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# Smart City Standards – A City Perspective

# OUTLINE

- Peterborough Overview
- City Challenges and Barriers
- The Role of Standards
- The Peterborough Experience



One of  
the UK's  
fastest  
growing  
cities

£1billion  
regeneration programme

ONE OF  
THE UK'S **4**  
FUTURE CITY  
DEMONSTRATORS

World Smart City 2015



190,400  
people

Creating the  
UK's Environment Capital,  
with the country's  
largest cluster of  
environmental  
businesses

UK's second  
highest rate  
of jobs growth during  
the last century

Ranked **4<sup>th</sup>**  
in the country  
for housing  
growth

UK's first  
GIGABIT  
CITY:  
access to the  
world's fastest  
business  
internet  
speeds

A diverse  
economy £  
with world-leading  
companies in advanced  
manufacturing, finance  
and agriculture



Peterborough



# CITIES ARE COMPLEX.....

- Multiple stakeholders with different priorities
- Natural propensity towards silo working
- Diverse populations with diverse needs
- Rapidly changing national and international contexts
- Resource constraints

*Requires new, smarter ways of thinking and working.....*

# A MOVE TOWARDS SMART CITIES.....

**BSI PAS 180:** “A Smart City is the *effective integration* of physical, *digital* and *human* systems in the built environment to deliver a sustainable, prosperous and inclusive future for it’s citizens.”

**ISO definition:** “A Smart City dramatically increases the pace at which it improves it’s *sustainability* and *resilience*...by fundamentally improving how it engages society, how it applies *collaborative leadership* methods, how it *works across disciplines* and city systems and how it *uses data and integrated technologies*.... in order to provide *better services and quality of life* to those in and involved with the city.”



# Peterborough DNA

Part of the Future Cities Programme

## **INTELLIGENCE**

**To understand and describe the city's challenges in order to transform smart city thinking into a major instrument for delivering public services.**

## **ENABLING**

**Helping people to think across silos at a time when integrating systems offers the most practical and sustainable solutions to city scale challenges.**

## **COLLABORATION**

**Leadership and governance to in order to realise the opportunity**



# SMART CITY STANDARDS CAN....

- Simplify complexity for cities
- Support smart city leadership
- Drive wider stakeholder engagement
- Provide a compendium of linked guidance
- Facilitates the capture of relevant case studies
- Increase the pace of transition to smarter cities

