Deploying Cell Sites in Urban Areas

March 31, 2015
Why More Cell Sites Are Necessary

This offers efficient coverage... while this offers significant capacity

By Necessity, the Industry Must Now Evolve Toward Capacity
The Competing Interests of Physics and Economics

• Transmission at lower frequencies (e.g., 700MHz) requires bigger antennas as well as other components

• Transmission at higher frequencies (e.g., 2600MHz) offers less coverage at the same power

• Producing more power requires heftier electrical components

• Control over radio transmission and gain improves with antenna size
  • The bigger, the better!

The Optimal Network Balances Coverage, Capacity and Cost/Mbps Served
An urgent need for network build out exists (additional spectrum alone is insufficient).

Rapid technology advancement is occurring on simultaneous fronts.

Not all advances occur in concert, nor can they be expected to.

This... *needs to go on this*
CommScope’s Metro Cell / Small Cells Solution for Street Lighting Structures

- Upper antenna unit of 4.3 cu. ft.
- Lower equipment unit of 5.8 cu. ft.
- Accommodates a wide range of poles and pole designs
- Inherent flexibility to adapt to many future requirements
Example Downtown Placement of Wrap Around Radio Plus Cantenna
Outdoor DAS Concealment
More Power, More Capacity; Harder to Hide
Macro Cell Concealment
More Power & Capacity; But Larger Still
Summary

- Subscribers increasingly require more of their mobile devices (video)
- Devices themselves are requiring more connectivity ("internet of things", including your car)
- A finite amount of spectrum available as well as the recognition that LTE is at the limits of modulation forces different tacks:
  - Network multiplication through small cells (DAS, metro cells, Wi-Fi)
  - Use of multiple cells communicating with the user equipment
  - Use of wider bands requiring more power (bigger radios)

How Can the Public and Private Sectors Help Each Other?
How can we help you?