We Count!

Public Life Data Design Sprint

May 9–12, 2018

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Public Life
Data Design
Sprint

1.
Event
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We Count! Public Life Data Sprint is an event series organized by Gehl Institute, taking place May 9–12, 2018.

We Count! is open to urbanists, coders, designers, civic technologists, city planners, and anyone who cares about people and public spaces. Over three days, we'll conduct on-site research, engage in critical discussions about the uses and ethics of public life data, and hold a full-day design competition, in which participants can dive deeper into the Public Life Data Protocol and design products and tools based on the specification.

During the full-day design sprint on Saturday, May 12, participants will collaborate as teams to create better ways to collect, understand, and design with open data about people in public space.

The Public Life Data Protocol

Public life is the social life of public spaces; the everyday life in the public realm; and civic life. It is the life people live outside their homes, workplaces, and cars. To study public life is to learn about how people behave and use public space.

There is tremendous need and opportunity to make public life data—data about people moving and using public spaces—more accessible, scalable, and comparable within cities, across cities and regions, between agencies, and at different scales. The use of open data standards enables a range of users to collectively make public information more useful, accessible, and democratic. The ability to share research and compare outcomes is essential to making good planning and policy decisions affecting the places and spaces where citizens live their daily lives.

The Public Life Data Protocol is the very first open data specification for the collection, organization, and sharing of public life data. It is designed with partners from private and public sectors to improve the ability of everyone to share and compare information about public life.

Gehl Institute and our partners from the Gehl practice, Copenhagen Municipality, San Francisco City Planning, and Seattle Department of Transportation have created an open data standard to support the collection, application, comparison, and scalability of public life data: The Public Life Data Protocol.

The Protocol describes the data architecture necessary to support more systematic surveys of public life, creating a shared language. The Design Sprint will use the Protocol as a basis for inspiring interdisciplinary teams to develop products, programs, concepts, and visualizations that can be shared with anyone and everyone interested in designing better cities for people.

The Public Life Data Protocol seeks to improve our understanding of public life, for all.

Code of Conduct

Our conference is dedicated to providing a harassment-free conference experience for everyone, regardless of gender, gender identity and expression, age, sexual orientation, disability, physical appearance, body size, race, ethnicity, religion (or lack thereof), or technology choices.

We do not tolerate harassment of conference participants in any form. Sexual language and imagery is not appropriate for any conference venue, including talks, workshops, parties, Twitter, and other online media.

Conference participants violating these rules may be sanctioned or expelled from the conference at discretion of the organizers.

Statement on Intellectual Property

The Public Life Data Protocol is a public, open data standard developed by Gehl Institute with its partners Gehl, Copenhagen Municipality, San Francisco City Planning, and Seattle Department of Transportation. The Protocol, and all datasets used during the course of this event, are open and publicly available for use by participants in this event as well as members of the public.

Participants in the design sprint acknowledge the open-source nature of the Public Life Data Protocol and the datasets used during the event. However, new work produced by teams at the We Count! Public Life Data Design Sprint will be the joint property of its co-authors. Neither Gehl Institute, nor its partners, retain right to intellectual property created by individual participants and teams during the course of the event. However, by participating in the Design Sprint, and entering a submission, you grant us an irrevocable, perpetual, paid-up, non-exclusive, royalty-free, worldwide license to:

1. **use any information contained in your submission in the development or deployment of our products or services without any reference, liability or compensation to you.**

2. **feature your submission and all its content for promotional purposes in websites or other media without any reference, liability or compensation to you.**

The text above will be included as a release for signature at event sign-in. Gehl Institute and its partners request these rights for the purpose of documentation of the event, and publishing, for information purposes, outcomes from the design sprint in the form of photographs, and those materials submitted by teams to the jury (i.e. slides, prototypes, code, visualizations, graphics, etc.).

The organizers encourage participants to publish code under a GNU Affero general public license (GPL) and text/content/copy to be made shareable with attribution under a Creative Commons Attribution (by) and ShareAlike (sa) license.

2.
Studying Public Life

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Public life is what a collective group of people create when they live their lives outside their homes, their workplaces, and their cars.

