

# *Beyond Smart Cities*

*Innovation and Sustainability: How Do  
Cities Know?*

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# Content

- What are smart cities?
- The need to know and the underground economy of knowledge
- Features of learning–
  - What, how, benchmarks
- Emerging Areas for Future Learning
- Conclusions

# Smart cities

- IBM – wired and sensed
- Kantor– information rich, plugged in civil society
- NRDC – environmental stewardship and sustainable growth
- Carol Coletta-- best practices

# Beyond Smart

= personal element--  
exchange and trust

- Plugged-in, information rich, high tech, best practices = looks smart, interesting information, but not generative
- Beyond smart = sustained learning and innovation--agreement and trust in interpretation and application
- Intelligent cities?

# Cities rising-- the need to know

Beaverstock and Taylor, Sassen Global city connections

Observed high and increasing volume of exchange.

Atlanta, Denver, Seattle, other cities

Global cities unions, Metropolis, EuroCities, ICLEI, Healthy cities

150 city exchange organizations (Keiner 2007)

# Urban Age Learning Cities Project

## ■ Purposes

- Why don't cities learn?
- Explore cities as learning entities
- Identify key factors to accelerate innovation

## ■ Sources:

- Atlanta, Denver, Seattle and others
- Literature and documents
- Interviews of selected participants in the planning and implementation of cities

# Skating over the literature

- Organizational learning
  - tacit to explicit. Schon, Nonaka, Polyani, Easterby-Smith
- Capacity building and governance
  - social capital, embeddedness, networks participation. Putnam, Uphoff, Ostrom
- Regional competitiveness
  - external factors of success– clusters, trust, innovative milieu, Porter, Camagni, Polenske
- Knowledge economies
  - Archibugi and Lundvall

# UAI data sources

- Wide--Web based survey– 45 cities with Metropolis, UCLG, CityNet, others
- Deep– extended interviews in 4 cities
  - Senior Fellow, German Marshall Fund



