

Broadband Industry Panel

- Transforming Networks
- Assessed Value Challenges

15th Annual TFI Technology Conference

Austin, TX
Jan 23-24, 2020

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



AT&T

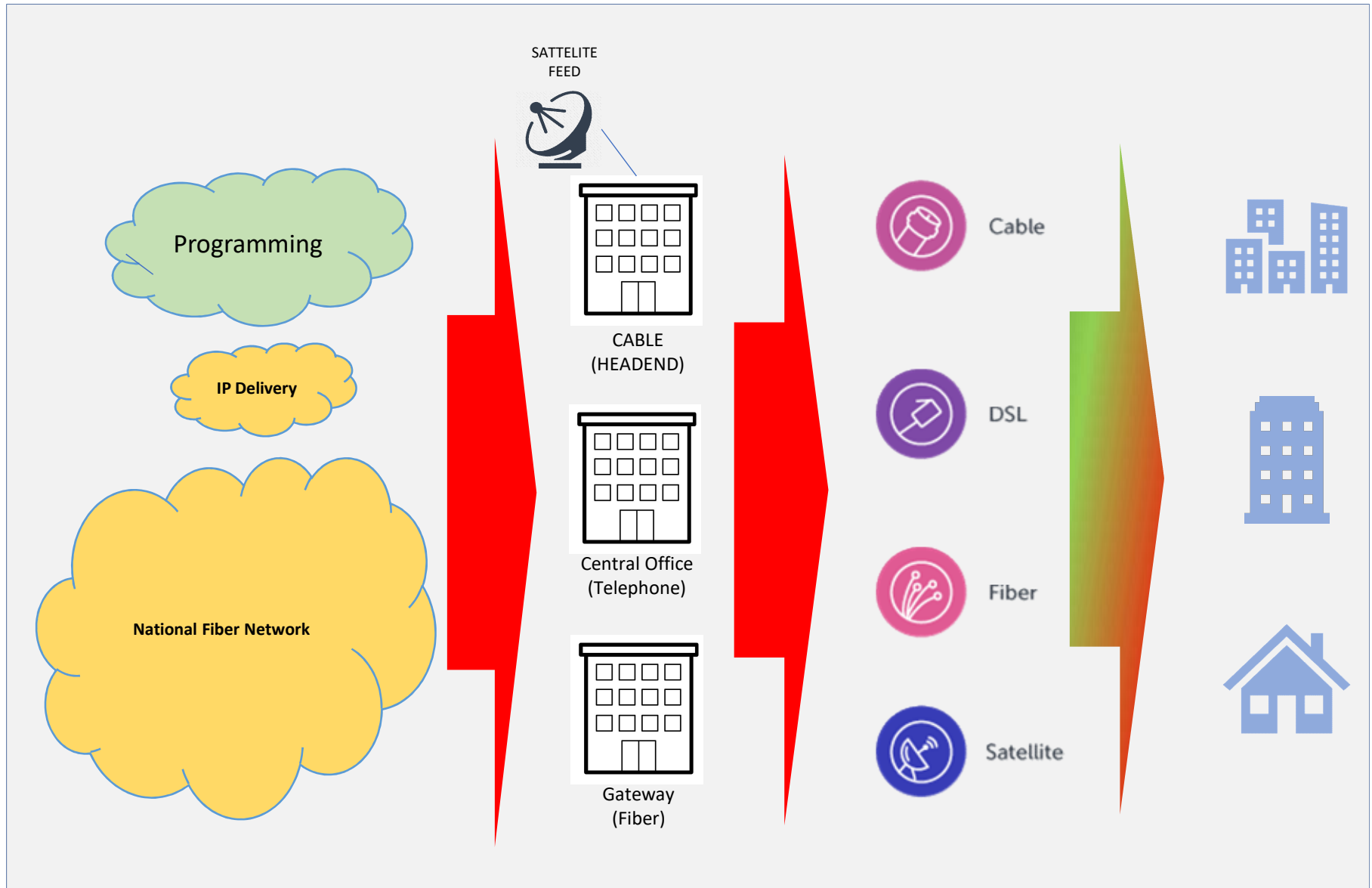


COMCAST