A study of public life, and the public space that supports it, can encompass many forms of data collection, from mapping benches to counting cyclists to conducting interviews. These methods:

- **Count and collect data points about people moving through and staying in public spaces;**

- **Help researchers of all kinds of backgrounds tell stories about what is happening in public space;** and

- **Help people making design, policy, or technology decisions to understand baseline user conditions in order to measure the impacts of projects, programs or designs.**

Public life studies can be carried out using a variety of methodologies. The Public Life Data Protocol is built on the methods developed and refined over two decades by Gehl. Gehl is a Copenhagen-based design practice whose work as a consultancy was developed out of the study and design work of Jan Gehl, whose books Life Between Buildings and How To Study Public Life are part of the canon of contemporary urban planning and design. Gehl's methods for studying public life and public space draw on the traditions of social anthropology and design.

Data about how people use public spaces in cities can be collected at all scales: from the specific site (a park, a block, etc.), to the neighborhood (all of the parks in a neighborhood, a green infrastructure system, all of the subway entrances on a particular line), to the citywide (a usership study across an entire park system, comparison of pedestrian volumes across neighborhoods).

While essential to a full understanding of public life in public space, we emphasize that these measurements only tell us part of the story about a place. Sometimes, the most valuable information you gather in a public life/public space study is something you observe, input from community stakeholders, or a conversation you have that simply comes out of spending time in a space. Thus, even when creating new technologies and solutions to make the gathering, storage, and use of public life data easier and more accessible to all, it is important to remember that the human experience of public space can provide essential knowledge.

City governments, public agencies and officials, and private companies collect large amounts of data on things like traffic flows, property values, crime statistics, and more. These measurements shape analysis and decisions about policy and design. By adding rigorously collected data about how people use public spaces in cities, it is possible to shift our priorities toward a more human-centered approach to spatial planning and policy decisions that can help create cities that more directly benefit people, by stimulating public life.

Data Sets — Descriptions

There are two ways that public life data can be formatted to be consistent with the Protocol. We have made both types of data available for the design sprint.

Converted Legacy Dataset

A legacy data set can be converted into the Protocol format. This might reduce/compromise the actual usability of the data to draw conclusions, but can act as a proof of concept.

Included datasets:

- **Gehl's data from Vancouver**
- **San Francisco's parklet data**
- **Gehl and San Francisco's Civic Center data**

New Dataset

Data is collected using the Protocol format.

Included data sets:

- **Seattle's corridor data uses a beta version of the Protocol**
- **Data collected on Wednesday night during the Madison Square Park**

3.
Schedule

First Half of Day

7:45 AM	**Sign in open from 7:45–9:00 AM**
8:00 AM	**Breakfast**
8:30 AM	**Welcome** Welcome remarks **Intro Presentation** Hosts will share inspiration for the Protocol and potential of public life data. **Day Orientation** Review the the day challenge, agenda, mentors, pitch template, jury process, breakout locations **Stae Platform and Data Tutorial** Orientation to the datasets and data platform for participants.
9:45 AM	**Coffee Break & Team Regroup** During all work sessions, Mentors will hold office hours and provide consultations to teams as needed.
10:00 AM	**Team Huddle** Initial team discussion to review design prompts, and identify team interests and priorities, and plan for the day. **First Work Session** Initial team discussion to review design prompts, and identify team interests and priorities, and plan for the day.
11:30 AM	**Lunch**

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Second Half of Day

12:30 PM–1:30 PM	**Second Work Session** Self-directed by teams. Mentors recommended to roam frequently for expert assists. Outcomes may include: Design sketch/prototypes.
2 PM	**Coffee Break**
2:30–3:30 PM	**Third Work Session** Self-directed by teams. Advisors recommended to roam frequently for expert assists. Outcome: Pitch.
3:30 PM	**Presentations** Round robin presentation of team pitches. Be informal.
5 PM	**Commitments/Judges Deliberate** Dual session: a) Participants gather in main space to share reflections and commitments re: public space data. b) Judges deliberate.
6 PM	**Evening Awards and Closing** Wrap Up! Live summary of team ideas and pitches, followed by awards.
6:30–9 PM	**Closing Party** Happy hour down the street at Flatiron Hall.

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4.
Design Challenge and Prompts

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Summary

Event Objective

To "hack" the Public Life Data Protocol, that is, to create tools that will make it easier to use, and more likely to be taken up around the world.

