



# **Broadband Town Hall**

## **Lyndon Township**



# **Green Lake Lyndon Township, MI**

Photo Credit: UnagiUnagi

# Michigan Broadband Cooperative

## **Mission:**

To build community-controlled broadband infrastructure for unserved and underserved areas of Michigan

# **Michigan Broadband Cooperative**

## **Board of Directors**

President - Ben Fineman, Lyndon Twp

Vice President - Rose LaForest, Waterloo Twp

Secretary - Melanie Bell, Ypsilanti

Treasurer - David Brooks, Sylvan Twp

Director - Chris Leonello, Webster Twp

Director - Gary Munce, Lyndon Twp

Director - Todd Anuskiewicz, Scio Twp

Director - Barb Fuller, Sharon Twp



- Marc Keezer, Lyndon Township Supervisor
- Harley Rider, Dexter Township Supervisor
- John Kingsley, Webster Township Supervisor





# What is Broadband?



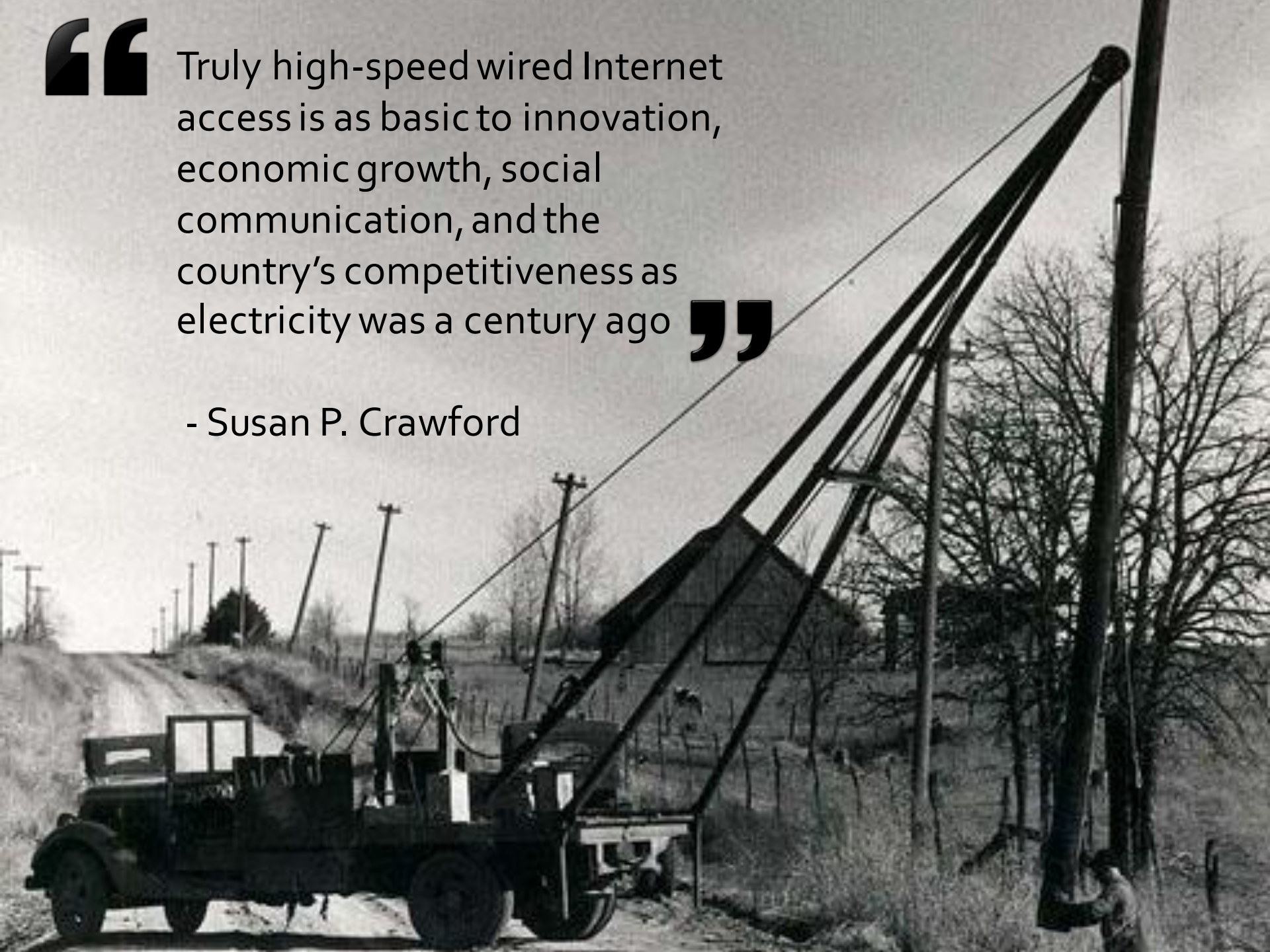


“

Truly high-speed wired Internet access is as basic to innovation, economic growth, social communication, and the country's competitiveness as electricity was a century ago

”