**Assessment
Valuation
Advisors LLC**

Network Overview



Changing Customer Demand

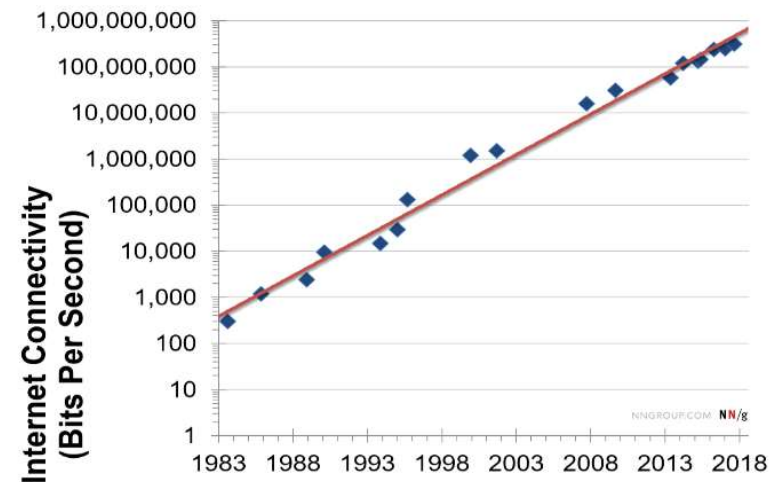


1. Movie Watching: VCR →
2. Available Screens: TV →
3. # of Channels: 40-50 →

On Demand, Netflix, DVR
TVs, Computers, Phones, Tablets
