# Urban Data Collection Through Citizen Involvement

## Good practices & Challenges

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# Three Challenges of Urban Data Collection

## Cost

- Systematic, reliable, complete and timely data is **costly**.

## Time

- Time to market vs. obsolescence.

## Scale

- For some types of data (e.g. housing) it's difficult to have enough **resolution to appropriately inform policies.**

# Involving citizens as sensors

- Distributed, low-power data gathering relying on consumer technology (chiefly mobile phones & wearable IT).
- Citizens **gather and package information through apps** and transmit it to institutional databases.


- Potential for cost-cutting, redundancy, scale, flexibility.
- Successful experiences in science-based projects, less so in collecting urban data.
- High potential for maintenance of Urban Infrastructure, including Housing

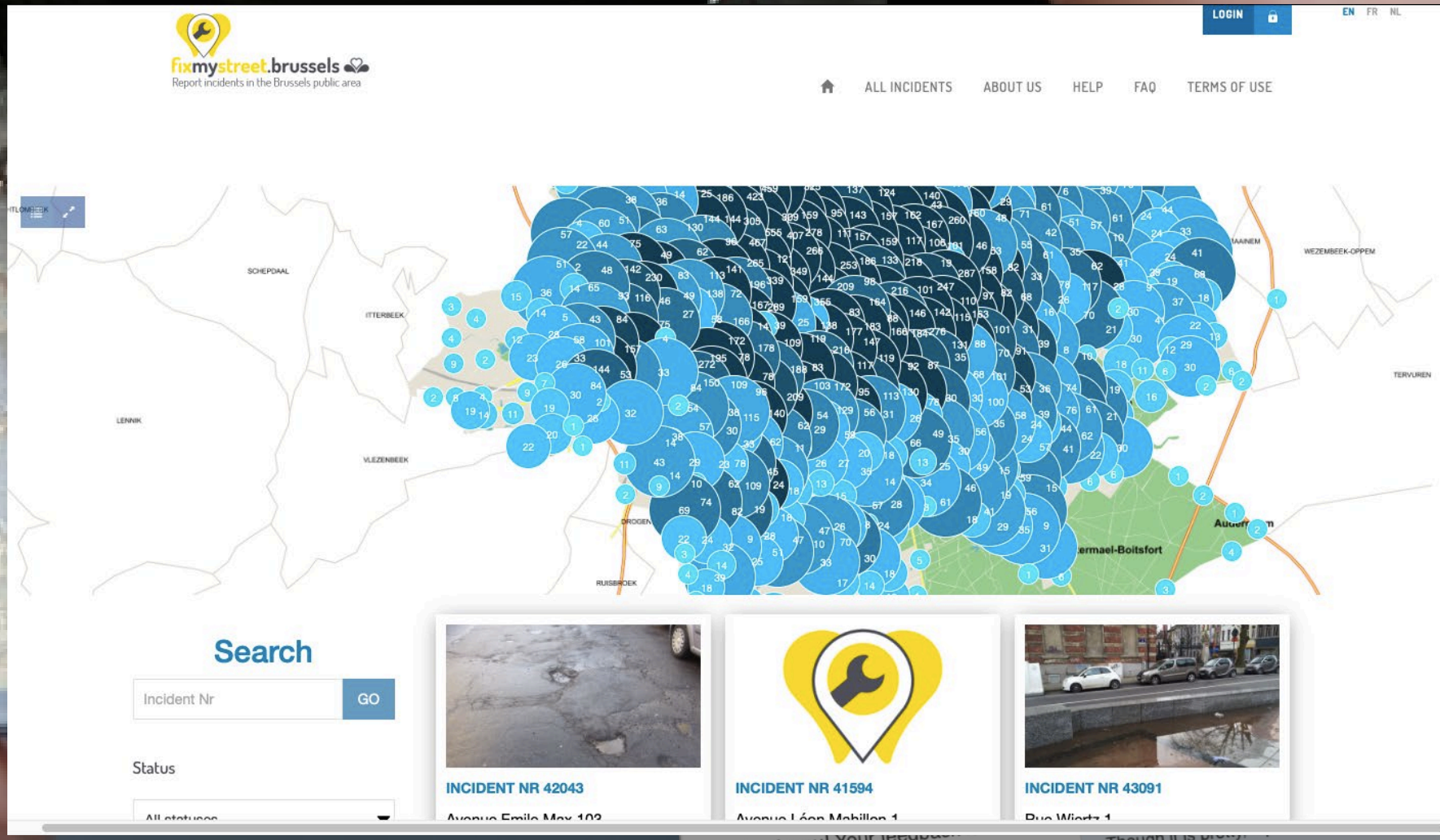
# MyStreet

Urban Maintenance App developed in UK in 2007 by MySociety.

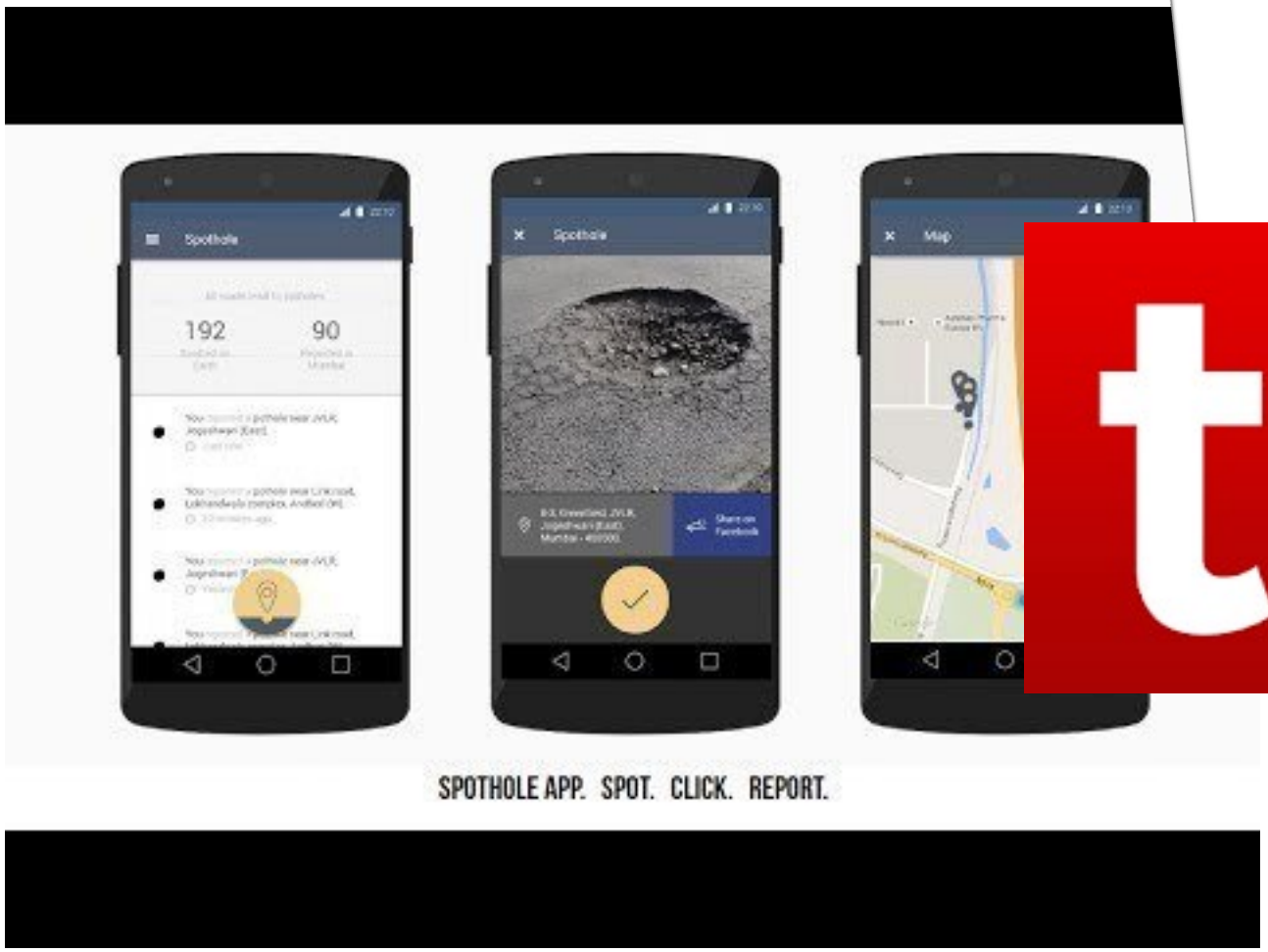
Citizens report malfunctioning urban infrastructure: Trash, broken benches, potholes etc.

