Fiber to the Home Planning

Financial Analysis

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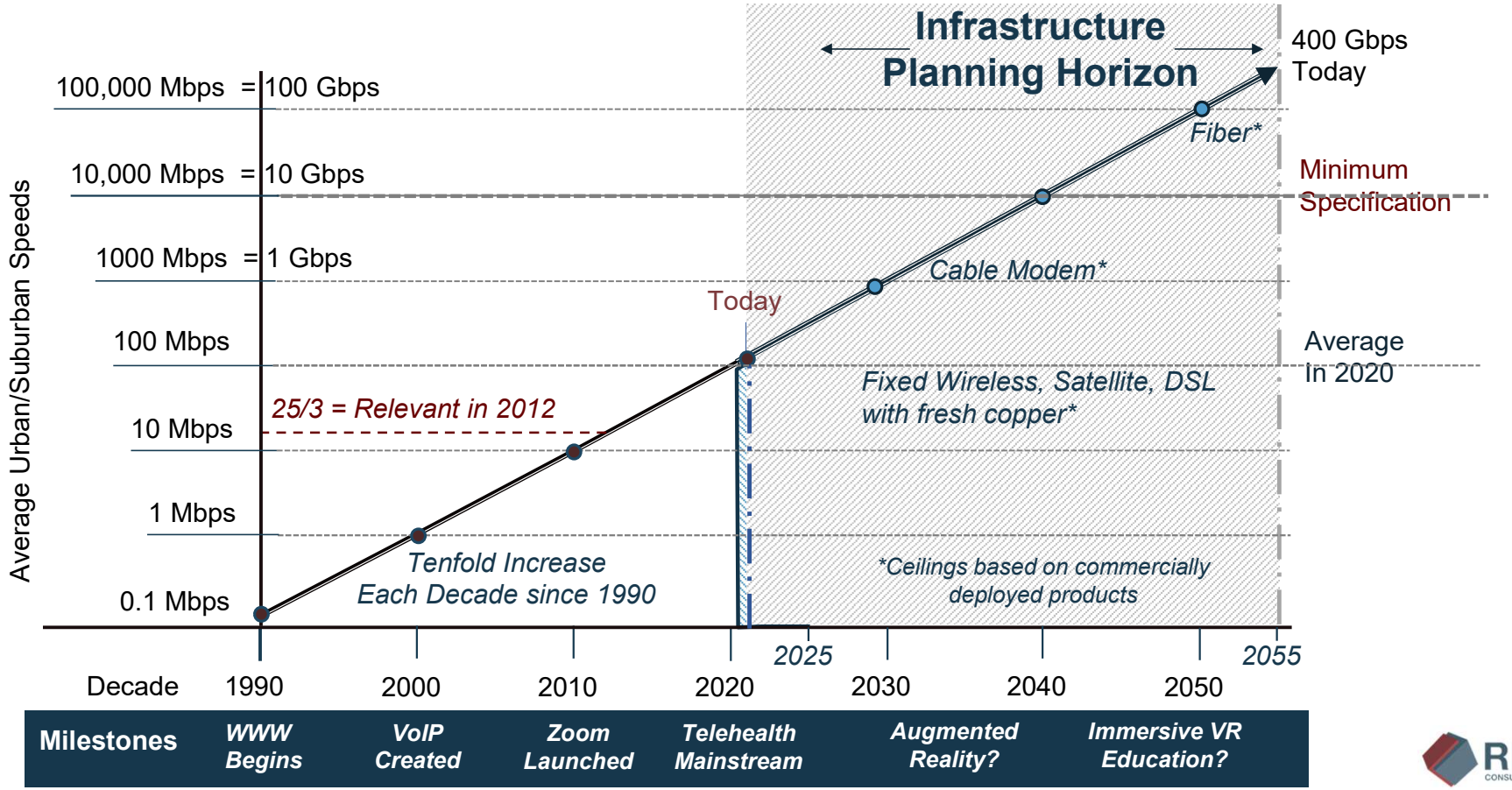
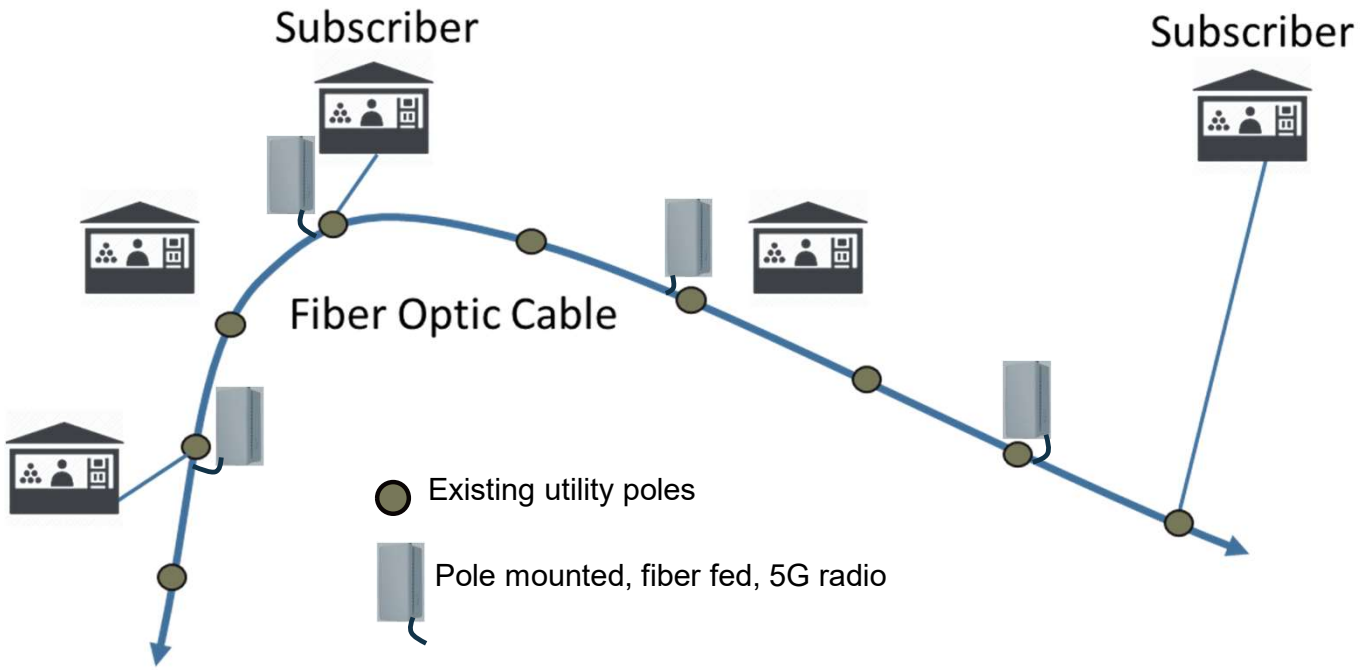
Why Fiber? – The Only Future-Proof Technology



