

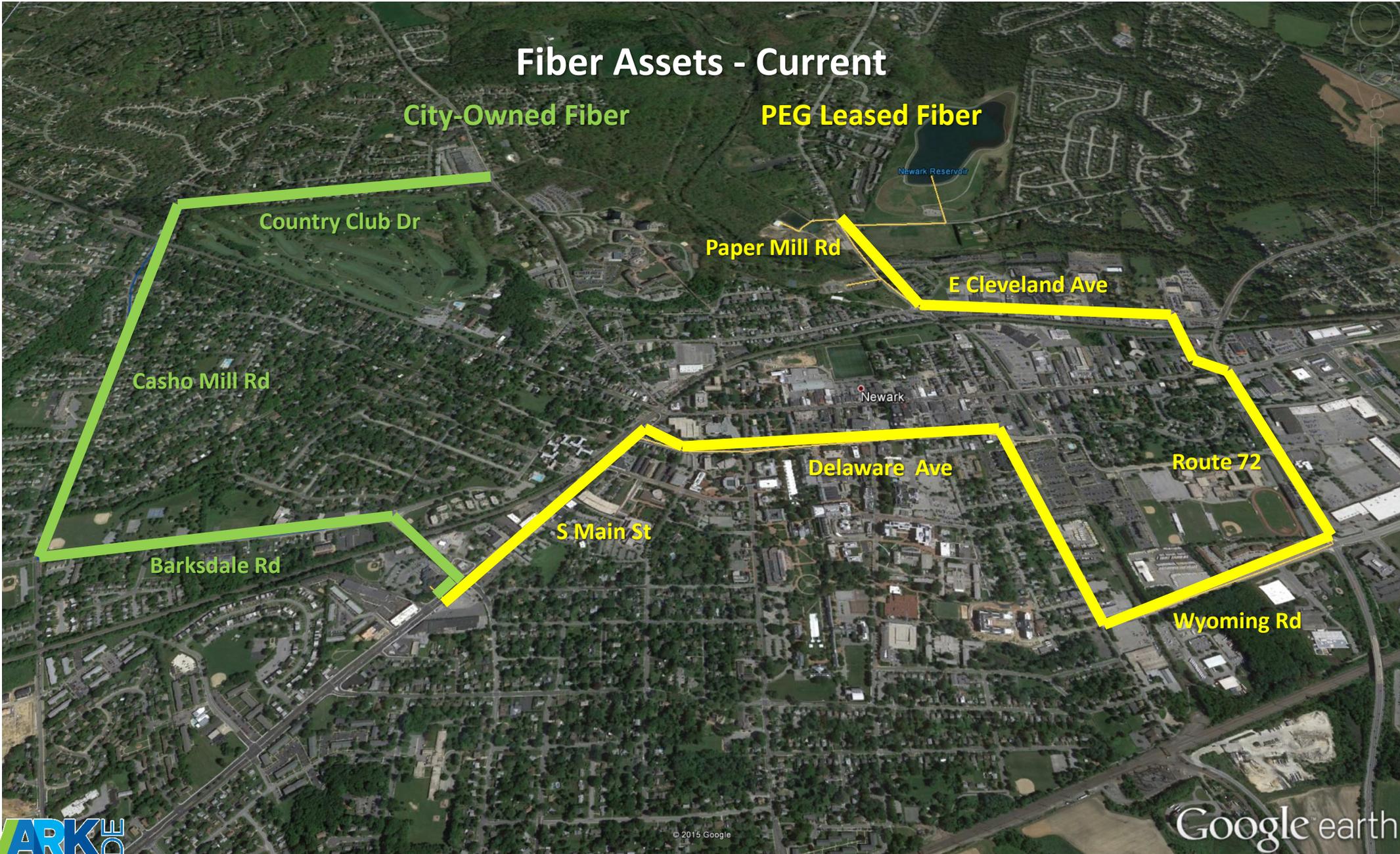


Municipal Broadband
Let's have a **conversation.**

Fiber Assets - Current

City-Owned Fiber

PEG Leased Fiber

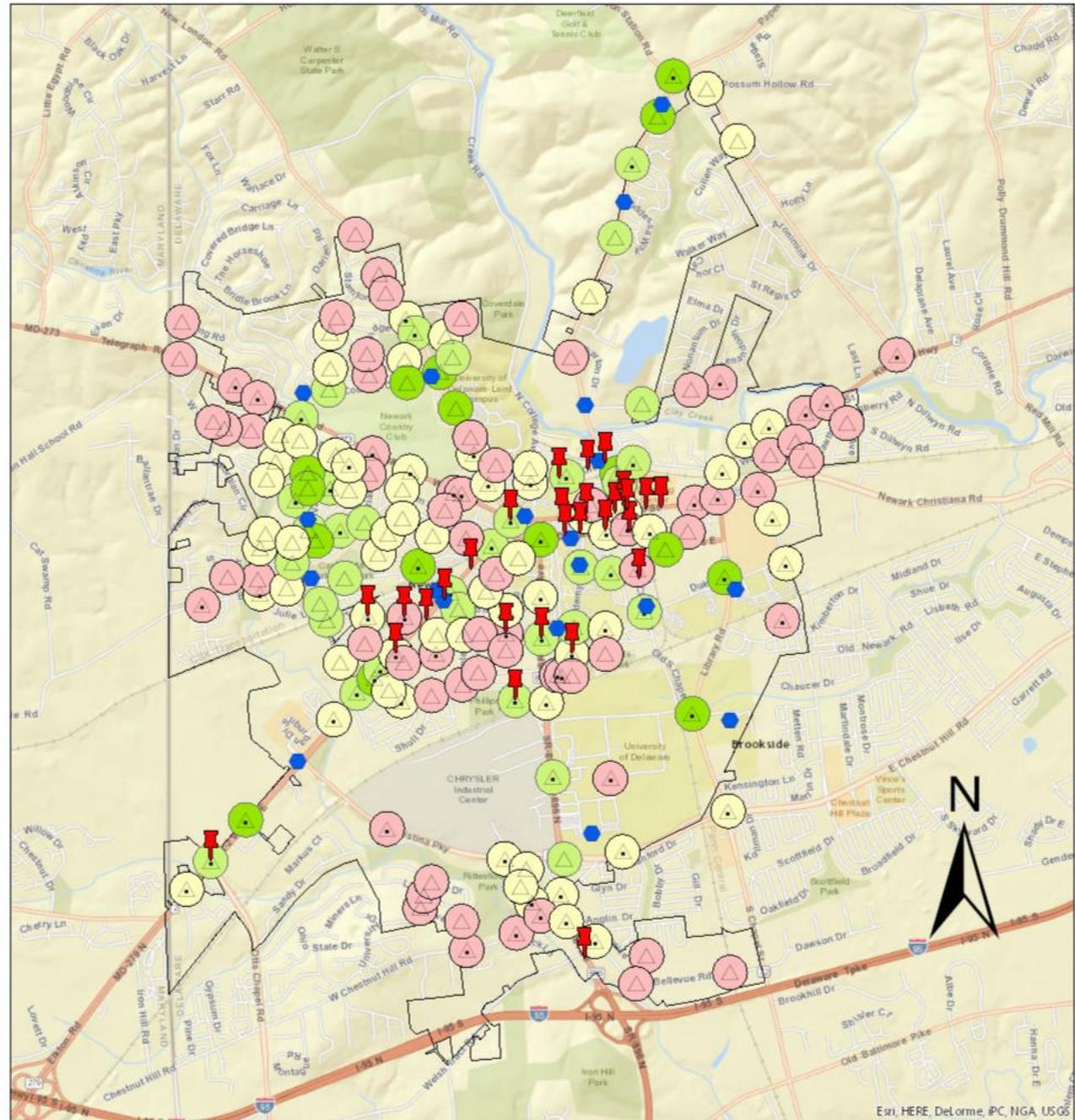


Newark Wireless Utility Mesh

Current Throughput

- Fiber Connected Wireless Node 100 Mbps
- Wireless Node 15+ Mbps
- Wireless Node 10-15 Mbps
- Wireless Node 5-10 Mbps
- Wireless Node 1-5 Mbps
- Safety Camera

System not designed and built to support 1000's of simultaneous users

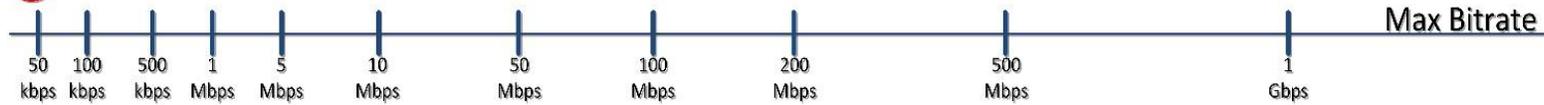


Data Speed Capacity



Wireline Technology

- Technology at a mature state of deployment
- Technology deployed in select markets
- Technology at conceptual or developmental stage or early stage of deployment

