



Invisible Wires

By Kate Pickert

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SAVE



Manhattan has more cell-phone antennas per square mile than any other place in America. But the city does not track precisely where they're installed—whether they're on top of skyscrapers, schools, churches, or just above our heads on the sides of buildings. City Councilman Peter F. Vallone Jr. is on a crusade to force the city to start monitoring sites, fearing there could be as-yet-unknown health risks. But while his legislation is stuck in committee, the city is inviting two cell-phone providers, Nextel and T-Mobile, to install antennas on lamp posts before the end of the year. An antenna primer:

How Many Antennas Are There?

Manhattan has an estimated 1,235 buildings with rooftop cell-phone antennas, a density eclipsed only by Hong Kong and Tokyo, according to industry experts. That's about six times more sites than in Los Angeles, which has a larger cell-phone market but fewer pesky big buildings.



Why So Many?

Cell-phone signals travel along straight lines and can be blocked by buildings, so wireless companies mount antennas all around tall structures and beam in signals from all sides and levels. Some buildings are “wired” internally, and for outdoor spots that rooftop antennas can’t transmit to—like the sidewalk—wireless companies can mount inconspicuous microcells on the sides of buildings. AT&T Wireless has them above street level on nearly every third block in midtown.

How Much Do The Antennas Cost?

The city’s six major cellular providers spend up to \$10,000 per month per rooftop lease. Some buildings host several companies’ antennas. “Landlords are discovering it can be a good revenue source,” says Scott Latham of real-estate firm Cushman & Wakefield. Companies even pay to install antennaless poles, in anticipation of future industry growth.

Are There Health Risks?

Although many studies have shown the mild radiation from cell-phone antennas is probably not dangerous and is, by some accounts, only as powerful as radiation from a microwave oven, activists say more research is needed. (“Nobody uses a microwave 24 hours a day, right outside their bedroom window,” says Vallone.) Schools Chancellor Joel Klein’s proposal to lease space on public-school roofs was shot down last year, even as some Catholic schools are already generating such revenue. In August, the nation’s largest firefighters union said it was concerned that antennas on or near station houses might affect firefighters’ health.

Why Do I Still Lose Reception?

Cell-phone antennas can handle only a finite number of users at once. Then there are the buildings themselves. Dense marble presents a formidable challenge, and signals can bounce off glass-mirrored facing. To avoid “dead zones” in enclosed public venues, some cell-phone companies have already wired Madison Square Garden, Grand Central Terminal, and Yankee Stadium, along with the tunnels to and from Manhattan. The final frontier? The subway. Wiring tunnels is still cost-prohibitive, according to experts, so high-traffic stations will likely have cell service first.

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