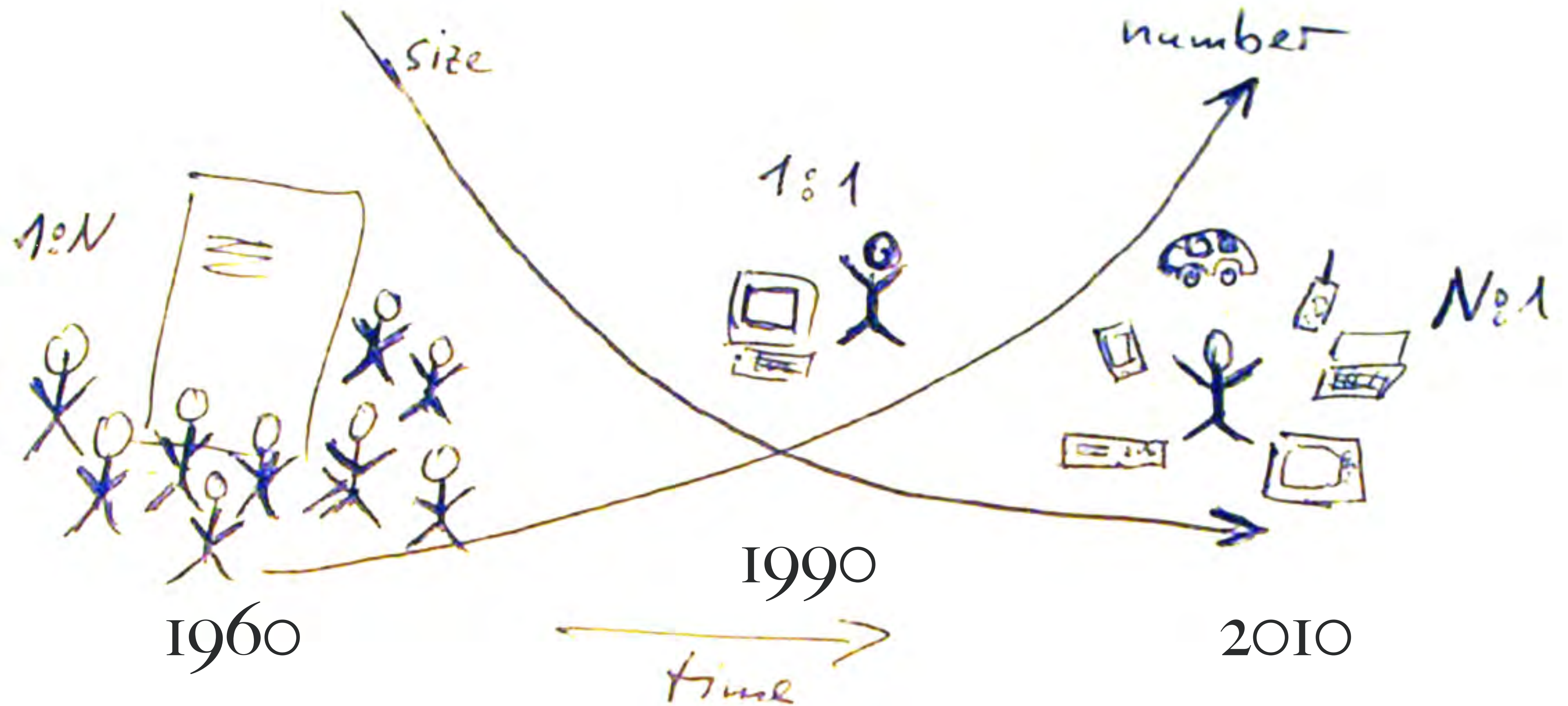


smart cities

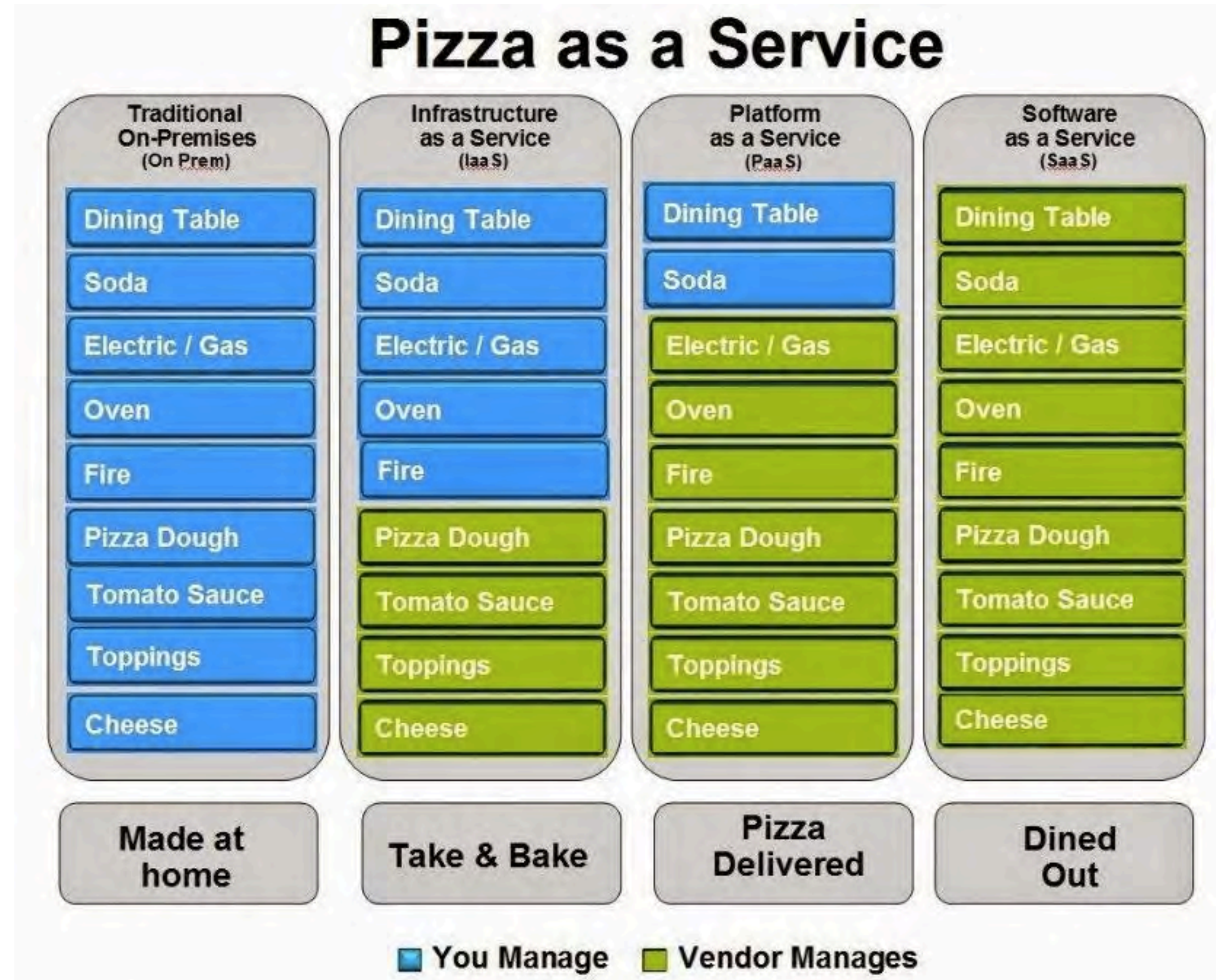
...in 2 slides

Dr. Anthony Townsend
Bits and Atoms
www.bitsandatoms.net

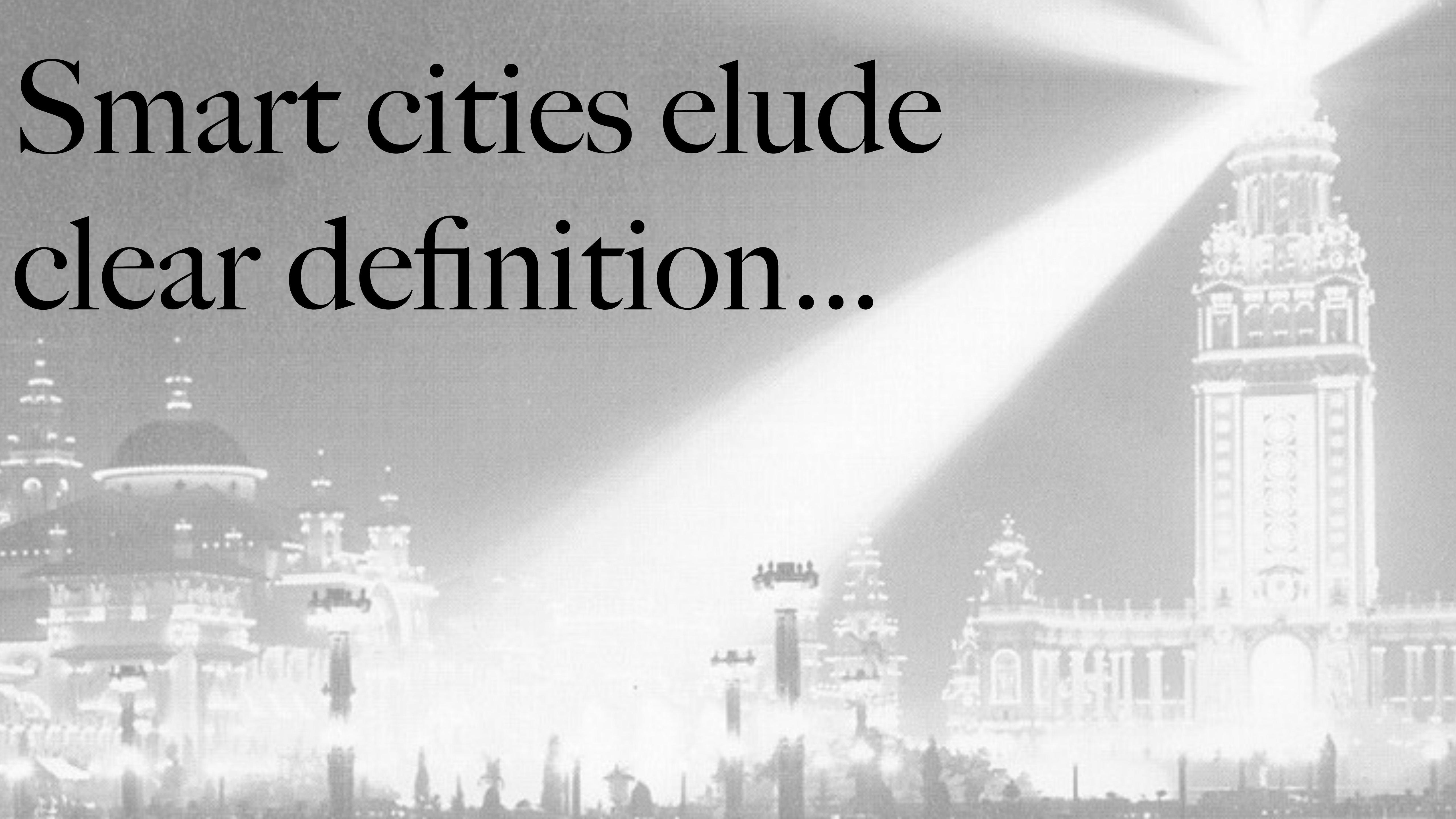
the 1st law of smart cities: computers > people



2nd law of smart cities: everything is a service

