

# The ELUSIVE WISDOM of SMART CITIES

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NYU Stern Urbanization Project • 20 February 2014

**Q: what is a smart city?**

**A: place where government, business, citizens are using digital technology to address timeless urban problems**

In 2008, for the first time...

More people lived in cities than the countryside.

**We are now an urban species.**

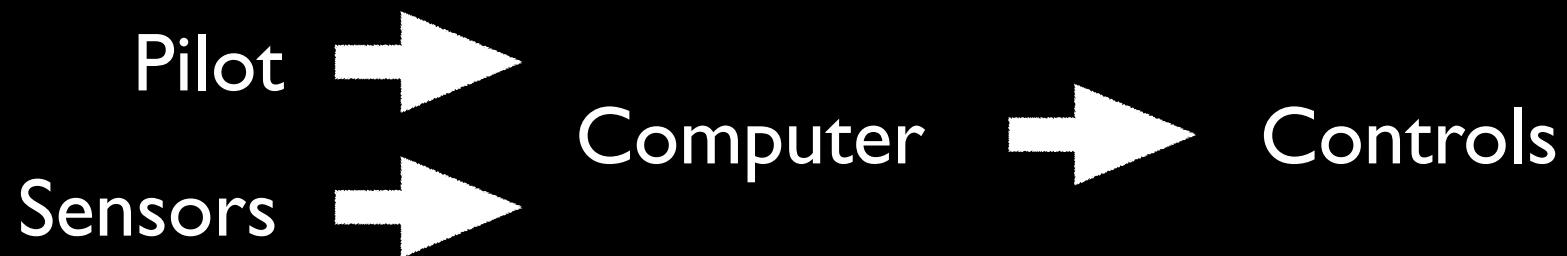
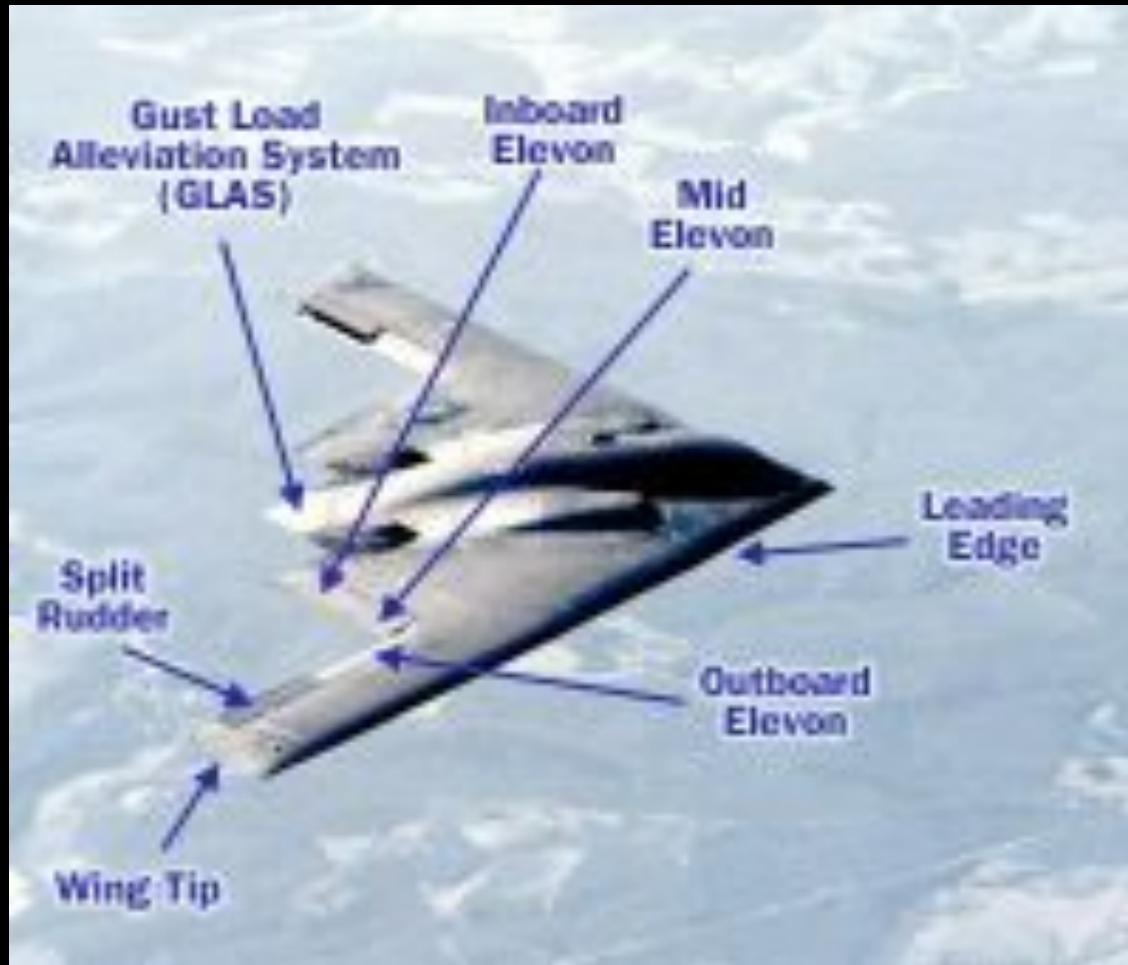
More mobile broadband subscribers than fixed.