- Susan P. Crawford





# The Homework Gap







20%





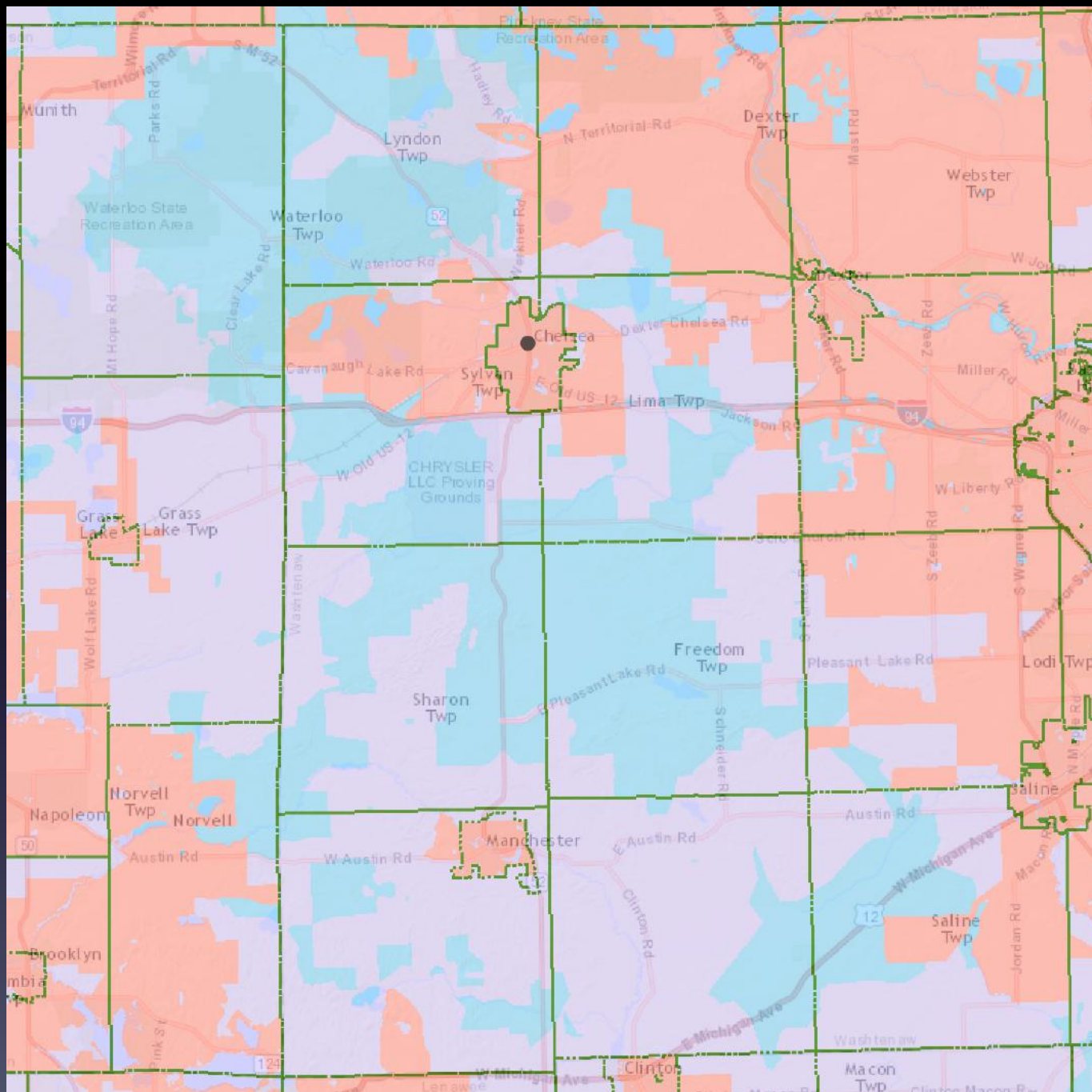
# Quality of Life



**Where are  
we now?**







**Cable**  
**+ DSL**  
**+ Cellular**  
**& Satellite**  
**Coverage**



Data  
Caps



Streaming Video: \$1,605

Home Computer Backups: \$2,320

Security Camera: \$1,220

Software Updates: \$135

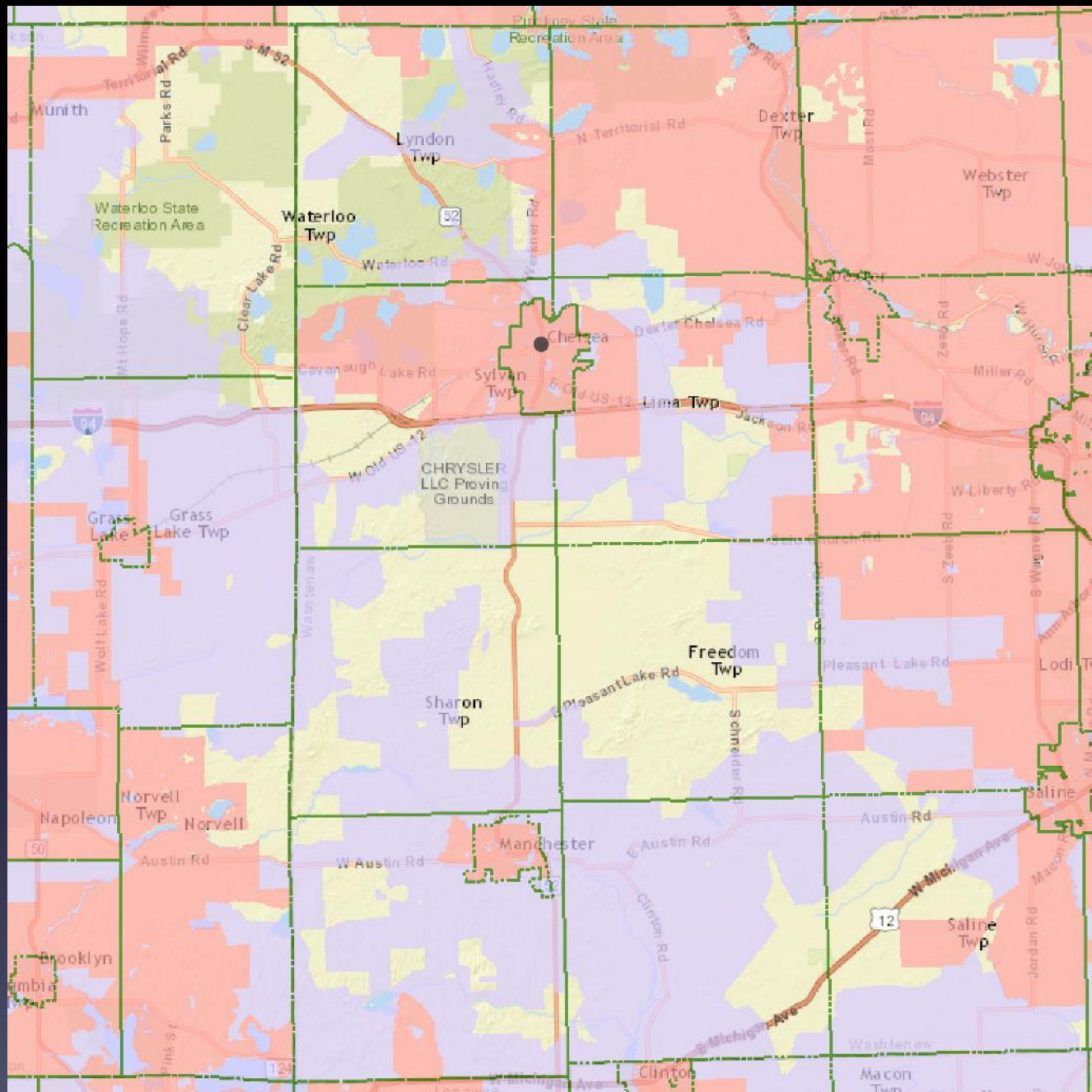
Software Purchases: \$600

Video Chat: \$575

---

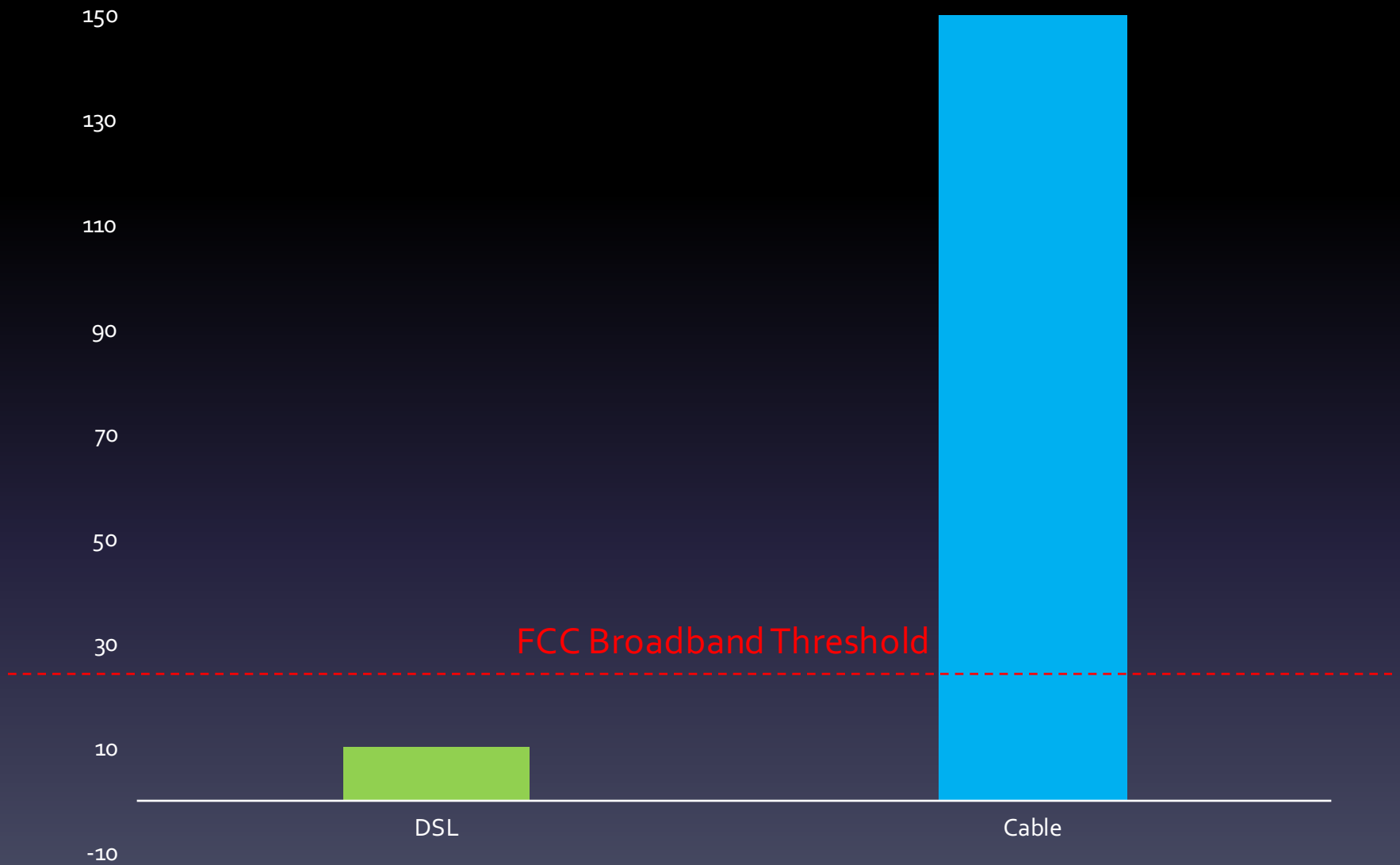
Total: \$6,455

**PER MONTH**



Cable  
+ DSL  
