





Mobile broadband – 5G & Microtrenching

Chris Levendos - VP Network Engineering & Operations

May 1, 2019

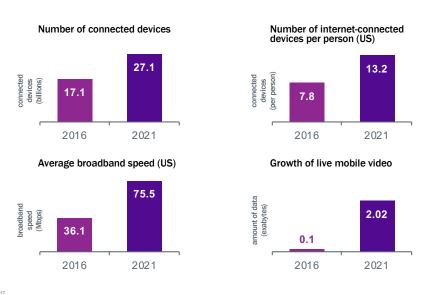
The pathway to possible.

Mobile Broadband is **Transforming** the Way People Live, Work, & Experience the World

1G	2G	3G	4G	5G
2 Kb/s	64 Kb/s	2 Mb/s	200 Mb/s	> 1Gp/s
Mobile Telephone	Digital Voice, Short Message	Text, Internet	Live Streaming	Internet of Things, Smart
				•



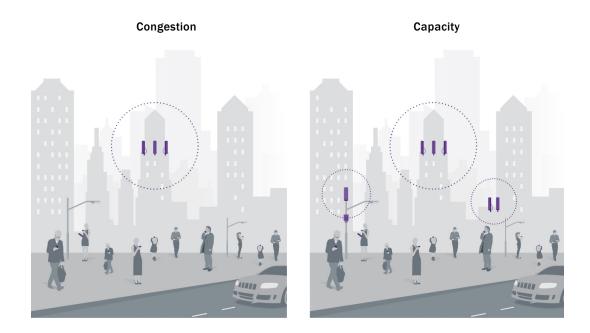
New technologies are driving greater data demand and usage



Source. Visual Networking Index, Cisco, Julie 2011



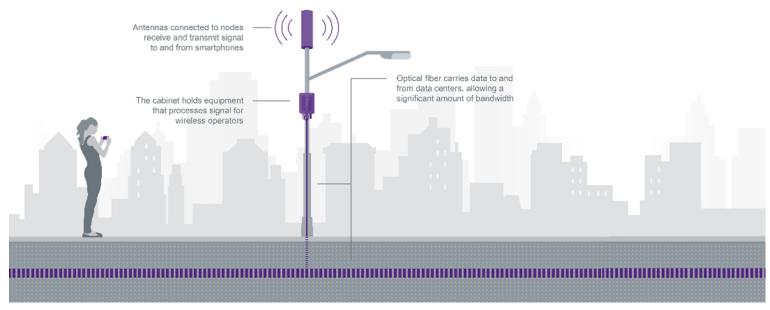
Maintaining coverage requires more infrastructure





Fiber, Small Cells and Macro Cells/Towers are the Infrastructure Behind the Worlds Most Revolutionary Technologies

Small cell solutions are a complement to macro cells that add much needed coverage and capacity to urban and residential areas, venues, and anywhere large crowds gather.



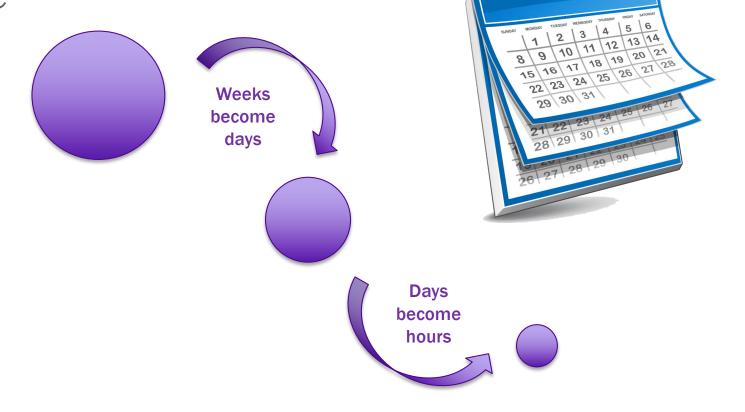


PROPRIETARY & CONFIDENTIAL

Time, Cost and Accomplishment



Time





Cost



\$ hundreds per foot to \$ tens per foot



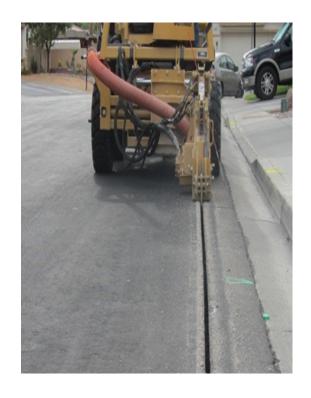
Accomplishment: Widget





The Benefits of Microtrenching







Microtrenching Installation

The Microtrenching machine makes a thin straight line cut, and vacuums as it cuts, removing debris from the trench.

Conduits are then placed in the trench cut, with a tracer wire, backer rod and V Clip.







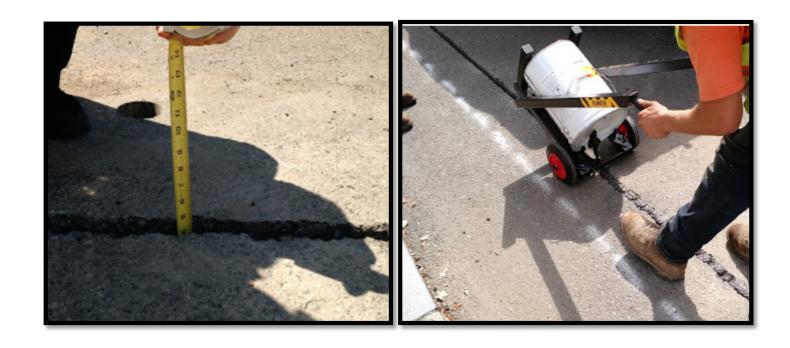
Boston





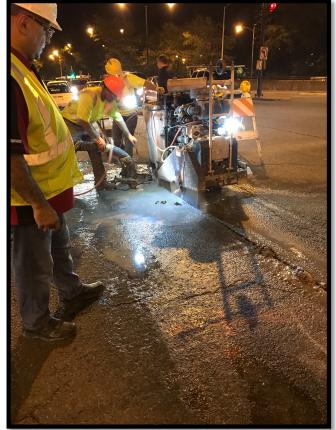


Boston





Chicago







PROPRIETARY & CONFIDENTIAL

Chicago





CROWN

Los Angeles







Los Angeles







New York





PRIETARY & CONFIDENTIA

New York







PROPRIETARY & CONFIDENTIAL

May 2019 | PAGE 21

New York







PROPRIETARY & CONFIDENTIAL

Cities: Microtrenching to support leading edge 5G deployments.

- **✓** Less disruptive deployment.
- ✓ Less traffic disruptions during deployment.
- **✓** Less noise, dirt and traffic during deployment.
- ✓ Trench repair almost un-noticeable
- **✓** Fewer complaints during deployment.
- **✓** Greatly reduced duration of construction.



For further information please contact:

Chris Levendos (914) 908-1067

Chris.Levendos@crowncastle.com



