



Broadband Lessons Learned and Next Steps in York County

Julie Wheeler, York County President Commissioner
Dr. Silas Chamberlin, VP, Economic Development, YCEA



YoCo STRONG RECOVERY
TASK FORCE



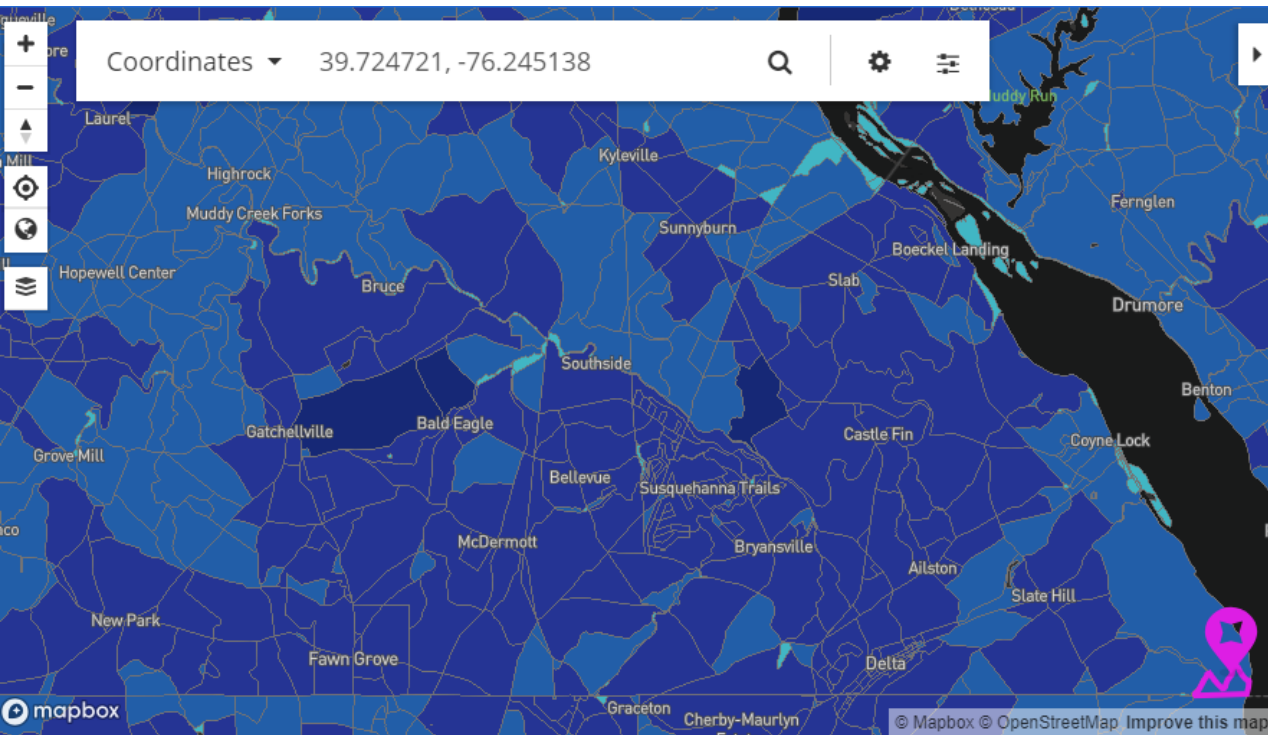
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Context

- The YoCo Strong Recovery Task Force identified “investing in broadband infrastructure for all residents” as one of its priority recommendations
 - Saw early trends around telecommuting and telehealth, in addition to remote education (Highmark: 3,400% increase in telehealth services)
- In early August, the Commissioners approved the allocation of CARES Act funding for a countywide broadband feasibility study, which was completed in December 2020
- In mid-October, the Commissioners approved up to \$1.5 million in CARES Act funding to construct a fiber pilot project along the York Heritage Rail Trail that would expand broadband access in southern York County
- Broadband expansion also included in the County’s Economic Action Plan and County’s comprehensive plan



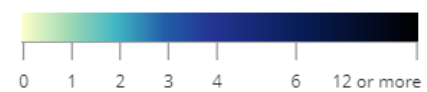
Current FCC Mapping



All Providers Reporting Service

Census block ID: 421330240011059

Number of Fixed Residential Broadband Providers



Broadband

Technology ADSL, Cable, Fiber, Fixed Wireless, Satellite, Other
Speed \geq 25/3 Mbps
Date Dec. 2019 (latest public release)

