

Broadband Industry Panel

- Transforming Networks
- Assessed Value Challenges

15th Annual TFI Technology Conference

Austin, TX

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- Jeffrey Binkley, Assessment Valuation Advisors (Moderator)
- Carl Hoemke, Valentiam Group
- Gary Hunter, AT&T
- Christian Altenburger, Comcast
- John Reed, Charter

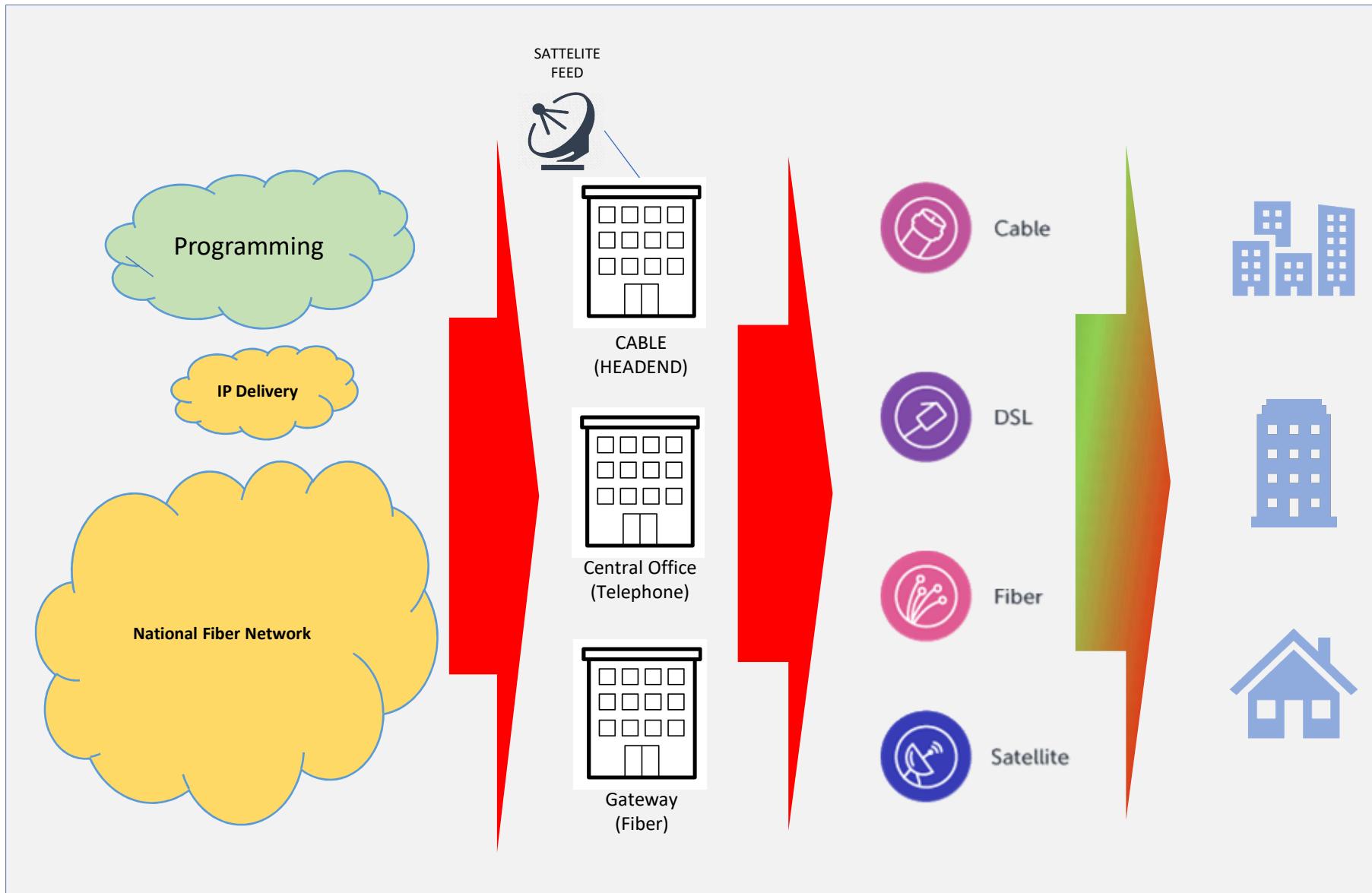


AT&T



Assessment
Valuation
Advisors LLC

Network Overview



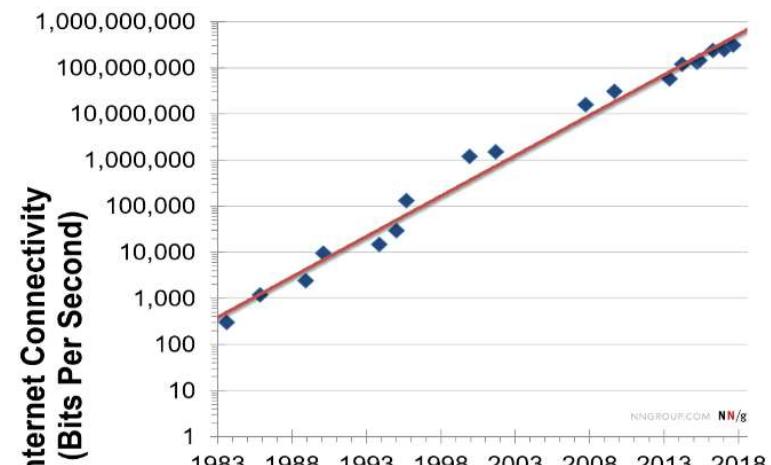
Changing Customer Demand



1. Movie Watching: VCR → On Demand, Netflix, DVR
2. Available Screens: TV → TVs, Computers, Phones, Tablets
3. # of Channels: 40-50 → 300+

Responding to Demand

- **Headend/Hubs** – Move Head-end/Hub functions to National Headend
- **DOCSIS 3.1** – Upgrading the network to standard provides faster speeds and higher bandwidths
- **Distribution** – Adding fiber & node splits to increase bandwidth
- **Set-Top Boxes** – Update CPE to D3.1 standard



Internet bandwidth grows at 50% per year

Why Utilize Replacement Cost?

- **Reproduction Cost**

- Cost to replace the existing network
- Must account for Excess Cost
Functional/External Obsolescence

- **Replacement Cost**

- Easier to estimate and more relevant to the basic principle of substitution
- Relies on the cost of comparable improvements rather than the historical costs of the property being appraised.
- Eliminates some forms of functional obsolescence

Replacement Cost New (RCN)

Quantity * Price = Cost of Replacement Network



DETERMINE
NETWORK
QUANTITIES ("Q")
REQUIRED TO SERVE
EXISTING
CUSTOMERS AND
SERVICE



IDENTIFY
COMPONENT PRICES
("P") – FULLY
INSTALLED CURRENT
COST



CALCULATE COST ("P*Q")
– THE COST OF A CABLE
NETWORK IF BUILT
TODAY (THE
REPLACEMENT COST
NEW)



