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Overview of Local Community Broadband Business Models

Prepared for the Commonwealth of Kentucky
October 2015

Overview

- ▶ Local Middle Mile
 - ▶ Institutional/Enterprise Model
- ▶ Fiber-to-the Premises
 - ▶ Municipal Model
 - ▶ Public/Private Partnerships
 - ▶ Public facilitation/private risk
 - ▶ Public risk/private execution
 - ▶ Shared risk

Local Middle Mile: Institutional Model

- ▶ Serve anchors over local middle mile fiber optics
- ▶ The economics work, based on 15 years of data:
 - ▶ Low cost to construct and operate
 - ▶ Incremental cost construction opportunities
 - ▶ Reduced operating costs and dramatic savings
 - ▶ Platform for innovation
 - ▶ Platform for last-mile buildout
- ▶ Low risk strategy: don't hesitate to start small

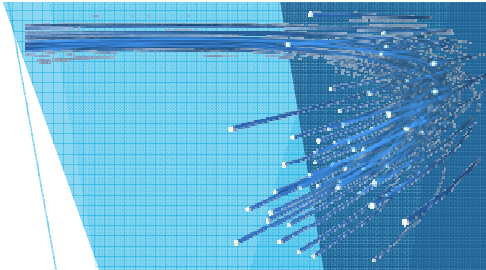
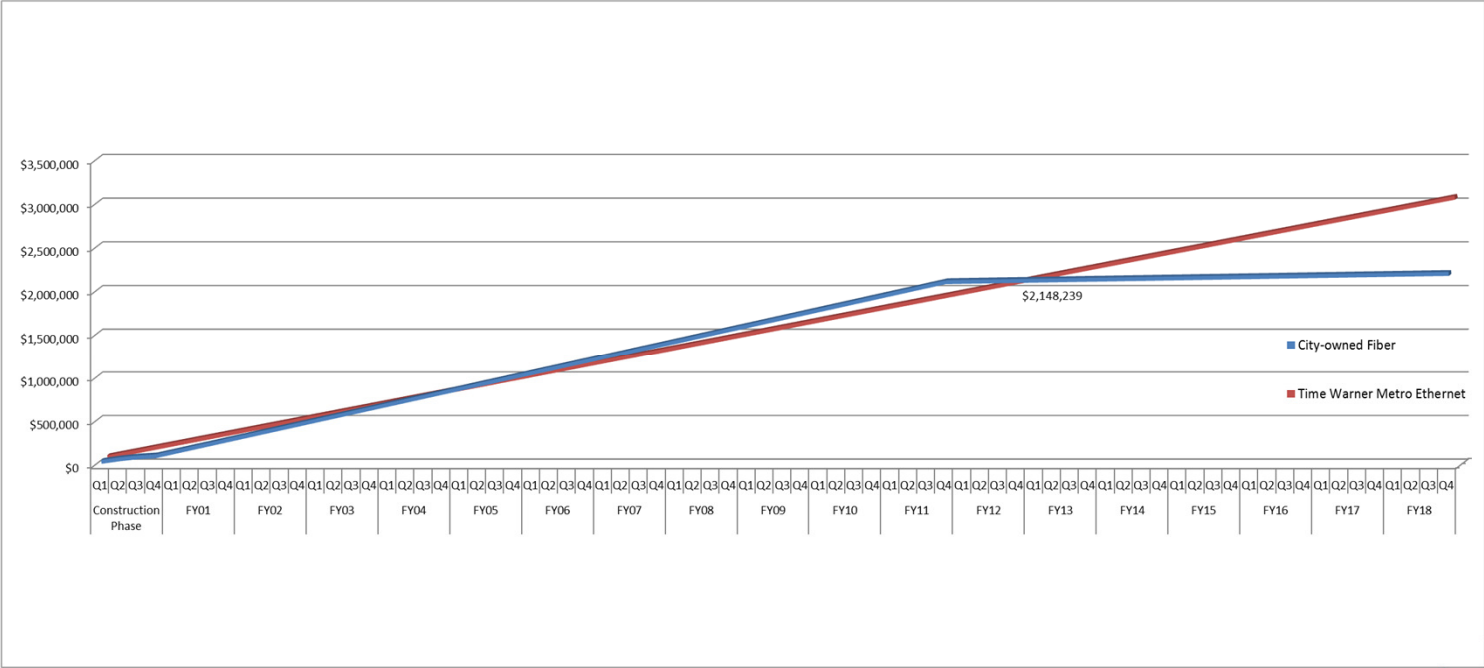
Building a Business Plan

