# Delphi Study Urban Data Platform Governance

**Urban Data Platforms (UDPs) are vital public infrastructure for realizing more sustainable and resilient smart cities. The Erasmus University Rotterdam's Erasmus Centre for Data Analytics conducted a study among 30 experts from around the globe, exploring how public-private collaboration, mutual trust, and the right governance will enable UPDs to create long term public value.**

## INTRODUCTION

An Urban Data Platform (UDP) enables digital technologies to bring together and integrate data flows via open standards within and across city systems and city infrastructure of the public and private sector and make data (re)sources and information tool development accessible for further leverage, visualization and modelling in a comprehensive, reliable and affordable way to empower participants in the cities' ecosystem to contribute to a cities triple bottom line. Urban data platforms will be important infrastructure to facilitate use cases, applications and new start-ups to create triple bottom line value contributing to the UN sustainable development goals for smart cities. Artificial Intelligence can benefit from the UDP and further support decision making in cities on different levels. As part of the EU smart city project RUGGEDISED the Erasmus University Rotterdam gathered the ideas and opinions from a panel of 30 experts from around the globe.



The study aims to better understand the nature and purpose of UDPs and the factors that will drive their success. Our previous research revealed the following issues that cities struggle with. How to unravel the notion of trust that is so critical to the success of UDPs? Why is it so hard to engage citizens? Is a UDP vital public infrastructure and why? And what is the best way to govern a UDP and who should do it? We will summarise our findings here and refer the reader to the full slide deck for the details.
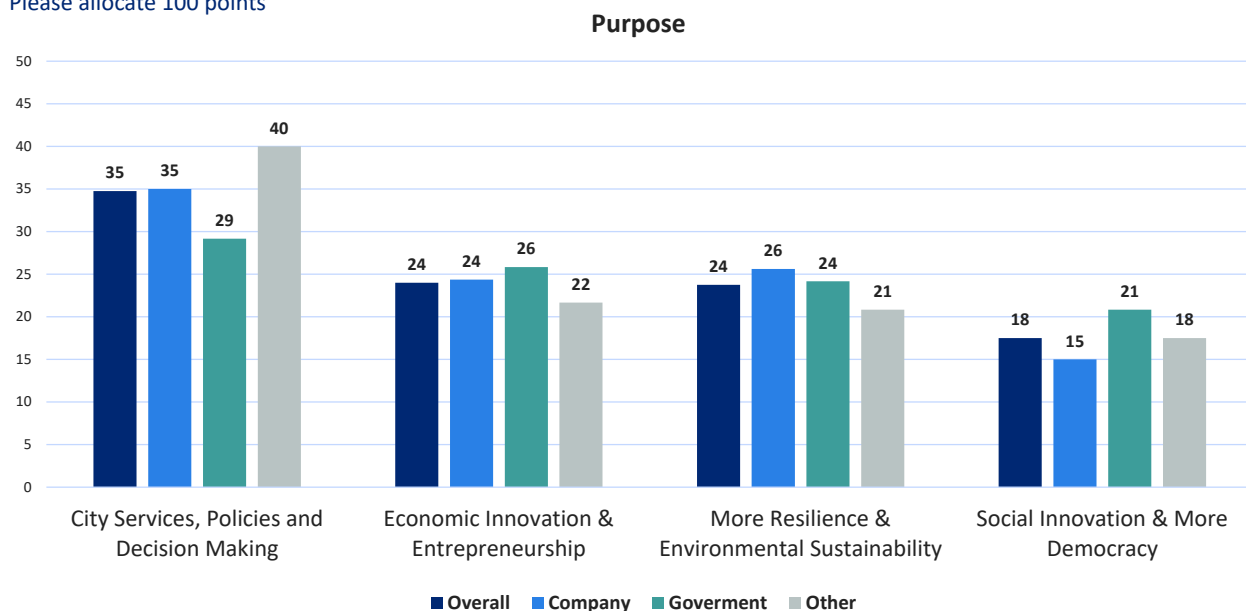
## FINDINGS

### Urban Data Platforms as VITAL Public Infrastructure

The panel is unanimous about the fact that UDPs will become part of vital public infrastructure. This does not automatically imply that they should be financed by the taxpayer, which is the majority opinion in the panel, but not the only one. The envisioned purpose of a UDP supports the claim that a UDP is vital for public value creation and thus contributes to the triple bottom line of People, Planet and Profit.

In your vision of the future, what should the PURPOSE of an UDP be?