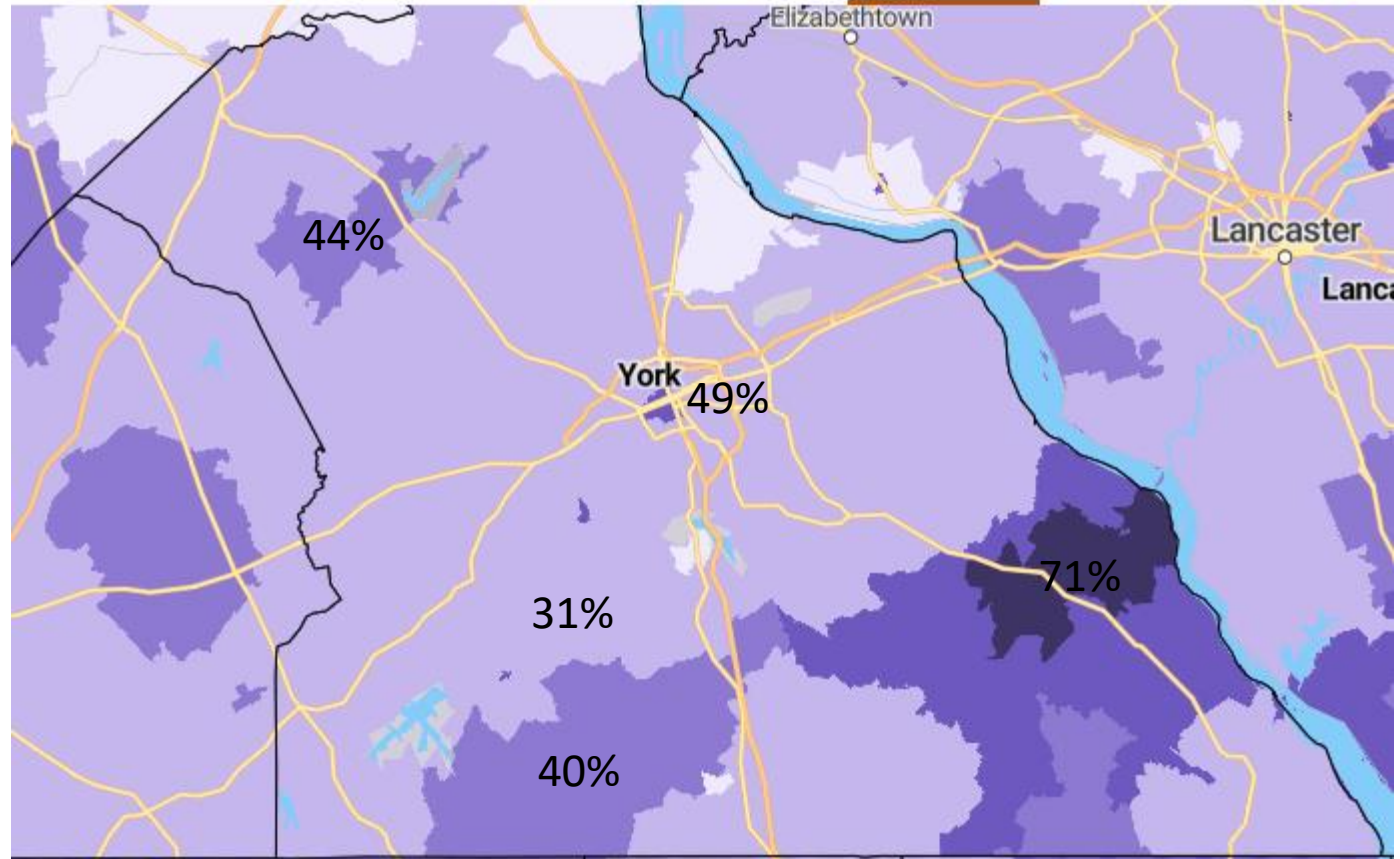
Provider	Tech	Down (Mbps)	Up (Mbps)
ViaSat, Inc.	Satellite	100	3
Hughes Network Systems, LLC	Satellite	25	3
Double Dog Communications, Inc	Fixed Wireless	25	5



Census Mapping

Estimated percent of households without broadband internet such as cable, fiber optic, or DSL, between 2015-2019. ⓘ ☆

Source: **Census**



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Census Mapping



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Partners

Through this process, we have worked with two primary consultants:



Katapult Engineering has been a leading OSP engineering, software development, and consulting firm since 1991. Our work ranges from being the boots on the ground for local utilities and fiber companies to developing software solutions to make collecting and processing this information easier than ever before.