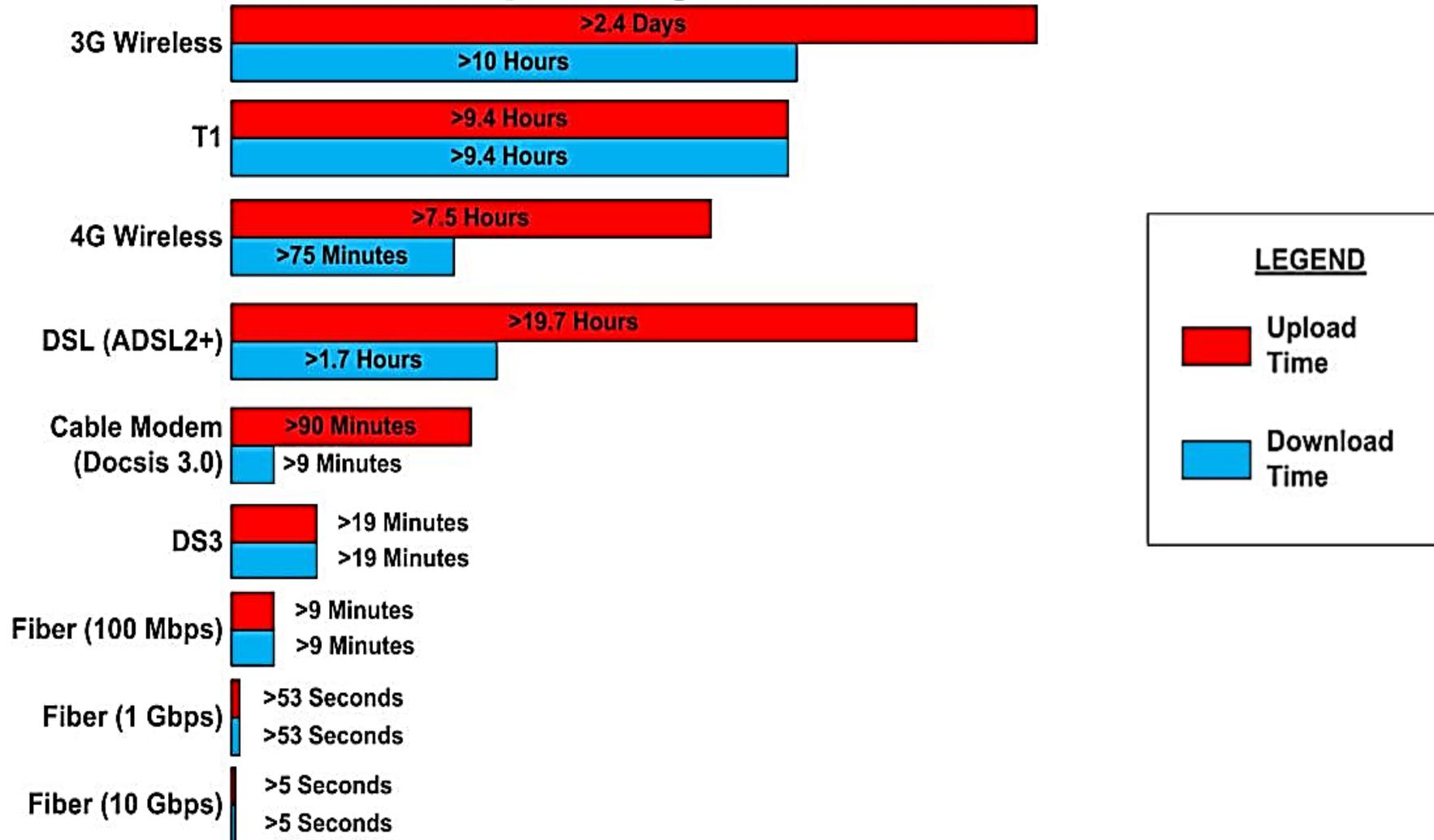


Smart-Meter Mesh Capability

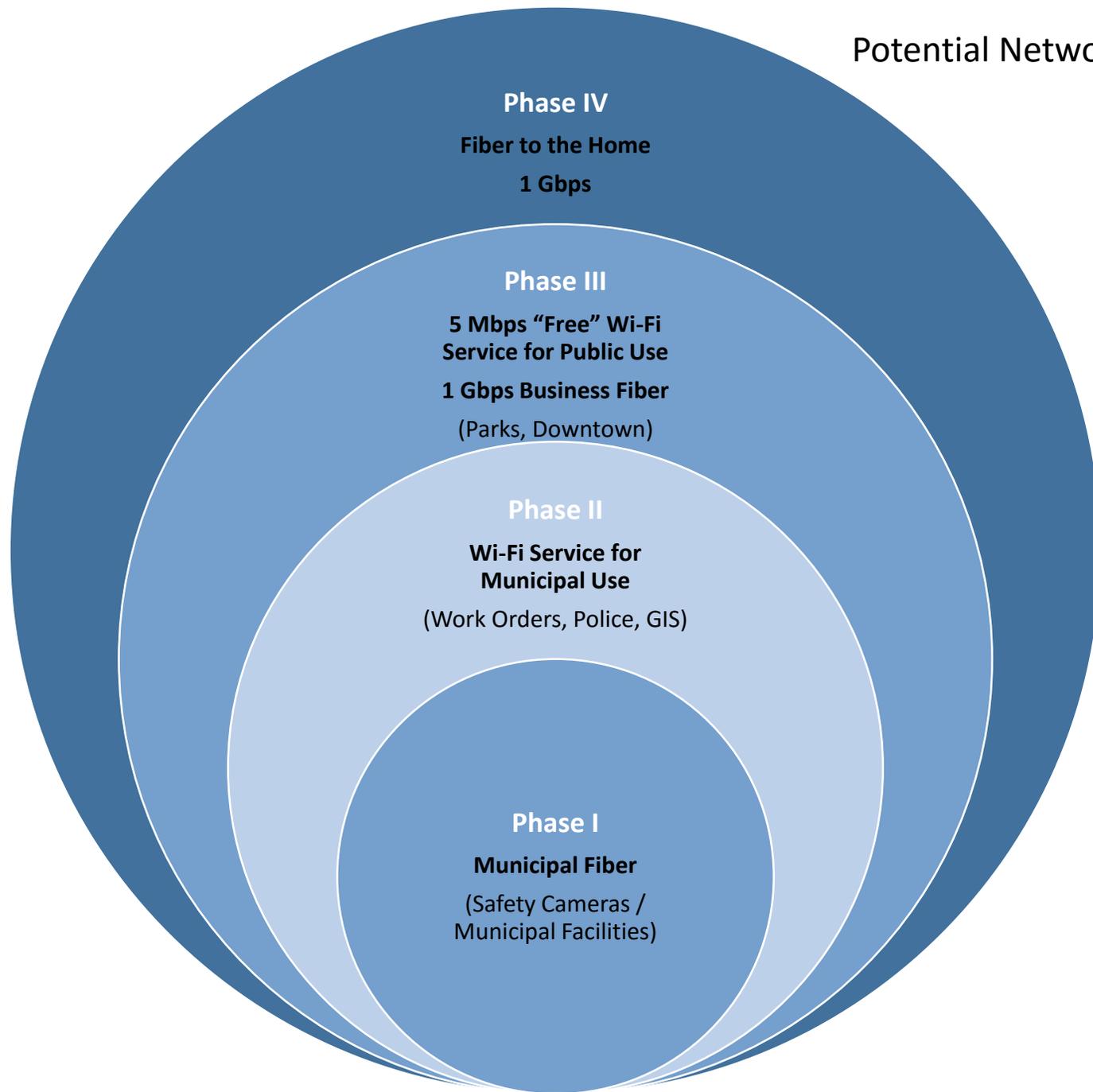


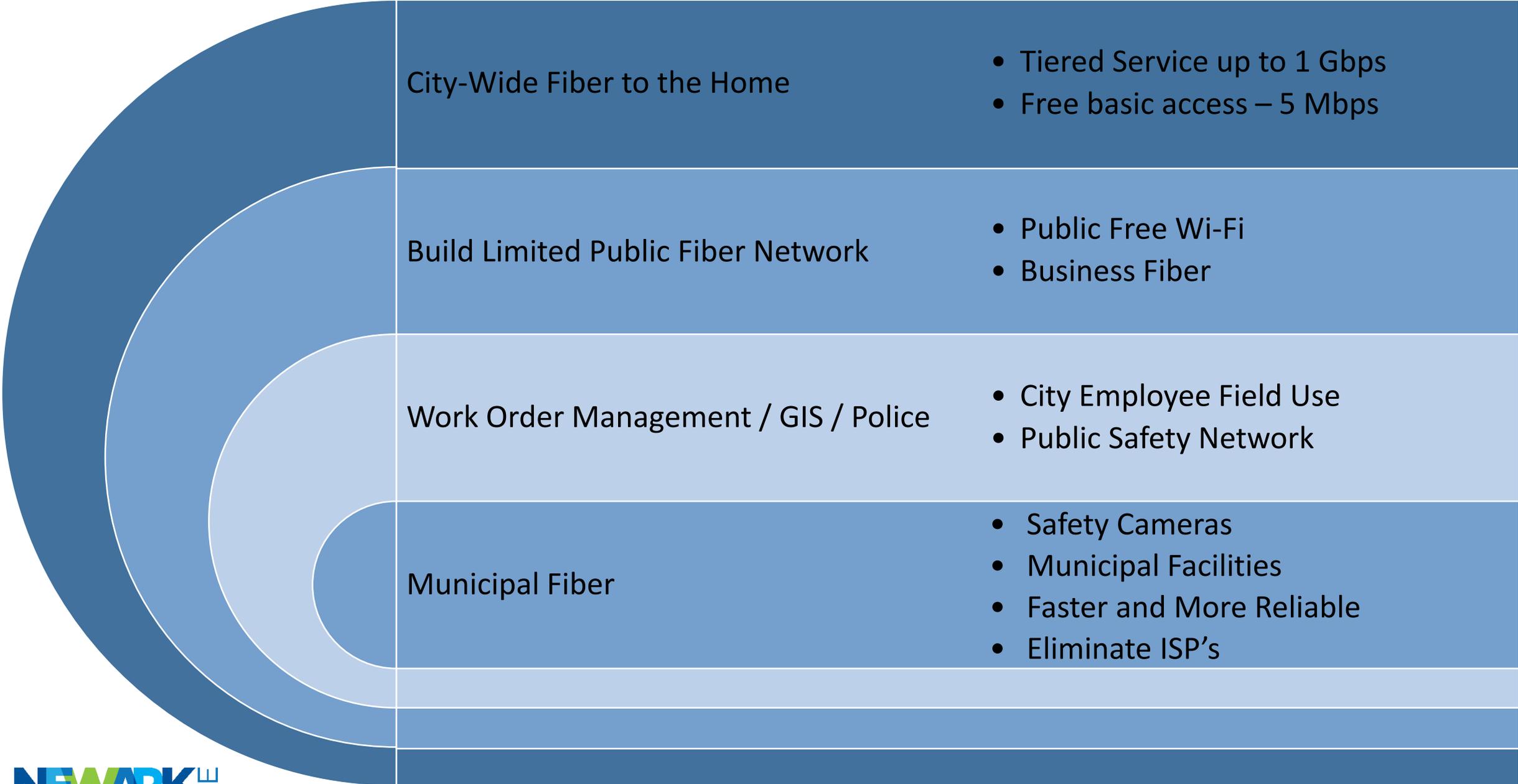
Wireless Technology

Minimum Time Required for Downloading and Uploading a 5 GB File (1 High Definition Movie)



Potential Network Buildout





City-Wide Fiber to the Home

- Tiered Service up to 1 Gbps
