

Beard, Chair
Stinnett, Vice Chair
Gorton
Ellinger
Crosbie
Myers
Lane

A G E N D A
ECONOMIC & COMMUNITY
DEVELOPMENT COMMITTEE
March 15, 2011
1:00 P.M.

1. **Quarterly Update on Development Activities** - Gorton
2. **IBM Smarter Cities Project** - Gorton (1-56)
3. **Items Referred to Committee** (57)

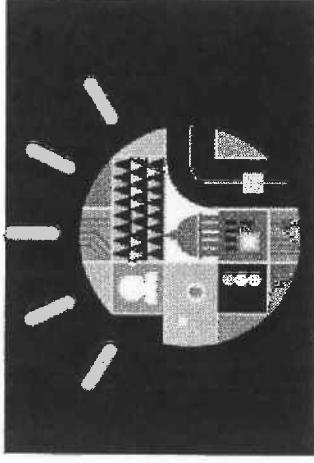
"Economic & Community Development Committee, to which shall be referred matters relating to the Office of Economic Development, the Division of Community Development, related partner agencies, and other matters relating to community & economic development."

-Council Rules & Procedures, Section 2.102(1)

Effective January 1, 2011. Adopted by Urban County Council October 14, 2010

Committee Meeting Schedule 1:00 PM except noted

March 15
April 19
June 14
August 23
October 18



Smarter Cities Assessments

Review of the City of Lexington

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Agenda

- Review Lexington's position in the IBM Smarter City Assessment Study
- Review Lexington's position in IBM Operational Efficiency Benchmarking Study
- Recommended next steps for Lexington



IBM's Smarter Government Campaign was formed to help Federal, State and Local governments answer one question:



How can governments inject intelligence into
decision support processes, business operations
and public infrastructure to improve performance
and drive better outcomes?



We do this by helping governments become more instrumented,
interconnected, and intelligent



INSTRUMENTED

We now have the
ability to measure,
sense and see the
exact condition of
just about everything

INTERCONNECTED

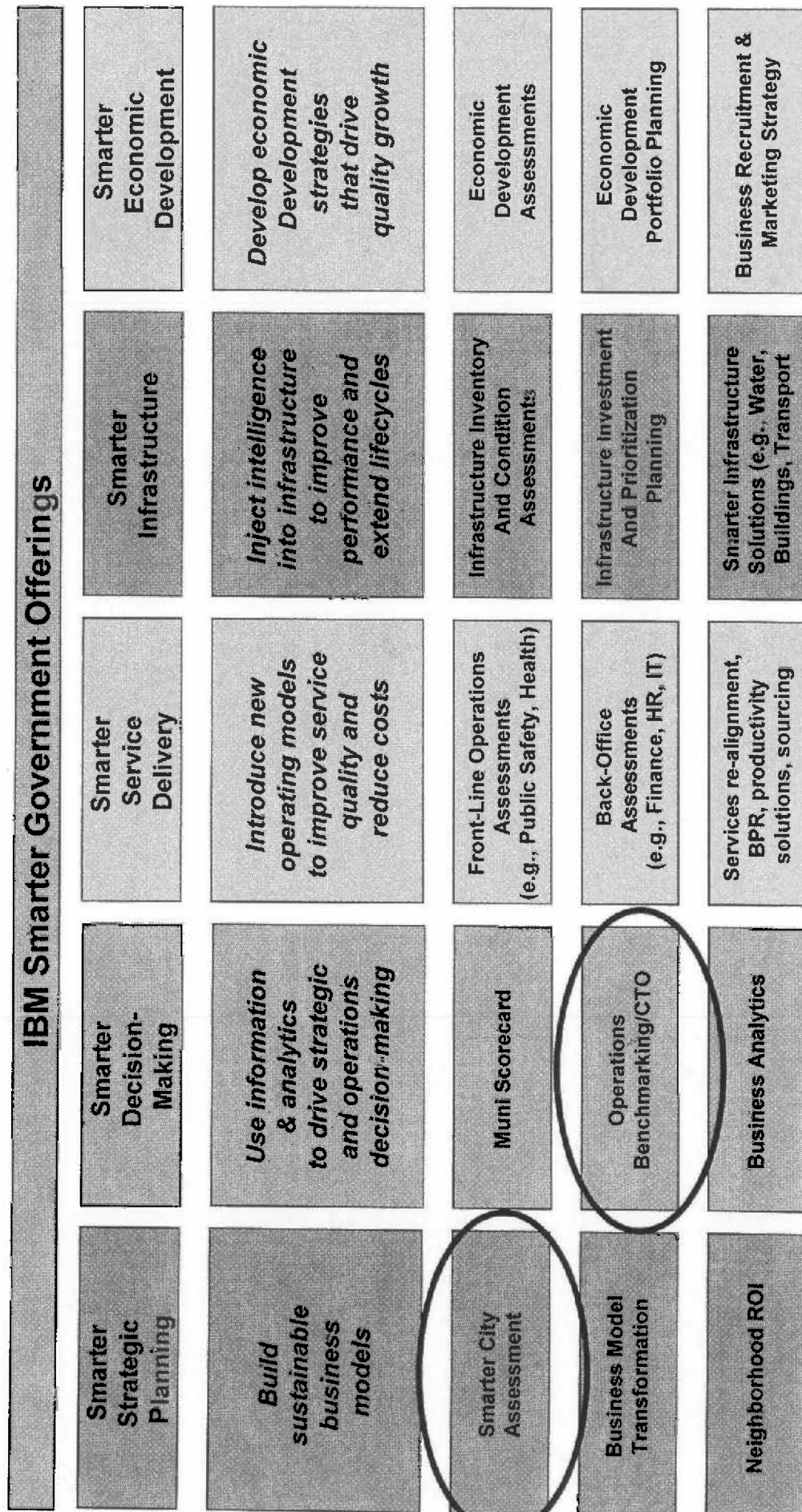
People, systems and
objects can
communicate and
interact with each
other in entirely new
ways

INTELLIGENT

We can respond to
changes quickly,
accurately and securely,
and get better
results by predicting
and optimizing
for future events



IBM has developed a portfolio of offerings to help governments deal with their critical strategic issues





The Smarter City Assessment evaluates cities in seven core functional areas

System	Elements	Instrumentation	Interconnection	Intelligence
City services	- Public service management - Local government administration	Creation of local authority management information system	Interconnected service delivery	Immediate and joint-up service provision
Citizens	- Health and education - Public safety - Government services	Patient diagnostic and screening devices	Interconnect records for doctors, hospitals and other health providers	Patient-driven pre-emptive care
Business	- Business environment - Administrative burdens	Data gathering about use of online business services	Interconnect stakeholders across city's business system	Customized service delivery for businesses
Transport	- Cars, roads - Public transport - Airports, seaports	Measuring traffic flows and toll use	Integrated traffic, weather and traveller information services	Road pricing
Communication	- Broadband, wireless - Phones, computers	Data gathering via mobile phones	Interconnect mobile phones, fixed line, broadband	Information for consumers on city services, on their own time
Water	- Sanitation - Freshwater supplies - Seawater	Gather data for water quality monitoring	Interconnect businesses, ports, energy users of water	Quality, flood and drought response
Energy	- Oil, gas - Renewable - Nuclear	Fit sensors to gather data on usage across the energy system	Interconnect appliances and devices between energy consumers and providers	Optimize the use of the system and balance use across time

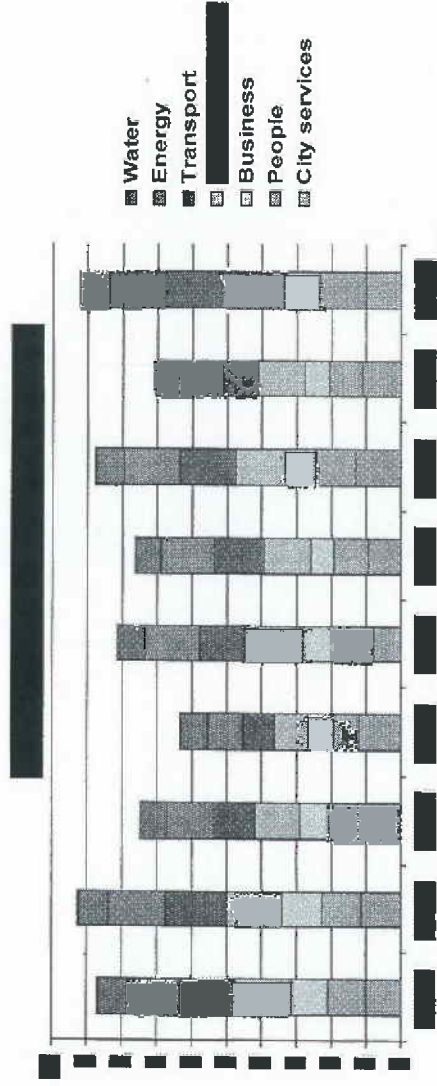
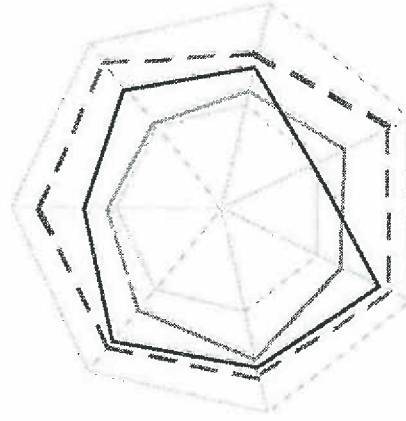
Source: IBM Institute for Business Value analysis.



The result is an assessment of the current state of cities on the different systems

Smarter City Assessment Tool

- The Smarter City Assessment Tool assesses city performance against indicators for each of the Smarter City systems
- Allows benchmarking of a city's overall capabilities against peer locations, and best practice
- The Tool identifies challenges that cities face and where improvements can be made





The most recent assessment was conducted in 2010 and includes 21 North American cities; Lexington is city "P"

City Profiles

City Identifier	Region	Relative Population Size	Relative Geographic Size (square miles)
A	West	750K - 1M	<50
B	Northeast	500 - 750K	<50
C	South	500 - 750K	100 - 150
D	Midwest	>2M	200 - 250
E	South	750K - 1M	250 - 300
F	Northeast	1 - 1.5M	100 - 150
G	South	1 - 1.5M	400 - 450
H	West	1.5 - 2M	450+
I	South	500 - 750K	50 - 100
J	Midwest	750K - 1M	300 - 350
K	Canada	100 - 250K	<50
L	Midwest	250 - 500K	50 - 100
M	South	250 - 500K	150 - 200
N	South	>100K	250 - 300
O	Midwest	750K - 1M	100 - 150
P	South	250 - 500K	250 - 300
Q	Canada	250 - 500K	50 - 100
R	South	100 - 250K	50 - 100
S	West	1 - 1.5M	300 - 350

City Cohorts

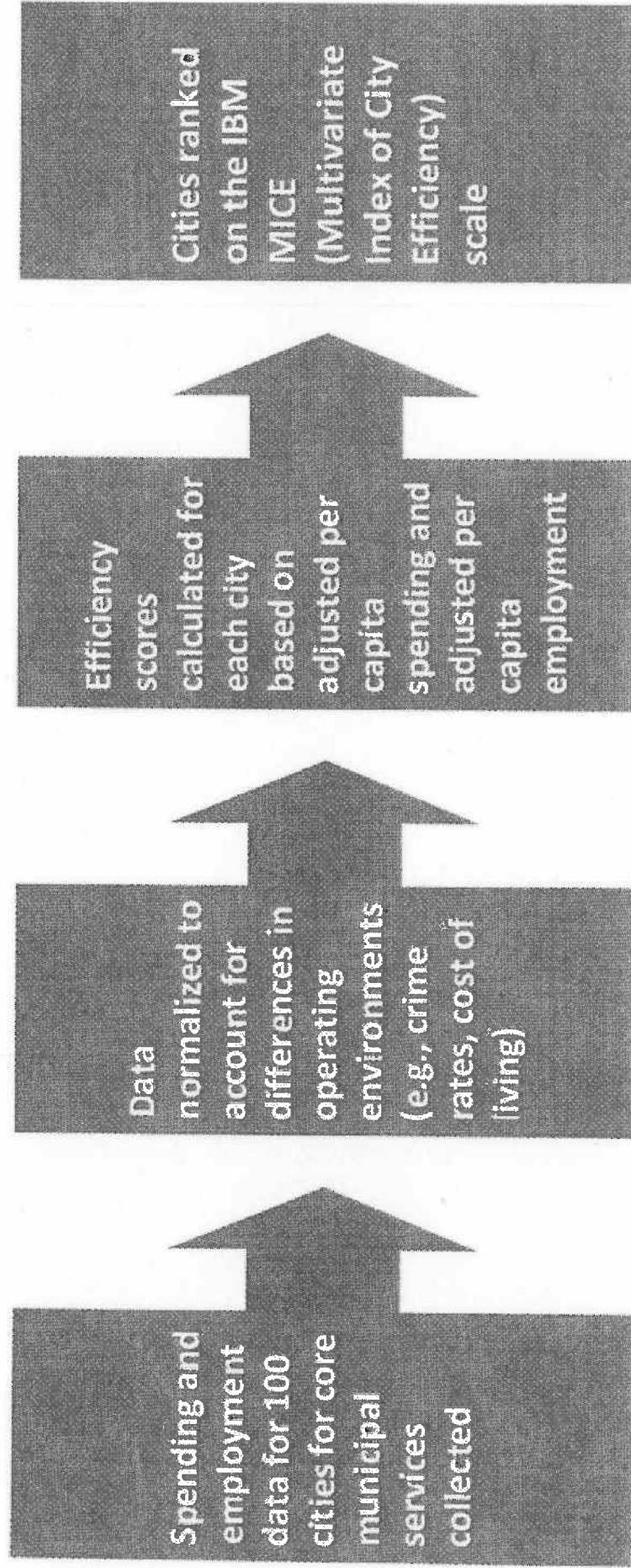
Region	Cities
Canada	K, Q
Midwest	J, D, L, O
Northeast	B, F
South	R, C, E, G, I, M, N, P
West	A, H, S