**The Internet has been untethered.**

More things are connected than people.

**The Internet isn't about virtual spaces,  
it's about physical places.**







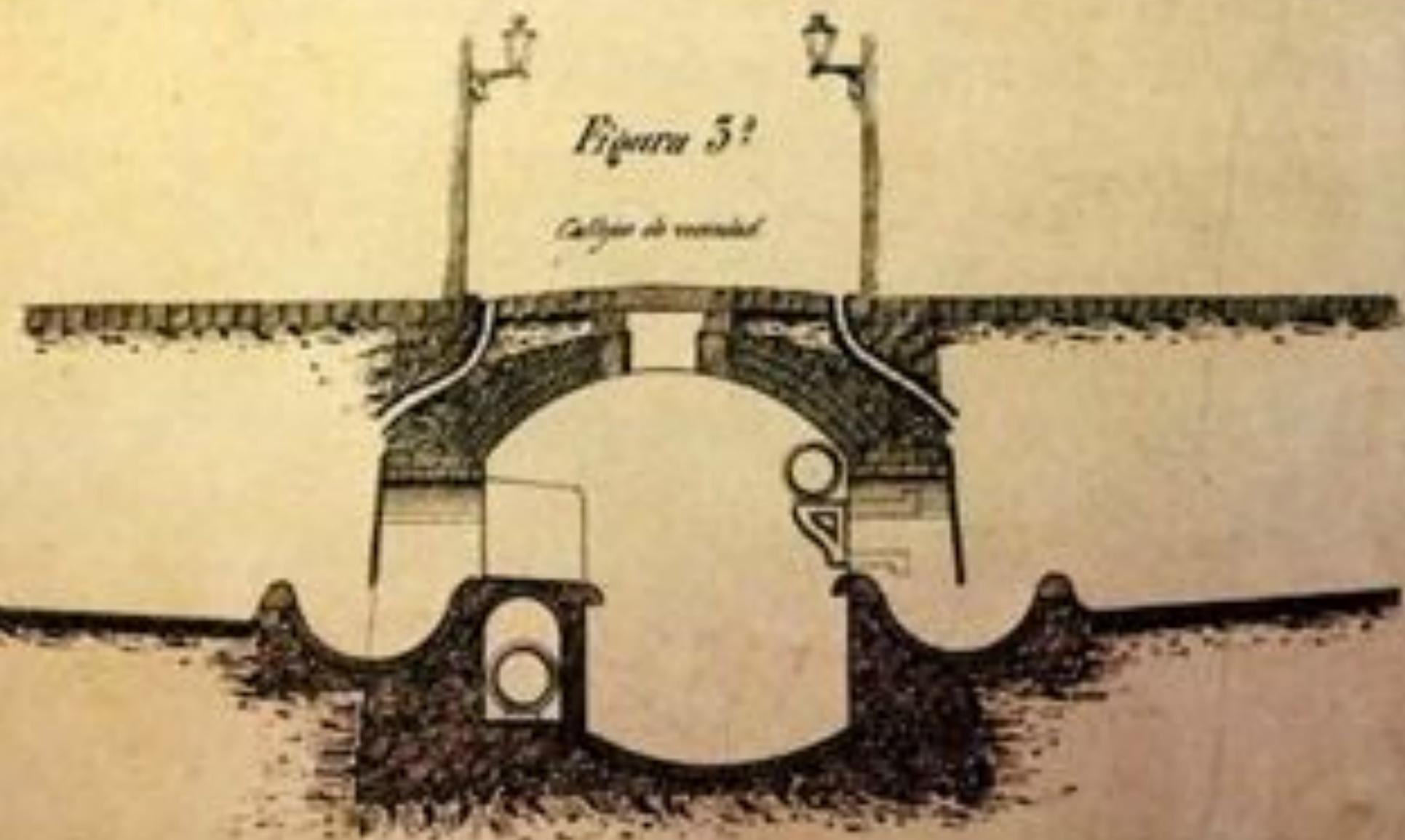
# city of the telegraph

## Barcelona 1855



Figure 5:

*Calçat ab revoltes*



3. Service duct located under the service road (*Atlas of the Preliminary Extension Project of Barcelona, 1855*)

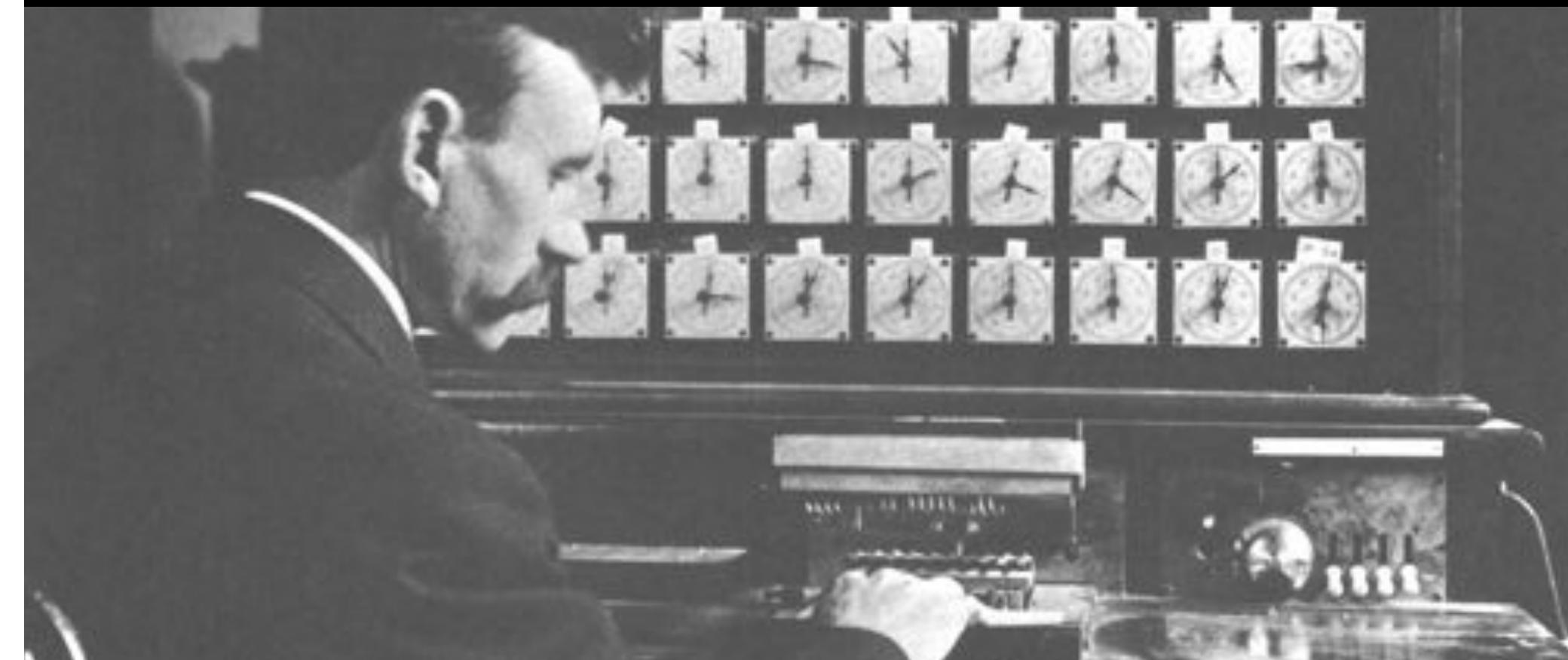


POLICE

TELEGRAPH

52

THE GAMMELL CO  
NEW YORK





CENTRO DE OPERAÇÕES  
PREFEITURA DO RIO





The storm has come off Typhoon Chenglei

The storm has come off Typhoon Chenglei

Buildings  
bring down  
their own  
energy costs.

Buildings account for 40 percent of all energy use. IBM's  
Smart Building technology in Washington, D.C. can insight to the grid  
and energy consumption.



Drivers can  
see traffic  
jams before  
they happen.

IBM's Smart Traffic Management system can predict traffic jams up to 100 minutes in advance, giving drivers time to find an alternative route. IBM's Smart Traffic Management system can predict traffic jams up to 100 minutes in advance, giving drivers time to find an alternative route.