- Free basic access – 5 Mbps

Build Limited Public Fiber Network

- Public Free Wi-Fi
- Business Fiber

Work Order Management / GIS / Police

- City Employee Field Use
- Public Safety Network

Municipal Fiber

- Safety Cameras
- Municipal Facilities
- Faster and More Reliable
- Eliminate ISP's

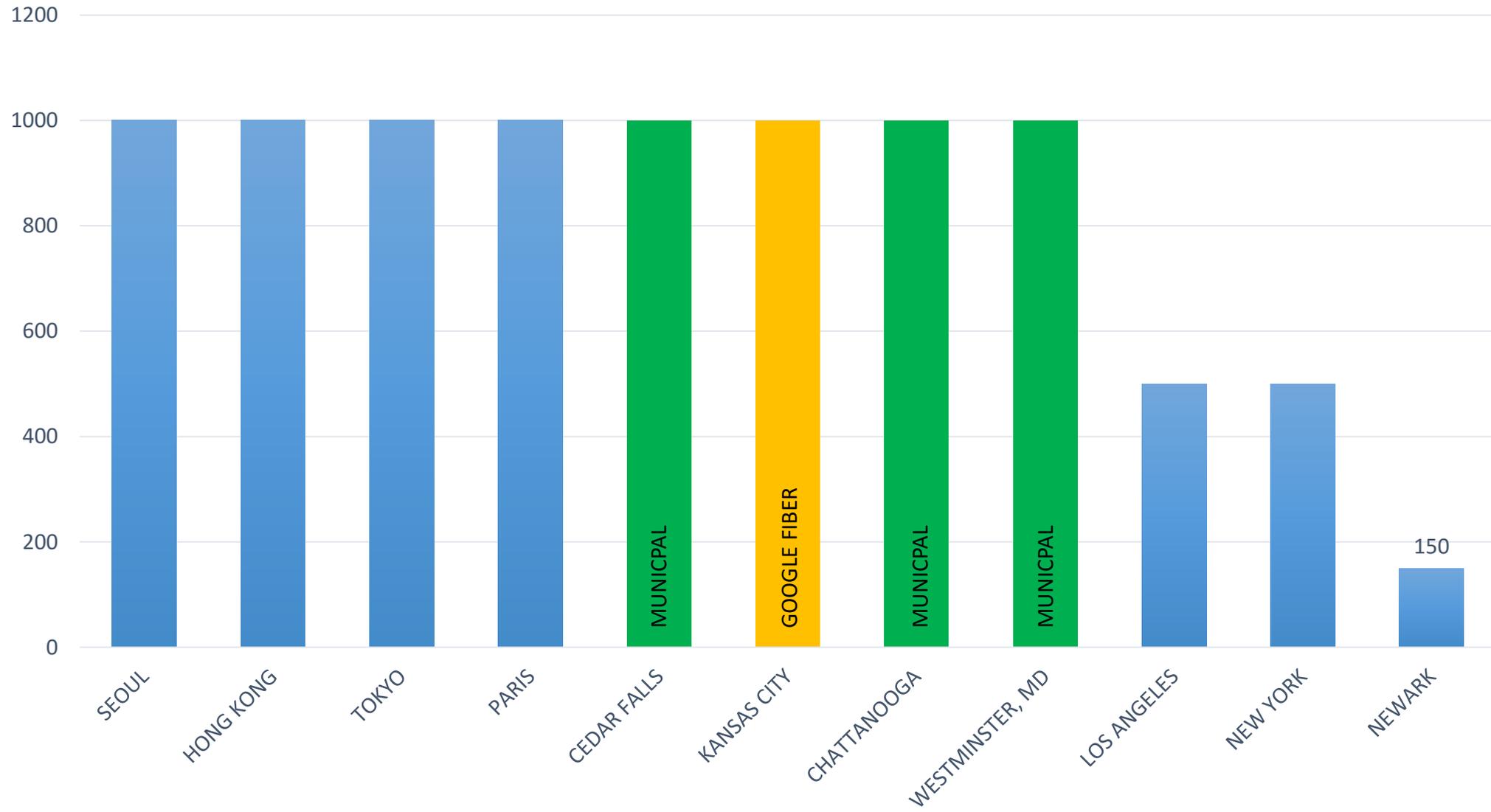
Residential Internet Market Competition

Comcast Xfinity	Verizon FIOS	Chattanooga, TN	Westminster, MD
25 Mbps - \$67/mo. 100 Mbps - \$79/mo. 150 Mbps - \$90/mo. <i>*first 12 month pricing</i>	25 Mbps - \$44/mo. 75 Mbps - \$75/mo. 150 Mbps - \$125/mo. <i>*off contract pricing</i>	100 Mbps - \$58/mo. 1000 Mbps* - \$70/mo.	5 Mbps - \$19/mo. 1000 Mbps* - 89/mo.
\$1,080/yr	\$1,500/yr	\$840/yr	\$1,068/yr

