

Pragmatic Public Broadband Strategies & Opportunities for Public-Private Collaboration

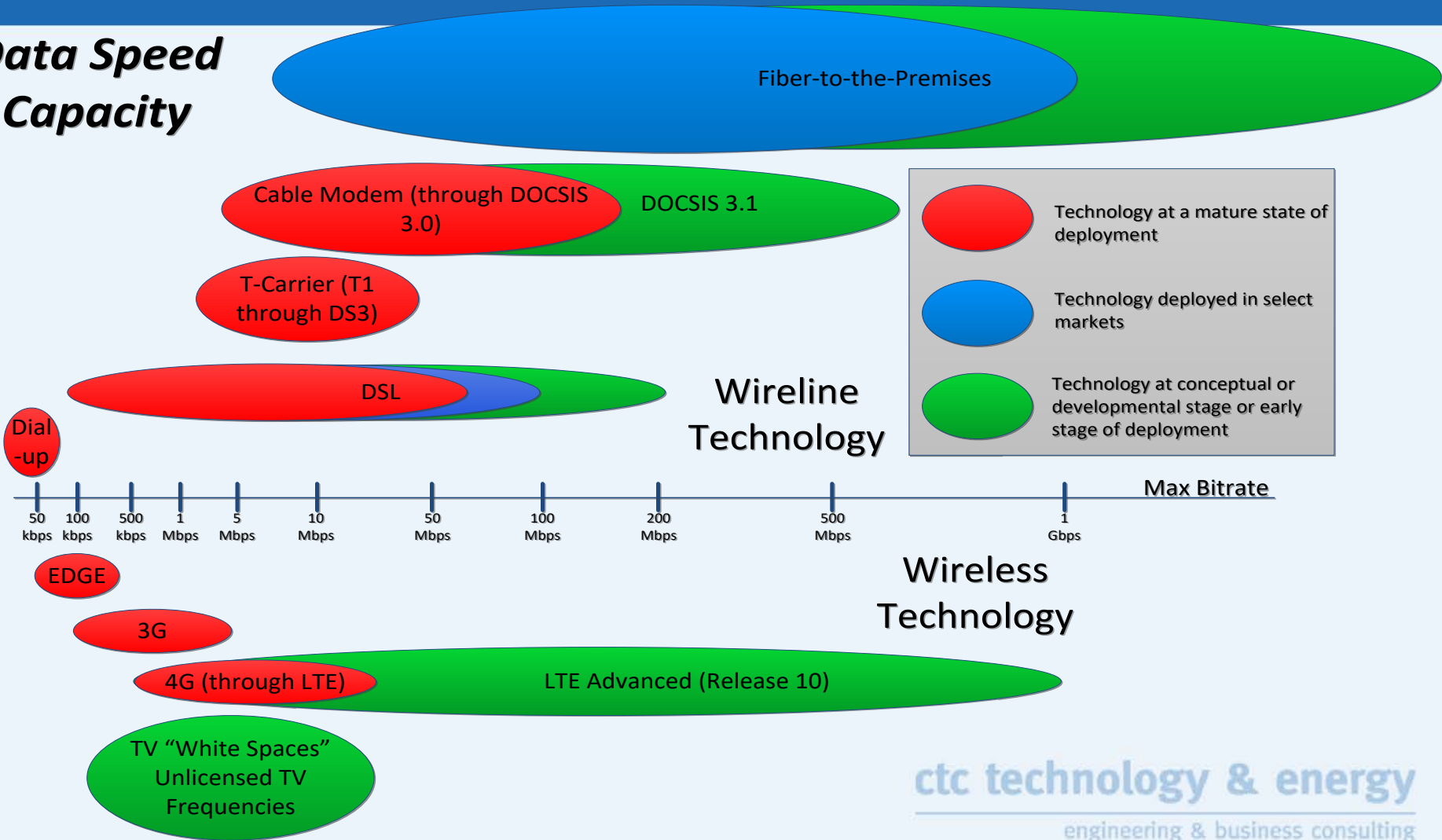
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Data Speed Capacity





Multi-phase strategy, with public-private collaboration

Phase 1. City/county and other public sector facilities

Business case is internal savings and efficiencies

Phase 2. Key economic development targets

Business case is economic development

Phase 3. Platform for last mile deployment

Business case is economic development, private sector opportunity, service improvement