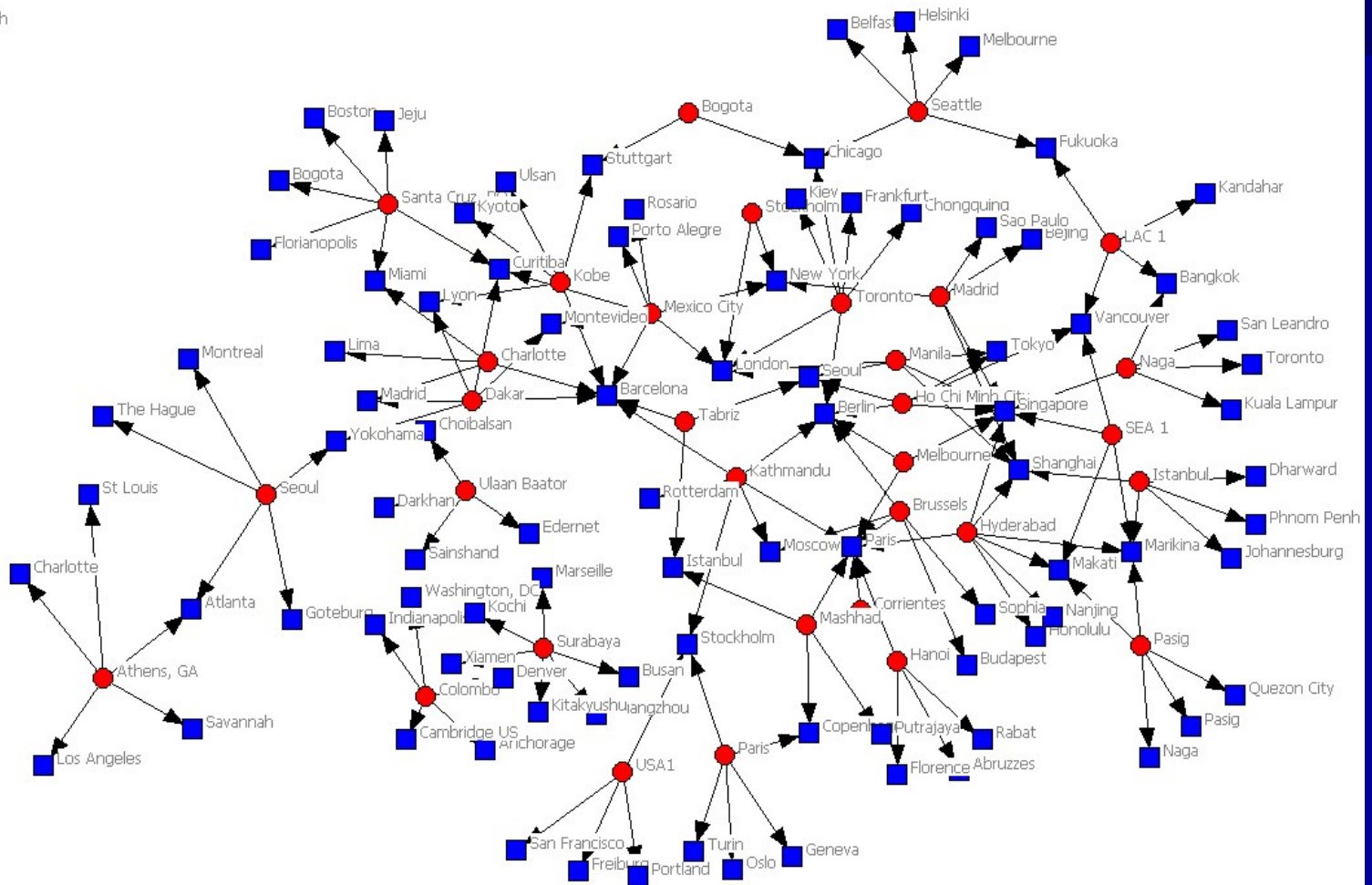
# Wide Number of Study Tours and Exchanges Per year by City Type (percent)

Num-ber	Total	Re-form	Non	OEC D
1-3	4	0	0	0
4-6	8	7	20	0
7-10	16	14	60	0
>10	64	71	20	100
DN	8	7	0	0

Over a 5 year period, big city exchanges number in the thousands

# Selective City Visits (n=45)

- Masbate
- Phnom Penh
- Mazatlan
- Phoenix
- San Diego
- San Jose



# Investment in Learning

(time spent by individual respondents)

Average time spent on learning is equivalent to 4-12 %

## ■ Benchmarks

- EU investment 3-6 % of GDP in OECD
- World Bank 5% of admin budget
- US Corporations 5-7 % (O'Leonard)