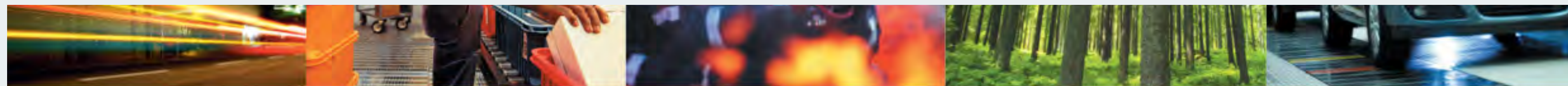


Smart cities elude
clear definition...



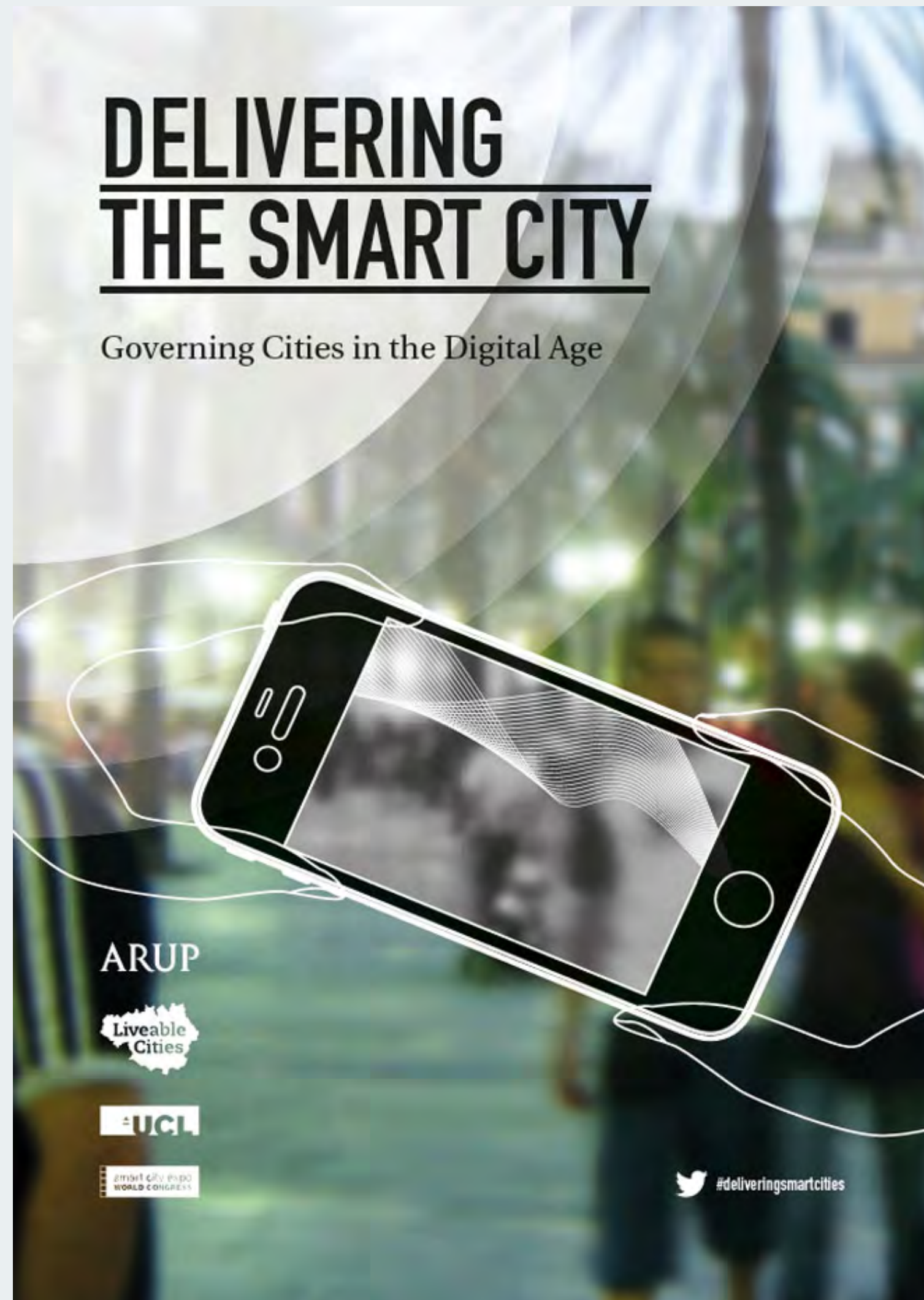
the engineering version

...the effective integration of physical, digital and human systems in the built environment to deliver a sustainable, prosperous and inclusive future for its citizens.



