



Municipal Developments

■ Glasgow, Ken., after frustrations with incumbent cable TV provider Charter Communications, becomes one of the first municipalities to launch a competitive cable TV system.

■ Marietta, Ga., begins construction of municipal fiber backbone.

■ Tacoma (Wash.) Click! Network goes online, offering cable TV, Internet, and phone service.

■ Ashland (Ore.) Fiber Network goes online.

■ Tacoma Power halts construction on Click! Network as spike in wholesale electric prices depletes Tacoma Power's reserve fund, which has also been funding Click!. Construction later resumed.

■ Bristol Virginia Utilities fiber optic network goes online.

■ Using private funding, NYCwireless, a New York non-profit, places free wireless hot spot in Manhattan's Bryant Park. Google takes branded sponsorship in 2005.

■ Referendum to establish a municipal fiber system in Batavia, Geneva and St. Charles, Ill. (Tri-Cities) defeated. (April).

■ Kutztown, Pa., municipal fiber system goes online (August).



Technology and Market Developments

1989

1996

1997

1998

1999

2000

2001

2002

2003

■ Asymmetric Digital Subscriber Lines (ADSL) standardized, delivering data transfer rate of 8 Megabits/second over 1.5 mile loops.

■ Data Over Cable Service Interface Specification (DOCSIS) 1.0 standardizes cable modems.

■ Institute of Electrical and Electronics Engineers (IEEE) specification 802.11b standardizes 2.4 GHz wireless networks (known as "WiFi").

■ DOCSIS 1.1 is issued, fine tuning 1.0

■ Vonage founded and quickly becomes the leading national provider of Voice over Internet Protocol (VoIP) telephone service (January).

■ Boingo Wireless launches nationwide network of 400 WiFi hotspots (January).

■ DOCSIS 2.0 is issued, supporting 30 Mb/s symmetrical, VoIP, and enhanced quality of service (January).

■ T-Mobile and Starbucks announce WiFi hotspot deployment in 1,200 locations.

■ Intel unveils Centrino chip enhancing mobile communications technology for laptop PCs (March).

■ ADSL 2+ standardizes delivering 20 to 25 Mb/s over 1 mile loops.

■ IEEE 802.11g specification is introduced, allowing higher data transfer rates than 802.11b.

■ Skype founded, offering VoIP service based on a proprietary protocol.



Municipal Developments

- Chaska, Minn., municipal wireless system goes online.
- UTOPIA, Utah's 14-city wholesale fiber optic network, goes online. After promising local governments an "open access" network, UTOPIA awards AT&T exclusive retail rights for one year. After protests from Utah ISPs, UTOPIA changes terms of the A&T deal and signs second retail deal with MSTAR, a Provo ISP.
- Provo, Utah, iProvo fiber backbone goes online (July).
- Marietta, Ga., sells uncompleted fiber system for \$11 million after investing \$35 million (July).
- Second Tri-Cities, Ill. muni broadband referendum defeated (Nov).
- Philadelphia outlines municipal wireless plan (November).
- Pennsylvania enacts law severely limiting municipal entry into competitive telecommunications (November). Similar legislation is considered, sometimes adopted, in other states throughout 2005.

- Philadelphia issues RFP for municipal wireless, setting out a "cooperative wholesale" plan whereby the city will own the network and regulate wholesale rates. (April).
- After running out of money, Grant County (Wash.) Public Utility District elects to halt municipal fiber construction and "stand pat" with incomplete system (April).
- Ashland, Ore., facing \$15.5 million debt load, halts construction and sets plans to sell Fiber Network (May).
- Fiber To The Home Council lists 16 municipal FTTH systems in operation (May).
- JupiterResearch predicts half of municipal wireless systems will fail; recommends cities pursue public-private partnerships (June).
- Referendum approving municipal fiber system in Lafayette, La., passes (July).
- San Francisco outlines TechConnect municipal wireless project (September).
- Google suggests free wireless service in San Francisco to be supported by advertising (September).
- Wireless Philadelphia selects EarthLink, but abandons "cooperative wholesale" plan. EarthLink is given ownership of the network and allowed to set wholesale rates (October).
- San Francisco Mayor Gavin Newsom declares broadband Internet access to be a basic human right (October).
- Chaska, Minn., discloses it spent \$300,000 above its original \$600,000 budget to optimize its municipal network (November).

- San Francisco TechConnect issues RFP (February).
- Provo's Energy Department requests \$1 million transfer from electricity reserve fund to cover revenue shortfalls for the iProvo fiber system. (February).



Technology and Market Developments

2004

- Consumer wireless spending overtakes wireline spending.
- Broadband use overtakes dial-up for consumer Internet access (August).
- Early demonstrations of Worldwide Interoperability for Microwave Access (WiMax), offering high-throughput broadband over long distances.

2005

- AT&T WiFi network reaches 10,000 hot spots internationally
- Number of broadband lines in the U.S. reaches 38 million, according to FCC. (June).
- Verizon begins FiOS fiber-to-the-home trials in Keller, TX (June).
- AT&T begins Internet Protocol Television (IPTV) rollout (September).
- Cingular completes upgrade to Universal Mobile Telecommunications System (UMTS), a third generation mobile phone technology in 18 major U.S. markets (December).
- Number of U.S. broadband users reaches 47 million, according to Computer Industry *Almanac*. (December).

2006

- Verizon Wireless introduces VCAST service, providing audio and video downloads for cell phones (January).
- Verizon begins national FiOS rollout (January).
- Number of WiFi hotspots worldwide hits 100,000, with 37,000 in the U.S., according to Jiwire. (January).
- Boingo Wireless network reaches 26,000 hot spots internationally (February).
- T-Mobile network reaches 6,000 locations in U.S. (February).
- Nokia and T-Mobile introduce dual WiFi/cellular phones and service. (February).