



# City of Beverly Hills

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# Fiber to the Premise

- What is it?
  - Residential offering
    - 1 Gigabit per second
    - \$55 per month
    - Single family / multi family
    - Voice and video as add on
    - No installation fees\*
  - Commercial Offering
    - Variety of tiered plans
    - Additional costs



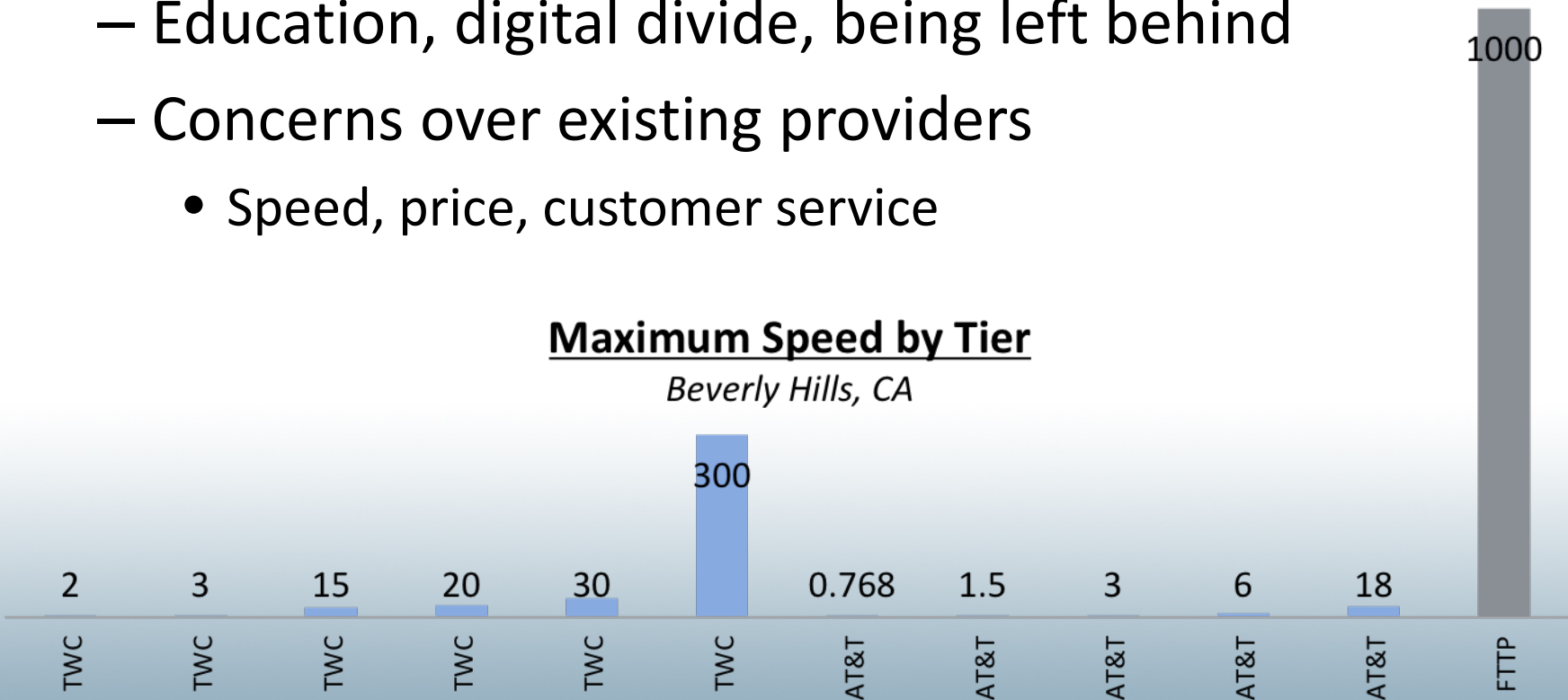


# Business Drivers

- Why fiber to the premise?
  - Economic development, innovation, future proof
  - Education, digital divide, being left behind
  - Concerns over existing providers
    - Speed, price, customer service