- ▶ **Avoided costs**
 - ▶ Core government functions
 - ▶ Education and other (independent) anchors
- ▶ **Revenue support**
 - ▶ Internal anchor revenues
 - ▶ E-rate and Health Care Connect
 - ▶ Spare conduit/fiber/service capacity for leasing
- ▶ **Capital support: incremental builds**
 - ▶ E-rate and Health Care Connect

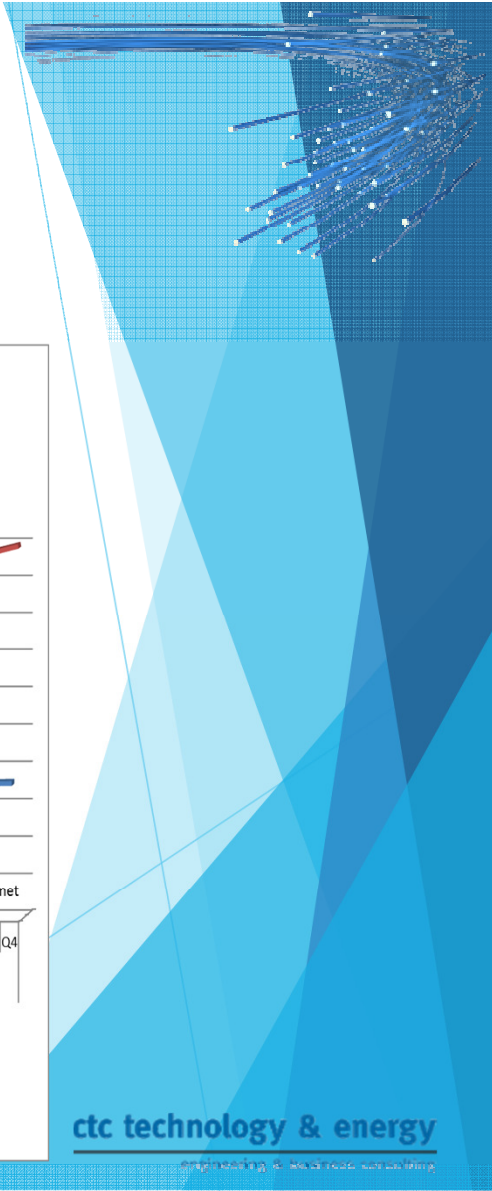
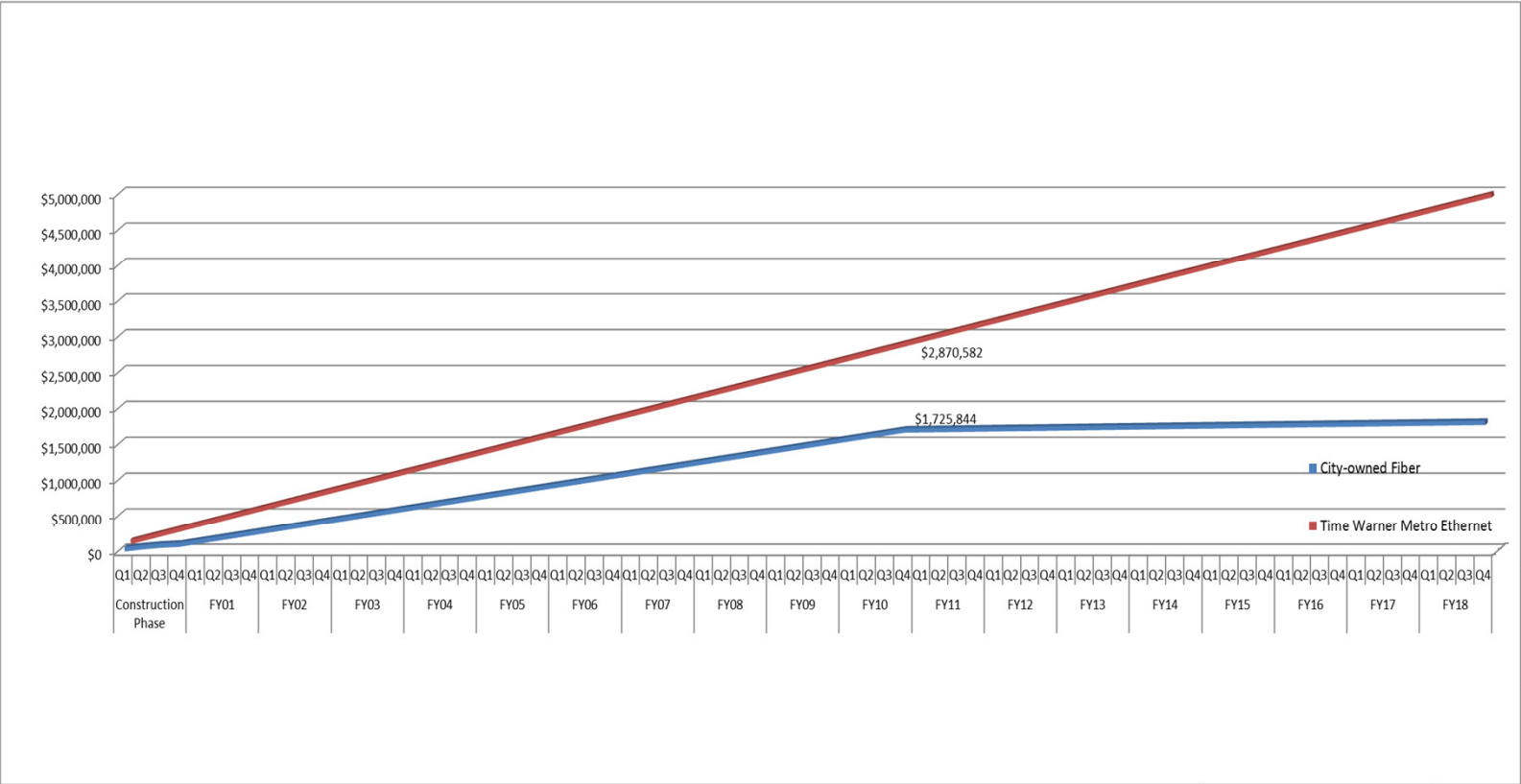
I-Net Strategy Has Proven Record, Solid Economics

- ▶ 15 years of models and data re savings
- ▶ Future-proof investment
- ▶ Immediate, quantifiable benefits to government operations, schools, libraries