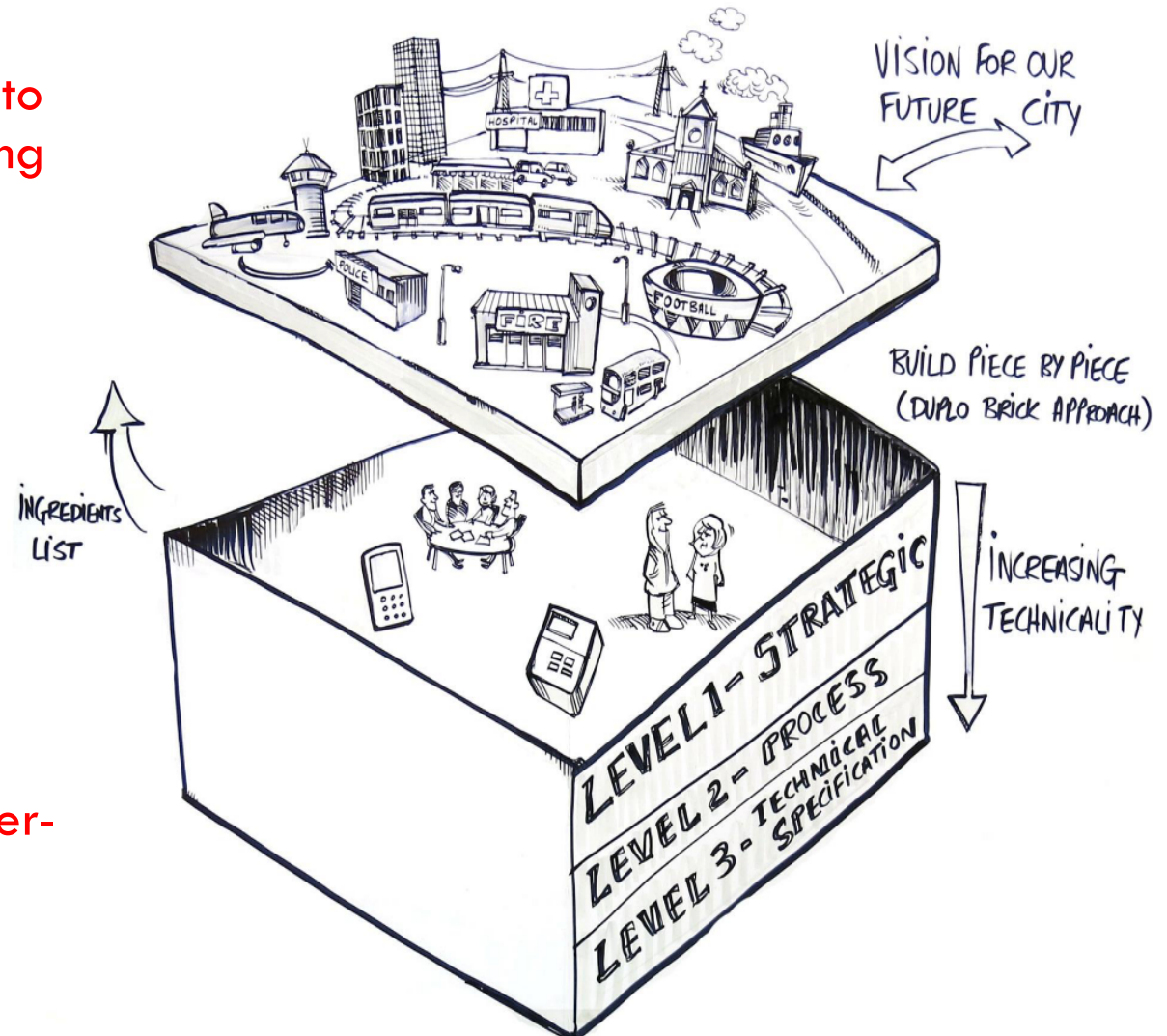


## SMART CITY STANDARDS CAN.... (CONT'D)

- Provide the right conditions to encourage innovation
- This, in turn, can drive the development of new, innovative products and services
- Innovative approaches to addressing city challenges
- Enable cities to monitor their progress

# THE BSI APPROACH

- ✓ **City-led portfolio approach**
  - ❑ A portfolio of materials addressing barriers to implementing smart city solutions → promoting **uptake at scale**
- ✓ **Tiers of materials**
  - ❑ Leadership Guides
  - ❑ Management Frameworks
  - ❑ Technical Interoperability Standards
- ✓ **Relevance at all levels**
  - ❑ **Leadership**, to set direction and steer smart integrated improvements
  - ❑ **Mid & Small sized cities**, that are often under-capacity
- ✓ **Focus on Production & Dissemination**



# THE STORY SO FAR....

## PD 8100 Smart city **Overview**

*Leadership engagement guide, providing useful assessment, and navigation to key BSI guidance*

## PD 8101 Smart city **Planning**

*Best practise for delivering smart development and infrastructure programmes*

## PAS 181 Smart city **Framework**

*Overarching smart city framework addressing key issues in delivering smart programmes*

## **Standards Mapping**

*Mapping of international standards to smart city model*

## PAS 180 **Terminology**

*Basic lexicon of terms*

## **SCLP** (Smart City Leadership Programme)

*Intensive 2-3d programme supports pan-city leadership to refine vision; develop roadmap; identify leadership model*