Why Fiber? – 5G requires high performance fiber networks



True 5G requires many small-cell radios in each neighborhood

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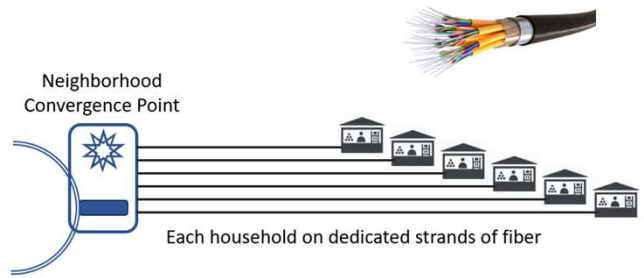
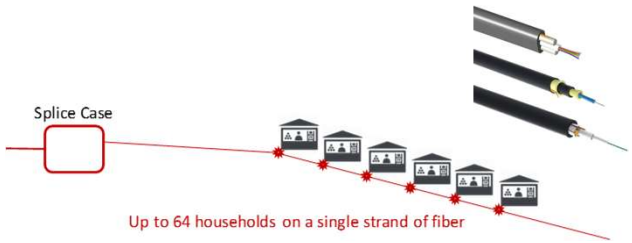
Fiber to the Home – Design Considerations

A properly designed fiber network will remain viable for **at least 30-40 years!**

- Recommended Architecture:
  - High strand count
  - Dedicated strand design
  - At least 50% additional capacity above current need
  - Aerial or buried in conduit
- Cost-cutting / corner-cutting
  - Lower strand count
  - Drop cables for entire network
  - Distributed tap
  - Plowed-in shallow underground vs. buried conduit
  - Upgraded cable modem system instead of fiber