Coverage

# Bandwidth (Mbps)

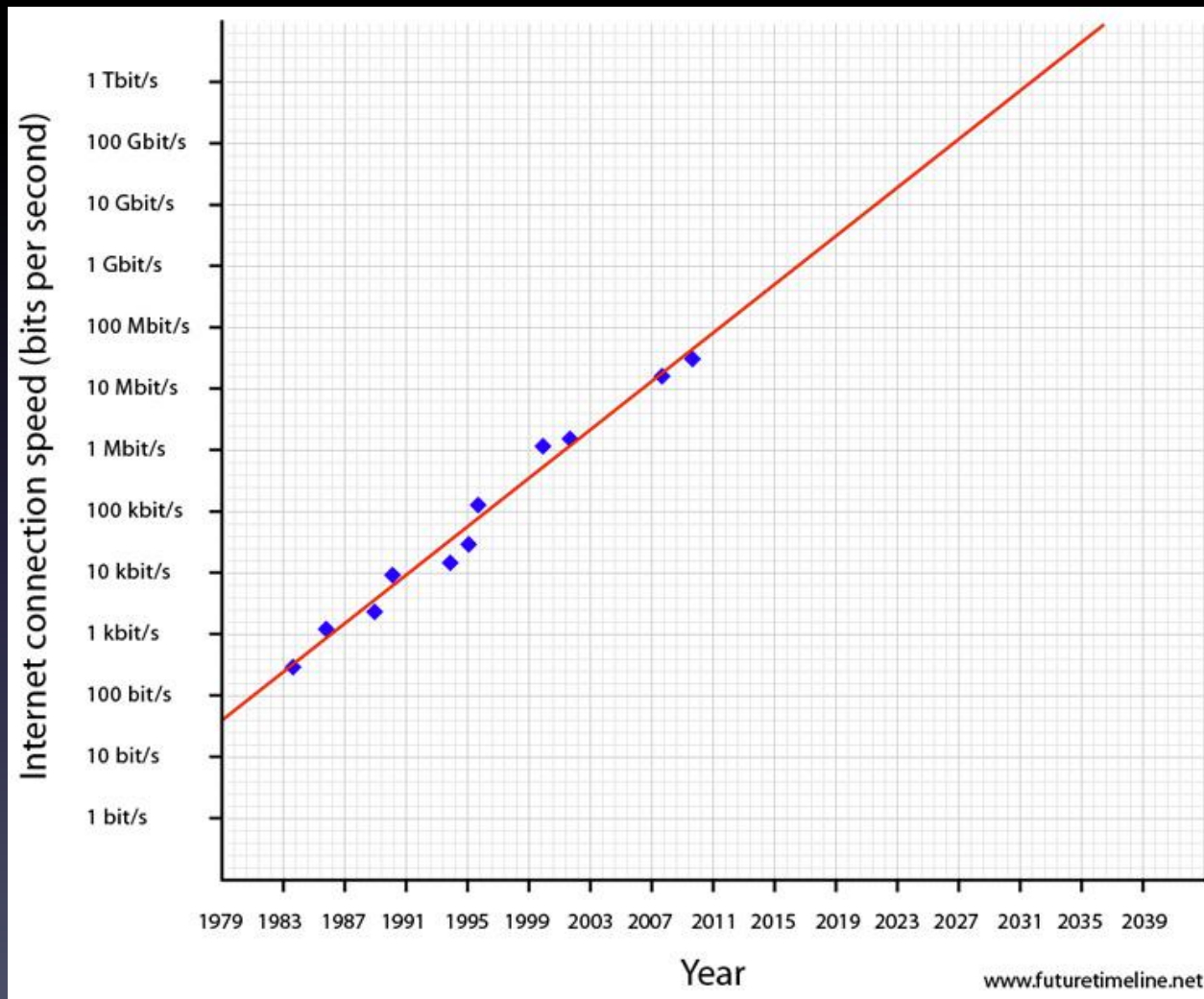


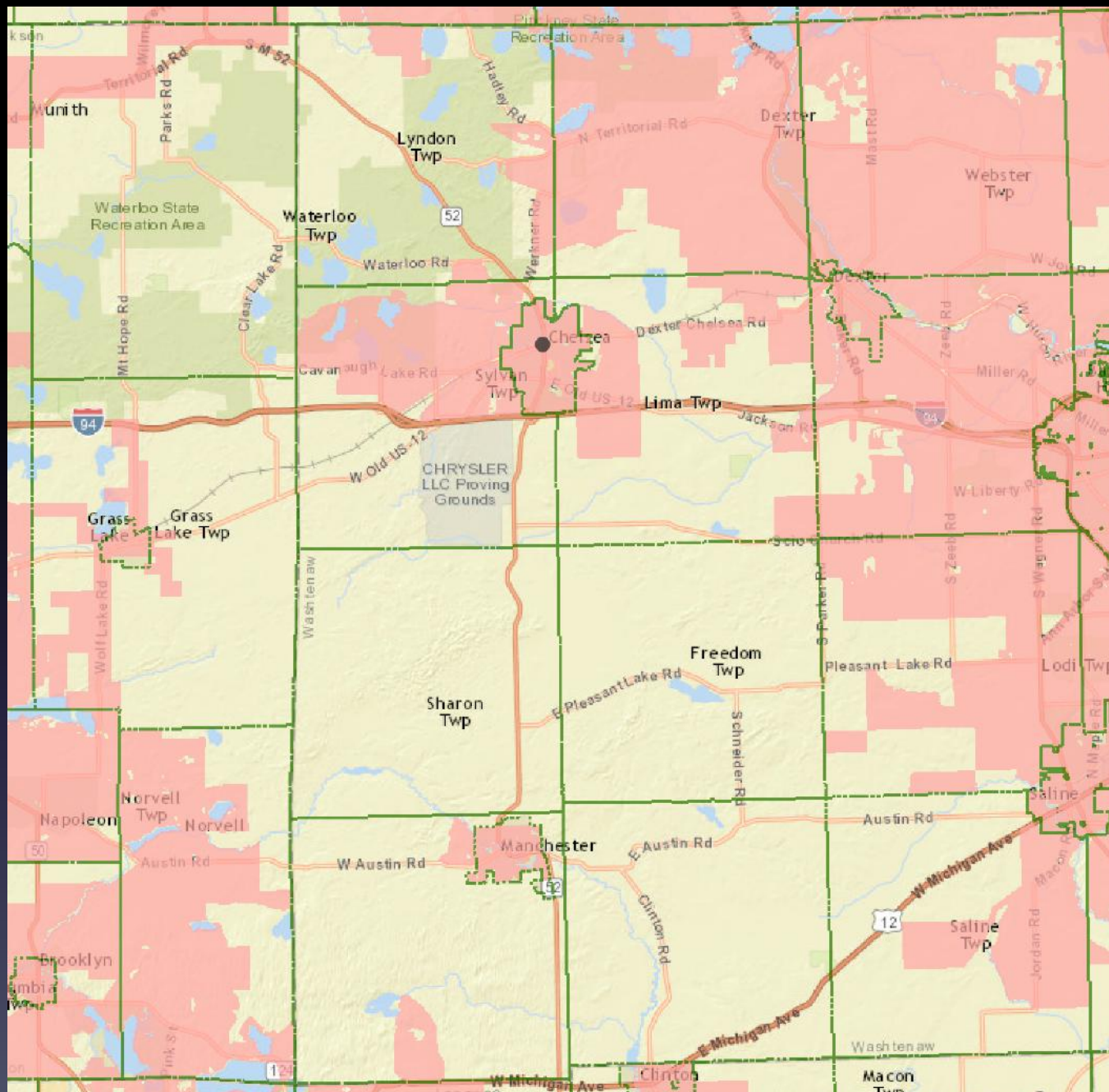
“Distance learning and telecommuting requires speeds of at least 25 Mbps for a **single user** to have an ‘OK’ experience, and 50Mbps for a ‘Good’ experience.”

– U.S. Small Business Administration, 2010 Report



# Nielsen's Law of Bandwidth



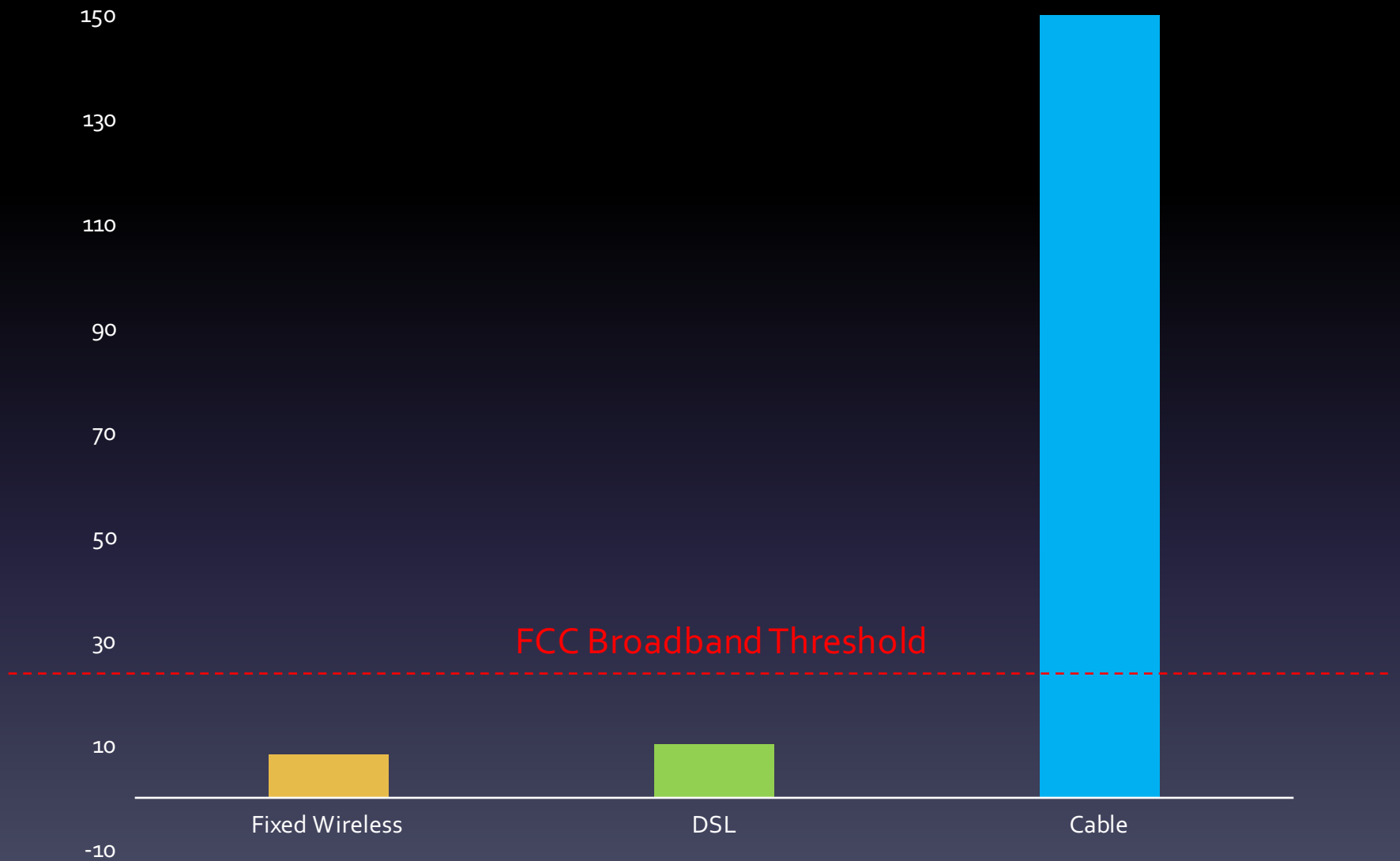


# Cable Coverage

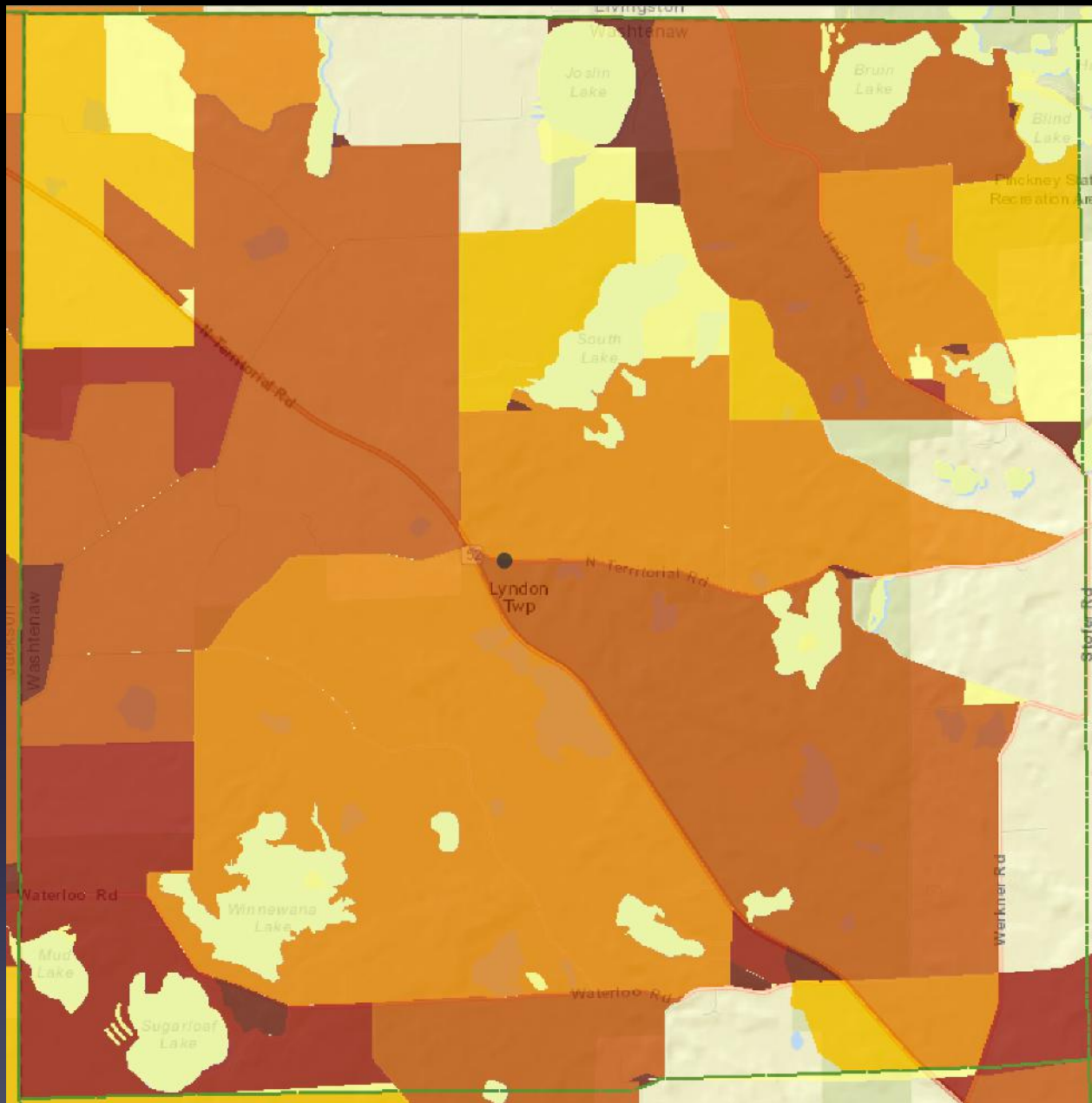
**Rural  
Reach  
Great Lakes  
High Speed  
Air  
Advantage**