# Source of Learning: impact (90 cities named)

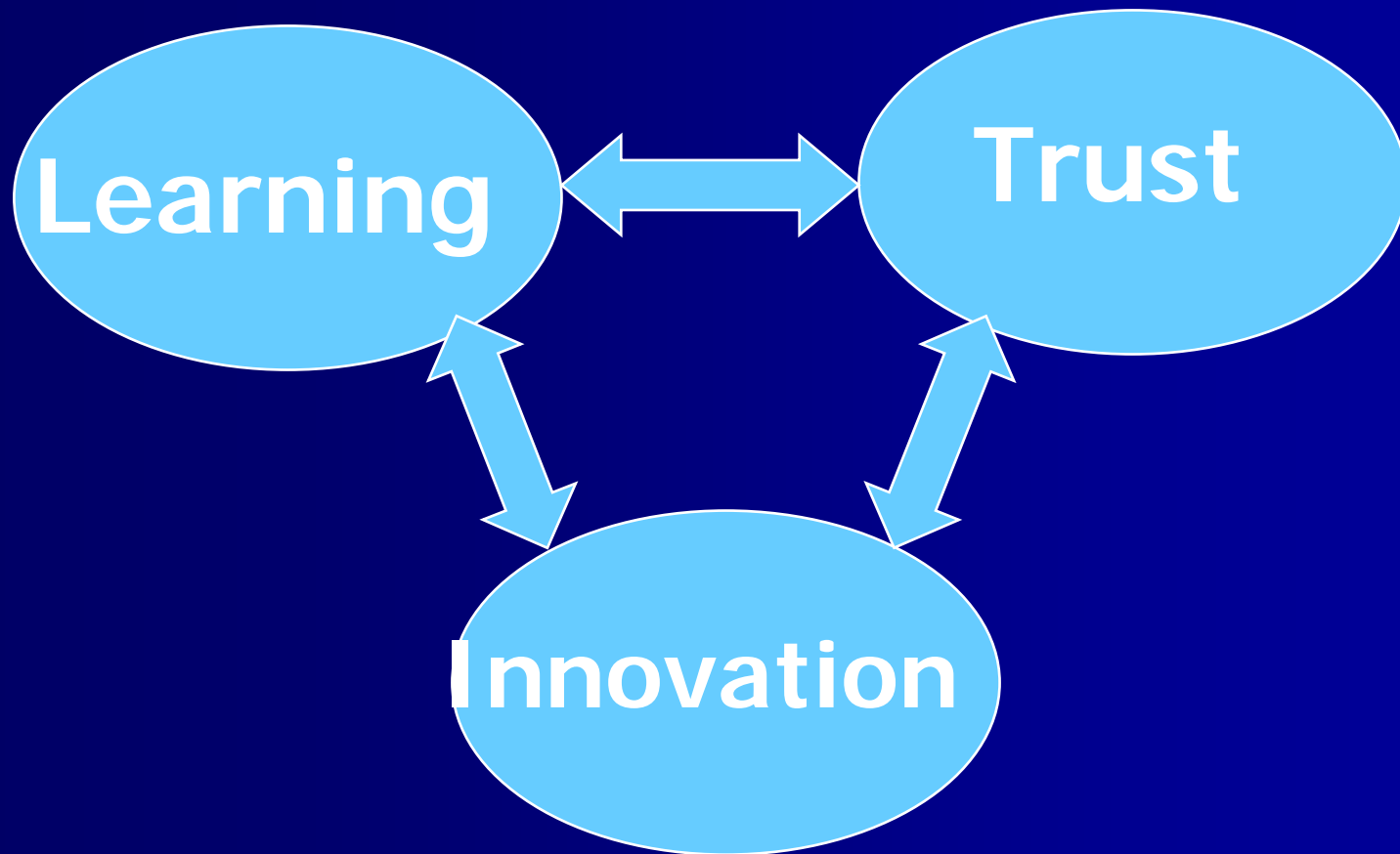
Modality	Overall	Re-formers
In house	3.8	3.8
Consultants	3.2	3.4
Universities	3.4	3.2
Prof pubs/rpts	3.3	3.3
City to city	4.3	4.4
Associations	3.8	3.8
Prof organztns	3.8	3.8

# Diving Deeper

## Boeing in Shanghai

- ....best training money can buy
- Get to know the customer
- Get to know ourselves
  
- Relationship building, bonding

# Learning, trust and innovation



# Framework for Case Observations

- Why learn– crisis or transformation
- Who learns– agency, dedicated or not
- Modalities of learning--various mechanisms
  - Exchange with other cities,
  - Professional associations,
  - Personal relationships in “floating” networks
  - Many others– think tanks, chambers, universities
- Capacity to learn– cities have to invest