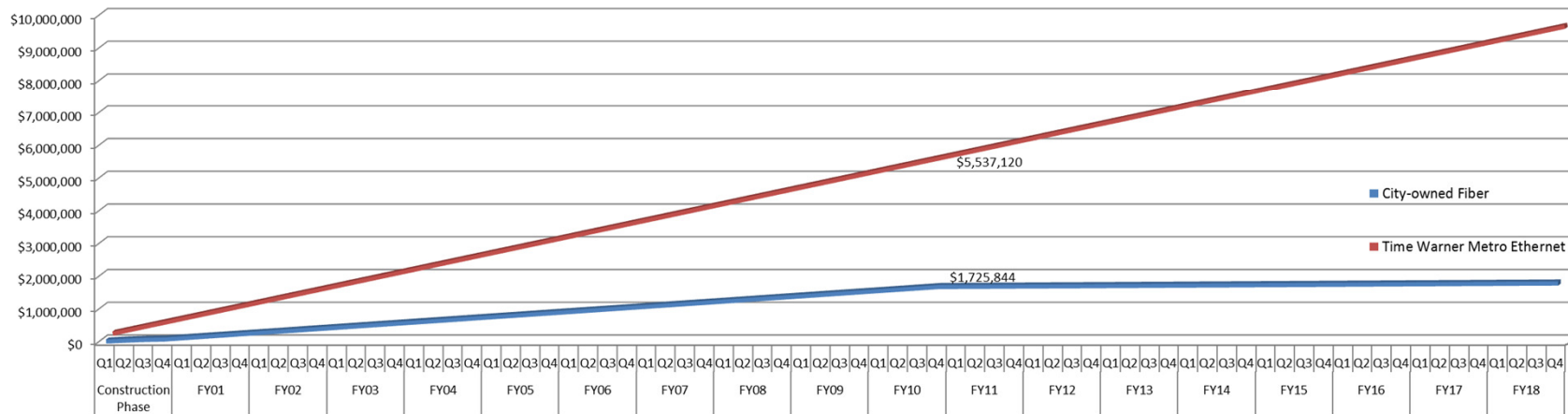
Cumulative Payments, Fiber Construction (High Estimate) vs. Minimal Leased Services



Cumulative Payments, Fiber Construction (Low Estimate) vs. Gigabit Services



Cumulative Payments, Fiber Construction (Low Estimate) vs. 10 Gigabit Service



Fiber-to-the-Premises: PPP Framework

Balance risk, benefit, and control

- ▶ Model 1: Public investment
- ▶ Model 2: Private investment
- ▶ Model 3: Shared investment and risk



How Does the Municipal Model Compare?

- ▶ Risk, reward, and control all at maximum
- ▶ Established strategies
- ▶ Electric utility confers huge benefits
- ▶ Key case studies
 - ▶ Glasgow, Owensboro, etc.
 - ▶ Wilson, NC
 - ▶ Chattanooga, TN
 - ▶ Longmont, CO

Model 1: Private Risk/Public Facilitation

- ▶ Facilitation of private investment
 - ▶ Leading private entity is Google
 - ▶ Strong interest by smaller companies
- ▶ Reduced risk, no control, potential benefit
- ▶ Facilitation can expand to tax benefits, other economic development incentives
- ▶ Beware entities seeking benefits without offering investment

Model 1 strategy: grow your assets

Access to Key Assets

- ✓ **Lease public assets such as fiber, conduit, and real estate**
 - Lease middle-mile fiber
 - Lease fiber in hard-to-reach areas
 - Increase existing fiber capacity if insufficient fiber exists
- ✓ **Facilitate underground construction**
 - Develop a "dig-once" policy
 - Maintain future-proof conduit specifications
 - Enable all parties to take advantage of "dig-once"
 - Place conduit banks in congested areas
- ✓ **Facilitate aerial construction through access to utility poles**
 - Facilitate make-ready process to streamline pole access
 - Eliminate the need for make-ready
- ✓ **Facilitate in-building access for wireline infrastructure**
 - Ensure availability of conduit from street to building
 - Ensure installation of in-building pathways and cabling

Model 1 strategy: make data available

Information Access

- ✓ **Make data available wherever possible**
 - Make GIS data sets available
- ✓ **Document and publish data regarding available conduit, fiber, and other assets**
 - Document your fiber assets
 - Document your conduit assets

Model 1 strategy: maximize process

Process Efficiency

- ✓ **Build broadband into planning and staffing of all relevant agencies**
- ✓ **Streamline and publicize procedures and timeframes for permitting and inspections**
- ✓ **Allow network operators to contract pre-approved third-party inspectors to speed processes and reduce local burdens**