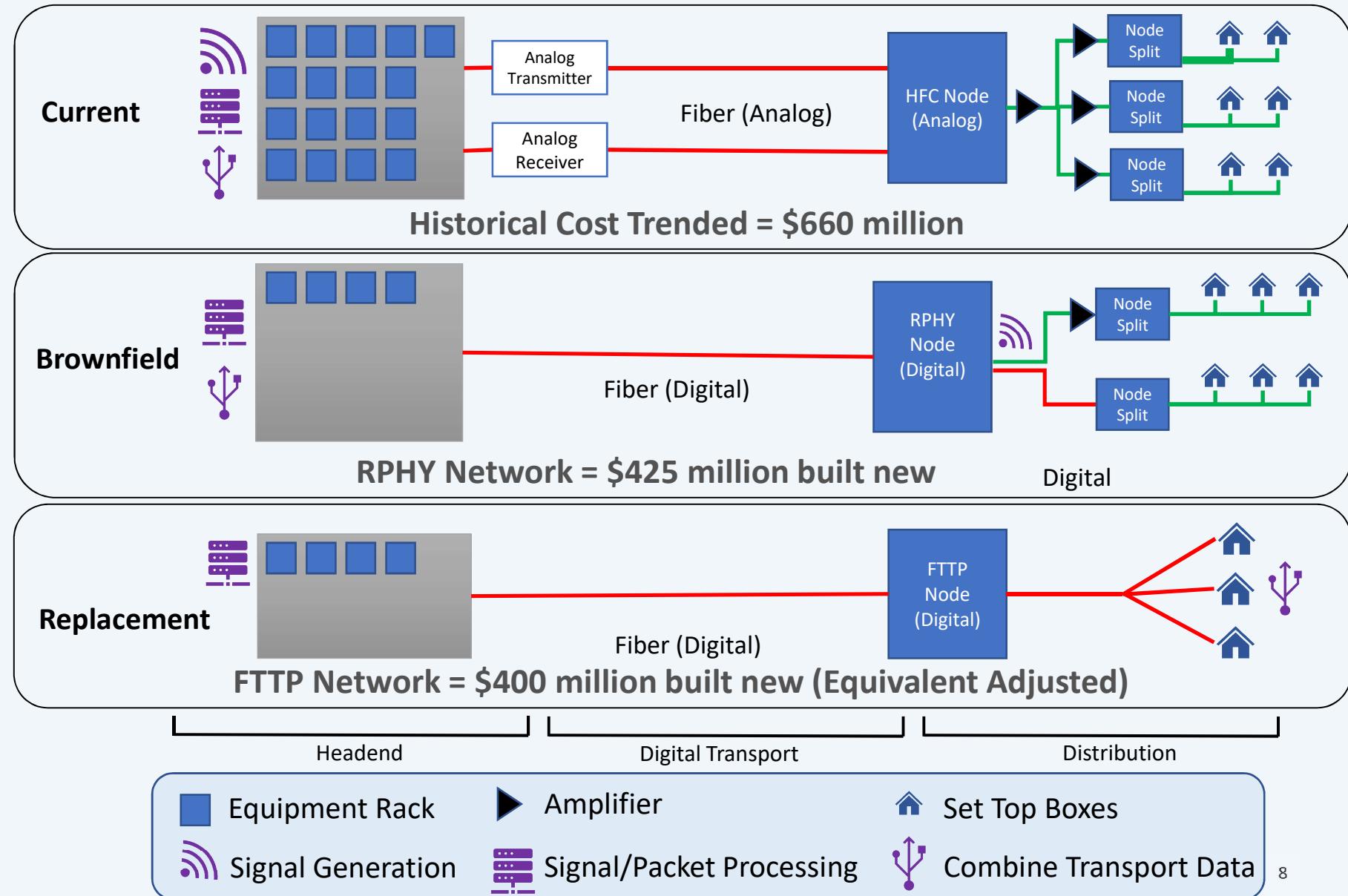
THE TOTAL RCN
MEASURED IS
SIMILAR
FUNCTIONALITY TO
COST FILED - ADJUST
FOR FUNCTIONALITY
IF NECESSARY

Cost Comparisons (in millions)