Lit Communities is both a forward-thinking builder and operator of next-generation network infrastructure and a consultancy that guides communities across the country through the complicated process of deploying their own open application fiber optic utilities.

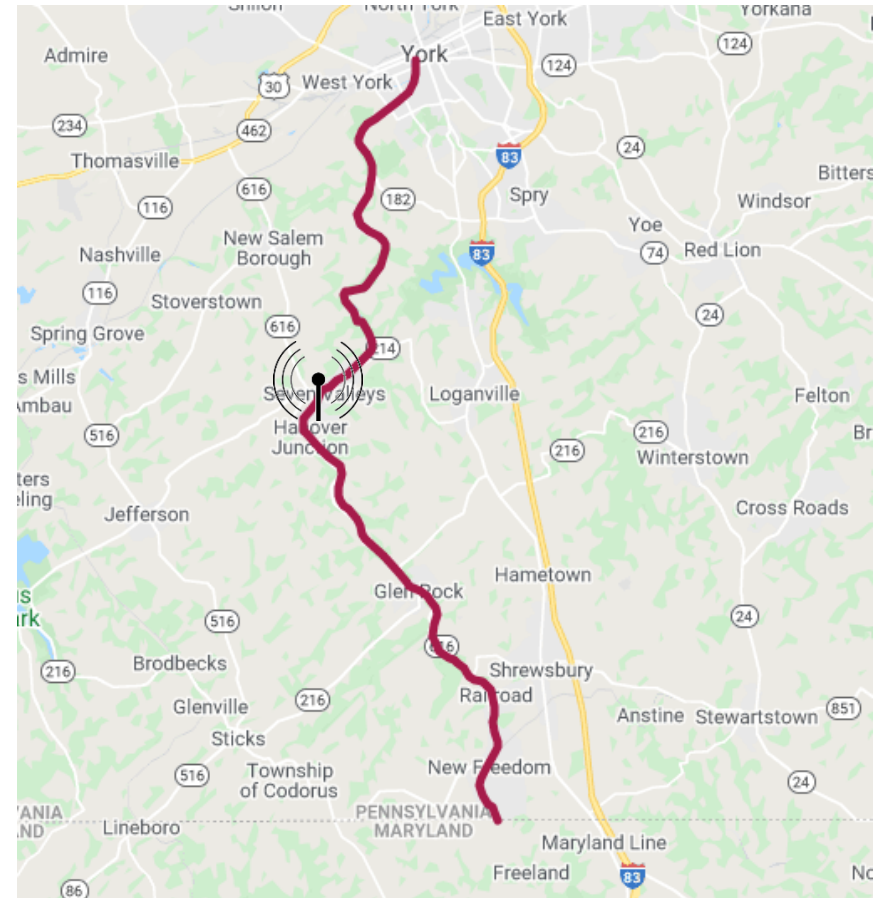


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Pilot Project

- Created a 16-mile dark fiber backbone from York City to New Freedom, with a wireless antenna in Hanover Junction
- Extending access for broadband connections in southern York County and leading to the construction of a significant portion of two, priority middle-mile rings
- Wireless antenna provides immediate access to a county facility and an underserved area of the county



Why this Corridor?

- The county already owns the property and the buried conduit, which dramatically increased the speed and affordability of design, permitting, and construction.
- This Corridor provides access to parts of the county identified as lacking reliable internet access, while linking together enough areas with residential and commercial density to attract potential internet service providers to use the infrastructure
 - 2,400 businesses within a mile of the rail trail. That’s nearly 25% of all businesses in York County
- Creates a high-speed, dark fiber “backbone” from central to southern York County that is county-owned and revenue-producing asset
- The “backbone” creates opportunities for future phases of deployment into underserved portions of the county, such as Southeastern School District, identified in the countywide study