All prices are for non-bundled services and do not include taxes

*1000 Mbps = 1 Gbps

Available Residential Download Speeds by City



Business-Class Internet Market Competition

Comcast Xfinity	Verizon FIOS	Chattanooga, TN	Westminster, MD
<p>25 Mbps - \$100/mo. 100 Mbps - \$200/mo. 150 Mbps - \$250/mo.</p> <p><i>*first 12 month pricing</i></p>	<p>25 Mbps - \$75/mo. 75 Mbps - \$125/mo. 150 Mbps - \$195/mo. 500 Mbps - \$370/mo.</p> <p><i>*off contract pricing</i></p>	<p>100 Mbps - \$58/mo. 1000 Mbps* - \$70/mo.</p>	<p>1000 Mbps* - 139/mo.</p>
<p>\$3,000/yr</p>	<p>\$4,400/yr</p>	<p>\$840/yr (same as Residential)</p>	<p>\$1668/yr</p>

All prices are for non-bundled services

**1000 Mbps = 1 Gbps*

Broadband in Delaware

SEE ALL STATES

37.9

MBPS AVERAGE
STATE-WIDE
SPEED¹

7th

MOST
CONNECTED
STATE²

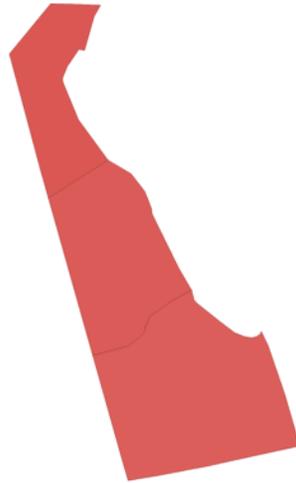


BROADBAND
COVERAGE³



POPULATION
UNDERSERVED⁴

COVERAGE BY COUNTY



25+ MBPS

50+ MBPS

1 GIG

EMBED THIS MAP

CUSTOMIZE MAP

\$ GOV'T FUNDING

Since 2010, [Delaware's Broadband Mapping Project](#) has been awarded \$3,080,450 in federal grants for [Delaware's Broadband Initiative](#).

Since 2011, access to a wired connection of at least 10mbps has improved from 93.0% to 97.2% of Delawareans.

Q QUICK STATS

In total there are 16 broadband providers in Delaware.

There are 38,000 people in Delaware without access to a wired connection capable of 25mbps download speeds.

There are 42,000 people in Delaware that have access to only one wired provider, leaving them no options to switch.

Another 10,000 people in Delaware don't have any wired internet providers available where they live.

⚡ BROADBAND SPEEDS

96.0% of Delawareans have access to wired broadband 25mbps or faster.

96.0% of Delawareans have access to broadband 100mbps or faster.

2.2% of Delawareans have access to 1 gigabit broadband.

🌐 WIRED COVERAGE

98.7% of Delawareans have access to wireline service.

55.1% of Delawareans have access to [fiber-optic](#) service.

95.4% of Delawareans have access to [cable](#) service.

79.2% of Delawareans have access to [DSL](#) service.

📶 WIRELESS COVERAGE

99.2% of Delawareans have access to [mobile broadband](#) service.

Provider	Availability	Rating	Speed
xfinity CABLE			
fios by verizon FIBER			
verizon DSL			
windstream communications DSL			
at&t MOBILE			
cricket MOBILE			
Sprint MOBILE			
T-Mobile MOBILE			
verizon MOBILE			
HughesNet SATELLITE			

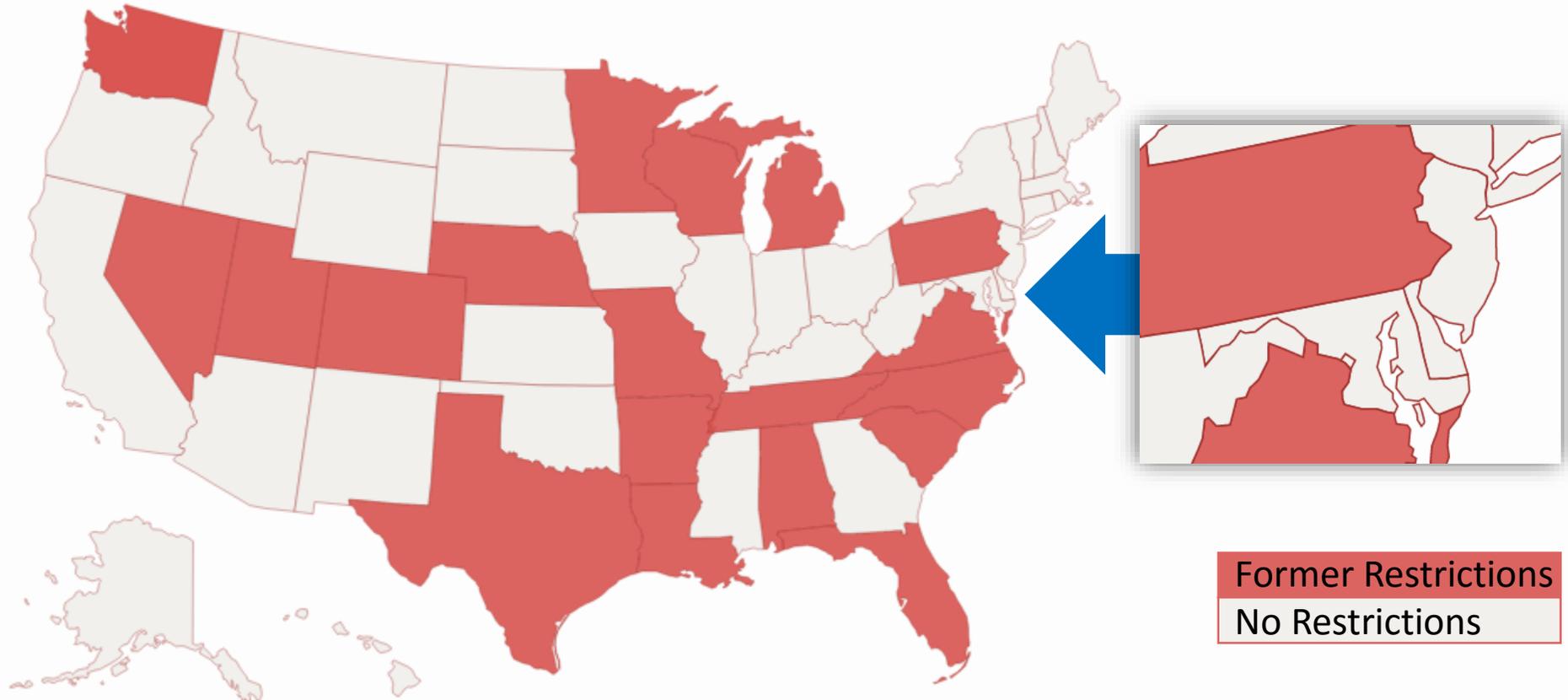
Provider	Availability	Rating	Speed
fios by verizon FIBER · BUSINESS			
Level 3 FIBER · BUSINESS			
GLOBALCAPACITY COPPER · BUSINESS			
MegaPath COPPER · BUSINESS			
windstream communications COPPER · BUSINESS			
Broadview Networks COPPER · BUSINESS			
COMCAST BUSINESS CABLE · BUSINESS			
verizon DSL · BUSINESS			
MegaPath DSL · BUSINESS			
GLOBALCAPACITY DSL · BUSINESS			