Model 1 case study: Holly Springs, NC

- ▶ Offer of existing Town fiber
- ▶ Attention to processes
- ▶ Readily-available data
- ▶ Announcement last week of private investment by Ting Internet



Model 1 case study: Mesa AZ

- Concern about impact of fiber construction on ROW, city costs
- Long-term strategy to build assets
- Four target economic development areas
- Apple silicon manufacturing lab



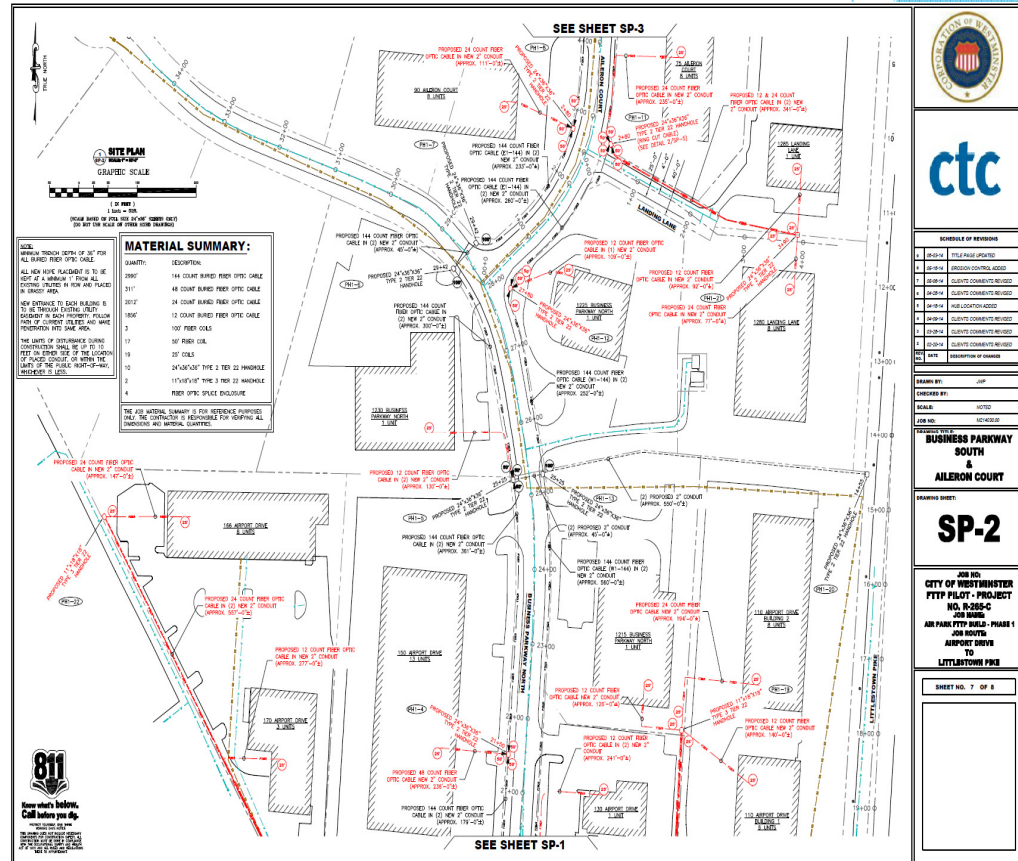
Model 2 case study: Howard Cty MD, Arlington Cty VA, Pleasant Prairie WI

Deploy fiber strategically, with focus on key economic development targets

Connect to Internet peering point (could be local meet point)

Locality to build & own, lease to private partners on open access basis

Pricing designed to attract ISPs and non-traditional users such as building owners



Model 2: Public Risk/Private Execution

- ▶ Variation on traditional municipal ownership
 - ▶ All risk, benefit, and full control
- ▶ Emerging innovation makes use of the traditional P3 structure used in Europe and increasingly in US
 - ▶ Leverages private sector strengths
- ▶ First time applied to broadband in US
- ▶ Guaranteed revenue stream to private partner
 - ▶ Financial risk
 - ▶ Political risk

