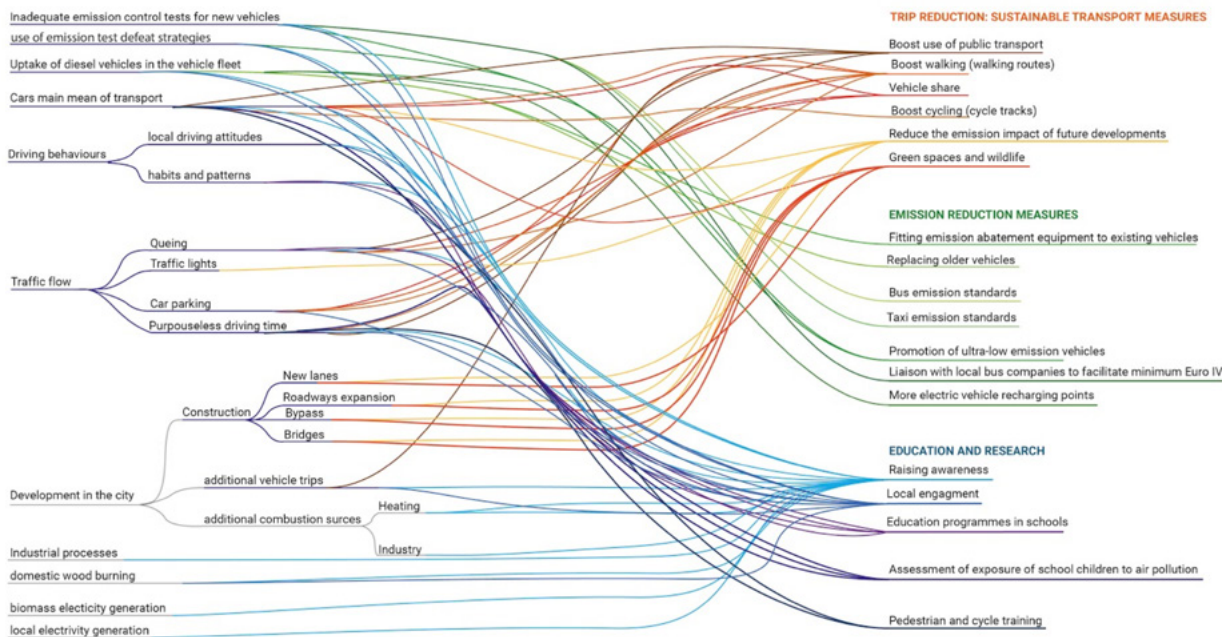
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# Issues vs Strategies - Flow chart



**AIR POLLUTION CAUSES**

Inadequate emission control tests for new vehicles
use of emission test defeat strategies
Uptake of diesel vehicles in the vehicle fleet
Cars main mean of transport

Driving behaviours
- local driving attitudes
- habits and patterns

Traffic flow
- Queing
- Traffic lights
- Car parking
- Purpouseless driving time

Construction
- New lanes
- Roadways expansion
- Bypass
- Bridges

Development in the city
- additional vehicle trips
- additional combustion surces
  - Heating
  - Industry

Industrial processes
domestic wood burning

biomass electicity generation
local electrivity generation

**STRATEGIES**

**TRIP REDUCTION: SUSTAINABLE TRANSPORT MEASURES**
Boost use of public transport
Boost walking (walking routes)
Vehicle share
Boost cycling (cycle tracks)
Reduce the emission impact of future developments
Green spaces and wildlife

**EMISSION REDUCTION MEASURES**
Fitting emission abatement equipment to existing vehicles
Replacing older vehicles
Bus emission standards
Taxi emission standards

Promotion of ultra-low emission vehicles
Liaison with local bus companies to facilitate minimum Euro IV
More electric vehicle recharging points

**EDUCATION AND RESEARCH**
Raising awareness
Local engagment
Education programmes in schools

Assessment of exposure of school children to air pollution

Pedestrian and cycle training

**Process phase:** desk research

**Participants:** project team

**Description:**
This flow chart helped us to visualize how local authorities are developing strategies to tackle air pollution

**Objectives:**
- match air pollution causes with strategies to overcome them
- understand policies directions
- visualise and synthesize data
- highligh possible gaps