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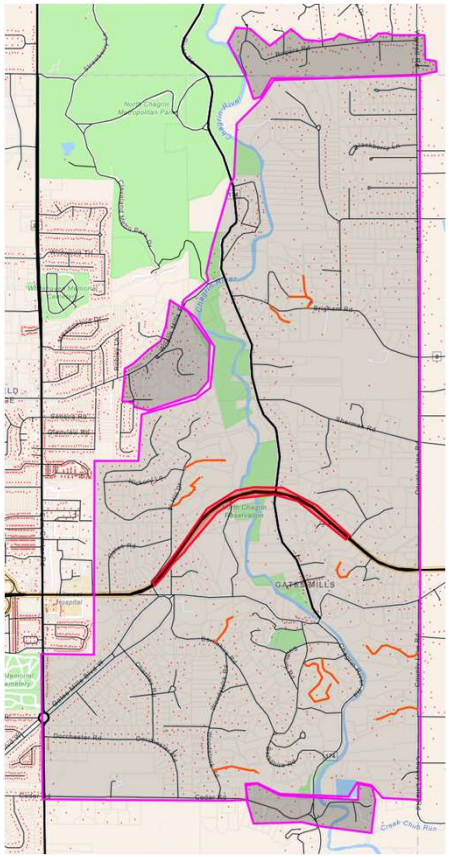
Route Assumptions

- 1272 locations
- 53.1 fiber miles
- Serve all locations, regardless of current status
- Exclude unpopulated part of Mayfield/322
- 14 locations require fiber that passes outside village limits



Project boundaries

Roads

Private lanes & shared driveways

Locations (homes and businesses)

Mayfield/322 unpopulated section

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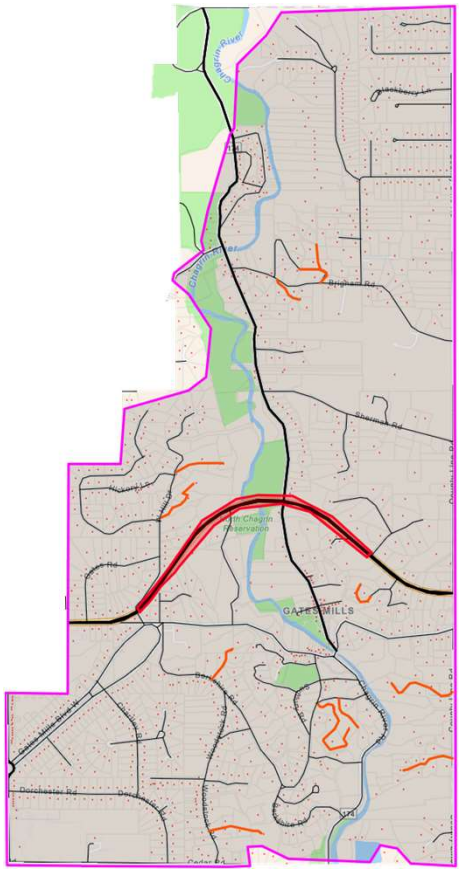
Main Village

- 1010 locations
- 48.1 fiber miles
  - 44.8 populated road miles
  - 3.3 private lane/shared drive (pink segments)
  - Excludes 3.4 miles of unpopulated frontage on Mayfield/322 (red shading)



Project boundaries

Roads

Private lanes & shared driveways

Locations (homes and businesses)

