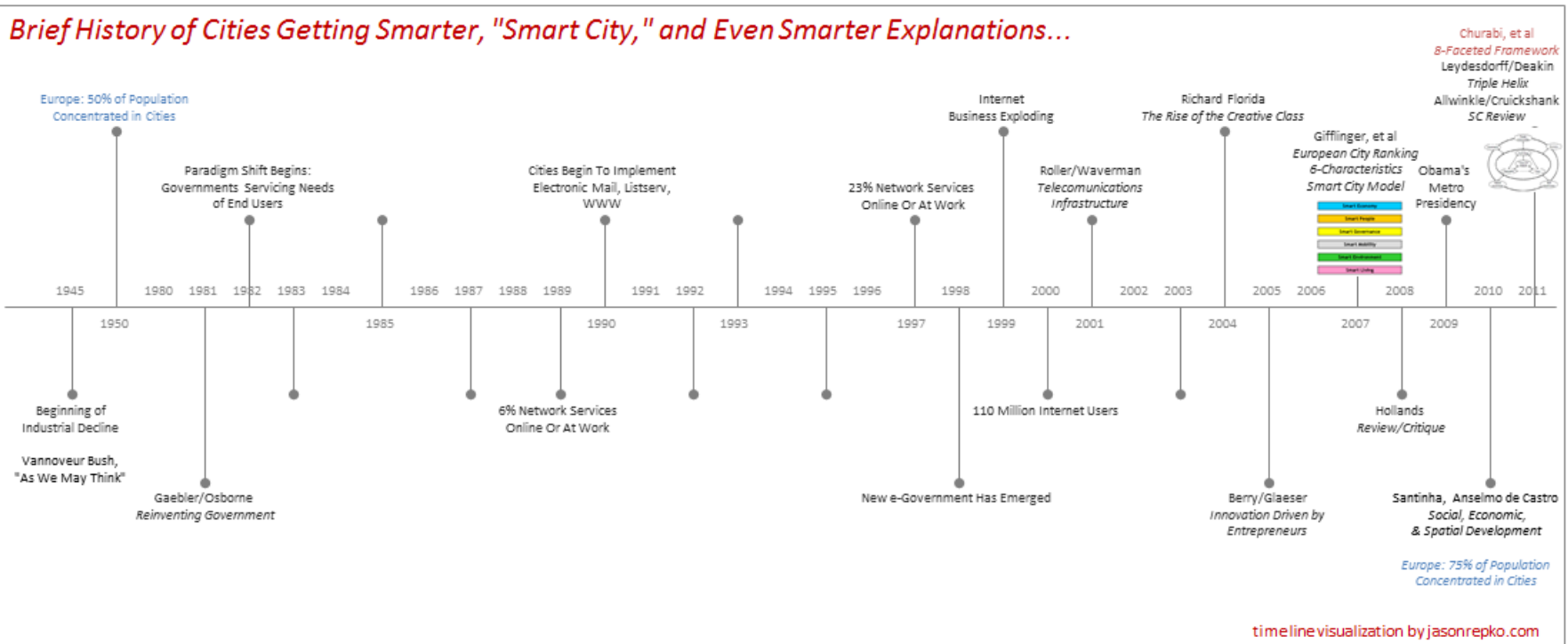# SMART CITIES

Traveling the timeline
Traversing the future

