Municipal Wireless as Third Pipe? Lessons from San Francisco

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San Francisco Context

- **Population about 777,000**
  - **Highly diverse:**
    - **30.8% Asian; 14.1% Hispanic; 7.8% African American**
  - **Median income about $55k**
- **Area 49 sq. miles**
  - **Numerous hills**
  - **High proportion of multi-unit housing**
- **Existing broadband providers**
  - **DSL incumbent: AT&T**
  - **Cable broadband provider: Comcast**
- Digital Divide in SF
  - **Significant gaps in computer and Internet access for:**
    - **Low income**
    - **Lower education levels**
    - **Hispanics and Blacks**
  - **School access:**
    - **SF ranks last among California cities:**
      - **in computers/100 students;**
      - **in Internet access per 100 students**

San Francisco TechConnect

- Established mid-2005
  - "strategy to promote digital inclusion by ensuring *affordable Internet access*…"
- September 2005: RFI/C:
  - "Universal, affordable *wireless broadband* internet access is essential to connect all residents of SF…"
- December 2005: RFP
- April 2006: winner announced: EarthLink/Google
- Late April 2006: Task Force on Digital Inclusion established
- January 2007: Contract Signed
  - Needed approval by Board of Supervisors Deadline? Six months after contract signing; extended to Oct. 07: NEVER APPROVED
- July 2007: Mayor's office intends to put project on November ballot
- August 2007: EarthLink backs out
- October 2007: Mayor says new initiative to be announced in a few weeks

Lessons from the SF Experience

- Confusing the Means with the Ends:
  - *Universal Internet access* becomes *universal wireless broadband access*
  - So much too ambitious RFP requiring citywide coverage including inside multistory buildings

- Understanding the Context:
  - Demand:
    - Little known about reasons for low take-up among lower income, disadvantaged before RFP
    - Recent studies show limited Internet access among low income, disadvantaged
  - City Politics
    - SF government structure: weak Mayor
    - Mayor vs. Supervisors
      - Whose idea?
      - Stalling tactics: ownership, privacy, pole attachments

What wasn’t learned from SF
(despite media accounts)…

- **Business Models for Muni Wireless:**
  - Free services, ad-based services? (Google’s interest)
  - Changing consumer needs: more bandwidth? Other options?
- **Threat to Incumbents?**
  - QOS inferior to incumbent networks
  - Capture of local government business
  - Crowding out vs. stimulation of competition
- **Opportunity for CLECs, independent ISPs**
  - Failure of resale
  - Intermodal competition: elusive third pipe?
  - Testbed for new services and markets
  - Wholesaling allows entrance for smaller providers

We still don’t know…

- **Can Muni Wireless be a Stepping Stone to 3G?**
  - Will incumbents respond with mobile broadband?
  - Will availability of broadband on mobile devices wipe out significant part of public WiFi demand?
  - Will municipal wireless eventually help to salvage 3G?
    - Transition to 3G devices and services
    - Hybrid 3G/WiFi devices
- **Will municipal wireless networks become the freenets of this decade?**
  - Stimulating demand, but eventually dying or being absorbed by commercial services