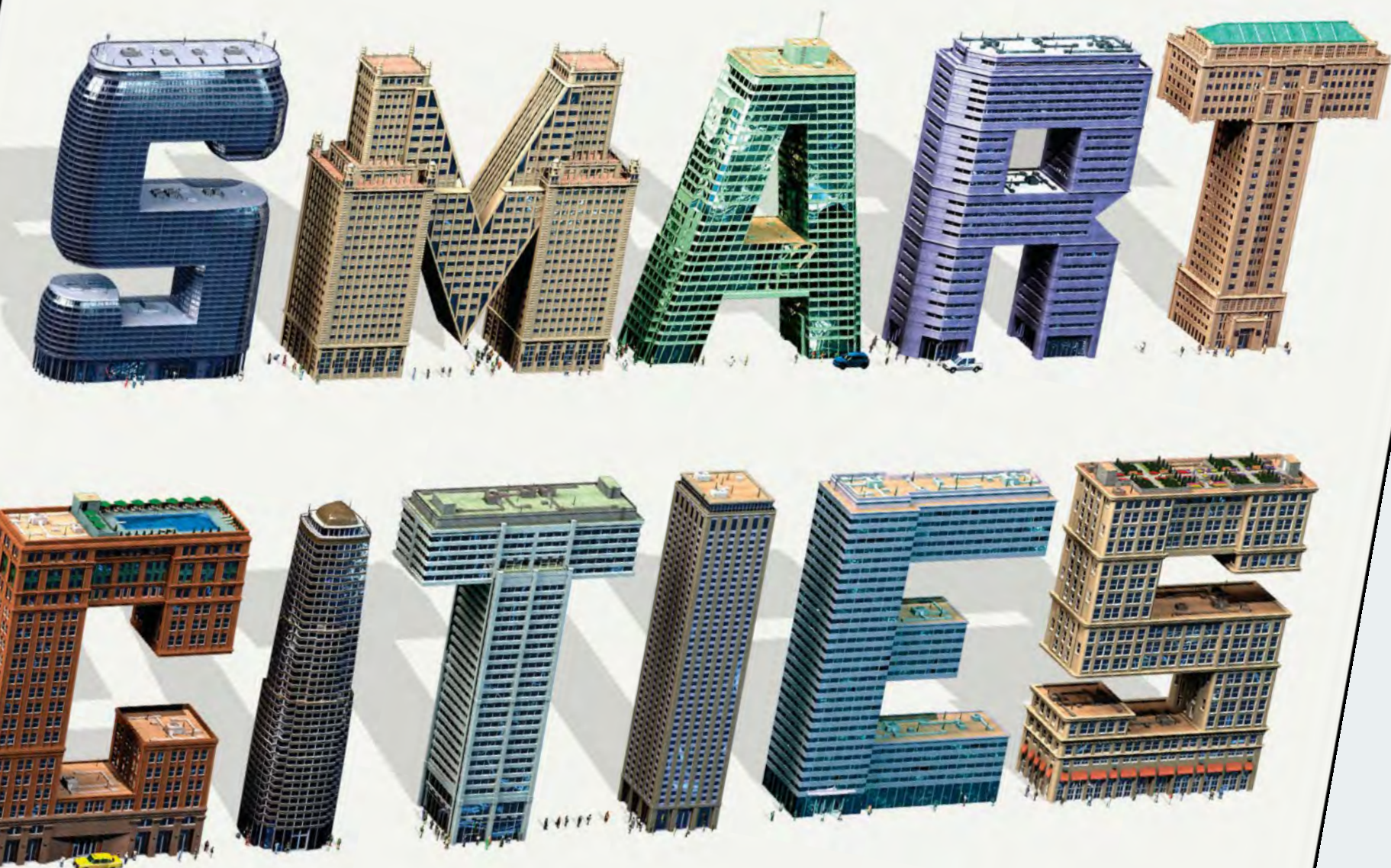
BSI Standards Publication

Smart cities – Vocabulary



the governance version
[a city] whose citizens and businesses and government are well-connected and well-informed.

BIG DATA, CIVIC HACKERS, AND THE
QUEST FOR A NEW UTOPIA



ANTHONY M. TOWNSEND

the planner's version
[c]ommunities where
government, business, and
citizens are using digital
technology to address timeless
urban problems.

smart city market forecast for 2020

(annual worldwide sales)

2011 \$100 billion (Pike Research)

2013 \$408 billion (Arup)

2014 \$1.56 trillion (Frost & Sullivan)

~1-3% of the built environment @ any scale

\$500b US interstate system, or cellular networks

Planning of smart cities has been pretty top-down.



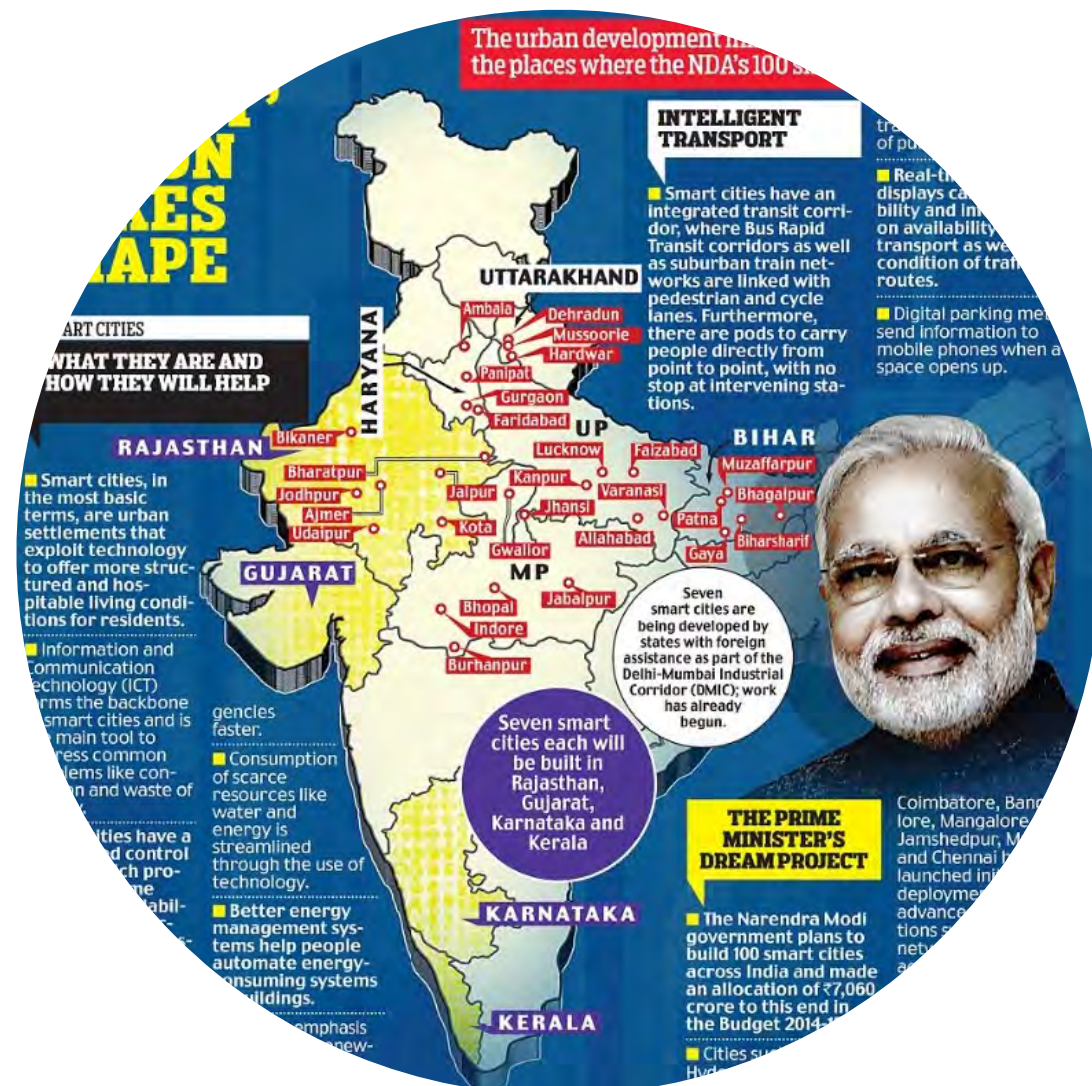
**AUTOCRATIC
CITY-STATES**



**WELFARE
STATES**

BUT NOW...