Key Challenge

Design, program, or envision a tool that will help with one of the following phases:

Phase 1: Preparation,

Phase 2: Survey (data collection),

Phase 3: Analysis, or

Phase 4: Output phase (reporting) of a public life study, as defined by the Public Life Data Protocol.

User Groups

Key User Groups

In each phase, how do each of the following user groups engage with scoping, surveying, analyzing, and designing with public life data using the Protocol schema?

- **Designers, architects, planners, and other professionals**
- **City officials and politicians**
- **Researchers and academics**
- **Community groups and advocates, or other interested parties among general public**
- **Civic technologists, programmers, and data scientists**

Audience Focus Matrix

Mark in the matrix which audience your solution helps and in what phase it creates the biggest impact. A solution may help all user groups in a single phase, or it may help a single user in one or more phases.

Complete the matrix by filling in how your solution helps a given user group with a given phase (the use case) for all relevant USER group/PHASE pairs.

(ex. For a solution that connects academic researchers to volunteer community group data collectors, you could fill in "helps community groups with analysis by connecting them to academics" and "helps academics with data collection by connecting them to community groups" in the two relevant cells of the "Preparation" column).

User Group	Phase 1 Preparation	Phase 2 Survey	Phase 3 Analysis	Phase 4 Output/Share
Designers and Planners				
City Officials				
Community Groups				
Civic Technologists				

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Prompts/Challenges

A team may focus on one or more of the outlined user groups when addressing a challenge. Participants are encouraged to consider how technology could improve each of the study phases, by either replacing or supporting manual labor and professional knowledge. Focusing on how technology could facilitate a transition between two or more phases is also acceptable.

The teams are encouraged to consider both "moving" and "staying" public life data in their solution, but may choose to focus on one or the other to limit their scope. Participants must consider general data privacy regulations, and are encouraged to consider the ethical implications of their proposals.

PROMPT 1A

Create a **SCOPING TOOL** that optimizes the preparation phase of a public life study by aligning and prioritizing research objectives, resources, and survey components.

PROMPT 2A

Create a **COLLECTION TOOL** that will make it easier to gather public life data.

PROMPT 2B

Create an **INPUT TOOL** that will make it easier to migrate handwritten or low-tech data sets into a comprehensive database.

PROMPT 3A

Create an **ANALYTICAL TOOL** that can help process and compare data collected.

PROMPT 3B

Create a concept for an **OPEN DATABASE** that can store, manage, and provide universal access to public life datasets.

PROMPT 4A

Create a **VISUALIZATION TOOL** that translates public life data into legible graphs, diagrams, and/or reports.

PROMPT 4B

Create a **USE CASE** that shows how public life data can be applied in an app, on a website, or to any other line of work.

PHASE 1: Preparation

Background Information

The preparation phase covers all the activities and considerations that precede a public life study, whether the study aims to collect new data or to study existing datasets.

Typical Steps in the Preparation Phase

- **Define the main research questions and objectives of the study.**
- **Identify ideal study locations (geography) and times (seasons, days, and hours) to either collect new data on or to analyse existing data from.**
- **Identify the ideal survey components from the Public Life Data Protocol to collect or focus the analysis on.**

Typical Challenges in the Preparation Phase

- **Defining the most useful research questions and objectives with little or no background material to steer the initial direction.**
- **Matching a study's desired outputs with the inputs needed to generate the possible data based on the tools at hand, and with the Protocol's schema.**
- **Matching available resources to a desired study scope, or optimizing the study scope to match available resources.**
- **Prioritizing among different locations, times, and survey components.**

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PROMPT 1A

Create a SCOPING TOOL that optimizes the preparation phase of a public life study by aligning and prioritizing research objectives, resources, and survey components.

Sub-Challenges

- Create a system that suggests typical research objectives, survey components, or survey methodologies based on comparable studies.
- Consider the research and data questions of different user groups (academics, designers, city officials, communities), and propose a system or common set of research questions.
- Consider how a community group might go about staging a public life study prior to applying for funding to undertake community-related activities and improvements.
- Develop a tool that automatically optimizes the relationship between a project's desired scope and its available resources.
- Consider a way of reconciling data points that different user groups would like to collect with the Protocol's schema.