## Maximum Speed by Tier

*Beverly Hills, CA*

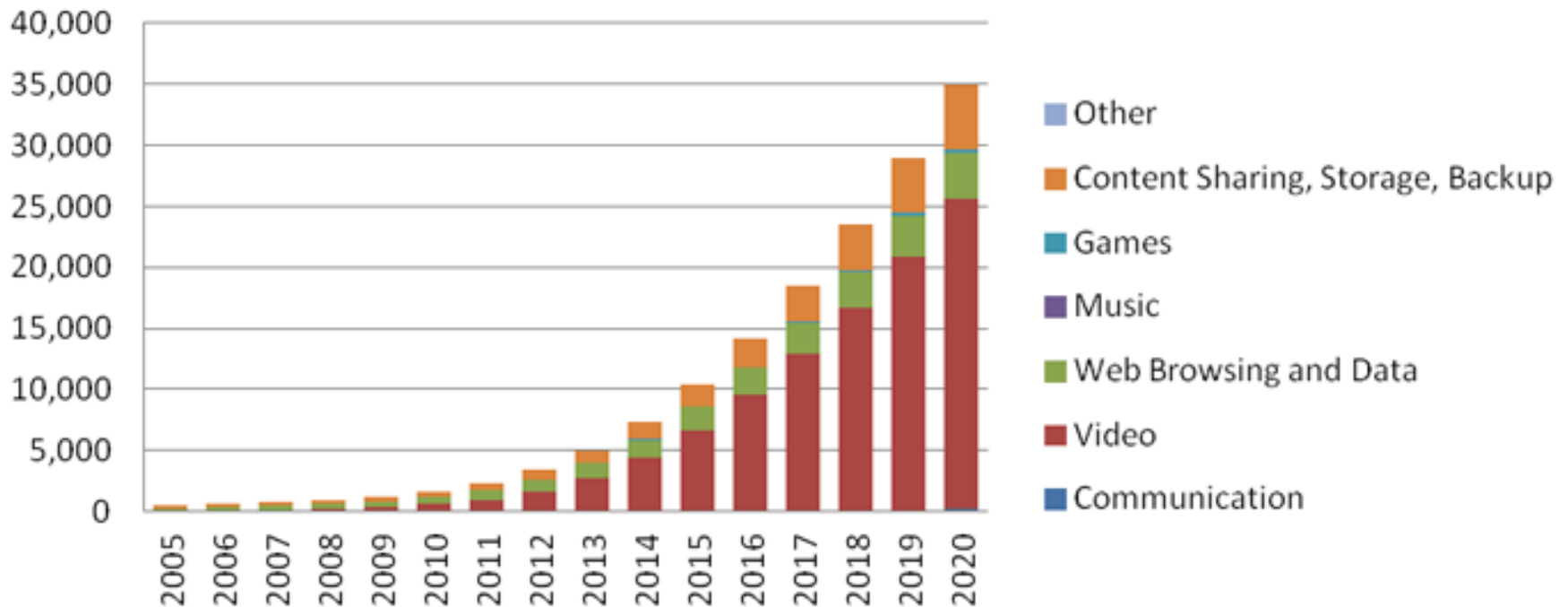




# Importance of Capacity

- Anticipated demand for bandwidth

Monthly Wireline Internet Traffic by Category, PetaBytes





# Other Municipalities

- 83 communities with comprehensive FTTP systems
- 185 with partial systems

**Community Broadband Network Map**

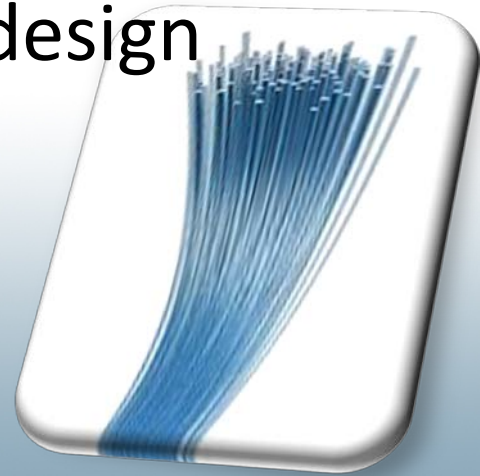






# History

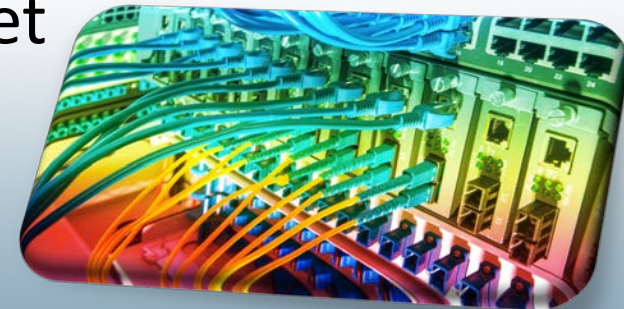
- ~2001: 'Talk' of purchase of Adelphia's system
- ~2002: Municipal Area Network construction
- ~2008: School District first client
- ~2010: Working with incumbents
- ~2014: Feasibility study undertaken
- ~2015: Council approved finalizing design
- ~2016: Design Complete
- ~2018: Construction





# Feasibility Study

- Determine financial impacts of deploying fiber
  - Build baseline financial pro forma
  - Evaluate sensitivities and alternate scenarios
- Market Research / Revenue Model
  - Demand estimates based on results of primary market research
  - Product, packaging and pricing strategies based on competitive analysis of local market





# Feasibility Study (cont.)

- Operating Expense
  - Combined local costs and existing deployment experience
- Capital Budget
  - Capital budget based on sample designs for local neighborhoods
  - Unit costs based on local construction rates and recent client bid results







# Market Research Findings

- Statistically valid survey results
  - Greatest area in need of improvement is speed (42%), followed by lower price (29%)
  - 65% of respondents 'definitely' or 'probably' switch
    - Revenue model assumes much lower adoption rate
  - Dissatisfaction with current providers
  - 86% internet adoption rate, 79% recognize the importance of bandwidth