Jason Repko · Steve DeBroux
IMT 598 · Emerging Trends in IT
Spring 2012
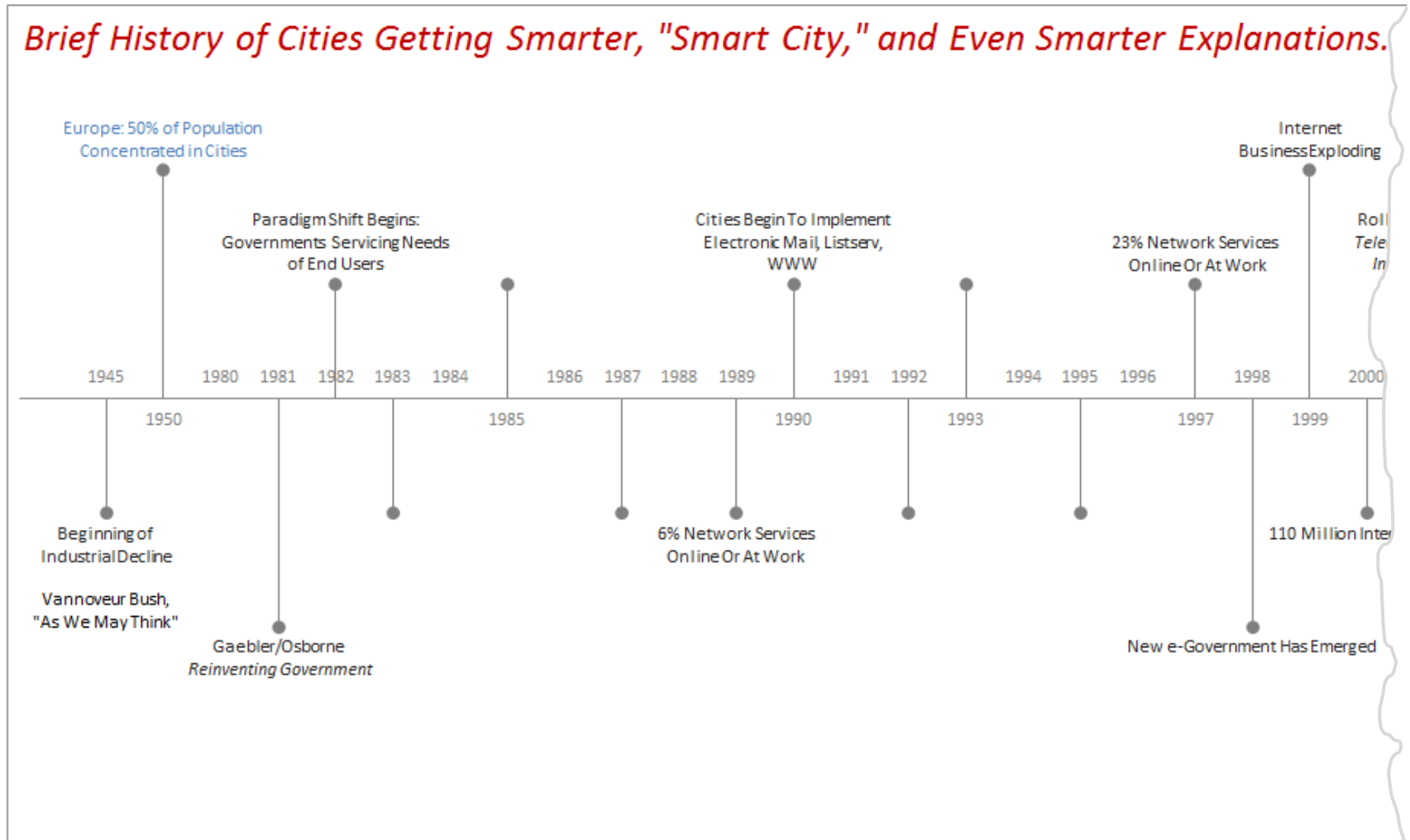
Timeline