# Bandwidth (Mbps)

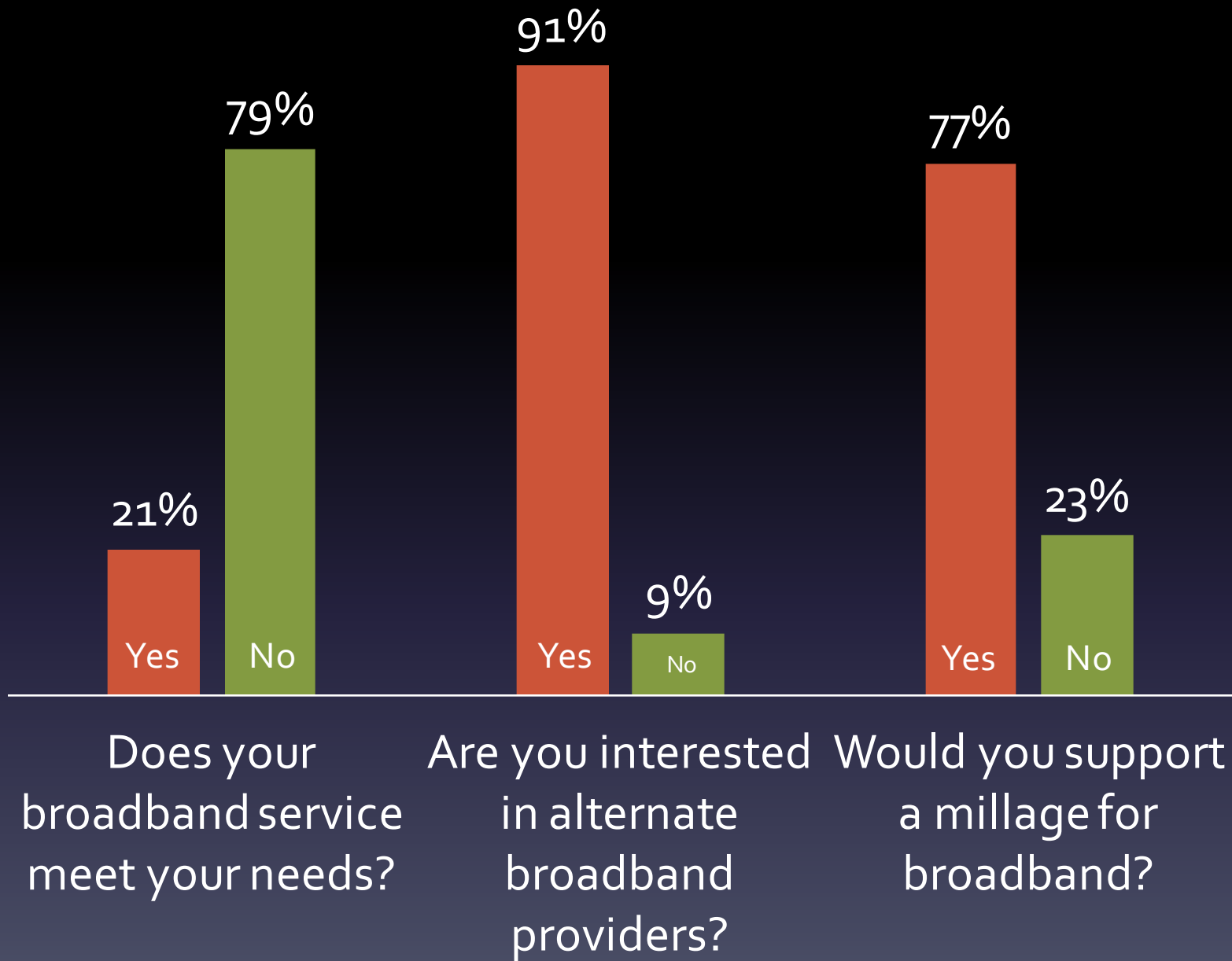






# Lyndon Township Unserved Areas



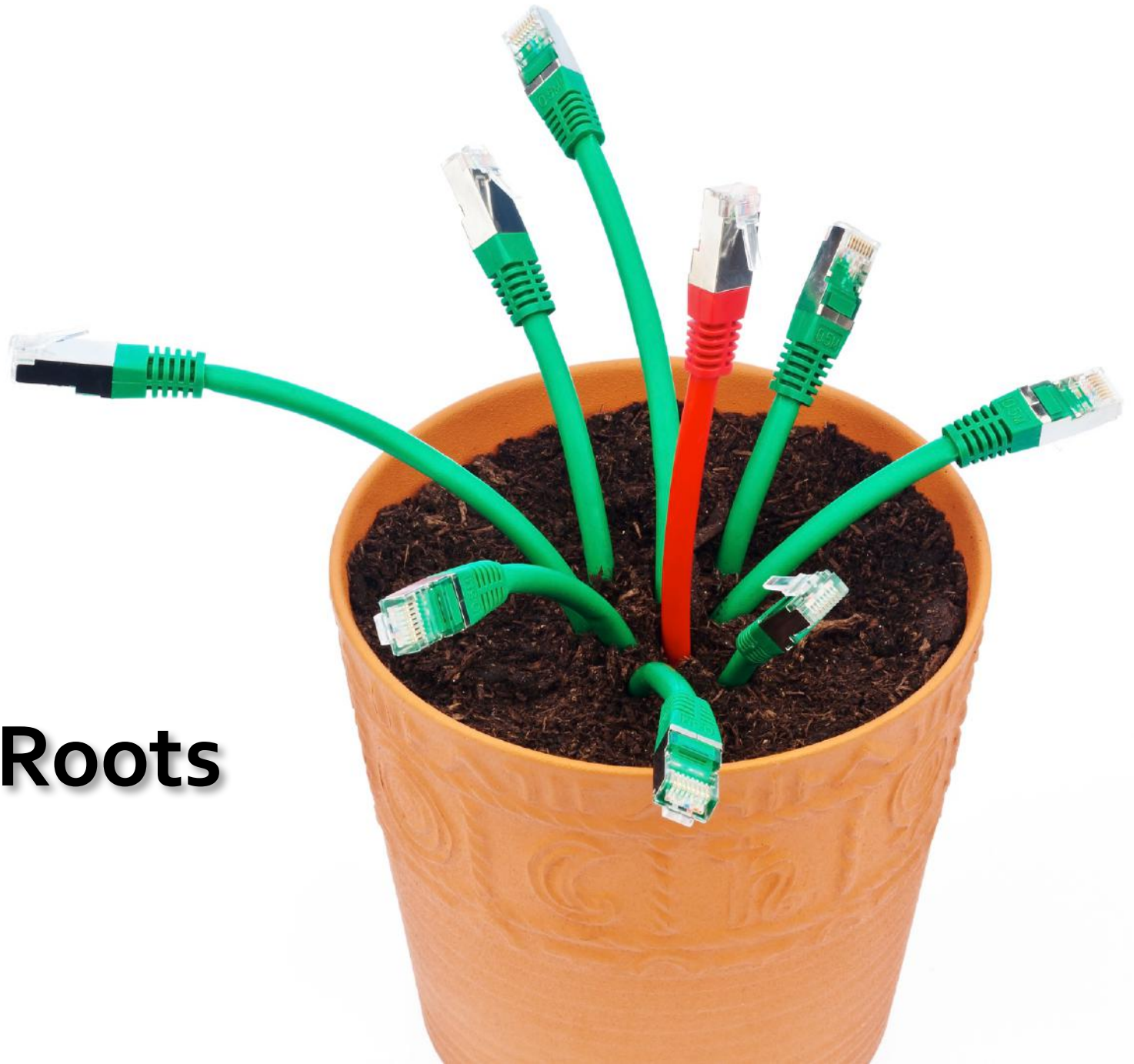


# How do we get broadband?



© ca 7 Ch ter  
fr tier®  
ations

# Grass Roots



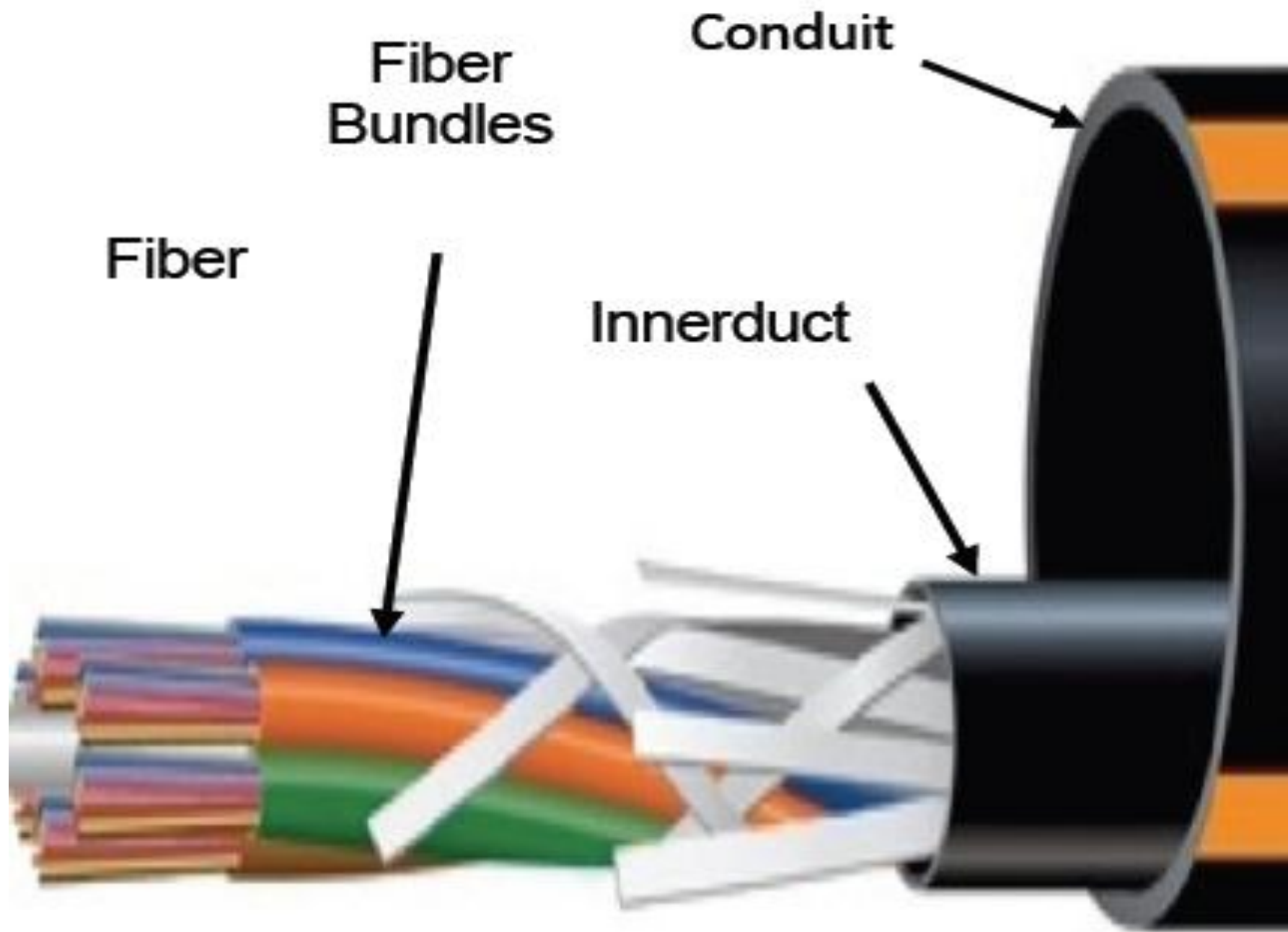
A stylized diagram illustrating the concept of Fiber-to-the-Home (FTTH). A dark teal line starts at a solid circle on the left, representing a central office or data center. It runs horizontally, then turns vertically upwards to enter a row of five houses. The houses are outlined in dark teal and contain small dark teal squares representing windows. The line then runs horizontally through the houses, representing the fiber optic cable. Finally, it turns vertically downwards on the right side and ends at a three-prong electrical plug icon, symbolizing the connection to a home. The text "Fiber-to-the-Home" is written in a bold, dark red font across the middle of the diagram.

**Fiber-to-the-Home**

## Bandwidth (Mbps)







# Sebewaing, MI

- Built fiber to the home for 1700 residents
- Offering up to 1Gb service