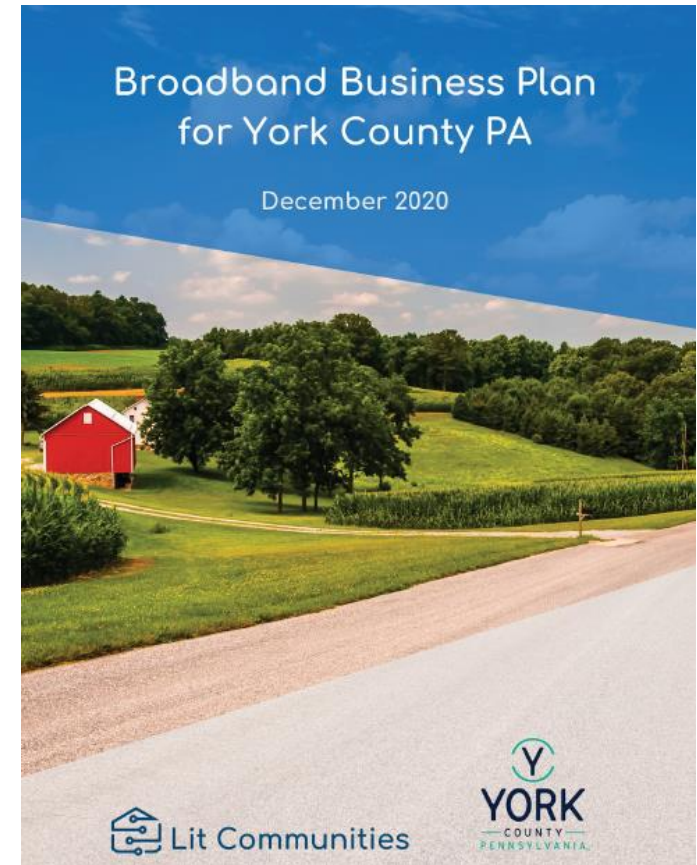
Project Budget

Expenses	
Design and Construction	\$1,204,622.74
Annual Maintenance	\$6,000
Annual Operating	\$15,000
Revenue	
Leases for Fiber	\$38,400
Net Revenue to County	\$17,400



Countywide Assessment

- **Data Collection** on priority institutions, existing infrastructure, and current high-need areas
- **Preliminary Design** of a countywide middle mile network and extrapolated last mile, fiber-to-the-premise network
- **Virtual and Field Construction Ride Out / Make Ready Engineering Assessment** to increase the accuracy of the preliminary design and estimate costs based on existing infrastructure and aerial vs. underground rights of way; analyzed 107,000 poles
- **Financial Models** based on several construction, ownership, and operations scenarios
- **Grant Services** identifying federal and state grants to support implementation of the report's recommendations