Please allocate 100 points

**Purpose**
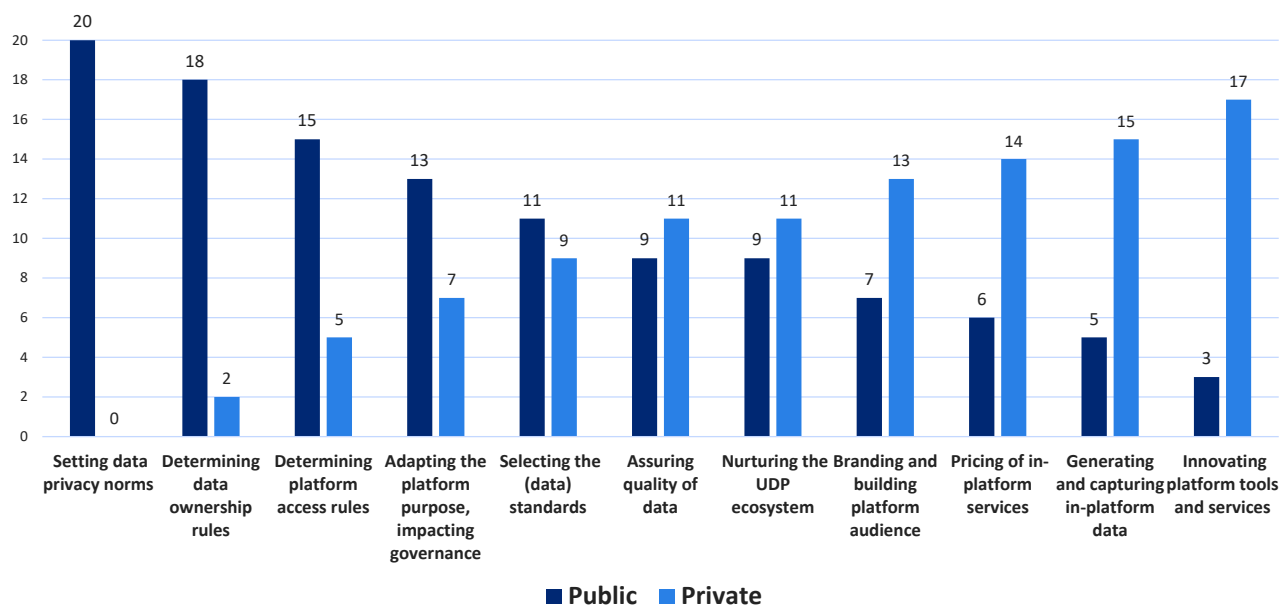


Legend: Overall, Company, Goverment, Other

### GOVERNANCE: still in search of finding the right balance between public and private responsibilities

Two of the key dimensions of governance are platform management and platform ownership. The panel is almost equally split on UDP ownership: either fully owned by the government, or jointly owned by the public and private sector. There is more consensus that the management of the UDP should be a joint collaborative effort. This view is supported by the fact that the capabilities needed to manage a UDP are distributed across the public and private sector, as these different sectors have different skills and strengths.

> *"Like roads in the mid-20th century boosted the (analogue) economy, the Urban Platform will do the same for the digital economy (and it will be a barrier for when the large corporate institutions install their proprietary, vendor lock-in platform"*

## Which participant in a joint public-private setup is most CAPABLE to control the following components of GOVERNANCE?



| Component | Public | Private |
|---|---|---|
| Setting data privacy norms | 20 | 0 |
| Determining data ownership rules | 18 | 2 |
| Determining platform access rules | 15 | 5 |
| Adapting the platform purpose, impacting governance | 13 | 7 |
| Selecting the (data) standards | 11 | 9 |
| Assuring quality of data | 9 | 11 |
| Nurturing the UDP ecosystem | 9 | 11 |
| Branding and building platform audience | 7 | 13 |
| Pricing of in-platform services | 6 | 14 |
| Generating and capturing in-platform data | 5 | 15 |
| Innovating platform tools and services | 3 | 17 |

The debate about the roles of the public and private sector in the context of UDPs is driven by two opposing forces. On the one hand there is the (perceived) lack of capabilities of the government to properly govern and run a UDP, and pulling in the other direction is the widespread believe that UDPs are there to create public value and as such are best entrusted to government.