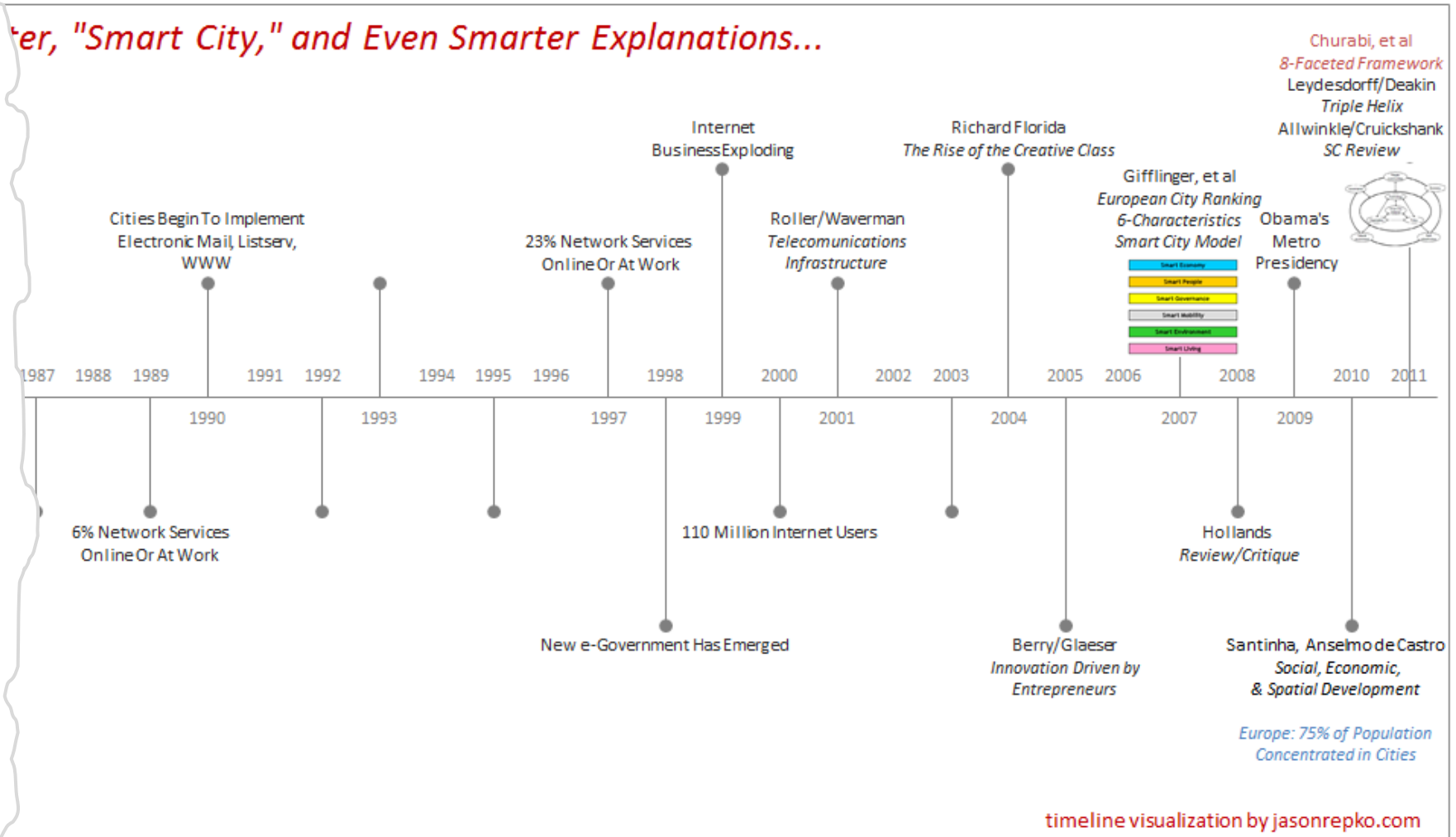**Brief History of Cities Getting Smarter, "Smart City," and Even Smarter Explanations…**

Europe: 50% of Population Concentrated in Cities

Internet Business Exploding

Richard Florida
The Rise of the Creative Class

Churabi, et al
8-Faceted Framework
Leydesdorff/Deakin
Triple Helix
Allwinkle/Cruickshank
SC Review

Paradigm Shift Begins: Governments Servicing Needs of End Users

Cities Begin To Implement Electronic Mail, Listserv, WWW

23% Network Services Online Or At Work

Roller/Waverman
Telecomunications Infrastructure

Gifflinger, et al
European City Ranking 6-Characteristics Smart City Model

Obama's Metro Presidency

Smart Economy
Smart People
Smart Governance
Smart Mobility
Smart Environment
Smart Living

1945   1980   1981   1982   1983   1984   1986   1987   1988   1989   1991   1992   1994   1995   1996   1998   2000   2002   2003   2005   2006   2008   2010   2011

1950   1985   1990   1993   1997   1999   2001   2004   2007   2009

Beginning of Industrial Decline

6% Network Services Online Or At Work

110 Million Internet Users

Hollands
Review/Critique

Vannoveur Bush, "As We May Think"

Gaebler/Osborne
Reinventing Government

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Santinha, Anselmo de Castro
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Roll
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timeline visualization by jasonrepko.com

An Integrated Framework

Technology

- Do initiatives include IT systems that provide real-time awareness and advanced analytics to help people make decisions?

Management and Organization

- Are organizational efficiencies in place to facilitate Smart City initiatives?

Policy Context

- Are current policies facilitating or creating barriers to Smart City initiatives?

People and Communities

- Do the initiatives positively impact the quality of life for citizens and communities?

Built Infrastructure

- Is and ICT infrastructure in place to support Smart City initiatives?

Economy

- Are the Smart City initiatives promoting positive economic outcomes?

Governance

- Do the initiatives support citizen participation in the governance of the community?

Natural Environment

- Do the Smart City initiatives address the burden of population growth?

H. Chourabi, T. Nam, S. Walker, J. R. Gil-Garcia, S. Mellouli, K. Nahon, T. A. Pardo, and H. J. Scholl, "Understanding Smart Cities: An Integrative Framework," in *Proceedings of the 45th Hawaii International Conference on System Sciences*, 2012, vol. 2012.