Relative Population Size	Cities
<250K	K, N, R
250 - 500K	L, M, P, Q
500 - 750K	B, C, I
750K - 1M	A, E, J, O
1 - 1.5M	F, G, S
1.5M+	D, H



To help cities identify opportunities for cost reduction, IBM has benchmarked 100 large US cities

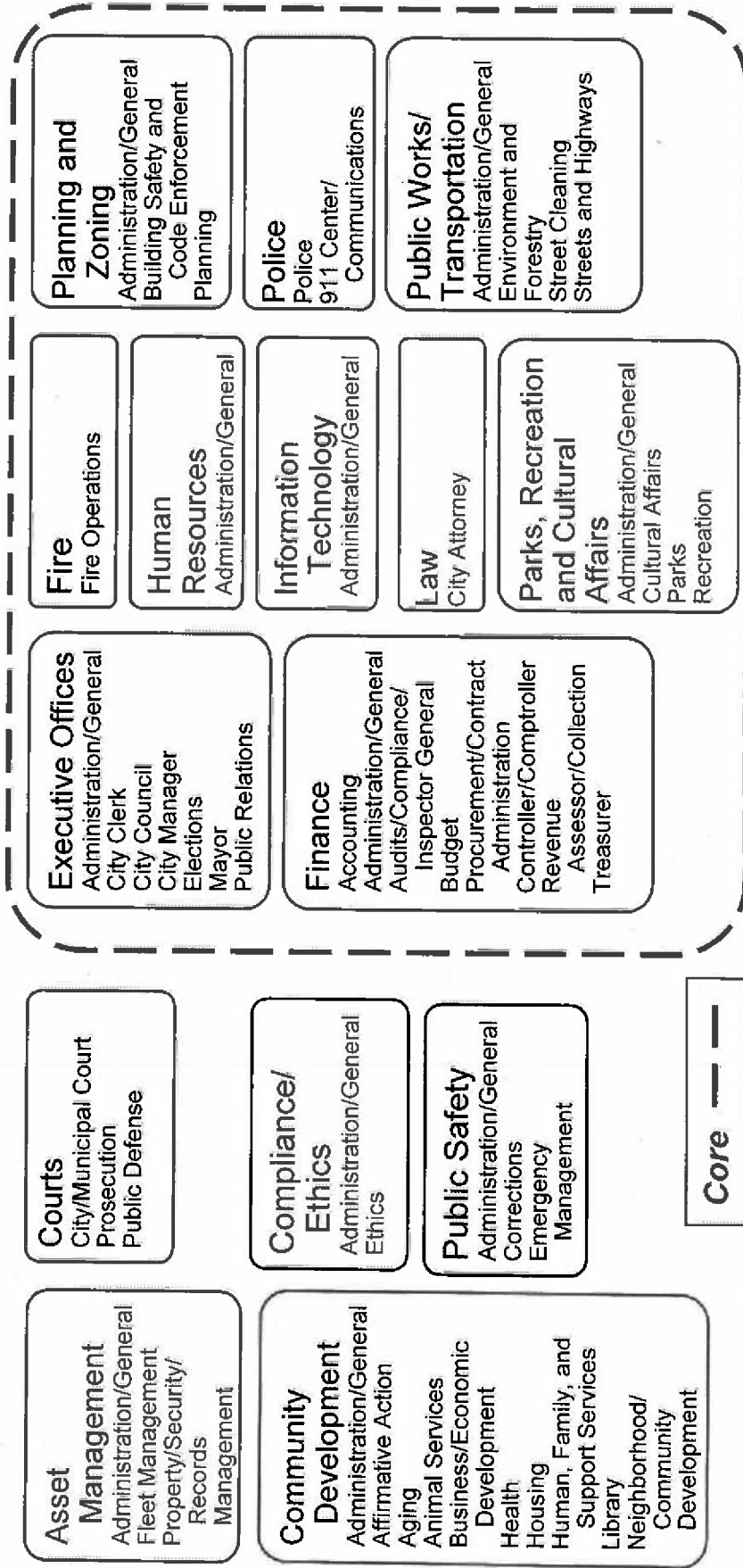
Operations Efficiency Benchmarking Methodology





The benchmarking study focused on “core” municipal services

- Collected spending and employment data in 52 categories; 40 categories (79% of total) included in the “core” service efficiency analysis
- Required judgment calls regarding department categorization
 - Every city uses its own terminology; data allocated on a “best efforts” basis
 - Data sourced from the most recently adopted budget (usually FY2011)





The study includes 100 US cities

Akron	Columbus GA	Kansas City	Oakland	San Diego
Albuquerque	Corpus Christi	Knoxville	Oklahoma City	San Francisco
Anaheim	Denver	Laredo	Omaha	San Jose
Arlington TX	Des Moines	Las Vegas	Orlando	Santa Ana
Atlanta	Detroit	Lexington	Overland Park	Scottsdale
Aurora	Durham	Lincoln	Peoria	Seattle
Austin	El Paso	Long Beach	Philadelphia	Shreveport
Bakersfield	Fort Worth	Los Angeles	Phoenix	Springfield
Baltimore	Fresno	Louisville	Pittsburgh	St. Louis
Birmingham	Ft Lauderdale	Lubbock	Plano	St. Paul
Boston	Garland	Madison	Portland	St. Petersburg
Chandler	Gilbert	Memphis	Raleigh	Stockton
Charlotte	Glendale	Mesa	Reno	Tampa
Chesapeake	Greensboro	Miami	Richmond	Thousand Oaks
Chicago	Hialeah	Milwaukee	Riverside	Tulsa
Chula Vista	Honolulu	Minneapolis	Rochester	Virginia Beach
Cincinnati	Houston	Nashville	Sacramento	Wichita
Cleveland	Huntington Beach	New Orleans	Salem	Winston-Salem
Colorado Springs	Irvine	Newark	Salt Lake City	Worcester Mass
Columbus	Jacksonville	Norfolk	San Antonio	Yonkers



Based on results of the Smarter City Assessment and the Operations Efficiency Benchmarking Study, IBM recommends two courses of action

- Design and implement an Operations Efficiency Program
- Develop and launch a Smarter Cities Solutions Program

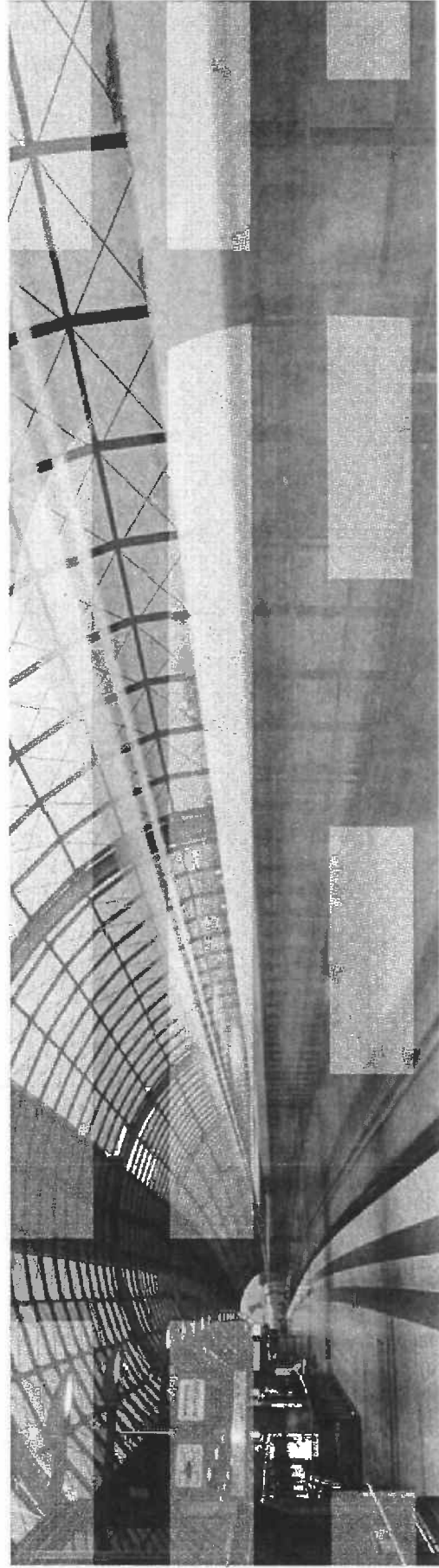


Questions?



Smarter City Assessment Study

North America



Content

Introduction to Smarter City Assessment Study

Methodology

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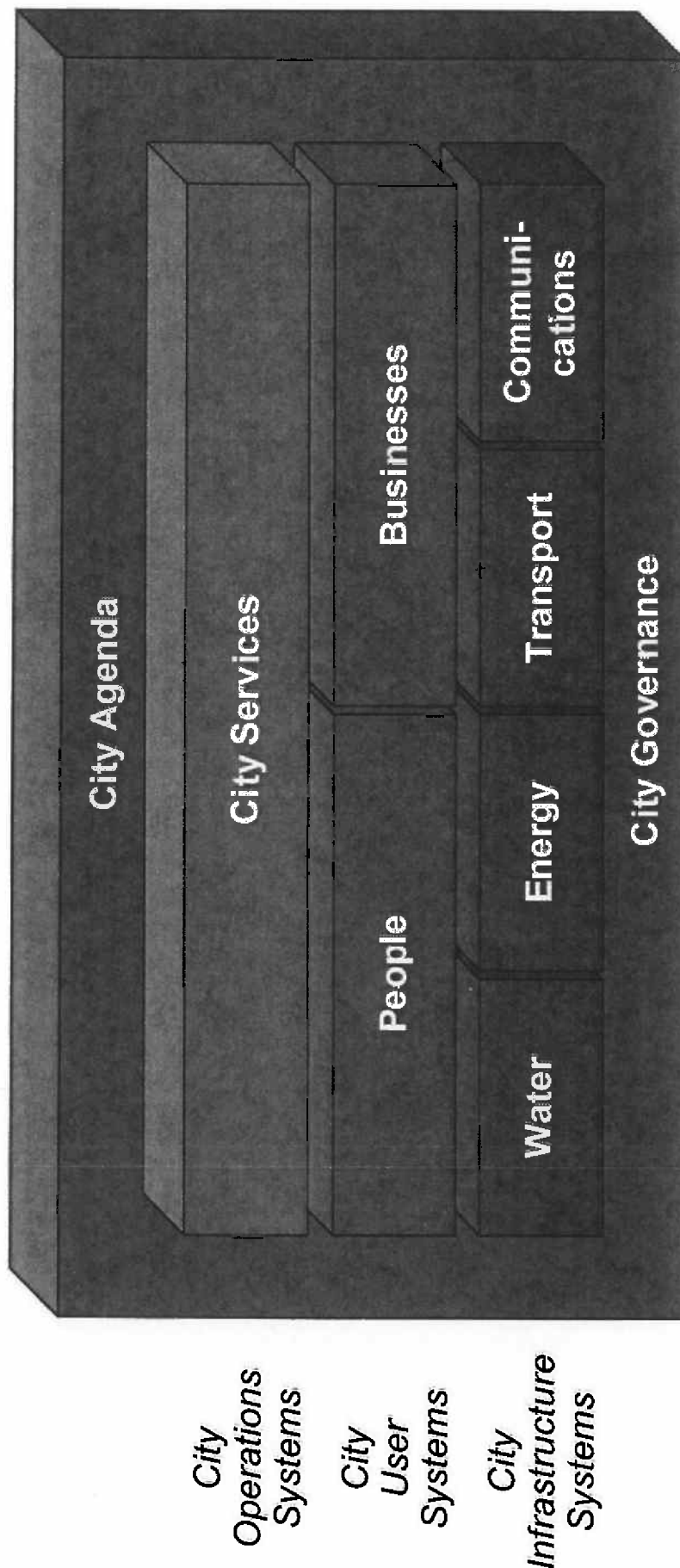


Introduction

- IBM has conducted a study on city effectiveness in order to enable cities to identify challenges that they face and show where improvements can be made to help make cities “Smarter”
- IBM has selected twenty North American cities to participate in this Smarter Cities Assessment Study. The names of the participating cities will not be disclosed. Participating cities were asked to provide data to support the analysis where data cannot be obtained through publicly available data sources.
- Cities are being empowered technologically, as the core systems on which they are based become instrumented and interconnected, enabling new levels of intelligence. In parallel, cities face a range of challenges and threats to their sustainability – across their business, people systems and core infrastructures such as transport, water, energy and communication – that will need to be addressed holistically. Developing a strategy to address these systems requires a better understanding of where your city is today, and where improving the interconnectedness will yield the greatest short and long-term benefits.
- IBM has developed the Smarter Cities Assessment Study to help cities understand where they are now, benchmark them against other peer cities and help answer the following questions:
 - Are we taking advantage of the interconnected and instrumented world to better manage all the systems that comprise the operation and development of our city?
 - How does our city compare to its peers in the areas of People, Business, Transport, Communication, Energy and Water?
 - How do we develop a roadmap to improve the operations of our city and to make it more attractive for growth?



A city is an interlocking, complex system of systems governed within a larger policy framework...





