

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.

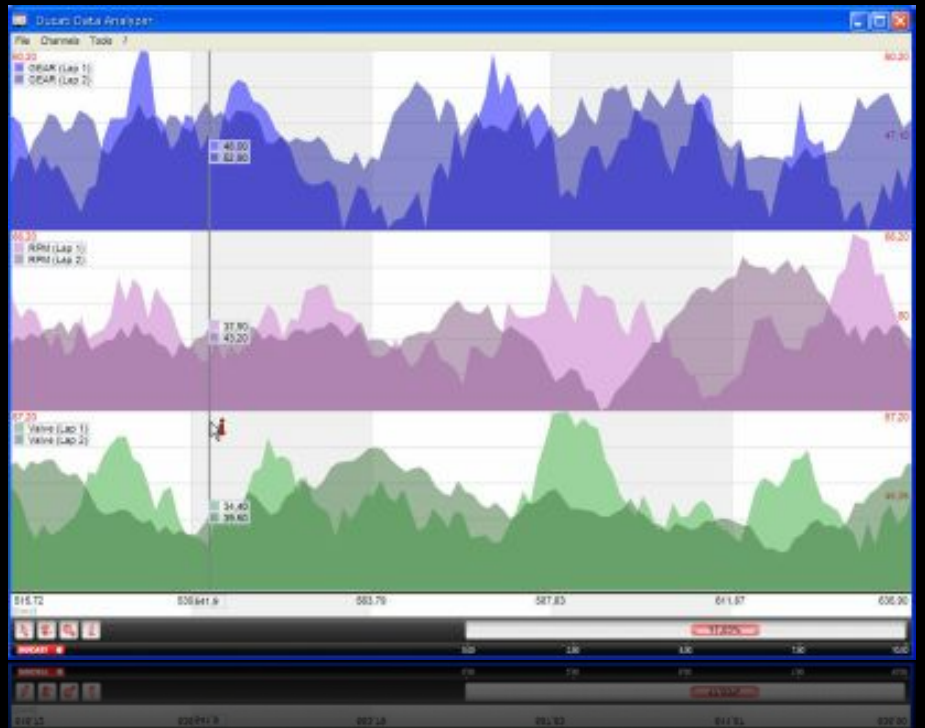
We are now an urban species.

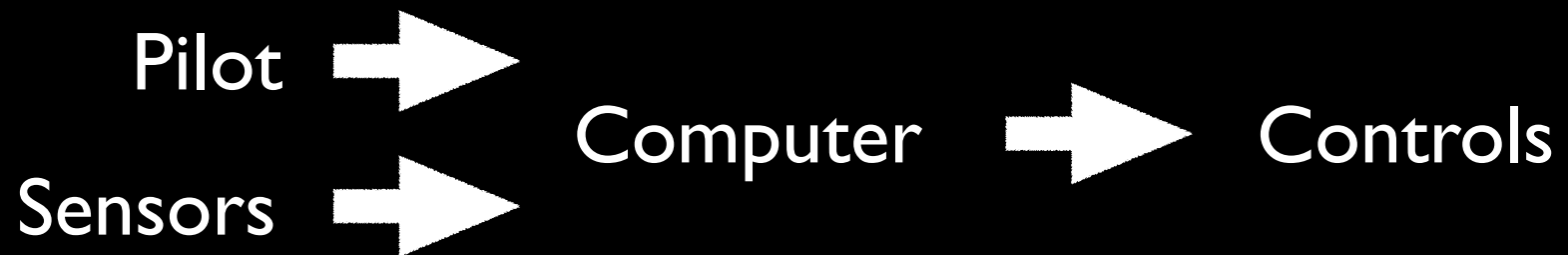
More mobile broadband subscribers than fixed.

The Internet has been untethered.

More things are connected than people.