Competition

Newark, DE has a total of 18 Internet providers including:

- 2 Cable providers
- 4 Copper providers
- 4 DSL providers
- 2 Fiber providers
- 5 Mobile providers
- 1 Satellite provider

States with Municipal Broadband Restrictions



Former Restrictions
No Restrictions

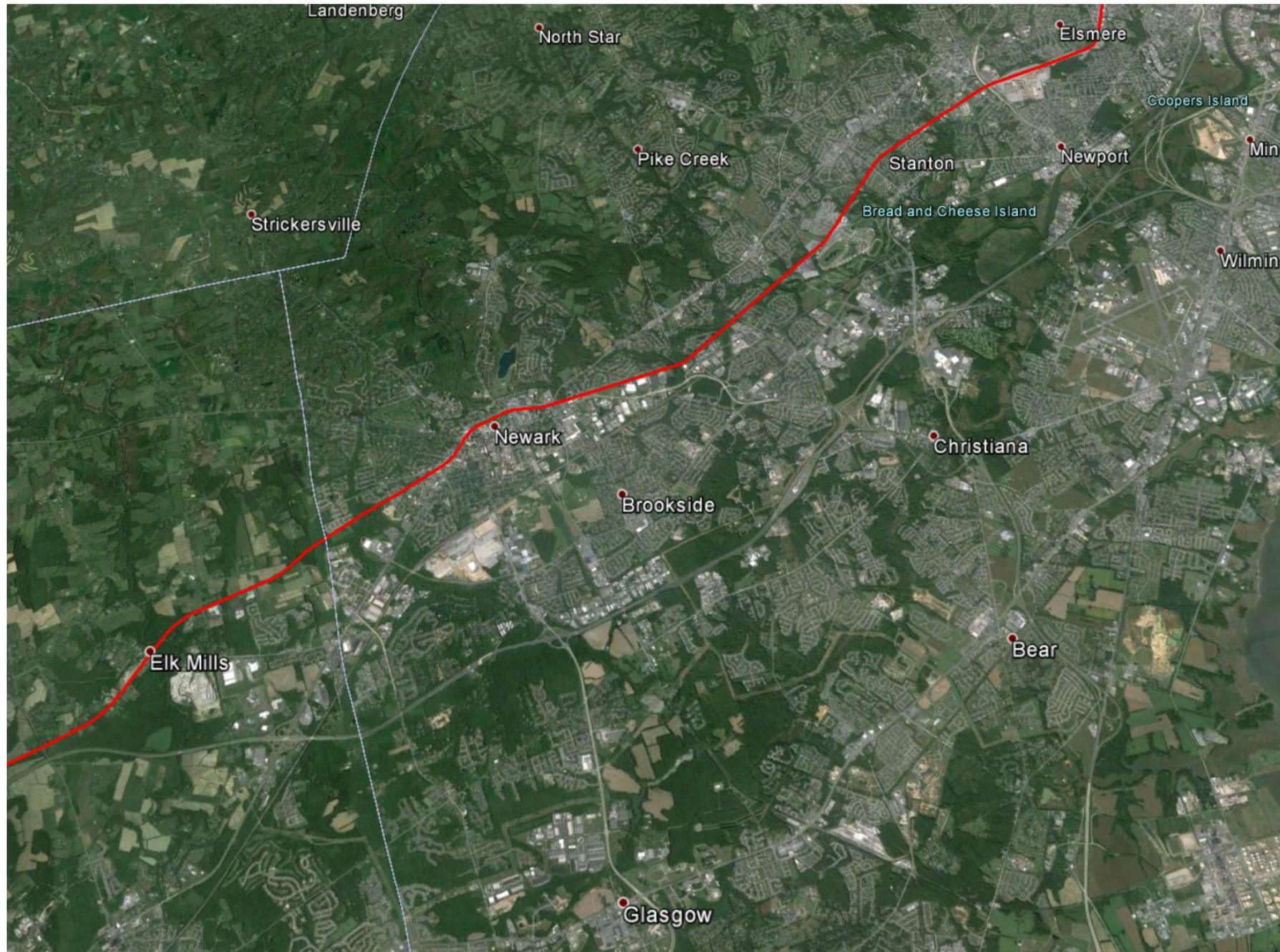
PREEMPTION OF PROHIBITIONS ON MUNICIPAL PROVISION OF BROADBAND
https://apps.fcc.gov/edocs_public/attachmatch/FCC-15-25A1.pdf



Sunesys
Northeast Operations
202 Titus Avenue, Warrington, PA 18976

Sunesys is a leading provider of premium bandwidth services and private fiber optic networks. We own, operate, and maintain our own high density fiber optic network in major metropolitan areas across 31 states in the U.S. Sunesys offers a comprehensive suite of tailored, high capacity, facilities-based network services coupled with superior industry expertise, service, and support.

Sunesys is a subsidiary of Crown Castle International Corp. (NYSE: CCI). Crown Castle provides wireless carriers with the infrastructure they need to keep people connected and businesses running. With approximately 40,000 towers and 15,000 small cell nodes supported by approximately 16,000 miles of fiber, Crown Castle is the nation's largest provider of shared wireless infrastructure with a significant presence in the top 100 U.S. markets.