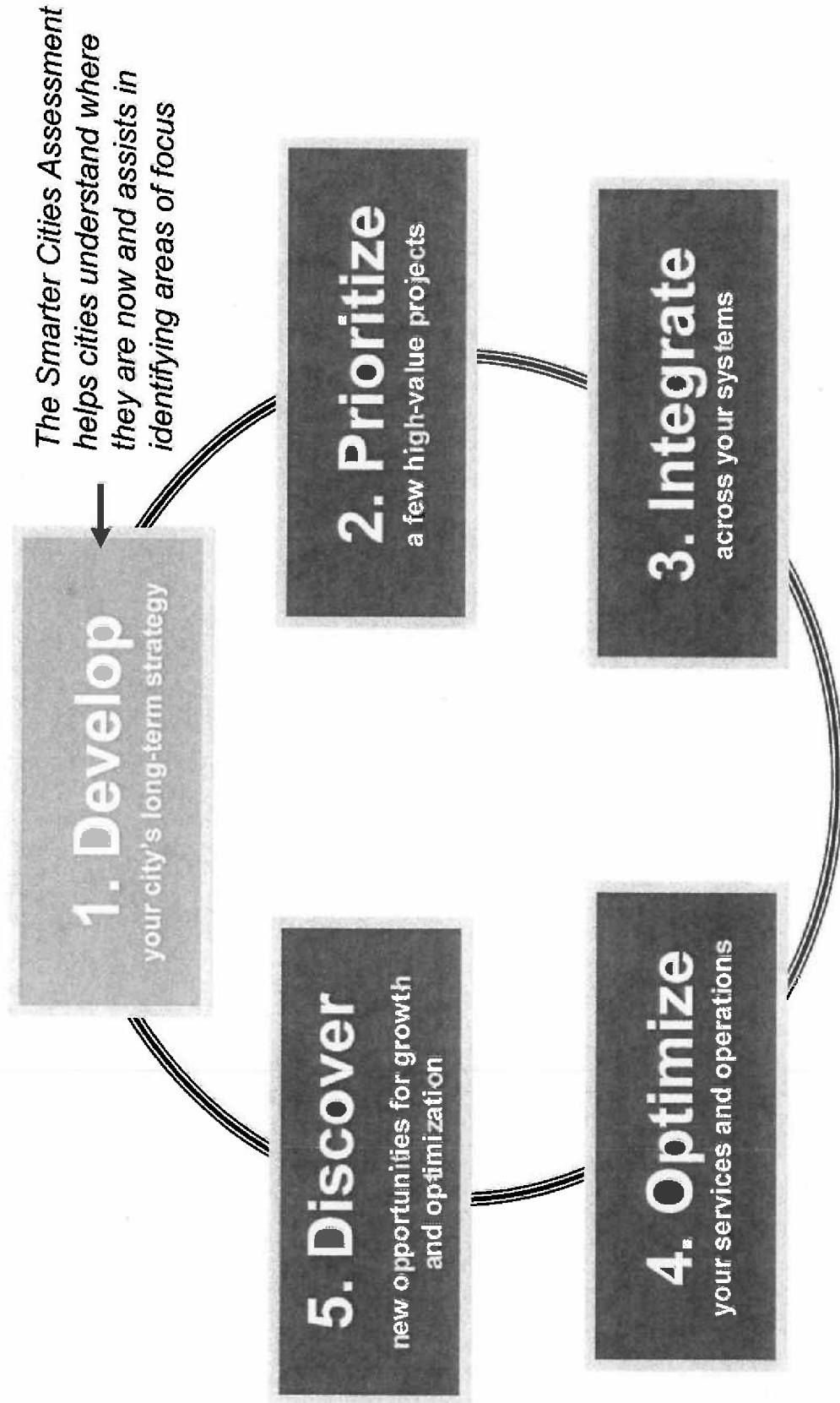
Opportunities exist to make the city's core systems 'smarter'

System	Elements	Instrumentation	Interconnection	Intelligence
City services	- Public service management - Local government administration	Creation of local authority management information system	Interconnected service delivery	Immediate and joint-up service provision
Citizens	- Health and education - Public safety - Government services	Patient diagnostic and screening devices	Interconnect records for doctors, hospitals and other health providers	Patient-driven pre-emptive care
Business	- Business environment - Administrative burdens	Data gathering about use of online business services	Interconnect stakeholders across city's business system	Customized service delivery for businesses
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Source: IBM Institute for Business Value analysis.



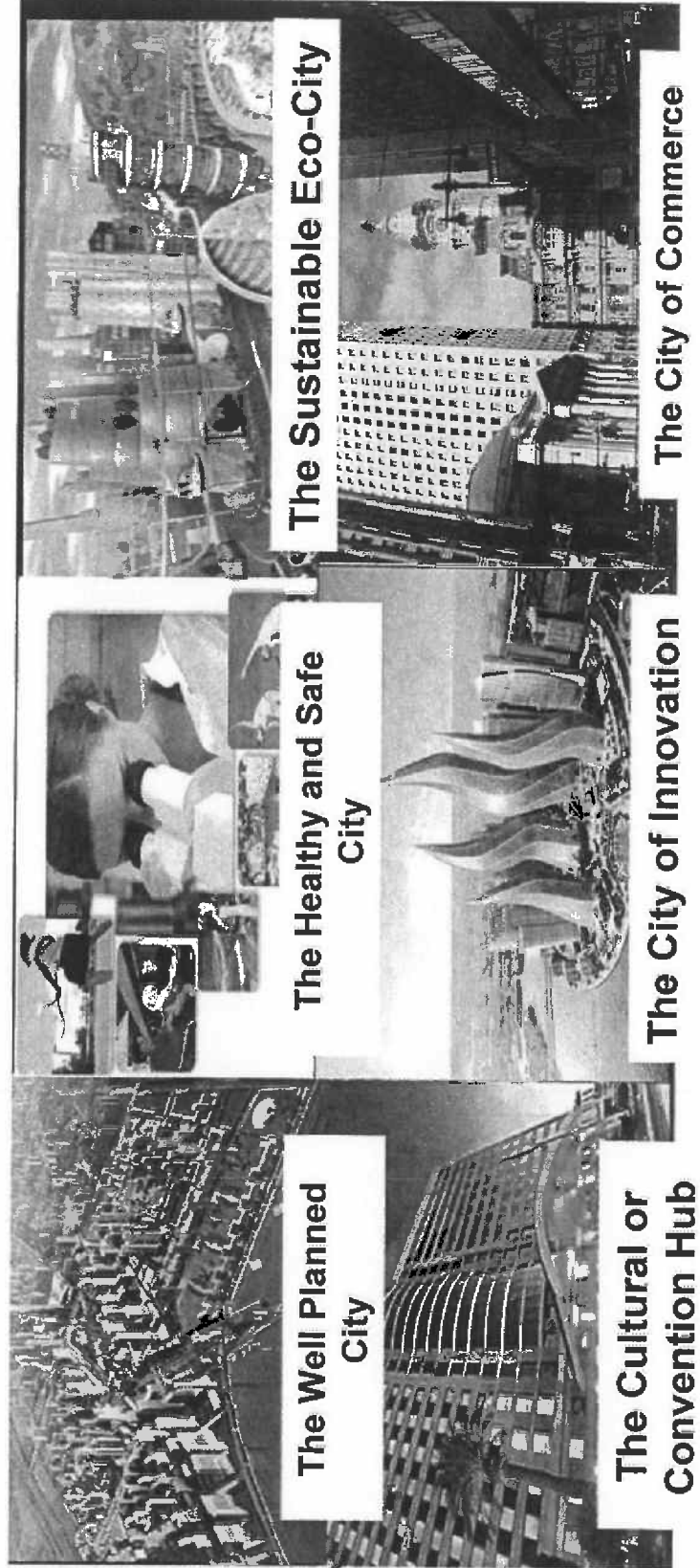
Developing a strategy to address these systems requires a better understanding of where the city is today, and where improving the interconnectedness will yield the greatest short- and long-term benefits



The city's vision and agenda needs to guide the city's roadmap as it will determine priorities

Cities have different visions of what type of smarter city they wish to become.

Priority of focus should be tailored to the agenda, rather than the agenda being tailored to the measurement.

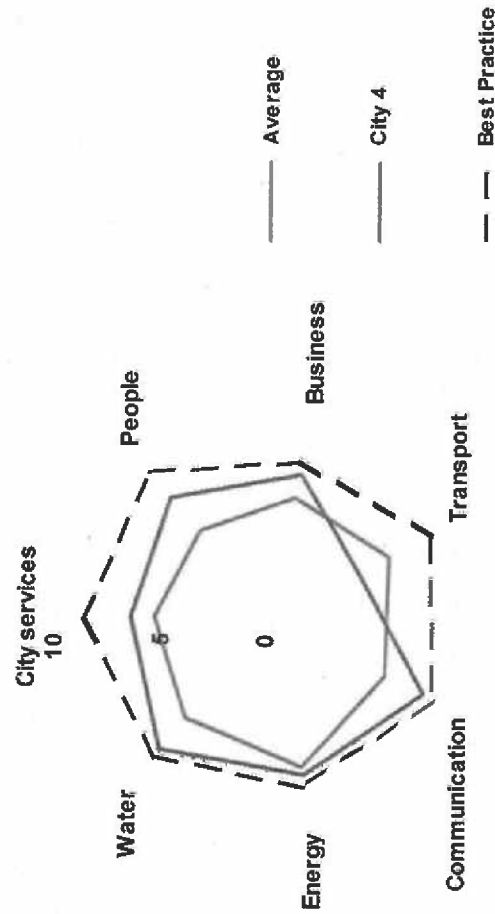




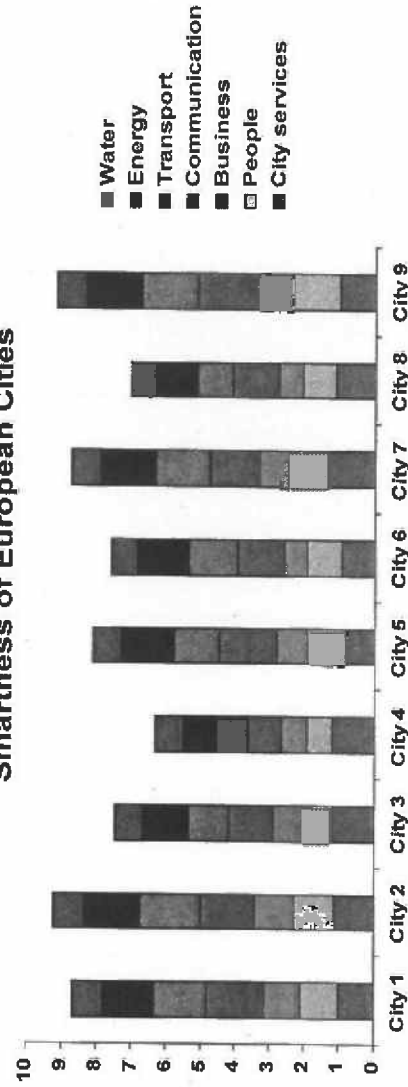
The Smarter City Assessment 'measures' the current state of cities on the different systems, separately and connected

Smarter City Assessment Tool

- The Smarter City Assessment Tool has been developed by IBM Global Location Strategies on the basis of proven location assessment methodologies for assessing business locations
- The Tool 'measures' cities' performance against many indicators for each of the Smarter City systems
- It allows benchmarking of a city's overall capabilities against peer locations, and best practice
- The Tool identifies challenges that cities face and where improvements can be made



Smartness of European Cities





The Assessment provides a holistic and comprehensive assessment of each system – example variables

System	Prerequisites	Management	Smarter Systems	Outcomes
City services	Local government expenditure Local government staff	Coordinated service delivery	E-government Application and use of ICT for service delivery and management	Efficiency and effectiveness of public service delivery
People	Investment in education, health, housing, public safety and social services	Strategic planning and management for skills and health	Application and use of ICT for education and health	Education, health, housing, public safety and social outcomes
Business	Access to finance, administrative burden, barriers to trade, business real estate	Strategic planning and management for business (economic development strategy)	ICT use by firms E-business	Value added, business creation, innovation, job creation
Communication	Investment in communication infrastructure	Integrated strategic planning for communication system Coordinated regulation of communication system	High-speed broadband, Wi-fi	Communication system quality and accessibility
Transport	Investment in transport infrastructure and public transport. Quality of basic infrastructure.	Integrated strategic planning and performance management for transport	Use of RFID for traffic management. Use of congestion pricing (and type).	Congestion levels; Accessibility within and to city; Energy intensity of transport system, CO2 emissions from transport
Energy	Investment in energy infrastructure	Integrated strategic planning and performance management of energy system	Presence of smart grids; use of smart metering	Energy waste/loss; Reliability of energy supply; Renewable energy; CO2 emissions
Water	Investment in water infrastructure; Investment in flood defences	Integrated strategic planning and performance management for water	Use of smart technologies for water management	Water use; Water waste/loss;



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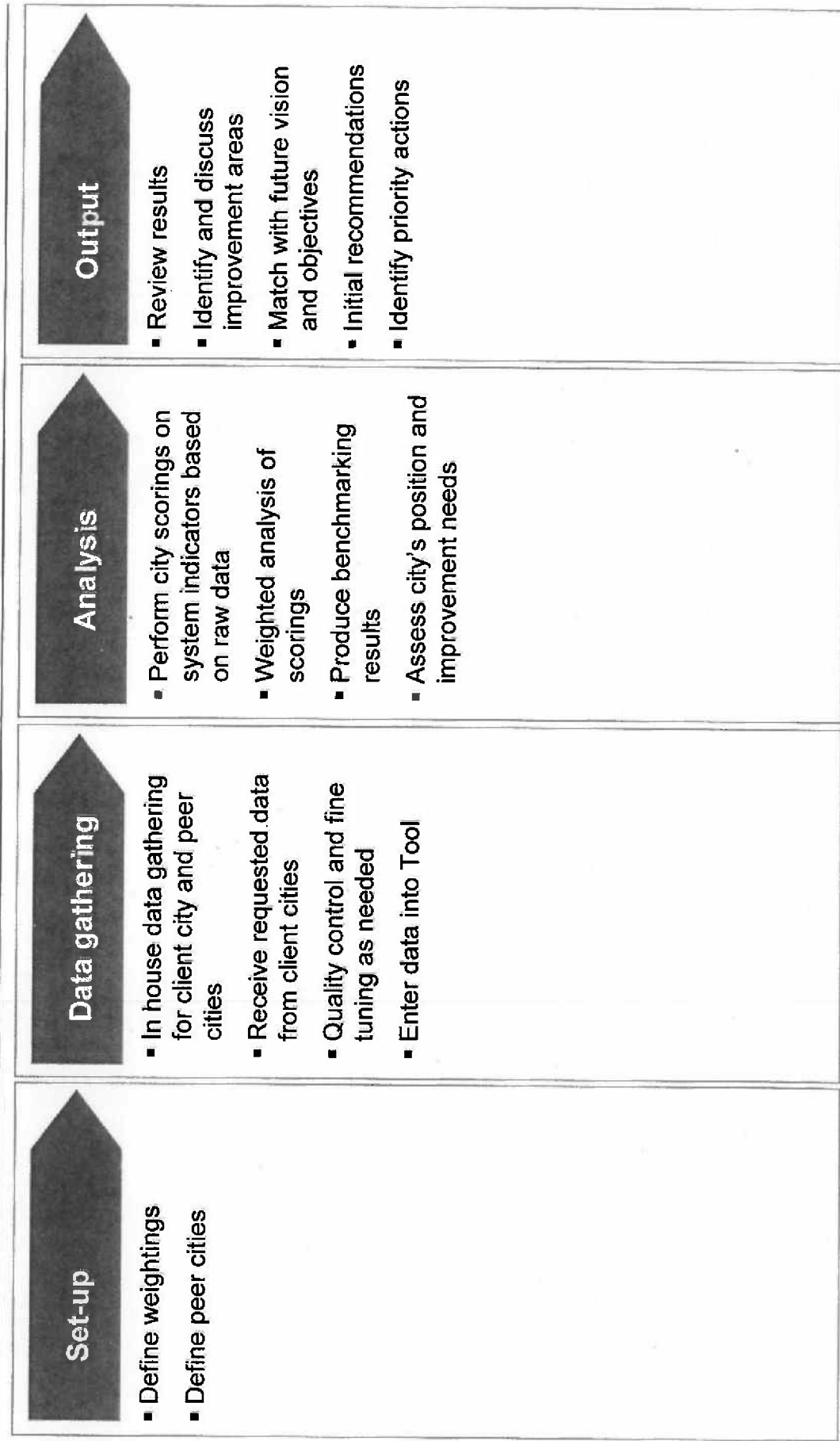
Introduction to Smarter City Assessment