## PAS 182 Smart city **Data Concept Model**

*Ontology that sits above data sets to make city data more discoverable*

## **PAS 183 Decision Framework for Data Sharing**

*Decision making framework addressing wider data-sharing issues*

## **PAS 184 Options & Good Practices for Commissioning new projects**

*Leadership guide providing insight on alternative business models and use-cases to support these*

## REFLECTIONS ON THE STANDARDS DEVELOPMENT PROCESS

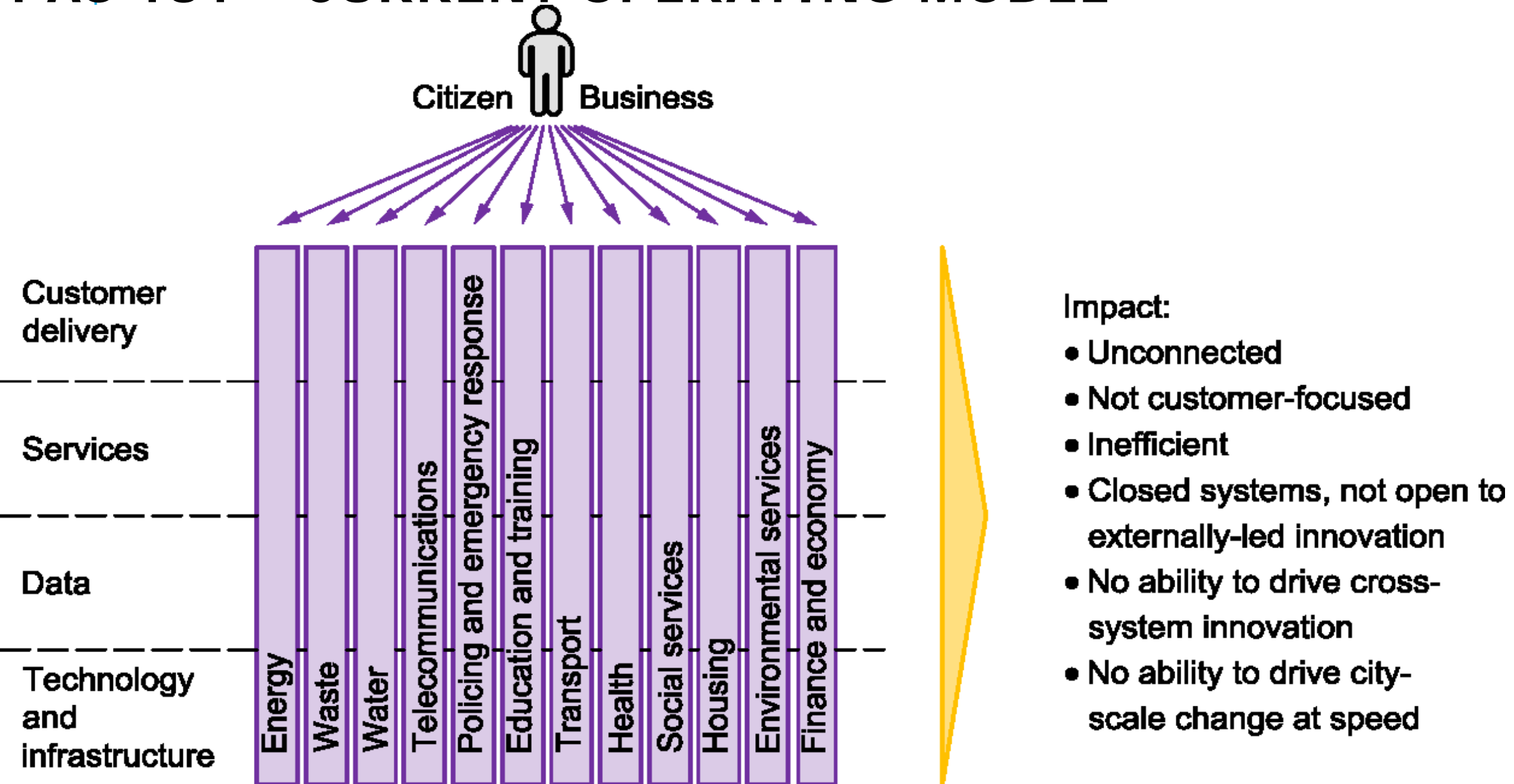
- Engaging, participative and informative
- User focused, ensuring maximum user input and relevance to the city context
- Use of Case Studies brings the document to life
- The key challenge is ensuring that the document reaches the right people in cities and that feedback on its usefulness and applicability are collated in order to inform future reviews.