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 growths 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)



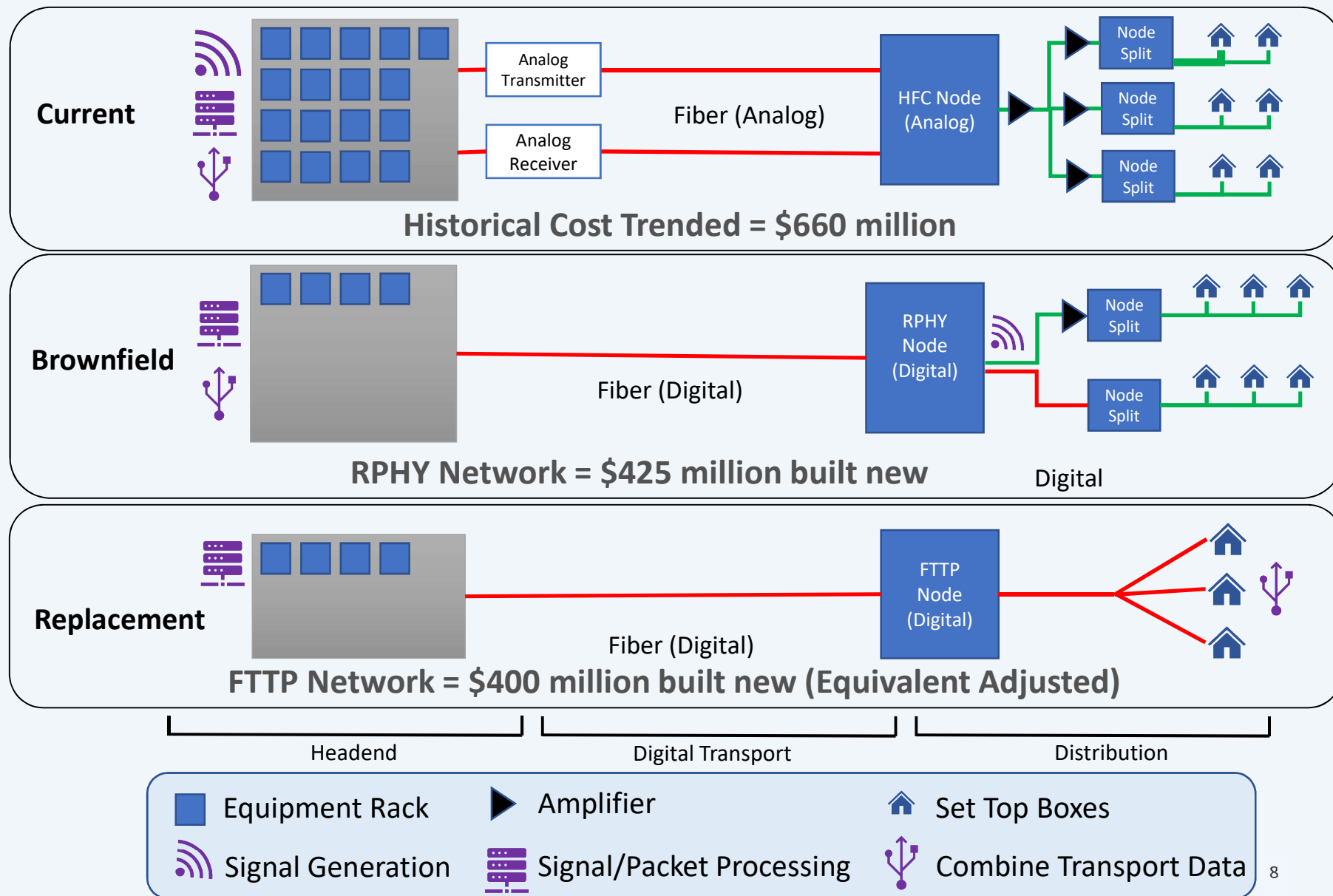
THE TOTAL RCN
MEASURED IS
SIMILAR
FUNCTIONALITY TO
COST FILED - ADJUST
FOR FUNCTIONALITY
IF NECESSARY