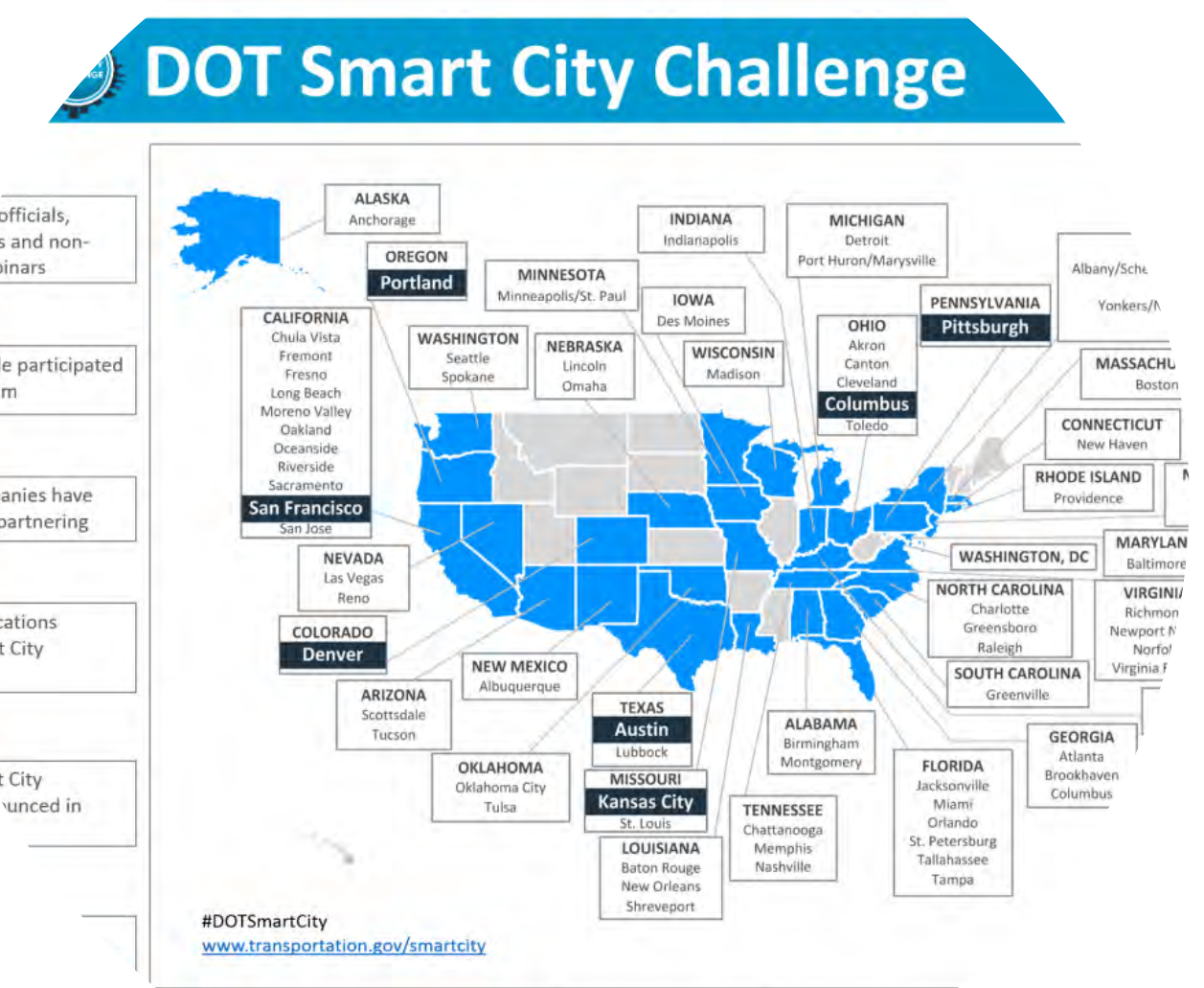
The smart cities movement is spreading to the world's great dysfunctional democracies



INDIA



BRAZIL
(& LATIN AMERICA)



UNITED STATES

An aerial photograph of a city with a grid-like street pattern. Overlaid on the image are several glowing lines in various colors: red, orange, yellow, green, and blue. These lines represent data paths or infrastructure, such as fiber optic cables or data routes, connecting different parts of the city. The lines are semi-transparent and have a soft glow, making them stand out against the grayscale background of the city.

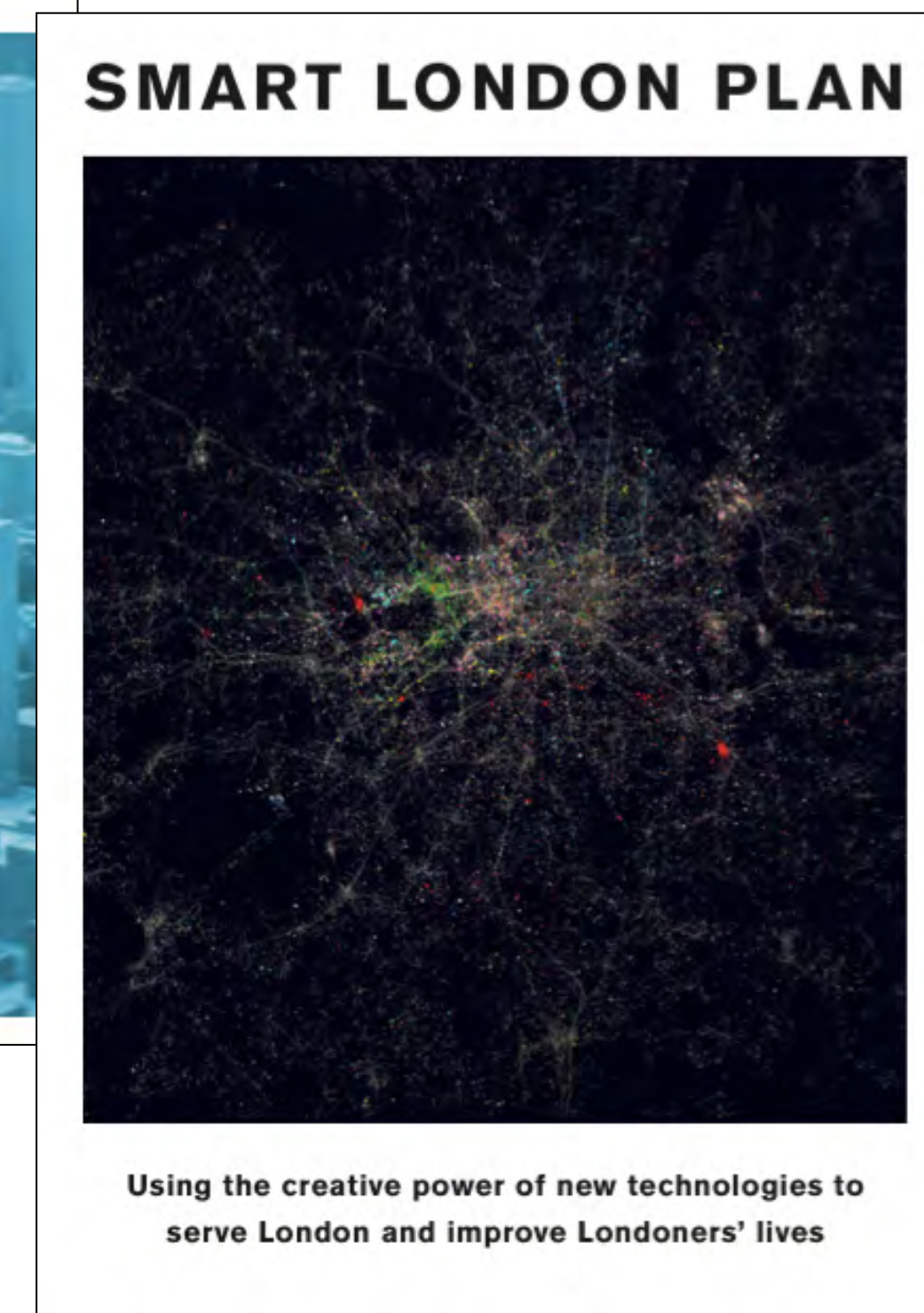
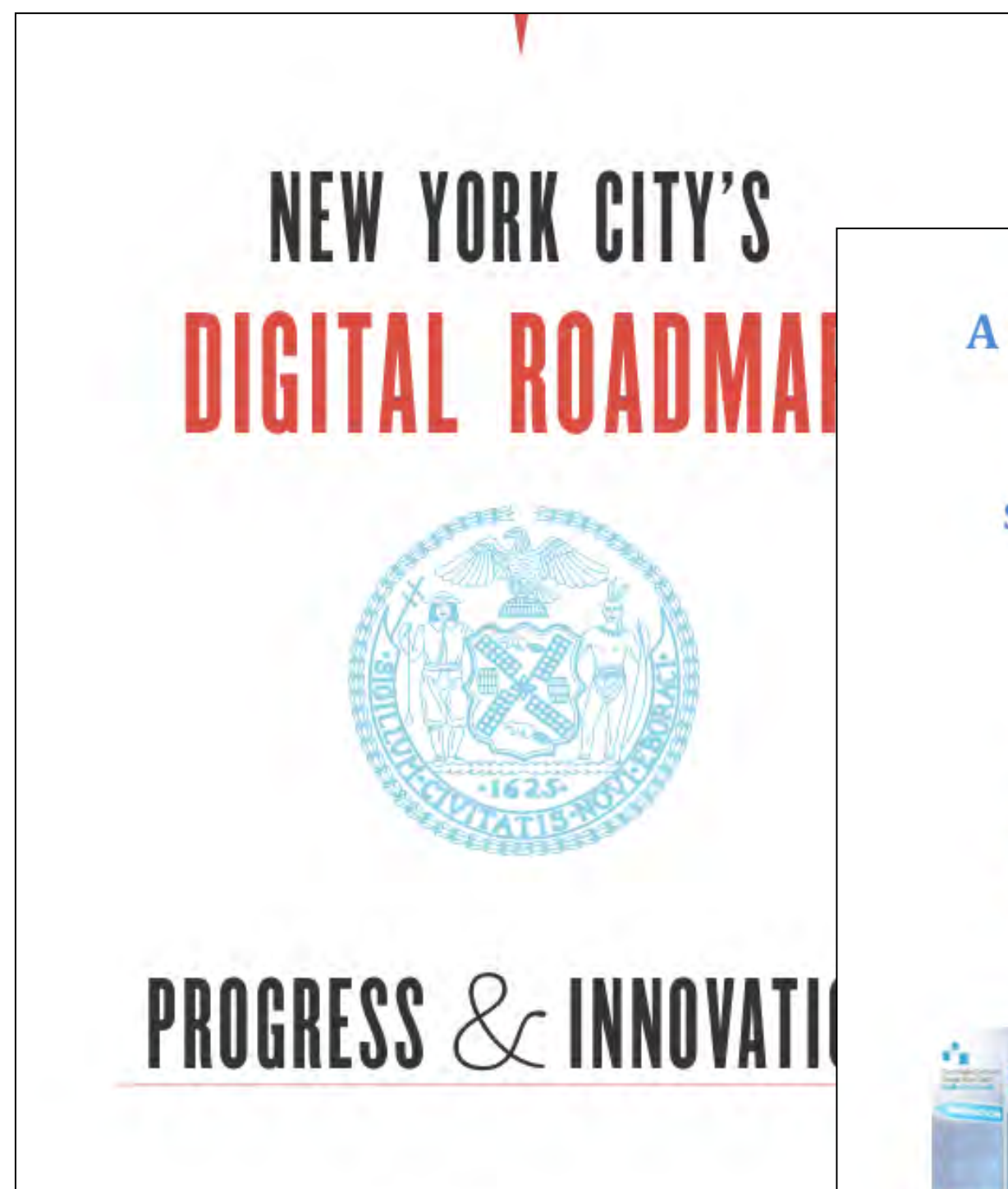
And a new strategic practice
is emerging - with potential
for broader participation.