Examples of Outcomes

- An app that suggests the best survey components for a study based on basic context data and a description of the intended direction of the study.
- A city database that identifies opportunities (e.g. specific park typologies, high need neighborhoods based on access measures, high volume corridors with mismatched urban design qualities, etc.) for public space or programming investments in order to improve the public life volume and/or diversity in comparison to other places in the city.
- A system that comprises world-wide research questions and public life studies to make it easier for new projects to define their scope based on other people's experiences (i.e. a user-friendly library of case studies or use cases).
- A tool or process to connect those user groups with research questions/objectives and the ability to collect data (i.e. planners/designers, city leaders, community groups) with those user groups that have expertise in analysing the data (i.e. academics/civic technologists).

PROMPT 1A (cont.)

Resources and Notes

- **Examples of public life research scopes.**
- **Examples of how different users (academics, planners/designers, city officials, and community groups) currently identify a scope and outline a study, highlighting the challenges of knowing where to survey, how long to survey, and what to focus on.**
- **Public life study outcomes from projects of different scales and with different foci.**
- **Gehl's online reports (e.g. Oslo)**
- **Gehl Institute's Open Call project**
- **No existing datasets are necessary to address this challenge. For background, review, some of the varied datasets.**

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PHASE 2: Survey/Data Collection

Background Information

The survey/data collection phase covers all activities that have to do with gathering the actual public life data that will be used to answer the research objectives.

Typical Steps in the Preparation Phase

- **IDENTIFY HOW DATA IS TO BE COLLECTED: Create survey material (e.g. data collection sheets, maps, geolocation information, etc.) and engage volunteers, or apply software and deploy sensors/digital device in the desired study locations, or identify the appropriate datasets to download from existing primary and secondary sources.**
- **COLLECT DATA: In-person on paper, or in-person via digital device, or remotely via digital device, or by downloading the appropriate existing datasets.**
- **ORGANIZE DATA: Input and/or organize the collected public life data points in a database or spreadsheet.**

Typical Challenges in the Survey/Data Collection Phase

- **In-person data collection can be extremely labor- and time-intensive, which in turn is costly and resource-demanding. For example, recruitment and training of volunteers for large surveys can be costly and time-intensive.**
- **Using analogue data collection (that is, pen and paper) in the field still requires a later digitization process.**
- **Using in-person digital data collection (e.g. a person with an app on a digital device) may be deemed unsafe in some contexts, and the technology can be expensive to acquire.**
- **Few self-serving digital devices (i.e. sensors) currently have the ability to reach the desired level of detail for public life data in order to reflect the true diversity of public life.**
- **Each data collection method raises its own accuracy issues.**
- **Data inputting and data mining can be very labor-intensive when working in spreadsheets, or with databases, that are not set up for public life data.**
- **Incorrect scoping (see Phase 1) or lack of training in statistics and data analysis (see Phase 3) among some user groups can easily lead to collection or input of incorrect or insufficient data.**
- **Inconsistent data due to challenges in the survey phase may compromise the statistical significance of the findings.**

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PROMPT 2A

Create a COLLECTION TOOL that will make it easier to gather public life data.

Sub-Challenges

- Design a product that enables smarter in-person public life data collection, which can be used by both trained professionals and the general public.
- Create a solution that enables smarter remote public life data collection, such as through sensors, that can be easily accessed.
- Envision a tool that enables a smarter collection of the Public Life Data Protocol's data points in any other way.

Examples of Outcomes

- A sensor, an app for phones/tablets (SF has a version of this), an online scraping algorithm (collecting data from e.g. mobile phones), or a physical product/clicker 2.0
- A bench like Soofa, or another infrastructure element.
- An algorithm that reads people's posted photos and pulls out stationary and moving data counts based on the subjects in the frame.

Resources and Notes

- It is important to understand the necessary level of detail to capture as well as the minimum viable product, the competitors in the field, and the resources (or lack thereof) of the tool's expected users.
- Existing data collection tools for public life data and from other fields for inspiration. Examples include: Placemeter, Counterpoint App, how vehicular traffic is captured, etc.
- We are looking for solutions for capturing both moving data and stationary data, and we understand the two approaches may vary.

PROMPT 2B

Create an INPUT TOOL that will make it easier to migrate handwritten or low-tech data sets into a comprehensive database.