- Leveraging municipal power co.
- Funded out of general fund







# Feasibility Study



**Bottom Line Cost:**

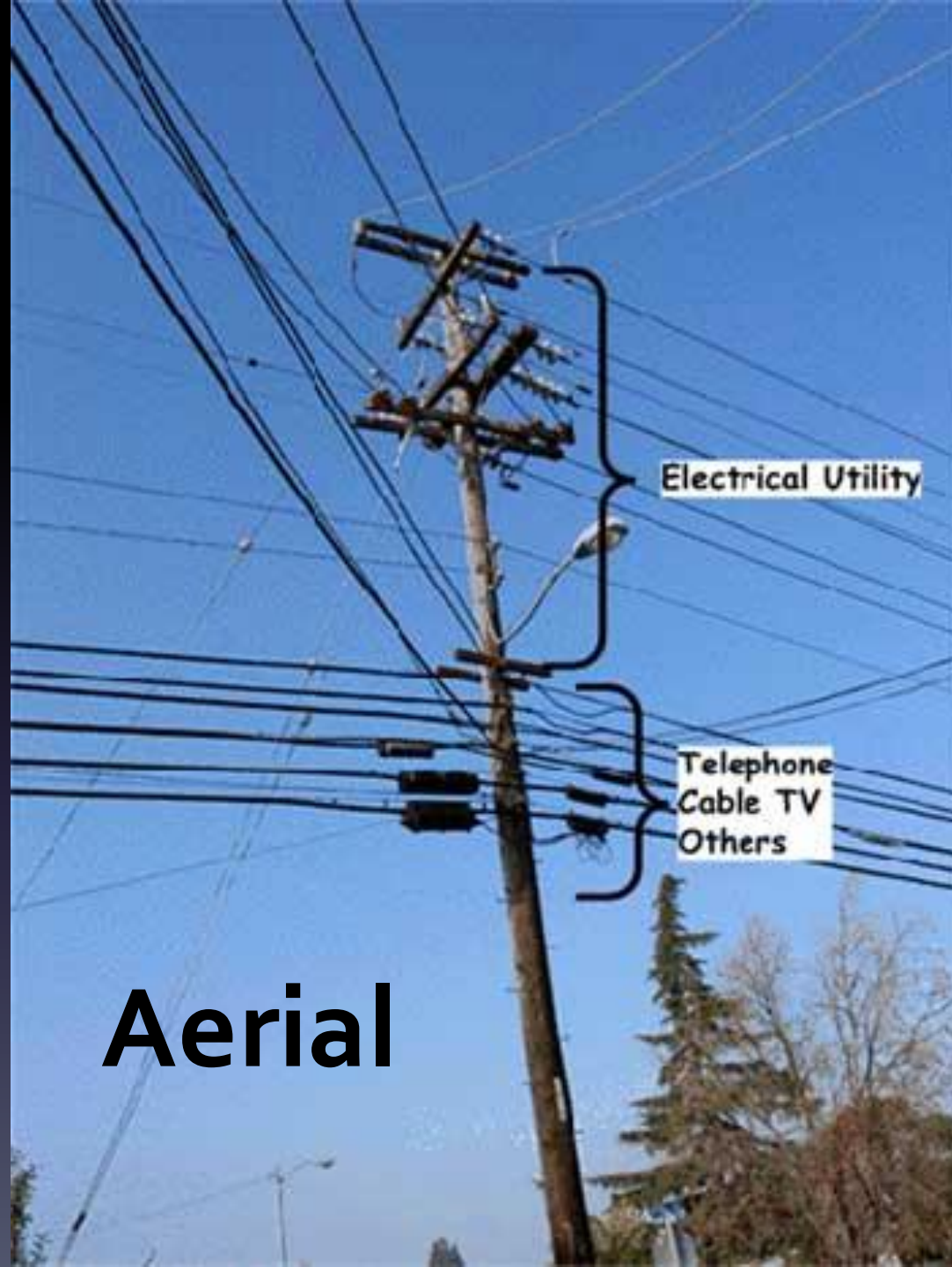
**\$6,767,086**

**3.7 Mils**

# **Decision Point #1:**

## **Aerial Vs. Underground**





Electrical Utility

Telephone  
Cable TV  
Others

**Aerial**





# Underground

Aerial: \$5,931,816  
Underground: \$6,295,086  
Difference: **\$363,270**  
**(0.2 mils)**



# Decision Point #2:

## **Driveways**

Road Miles: 62.8 Miles

Driveways: 65.8 Miles

Driveways @ 600': \$1,550,562

Driveways @ 300': \$815,562

Difference: **\$735,000**

**(0.4 mils)**

If Driveway Length is Limited:  
Cost Over 300': \$4.25/foot

Examples:

300' Driveway: \$0

600' Driveway: \$1,275

1200' Driveway: \$3,825

If Home Connection is Excluded:  
Cost: \$420 plus \$4.25/foot

Examples:

300' Driveway: \$1,695

600' Driveway: \$2,970

1200' Driveway: \$5,520



If Home Connection is Included:  
Cost: \$0

Examples:

300' Driveway: \$0

600' Driveway: \$0

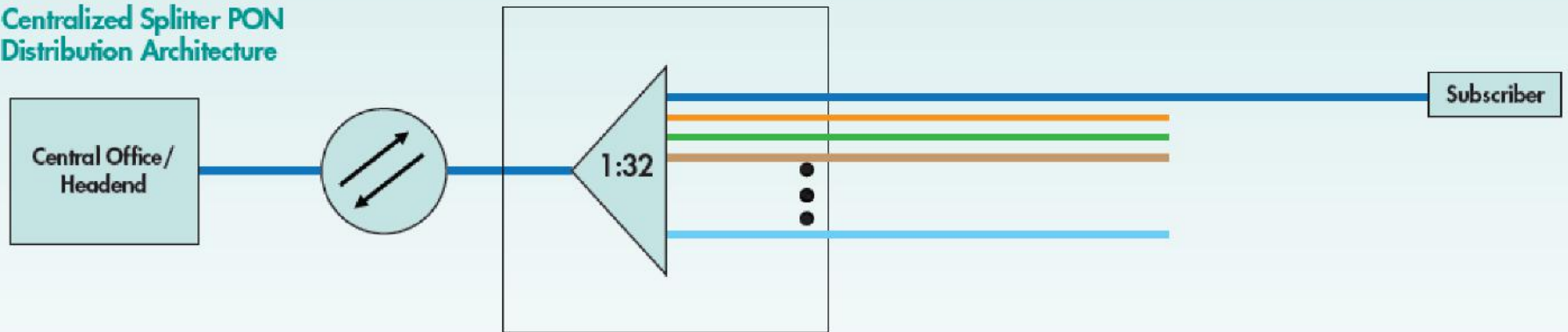
1200' Driveway: \$0

Decision Point #3:

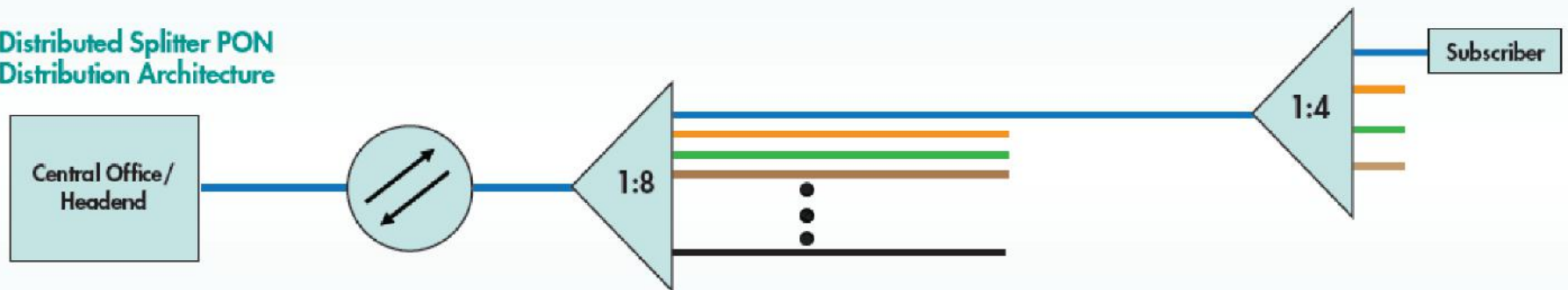
**Central vs.**  
**Distributed Split**

# Central vs. Distributed Split

A) Centralized Splitter PON Distribution Architecture



B) Distributed Splitter PON Distribution Architecture



Distributed

*Instead of*

Central Split

Difference: **\$456,737**  
**(0.25 mils)**



Decision Point #4:  
**Service Provider  
Equipment**



Included

*Instead of*

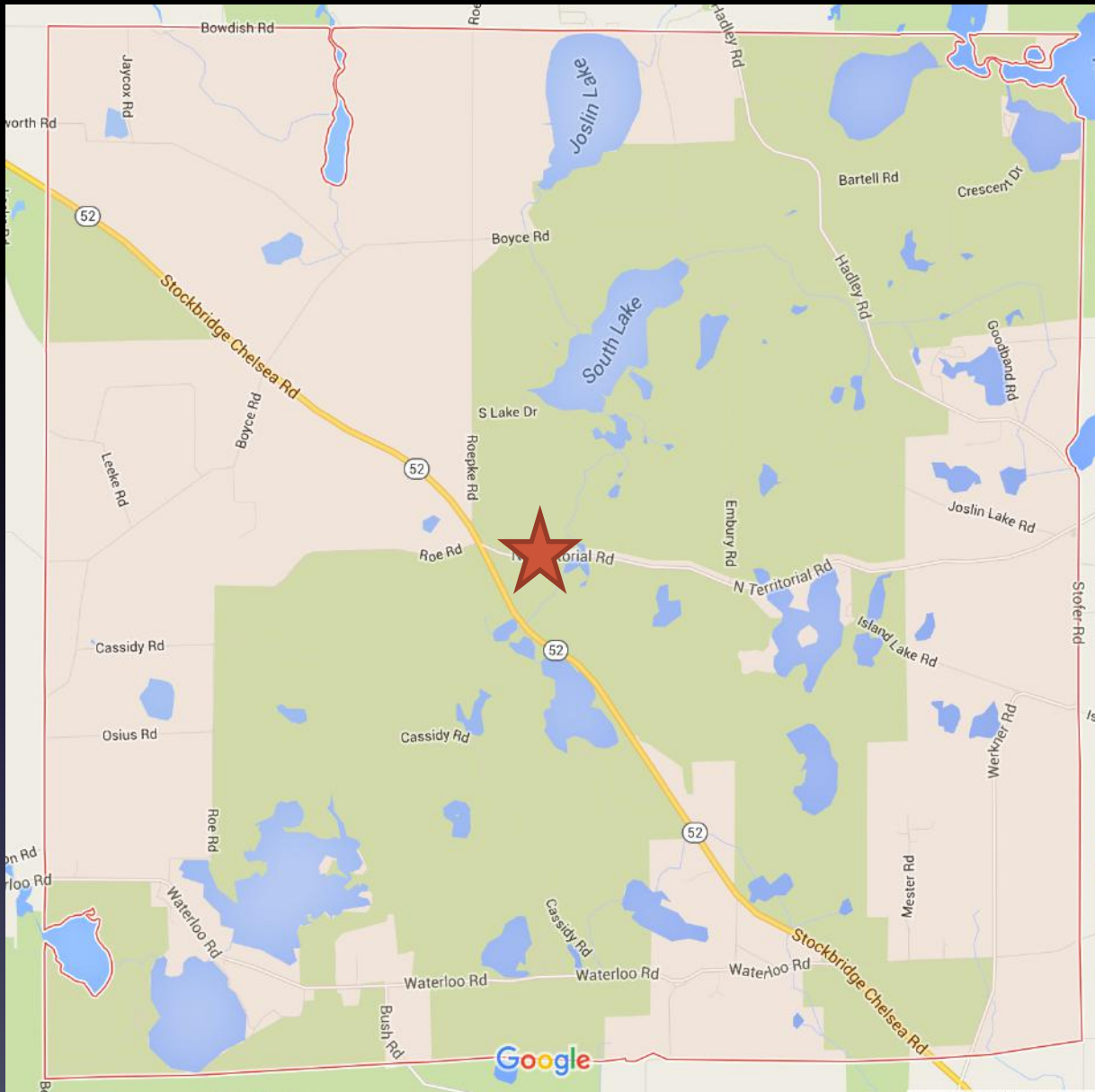
Not Included

Difference: **\$472,000**  
**(0.25 mils)**

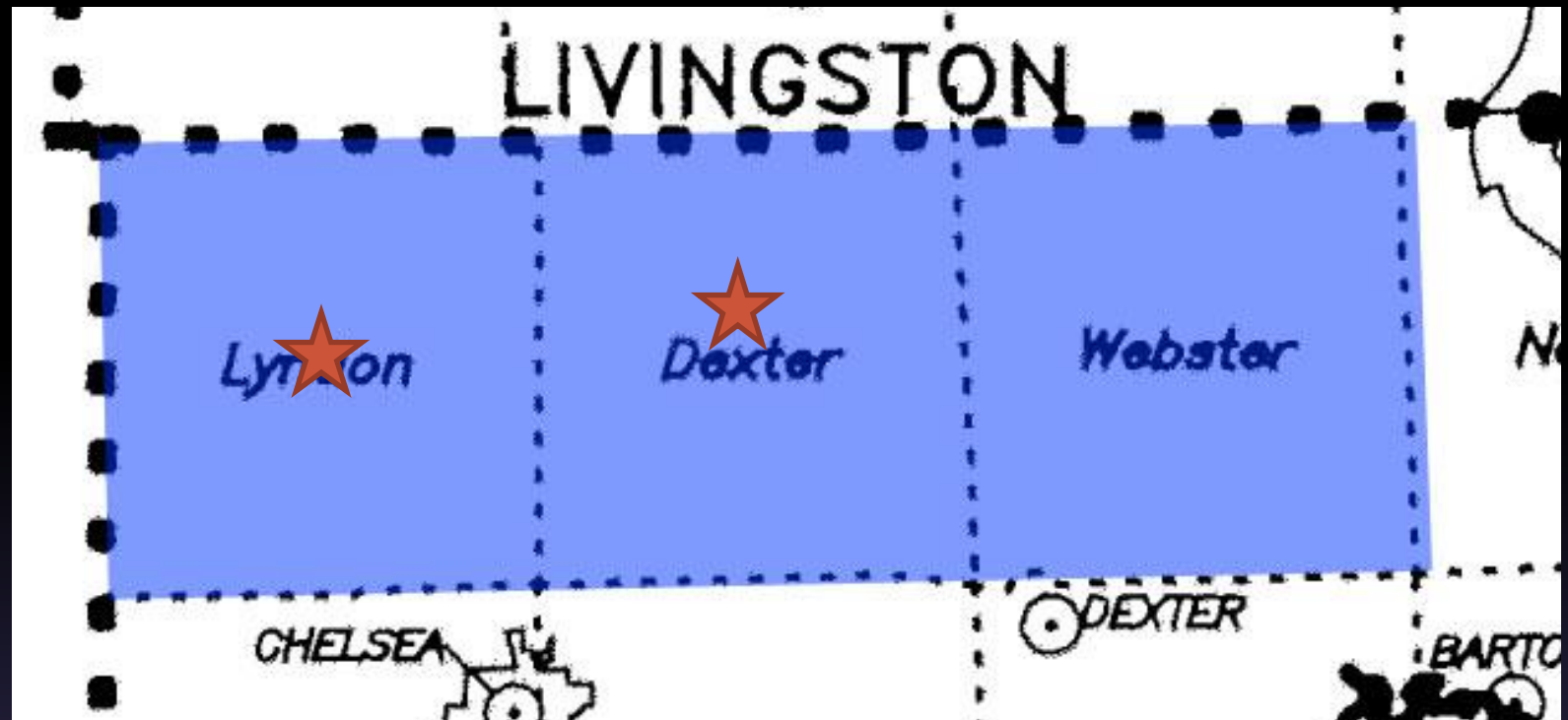
# Decision Point #5:

## Head End Location

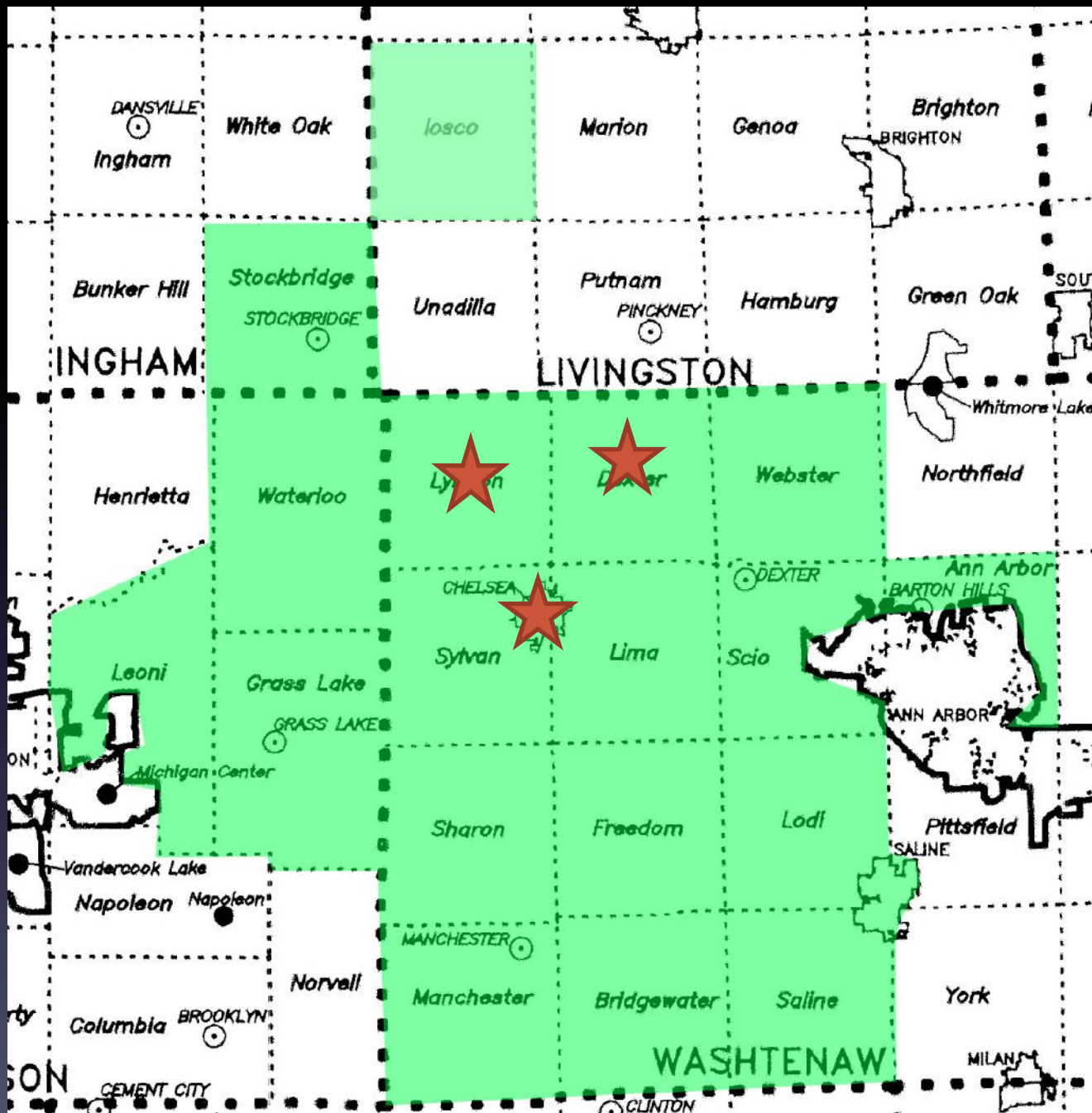




# Lyndon Township Hall



Dexter Fire Station #2



City of  
Chelsea

# Areas of Further Research

1. Bonding Costs
2. Construction Cost Estimates
3. Boring vs Trenching  
Estimates
4. Edge Parcels
5. Head End Locations



# Decision Point Summary

1. Aerial vs Underground  
(0.2 mils)
2. Driveways @ 300ft / 600 ft  
(0.4 mils)
3. Distributed vs Central Split  
(0.25 mils)
4. Service Provider Equipment Included  
(0.25 mils)

# Decision Point Summary

1. Aerial vs Underground  
(+0.2 mils)
2. Driveways @ 300ft / 600 ft  
(+0.4 mils)
3. Distributed vs Central Split  
(-0.25 mils)
4. Service Provider Equipment Included  
(+0.25 mils)

**Current Model: \$6,767,086 (3.7 mils)**

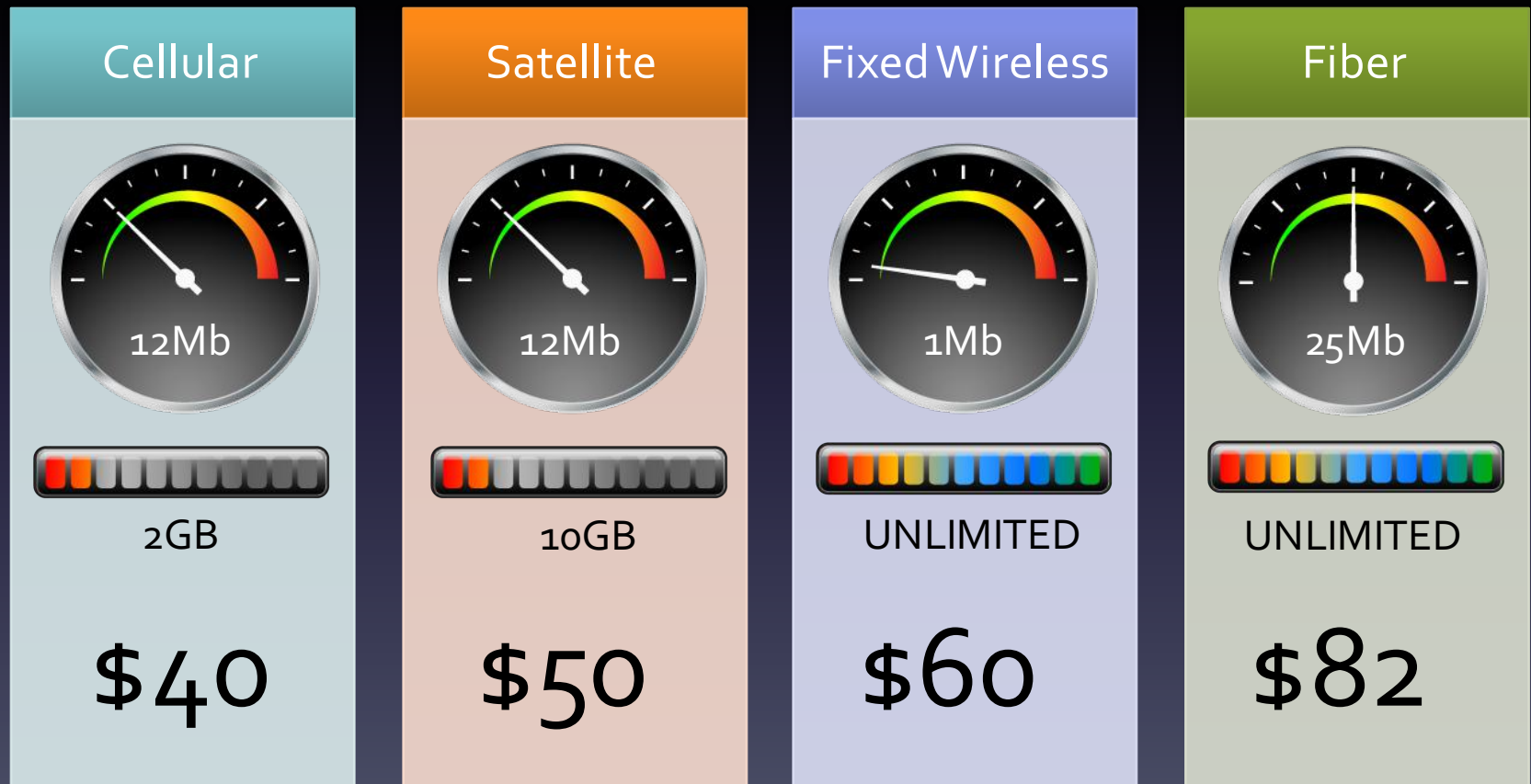
# Personal Finance

# Personal Finance

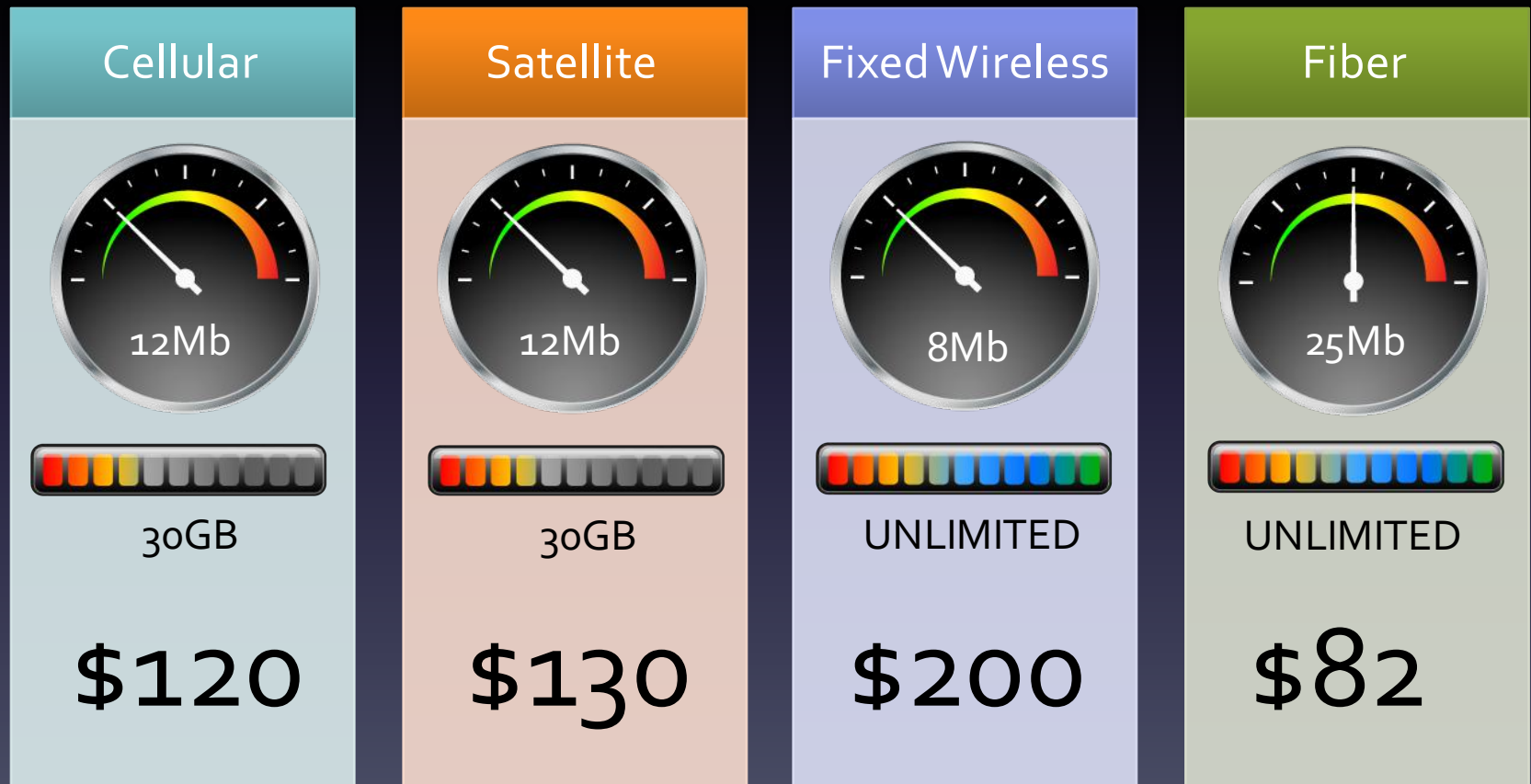
- Average Lyndon Home Value:  
**\$206,916**
- 3.7 mils = \$383/year (**\$32/month**)
- Estimated monthly service fee:  
**\$50/month**
- Total monthly cost: **\$82/month**



