Inexpensive and Effective Urban Infrastructure for Measurement and Communications

Dr. David Evans
Computer Laboratory
University of Cambridge
david.evans@cl.cam.ac.uk

What needs infrastructure?

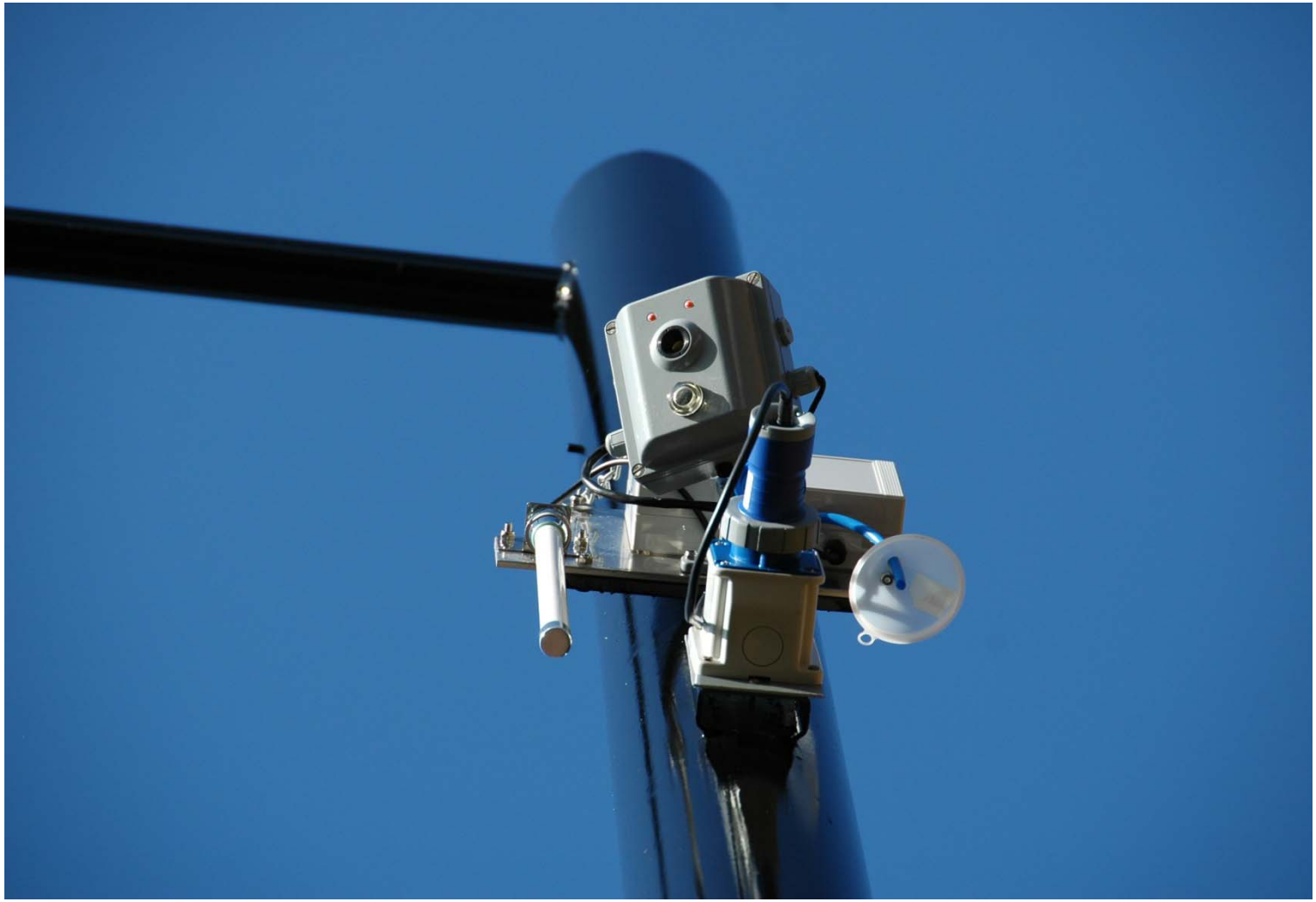
- measuring
- sensing
- communications

Lamp posts are good because…

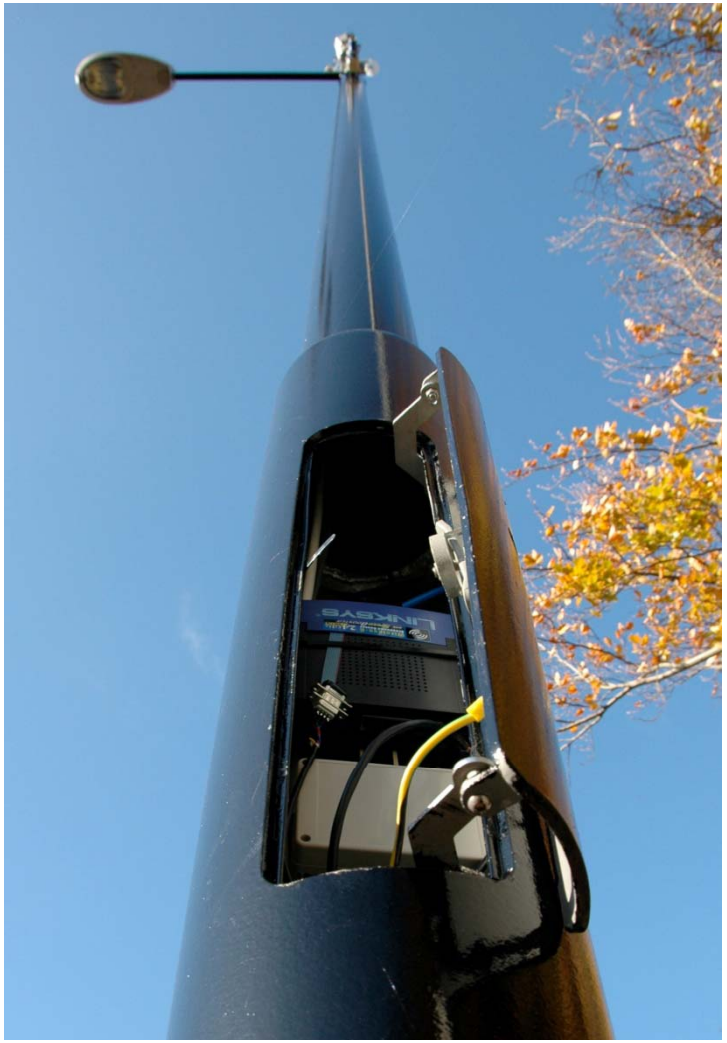
- ubiquitous
- dense in urban areas
- stationary
- powered
- robust

What we've done

What we've done



What we've done



Computation

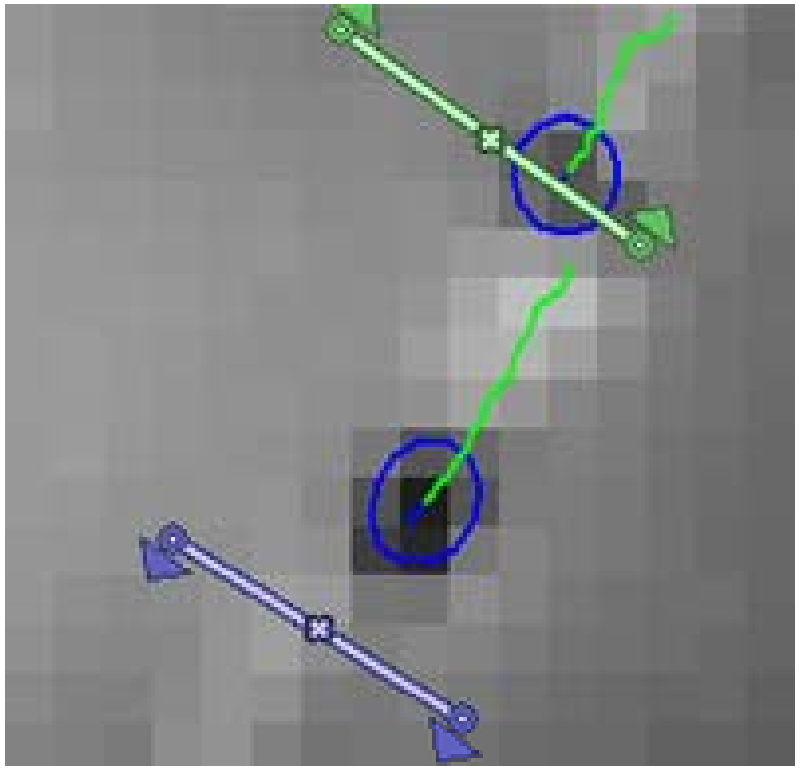
- a general-purpose, low-power computer with no moving parts
- connectivity to sensors
- networking (and lots of it)

Communications

- Wi-fi
- wired Ethernet enhances ease of GPRS/3G, wireless mesh networks, network-connected sensors

Sensing

- vehicle counts and speed estimate



Reliability so far

- installed in early November 2008
- has withstood snow, heat, rain, wind…
- only downtime caused by local power work

Benefits

- cheap to deploy
- can support a wide variety of apps
- have the opportunity for wide coverage

Who is responsible

- Jean Bacon
- Alastair Beresford
- David Evans
- Brian Jones

More information

http://www.cl.cam.ac.uk/research/time