THE BENEFITS OF SPATIALLY CONNECTED GOVERNMENT

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Mapping is everywhere...
Location - the vital component!
Location – a meeting point for information?

Unique spatial code for every real world object

Postcode?

Place name?

Coordinates?
Register to vote
Allocation of school places
Connection of utility services
Delivery of social care
Streetworks
Collection of waste
Emergency situations
Delivery of packages
Payment of taxes
Quotation for insurance
A Unique Property Reference Number (UPRN)

The UPRN becomes a consistent point to join information from different organisations across government.
Unique Consistent Reference - Linking all government information

- Health records
- Flood plain
- Land ownership
- Utility supply/smart meters
- Topography
- Height of building? Floor levels?
- Crime, education, vulnerable persons
UNIQUE IDENTIFIERS FOR EVERY LOCATION/APARTMENT

Apartment
2nd floor left
UPRN1000045230

Apartment
1st floor left
UPRN1000045231

Apartment
2nd floor right
UPRN1000045232

Apartment
1st floor right
UPRN1000045233

Main distribution
Supply
Multi-family residential building
UPRN1000045234
50 billion Internet-connected things by 2020

Sensors Everywhere
(Things or Devices)

Slide source: Steve Liang, Univ. Calgary
Tell Us Once- UK Department for Works and Pensions

Over 10 years, $400 m in savings is predicted – based on evidence-based pathfinders and trials.

$100 m of savings for families over the next 10 years, resulting from the money saved on fuel or parking charges.
**Homes Energy Efficiency Database**
- Information on energy efficiency measures installed (primarily through Gov’t schemes)
- All UK
- From Energy Saving Trust

**Energy Suppliers**
- Meter point gas and electricity consumption data (kWh)
- All meters in Great Britain
- From energy suppliers administrative systems

**Valuation Office Agency**
- Collected to inform council tax band
- Data for all properties in England and Wales
- Physical attributes: age of property, type of property etc

**AddressBase**
- Unique property reference

**Energy Suppliers**
- Consumption (Elec. and gas)

**HEED**
- Energy efficiency measures

**VOA**
- Property attributes

**Experian**
- Household characteristics

**Experian**
- Commercial data about householders
- Modelled value for each property
- Leased for all UK properties

**THE SPINE**
Waste management

- 12 UK Local Authorities achieving cost savings of $5.5m per year
- Saving between 50-120 tonnes each of CO2 per annum
- Cutting fuel consumption by 12-15%
- Some showing a recycling rate doubled to 65%.
Coordination of utility roadworks
Incident location sharing for Emergency Services

Saving 18,000 hours per annum
4 minutes per call reduced to milliseconds of data transfer
Resilience Mapping
Everyone seeing the same information at the same time

- Mobile on the ground
- UK COBRA
- All responders
- In vehicle
- Gold Command
Definitive Spatial Reference
As used by UK government initiatives

National Entitlement Card
Citizens Account
Smart Metering
Census
Fire

Health
Environment
BBC
Climate Change
Energy Companies
Census
Land Registration
Fire and Rescue
Planning

Work and Pensions
Safety
Tax and Customs
Transport
Vehicle Licensing
Open Data
Local Authority
Police
Department for Education
Environment Agency

Tax
Births and Deaths
National Population Index
Digital Services
Connect
Individual Electoral Registration
Emergency Response
Home Office
Schools Admissions
Flood Risk
Savings made UK public sector using spatial data

- **Gloucestershire County Council** saves $3m on tendered bus services
- **East Riding of Yorkshire** saves $1.5m on school transport
- **Harrow Council’s waste project** saves $4.8m over 10 years
- **Automated bus pass allocation project saves Liverpool** $75k
- **The Suffolk Waste Partnership** saves St. Edmundsbury $27k
- **North Somerset District Council** saves $1m on school transport
- **Lee Valley Regional Park Authority** saves $150k on grounds maintenance
- **From 2002, London Borough of Sutton saves** $70k yearly on SEN transport

**Ordnance Survey**
OS Net- CORS Network
OS NET data supports a wide range of business activity and academic research

- Weather models
- Highways accident surveying
- Coastal monitoring & engineering
- Geology
- Integrated systems
- Long-term regional vertical land movement
- Meteorology & atmospheric studies
- Environmental monitoring, flood risk
- Wildlife & biodiversity
- Space studies (eg interferometry & altimetry)
Economic Benefits of Spatially Connected Government

- Ordnance Survey data underpins $113bn of Great Britain’s economy
  (Source: OXERA)
- For every $1 spent on address and street spatial data $4 is saved
  (Source: Geoplace)

- Across the 15 most commonly built applications using data from the UK single data framework, research shows that UK local authorities, police forces and fire services are already saving over $187 million every year

- If a majority (75%+) of local authorities and emergency services were to implement just these 15 most popular applications, savings would rise to over $0.7 billion each year.

- 0.2 to 0.6 GDP growth in UK
  (Source: Mindmetre 2015)
KEY BENEFITS OF SPATIALLY CONNECTED GOVERNMENT

• Easy exchange of information and open data between organisations and users through single location reference

• Best evidence for best policy creation and optimised (smart) front line public services

• Easier interaction with citizens- better public services and happier citizens

• Cost, time and environmental savings
Thank you

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