

# FCC Broadband Workshop

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# Local Governments and Fiber to the Home

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- 57 municipal FTTP networks in the US
- Range of architectures, vendors, business models, technology choices
- Key is local decision-making and flexibility
  - in technology model
  - in business model (sometimes limited by anti-competitive state law)
- Emphasis on expanse and multiplicity of services, bandwidth, and affordability

# Project Drivers and Technology Choices

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- Range of drivers
  - From economic development to local self-sufficiency
  - From education to public health
  - From environment protection to smart growth
- These drivers push toward technology models that emphasize breadth of coverage and high bandwidth
  - Residential use
  - Business use, small and large
  - Contrast for-profit drivers

# FTTP Technology Choices

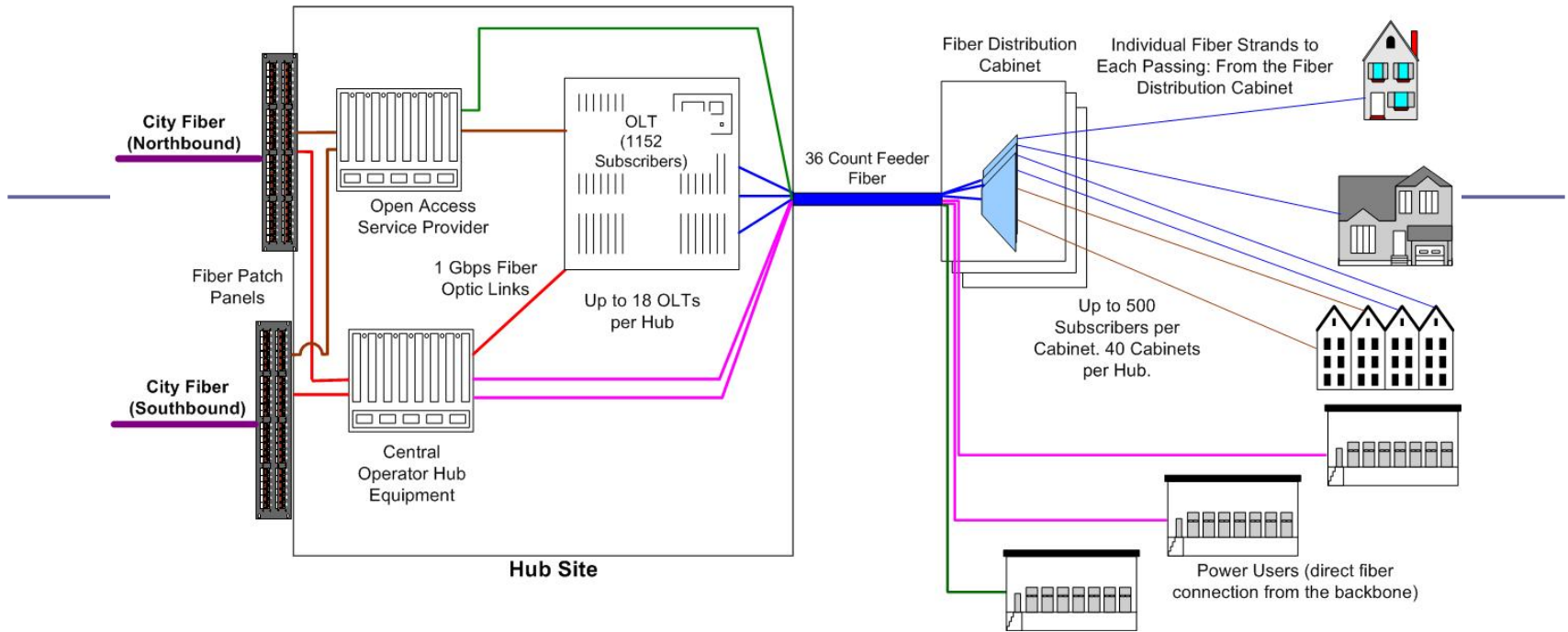
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- Frequently framed as choice of point-to-point versus passive optical networking
- US munis have adopted both, following extensive review and evaluation
- Emerging understanding that either can facilitate:
  - multi-party use, openness at physical and electronics layers, competition
  - key is to build in flexibility but still allow for local decision-making

# “Enhanced PON” considerations

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- Emerging architecture under consideration for San Francisco
  - Emphasis has been on architecture that would support open access and competition
- Economies make PON more cost-effective
  - falling cost of hardware due to proliferation worldwide
  - increasing standardization of PON technologies potentially provides lower-risk upgrade path
  - significantly lower cost of PON outside plant constr.
  - reduced space requirements at each hub, enables more choice for locations and reduction of costs.
- “Enhanced” variation builds in flexibility for big users



- ❑ Retail openness options at router level (layer 3) and interface level (layer 2)
- ❑ Sufficient fiber to connect 7% of users over dedicated fiber and bypass GPON equipment (can increase with increase in constr. cost)
- ❑ *Because of need for central entity, openness always depends on governance*