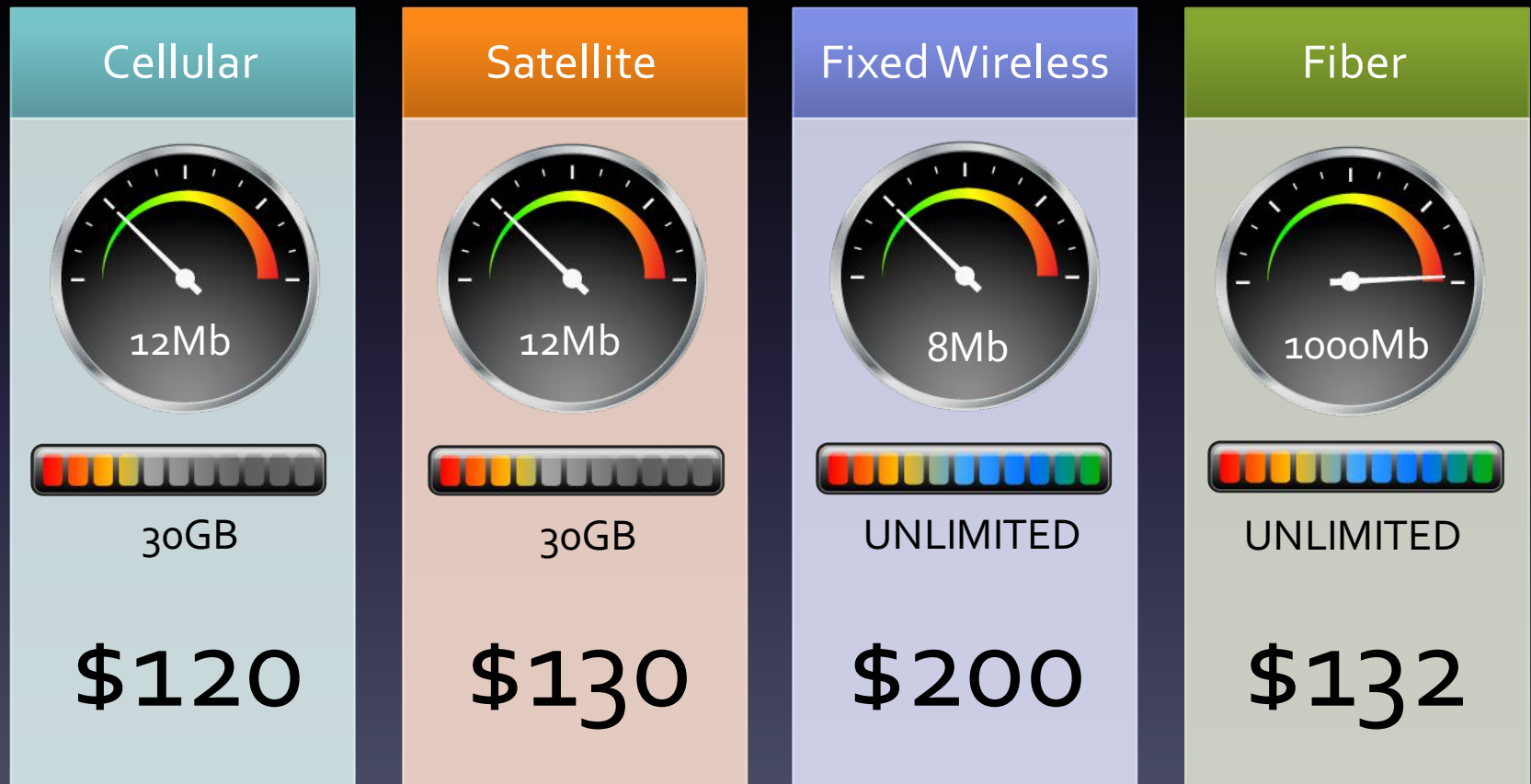
# Current Lyndon ISPs: Cheapest



# Current Lyndon ISPs: Best Available



# Current Lyndon ISPs: Best Available

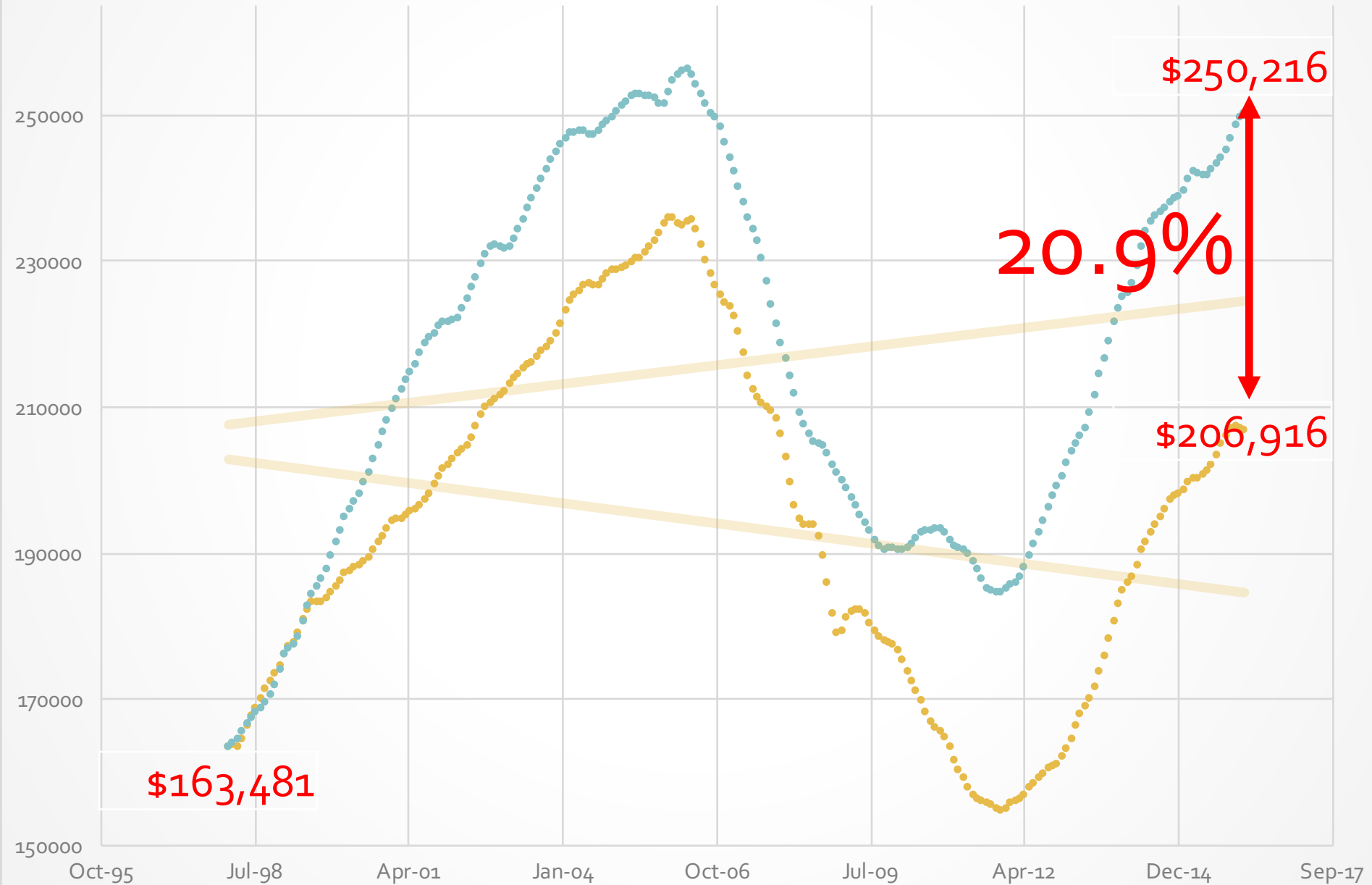


# **Personal Finance: Total Cost of Ownership**



# Broadband Gap in Home Values

● No Broadband ● Broadband



# Personal Finance: TCO

- Average Lyndon Home Value
  - 1998: \$163,481
  - Today: **\$206,916**
- Comparable Home With Broadband
  - 1998: \$163,481
  - Today: **\$250,216**

# Personal Finance: TCO

- 3.7 mils for 20 years for average Lyndon home: \$7,660
- Projected property value increase: \$43,300
- **Net Equity Change: \$35,640**



# Community Discussion

1. Aerial vs Underground
2. Driveways @ none/300ft/600 ft
3. Distributed vs Central Split
4. Service Provider Equipment Included
5. Head End Location





**[www.mbcoop.org](http://www.mbcoop.org)**  
**[ben@mbcoop.org](mailto:ben@mbcoop.org)**