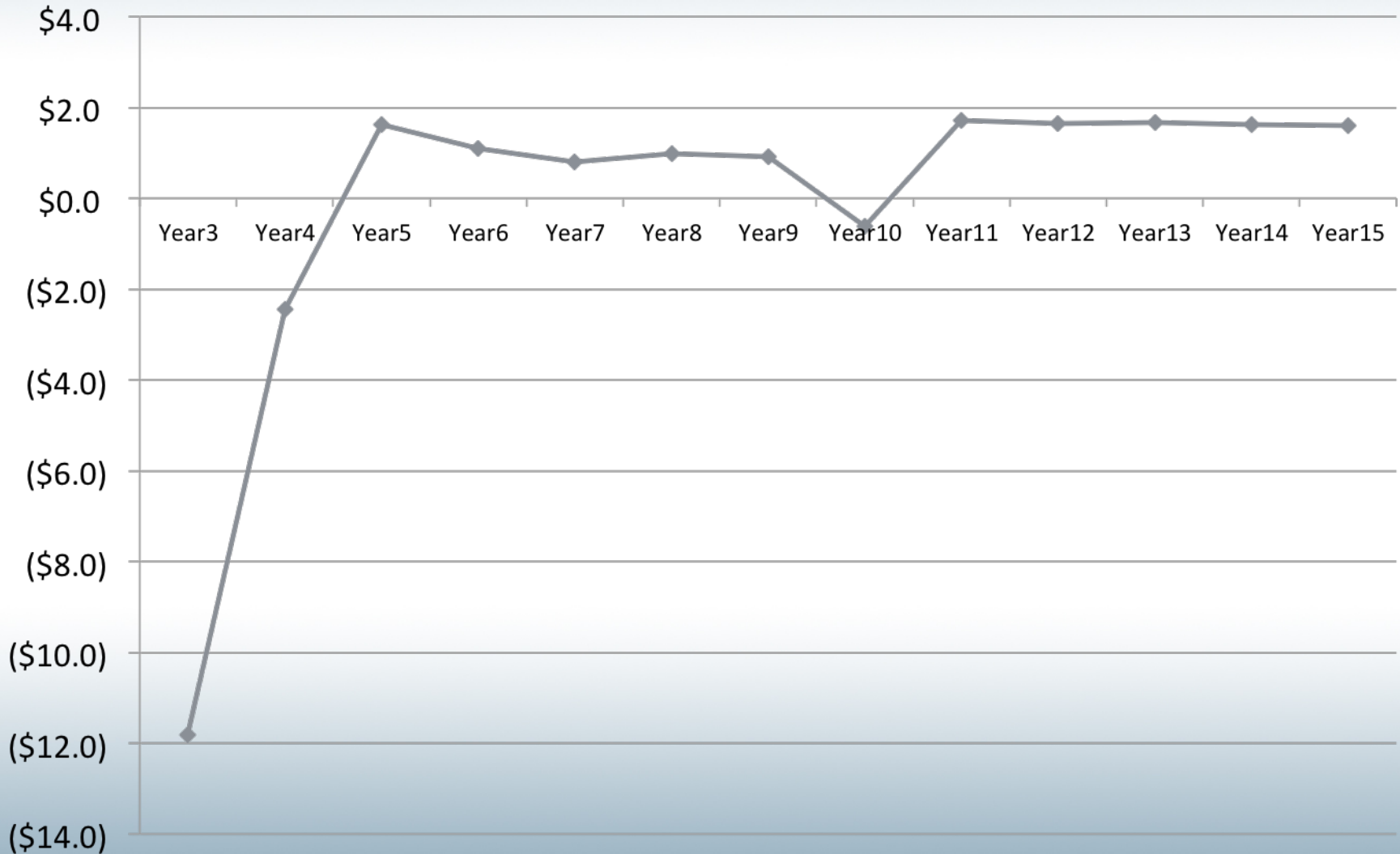
# Financial Analysis

- The project is financially viable
  - Project achieves positive cash flow in Year 5
  - Project is net cash positive in 15 years