Methodology

Results



Smarter City Assessment Study Work plan



Data Gathering

- For all the assessment factors, we collected benchmarking data for a number of indicators which allowed us to compare and assess the selected cities (data points).
- In total, the cities were compared on **more than 200 indicators**.
- Internal information sources:
 - IBM Global Location Strategies' direct access to a vast number of data and information sources
 - IBM Global Location Strategies' extensive experience in the selected cities, particularly for intangible factors
 - IBM's own operations and its consulting practices in the selected cities
- External information sources:
 - We reached out to relevant data providers where necessary, such as national statistical offices, city authorities etc.

Analysis

- Analyze and evaluate all locations on selected location criteria
- Score all locations per criteria on basis of variety of data points

HR development and use									
Key point									
High-tech employment	Macroeconomic employment	Percentage of total employment (high-tech)	Percentage of total employment (high-tech)	Percentage of total employment (high-tech)	Percentage of total employment (high-tech)	Percentage of total employment (high-tech)	Percentage of total employment (high-tech)	Percentage of total employment (high-tech)	Percentage of total employment (high-tech)
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Percentage of total employment (high-tech)	Percentage of total employment (high-tech)	Percentage of total employment (high-tech)	Percentage of total employment (high-tech)	Percentage of total employment (high-tech)	Percentage of total employment (high-tech)	Percentage of total employment (high-tech)	Percentage of total employment (high-tech)	Percentage of total employment (high-tech)	Percentage of total employment

City Profiles and Cohorts

City Profiles

City Identifier	Region	Relative Population Size	Relative Geographic Size (square miles)
A	West	750K - 1M	<50
B	Northeast	500 - 750K	<50
C	South	500 - 750K	100 - 150
D	Midwest	>2M	200 - 250
E	South	750K - 1M	250 - 300
F	Northeast	1 - 1.5M	100 - 150
G	South	1 - 1.5M	400 - 450
H	West	1.5 - 2M	450+
I	South	500 - 750K	50 - 100
J	Midwest	750K - 1M	300 - 350
K	Canada	100 - 250K	<50
L	Midwest	250 - 500K	50 - 100
M	South	250 - 500K	150 - 200
N	South	>100K	250 - 300
O	Midwest	750K - 1M	100 - 150
P	South	250 - 500K	250 - 300
Q	Canada	250 - 500K	50 - 100
R	South	100 - 250K	50 - 100
S	West	1 - 1.5M	300 - 350

City Cohorts

Region	Cities
Canada	K, Q
Midwest	J, D, L, O
Northeast	B, F
South	R, C, E, G, I, M, N, P
West	A, H, S

Relative Population Size	Cities
<250K	K, N, R
250 - 500K	L, M, P, Q
500 - 750K	B, C, I
750K - 1M	A, E, J, O
1 - 1.5M	F, G, S
1.5M+	D, H

Content

Introduction to Smarter City Assessment

Methodology

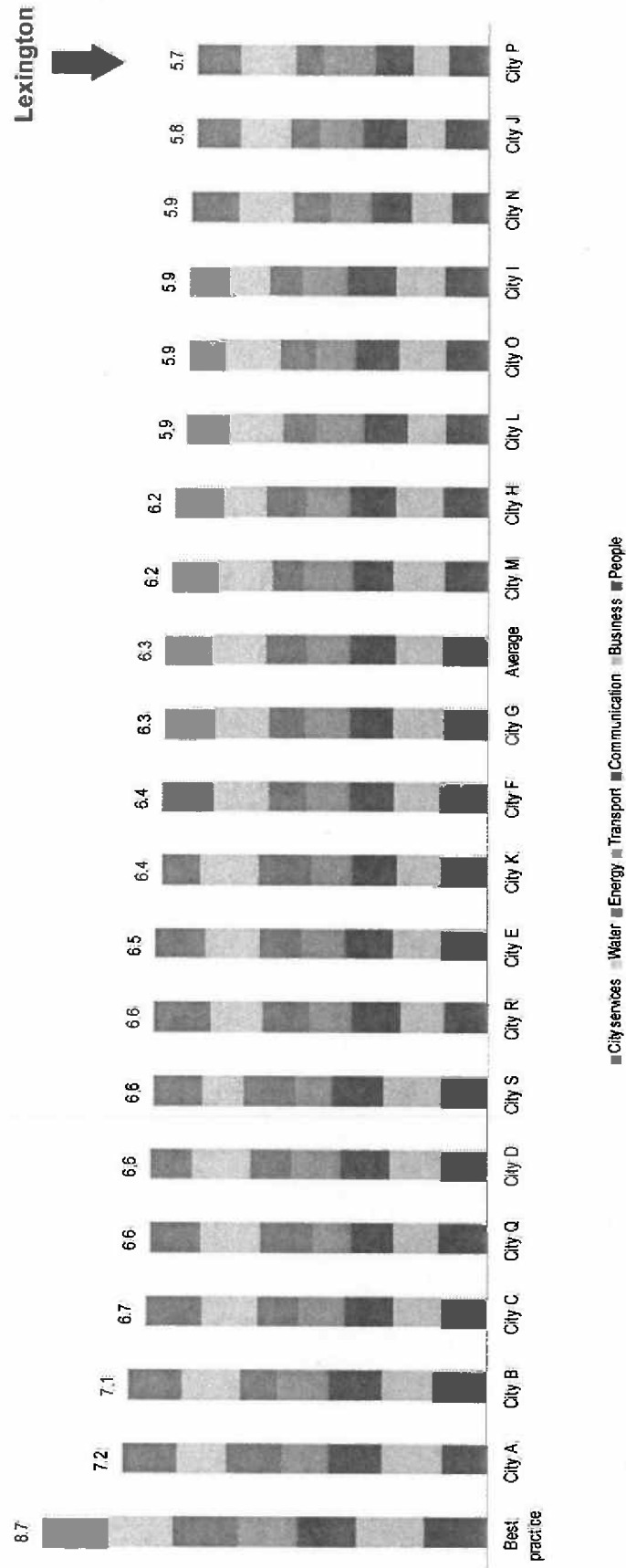
Results



Overall Results

- The best performing cities according to the current set of weights are City A and City B.
- City J and City P are at the other end of the spectrum.

Systems Overview

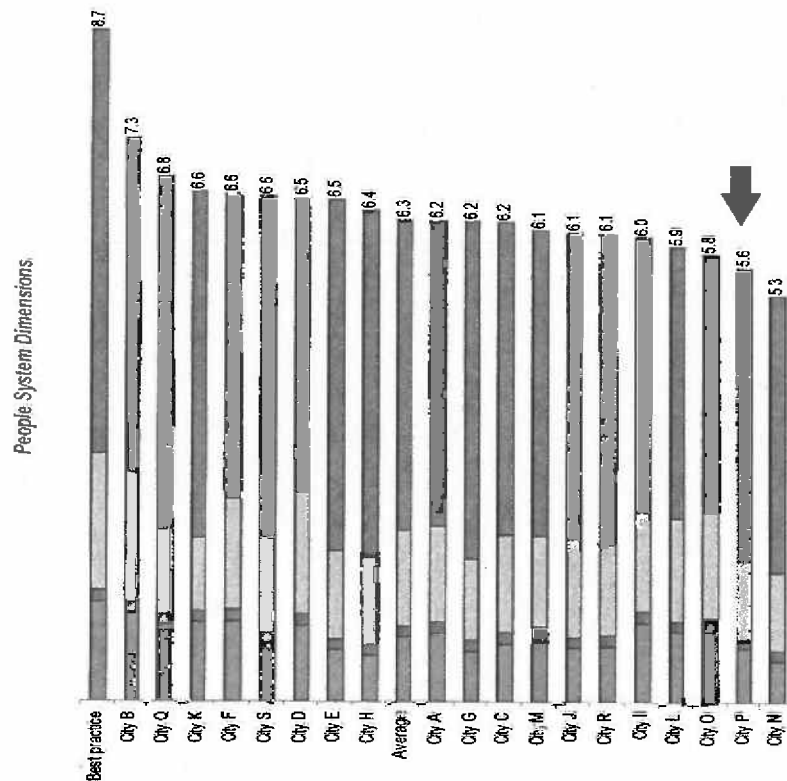


Results

People System

Summary

- The people system assesses the cities on a range of factors relating to education, health, public safety, housing and quality of life.
- City B is the top performing city, underpinned by strengths in Investment in Health and Public Safety, ICT use for Health, Smart Technologies for Public Safety, Education Outcomes and Public Safety Outcomes.
- Other cities performing well in this system are City Q and City K, with both cities achieving notably better health outcomes than the US cities included in the study and offering a high quality of life.
- Major US cities, such as City F and City D also perform well, with both these cities being particularly advanced in the use of smart technologies for public safety.



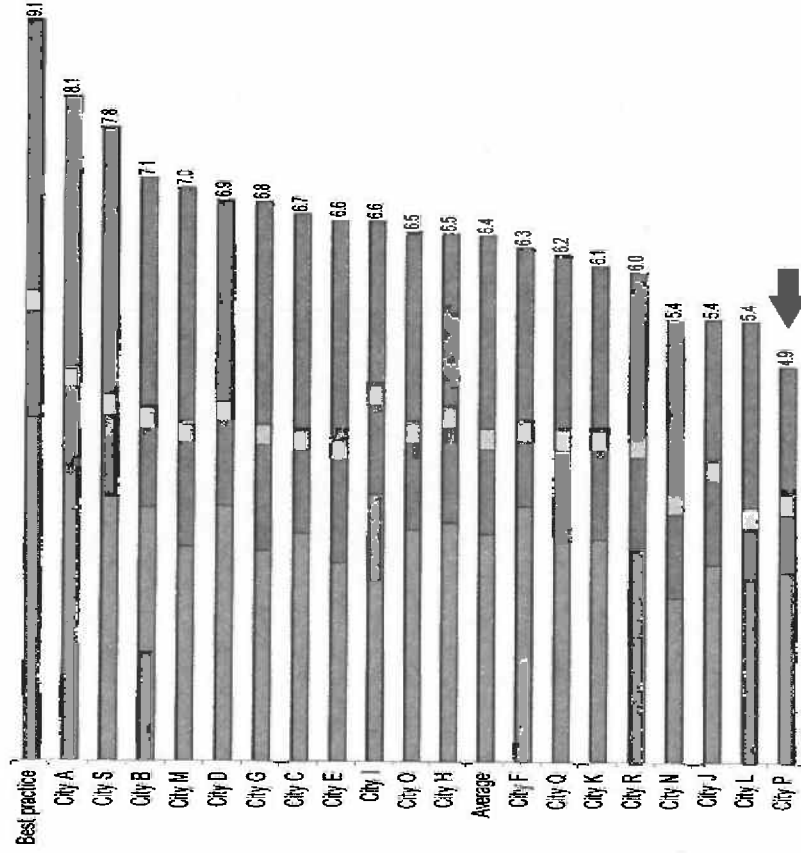


Results *Business System*

Summary

- The business system assesses the cities on the general business environment and level of innovation and enterprise in the city, coupled with the labour productivity achieved.
- City A is the leading city, with considerable innovative and enterprise activity coupled with a business environment offering good access to finance, availability of business real estate and openness to trade and markets.
- Other leading cities are City S and City B.