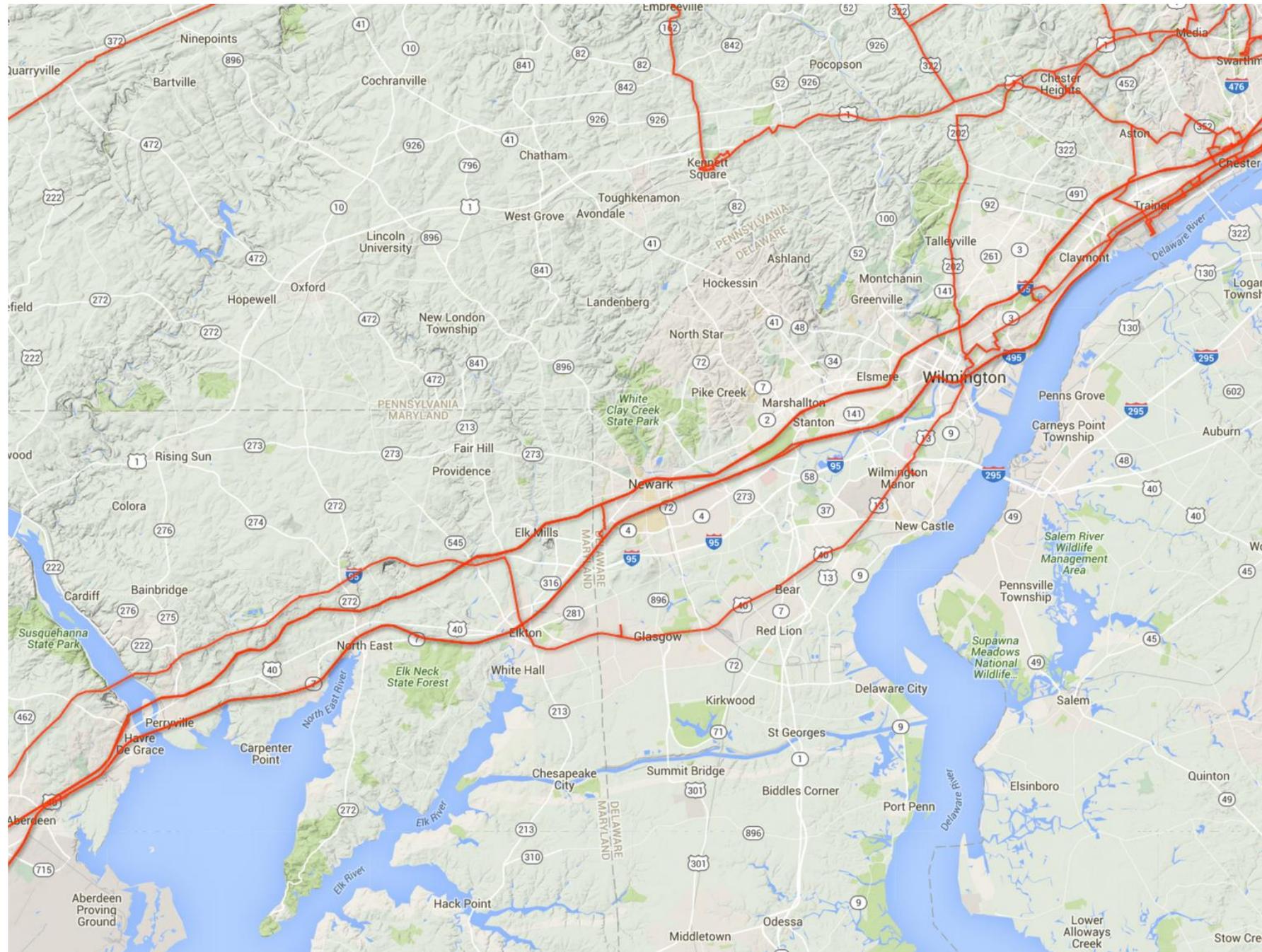


Level (3)

Level 3 Communications Data Center
Telecommunications Service Provider
1603 Jessup St, Wilmington, DE 19802

Level 3 Communications is an American multinational telecommunications and Internet service provider company headquartered in Broomfield, Colorado.

It operates a **Tier 1 network**. The company provides core transport, IP, voice, video, and content delivery for medium-to-large Internet carriers in North America, Latin America, Europe, and selected cities in Asia. Level 3 is also the largest competitive local exchange carrier (CLEC) and the 3rd largest provider of fiber optic internet access (based on coverage area) in the United States.