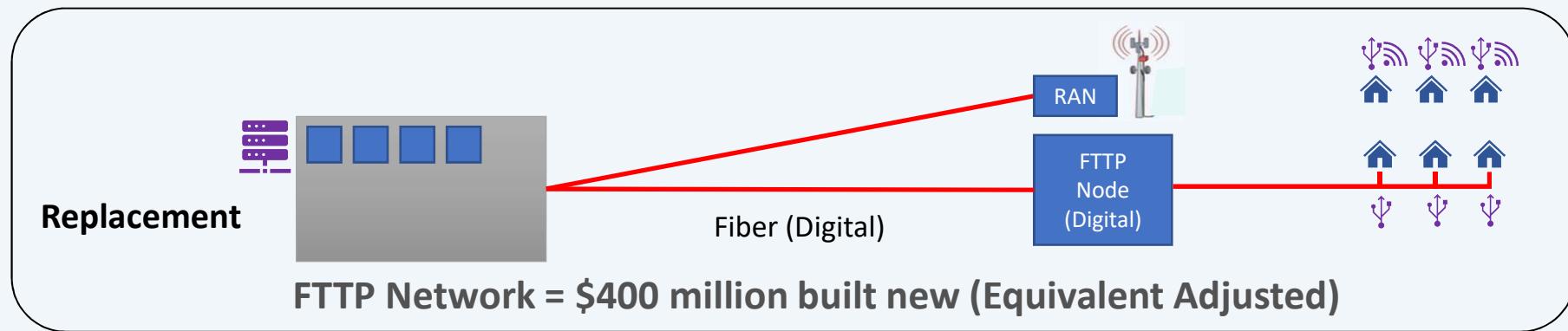
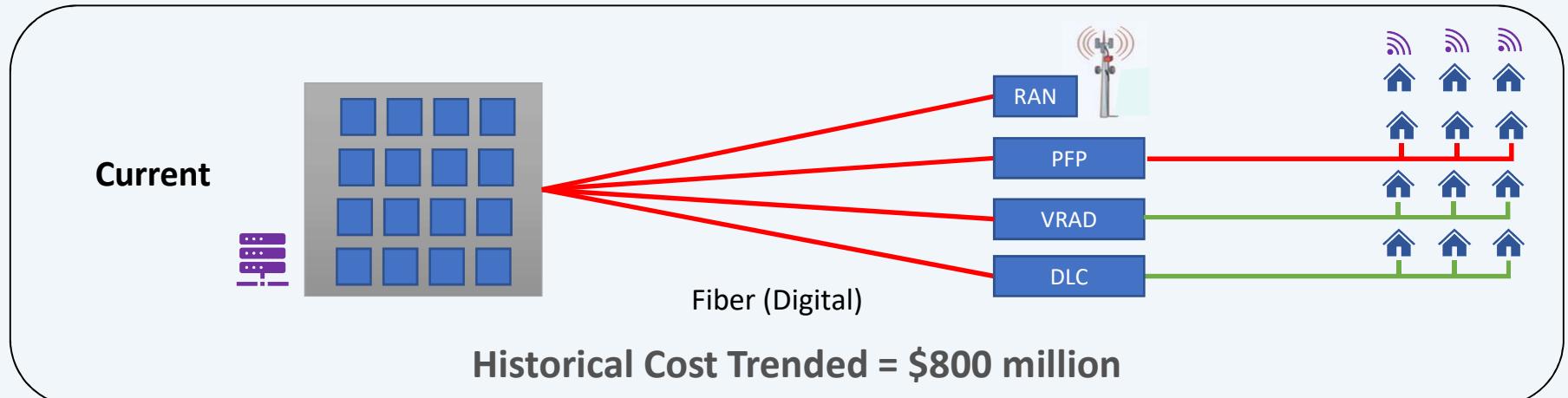
- To compare Replacement Cost to Assessor filing cost we applied trends embedded in the percent good factors utilized by the Assessor to filed cost. This provides a like kind comparison.
- The Replacement Cost network represents technologically superior functionality in areas like the set top boxes, headend equipment, and distribution equipment.



Cable - Current/Brownfield/Replacement Network



Telecom - Current/Brownfield/Replacement Network



Excess Capital

Operating and updating a network over time creates excess costs, whereas a replacement plant is built to current standards.

Costs	Total
Original install	1.4 MM
+ Upgrade cost inefficiencies (Net of Retirements)	0.4 MM
+ Node splits	0.4 MM
+ Capitalized repairs	0.2 MM
Accumulated cost	2.4 MM
Replacement cost	1.3 MM