\$100 billion market opportunity



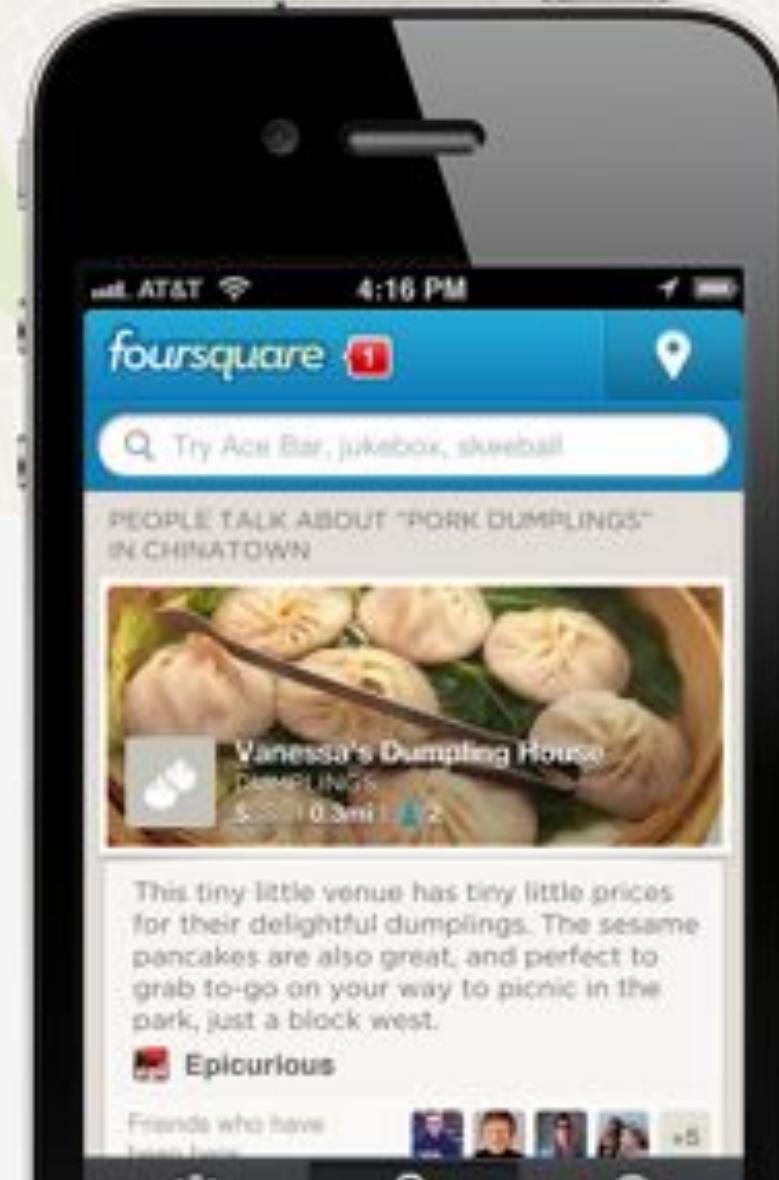
Department  
for Business  
Innovation & Skills

BIS RESEARCH PAPER NO. 136

The Smart City Market:  
Opportunities for the UK

OCTOBER 2013

\$408b / yr by 2020

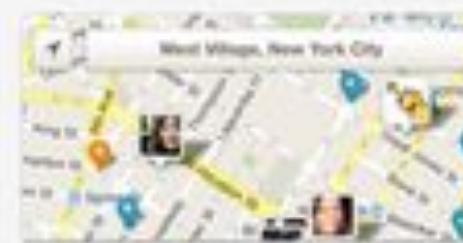


# Make the most of where you are with the all new foursquare.

[Download the app](#)

## Share your experiences

Keep up with friends as you share and save your adventures in the real world.



## Discover what's nearby

Get personalized recommendations and deals based on where you, your friends, and people with your tastes have been.

Computers are mostly  
used against people instead of for people  
used to control people instead of to free them  
time to change all that -  
we need a ...

# PEOPLE'S COMPUTER COMPANY



# Air Quality EGG

An internet  
enabled environmental monitor

The Air Quality Egg senses your air quality and posts it to the internet. You can then compare your data to data from thousands of other Eggs and track your air quality in real time from your computer or smartphone.

