

## Are Multiple Broadband Infrastructures Sustainable?

*Is Infrastructure Monopoly or Competition the Future of Broadband?*

Columbia Institute for Tele-Information  
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## Part 3 of CITI's 2005 Broadband Program

- Alternative Broadband Platforms: *Can They Compete With Fiber? Where?* (March 18)
- IPTV.2: *The Second Generation of Television Over the Broadband Internet* (May 23)
- Are Multiple Broadband Infrastructures Sustainable?: *Is Infrastructure Monopoly or Competition the Future of Broadband?* (June 23)

## Alternative Broadband Platforms

- Reviewed BPL, various broadband wireless technologies such as WiMAX, "WiFiber"
- Conclusion: Generally, these technologies won't compete with fiber-based infrastructures.
- They could be:
  - Adjuncts to/extensions of (i.e., reliant on) fiber-based systems
  - For mobile applications...but not very high bandwidth (i.e., home entertainment video)
  - Basic infrastructures in some markets (typically very low density) where fiber doesn't make sense

## IPTV.2

- Will IPTV be just "cable+VDO+Tivo"?...or something substantially different?
  - *Weak consensus: something different*
- Will IPTV generate substantial new revenues?...or will same revenue be split among more players?
  - *Strong consensus: same revenue/more players*
- Will IPTV revenues end up mostly with content suppliers?...or infrastructure suppliers?
  - *Strong consensus: with content suppliers*

## Different Circumstances...

	Manhattan, New York	Manhattan Nevada	United States
Population	1,537,195	1,841	280,562,489
Area (sq. miles)	23	1,801	3,717,792
Population Density	66,940.07/sq.mi	1.02/sq.mi.	79.56/sq.mi.
Per Capita Income	\$42,922	\$20,881	\$21,587

## Different Telecom...

	Manhattan, New York	Manhattan, Nevada
ILEC (mkt cap)	Verizon (\$98.3B)	Citizens (\$4.3B)
CLECs	14-23 per zipcode	0
Cellphone	5 nat'l + resellers	0
Cable BB	ubiquitous	none
DSL BB	ubiquitous	none
Public WiFi	1,000	0

### Some Issues

- Are multiple BB infrastructures likely:
  - where there are none today (“Digital Divide”)?
  - where subsidies/cross-subsidies are needed?
- Is “muni BB” the “last best hope” for some markets?
  - But will muni BB discourage competition in “attractive” markets?
- Will competition in “attractive” markets drive prices to unsustainable levels?
  - Is a comfortable duopoly the alternative?
- Will new applications, new revenues and lower infrastructure costs sustain multiple operators?

### Are Multiple Broadband Infrastructures Sustainable?

It all depends...