Business System Dimensions



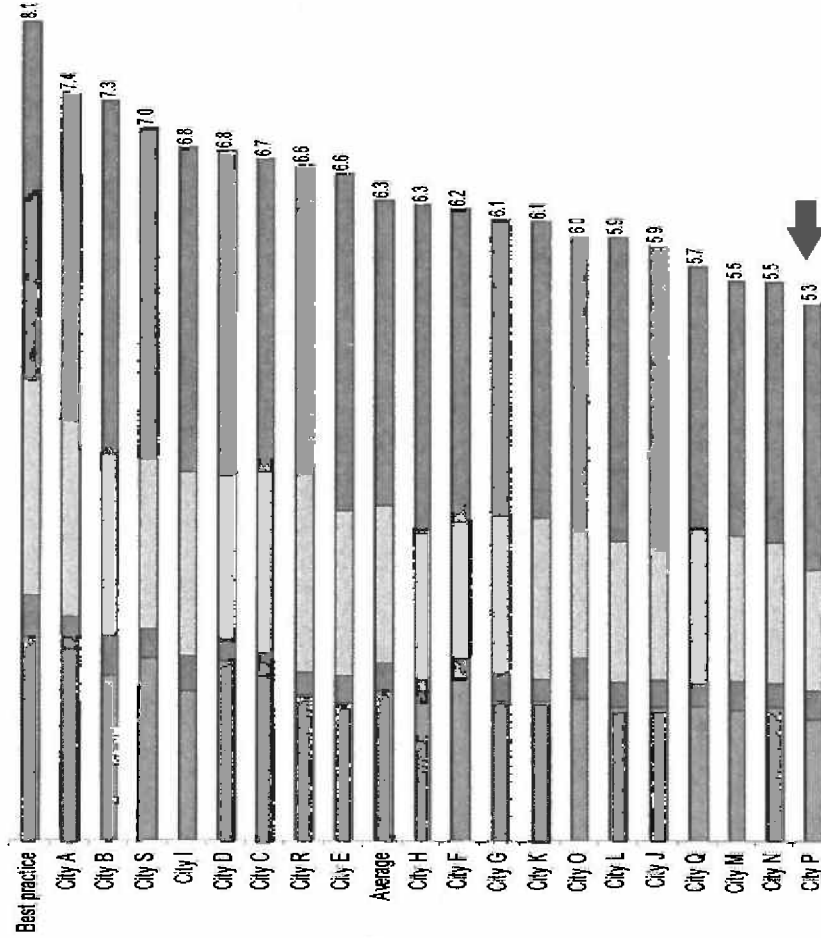
■ System outcomes ■ Smarter system ■ System management ■ System prerequisites

Results Communication System

Summary

- In the assessment of the communication system we look at the general quality of the communication infrastructure, the take-up and use of ICT, the penetration of broadband, wi-fi and 3G coverage and download speeds in the city.
- City A is the top performer of the cities analyzed with high wi-fi coverage and good availability of communication services.
- City B and City S are other strong performing cities in this system.

Communication System Dimensions



■ System outcomes ■ Smarter system ■ System management ■ System pre-requisites

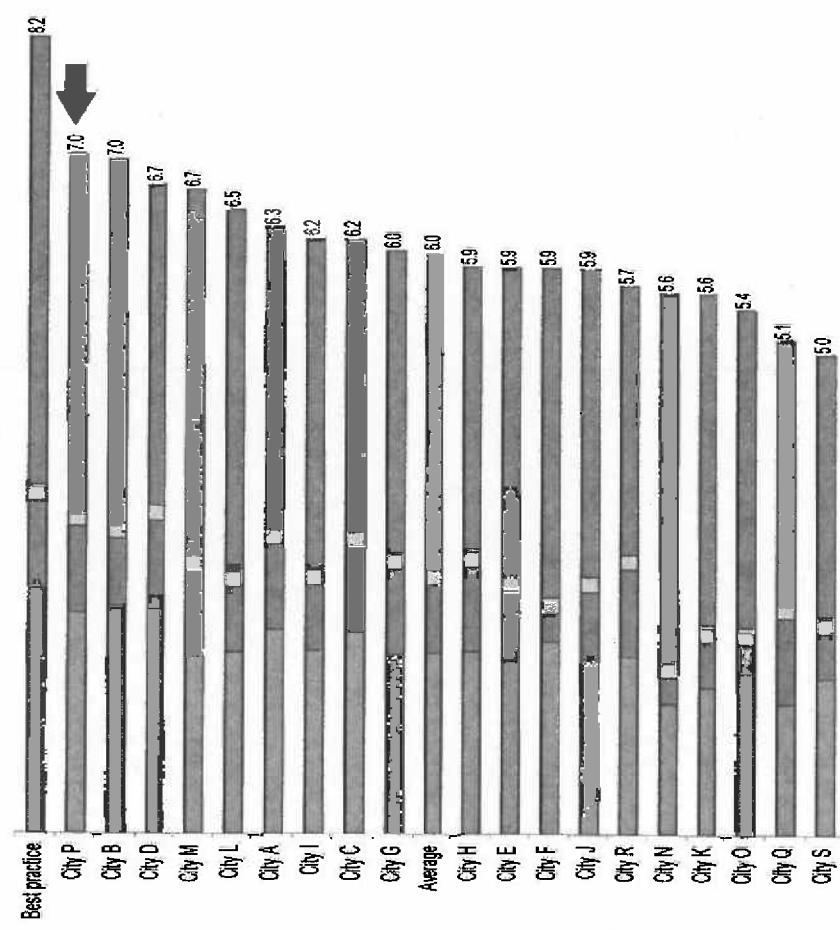


Results Transport System

Summary

- The transport system encompasses the accessibility, public transport and transport infrastructure offered to citizens, coupled with an assessment of congestion levels, pollution and energy consumption caused by transport in the city, and road safety.
- City P is the top performer, closely followed by City B.
- City P has relatively limited congestion problems and a good public transport system, while City B has a good public transport system, low transport energy consumption and a relatively good road safety record.

Transport System Dimensions



■ System outcomes □ Smarter system ■ System management ■ System pre-requisites

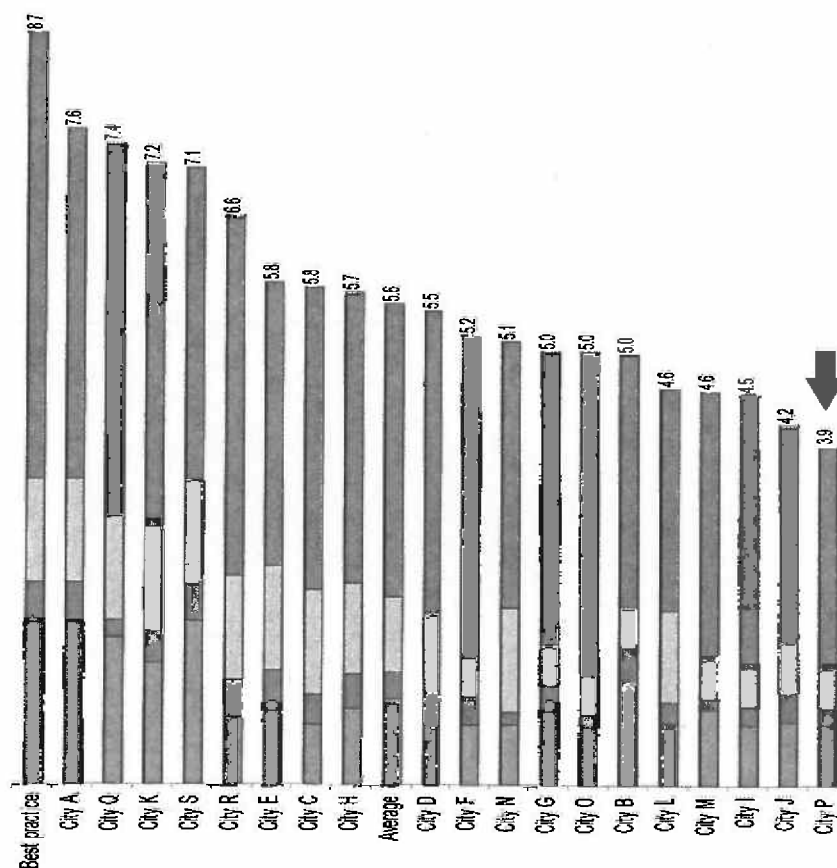


Results Energy System

Summary

- The energy system encompasses the reliability of the energy infrastructure, the use of smart metering, renewable energy, the overall energy consumption and pollution caused by energy use.
- City A is the best performer in the Energy System, due to its high use of renewable energy, comparatively low CO₂ emissions and high investment in energy efficiency.
- Cities K and Q also perform well, largely due to their extensive use of renewable energy.

Energy System Dimensions



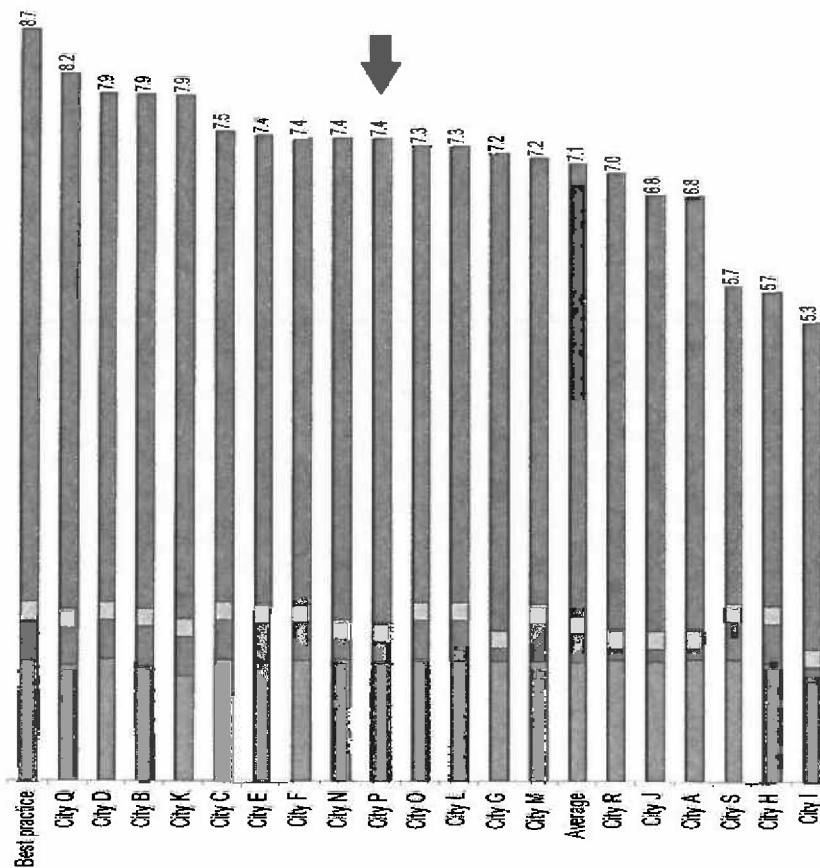
■ System outcomes □ Smarter system ■ System management ■ System prerequisites

Results Water System

Summary

- The water system includes the access to, quality and consumption of water, coupled with the quality of the water infrastructure and waste water treatment.
- City Q is the top performing city, as a result of significant investment in the water infrastructure, limited overall water consumption and high water quality.
- City D and City B are also among the better performers, having high access to water, investment in water infrastructure and high levels of water quality.

Water System Dimensions



■ System outcomes ■ Smarter system ■ System management ■ System pre-requisites

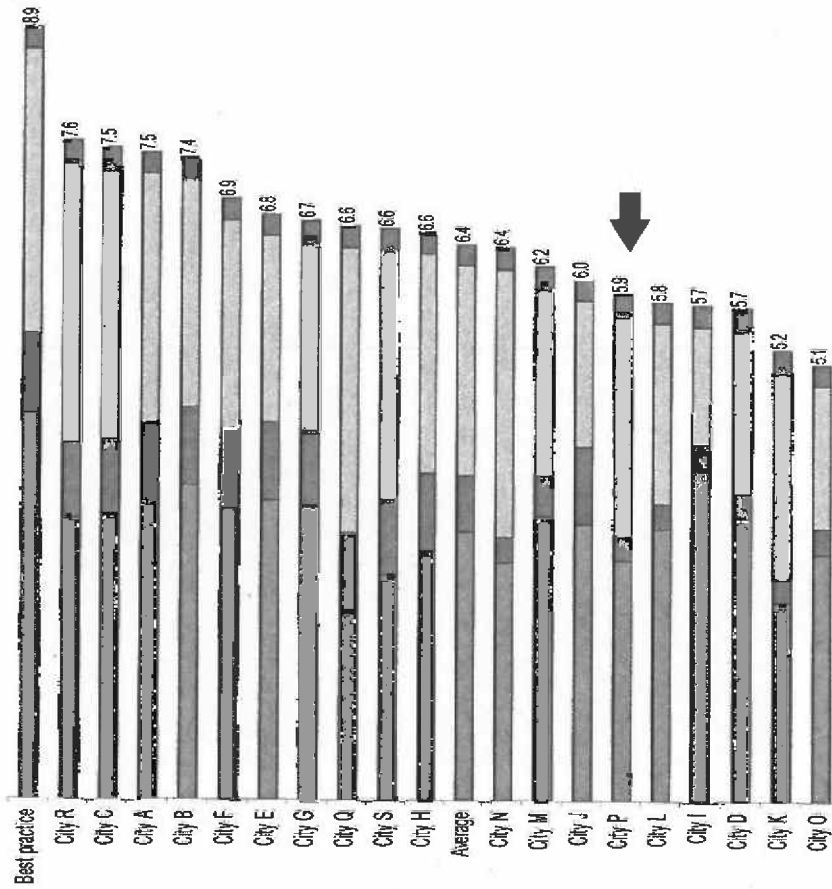
Results

City Services

Summary

- City services covers the resources available to the city authorities and the opportunity for citizens to access and use services through ICT.
- City R is the best performing city, as a result of the advanced use of e-government available to citizens.
- City C, City A and City B also perform well.

City Services System Dimensions



■ System outcomes □ Smarter system ■ System management ■ System prerequisites

Results – City P (Lexington)

People

- The City performs below average in the people system.
- Compared to other major US cities, the City devotes limited resources on education and public safety.
- The use of ICT for education, health and public safety is below average, with the outcomes in education and health below the average of the cities analysed.
- In contrast, public safety and housing affordability in is among the best of the cities analysed.

Business

- The City performs well below average in the business system.
- The City offers good availability of business real estate but relatively poor access to market and a high administrative burden.
- The City has a relatively low level of productivity, and limited innovation and entrepreneurial activity.

Communication

- The City has a reliable and good quality communication infrastructure.
- The City has the lowest level of broadband deployment amongst the cities in the analysis, but has reasonable wi-fi coverage.

Transport

- The City performs above the average in the transport system.
- The City benefits from lower levels of congestion than many other cities, and a low cost public transport system.

Energy

- The City's energy system performs poorly compared to many peer cities.
- The City has lower investment in energy efficiency and usage of renewable energy sources is also low.
- With respect to CO2 emissions and air pollution from the energy system, the City is close to average.