Model 2 case study: Utopia

- ▶ Macquarie Capital team—very viable partner team
- ▶ Midst of complex process with range of Utopia member communities
- ▶ Turn-key private financing, deployment, operations, and revenue-sharing
- ▶ Guaranteed public funding in the form of a utility fee to all residents
 - ▶ In some communities, will not be a politically viable model (this has been true with some in Utah)
 - ▶ In others, can be strong model for buildout

Model 3: Shared Risk

- ▶ Extraordinary opportunity for innovation
- ▶ Plays to strengths of both parties
- ▶ From the standpoint of a locality, risk is shared but 100% of benefit realized
 - ▶ Public benefit does not show up on financial statements
 - ▶ Private partner gets financial benefit

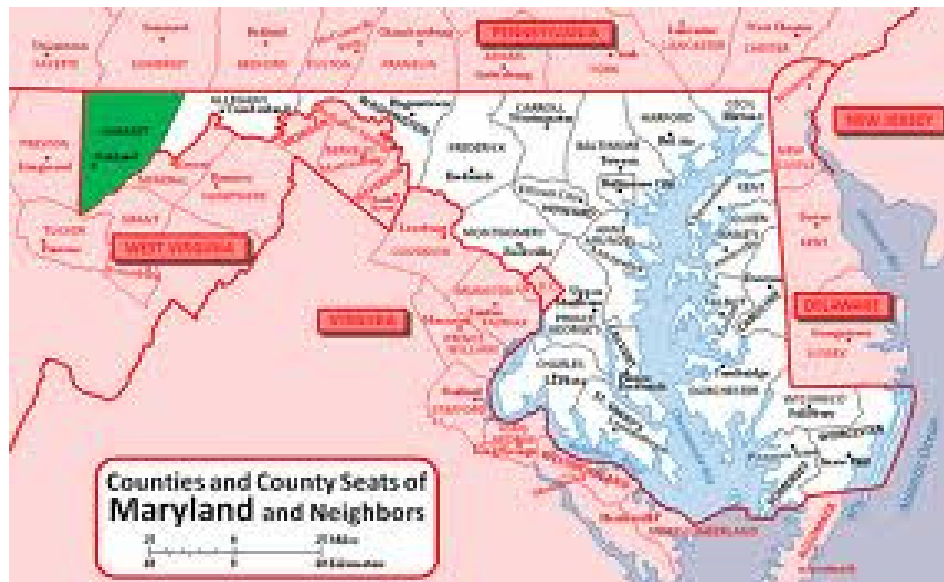


Model 3 case study: Urbana/Champaign IL

- ▶ Deal gives access to cities' fiber in return for **binding** commitments, meeting 3 key goals:
 1. Fiber at gigabit speeds
 2. Open access - ongoing commitment to wholesale service
 3. No cherry-picking - all neighborhoods have equal opportunity to get service if presales reach 50%
- ▶ Partner with strong customer service, local presence, strong financials

Model 3 case study: Garrett County, MD

- Underserved rural areas (bandwidth caps)
- Fiber construction strategy for key anchors
- Public/private wireless to key target areas
- Public risk contained