# Empathy map - Bradford, blowing in the wind





**Process phase:** discovery, field research

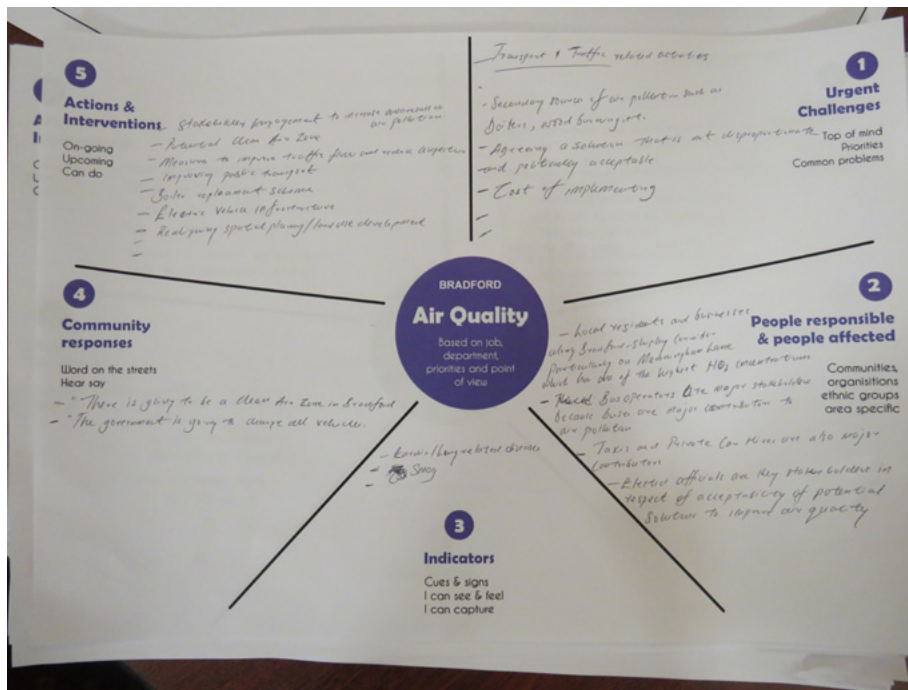**Participants:** on street intervention for citizens

**Description:**
Warming excercise to engage with citizens on street in an informal and interactive way

**Objectives:**
- Conversation starter
- Engage people in an informal way
- Collect perseptions and insights from citizens about specific topics/issues

# Context Map



**Process phase:** discovery workshop
**Participants:** stakeholders

**Suggested time:** 15 mins individual compilation + 15 mins collective discussion

**Description:**
The context map is a tool that you can use with stakeholders to understand problems, activities and issues they face everyday

**Objectives:**
- Explore and mapping the context from each stakeholder point of view
- Data gathering tool
- Validate secondary research
- Get information from a human experience angle
- Priorities and challenges (problems, interventions..)
- Resources (parameters, social resources....)
- On-ground research with specific examples
- Identify roadblocks and frustrations
- Potential Ideas for the future

# Swot Analysis
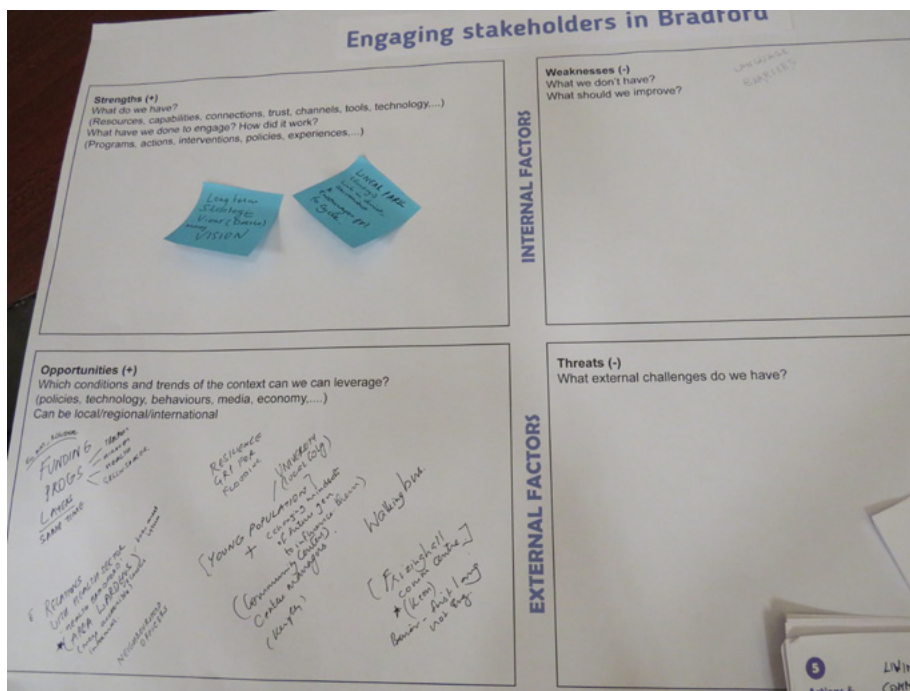


**Process phase:** discovery workshop

**Participants:** stakeholders

**Suggested time:** 30 mins collective work

**Description:**
The SWOT analysis that allow the project team to map, together with stakeholders, strenghts and weaknesses (internal factors), opportunities and threats (external factors) related to a specific system.

**Objectives:**
- Map opportunities and limitations to face a challenge
- Identify future scenarios
- Explore possible solutions to problems
- Collect references

# Post research synthesis



**Process phase:** discovery, define and ideation

**Participants:** design team

**Materials:** a big and empty wall + post-its + tape

**Description:** Breaking down complex concepts and problems into smaller, easier-to-understand constituents. Make sense of the data we have gathered to create a problem statement.

