

Fall 2020

Bloomberg Associates

# Digital City Tools

Driving change through technology,  
people, and digital practices

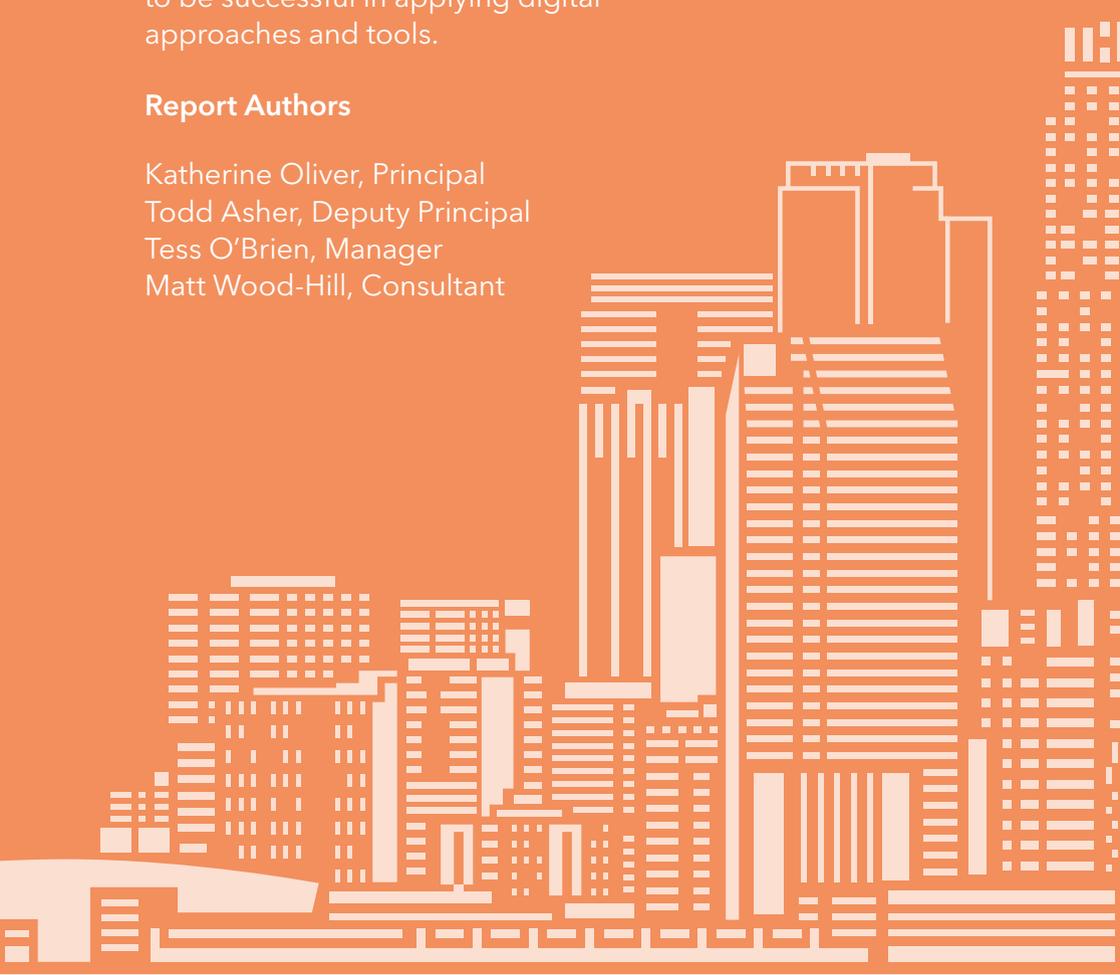


## About Bloomberg Associates

Bloomberg Associates is an international consulting service founded by Michael R. Bloomberg as a philanthropic venture and is dedicated to supporting city governments to improve the quality of life of their citizens. Digital City Tools was created by the Media and Digital Strategies practice at Bloomberg Associates, which equips city governments with the skills and knowledge they need to be successful in applying digital approaches and tools.