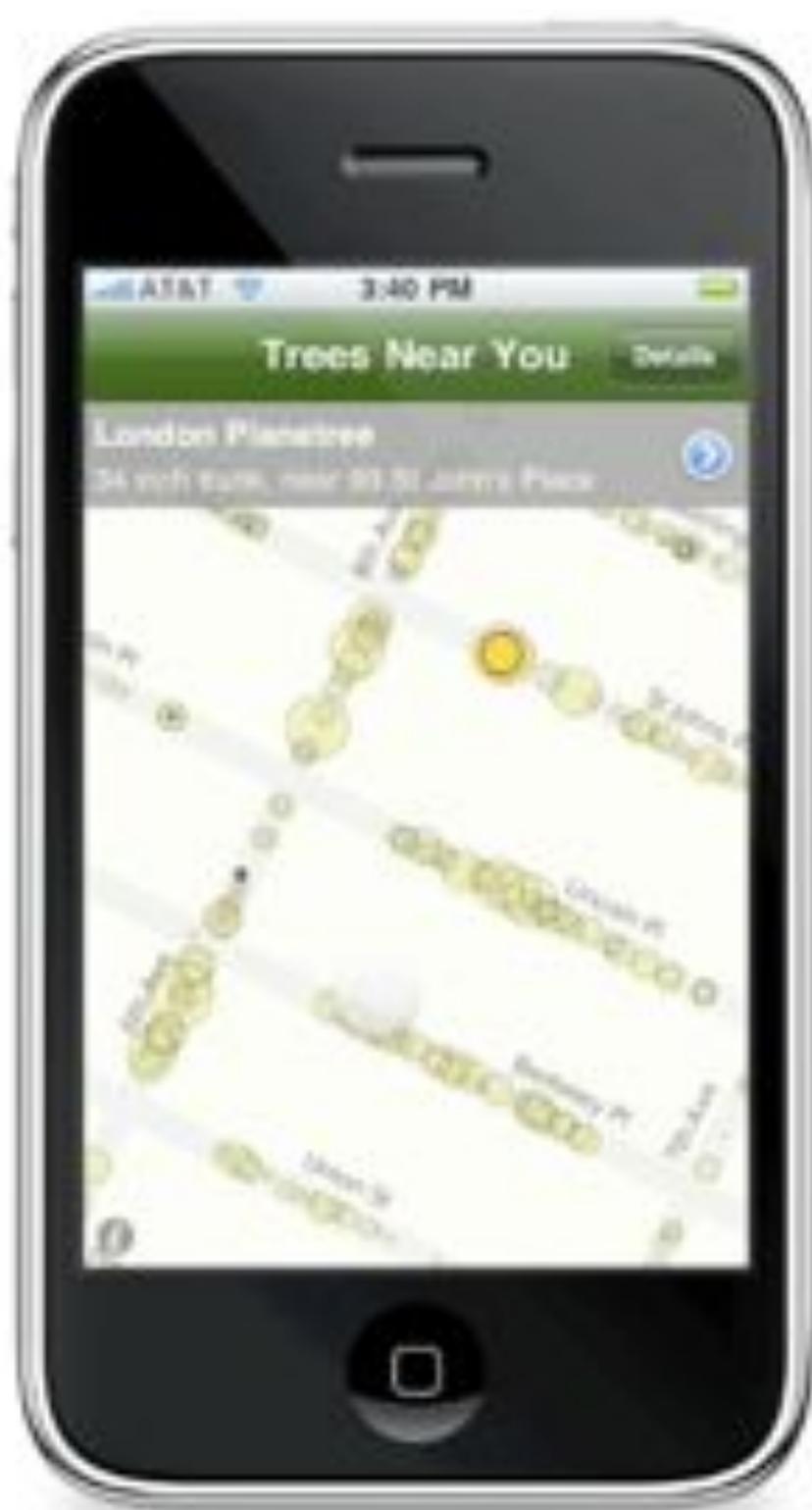


CARE ABOUT YOUR AIR





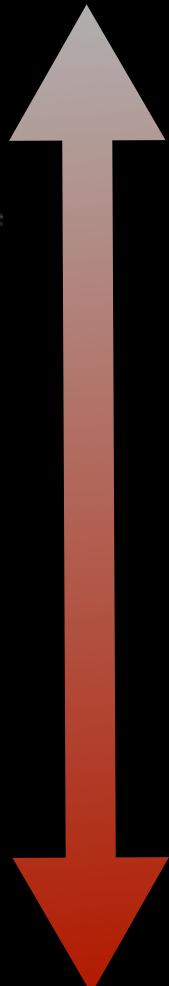
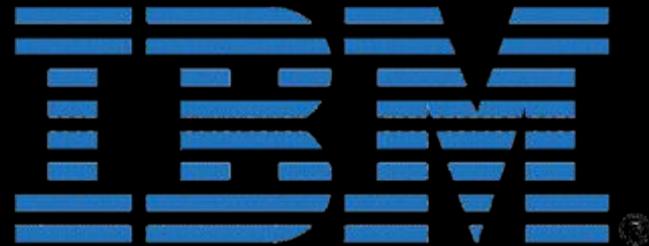




## HereFeed



top-down



bottom-up







# Adaptive Traffic Signal Control



## Public Infrastructure

### Street Maintenance

**27**

Percent of citizens satisfied

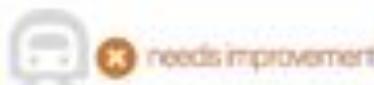


[Detail ➤](#)

### Public Transit

**37**

Percent of citizens satisfied



[Detail ➤](#)

### Water Line Repair and Restoration

**100**

Percent of all main breaks repaired and restored in 36 days or less



[Detail ➤](#)

## Economic Development

### Implement the AdvanceKC Plan

**283,453**

Total jobs



[Detail ➤](#)

### Make Kansas City a Destination

**158,650**

Hotel room nights booked



[Detail ➤](#)

### Streamline Business Practices

**59**

Percent of businesses satisfied



[Detail ➤](#)

### Invest in Under-developed Areas

**85**

Land Bank properties sold or under contract



[Detail ➤](#)