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



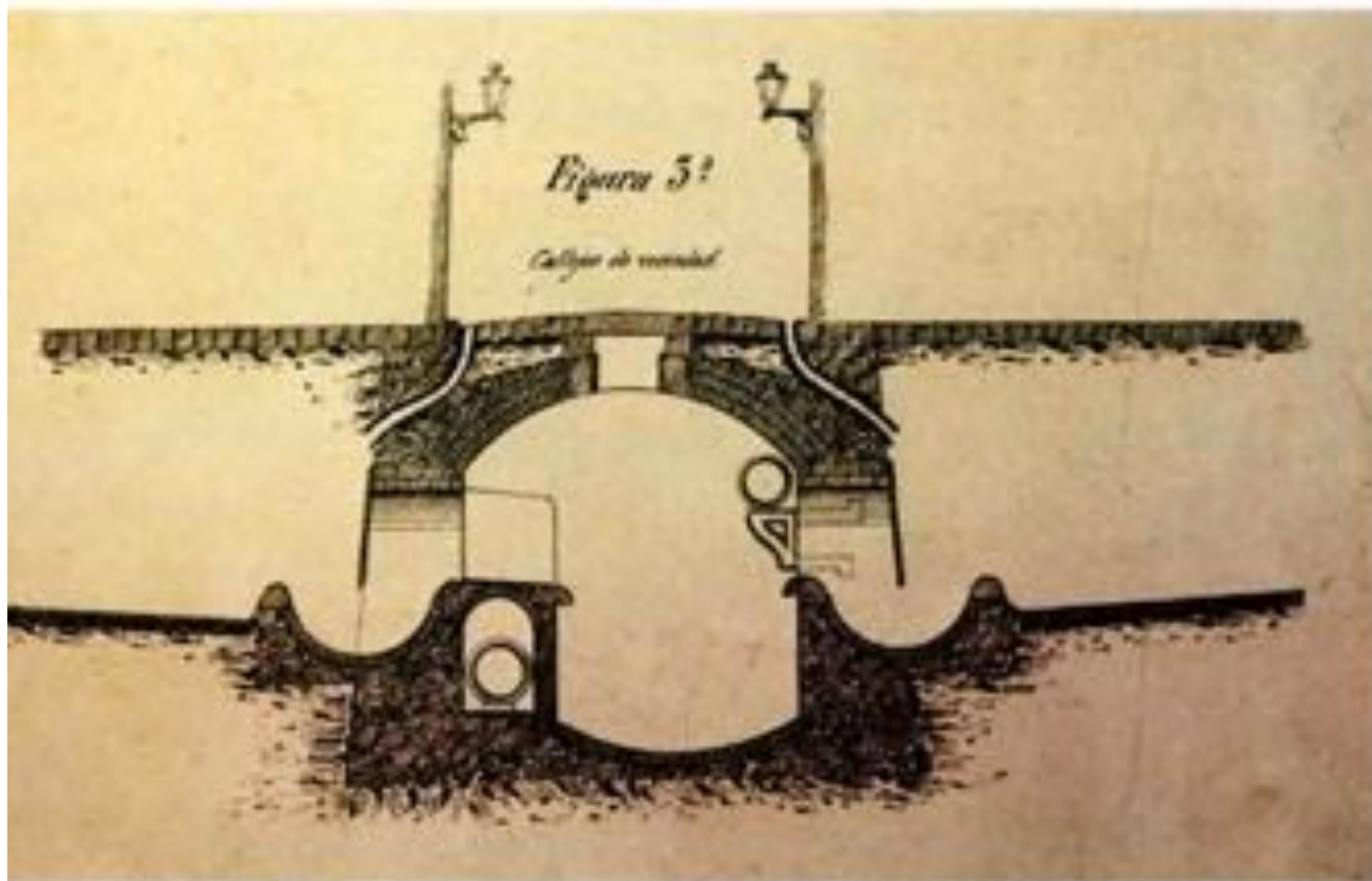




city of the telegraph

Barcelona 1855





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





POLICE

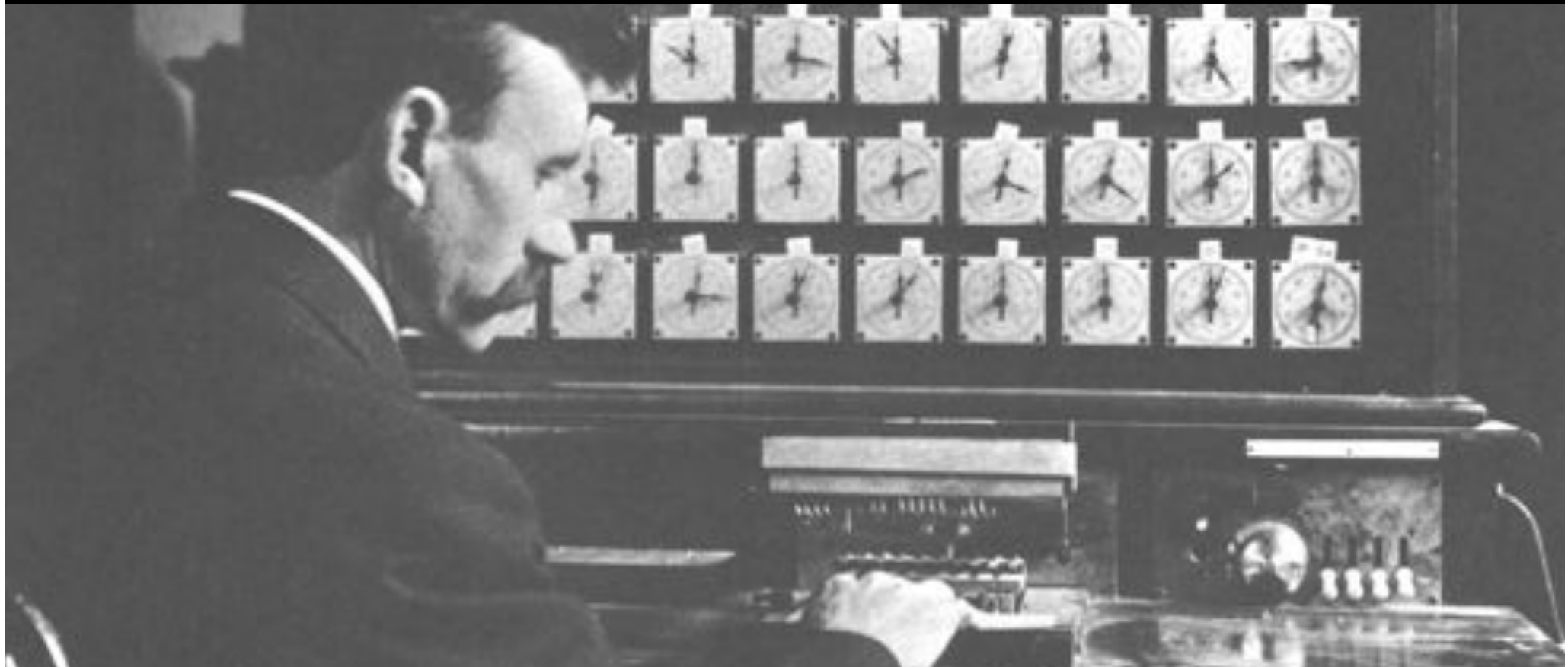


TELEGRAPH

52

THE GAMEWELL CO
NEW YORK







CENTRO DE OPERAÇÕES
PREFEITURA DO RIO





The storm has come off Typhoon Chenglei

The storm has come off Typhoon Chenglei



\$100 billion market opportunity



Department
for Business
Innovation & Skills

BIS RESEARCH PAPER NO. 138

**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 ...



Air Quality EGG

CARE ABOUT YOUR AIR

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.