Digital Master Planning

Can We Bring Smart Cities Back to Earth?



Digital master plans show cities are getting serious about getting smart.



We studied 8 plans published between 2011 and 2015.



2011

New York
Road Map for the Digital City

Barcelona *Smart City Vision*

2012

*The City of **Chicago** Technology Plan*

*A Digital Masterplan for **Dublin***

*Smart **London** Plan*

2013

Hong Kong
Digital 21 Strategy (update to 2008 plan)

Singapore
Infocomm 2025

2014

2015

San Francisco
Information & Communication Technology Plan

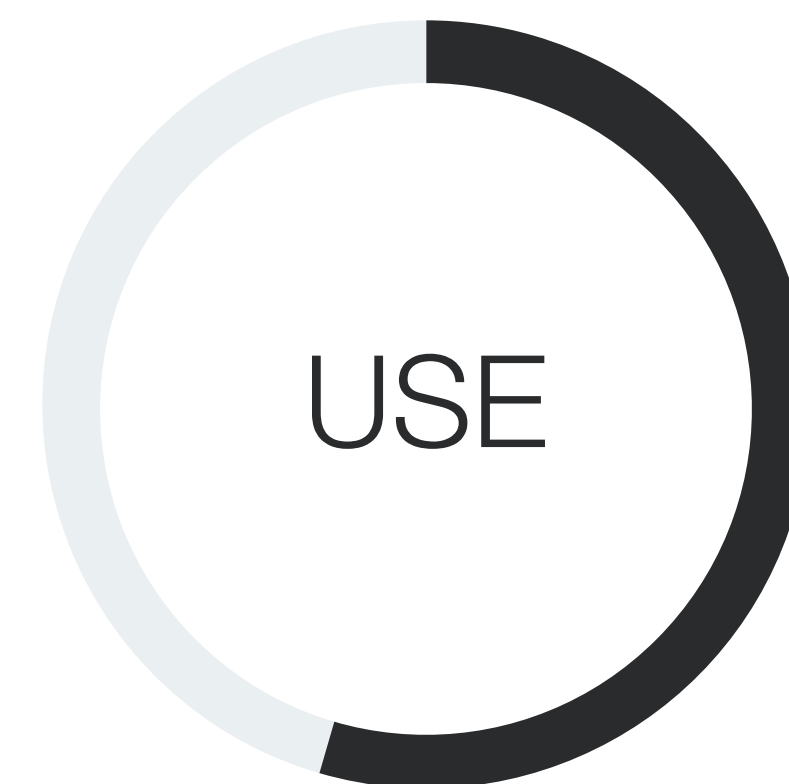
How we analyzed digital master plans



WHAT'S IN THE PLANS?



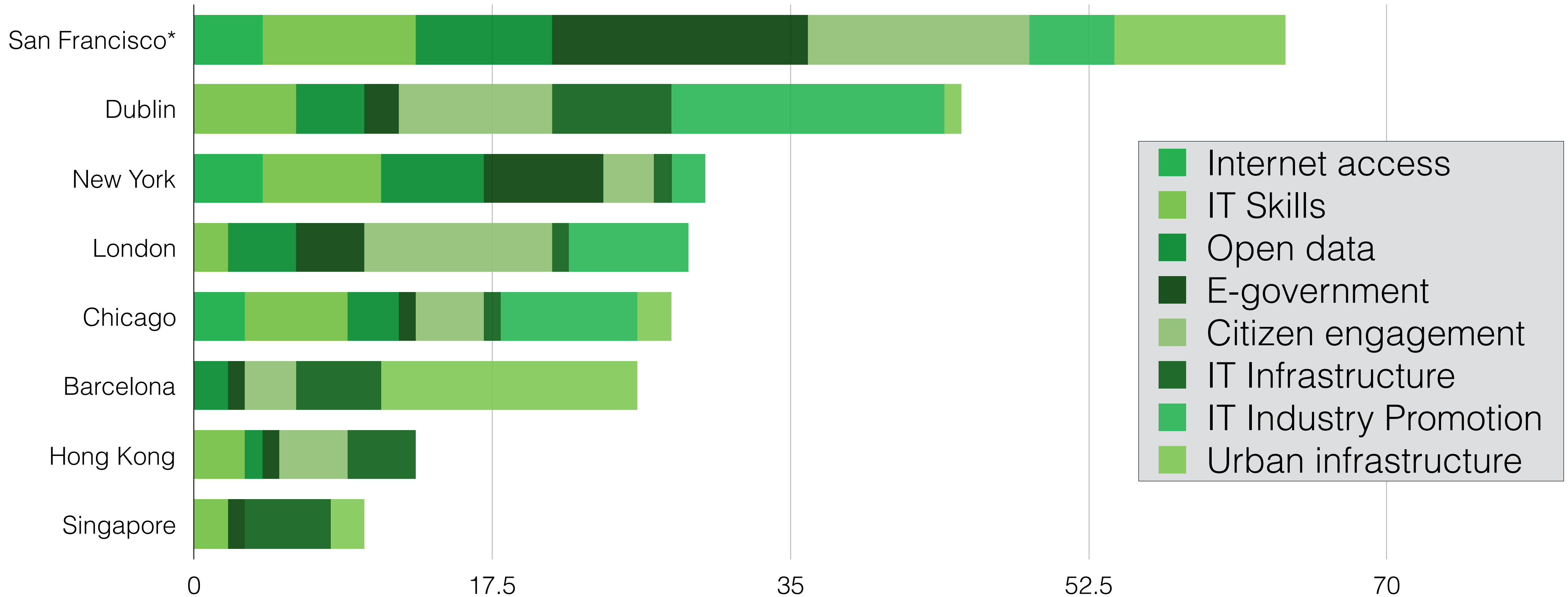
HOW WERE THEY
MADE?