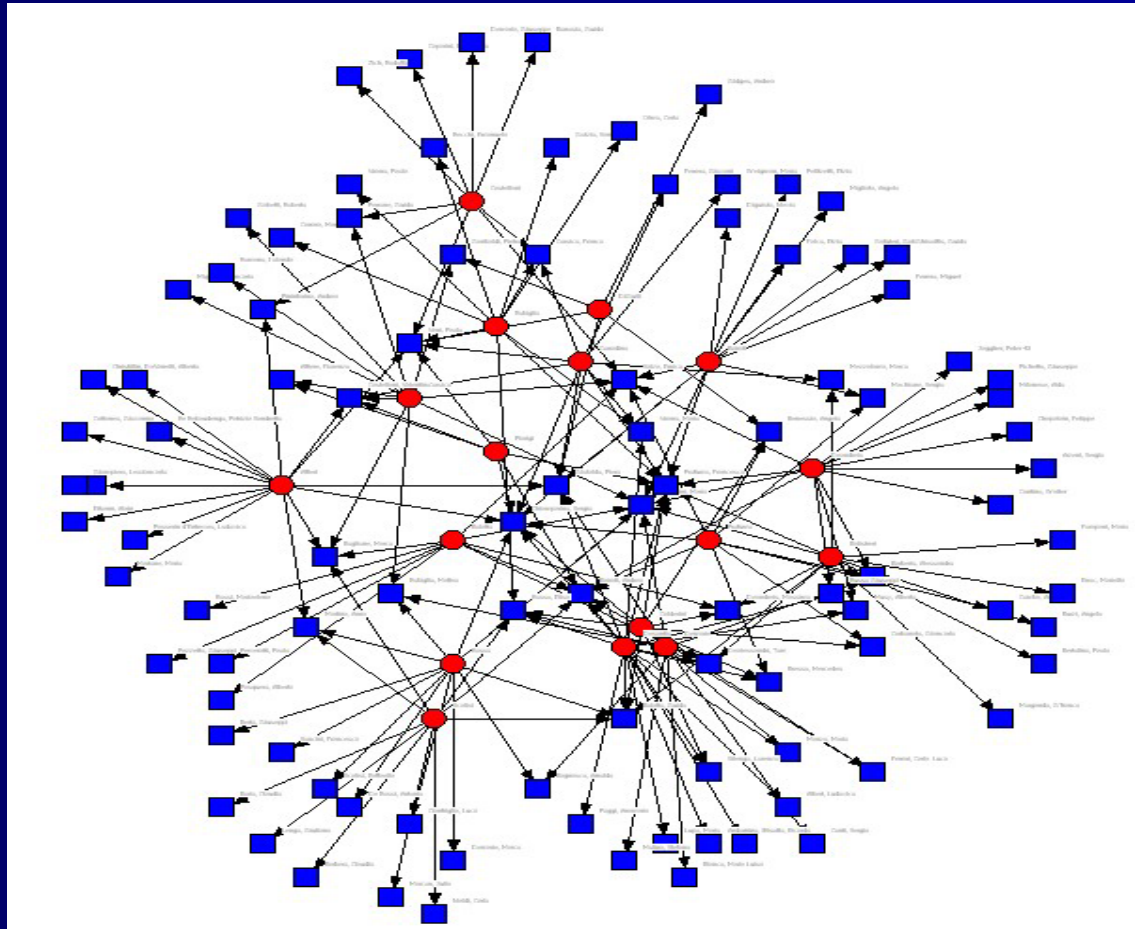
# Framework for Case Observations in 4 cities