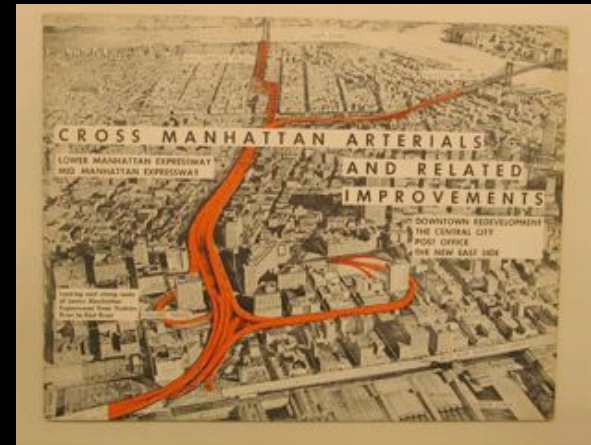




HereFeed



top-down



bottom-up







Adaptive Traffic Signal Control



Public Infrastructure

Street Maintenance

27

Percent of citizens satisfied

A  near target

[Detail >](#)

Public Transit

37

Percent of citizens satisfied

  needs improvement

[Detail >](#)

Water Line Repair and Restoration

100

Percent of all main breaks repaired and restored in 35 days or less

  on track

[Detail >](#)

Economic Development

Implement the AdvanceKC Plan

283,453

Total jobs

  measuring

[Detail >](#)

Make Kansas City a Destination

158,650

Hotel room nights booked

  needs improvement

[Detail >](#)

Streamline Business Practices

59

Percent of businesses satisfied

  needs improvement

[Detail >](#)

Invest in Under-developed Areas

85

Land Bank properties sold or under contract

  measuring

[Detail >](#)







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

A world map at night, showing the continents and oceans. The map is dark blue, and the city lights are glowing in yellow and white. The text is overlaid on the map.

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

1 2 3 4 5 6 7 8 9 10 ... Page size: 10

Showcase 1 to 10 of 139



Contactless tags to bridge real and virtual worlds

*Connectings 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



By tags

Clear

- 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 RECORD



"Barcelona Contactless Tour"

Recognized as the Mobile World Capital, Barcelona became one of the leading cities deploying a full NFC Experience, relying on Connectings NFC tag management platform and unattended beacon...

TRACK RECORD



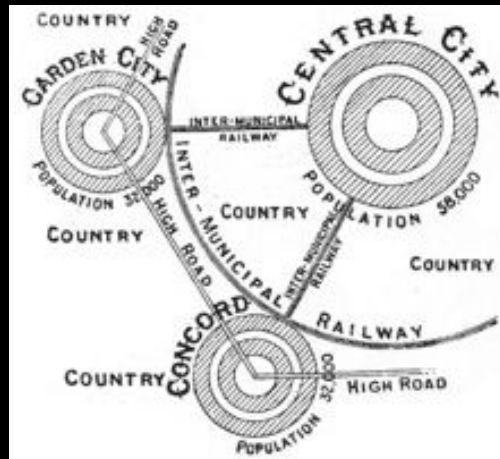
top-down vs. bottom-up
corporate vs. entrepreneurial

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. Crowdsourcing 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