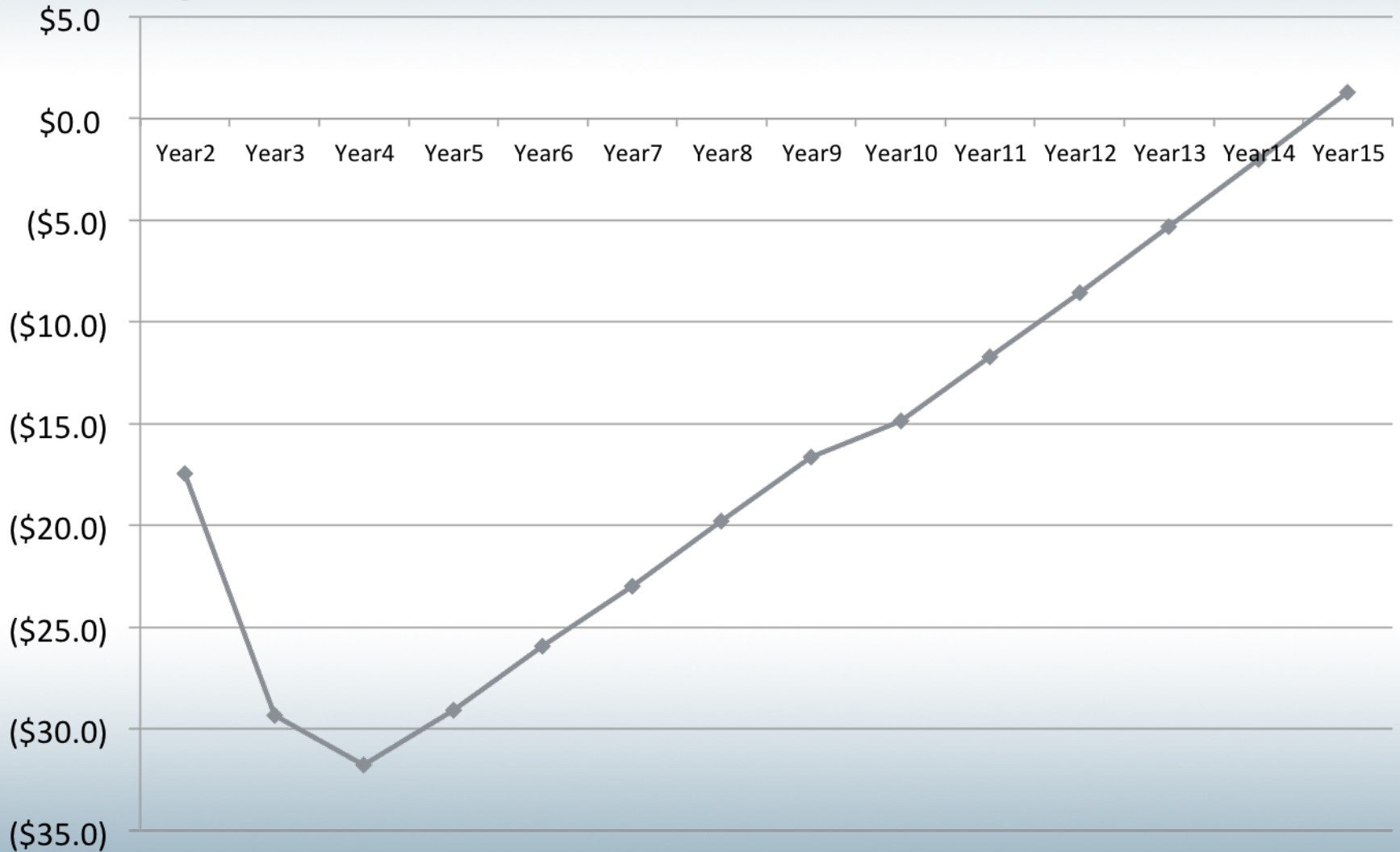


## Cash flow with debt service (\$M)





# Net Cash (\$M)





# Time Frame

- Continue construction Jul 2018
- Beta customers Aug 2018
- Launch Fall 2018
- Construction completion Fall 2020