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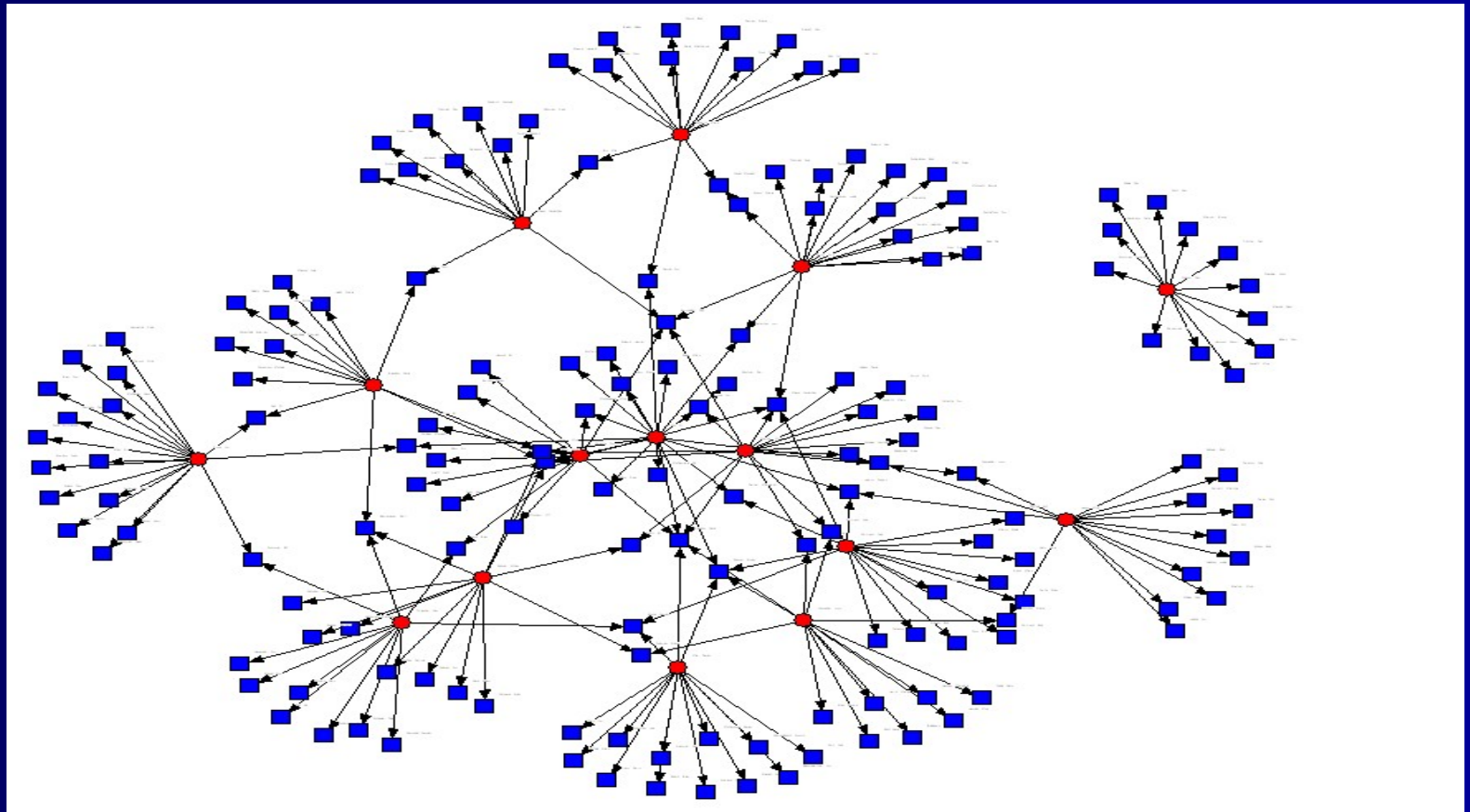
# Turin Network