# THE PETERBOROUGH EXPERIENCE

- PAS 181 forms the core of our Future Peterborough Framework and is already helping officers promote a common understanding and vision - promoting a consistent message across the Council and beyond
- Standards are supporting officers in gaining widespread acceptance of data sharing principles and at approaches particularly amongst non-data experts
- PAS 183 is helping to guide city decision makers through the complexity and supports the ongoing agenda of creating a data-sharing culture across the city and guides the transition from “open” to “shared” data approaches

# PAS 181 – CURRENT OPERATING MODEL



A. Guiding principles

|           |                 |         |                        |
|-----------|-----------------|---------|------------------------|
| Visionary | Citizen-centric | Digital | Open and collaborative |
|-----------|-----------------|---------|------------------------|

B. Key cross-city governance and delivery processes

Business management

[B1] City vision

[B2] Transforming the city's operating model

[B3] Leadership and governance

[B4] Stakeholder collaboration

[B5] Procurement and supplier management

[B6] Mapping the city's interoperability needs

[B7] Common terminology & reference model

[B8] Smart city roadmap

Citizen-centric service management

[B9] Empowering stakeholder-led service transformation

[B10] Delivering city-led transformation



[B11] Identity and privacy management

[B12] Digital inclusion and channel management

Technology and digital asset management

[B13] Resources mapping and management

[B14] Open, service-oriented, city-wide IT architecture

C. Benefit realization strategy

D. Critical success factors

Strategic clarity

Leadership

Skills

Stakeholder engagement

User focus

Supplier partnership

Achievable delivery

Future proofing

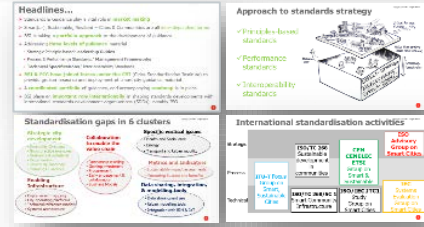
Benefit realization

# THE SMART CITY LEADERSHIP PROGRAMME

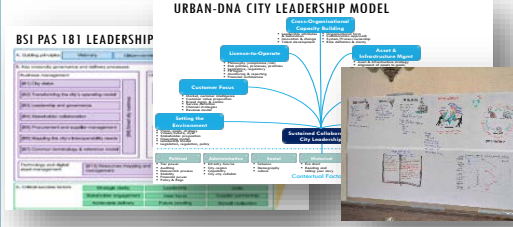
## "Knowledge Walls" for leading practice ideas



## Expert Input on Standardisation



## Expert Input on City Leadership



## Personal Fulfilment

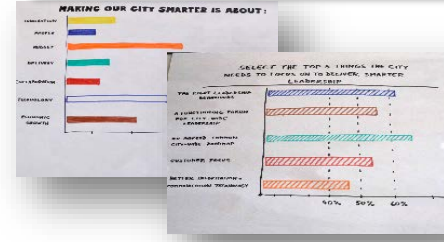


*"I found this the most thought provoking and useful session I have attended in my six years in Cabinet".*  
Councillor David Seaton, Cabinet Member for Resources, Peterborough City