**UDPs are means to PUBLIC VALUE**

UDPS must create public value and in the future, and as companies seem to shift to add value beyond profit, this may ease the way to better public-private collaboration that UDPs so require. In the first round of our study the panel was not in full agreement that a UDP must provide public value. There is however consensus in round two that a UDP is vital public infrastructure. Public value is captured in our research by adding a "*triple bottom line*" to the business model canvas of a UDP. The panel has a predominant view that companies in the future will also move toward a triple bottom line, i.e. beyond mere profit to include planet- and people-values. Somewhat surprisingly, panellists from companies tend to adopt this view even more than our panellists from the public sector.

> *"Any decision is based on a business case. The biggest issues of cities involve environment, housing, mobility, safety... the incentive to initiate a UDP should be to be better equipped to alleviate these issues. This is also true because it needs to be understood by the 'customers'*
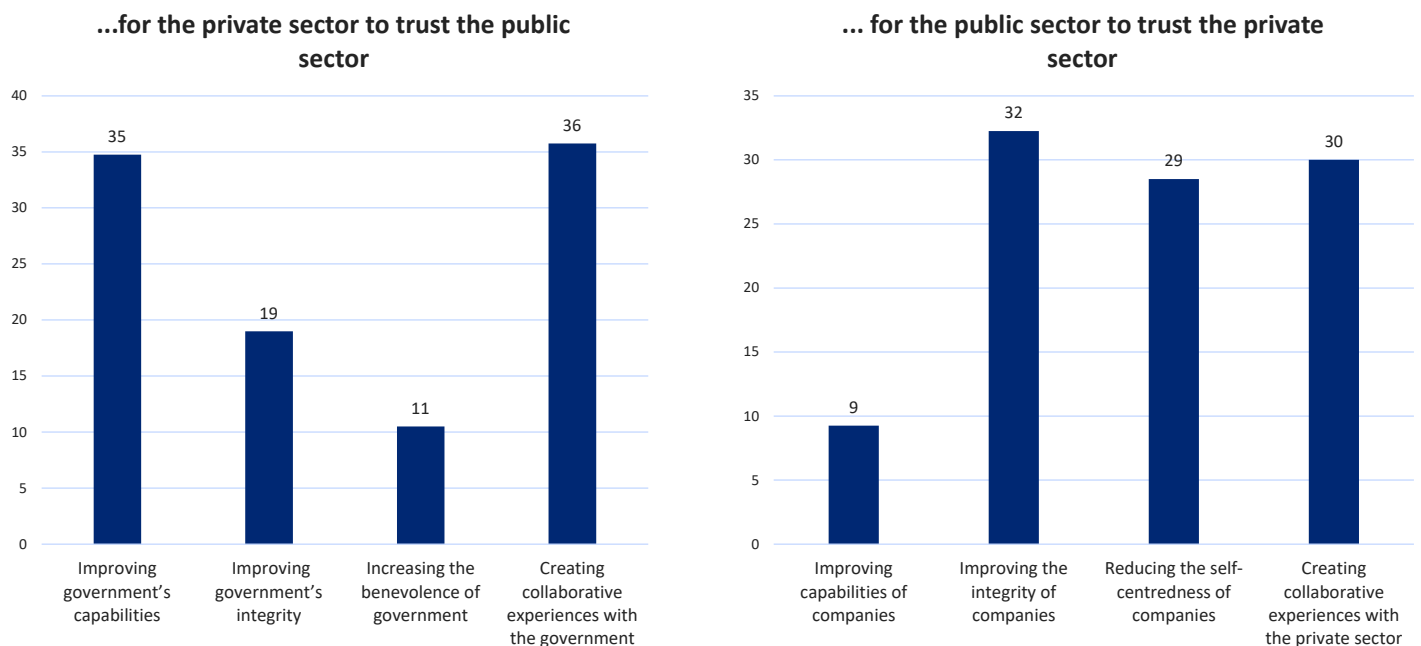
*"Transparency on data usage AND autonomy of the data owner are key in the trust discussion"*

**TRUST is not so elusive after all: transparency, collaboration and capabilities are very tangible levers**

The panel identifies about equal amounts of trust and distrust between the public and private sector, with the public sector being slightly more trusted by the private sector than vice versa. Mutual trust between the public and private sector can be increased through collaboration. According to the panel, in order to improve their trustworthiness, government should additionally work on their capabilities, whereas for the private sector integrity and self-centredness are the topics to work on.