1.4 million reports in UK since 2006.

Granular data on citizens' mood, quality of infrastructure, investment needs.



# … and others



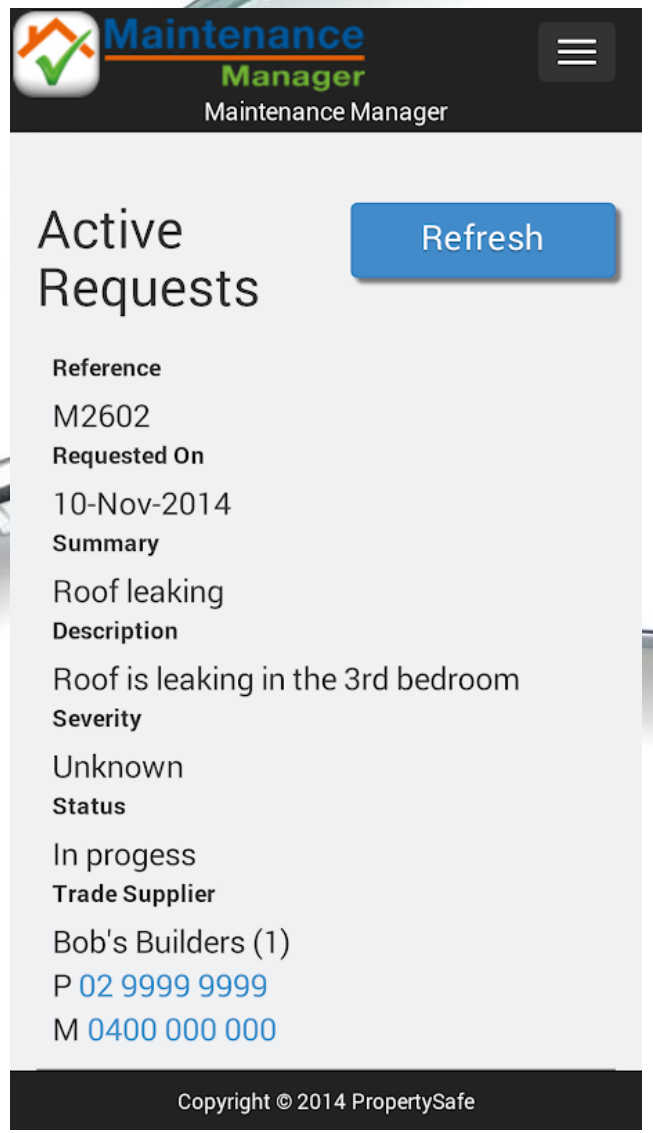

Harmonised
mart City APIs

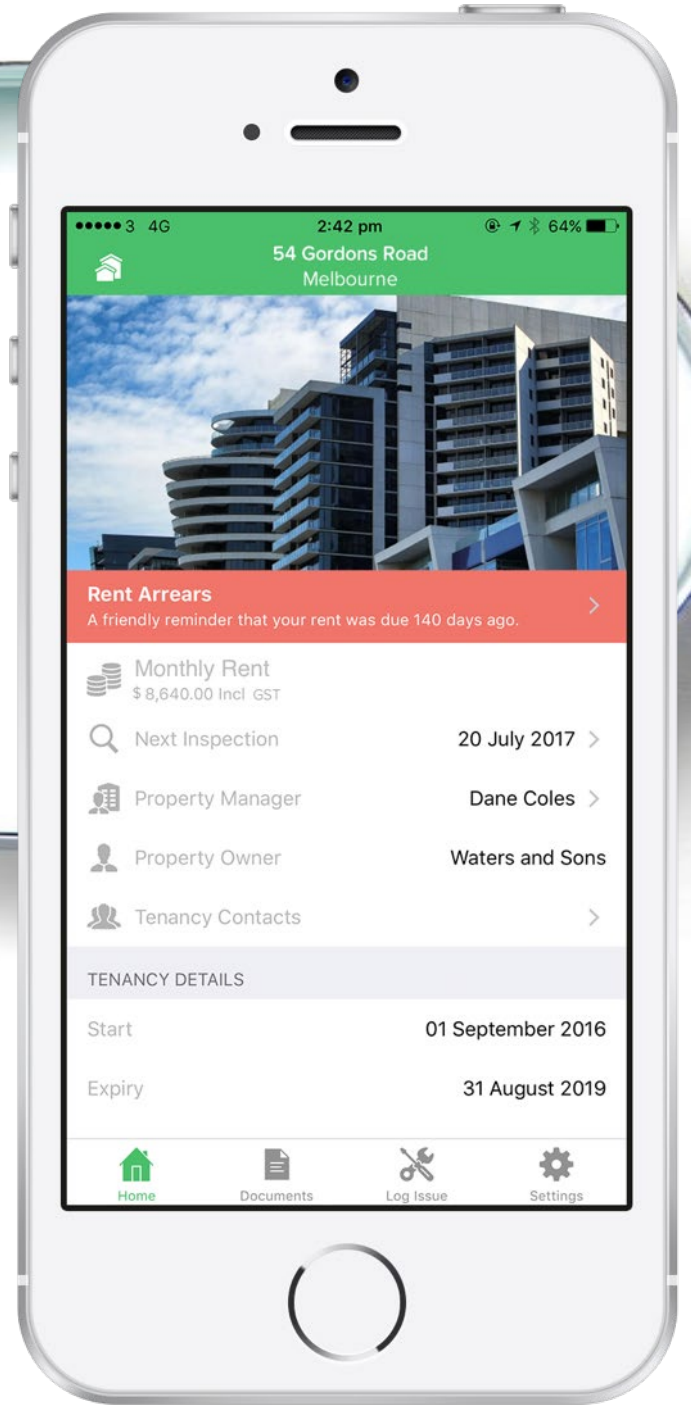
Cook Book for Cities

comuni-chiamo
LOVE YOUR CITY

DECORO URBANO BETA

# Apps for housing

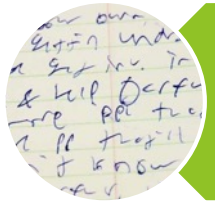


# 4 Challenges of Citizen-Based Data Collection


## Incentive Structure

- A lot of operational cost is shifted to users (time, attention, knowledge, space on your mobile phone, battery…)



## Quality of Data

- Strict interface constraints vs. qualitative data.

## Critical Mass

- Useful data resolution only achievable if enough people are convinced to adopt the tools.


## Political Cost

- Localities sometimes do not like systematic accounting and visualization of their performance.

# The strongest incentive is IMPACT

## Citizens

- Drop out when they see the data they input has no impact.