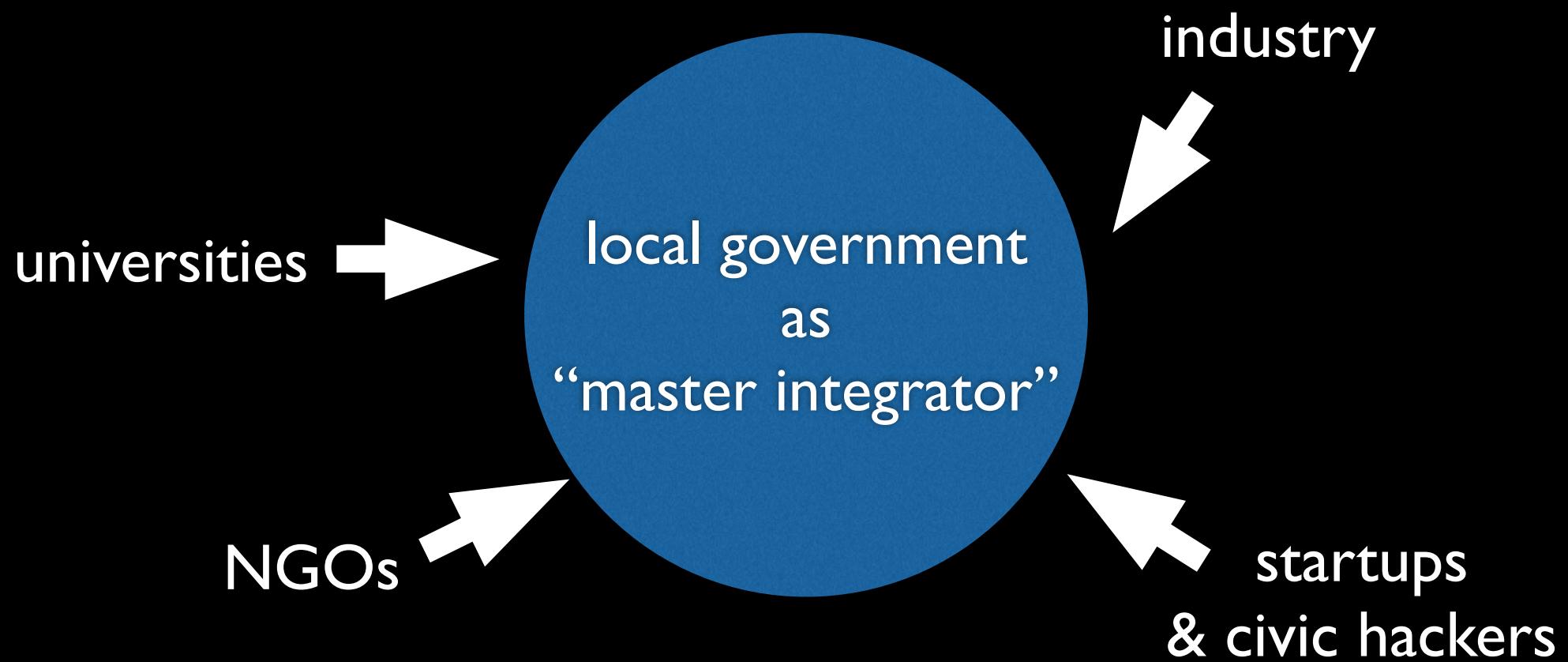






CRI online  
国际在线 [www.cri.cn](http://www.cri.cn)

# stakeholders in smart city innovation



# The Elusive Wisdom

- IBM - Smarter Cities not the cash cow hoped
- Cisco - disbanding Smart + Connected Communities
- Siemens - Cities & Infrastructure poorest performer of 4 main divisions



market is fragmented and immature

570,000+  
local governments

## SHOWCASE SEARCH

Here you can search for, and browse through all the innovative solutions on Citymart.com.

|

[View by list](#)

Page size: 10



**Contactless tags to bridge real and virtual worlds**  
\*Connecthings meets the challenge of giving cities the digital tool for enriching people's mobility and cultural experience by offering real-time information and contextual services in the areas of transport, culture

transport mobility bus smart city smartphone nfc information accessibility museum community public service digital city solution smart tourism mobile services real time airport information ticketing interactivity

#### TRACK RECORD



Showcase 1 to 10 of 139

## By Tags

Chair

- transport (139)
- cities (89)
- mobile (51)
- government (43)
- logistics (39)
- energy (37)
- location (36)
- communications (33)
- administration (29)
- health (28)
- security (21)
- marketing (17)
- entertainment (14)
- surveillance (13)
- content (12)
- learning (12)
- events (10)
- media (10)
- mobility (10)
- customer relations (9)

Moovit: Everything you need to ride public transit...



Moovit creates a win-win for transportation authorities and citizens. By providing the best, most complete source of transit information in real time and across transit modes, Moovit helps to encourage

mobile transport crowdsourcing mobility smart city app transit  
real time free commuter