Sub-Challenges

- Consider how historical public life datasets may continue to be useful and valuable to future public life data studies.
- Develop a tool that automatically reads handwritten survey notes and inputs them into the right digital format.

Examples of Outcomes

- A scanner that reads data from sheets of paper and translate it into data sheets.
- A algorithm that automatically recognizes and translates ordinary excel sheets into the Protocol format.

Resources and Notes

- Need existing data, both historical data organized in spreadsheets and handwritten survey sheets fresh from the field. These could be the ones gathered on Wednesday night.
- Participants must understand the data differences in different studies, and thereby the need for customization of a potential automated input tool.

PHASE 3: Data Analysis

Background Information

The data analysis phase covers all activities that take place after the data has been gathered, but before any conclusions have been made.

Typical Steps in the Data Analysis Phase

- Analyze the data to discover universal trends and anomalies, which may help answer the research objectives.
- Perform calculations to generate descriptive statistics and comparisons.
- If applicable, store data in a database and run comparative analyses.
- If applicable, run statistical analysis models to verify the statistical significance of the findings. Otherwise, prepare anecdotal material for output.

Typical Challenges in the Data Analysis Phase

- Lack of training in statistics among many user groups (i.e. planners/designers, community groups, city officials/policymakers). Analyzing the data without a strong background in determining statistical significance can easily lead to false conclusions.
- Lack of access to comparative data from other studies limits the ability to verify findings in a broader context.
- Some basic analytical tasks are simple and repetitive but time-consuming, yet must be performed with each survey or study.
- Some user groups, like community groups (and, to an extent, city officials and planners/designers), may have less analytical experience/competency. Researchers/academics, on the other hand, may be well equipped to conduct analysis, but may be remote or otherwise less connected to the public place being studied, creating limitations on their ability to collect and contextualize data.
- Database storage can be resource-intensive to establish and maintain.

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PROMPT 3A

Create an ANALYTICAL TOOL that can help process and compare data collected.

Sub-Challenges

- Create a database that is also capable of running simple analyses across and between datasets.
- Consider the use of different metrics for certain use cases, i.e. "level of service" measures/pedestrian capacity in movement studies.

Examples of Outcomes

- Analytical models tied to common or specific use cases.
- An accessible spreadsheet tool that integrates common calculations and simple statistical modeling within easy-to-use and accessible platforms (Excel, Google Sheets, etc.).
- A playbook of common use cases/common analytic workflows.

Resources and Notes

There are certain analyses that we almost always do on public life surveys that could be automated to free up human brains for more in-depth tinkering.

- For instance: survey, neighborhood, and/or citywide averages for hourly pedestrian counts, age/gender distribution, etc.
- Or the ability to quickly compare before and after counts for projects to understand if an intervention made a difference in public life, including indications for when differences between before/after counts are statistically significant, etc.

PROMPT 3B

Create a concept for an OPEN DATABASE that can store, manage, and provide universal access to public life datasets, enabling analysis across projects, places, and scales.

Sub-Challenges

- **Consider how public life data might be integrated into existing city or community open data platforms, and/or GIS software platforms.**
- **Create a concept for setting up and managing a world-wide open public life data platform. Consider ownership, transparency, maintenance, and data validation.**

Examples of Outcomes

- **A "Public Life Data Platform" — real-time and historical data about public life all over the world.**
- **A city-by-city platform that allows for easy linkage of datasets from different sources.**
- **Seamless integration of public life data into existing open data platforms**
- **Seamless integration of public life data into GIS software such as Esri.**

Resources and Notes

- **The more existing data you are able to review and reference for this prompt, the better. Participants should be able to create codes that can fetch and cross-compare specific data points based on customized queries.**
- **Stae provides an example of a platform-based solution for connecting and comparing open datasets. How can this could serve as inspiration?**

PHASE 4: Output and Sharing

Background Information

The output and sharing phase covers all activities taking place at the end of a public life study, when the research objectives have been answered to the best ability throughout the analysis phase and are ready for publication.