The platform is public infrastructure, with private service delivery through public-private collaboration



Phase 1: The basic financial business case

How to analyze the Phase 1 financial case for public fiber:

1. Scalability and hedging against cost increases over time
2. Internal operations and operational efficiencies
3. Emergency response and disaster recovery
4. Regional collaboration
5. “Smart” applications
6. Community resilience



Phase 1: Analyze internal savings and efficiencies

Reduced costs from current leasing expenditures—current and future

- IT and other public sector staff
- Public safety
- K-12 and community colleges
- Libraries
- Critical community anchors such as foodbanks



Phase 1: Avoided costs, future growth

Understanding avoided costs for future, growing use

- Imagine unconstrained use
- Operational efficiencies
- Hardware and software efficiencies
- “Smart” applications and devices/sensors
- Assume exponential growth of need
- Build your hedge

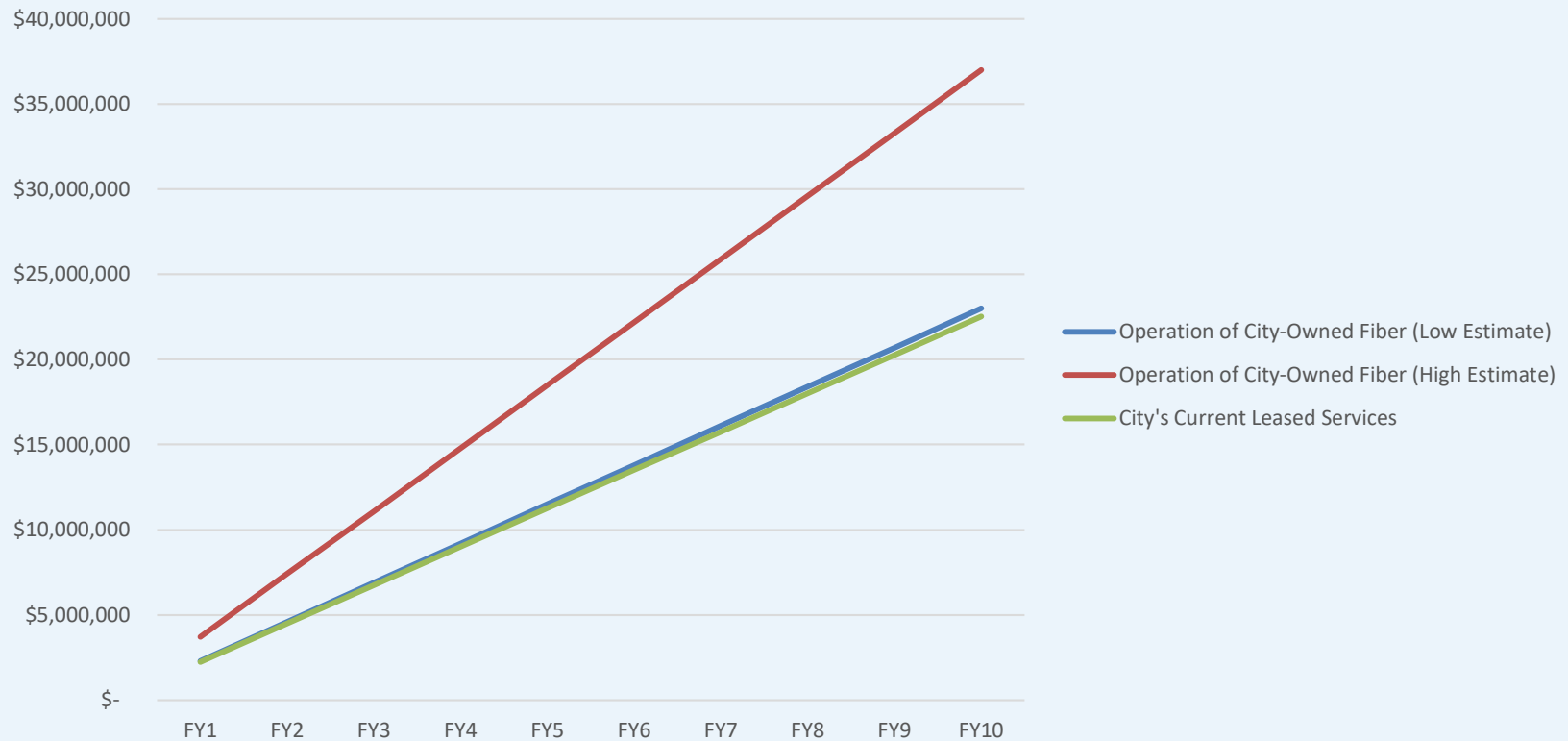


Phase 1 Case Study: City of Huntsville, AL

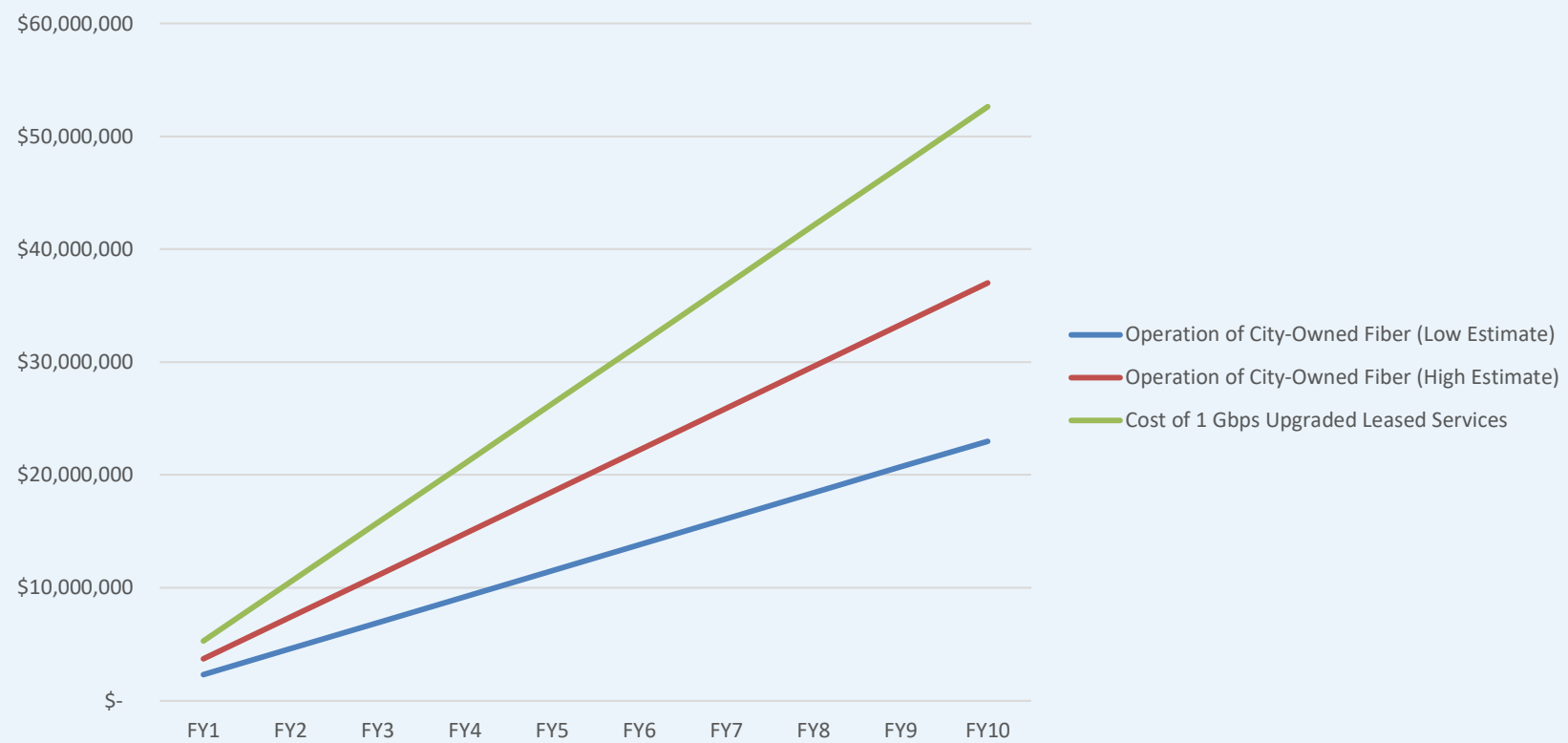
Publicly-owned infrastructure, financed over decades, enable cost efficiencies that support the effort and enable private opportunity