### TRACK RECOUP



## "Barcelona Contactless Tour"



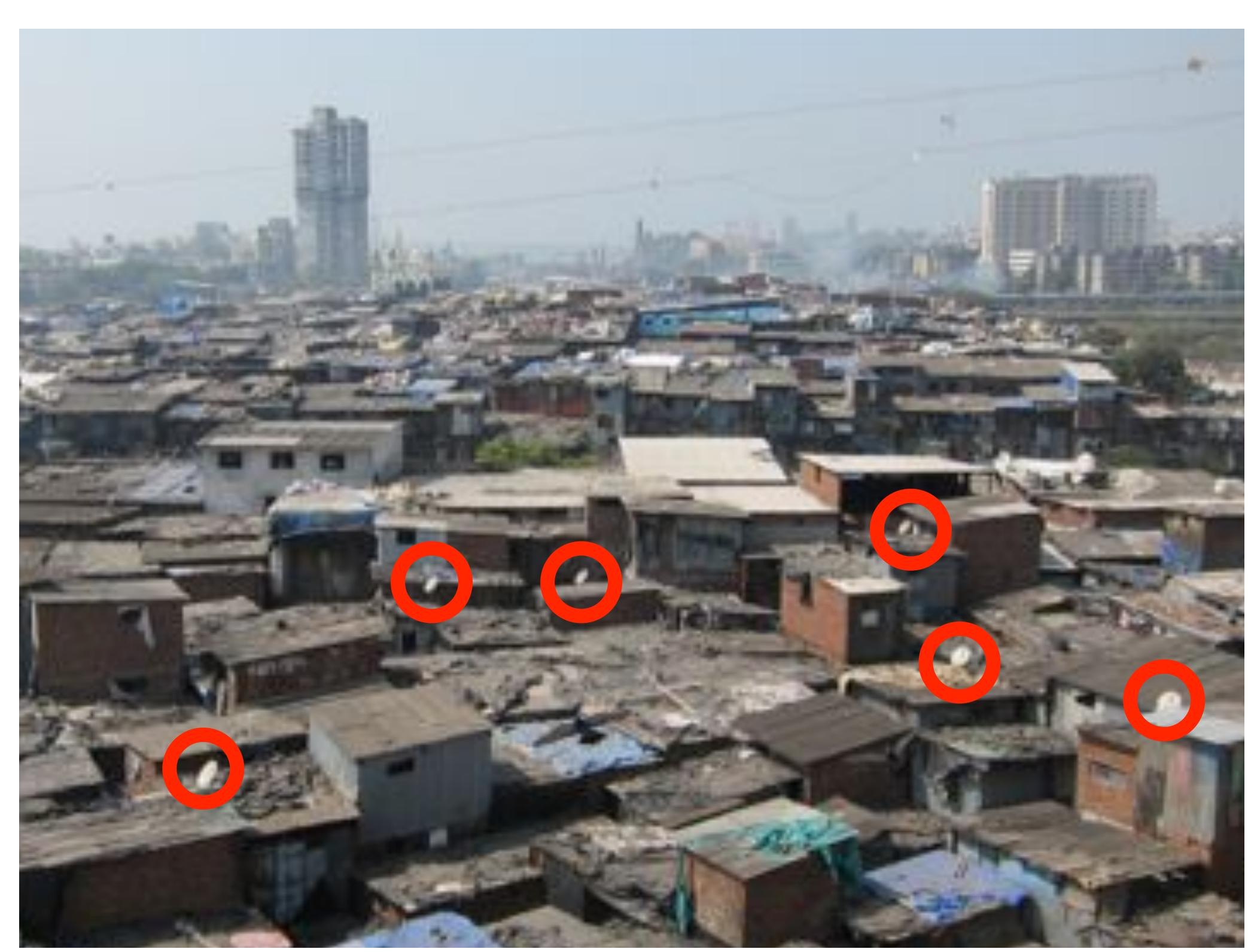
Recognized as the Mobile World Capital, Barcelona became one of the leading cities deploying a full NFC Experience, relying on Connecthings NFC tag

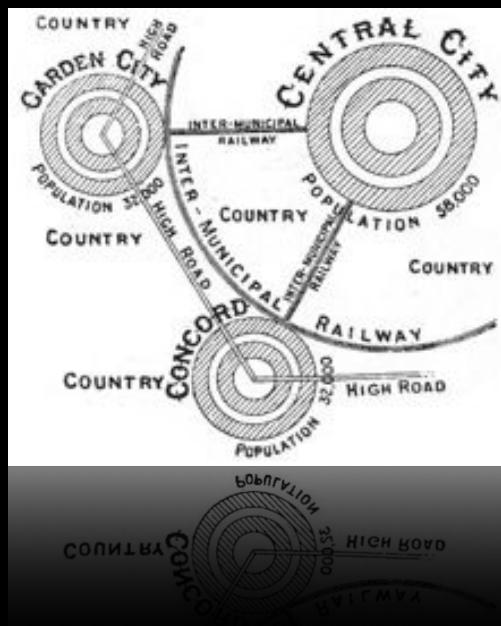
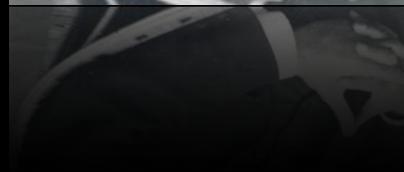
top-down vs. bottom-up  
corporate vs. entrepreneurial

but also...

technocratic master planned utopias  
vs.  
organic, participatory evolution







## A New Civics for a Smart Century

We have seen that putting the needs of citizens first isn't only a more just way to build cities. It is also a way to craft better technology, and do so faster and more frugally. And giving people a role in the process will ultimately lead to greater success in tackling

# A New Civics for Smart Cities

1. Opt In to Smart
2. Roll Your Own Network
3. Build a Web, Not an Operating System
4. Extend Public Ownership
5. Model Transparently
6. Fail Gracefully
7. Build Locally, Trade Globally
8. Cross-Train Designers
9. Think Long-Term in Real Time
10. Crowdsource with Care
11. Connect Everyone
12. Do Sound Urban Science
13. Slow Data

# Current & Future Projects

- Re-programming Mobility
- Cities of Data: Future of Urban Science and Data-Driven City Management