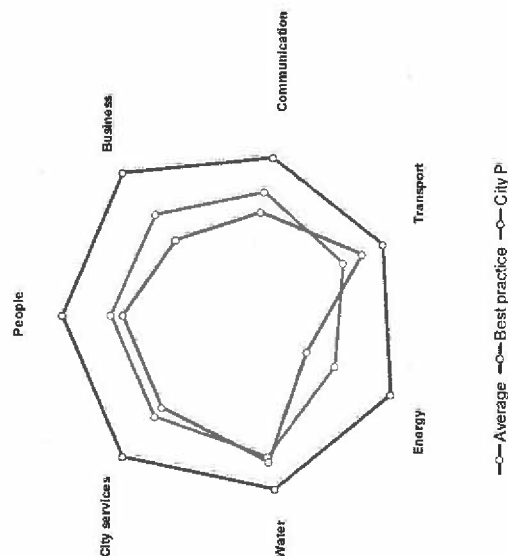
Water

- The City performs slightly higher than average in the water system.
- The City has had high investment in the water system and citizens have good access to water.

City Services

- The City performs below average for city services, with several cities benefiting from greater use of E-government and ratio of government staff to population.
- Local government expenditure is also lower than many of the other cities in the analysis.

City Profile



Results – City A

People

- City A ranks 9th in the people system.
- While the city devotes considerable resources to education, there is relatively less investment in health and public safety.
- The use of ICT for education is advanced, while the application of smart health and public safety solutions is relatively less advanced than several other cities.
- The education outcomes of the city are well above average, but the city performs relatively worse in public safety and housing outcomes.

Business

- City A is the top performing city in the business system
- The city offers excellent pre-requisites for business activity, with good access to finance, market accessibility and availability of business real estate.
- The city has among the highest levels of productivity, and is a leading hub for innovative and entrepreneurial activity.

Communication

- City A has an advanced communication system, with extensive wi-fi coverage and access to communication services.
- Some other cities have greater deployment of broadband.

Transport

- City A ranks 6th in the transport system.
- While the city benefits from a good public transport system, congestion levels are relatively poor.
- Moreover, the city's transport system is relatively energy intensive.

Energy

- City A is the top performing city in the energy system.
- With extensive investment in energy efficiency measures and a relatively extensive use of renewable energy, the city emits a relatively low level of CO2 emissions from the energy system.
- The city suffers from some unreliability of energy supply.

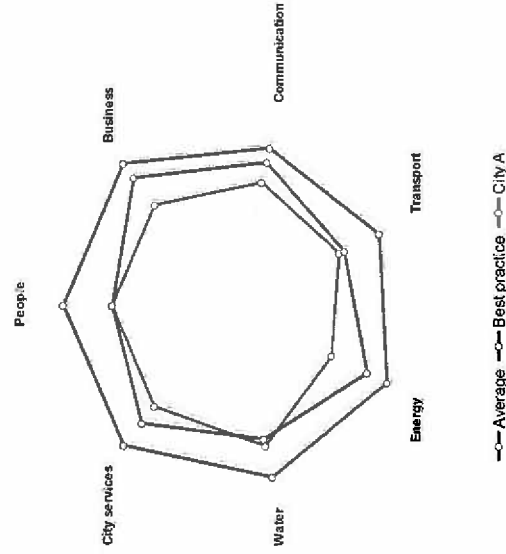
Water

- The city performs below average in the water system.
- While water quality is high, other cities have better waste water treatment and lower consumption of water.

City Services

- City A ranks 3rd for city services.
- The citizens have access to a relatively advanced level of e-government services, and the city administration benefits from a good level of resources and staff.

City Profile



Results – City B

People

- City B is the top ranking city in the people system.
- Compared to other major US cities, City B devotes a lot of resources to health and public safety.
- The city also has clear strengths in ICT use for Health, Smart Technologies for Public Safety, Education Outcomes and Public Safety Outcomes.
- However, the city suffers from relatively low levels of housing affordability.

Business

- City B has one of the better business systems, ranking 3rd.
- The city offers good access to finance and market accessibility.
- The city has the highest level of productivity, and considerable innovative activity.

Communication

- City B ranks 2nd in the communication system.
- With a good overall communication infrastructure, the city benefits from a relatively high level of broadband deployment and wi-fi density.
- The good communication infrastructure translates into a high level of ICT take-up and use among the city's citizens.

Transport

- City B ranks 2nd in the transport system, with a good overall transport infrastructure and extensive public transport.
- The city's transport system benefits from a low energy intensity, while the road safety record is among the best of the cities analysed.
- Congestion levels are reasonable, although several other cities benefit from lower congestion.

Energy

- City B ranks 15th in the energy system.
- The city makes relatively limited use of renewable energy and other cities are more advanced in their plans and implementation of smart metering.
- With respect to energy consumption, CO2 emissions and air pollution from the energy system, City B performs better than average.

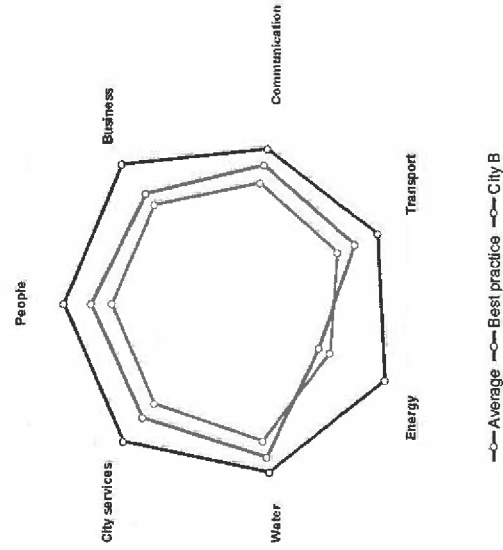
Water

- City B is ranked 3rd in the water system.
- The citizens benefit from a high water quality and good waste water treatment.
- The overall water consumption is higher than in several other cities.

City Services

- City B ranks 4th in the city services system.
- The city government benefits from a high level of resources and staff.
- The citizens enjoy a relatively advanced provision of e-government services.

City Profile



Results – City C

People

- City C performs close to average in the people system.
- Compared to the other cities, City C devotes fairly limited resources to education and health.
- The use of ICT for education and health is more limited than in many other cities.
- In contrast, investment in housing and housing outcomes are above average.

Business

- City C performs just above average in the business system.
- The city offers limited access to finance
- The city offers good availability of business real estate and access to markets.
- The city has a relatively high level of entrepreneurial activity and a reasonable level of productivity.

Communication

- City C performs above average in the communication system.
- The city has a good quality communication infrastructure and high wi-fi density.
- Broadband penetration and ICT take-up and use is lower than in several other leading cities.

Transport

- City C ranks 8th for the transport system.
- The city benefits from a good public transport system; however, congestion levels are higher than many other cities (2nd longest commuting time among cities assessed).
- The city's road safety record is relatively worse than several other cities.

Energy

- City C's energy system ranks 7th.
- While initiatives are in place for greater use of smart metering and renewable energy, other cities are further in the actual use of renewable energy.
- With respect to CO2 emissions and air pollution from the energy system, City C is close to average.
- Other cities invest more in their energy infrastructure.

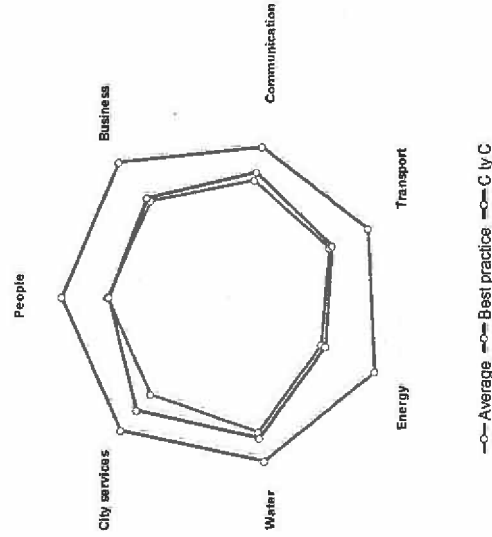
Water

- City C is ranked 5th in the water system.
- Citizens have good access to water, water usage per capita is below that of most of the other cities, and the city benefits from good waste water treatment services.

City Services

- City C performs well in the city services system, ranking 2nd.
- Citizens benefit from extensive use of E-government.
- The city government benefits from a reasonable level and stability of resources and staff.

City Profile



Results – City D

People

- City D performs above average in the people system.
- Compared to other major US cities, City D devotes fairly limited resources on education but a lot on public safety.
- The use of ICT for education and public safety is high, while for health it is average. The outcome in health and public safety is below the average of the cities analysed.
- Housing affordability in City D is also below that of many other US cities.

Business

- City D performs above average in the business system.
- Although the city offers limited access to finance, it has a high market accessibility.
- The city also offers good availability of business real estate and a limited administrative burden.
- The city has a relatively high level of productivity.

Communication

- City D has a reliable and good quality communication infrastructure.
- Whilst the city has a relatively low level of broadband deployment, it has fairly high wi-fi coverage.

Transport

- City D performs above average in the transport system.
- The city has an extensive public transport system, but still suffers from congestion problems on the roads.
- The city has an average road safety record.

Energy

- City D's energy system performs close to the average compared to many peer cities.
- The city has limited investment in energy efficiency and limited use of renewable energy.
- With respect to CO2 emissions and air pollution from the energy system, City D performs close to average.

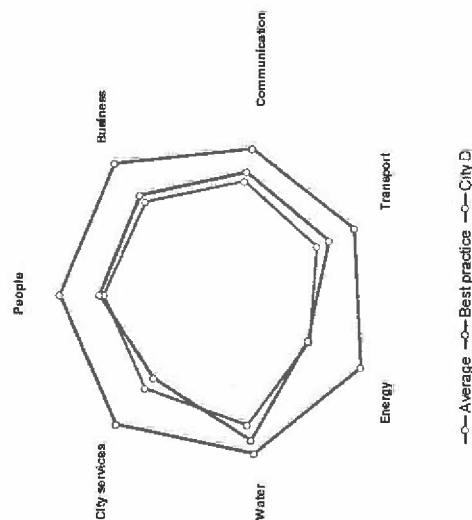
Water

- City D performs above average in the water system and close to best practice.
- Water usage is similar to that of other major cities, and the citizens have good access to water.

City Services

- City D performs below average for city services, with several cities benefiting from greater use of E-government and higher local government expenditure.

City Profile



Results – City E

People

- City E is performing close to average in the people system.
- Compared to other major US cities, City E devotes fairly limited resources on education, health and public safety.
- The use of ICT for education, health and public safety is average or below average, while outcomes are slightly above the average of the cities analysed.
- Housing outcomes are well above the average of the cities analysed.

Business

- City E ranks 8th in the business system.
- Several other cities offer greater access to finance and market accessibility.
- The city has an efficient regulatory system imposing a limited regulatory burden on companies.
- Despite offering a good environment for business activity, the city has a relatively low level of productivity and entrepreneurial activity.

Communication

- City E ranks above average in the communication system.
- Offering a reliable and good quality communication infrastructure, the city has a high level of wi-fi density and high ICT take-up and use.
- Other cities have a greater level of broadband deployment.

Transport

- City E ranks 11th for the transport system.
- While offering reasonable public transport facilities, the city has one of the most energy intensive transport systems.
- Congestion is worse than in many other cities.
- The city's road safety record is reasonable compared to other cities.

Energy

- City E's energy system ranks 6th
- The city has advanced plans in place for introducing smart technologies to the energy system, and a relatively good use of renewable energy.
- However, with a relatively high energy consumption per capita, the levels of CO2 emissions are also higher than in many of the other cities.

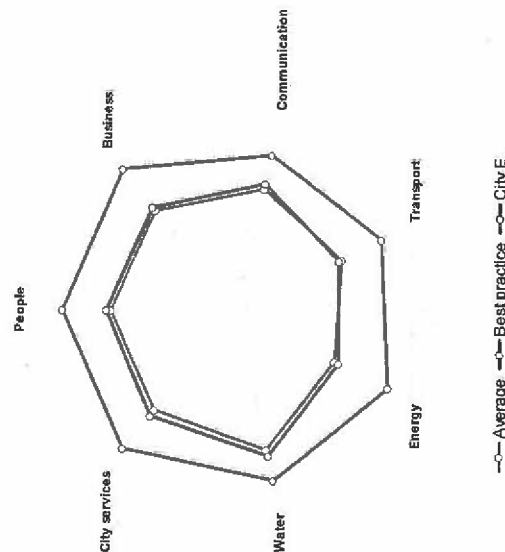
Water

- City E ranks above average for the water system
- Water quality is above that of many other cities, while the levels of water consumption are relatively low.

City Services

- City E performs just above average for city services, with several cities benefiting from greater use of E-government.
- The city government benefits from a reasonable level and stability of resources.

City Profile



Results – City F

People

- City F performs above average in the people system.
- Investment in education is lower than in other cities, however investment in health and housing is higher than the average.
- The use of ICT for education and health is close to average, whilst the use of ICT for public safety is one of the highest in the analysis.
- Education and public safety outcomes are close to average, but health outcomes are below average.

Business

- City F performs close to average in the business system.
- The city offers reasonable access to finance and very good market accessibility.
- The city also offers a good availability of business real estate.
- The city's productivity, innovation and entrepreneurial activity is close to average.

Communication

- City F has a reliable and good quality communication infrastructure.
- The city has a lower level of broadband deployment than some other cities, and an average coverage of wi-fi.

Transport

- City F's transport infrastructure ranks close to average.
- The city has congestion levels similar to other major US cities, and has a well developed public transport system.
- The city's road safety record is relatively good compared to other leading cities.

Energy

- City F's energy system performs slightly below the average.
- There has been fairly limited investment in energy efficiency compared to other regions in the US.
- City F's use of renewable energy is close to the average for US cities.