1. Fiber deployment for internal purposes
2. Long-term financing and business plan
3. Strategic routing for economic development
4. Private partner for provision of services (and for phases 2 and 3)

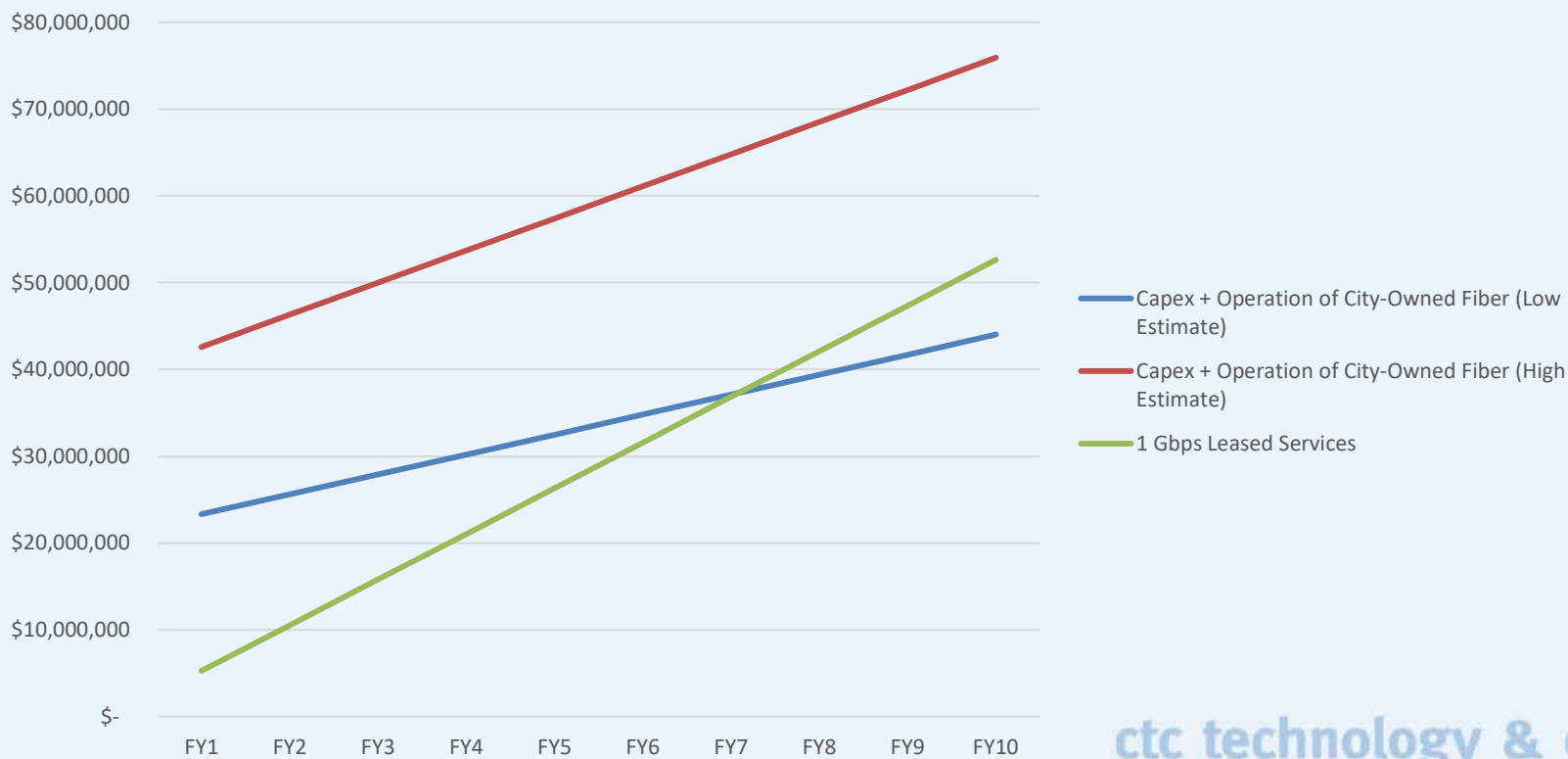
Cumulative Cost of 1 Gbps Public-Private Fiber Operations (opex only) v. Current Cost of Leased Services