## Tight cluster

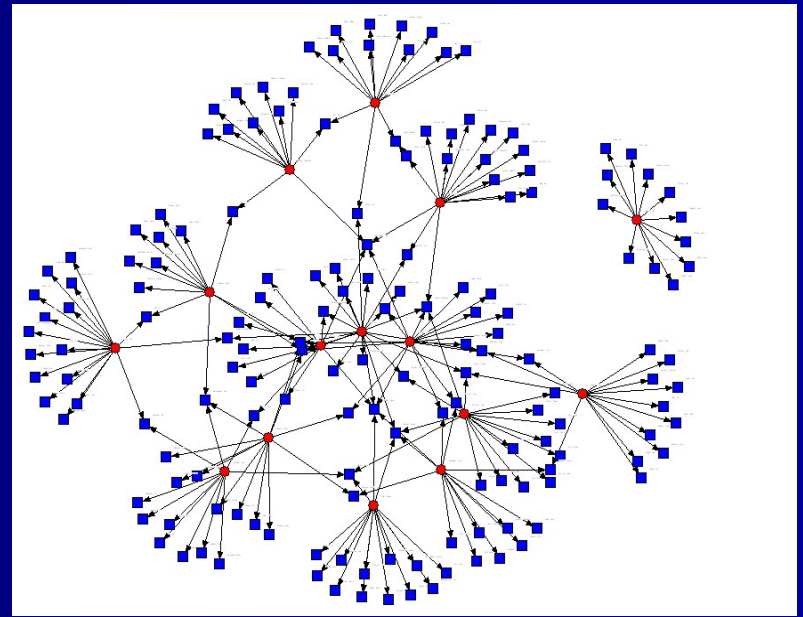
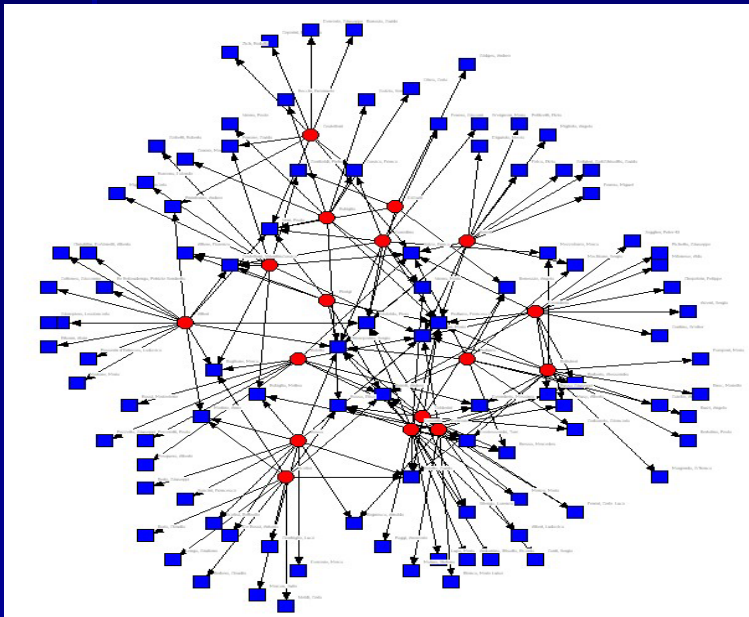


# Portland

## Clusters of lose ties



# Turin and Portland



# Coherence measures

Measure	Turin	Portland
Density	.10	.08
Avrg. Distance	3.57	4.43
Diameter	6	8

# Comparative view

Learning	Torino	Portland
Social capital	Fragmented by age	Fragmented by sector
Networks	Tight, but closed	Loose, but open