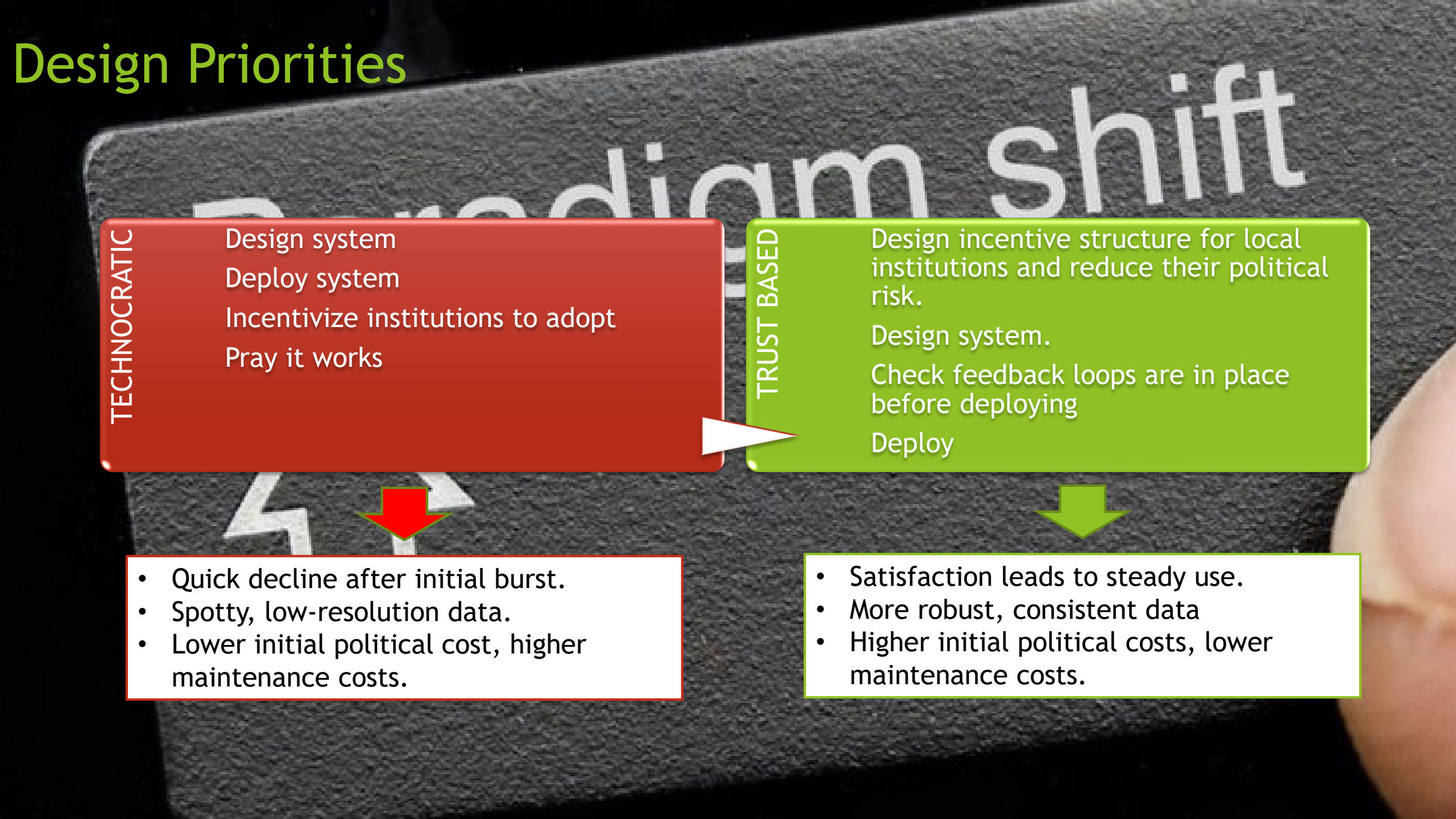
## Localities

- Drop out when they see citizens do not care/report enough.

# A (crude) model for committment

$$User\ Committment = \frac{Proximity + Emotion - Cost}{Missed\ Impacts}$$

# Design Priorities




**TECHNOCRATIC**

Design system

Deploy system

Incentivize institutions to adopt

Pray it works

- Quick decline after initial burst.
- Spotty, low-resolution data.
- Lower initial political cost, higher maintenance costs.

**TRUST BASED**

Design incentive structure for local institutions and reduce their political risk.

Design system.

Check feedback loops are in place before deploying

Deploy

- Satisfaction leads to steady use.
- More robust, consistent data
- Higher initial political costs, lower maintenance costs.

# Thank you

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Tarantino M., Tosoni T., "*Spatial Annotation for the Improvement of Urban Space: A Learning-by-Doing Approach*" in The Electronic Journal of Communication, 24 (1-2), 2014