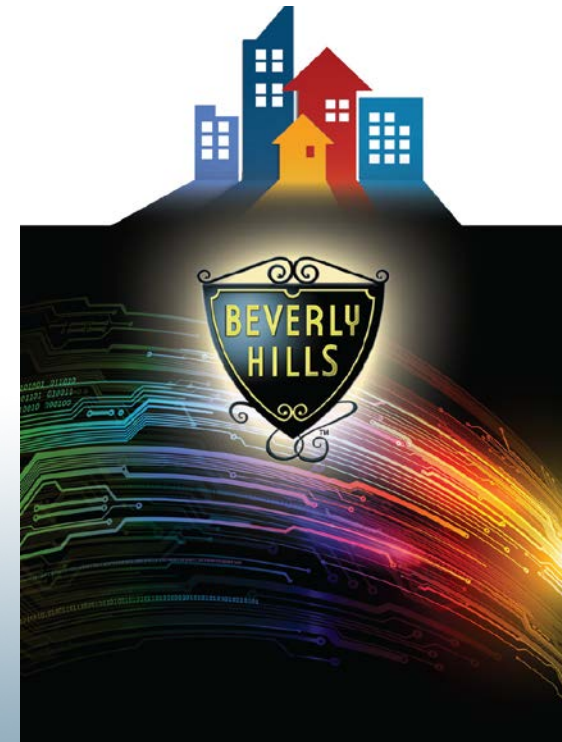






# The Design

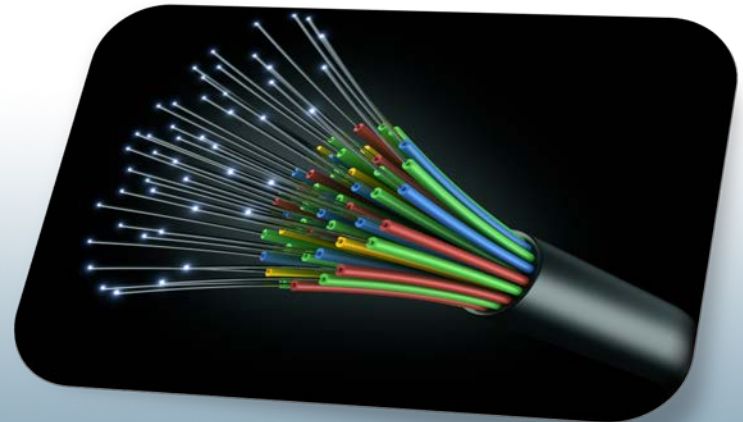
- Engineered to 100% utilization
  - Anticipated 35% to 50% uptake
    - ~50% available for City use
  - 25% set aside for 2-10 Gb/s