# Counterfactuals

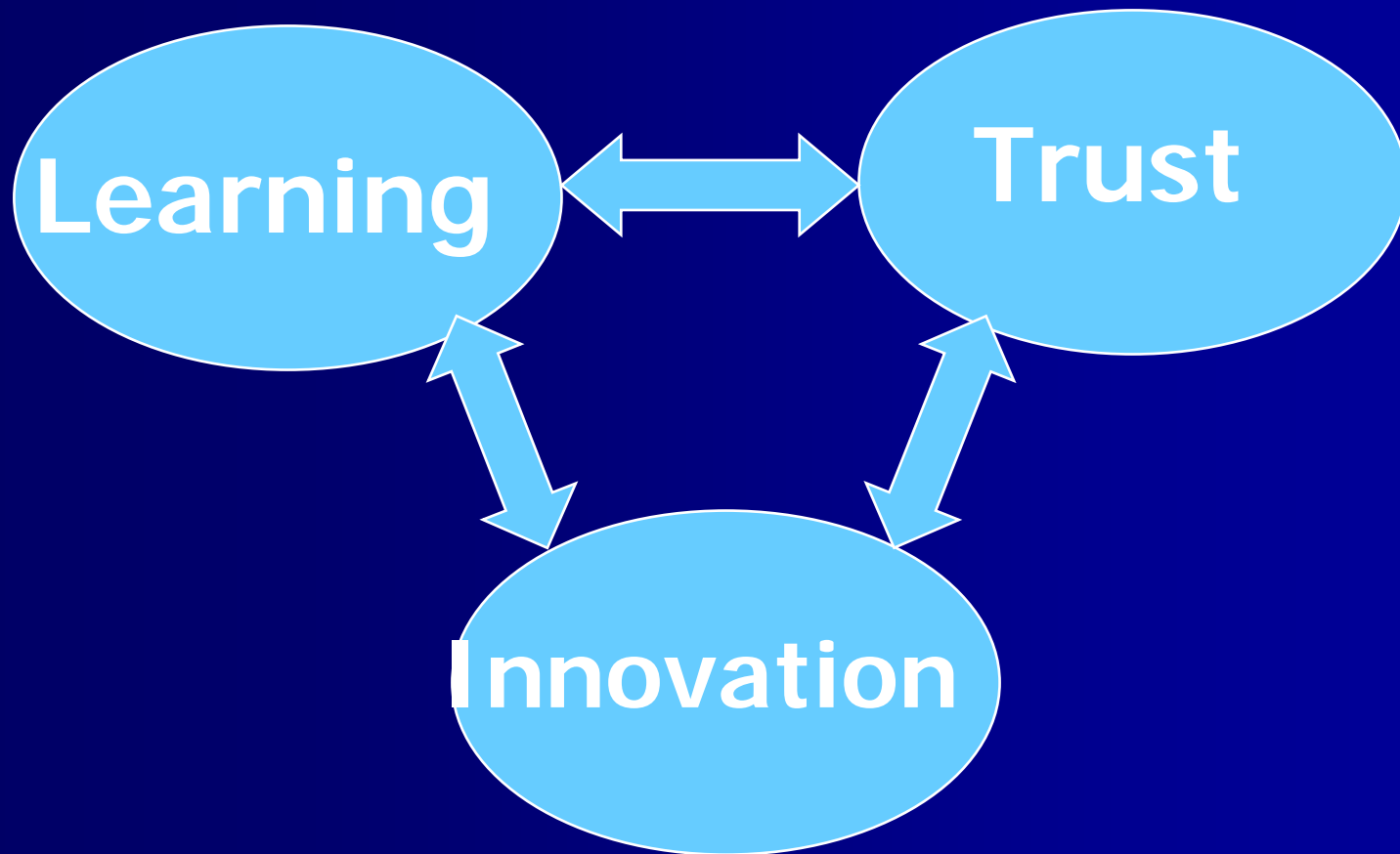
## What about failures?

- Mumbai  
Got organized, but didn't pull in main stakeholders
- Johannesburg  
Got organized with stakeholders, but fell into political battles
- Tarragona  
Surveyed citizens, went with popular feeling (industry, not tourism)
- Bangalore  
Private sector building on past foundations, but public can't manage land

# Question marks– typical new learning areas. The “What” of learning

- Financial implications (e.g. economy, credit worthiness, management)
  - Transit (finance, high speed train)
  - Public private arrangements
  - Competitiveness
  - Youth and global talent
- Governance
  - Leadership and transitions
  - Coherence of view
  - Metropolitan governance

# Learning, trust and innovation





# Lessons About How Cities Know

- Smart cities are deliberate about innovation
- They need foundations for learning
- Attachment, hope, competitiveness help to gauge position
- Learning strategies can help
- Invest in knowledge

# Thanks

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