Cost Comparisons (in millions)

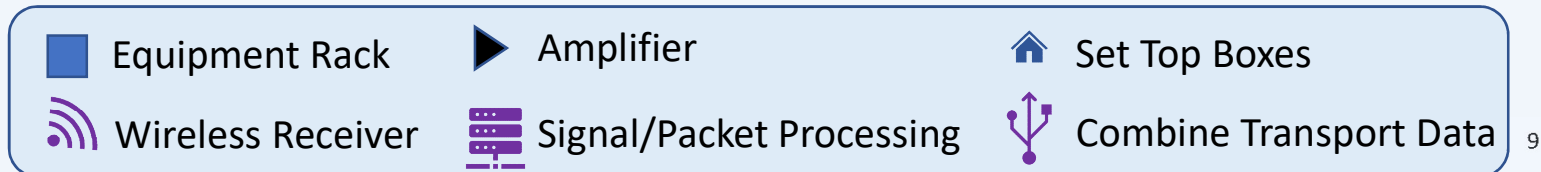
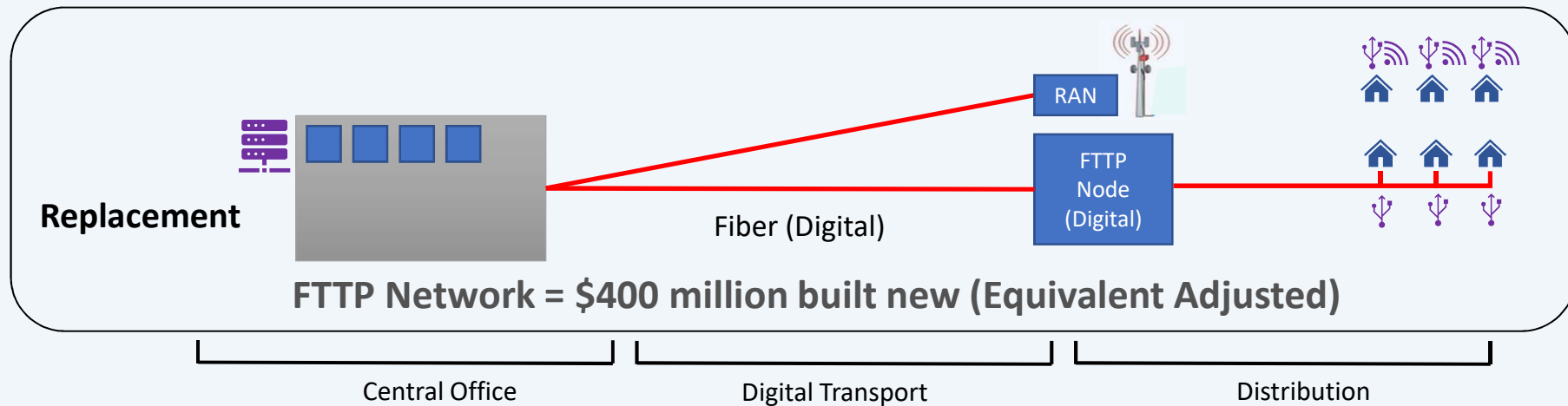
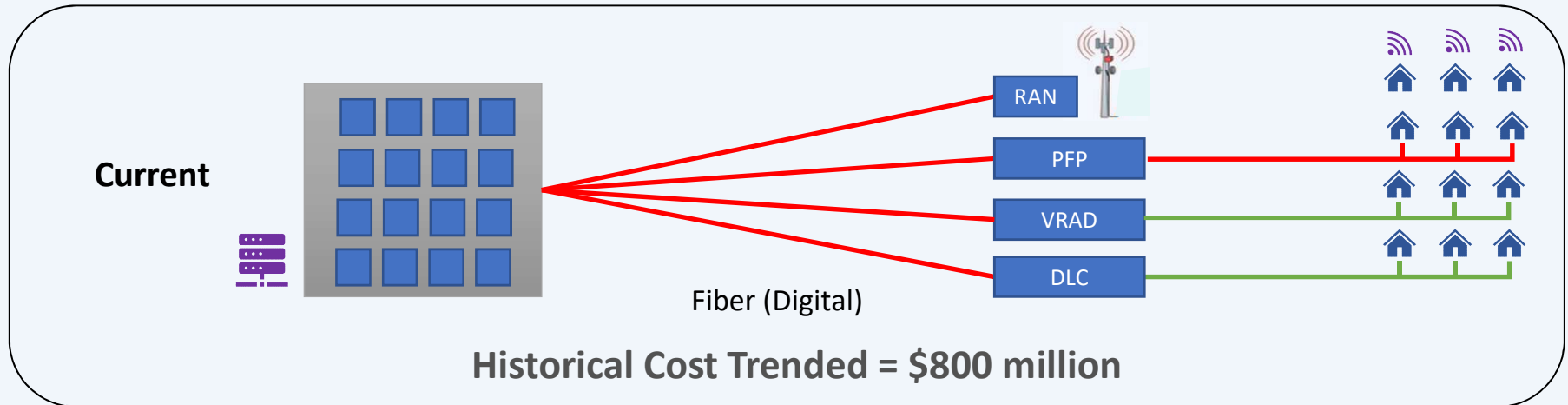
- To compare Replacement Cost to Assessor filing cost we applied trends embedded in the percent good factors utilized by the Assessor to filed cost. This provides a like kind comparison.
- The Replacement Cost network represents technologically superior functionality in areas like the set top boxes,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