# Waze Crash Crashes Israel's Road Network





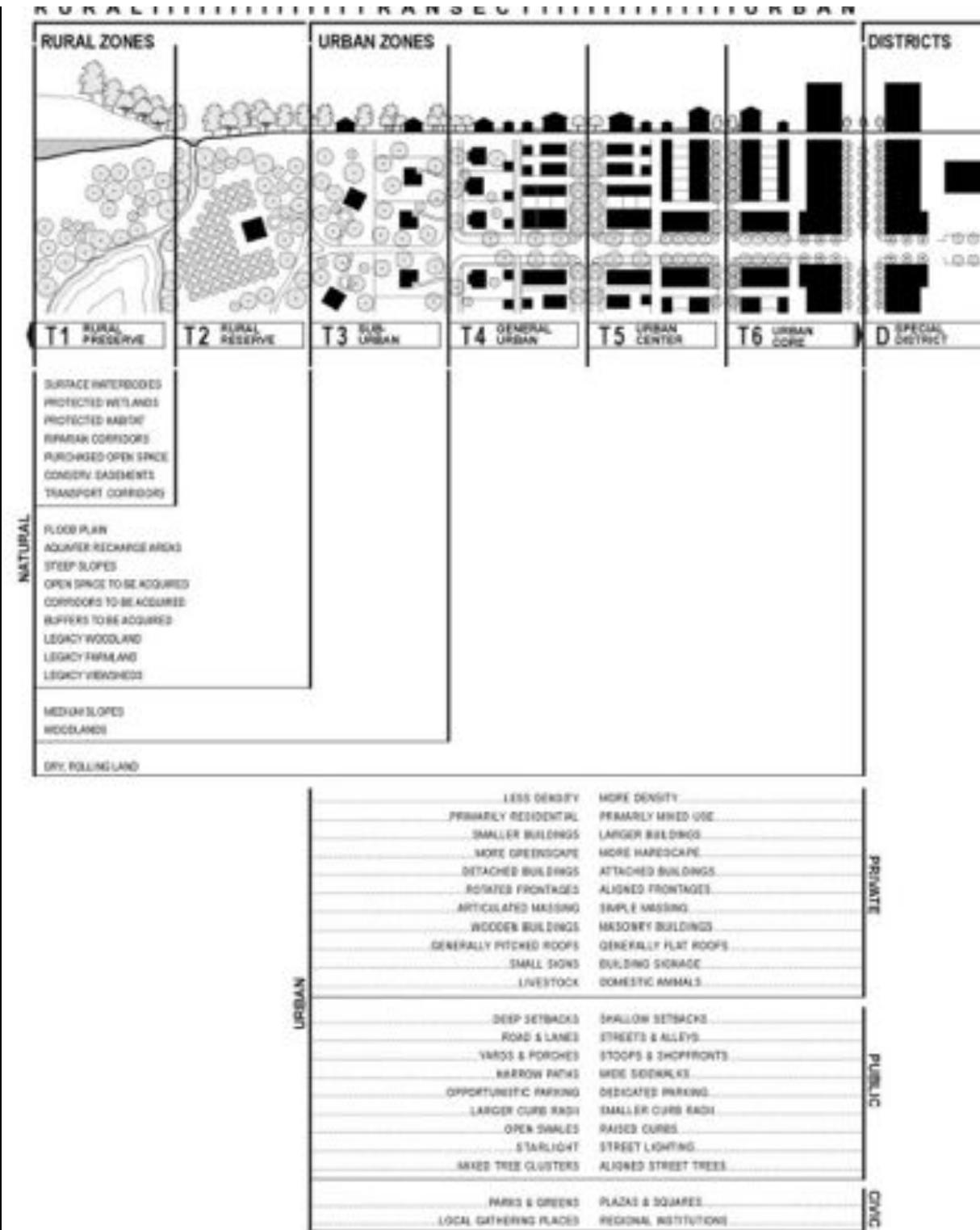
Electric motorcycle you can install apps on to get new capabilities: drifting, etc.

The Zimride website interface. At the top, it says "zimride" and "University of San Diego". Below that is a map of the San Diego area with numerous blue location markers. To the right of the map are sections for "Coordinate Origins" (listing San Diego, Chula Vista, Del Mar, Imperial Beach, and San Marcos) and "Travel Destinations" (listing Oceanside, Los Angeles, Malibu, San Diego, and Santa Barbara). There are also links for "New to Zimride?", "Additional Resources", and "Parking Services".

Carpooling software that reduces parking needs for colleges



Mining huge cell phone databases to track trips in detail



# Cities of Data: Projects, Pitfalls and Policy Implications of the New Urban Science and the Scientific Management of Cities

- What are the new crop of urban research centers actually doing? (e.g. CUSP, UCCD, ICRI Cities, ETH Singapore, etc.)
- What discoveries can we anticipate?
- What might be the applications of this new knowledge in urban management and planning?
- What are the tech transfer mechanisms? How will it intersect with the data-driven management wave in local govt.?
- What institutional impacts - good and bad?
- On a fundamental level - how will it change the way we think about cities?