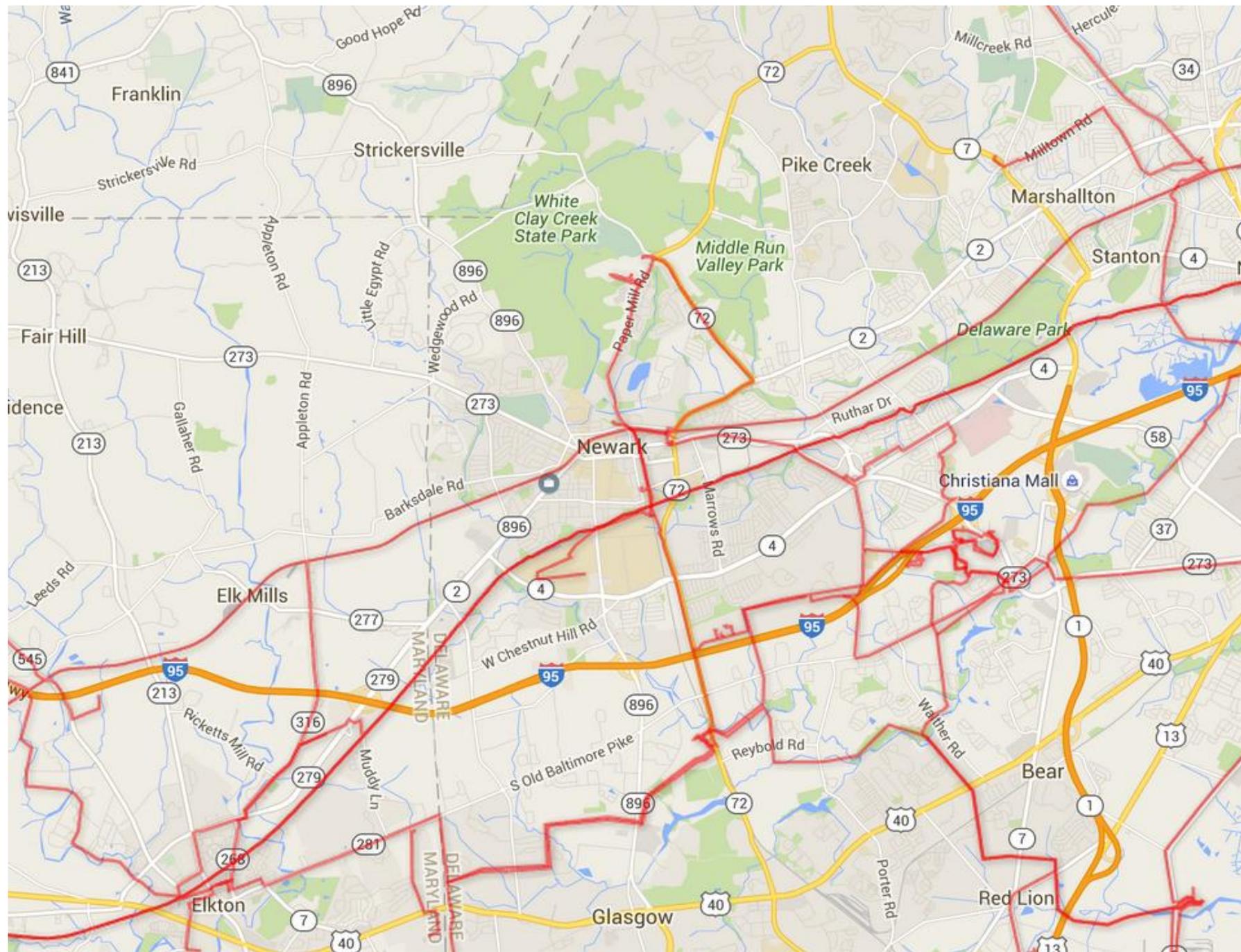


Windstream
Telecommunications Service Provider
18 Shea Way Suite 111, Newark, DE 19713

Windstream Dedicated Internet Services are designed to deliver business-critical performance with reliable high-speed Internet connectivity and secure data backup.

Get dedicated high-speed, high-bandwidth Ethernet Internet and T1 Internet access delivered over Windstream's large, carrier-class network—and resilient data backup solutions to ensure always on connectivity. Secure, robust and dependable are Windstream's network cornerstones as the full-service communications technology and services provider you can trust.

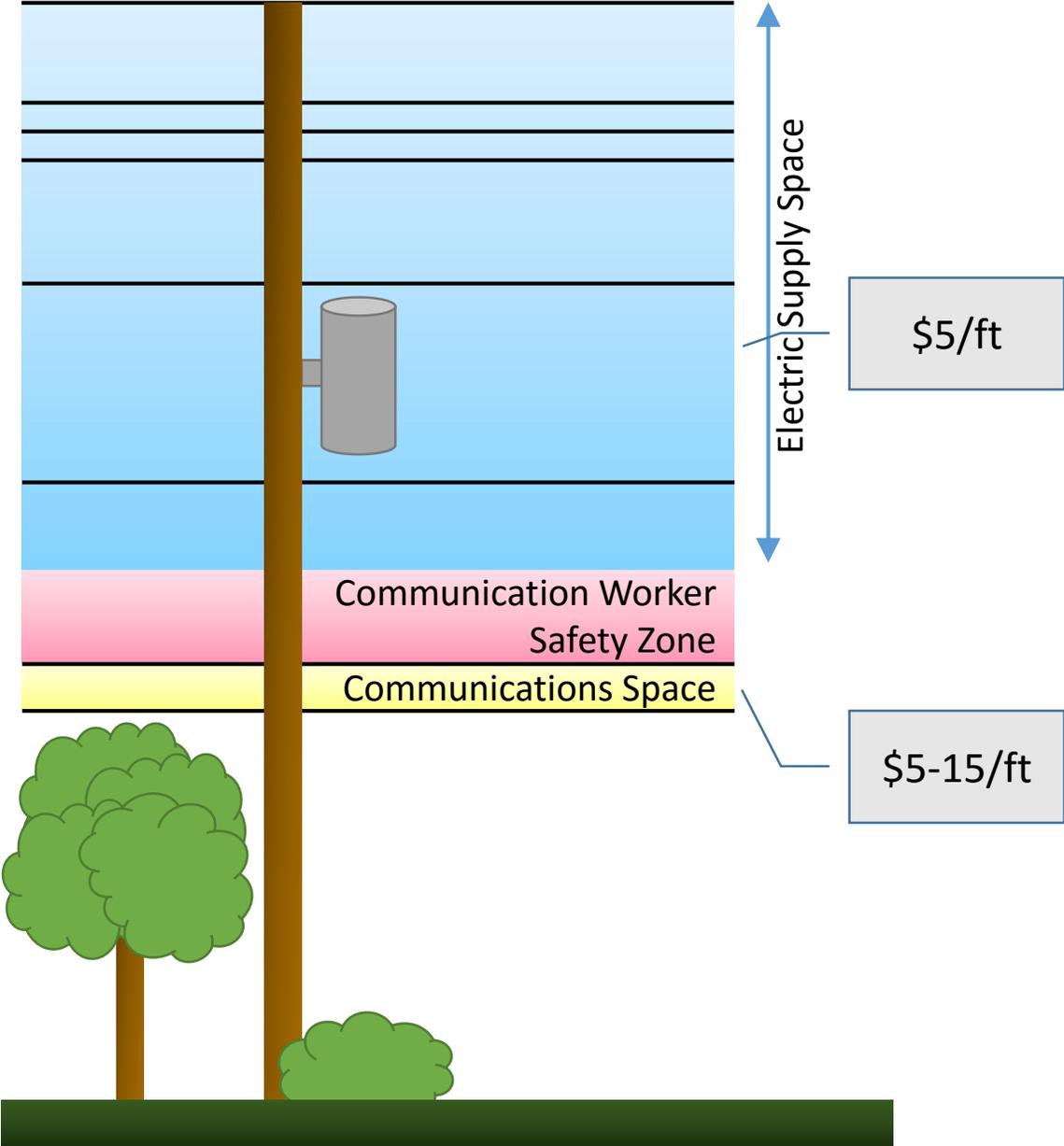
Ethernet Internet provides a Internet access with a dedicated connection, ensuring the same speed for uploads and downloads—up to 1Gbps. Send and receive large files, process orders, upload graphics and share large data files with the same reliability and performance of a traditional T1.



Cost to Deploy Fiber

City of Newark Electric Utility
Per Mile: ~\$25,000

Communications Vendor
Per Mile: ~\$25,000-75,000



Supply Space

Usually the upper area of the pole, the supply space is used for electric lines and other supply equipment.

Communication Worker Safety Zone

This safety zone, also called neutral space, is the space between the lowest supply conductor or equipment and the highest communication cables or equipment. In addition to separating the high voltage lines and communications wires, the safety zone provides maneuvering room for linemen and communication workers.

Communications Space

Usually the lowest area on the pole, the communications space is used for cable television, broadband, and telephone wires. All attachments require the pole owner's permission.