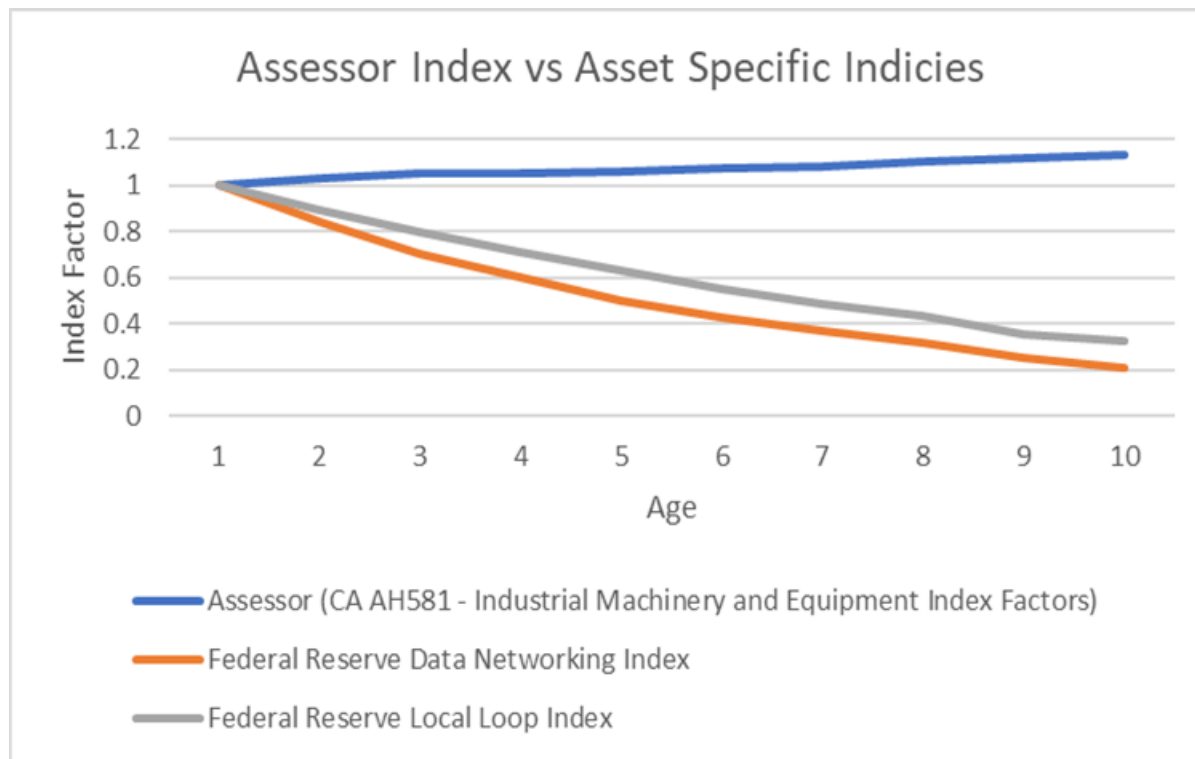
A modern network would use efficient routes to reach customers and provide services to them

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

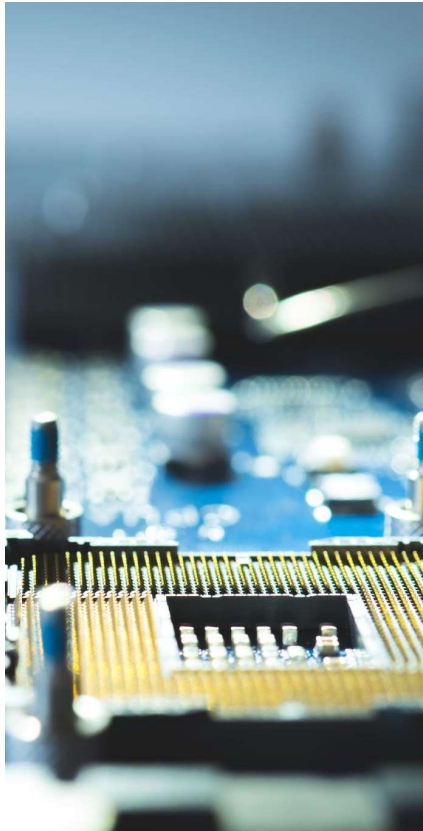
Replacement Plant Requirement:
3,400 miles of cable

Negative Trending

- The non-specific Assessor Indexes inflates 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?