Bellevue WA

☐ Free Municipal Wireless
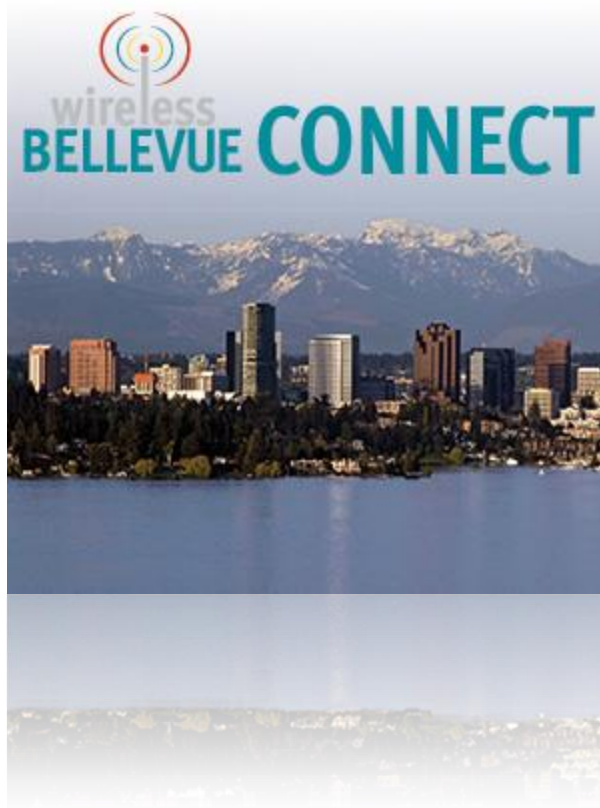
Framework Facets
- ☐ Technology
- ☐ Organization
- ☐ **Policy**
- ☐ People
- ☐ **Infrastructure**
- ☐ **Economy**
- ☐ Governance
- ☐ Environment

Bellevue WA

☐ Bel-Red Corridor

Framework Facets
- ☐ Technology
- ☐ **Organization**
- ☐ **Policy**
- ☐ **People**
- ☐ **Infrastructure**
- ☐ **Economy**
- ☐ Governance
- ☐ **Environment**

Bellevue WA

- Intelligent Transportation Systems
  - Traffic Signal Priority (TSP)
  - SCATS

Framework Facets
- **Technology**
- Organization
- **Policy**
- People
- **Infrastructure**
- Economy
- Governance
- Environment

Bellevue WA

☐ **eCityGov Alliance**

■ MyBuildingPermit.com

Framework Facets

☐ Technology

☐ **Organization**

☐ **Policy**

☐ People

☐ Infrastructure

☐ **Economy**

☐ Governance
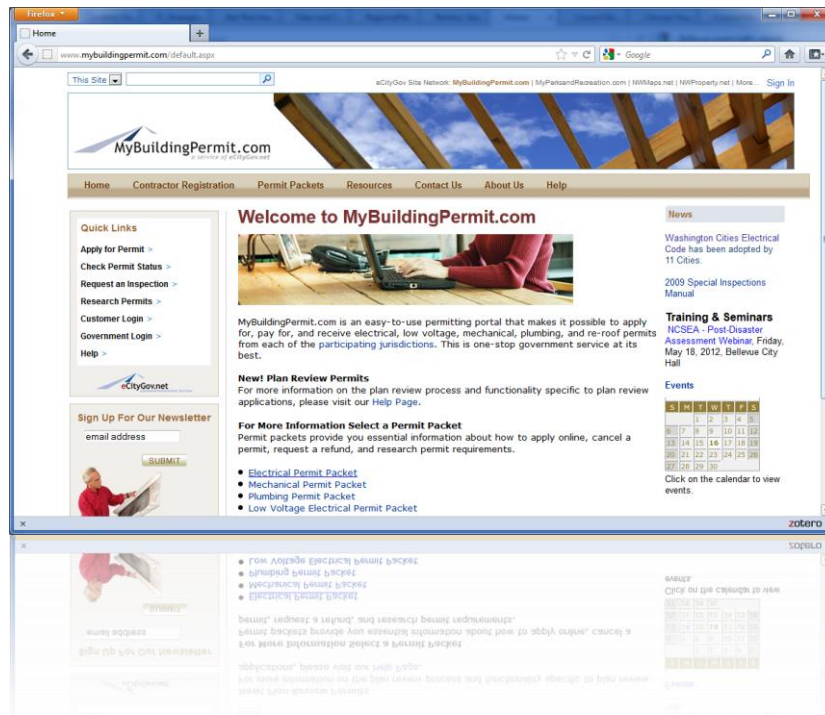
☐ Environment

Chicago IL

- City as Platform

- Open Data API

- Apps for Metro Chicago

Framework Facets
- **Technology**
- **Organization**
- **Policy**
- People
- Infrastructure
- **Economy**
- **Governance**
- Environment