WHAT IS THE
APPROACH
TO IMPLEMENTATION?

Content WHATS IN THE PLANS?

number of proposed initiatives by policy area



*San Francisco also includes 89 IT Infrastructure initiatives not shown.



Subsequent plans are getting more strategic looking at **long-term infrastructure** needs, **workforce**, and **inter-operability**.

Chicago's is the only one with a vision for technology in **public space**.

Hong Kong's has a lot of **economic policy** for the entrepôt city.

Dublin's was the only one with a robust **evaluation framework**, the Digital Maturity Scorecard.

Common Elements among the plans



STRONG AUTHORSHIP

Most of these plans had a single author who initiated and executed the entire plan development.



2ND HALF PLAYS

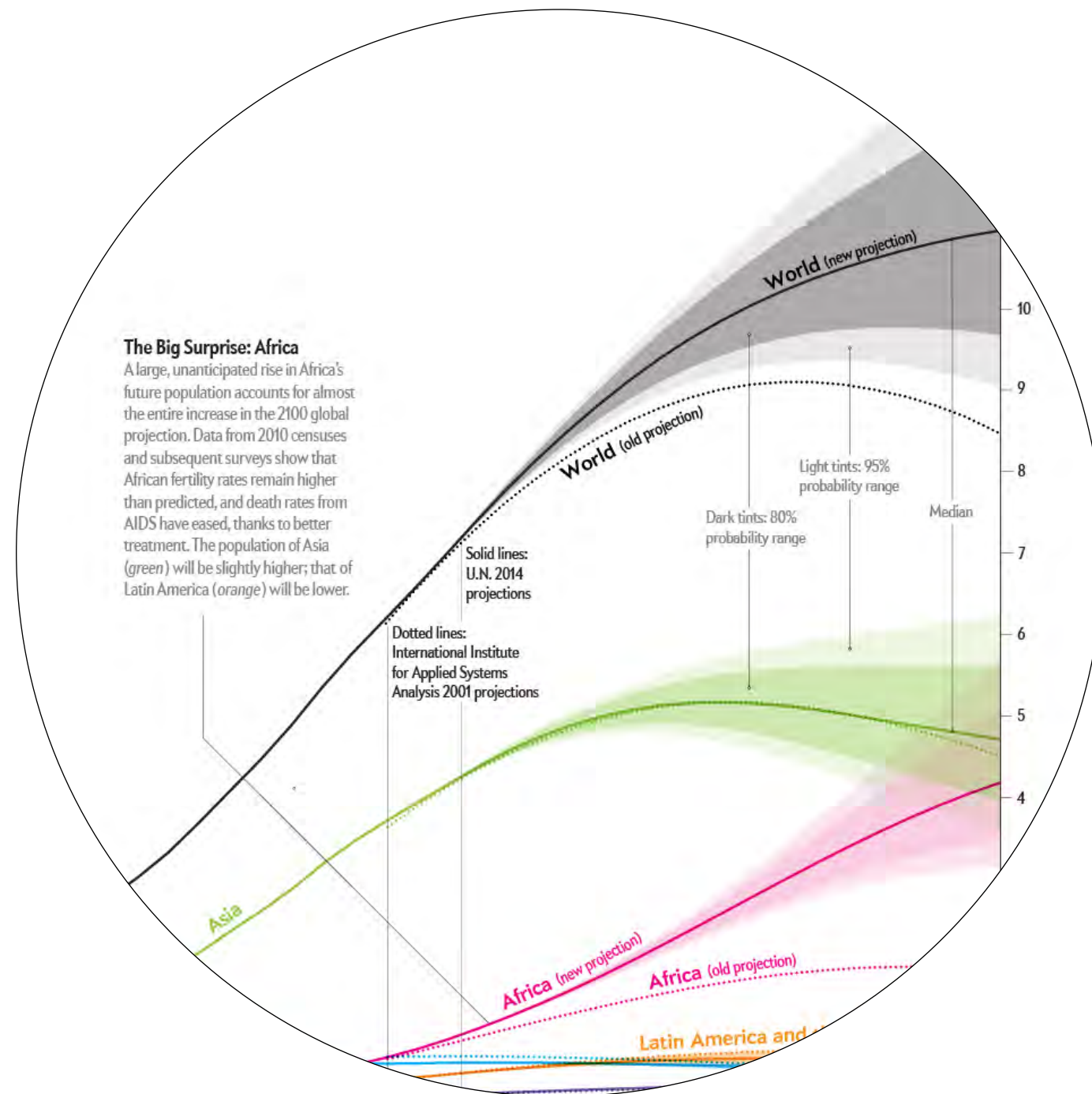
Typically, these plans were initiated in the second half of a mayor's first term in office. Bread and butter issues came 1st.



CELEBRATIONAL

A lot of these plans is devoted to documenting accomplishments and ongoing work. That's OK because they are cutting across silos.

Big Differences between the plans



TIME HORIZON

The plans range in outlook from a single term to many decades.



EVALUATION AND LEARNING

Only one of the plans made a serious attempt at proposing a tracking process. Most played fast and loose with scoring themselves. A growing number are being updated.



ROLE OF STAKEHOLDERS

The plans all take a different view of who gets a say, and who is enlisted to put the plan's recommendations into action.

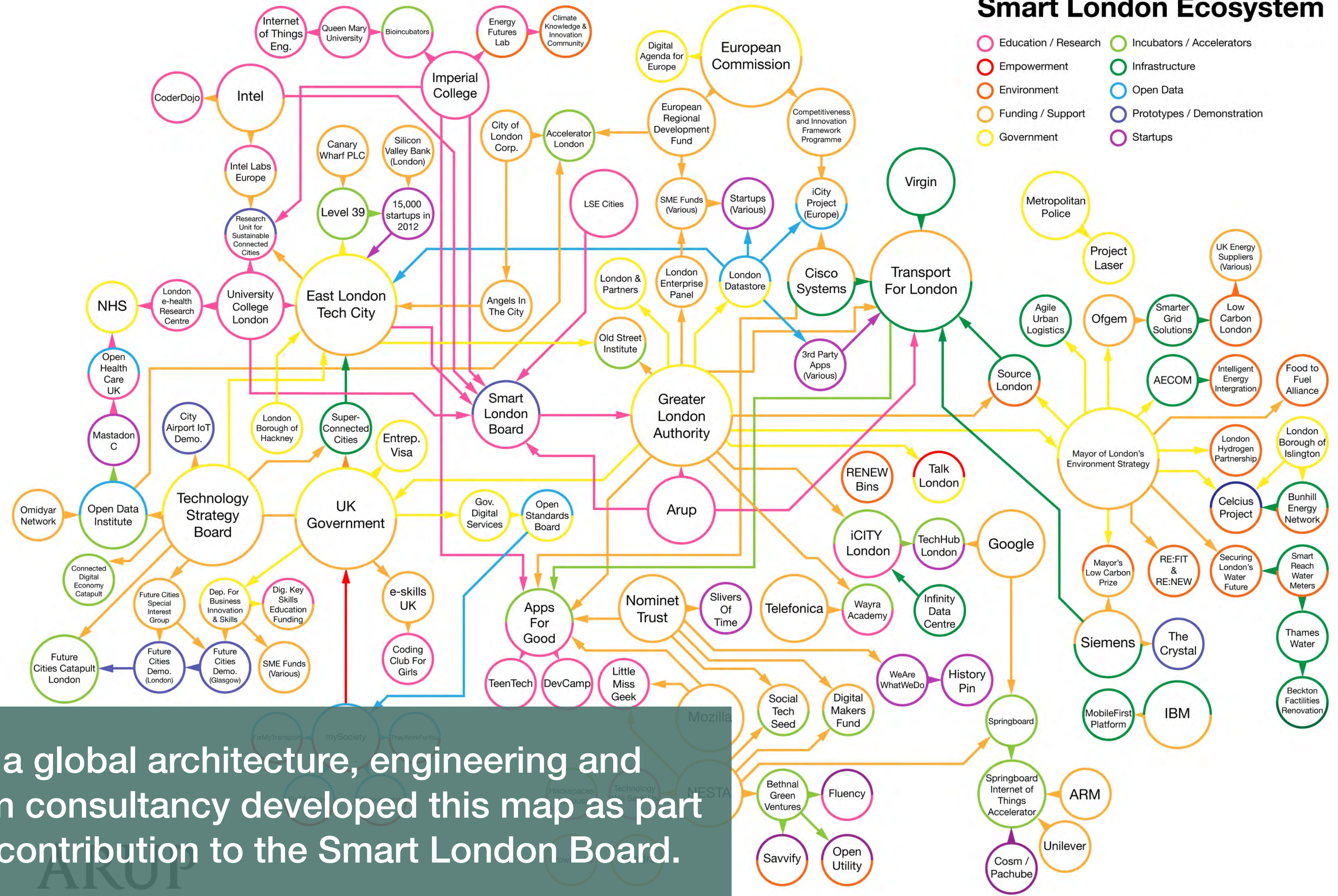
Process HOW WERE THE PLANS MADE?