## Which factors increase mutual trust?

### ...for the private sector to trust the public sector

| Factor | Value |
|---|---|
| Improving government's capabilities | 35 |
| Improving government's integrity | 19 |
| Increasing the benevolence of government | 11 |
| Creating collaborative experiences with the government | 36 |

### ... for the public sector to trust the private sector

| Factor | Value |
|---|---|
| Improving capabilities of companies | 9 |
| Improving the integrity of companies | 32 |
| Reducing the self-centredness of companies | 29 |
| Creating collaborative experiences with the private sector | 30 |

Trust is reinforced by openness and less so by the analytics capabilities on the platform. We asked about these two characteristics, but the panel thinks transparency is an even more important factor. Transparency about e.g. the rules and algorithms employed.

*"Analytics may be positive as it helps to provide insight and rapidly improve delivery (personalise, new or enriched services), but also negative if perceived as in-transparent and yet another power tool to manipulate citizens or benefit a few"*

**CITIZEN ENGAGEMENT is seen as important but there is no consensus on why it matters**

From our surveys we know that there is gap between the wish to engage citizens and the actual engagement of citizens in practice. Citizen Engagement enables data generated by citizens to be fed into the UDP. Not all data can be efficiently acquired by sensors, video analysis, and so on. Also, because one of the three "bottom lines" is the about people, Citizen Engagement is pivotal. There is considerable consensus among the panellists that citizen engagement is important. Just a few experts state that citizen engagement is overrated and that citizens are not that involved in the smart city; for citizens real life impact is important, not access to a data platform. But as mentioned, the majority view is that citizen engagement matters.

However, when we ask the panellists why engagement is important, there is a huge difference of opinion between companies and government panel members. Companies tend to view citizens as customers that you consult when you design a product or service, whereas governments want to involve citizens for democratic and social reasons. Interestingly, there is high consensus when it comes to involving citizens to help them monetize their personal data, with the governments being very keen that citizens behave as entrepreneurs where their personal data is concerned.

## Rank these categories of citizen engagement from the most valuable on top to least valuable at the bottom
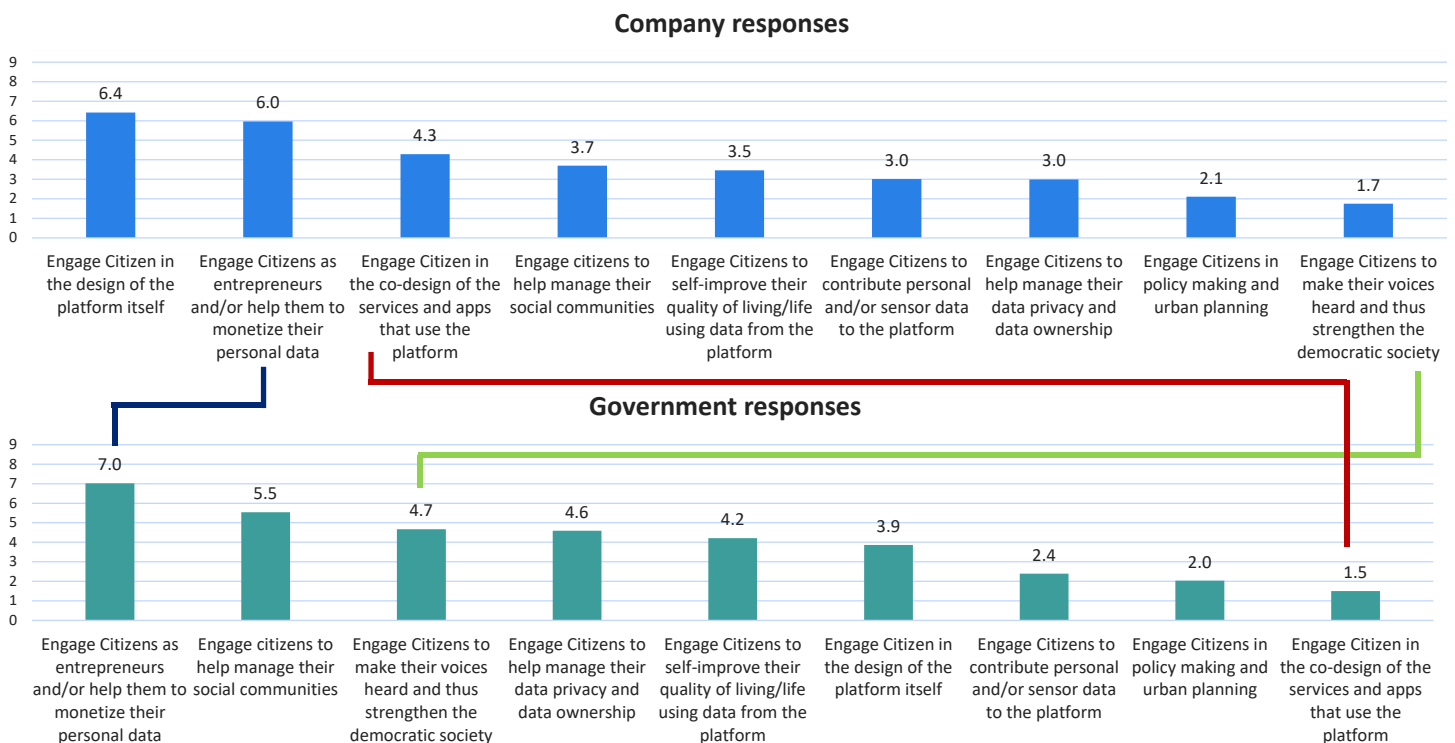
**INTEROPERABILITY OF PLATFORMS? Yes and for good reasons, but currently not seen as the first priority**