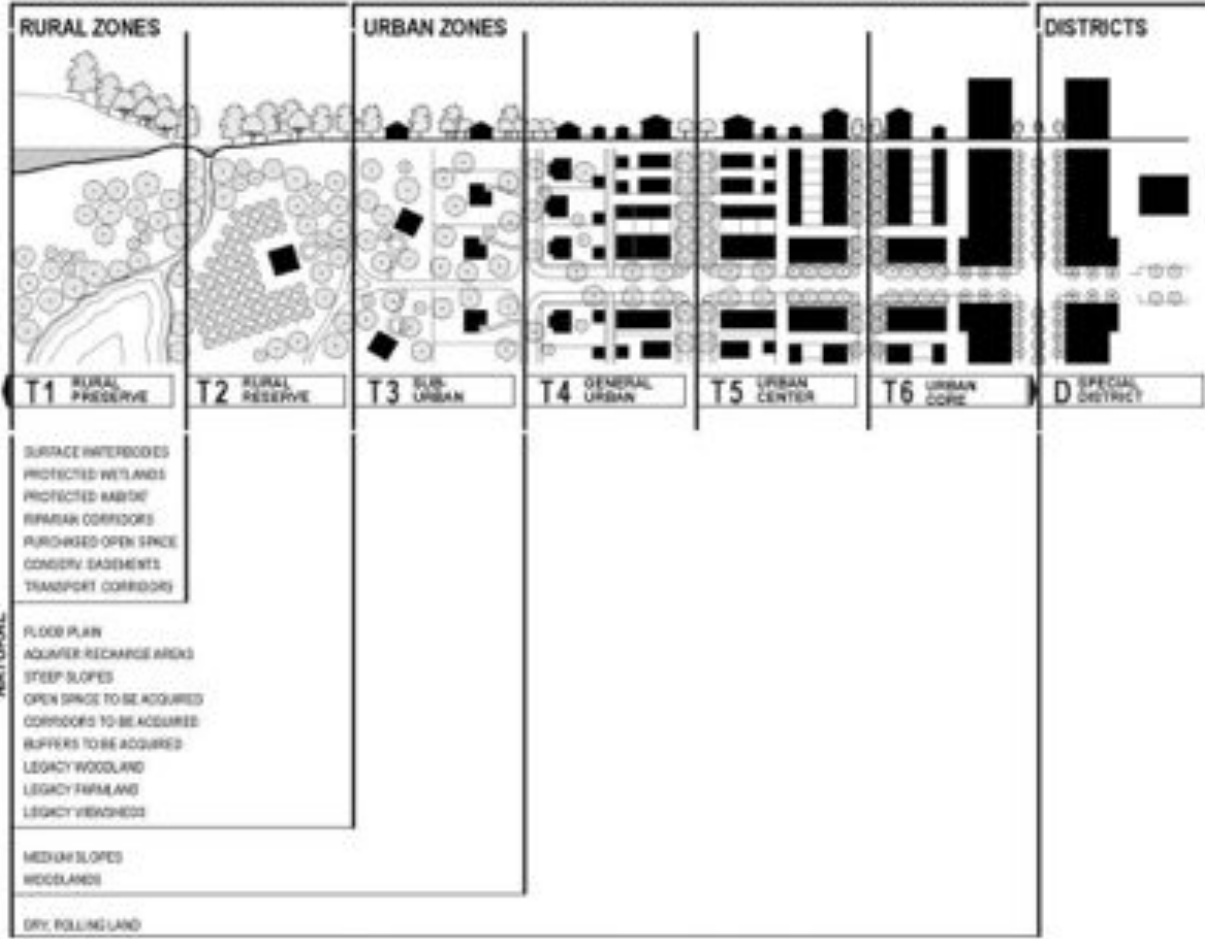
Electric motorcycle you can install apps on to get new capabilities: drifting, etc.



Carpooling software that reduces parking needs for colleges



Mining huge cell phone databases to track trips in detail



	LESS DENSITY	MORE DENSITY	
	PRIMARILY RESIDENTIAL	PRIMARILY MIXED USE	
	SMALLER BUILDINGS	LARGER BUILDINGS	
	MORE GREENSPACE	MORE HARDSCAPE	
	DETACHED BUILDINGS	ATTACHED BUILDINGS	PRIVATE
	ROOFED FRONTAGES	ALIGNED FRONTAGES	
	ARTICULATED MASSING	SIMPLE MASSING	
	WOODEN BUILDINGS	MASONRY BUILDINGS	
	GENERALLY PITCHED ROOFS	GENERALLY FLAT ROOFS	
	SMALL SIGNS	BUILDING STORAGE	
	LIVESTOCK	DOMESTIC ANIMALS	
URBAN	DEEP SETBACKS	SHALLOW SETBACKS	
	ROADS & LANES	STREETS & ALLEYS	
	YARDS & PORCHES	STOOPS & SHOPFRONTS	
	NARROW PATHS	WIDE SIDEWALKS	PUBLIC
	OPPORTUNISTIC PARKING	DEDICATED PARKING	
	LARGER CURB RADI	SMALLER CURB RADI	
	OPEN SVALES	RAISED CURBS	
STARLIGHT	STREET LIGHTING		
WAVED TREE CLUSTERS	ALIGNED STREET TREES		
	PARKS & GREENS	PLAZAS & SQUARES	CIVIC
	LOCAL GATHERING PLACES	REGIONAL INSTITUTIONS	

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?