Since no one knows how to do it, and there are few statutory planning requirements, cities invented planning processes on the fly.



Smart London Ecosystem

- Education / Research
- Empowerment
- Environment
- Funding / Support
- Government
- Incubators / Accelerators
- Infrastructure
- Open Data
- Prototypes / Demonstration
- Startups



Arup, a global architecture, engineering and design consultancy developed this map as part of its contribution to the Smart London Board.

URBAN STREETS CAN'T BECOME A BLACK BOX



Who I am

Head of the Transatlantic Urban Mobility Initiative at the German Marshall Fund

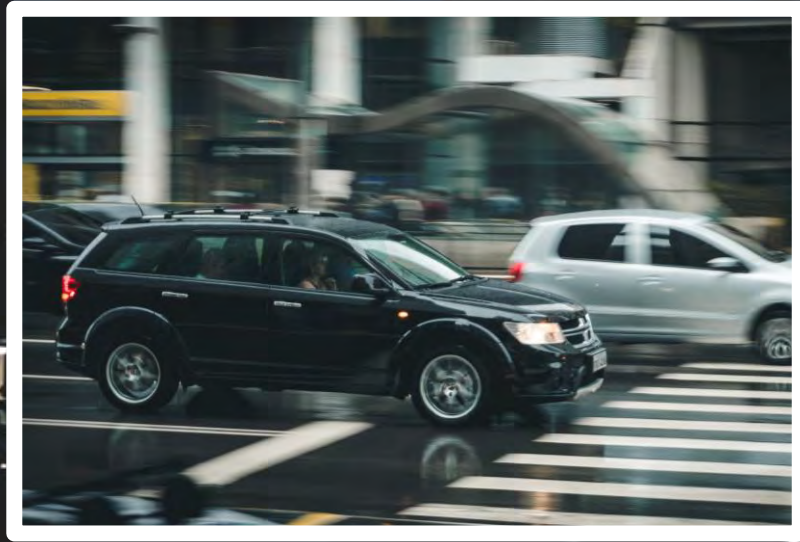
City official under three mayors in NYC and DC

Led economic strategy in DC when ridehailing arrived

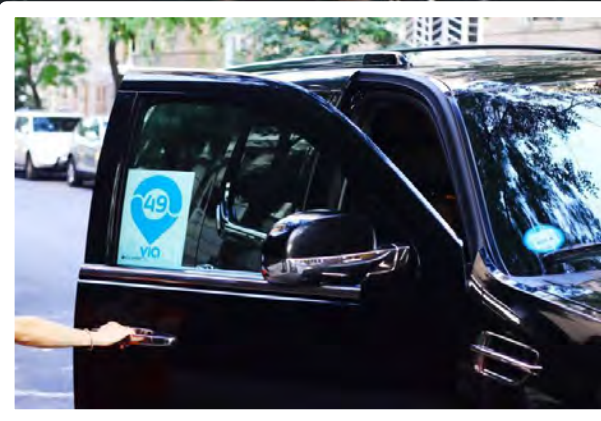
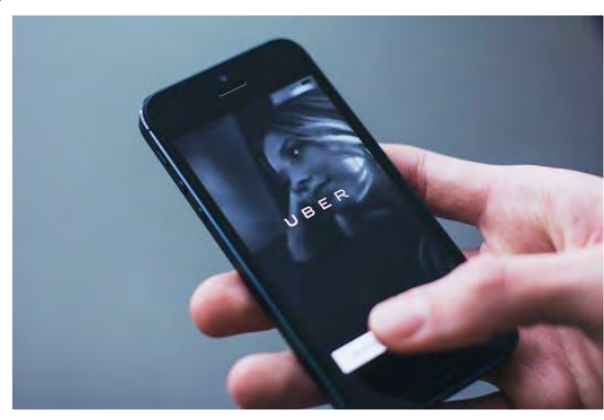
Partner in the 1776 Seed Fund, managing investments in smart cities



Traditional urban mobility



New mobility services



02H 4092665

Philly Taxis, After Years of Rideshare Competition, Launch Hailing and Payment App

With the threat of Lyft and Uber looming over their business, Philadelphia cab-dispatching companies joined forces to create their own ride hailing app.

BY JANE M. VON, BERGEN PHILLY.COM / NOVEMBER 30, 2017



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f SHARE 1376

TWEET

EMAIL

UBER CHEAPER, FASTER THAN TAXIS IN LOW-INCOME NEIGHBORHOODS

Among the many heated debates around on-demand ride-hailing services like Uber is whether they act as an antidote to the

TRANSPORTATION \ URBAN \ MASS TRANSIT

New Jersey town decides to pay Uber instead of building a parking lot

Pilot program is meant to test out ride-hailing as a solution to last mile challenge

By Andrew J. Hawkins @andjeshawk | Oct 3, 2016, 10:56am EDT

f SHARE TWEET LINKEDIN

Can Dockless Bikeshare Pump Up Cycling's Diversity?

CHRISTINA STROUVANT-SANI JAN 9, 2018

In Washington, D.C., a slew of private companies are shaking up the bike scene's status quo and drawing riders from the city's African-American community.

APPS \ MOBILE \ TECH

Lyft and Amtrak now let passengers book rides to and from the train station

Another business links up with Lyft, and not Uber

By Nick Statt @nickstatt | Aug 1, 2017, 2:22pm EDT



Unanswerable
questions









In their eyes...