## Portfolio of New Smart Initiatives



## Participant Survey Insights



## Pan-City Leadership Team



## Smart City Strategic Framework

### Smart City Assessment



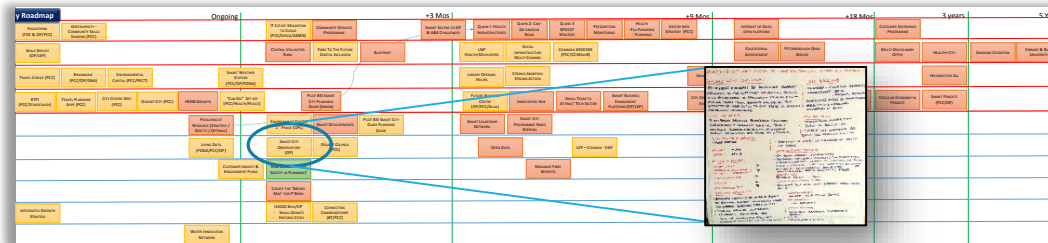
### Vision



### Strategic Themes



### Roadmap

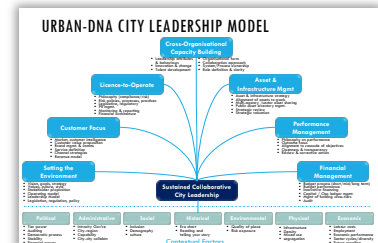


### Opportunity Sheets

### Goals



### Leadership Model





| PD 8100 Smart city Overview |                                |   | 1<br>Lagging       | 2<br>Developing | 3<br>Competent | 4<br>Progressive | 5<br>Excelling |
|-----------------------------|--------------------------------|---|--------------------|-----------------|----------------|------------------|----------------|
| Leadership environment      | A<br>B1<br>B3<br>B8<br>D       | Providing a strong city leadership network that advocates a common vision; operates as an effective leadership team; role-models open transparent style; sets priorities; creates and maintains a coherent roadmap; and ensures city success.               | Current assessment | ●               | ○              | +2 year ambition |                |
| Customer/ Stakeholder focus | B9<br>B10                      | A city that is built around its citizens, business community and visitors (as key stakeholders/customers); that truly understand them; engages them in an open and transparent relationship; and proactively ensures their active contribution to progress. |                    | ●               | Action plan    |                  | ○              |
| Service enablement          | B2<br>B3<br>B5<br>B7           | Providing the enabling context for success: including policy, planning, common protocols; means of collaboration; capability/capacity management; financing; business models; procurement processes; and an underpinning operating model.                   |                    |                 | ●              | ○                |                |
| Service delivery            |                                | Offering and managing quality services to city stakeholders, through direct or indirect means. Selecting the most appropriate business models and delivery agents (including society) to deliver most efficiently and effectively.                          |                    | ●               | ○              |                  |                |
| Digital asset management    | B6<br>B13<br>B14<br>B11<br>B12 | Exploiting the power of open data sharing and modern technologies (e.g. social media, analytics, mobile, cloud computing, sensors) through investment in and management of digital assets; including respect of privacy and digital abilities.              | ●                  |                 |                | ○                |                |
| Physical asset management   |                                | Inventorizing and exploiting physical assets; for multi-purpose; managing life-cycles and investments; integrating physical and digital assets; complete capture and open sharing of asset information.   | ●                  |                 | ○              |                  |                |
| Performance management      | C                              | Setting appropriate goals and targets; establishing measures and monitoring practices; ensuring a performance culture; predictive use of data; robust public value measurement; open reporting of value to stakeholders.                                    |                    | ●               | ○              |                  |                |

# CONCLUSIONS

- Cities need new thinking and new approaches to address challenges
- The BSI Smart City Suite of Standards is accessible, engaging, participative and informative
- It's usefulness stems from an inclusive development process, drawing on significant practitioner knowledge and experience
- The challenge is to raise awareness capture examples of the added value





*Thank You*