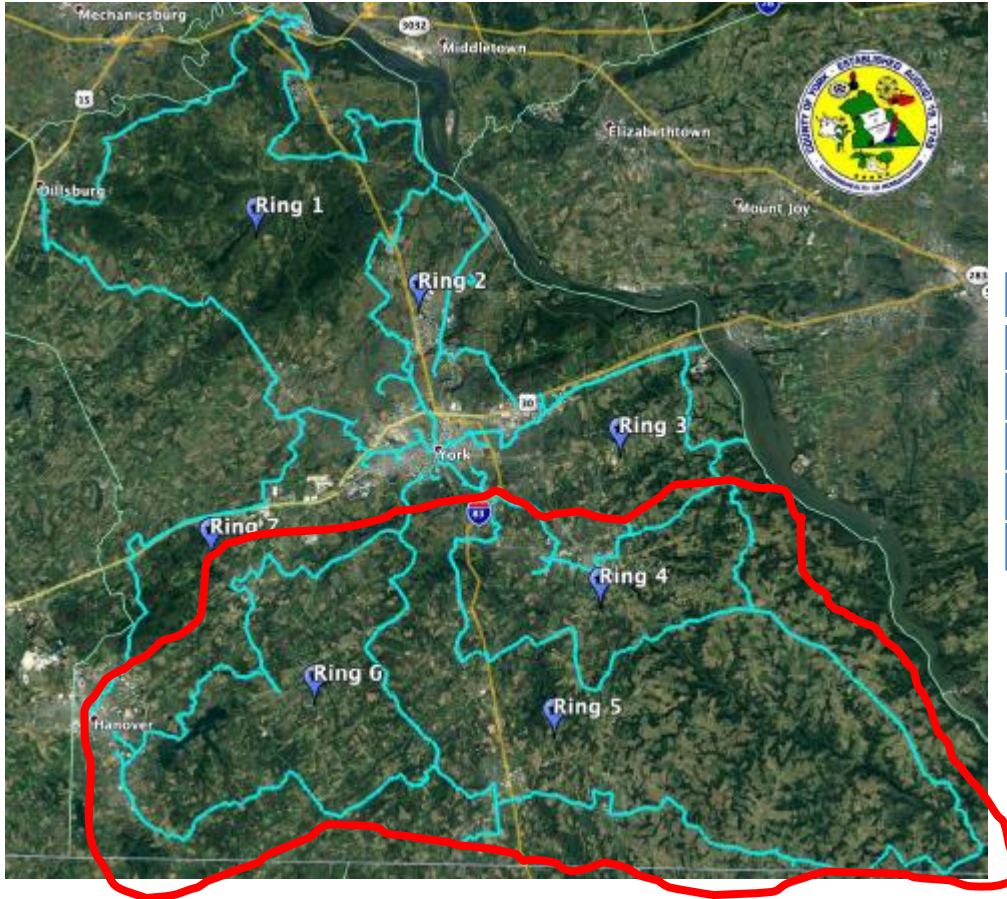


Middle Mile Network

- Based on the location of priority institutions, existing infrastructure, and current high-need areas, we developed a series of 7 “rings” that will create a countywide “Middle Mile” network
- The Middle Mile will provide a dark fiber backbone to encourage private providers to invest in connections to demand points within each ring



Priority Rings



Priority Rings Costs			
	Engineering	Construction	Totals
Ring 4	\$436,257	\$4,002,076	\$4,438,333
Ring 5	\$576,638	\$7,467,580	\$8,044,218
Ring 6	\$488,992	\$5,303,908	\$5,792,900
Totals	\$1,501,887	\$16,773,564	\$18,275,451

Costs

Expense Type	Cost
<i>One time Expenses</i>	
Engineering	\$1,774,859
Construction	\$38,955,802
O&M During Construction	\$1,056,767
ISP Costs Operation & Construction	\$1,099,545
Subtotal	\$42,886,973
<i>Recurring Expenses</i>	
O&M (annual)	\$109,140
ISP (annual)	\$235,200
Subtotal	\$344,340

<i>Annual Revenue (in 2022)</i>	
FTTH Partner	\$911,345
Services	\$96,231
Dark Fiber Leases	\$1,094,620
Subtotal	\$2,102,196



Funding

- Federal and State Grants
 - EDA, USDA, Homeland Security, HUD, FCC, NTIA, and PA DCED
- Philanthropies: local and national
- Exploring financing scenarios, including bonds and equity investment
- Public Private Partnerships



Ownership/ Ops Models

- **Passive:** County owns the Middle Mile network and leases capacity to providers building out Last Mile services (FTTP and Wireless)
- **Semi-Passive:** County owns the Middle Mile network; leases capacity to providers building out Last Mile services (FTTP and Wireless); but directly services institutions located near the Middle Mile (Medina, OH model)
- **Active:** County owns Middle Mile Network and provides its own Last Mile services through a non-profit or public benefits corporation

NOTE: In all scenarios, County could own and operate or could choose for a county authority to own the infrastructure and/or provide service on behalf of the County government (Eastern Shore, VA Broadband Authority; Medina, OH Port Authority)



Our Next Steps

- The County Commissioners established the YoCo Fiber Broadband Task Force to oversee implementation of report recommendations
 - Members from education, health care, utilities, county and municipal government, business, and economic development
- Conduct a demand aggregation survey of residents in York County to supplement FCC mapping and document market for expanded broadband
- Submit federal and state grants as outlined in the assessment
- Prioritize construction of rings 4, 5, and 6



Our Lessons Learned

- Broadband needs a strong champion at a countywide level to give the project legitimacy and bring people to the table
- Create a shared vision that is big, compelling, and addresses community needs this will strengthen collective willingness to tackle complex projects
- Data is important to making your best case for broadband expansion
- Broadband is very complex, so while a plan is critically important, you also need to *just start* somewhere and then keep driving it—that’s why we launched our pilot project
- Weave your broadband plan into other countywide planning documents and policies
- Be creative about partners, funding, and existing assets





THANK YOU!

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