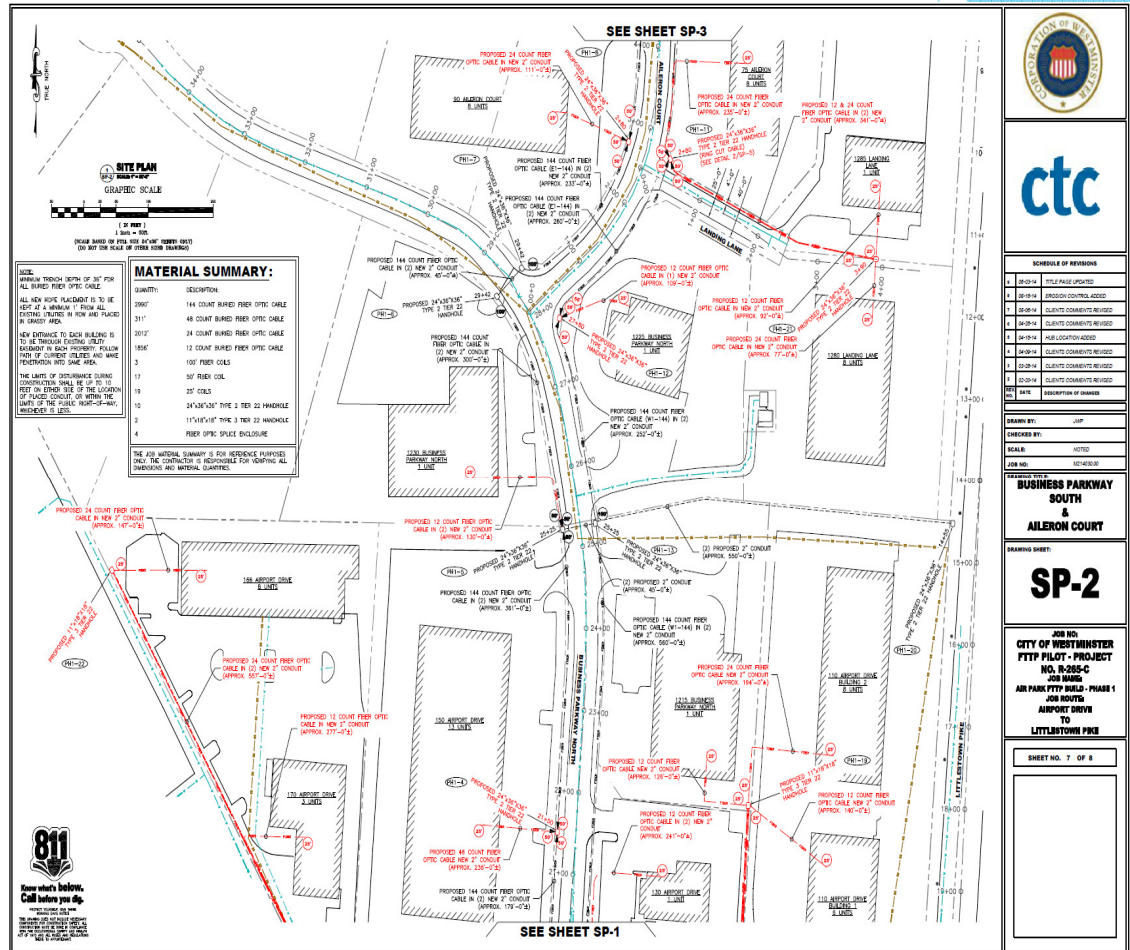


Model 3 case study: Westminster MD

City near DC,
Baltimore

City will own fiber
only; lease to partner
to operate on open
access basis

Ting Internet selected
as partner



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BUSINESS PARKWAY SOUTH & ALERON COURT

SP-2

CITY OF WESTMINSTER

NO. R-265-C

JOB NAME

AIR PARK FIBER BUILD - PHASE 1

JOB MONTH

AIRPORT DRIVE TO LITTLETOWN PARK

SHEET NO. 7 OF 8

A Few Cautions

- ▶ Be skeptical of rosy projections
- ▶ Be sure that risk as well as opportunity are shared
- ▶ Be aware of dependencies and control
- ▶ Avoid silicon snake oil:
 - ▶ Technology snake oil: remember BPL?
 - ▶ Business snake oil: unrealistic business plans that ask for no risk

Please feel free to contact me with questions

Joanne Hovis

President, CTC Technology & Energy

www.CTCnet.us

301.933.1488 x23

@joannehovis

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