Typical Steps in the Output and Sharing Phase

- **Create graphics, graphs, and charts that clearly communicate the findings.**
- **Describe the research findings and the context of the study for external parties.**
- **(If possible) Share raw datasets with all public life researchers for further studies.**
- **Apply findings to steer project decisions, investments in public space and public life programming, design solutions, or to any other cause that may benefit from being led by people-first data.**

Typical Challenges in the Output and Sharing Phase

- **Lack of outlets/databases for sharing raw data with other stakeholders/researchers.**
- **Few pre-made visualisation tools are dedicated to helping the communication of public life data to a broader audience.**
- **Disconnect between findings and their real-world applicability, on both a project-related basis and in a broader context. This is typically due to lack of resources for implementation or lack of understanding of findings amongst implementers.**

PROMPT 4A

Create a VISUALIZATION TOOL that translates public life data into legible graphs, diagrams, and/or reports.

Sub-Challenges

- Create a vizualisation tool that is easy to use for communities with an interest in public life data, but with few data or graphic design skills.
- Create an approach to exporting GIS data from an open database for further desktop GIS analysis.
- Create a sample data analysis that integrates open datasets with public life data provided, using the Stae platform.

Examples of Outcomes

- A data visualization app or web-based platform.
- Accessible output reports created by the Soofa benches.
- A tool that automatically points out anomalies in the data based on historic and comparative data, or which automatically outputs the "most interesting" graphs from a large-scale study.

Resources and Notes

- Participants need existing data, but just enough to understand what types of visualizations will be the most common and useful.
- Examples of existing platforms that achieve this to some degree, like ARCGiS, PowerBI, Tableau, etc.

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PROMPT 4B

Create a USE CASE that shows how public life data can be applied in an app, on a website, or to any other line of work.

Sub-Challenges

- Create a novel use case for public life data that will encourage municipalities to create better cities for their citizens.
- Create a novel use case for public life data that appeals to the built environment/urban planning industries.
- Create a novel use case for public life data that improves or enhances the lives of regular citizens as they go about their day-to-day activities. Participants are encouraged to think through use cases that might be specific to a particular User Group and/or to think through use cases that might be specific to particular kinds of public life data (ex. some use cases might be specific to stationary vs. moving data).

Examples of Outcomes

- For citizens: A app that helps people find available park benches, or places that typically aren't too busy.
- For urban planners: A website that tracks the progress of a new development in terms of its impact on public life, in order for the community to stay engaged and vote with their feet.
- For public space designers: Visualizations of data analysis to support design choices presented to decision-makers.
- For city officials: A benchmark system that allows cities to set goals based on the performance of their public life, and allows the community to track their success.
- For policymakers: A visual report accompanied by policy and design recommendations based on an analysis of a sample dataset.

Resources and Notes

- Can be completely conceptual. It will help to have a data-story or existing use-case to set expectations. If some data exists, the use-cases may become more tangible or directly applicable, but then data-sets should come from several different sources.

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5. Pitch Template

At the end of the design sprint you will have an opportunity to pitch your concept, code, use case, prototype, design, analysis, or other final product to the jury.

Good luck!

