



# Making Wireless Work for Bristol

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**cityspace**

Urban Digital Networks

# The Creative Digital City

“New technology, the arts and a vibrant youth culture help to make this one of Britain’s most cutting edge cities”

- **8<sup>th</sup> largest city in the UK**
- **Youthful - 20,000+ students**
- **Buoyant - highest GDP outside London**
- **Pathfinder for Schools for the Future 24/7 learning**
- **European City for e-Democracy**
- **BT Govt Innovator of the Year**
- **Open Source culture**

The Rough Guide



# Development of Wireless in Bristol

2007

- T-Gov
- Shared Services
- Council applications
- E-Gov
- Access to information



2005



# 2005, StreetNet



- **Wireless pioneers - BCC & Cityspace launched StreetNet in 2005**
- **Was largest Wireless Mesh in UK**
- **Developed for council Legible City programme**
- **Ahead of its time for wider council use?**
- **Attracts up to 20,000 unique visitors per month**
- **Remains free at point of use**



# Catalysts



- **Increased prevalence of wireless devices**
- **Focus on take-up campaigns, THINK WEB!**
- **Increased community interest - Bristol Wireless**
- **Wireless as enabler for business transformation**
- **Digital Challenge - Connecting Bristol**



# Expressions of Interest

- **Increased interest in wireless**
- **BCC issued open 'tender' (EoI) to test the market**
- **6 responses received**
- **4 seriously considered**
- **Cityspace selected as preferred partner**
- **Broadband Access Group established to continue dialogue with a range of suppliers**



# Applications

- **Temporary CCTV (events)**
- **Intelligent bus stops**
- **Showcase bus routes (save on cabling)**
- **Environmental Protection (shared inspections)**
- **Wireless Hotzones libraries**
- **Computers for Pupils (DFES)**
- **Community regeneration**
- **Planning authority - new developments**



# Barriers

- **Location - coverage v applications (where to start?)**
- **Innovation v Business case (attitude to risk)**
- **Culture change (staff acceptance)**
- **Skills**
- **Pace - need to involve staff in process of change**
- **Ownership - not in ICT team's role?**



# Application Development

## – Business case preparation

- Evaluate footfall – Where are your users?
  - Build network proportionately as a Local Authority Utility/Asset
- Engage as many Cellular Mobility projects/stakeholders as possible - ROI contributor
- Evaluate Application type and existing costs
  - Fixed wireless access – e.g. CCTV, UTMC, metering
  - Mobility Data Collocation (Less dense municipal coverage required). Nomadic users. E.g. parking control, Field Service Automation, on street presence
  - Mobility Real-time transactional (Dense municipal coverage required and likely in building penetration) e.g. VOIP, Citrix.



# Application Development – Business case preparation

- Evaluate your bandwidth requirements
  - Muni Wi-Fi gives more “bang for buck” in network performance, scope for new applications/services.
- Be mindful of Business Process impact.
  - Modal shift in how the workforce operates.



# Application Development – Technical considerations

- “Fat” Client vs “thin” Client
  - “Fat” client for “thin” network and vice versa
  - Middleware - can be expensive to involve the ISV
- Least Cost Routing
  - One network may not be “fit for all”
  - Increasingly integrated into device
- User interface and devices
  - Profile your users and their work flow.



# Application and Network Development – other drivers

- A Local Authority municipal wireless network is:
  - A secure enabler to extend LA applications as part of its network infrastructure.
  - A future proof high capacity application delivery platform minimising OPEX
    - Application data volumes are constantly expanding, why pay proportionately more in the future?
    - Pound for pound a municipal mesh wireless network gives extremely good value per Mbps for local authority usage



# Conclusions

- **Wireless 'coming of age'**
- **Still need to convince some of business case**
- **Shared network is a basis for shared services**
- **Council as owner of wireless strategy - city and community leadership**



# The benefits

- Additional group of people to regularly inform and engage in council policies
- Online reduces administrative costs
- Discussion forums allow more qualitative input – good for pre-consultation work
- Can be representative but targeted outreach needed to gain wide community views



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