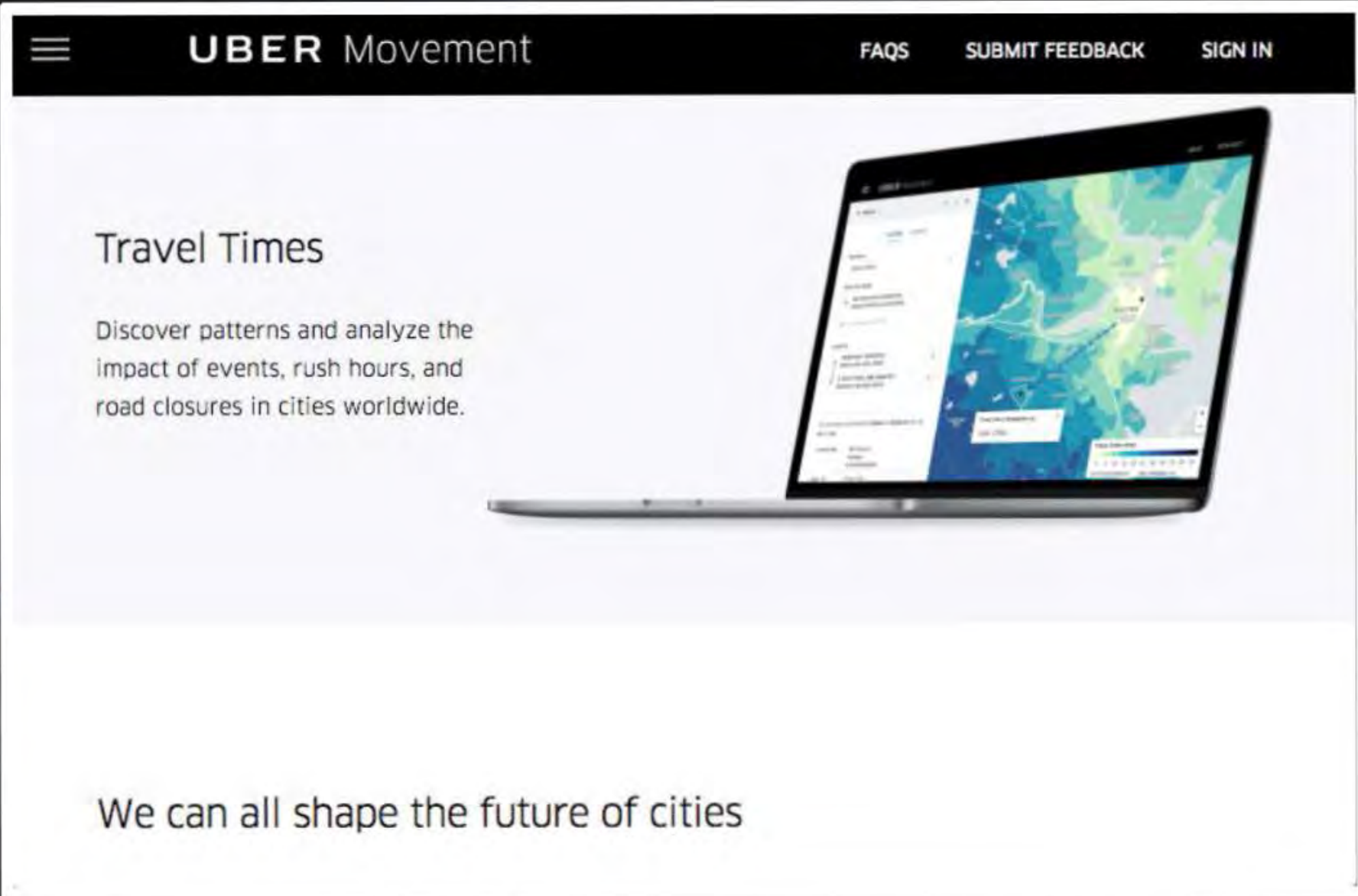
Cities don't know what data they need— they ask for everything. And then they need us to help use it.

There is no way we can handle all the one-off data requests we get from the government.

We have to protect our passengers' privacy!



They are trying (sort of)



The image shows a screenshot of the UBER Movement website. The top navigation bar is black with white text, including a hamburger menu icon, the text 'UBER Movement', and links for 'FAQS', 'SUBMIT FEEDBACK', and 'SIGN IN'. The main content area has a white background. On the left, the heading 'Travel Times' is followed by the text 'Discover patterns and analyze the impact of events, rush hours, and road closures in cities worldwide.' To the right of this text is a laptop displaying a heatmap map of a city, with a sidebar on the left side of the screen showing various data points and filters. At the bottom of the page, the text 'We can all shape the future of cities' is displayed.

UBER Movement

FAQS SUBMIT FEEDBACK SIGN IN

Travel Times

Discover patterns and analyze the impact of events, rush hours, and road closures in cities worldwide.

We can all shape the future of cities

But the backlash is growing...

MENU | NEWSLETTER | SUBSCRIBE

FAST COMPANY

TECHNOLOGY | LEADERSHIP | ENTERTAINMENT | IDEAS | VIDEO

11.24.15

Ride-Hailing Services Like Uber Are Terrible For Disabled People

Less regulated companies can shirk disability laws that taxis must abide by.



Nashville, other cities share concerns about Bird scooters

Posted: May 14, 2018 9:57 PM EDT
Updated: May 14, 2018 9:57 PM EDT
Reported by Nancy Amons | CONNECT



brad plumer @bradplumer Follow

Striking stat: In New York City, fully half of all miles driven by Uber/Lyft cars are without any passenger in them. citylab.com/transportation ... via @mslaurabliss

And, she added, it could actually be more miles, since drivers also spend a lot of time traveling without any passengers in the car. Estimates from two of the largest markets in the U.S. give a sense of how many of these "deadhead" miles in between trips are being driven. In San Francisco, it's estimated that approximately 20 percent of the miles traveled by Uber and Lyft drivers are without passengers. In New York City, deadheading accounts for an estimated 50 percent of the 600 million miles that TNCs have added to the roads since 2013. That mean more emissions from empty Ubers and Lyfts, plus their drag on other cars that burn extra gas and generate more fumes as they all sit in worsened traffic.

1:01 PM - 6 Jun 2018

Washington Post
Democracy Dies in Darkness


Transportation

Are Uber and Lyft cutting into Metro's ridership?

By Faiz Siddiqui December 3, 2017

Most Read Lo

Miami New Times



Two tourists ride LimeBikes around Seattle. Courtesy of LimeBike

Miami Beach Cracks Down on "Rogue" Bike-Sharing Startup LimeBike

JERRY IANNELLI | JULY 13, 2017 | 8:00AM

...and cities aren't waiting...

ions ≡ **The Washington Post**
Democracy Dies in Darkness

Gridlock

Uber and New York City spar over rider data

By **Faiz Siddiqui** January 5, 2017 [Email the author](#)

VIDEO, GRAPHIC: JUSTIN SULLIVAN/AP IMAGES FOR LYFT

To Measure the 'Uber Effect,' Cities Get Creative

LAURA BLISS JAN 12, 2018

Ride-hailing companies are cagey on all-important trip data. So researchers are finding clever workarounds.

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They'd cut back on traffic, ease air pollution, and complement public transit. Or so they said.

But the effects of Uber, Lyft, and other transportation network companies ("TNCs," in wonk-speak) are proving more complicated

SHAREDSTREETS

[Introduction](#) [About Us](#) [Contact Us](#)

A "digital commons" for the street

New digital tools have the potential to radically improve the efficiency, affordability, and inclusiveness of our transport system, but success depends on cooperation between the cities that build and manage our streets and the companies and transport services that use them.

As new transportation technologies emerge, cities need access to increasingly privatized data about public infrastructure. While private sector innovators are collecting detailed, street-level data in real time on everything from traffic speeds to transit use, cities don't have the access they need. Clearly a new partnership model is needed.

SharedStreets is building a "digital commons" for streets: a universal language for communicating information about city streets, and a launching pad for public-private collaboration and data exchange.

WAMU, MAY 24

Uber And Lyft Push Back Against D.C. Council Demand For Data, Citing Privacy Concerns


 Martin Austermuhe [TWITTER](#)

[f](#) [TWITTER](#) [MAIL](#) [+](#)


...nor is the private sector

BUSINESS INSIDER TECH FINANCE POLITICS STRATEGY LIFE INTELLIGENCE ALL

Ford just acquired 2 startups that have nothing to do with cars as we know them

 **Mark Matousek** ✉ 🐦
Jan. 25, 2018, 12:01 PM 🔥 5,440

POPULUS HOME CONTACT US







Data and analytics for the future of mobility


WIRED Alphabet's Sidewalk Labs Launches a Platform for Making the City of Tomorrow

AARIAN MARSHALL TRANSPORTATION 02.01.18 10:00 AM

ALPHABET'S SIDEWALK LABS LAUNCHES A PLATFORM FOR MAKING THE CITY OF TOMORROW

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-  TWEET
-  COMMENT
-  EMAIL



The looming question: who gets to be the platform?



APRIL 11, 2018 / by James Gooch / 0 / Share

Masabi and Uber Announce First-of-its-Kind Ride-Sharing and Public Transit Ticketing

SHARE



LYFT WANTS TO DOMINATE TRANSPORTATION, AND THAT MEANS BIKE SHARE





Thank You

www.davidzipper.com

@davidzipper



Urban mobility increasingly involves a mix of private and public transit. Who gets the data? // Richard Vogel/AP

Who Owns Urban Mobility Data?

DAVID ZIPPER JAN 7, 2018



Stephen Lam/Reuters

Private Mobility Services Need To Share Their Data. Here's How.

DAVID ZIPPER JUL 2, 2017



Metro trains arrive at the Gallery Place-Chinatown station in Washington D.C. // Joshua Roberts/Reuters

D.C. Metro's New App May Need a Pre-Launch Update

DAVID ZIPPER MAY 16, 2018