Pitch Deliverables

- **Slide deck or other storyboard**
- **6–10 Slides**
- **Time limit: 3–5 minutes for presentation, 2 minutes for questions**
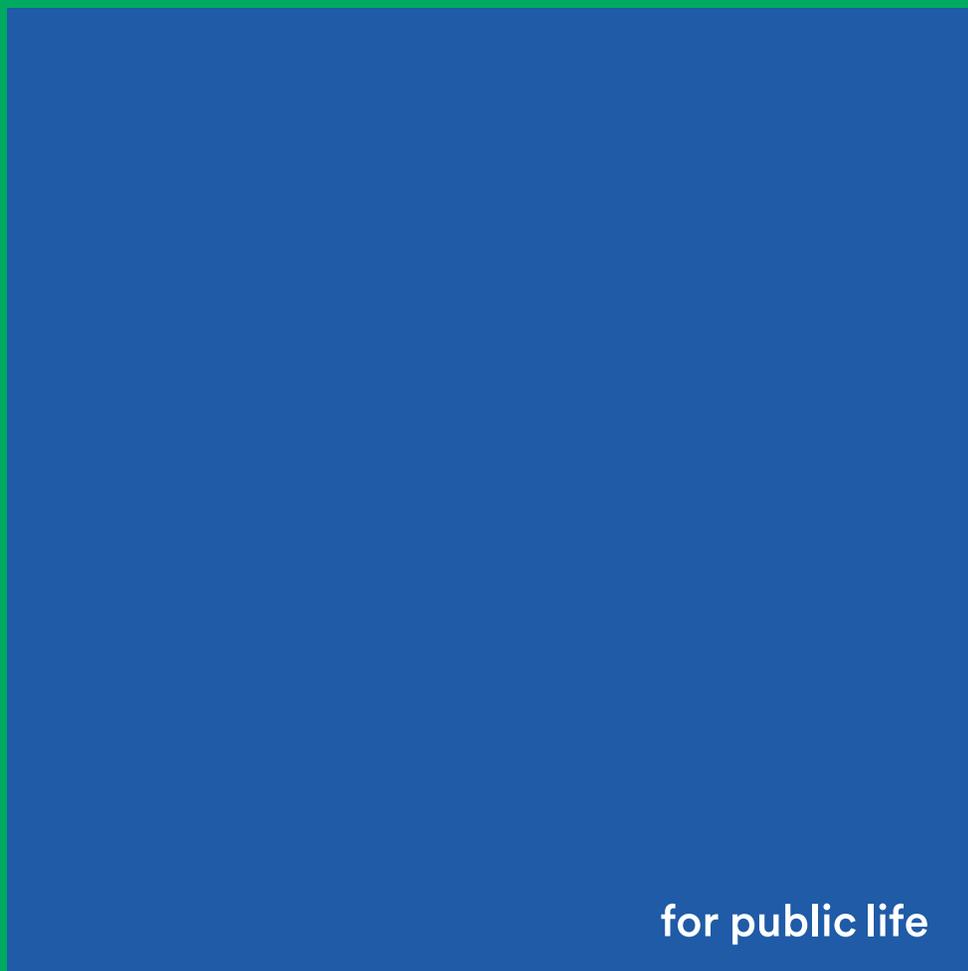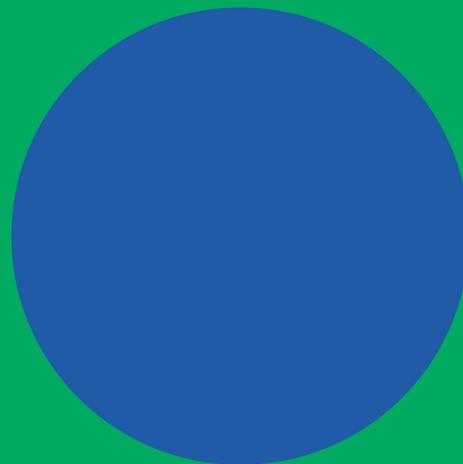- **Prototype, code, data analysis, data visualization, etc. and any supporting material**
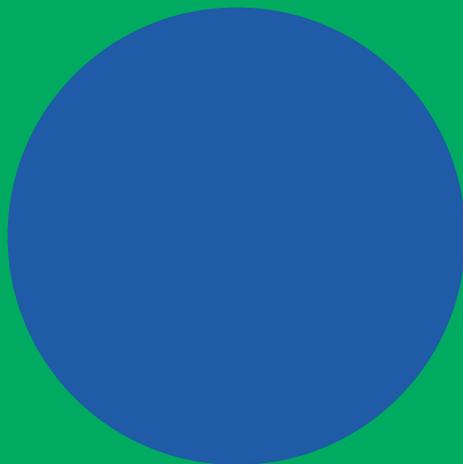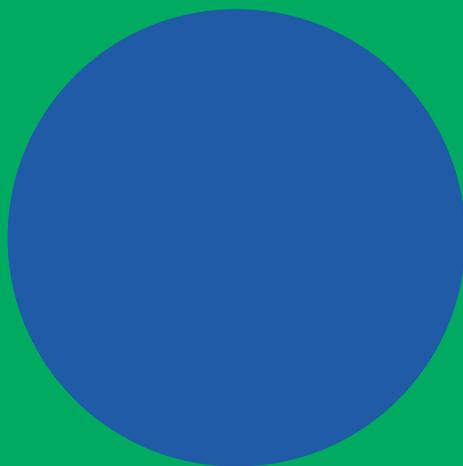- **Audience focus matrix**

Criteria for Your Pitch

The jury will make the final determination on criteria based on these areas:

- **Addresses challenge as laid out in the brief**
- **Usability**
- **Scalability**
- **Ability to promote public life**

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