Mayfield/322 unpopulated section

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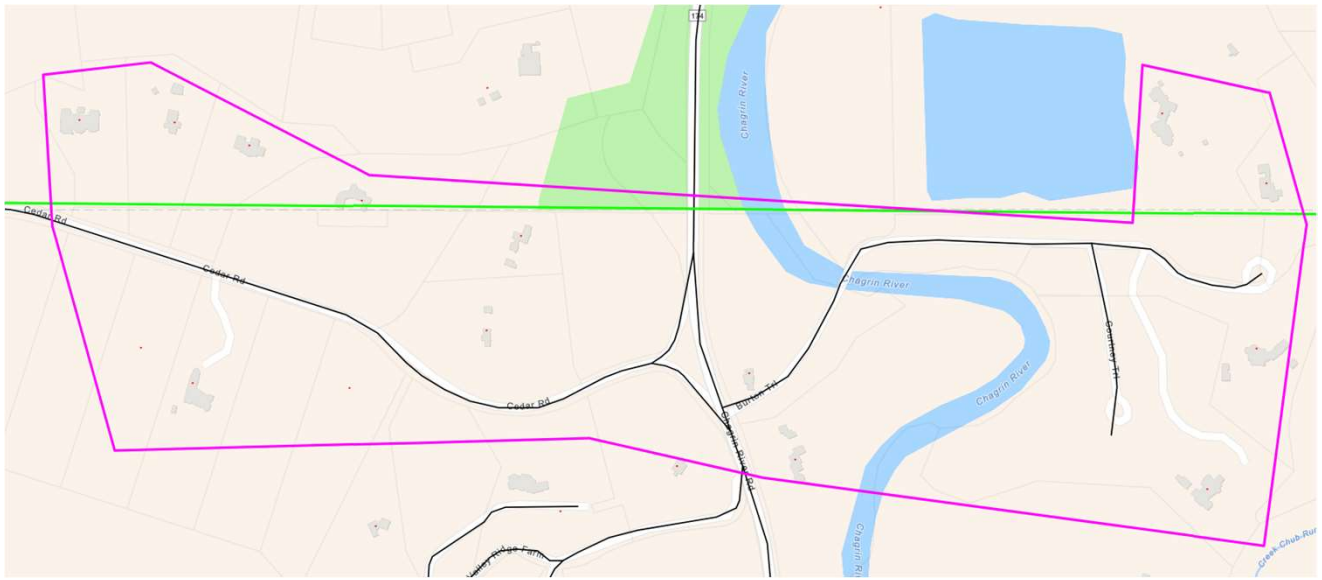
Cedar Rd

- 2 village locations
- 13 non-village locations
- 1.4 fiber miles



Village boundary

Project boundaries

Roads

Locations (homes and businesses)

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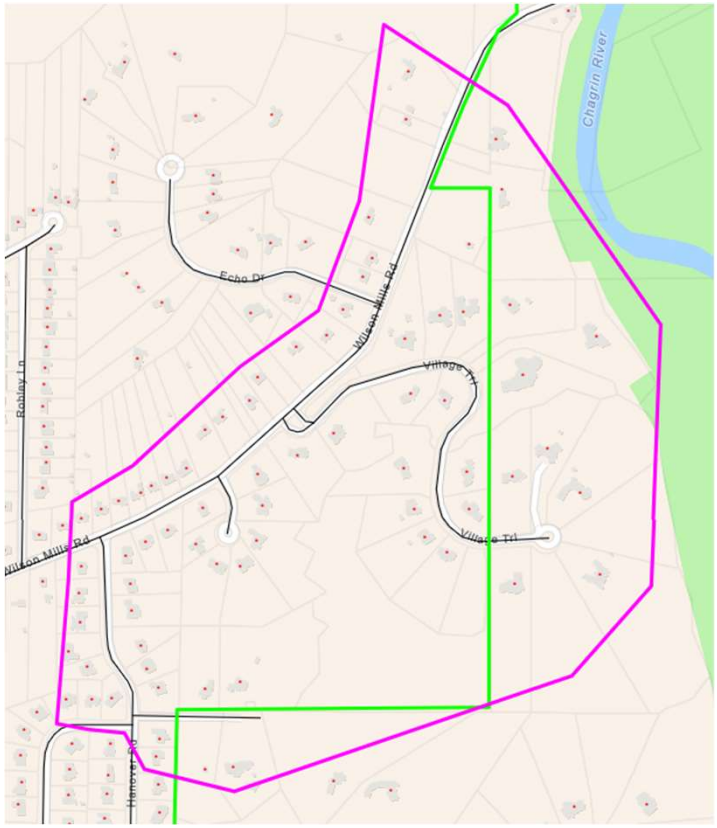
Mayfield Village

- 10 village locations
- 62 non-village locations
- 1.7 fiber miles



Project boundaries

Roads

Locations (homes and businesses)