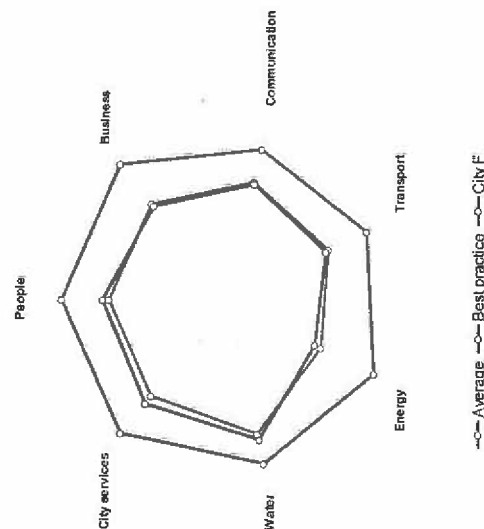
Water

- City F performs just above the average in the water system.
- There has been high investment in the water infrastructure resulting in good access for citizens.
- Water usage is also not as excessive as in some other US cities.

City Services

- City F performs above average for city services, benefiting from greater use of E-government than some other US cities.
- The city government benefits from a reasonable level of resources and staff.

City Profile





Results – City G

People

- City G performs close to average in the people system.
- Investment in education is close to average, while resources for health are below average and resources for public safety are significantly below that of other cities.
- The use of ICT and smart technologies for education, health and public safety is in line with the average of the other cities.
- Both education and health outcomes are good, while housing availability and affordability is among the best of the cities analysed.

Business

- The business system for City G is above average, with the city ranking 6th.
- The city offers good availability of business real estate, but several other cities offer greater access to finance and markets.
- Businesses in the city benefit from a limited administrative burden and efficient regulation.
- Productivity and the level of entrepreneurial activity is lower than that of many other cities, despite the overall environment for starting and doing business is relatively good.

Communication

- City G ranks 11th in the communication system
- The take-up, use and availability of communication services is less than in several other cities.
- The communication infrastructure is reliable and the city has relatively good wi-fi density and 3G coverage.

Transport

- City G ranks 9th in the transport system.
- The basic transport infrastructure and public transport is reasonable, although other cities perform better.
- The congestion levels and road safety are average.
- However, the city's transport system is relatively energy intensive.

Energy

- City G performs below average in the energy system.
- The city spends relatively limited amounts on energy efficiency and other cities are further in the planning and implementation of smart meters and grids.
- The city's use of renewable energy is greater than in most of the other cities.

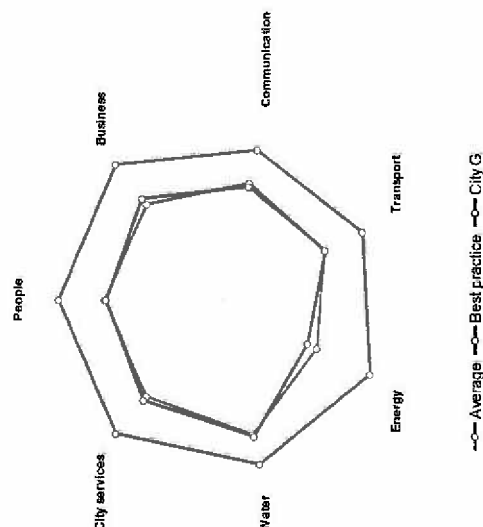
Water

- City G ranks 13th in the water system.
- The city has a good provision of high quality water, with water consumption lower than most other cities.
- Waste water treatment is poorer than in many other cities, and the city lacks a clear strategy on water efficiency and quality.

City Services

- City G performs above average in the city services system.
- The city government has a relatively good level of resources and staff, but citizens in other cities have greater access to e-government services.

City Profile



Results – City H

People

- City H is performing close to average in the people system.
- Compared to other major US cities, City H devotes fairly limited resources on health and public safety.
- The use of ICT for health high in comparison with the use of ICT for education which is low compared to other cities.
- City H has good outcomes in education, health and public safety despite limited investment and use of ICT in some of these areas.

Business

- City H performs close to average in the business system.
- The city offers limited access to finance.
- The city offers excellent availability of business real estate and a limited administrative burden.
- The city has an average level of productivity, innovation and entrepreneurial activity.

Communication

- City H has a reliable and good quality communication infrastructure.
- The city has an average level of broadband deployment, with good wi-fi density.

Transport

- City H has a reasonable transport infrastructure, ranking close to average.
- The city ranks lower than many other US cities in terms of congestion levels; however, average commute times are greater than average.
- City H also suffers from high pollution levels than peer cities in this analysis.
- The city's road safety record is worse than several other leading cities.

Energy

- City H's energy system performs close to average compared to many peer cities.
- The city has had modest spending on energy efficiency programs, although there is considerable strategic planning and performance management being implemented for the energy system.

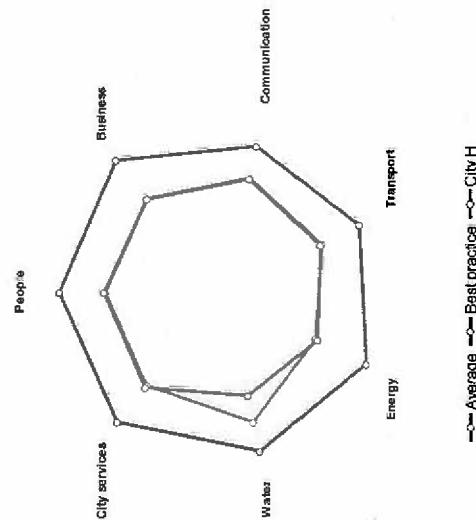
Water

- City H performs below average in the water system.
- Access to water is weaker than peer cities in the analysis.
- In addition water usage is relatively high compared to other cities.

City Services

- City H performs below close to average for city services.
- There is a lower ratio of city government staff to population than many other cities in the analysis.
- The use of E-government is relatively well developed in the city.

City Profile



Results – City I

People

- City I is performing close to average in the people system.
- Compared to other major US cities, City I devotes fairly limited resources on education, although expenditure on health and public safety is above average.
- The use of ICT for education is advanced, with relatively good education outcomes.
- The use of smarter health and public safety solutions is below that of several other cities, and the outcomes in these areas are worse than average.

Business

- City I performs just above average in the business system.
- The city offers decent pre-requisites for business activity, with good access to finance, availability of real estate and market accessibility.
- However, other cities achieve greater levels of innovation and entrepreneurial activity, while productivity levels are also exceeded by some of the other leading cities.

Communication

- City I has a good communication system, ranking 4th among the cities analysed.
- The city has a relatively high level of broadband deployment and wi-fi density.
- The citizens enjoy good and reliable access to communication services.

Transport

- City I ranks 7th for transport.
- The city benefits from lower levels of congestion than many other cities, but has a relatively energy intensive transport system overall.
- The city's road safety record is relatively better than several other leading cities.

Energy

- City I's energy system performs poorly compared to many peer cities, with the city ranked 18th.
- The city has relatively limited investment and strategic planning for energy saving, and is less advance in the use and investment in smart energy solutions.
- Moreover, the city has a comparatively low use of renewable energy.

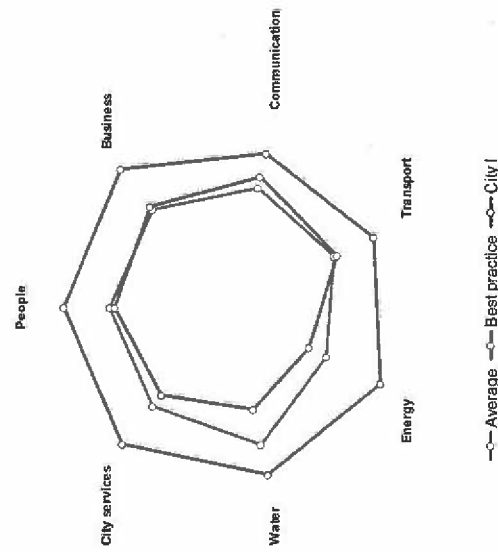
Water

- City I performs very poorly in the water system, ranking last among the cities analysed.
- This is primarily the result of high levels of water consumption and a lower quality of wastewater treatment.

City Services

- City I ranks below average for city services.
- The citizens in the city have relatively limited access to e-government services, although the city government benefits from a reasonable level of resources and staff.

City Profile





Results – City J

People

- City J is performing close to average in the people system.
- Compared to other major US cities, City J devotes fairly limited resources on education, health and public safety.
- The use of ICT for education, health and public safety is average, while the outcomes in these areas below the average of the cities analysed.
- In contrast, housing affordability in City J is among the best of the cities analysed.

Business

- City J performs well below average in the business system.
- The city offers limited access to finance and market accessibility.
- The city offers good availability of business real estate and a limited administrative burden.
- The city has a relatively low level of productivity, and limited innovation and entrepreneurial activity.

Communication

- City J has a reliable and good quality communication infrastructure.
- The city has a low level of broadband deployment, but high wi-fi density.
- Internet access is slightly lower than most of the other cities analysed.

Transport

- City J has a reasonable transport infrastructure, ranking close to average.
- The city benefits from lower levels of congestion than many other cities, but has a relatively energy intensive transport system overall.
- The city's road safety record is relatively worse than several other leading cities.

Energy

- City J's energy system performs poorly compared to many peer cities.
- With fairly limited use of smart meters, less use of renewable energy and modest spending on energy efficiency programs, the city's overall performance is well below average.
- With respect to CO2 emissions and air pollution from the energy system, City J is close to average.

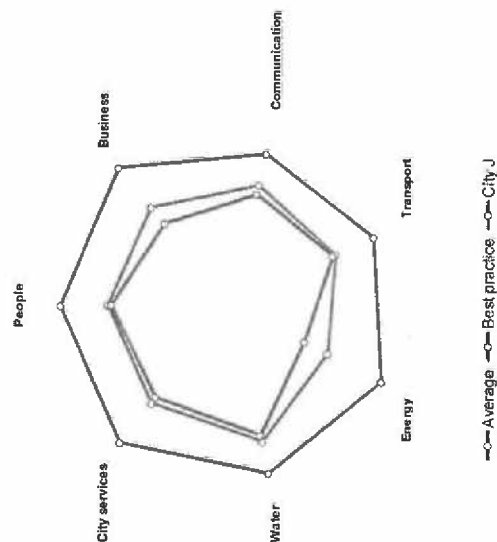
Water

- City J performs close to average in the water system.
- Water usage is similar to that of other major cities, and the citizens have good access to water.

City Services

- City J performs below average for city services, with several cities benefiting from greater use of E-government.
- The city government benefits from a reasonable level of resources and staff.

City Profile





Results – City K

People

- Performs just above the average in the people system.
- Compared to other cities in North America, devotes fairly limited resources on education and health but more on public safety.
- The use of ICT for health is similar to many other North American cities while for public safety it is below average.
- In comparison with other North American locations, the city suffers from low housing affordability.

Business

- Performs slightly below the average in the business system.
- The city offers limited access to finance and market accessibility.
- Compared to other cities, the city offers lower availability of business real estate.
- The city has a comparatively lower level of productivity, innovation and entrepreneurial activity.

Communication

- Has a high quality and reliable communication infrastructure.
- The city has an average level of household internet access, with reasonable wi-fi density.

Transport

- City's transport infrastructure, ranks just below the average.
- The city has a comparatively high cost public transport system.
- The city's road safety record is one of the best in this assessment.

Energy

- City's energy system performs well compared to many peer cities.
- The city has a high percentage of its electricity generated from renewable sources ensuring the city's overall performance is well above average.
- With respect to CO2 emissions and air pollution from the energy system, the city is close to average.

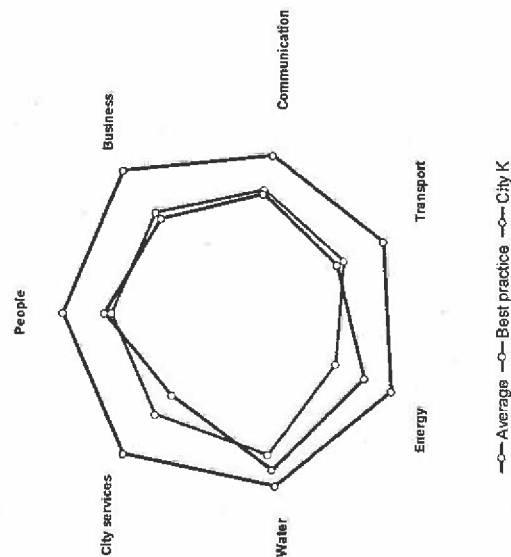
Water

- Performs above the average in the water system and close to being best practice.
- Citizens have good access to water.

City Services

- Performs below average for city services.
- The city has lower than average local government expenditure, as well as a lower ratio of local government staff to population.

City Profile



Results – City L

People

- City L performs slightly below average in the people system.
- Compared to other major US cities, City L devotes fairly limited resources on education, but reasonable resources on health and public safety.
- The use of ICT for education and health is above average, but the outcomes in these areas as well as in public safety are below the average of the cities analysed.
- Housing affordability in City L is among the best of the cities analysed.

Business

- City L performs well below average in the business system.
- The city offers limited access to finance and has an average market accessibility.
- The city offers a lower availability of business real estate than many other US cities and a higher administrative burden.

Communication

- City L has a reliable and good quality communication infrastructure.
- The city has a low level of broadband deployment, but reasonable wi-fi coverage.

Transport

- City L ranks above the average in the transport system.
- The city benefits from lower levels of congestion than many other cities, but fares weaker in terms of public transport.
- City L ranks below most other cities in the analysis in terms of road safety record

Energy

- City L's energy system performs poorly compared to many peer cities.
- The city has had lower investment in energy efficiency as well as less use of renewable energy than peer cities.
- With respect to CO2 emissions and air pollution from the energy system, City L is close to other US cities in the analysis..