Suboptimal Deployment

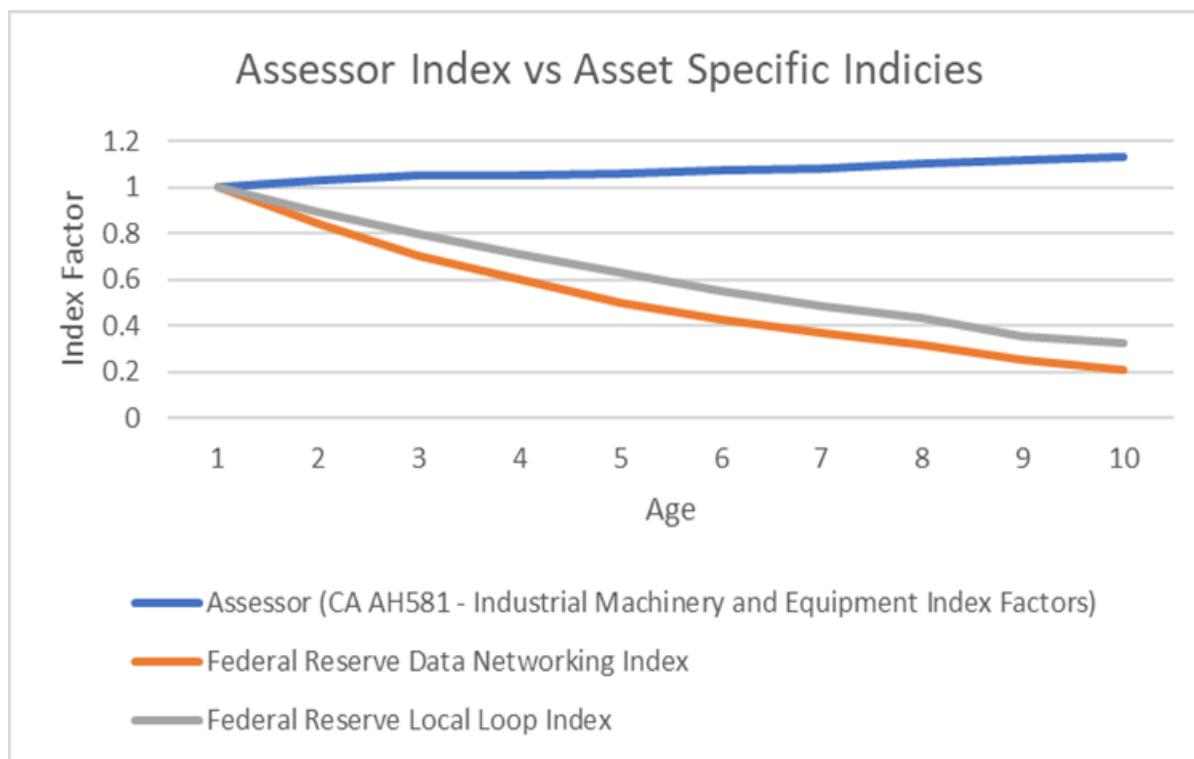
A modern network would use efficient routes to reach customers and provide services to them

Existing System Built over Time:
4,400 miles of cable

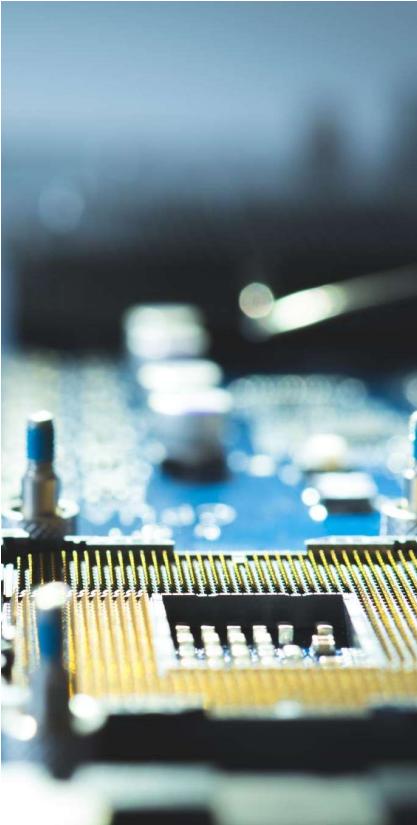
Replacement Plant Requirement:
3,400 miles of cable

Negative Trending

- The non-specific Assessor Indexes inflate over time.
- The specific Telecom Network equipment cost Indexes deflate over time.



- Assessor tables are intended for use in the mass appraisal purposes.
- Tables Relevant to the equipment measured should always be considered superior evidence



Equivalent Utility

- If the FTTP Network is superior to the existing network
 - *Fiber in a FTTP distribution plant has a longer useful life than the subject*
 - *Passive electronics in FTTP have lower operating costs*
- An Equivalent Utility adjustment ensures the replacement plant is of equal functionality

Questions?