There are various reasons why interoperability is important. First of all, to make UDPs interesting for the private sector, as more data enable better apps, which can be developed for more than one platform. Secondly, for citizens that move from city to city they should have just one way of interfacing with government. And lastly, the ability to share data between cities helps with learning from each other. The work done around interoperability, although important, is still in its infancy. This leaves room for the private sector to deliver closed/opaque solutions (which may lead to vendor lock-in). For this reason, public sector should take the lead. Nevertheless, it is the panel's view that the issue of interoperability currently is not the main priority. The first priority is for the platform manager to achieve a certain level of UDP maturity.

> *"While respecting the jurisdictional authority of each city, it should be "mandatory" (i.e. best-practice and highly desirable) that a UDP be instantiated in each city in order to achieve increased value and quality of service"*

**LEVEL OF DEVELOPMENT: local management and regional approaches for smaller cities**

UDPs are local entities. Regardless of the underlying infrastructure which may be regional or national, the UDP must be managed locally. For smaller cities, however regional development is proposed. Rather than one national or multinational system the panel leans towards a *system of systems* approach. The idea of a multinational UDP is also questioned because of language barriers. "Grand designs" are dismissed so that UDPs remain adaptable and flexible.

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**Key recommendations from this study :**

1. Platform stakeholders (owners, managers, and financers) must ponder whether their platform is vital infrastructure and what the purpose of their UDP is, for this will drive all decision making about the design, business model and funding, development and management of the platform – now and in the future.

2. When designing the governance of the UDP it is recommended that the capabilities of potential platform managers or platform management partners are assessed in order to design the right mix of public and private collaboration.

3. Trust is the "lubricant" that makes a UDP work. Platform stakeholders must measure the levels of trust and continuously work on improving trust through e.g. collaboration, transparency, and enhancing their capabilities.

4. Platform managers are advised to make the way(s) they want to engage citizens explicit from the start and also make the rationale for citizen engagement explicit.

5. Regional governments are encouraged to develop a strategy and approach for Urban Data Platforms, so that smaller municipalities and their citizens are not left behind in the Digital Age.

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**The Study improved our understanding of UDPs, but also raised some new questions:**

1. Will the triple bottom line nature of a UDP be a catalyst or showstopper for companies (that may or may not be seeking purpose) to engage in their governance or want to connect their business model to it?

2. Do we really understand why we want citizens to engage with UDPs? What role do we see and facilitate for them: consumers, entrepreneurs, co-creators, participants in a democracy, or subjects to be nudged?

3. What is the role of a UDP in the data ownership debate, particularly with regards to monetizing (personal) data?

4. If the UDP is going to fulfil the envisioned role of vital public infrastructure in a data driven world, how will they be positioned and regulated in order to 'hold their ground' in a winner-takes-all platform landscape?

## ABOUT THE RESEARCH

The Delphi study is the follow up of two consecutives surveys (2018 and 2019) about Urban Data Platforms across 80 European cities. This study was conducted with a global panel of 30 experts in the first round, of which 20 experts also participated in the second round. The panel represented government, companies and other institutions, including academia. The study was executed in the period February till April 2020 by a team from the Erasmus Centre for Data Analytics, part of Erasmus University Rotterdam. Research team: Dr. Marcel van Oosterhout, Dr. Haydee Sheombar, Julia Amelie Holst, Prof. dr. Eric van Heck. This summary of findings based on the details in the Appendix slide set represent the interpretation of the research team. This study was conducted under the guidance of the EIP Smart Cities marketplace / Integrated infrastructures and urban platforms initiative (led by Graham Colclough, partner Urban DNA) and SCC01 Task group Data management (led by Albert Engels, Programme director RUGGEDISED).