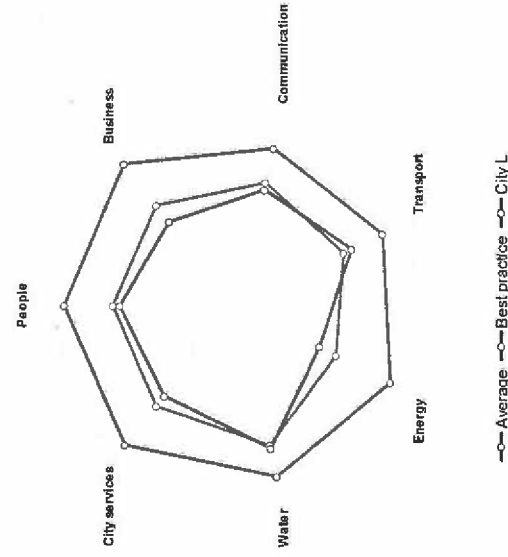
Water

- City L performs just above average in the water system.
- Water usage is similar to that of other major cities, and the citizens have good access to water.

City Services

- City L performs below average for city services, with several cities benefiting from greater use of E-government.
- The city government has a lower ratio of staff to population than some other peer cities.

City Profile



Results – City M

People

- Performs close to average in the people system.
- Compared to other major US cities, devotes fairly limited resources on education and health.
- The use of ICT for education and health is low, while the outcomes in these areas are reasonably good.
- Housing affordability is among the best of the cities analysed.

Business

- Performs above average in the business system.
- The city offers good availability of business real estate and a limited administrative burden.
- There is relatively good level of productivity, innovation and entrepreneurial activity.

Communication

- Has a reliable and good quality communication infrastructure.
- The city has an average level of broadband deployment, but its wi-fi density is lower than many other cities.

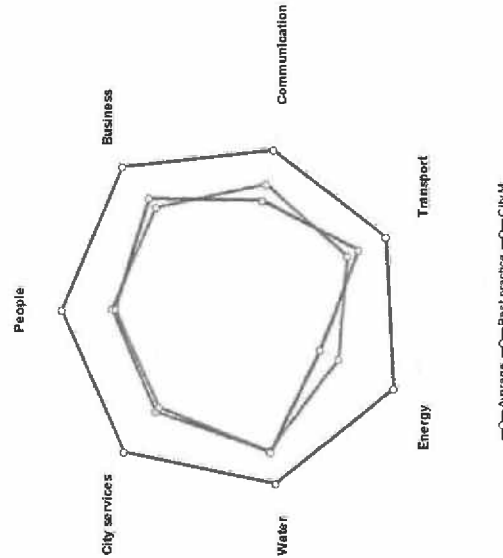
Transport

- Benefits from lower levels of congestion than many other cities and has a relatively low cost public transport system.
- The city's road safety record is the best amongst the cities in this analysis.

City Services

- Has a lower than average ratio of city government staff to population.
- The use of E-government is close to the average across all cities in the analysis.

City Profile



Energy

- There has been limited investment in energy efficiency and compared to many other cities, limited strategic planning and performance management in the energy system.
- With respect to CO2 emissions and air pollution from the energy system, the city is below the average.

Water

- Citizens have good access to water.
- Compared to other cities in the analysis, there are higher than average detections of water pollutants in the system.

Results – City N

People

- Performs below average in the people system.
- Compared to other major US cities, devotes limited resources on education, health and public safety.
- The use of ICT for education, health and public safety is average, while the outcomes in these areas are below the average of the cities analysed.
- In contrast, housing affordability is among the best of the cities analysed.

Business

- Performs below average in the business system.
- Offers limited availability of business real estate.
- Has a relatively low level of productivity, and limited innovation and entrepreneurial activity.

Communication

- Has a reliable and good quality communication infrastructure, although it is below that of other cities in this analysis.
- Has a comparatively low coverage of wi-fi.

Transport

- Ranks just below average in the transport system.
- The city benefits from lower levels of congestion than many other cities.
- The public transport system is comparatively underdeveloped compared to other cities in the analysis.

Energy

- Energy system performs close to the average.
- There has been lower investment in energy efficiency than in other states.
- Close to average with respect to CO2 emissions and air pollution from the energy system.

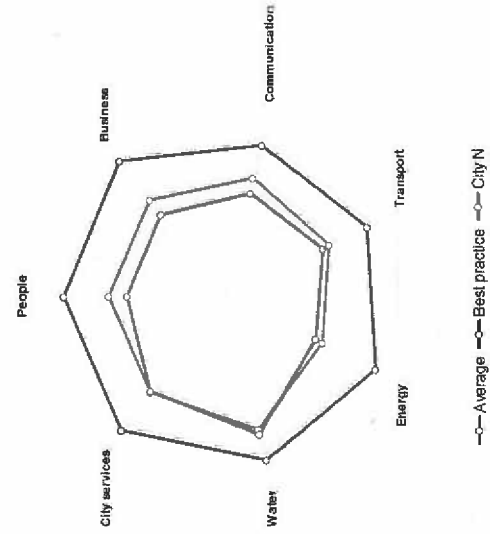
Water

- Performs just above average in the water system.
- Water quality is good, and usage is actually lower than in many other cities in the US.

City Services

- Performs close to average for city services, with local government expenditure close to other cities in the analysis.
- There is a lower ratio of local government staff to population than in other cities.

City Profile



Results – City O

People

- Compared to other major US cities, City O devotes significant investment in education, but more limited resources on health and public safety.
- In terms of the use of ICT for education, health and public safety City O is average, while the outcomes in these areas are below the average of the cities analysed, notably in public safety.
- In contrast, housing affordability in City O is among the best of the cities analysed.

Business

- The city offers limited access to finance but good market accessibility.
- The city offers good availability of business real estate and a limited administrative burden.
- The city has a lower level of productivity, innovation and entrepreneurial activity than other major US cities.

Communication

- City O has a reliable and good quality communication infrastructure.
- The city has a low level of broadband deployment, and its wi-fi density is also lower than other major US cities.

Transport

- City O suffers from higher congestion levels than many other cities, but has a relatively energy efficient transport system overall.
- In terms of road safety, City O is close to the average of cities in this analysis.

Energy

- There has been limited investment in energy efficiency and smart meter use.
- In addition, there has been limited use of renewable energy sources.
- With respect to CO2 emissions and air pollution from the energy system, City O is above the average of cities analysed.

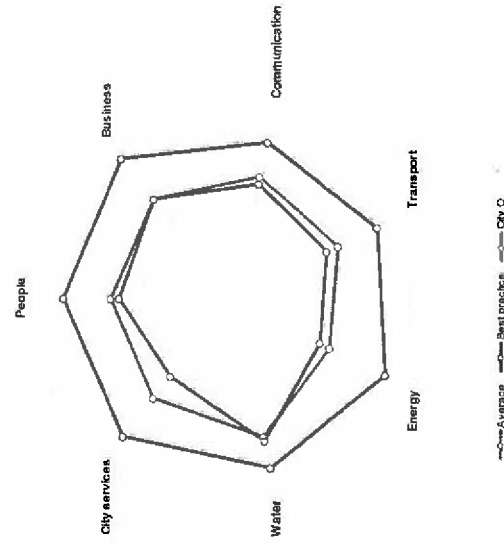
Water

- City O citizens have good access to water of a high quality.
- In turn, water usage is high compared to peer cities.

City Services

- City O's ratio of local government staff to population is close to the average of cities analysed.
- E-government take-up is lower than peer cities.

City Profile



Results – City Q

People

- Performs above average in the people system.
- Compared to other major North American cities, devotes significant resources on public safety.
- The use of ICT for health is high, as are the outcomes for health and public safety.
- Housing affordability is lower compared to other cities analysed.

Business

- Performs close to average in the business system.
- The city offers reasonable access to finance and market accessibility.
- The city offers lower availability of business real estate compared to other cities in the analysis.
- The city has a lower level of productivity than many other cities in North America.

Communication

- Has a reliable and good quality communication infrastructure.
- Wi-fi coverage is lower than in many other North American cities.
- Internet access in households is also lower than most of the other cities analysed.

Transport

- Ranks below the average in the transport system.
- The city has a relatively expensive public transport system compared with other North American cities.
- The city's road safety record is however above average and compares well vis-à-vis other cities.

Energy

- City's energy system performs well above the average.
- There is forecast to be wide usage of smart meters in the city by the end of 2010.
- Has a high usage of renewable energy sources.

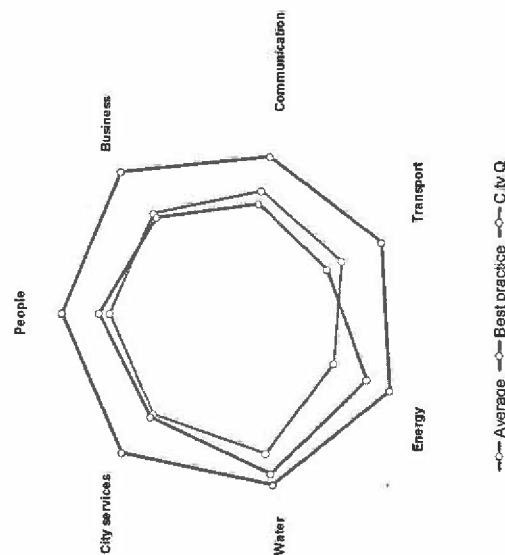
Water

- Performs above the average in the water system, and close to best practice.
- The quality of water is good and citizens have good access.

City Services

- Performs just above average for city services.
- The city has lower local government expenditure than many other cities in the analysis.

City Profile



Results — City R

People

- Compared to other major US cities, City R devotes fairly limited resources on education, health and public safety.
- The use of ICT for education, health and public safety is average or slightly below, resulting in average outcomes in these areas.
- Housing affordability in City R is among the best of the cities analysed.

Business

- The city offers limited access to finance and market accessibility.
- The city offers good availability of business real estate and a limited administrative burden.
- The city has a relatively low level of productivity, and limited innovation and entrepreneurial activity.

Communication

- City R has a reliable and good quality communication infrastructure.
- The city has a good level of broadband deployment, with a high wi-fi density.

Transport

- City R suffers from higher levels of congestion than many other cities.
- The city's road safety record is the poorest amongst the cities analysed here.

Energy

- Whilst there has been limited investment in energy efficiency, City R has implemented strategic planning and performance management for its energy system.
- Smart Metering is also evident in the city.
- With respect to CO2 emissions and air pollution from the energy system, City R performs better than many peer cities.

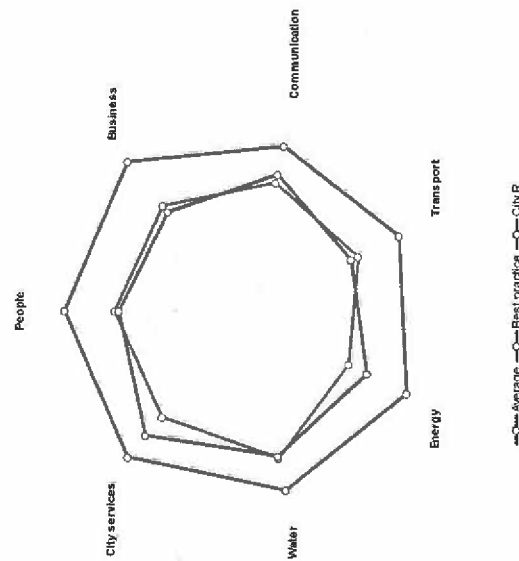
Water

- City R citizens have good access to water, and there is high water usage in the city.
- The city performs well in terms of pollutants and water waste.

City Services

- There has been comparatively high local government expenditure.
- E-government take-up is amongst the highest of the cities analysed in this study.

City Profile



Results – City S

People

- City S performs well in the people system, ranking 6th.
- The city devotes considerable resources to education, but relatively less to health and public safety.
- The city's use of ICT for education is average, below average for health, whilst the use of smart technologies for public safety is advanced.
- Despite the limited resources for public safety, the city is one of the leading cities with respect to public safety outcomes. Health and education outcomes are well above average.

Business

- City S ranks 2nd in the business system.
- The city offers good access to finance and availability of business real estate.
- The administrative burden on companies is average.
- The city has a high level of productivity, coupled with substantial innovative and entrepreneurial activity.

Communication

- City S ranks 3rd in the communication system, offering a high quality communication infrastructure.
- The city has good levels of ICT take up and use, coupled with considerable broadband deployment and high wi-fi density. However, some leading cities are more advanced in these areas.

Transport

- City S ranks last in the transport system among the cities analysed.
- While there is a reasonable public transport offer, the city suffers from significant congestion problems, high levels of energy consumption for transport and significant air pollution from the transport system.
- The road safety record of the city is relatively good.

Energy

- City S ranks 4th in the energy system.
- The city invests significantly in energy efficiency measures and has a relatively high use of renewable energy.
- In addition, the city is making progress on the use of smart metering and solutions for the energy system.
- The city does suffer from some unreliability in the energy provision.

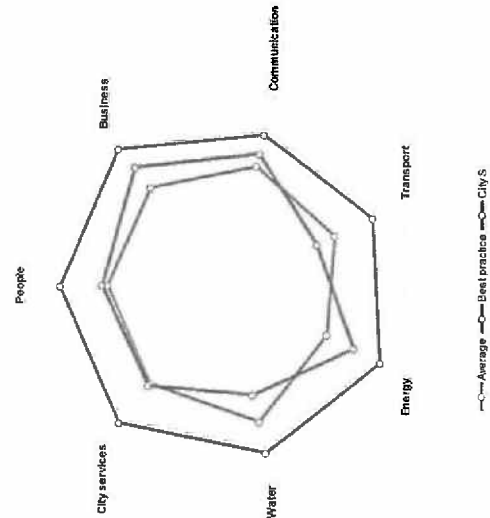
Water

- City S ranks 18th in the water system.
- The water quality is poorer than in most of the other cities, and overall water consumption levels are very high.
- Waste water treatment levels are reasonable.

City Services

- City S ranks 8th for city services.
- The city's citizens benefit from an advanced level of e-government service provision.
- The city government has relatively limited levels of resources and staff.

City Profile





Contact details

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Economic & Community Development Committee

Item	CM	Referred	Date
Joint Economic Strategy & Vision Project	Martin		Economic & Community Development Task Force
Fostering Richer Entrepreneurship	Gorton		1-20-11
IBM Smart City Initiative	Gorton		1-31-11
Quarterly Development Report	Gorton		2-28-11