Village boundary

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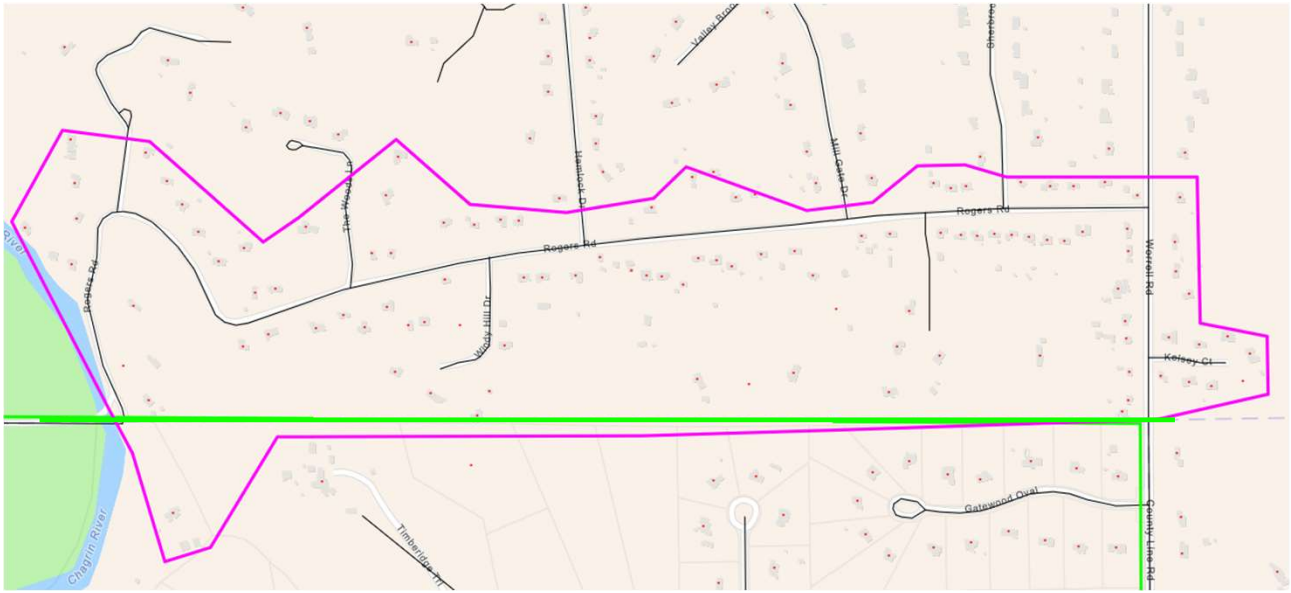
Rogers Rd

- 2 village locations
- 105 non-village locations
- 1.9 fiber miles



Village boundary

Project boundaries

Roads

Locations (homes and businesses)

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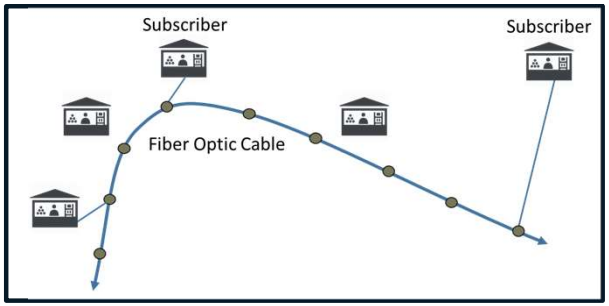
ISP Investor Mindset

ISP investment varies based on 2 factors:

- Cost-to-pass
- Average Revenue per User (ARPU)
  - Take rate
  - Monthly subscription price



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Financial Estimate - Aerial

Aerial	Low	Median	High	
High-Count Fiber on Poles per Mile	$ 89,000	$ 104,000	$ 119,000	Fiber Miles
Total Cost to Pass	**$ 4,725,900**	**$ 5,522,400**	**$ 6,318,900**	53.1
ISP Investment to Pass per Location	$ 1,500	$ 2,500	$ 4,000	Locations
ISP Investment to Pass Total	**$ 1,806,000**	**$ 3,010,000**	**$ 4,816,000**	1204

	Minimum	Maximum
Funding Gap	$ (90,100)	$ 4,512,900
Gap per Location	$ (75)	$ 3,748
Annual Cost per Location Over 30 Years	$ (2)	$ 125

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Financial Estimate - Underground

Underground	Low	Median	High	
High-Count Fiber in Conduit per Mile	$ 116,400	$ 156,000	$ 195,600	Fiber Miles
Total Cost to Pass	**$ 6,180,840**	**$ 8,283,600**	**$ 10,386,360**	53.1
ISP Investment to Pass per Location	$ 1,500	$ 2,500	$ 4,000	Locations
ISP Investment to Pass Total	**$ 1,806,000**	**$ 3,010,000**	**$ 4,816,000**	1204

	Minimum	Maximum
Funding Gap	$ 1,364,840	$ 8,580,360
Gap per Location	$ 1,134	$ 7,127
Annual Cost per Location Over 30 Years	$ 38	$ 238

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Next Steps

- Reach consensus on fiber-to-the-home
- Identify capital investment threshold
  - Most scenarios will need gap investment
  - Aerial vs underground
  - Network design options
- Appetite for higher residential rates
- Decide how to handle take-rate commitments
- Issue RFP

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