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# Contents

<b>Acknowledgments</b>	4
<b>Foreword</b>	5
<b>Executive Summary</b>	7
<b>Overview</b>	12
<b>Digital Leadership in City Government</b>	18
<b>Common City Challenges</b>	22
<b>Case Studies</b>	32
<b>Tallinn</b>	33
Years of investment in public technology keep city operations resilient in the face of a public health emergency	
<b>Seoul</b>	37
Encouraging new businesses by putting data analytics in the hands of residents	
<b>Helsinki</b>	41
Toward citywide preventive health care services enabled by data	
<b>Tel Aviv</b>	45
Mapping real-time data to manage the Nonstop City	
<b>San Francisco</b>	49
Designing a resident-focused affordable housing service: from innovation to implementation	
<b>The Hague</b>	53
From monitoring to response: securing IoT devices within the city limits	
<b>Analysis of Trends by Tech Area</b>	58
<b>Connectivity Technologies</b>	64
<b>Data</b>	68
<b>City Operations</b>	74
<b>Transport and Mobility</b>	80
<b>Safety and Security</b>	84
<b>Trends to Watch</b>	89
<b>City Snapshots</b>	92
<b>Glossary of Terms</b>	154



## Case Studies

# Tallinn

**Years of investment in public technology keep city operations resilient in the face of a public health emergency**

## Overview

How would a mature digital society cope with a crisis like the COVID-19 pandemic? The City of Tallinn in Estonia offers some clues. Leveraging the nation's advanced digital and data infrastructure, the city has responded to new challenges at pace, which has allowed city services and daily routines to continue relatively smoothly.

## COVID-19 in Estonia

Despite its distance from European hotspots like the UK, Spain, and Northern Italy, Estonia has not escaped the spread of COVID-19, seeing significantly more deaths per capita than its Baltic neighbors Latvia and Lithuania. The mayor of Tallinn, Mihhail Kõlvart, has issued clear and strict guidance in response to the crisis, including the closure of recreation facilities and shopping malls to encourage social distancing. Early on, he announced that all city services must remain available for residents.

## e-Estonia's digital backbone

In some contexts, such mayoral declarations might be met with uncertainty as crisis response takes over, but not in Tallinn. Estonia has achieved an international reputation as one of the world's foremost digital nations, primarily for its work in two key areas. First, every citizen has a national ID card linked to an e-identity that they use to access services and ratify transactions with their own legally binding digital signature. Second, information



systems from different organizations interoperate via X-Road, the national government's data exchange layer. Because data is federated, it can be securely shared between public agencies in seconds – but remains in the systems of the department that controls it.

The national infrastructure underpins city services, too, contributing to their resilience during a crisis. “The hard work that we have done over the last 25 years has really paid off,” says City of Tallinn’s CIO Martin Männil. Tallinn uses microservices: modular technology components that can be managed independently of the wider system. Männil reflects on the advantages of this approach, “It has allowed us to make changes in the information systems very quickly because they are not big monoliths.”

## Local democracy

This flexibility was evident as digital tools were used to support urgent democratic processes. In April 2020, Tallinn’s city council voted to postpone rent collections by several months and to suspend the city advertisement tax. The first online city council meeting was held on April 16 using Microsoft Teams and was supported by existing legal systems. With no provision for voting in place, decisions had to be made by consensus.

By the time the city council next met, on April 30, a new system for e-voting had been developed by the municipal IT

department and a partner organization. Councilors logged into the system using their national ID card and cast a time-stamped vote. Männil reflects on the quick turnaround, “We managed to do it because of our existing cornerstones of our estate and existing workflow management systems. Without it, it would not have been possible. You can’t just create it from scratch.”

## e-Services in Tallinn

Tallinn’s digital services – locally referred to as e-services – have continued to function close to normal, but not without disruption. Many services, even when digital and automated, still require some degree of human intervention. Committees need to meet to make certain decisions, though Männil is confident that the new e-voting system could soon change this, too, “The solution we created is not only for council meetings, but for all the meetings that require identification and voting capabilities.”

Some e-services are now seeing significant use for the first time. Applications for funeral expenses, childbirth benefit, pension supplements, and child disability benefit were traditionally paper-based, with only 18 percent of applications made online in April 2019. One year later, however, 70 percent of applications were made online, which is causing service teams to update how they work to correspond with the changing behavior of residents.

## Key factors in Tallinn's response

Five factors have been central to Tallinn's digital response to COVID-19:

1. Strong digital foundations facilitate interoperable data and systems, enabling residents to access all city services online.
2. Deliberate efforts to cultivate a digital society have encouraged a digitally literate population and a culture of innovation in both the public and private sectors.
3. Modular microservices allow the City of Tallinn to work with partners to nimbly update and build systems – free from dependencies on vendors.
4. Strong political leadership sets the tone for city operations from the start by supporting the city's digital services.
5. High levels of trust exist between residents and different levels of government.

## Outcomes

Work continues, and while it may be too early to measure the benefits of Tallinn's digital first response, Männil anticipates that the influence of digital teams could grow. Before the pandemic, Tallinn's key challenges were social services, security, and spatial planning. Despite probable cuts to the city's operating budget, these priorities are not expected to change dramatically in the immediate future.

However, Männil sees a greater role for digital teams in city government going forward: "After the crisis [response], IT is in a stronger position than it was before to implement changes and drive a cultural shift."