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

Pizza as a Service

<table>
<thead>
<tr>
<th>Traditional On-Premises (On Prem)</th>
<th>Infrastructure as a Service (IaaS)</th>
<th>Platform as a Service (PaaS)</th>
<th>Software as a Service (SaaS)</th>
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| Made at home                      | Take & Bake                      | Pizza Delivered             | Dined Out                   |

You Manage | Vendor Manages
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.
the governance version
[a city] whose citizens and businesses and government are well-connected and well-informed.
the planner’s version

communities 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
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.

New York
Road Map for the Digital City
2011

Barcelona
Smart City Vision
2012

The City of Chicago
Technology Plan
2013

A Digital Masterplan for Dublin
Smart London Plan

Hong Kong
Digital 21 Strategy (update to 2008 plan)
2015

Singapore
Infocomm 2025
2014

San Francisco
Information & Communication Technology Plan
How we analyzed digital master plans

- **CONTENT**
  - What’s in the plans?

- **PROCESS**
  - How were they made?

- **USE**
  - What is the approach to implementation?
**What's in the Plans?**

# Number of proposed initiatives by policy area

- **San Francisco**
- **Dublin**
- **New York**
- **London**
- **Chicago**
- **Barcelona**
- **Hong Kong**
- **Singapore**

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

1. **POWER BROKERS**
   - NEW YORK: private consultations with some powerful stakeholders.

2. **COMMUNITY-DRIVEN**
   - CHICAGO: community involvement, more public process.

3. **STEERING COMMITTEE**
   - LONDON: large steering committee, public hearings.

4. **CROWDSOURCED**
   - DUBLIN: highly open, mostly online.

5. **ADMINISTRATIVE**
   - SAN FRANCISCO: part of an IT budget process.
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
FutureStructure

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, BERGENPHILLY.COM / NOVEMBER 30, 2017

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 Herring - BergenEagle.com | Oct 3, 2016, 10:09am PDT

Can Dockless Bikeshare Pump Up Cycling's Diversity?

CHRISTINA STERNHAGEN, LEAD JAN 5, 2019

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.

Uber and the On-Demand Economy

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

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 Borenstein | Aug 1, 2017, 2:59am PDT
Unanswerable questions
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)

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...
and cities aren’t waiting…

Gridlock

Uber and New York City spar over rider data

By Faiz Siddiqui | January 5, 2017

To Measure the 'Uber Effect,' Cities Get Creative

Laura Blase | Jan 12, 2018

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

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

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.

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

Martin Austermuhle
...nor is the private sector.
The looming question: who gets to be the platform?

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

www.davidzipper.com
@davidzipper