# The Design

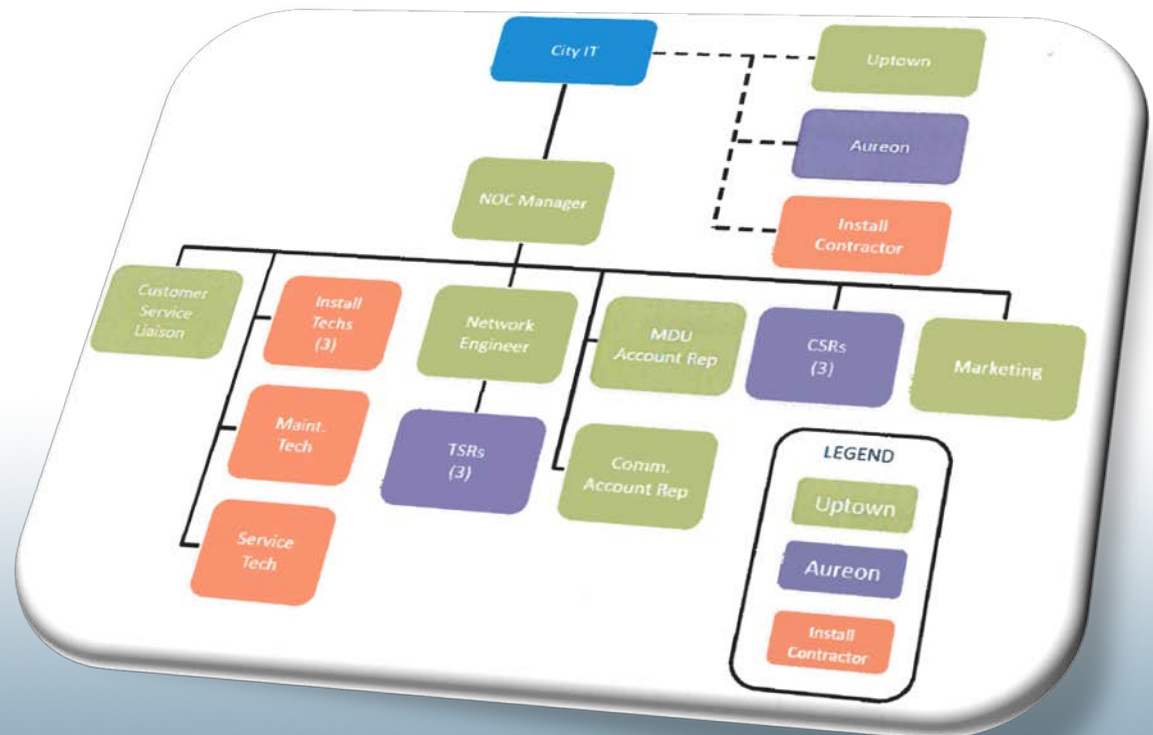
- Design topology
  - ~55% overhead using electric utility
  - ~30% to use existing conduit
  - ~15% micro trenching , directional boring





# Staffing

- Initial staffing model in place (up to 20 FTEs)
  - Initially using out-sourced model
  - Top-tier personnel to be insourced





# Laterals

- Multi Family
  - MFR account engineer to negotiate with owners on best path
    - Single MPOE with risers up to units preferred
- Commercial
  - Commercial account engineer to negotiate with owner
    - Build to telco closet, riser to suites





# Lessons Learned

- Utilize public steering committee
- Understand process for attaching to poles
  - Conduct early pilot project
- Require local experience from design engineer
- Conduct construction methodology pilot
- Design from premise upstream
- Setting appropriate expectations
- Utilize communications plan
  - Web, video, news, door-to-door, mail





# Fiber to the Premise

Thank you.

[Beverlyhills.org/fiber](http://Beverlyhills.org/fiber)