**Objectives:**
- make design decisions
- prioritise work
- write new user stories
- refine existing user needs
- develop your proposition or product roadmap

# Persona

## MARK. The Pro-active citizen

Mark has lived in his family house in Shipley all his life.
He has witnessed the city develop from an industrial countryside to a more urban place. He takes pride in being an active member of his neighbourhood.
He currently stays with his 7 years old son and wife.



*" I can see pollution around the school when I drop my son in the morning"*

**Age:** 45 years old

**Place of residence:** Stays in his family house in Shipley

**Occupation:** Works as a consultant in Bradford City centre

**How does he gets around ?**
His primary mode of transport is his SUV. Every morning he drops his son to secondary school, on his way to work in Bradford city. He prefers to use the Manningham Lane route to get to work.

On the weekends, he rides the bike with his family to the Farmer's market and believes its a good excercise.

### What keeps him up at night?

- He is concerned about the **increase in the levels of asthama amongst school children** in Bradford. His son being one.

- "**It's not safe for my son go to school alone by bike or on foot**, cars drive too fast without looking at pedestrians or cyclists"

### What does he look forward to?

*"I wish my son could go to school without inhaling polluted air"*

### Barriers

Most parents drop their children by car in the morning

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**Process phase:** Define and crisp insights

**Participants:** design team

**Description:**
Personas are fictional characters used to represent groups of potential users and to understand challenges they face through their point of view. They share goals, behaviours and barriers thorugh a specific service/product/situation and they are built after an observation of the potential users

**Objectives:**
- Turn insights into real users' needs
- Help managers/local authorities/stakeholders to think through the eyes of their clients/users
- Visualise specific problems that the solution should focus on

# Vibe with your tribe
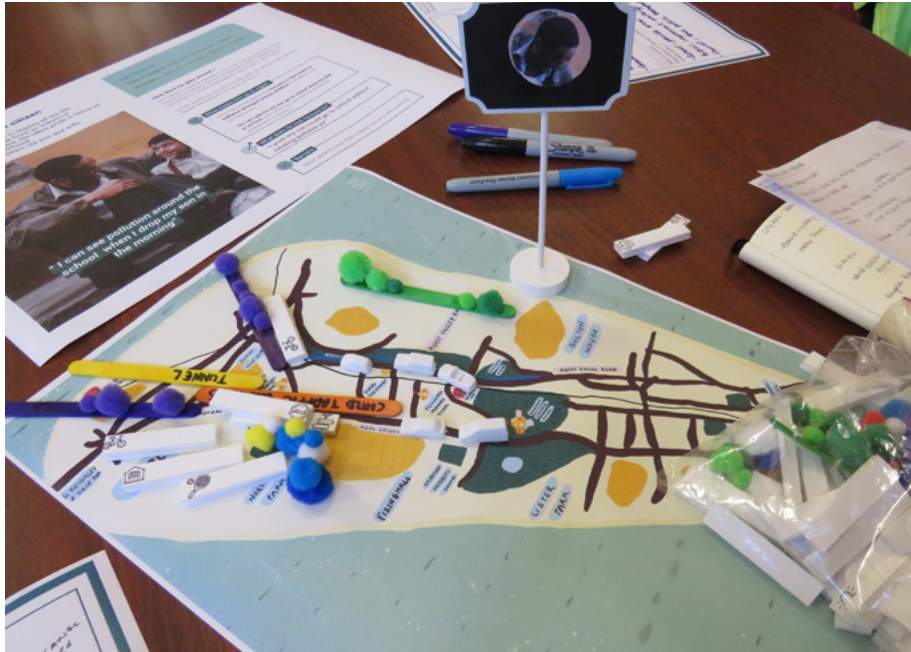




**Process phase:** co-ideation workshop

**Participants:** multiple stakeholders

**Suggested time:** 30 mins collective work

**Description:**

*Vibe with your tribe* is a board game used as a co-iideation exercise. A persona is assigned to each group together with a map and a toolbox with elements that interat (or could potentially interact) with the persona. The persona has specific problems and goals and the group has to solve them through a new solution.

**Objectives:**

- Identify early adopters
- Pur participants in citizens shoes
- Understanding connections for future ideation
- Validate and define concepts and area of priority

# Thinking hats



**Process phase:** ideation and prototyping

**Participants:** stakeholders; staff involved

**Suggested time:** 30 mins of role playing + 15 mins collective gathering

**Description:**
*Thinking hats* is a role-playing model presented by Edward de Bono in 1986. It serves as a team-based problem solving and brainstorming technique.

**Objectives:**
- helps groups think more effectively
- explore problems and solutions
- generate group discussions
- uncover ideas and options that might otherwise be overlooked by a homogeneously thinking group

# Team and contacts

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