Chicago IL

- Data-driven Decision Making
  - Food Deserts

Grocery stores (excluding pharmacies) over 2,500 square feet with 1/2 mile buffer
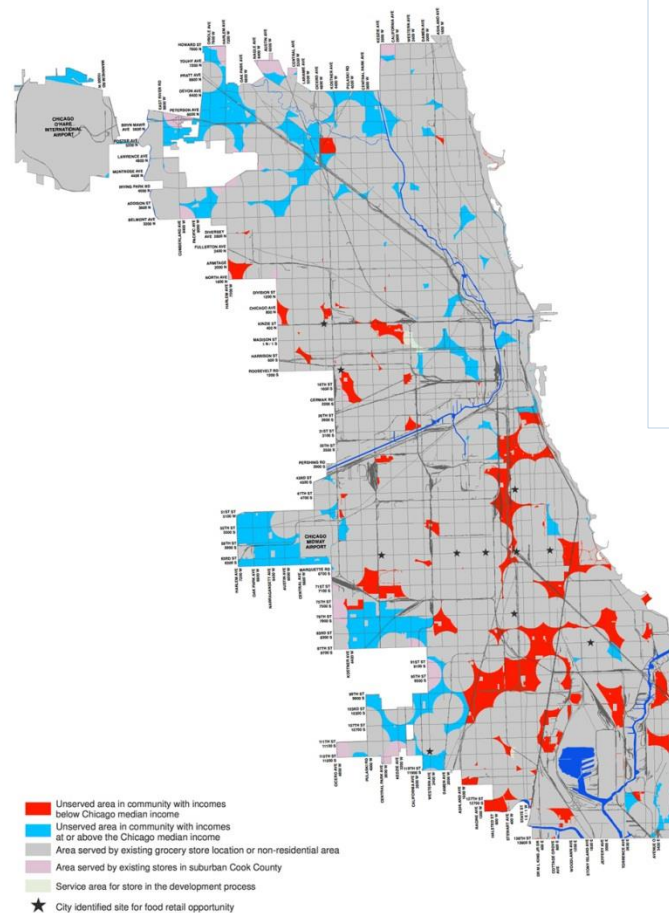
Framework Facets
- **Technology**
- Organization
- Policy
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- Infrastructure
- Economy
- Governance
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Amsterdam, The Netherlands

☐ Amsterdam Smart City (ASC)

http://www.amsterdamsmartcity.nl/#/en

Framework Facets

- ☐ **Technology**
- ☐ **Organization**
- ☐ **Policy**
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- ☐ **Economy**
- ☐ **Governance**
- ☐ **Environment**

Onze Energie/Our Energy

The Conversation: A Smart City Is…

To me Amsterdam as a Smart City is… It's the only way for the future // More than half of the population on this planet lives in a city and our number is growing. Funnily enough, in spite of the polluted air, we c people, at least in the West, have a longer life expectancy than our compatriots outside the city. So without smart cities we are not going to survive. Not enough energy, not enough raw materials, not enough healthy air. // Smart cities need to set an example. // Smart development makes the city a great place to live and creates jobs and welfare, but does not shift negative effects like pollution to other regions and does not compromise the ability of future generations to meet their own needs, by f example degradation of the landscape or depletion of resources. // It's not about optimizing just a few aspects but improving the quality of the city as an integrated system. // Smart development is future-oriented. Only when the development goes beyond the day-to-day reality, a lock-in in unsustainable behaviour can be overcome. // Involves many actors, perspectives and stakes, the trick is to mobilize and unite parties for actions towards a sustainable future. // Reduce loss of energy through (re-)u by your neighbour. Get in contact and it's fun too! // still far away // smarter than most of the cities in the world and has a leading role in new technologies // een goed en interessant platform omdat er allerlei verschillende partijen bij elkaar worden gebracht en samenwerken, waardoor innovatieve ideeën tot uitvoering worden gebracht. // a worthy pursuit - but we're not there yet // Compare to IBM program Smarter Planet campaign, i am very interested in this program // a good concept to realize sustainable ambitions // able to solve its issues by cleverly considering alternatives to the current flow of things, and organizing cooperation between its citizens and companies to try and learn. // A Smart city is a city with a vision. London think about it, Paris talks about it, Amsterdam has it! // To me, Amsterdam as a Smart City is able to feel and act as an individual in a worldly environment. // a perfect example of how innovative ideas can become reality by combining knowledge and expertise // a great place to be: clean air, good transport facilities, well planned public space, good architecture, a connection point. A city benefitting from it's strong points by emphasizing them. A city that motivates and encourages its citizens to participate making it the best place to be. // It is a central issue in my personal agenda // the future of smart new energy // Amsterdam