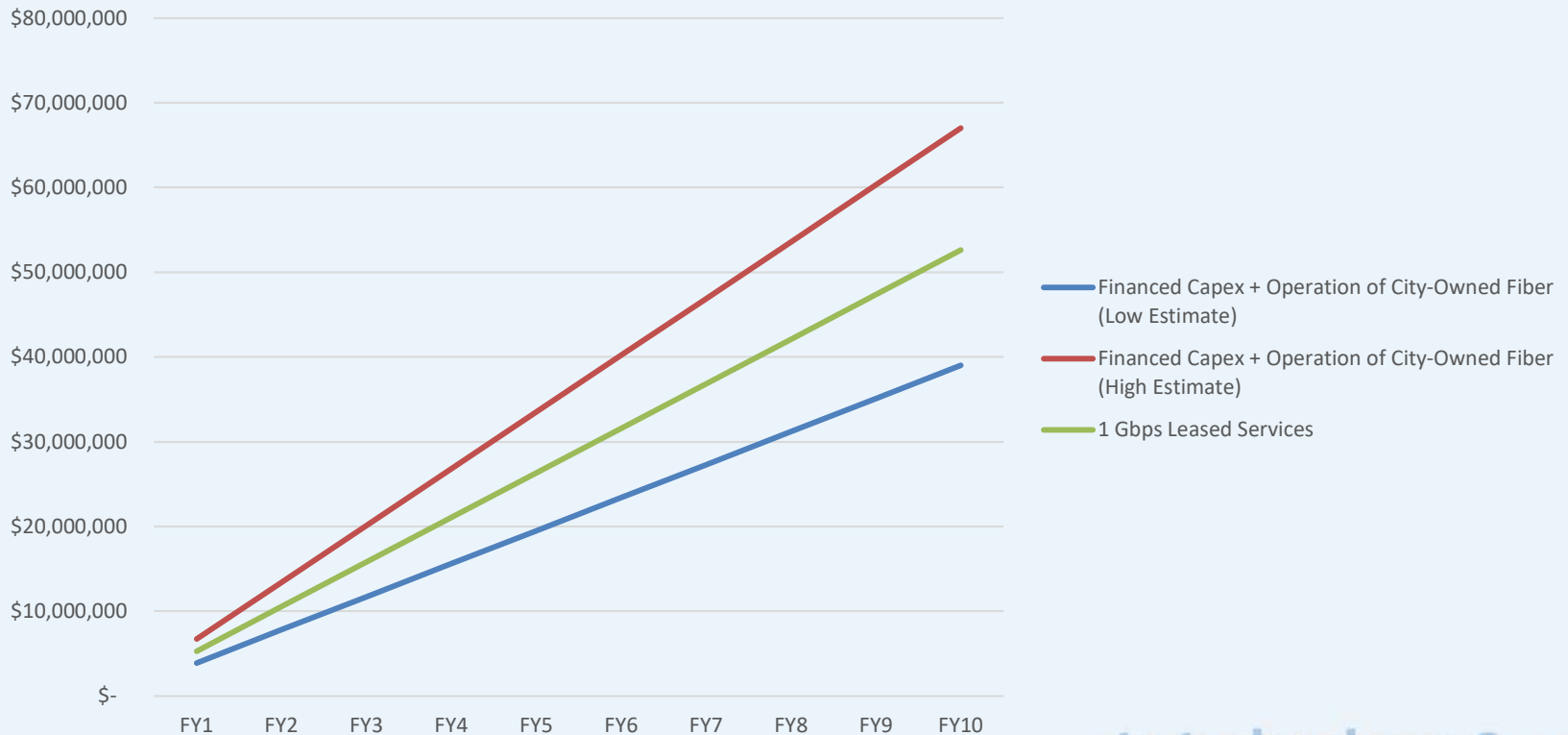
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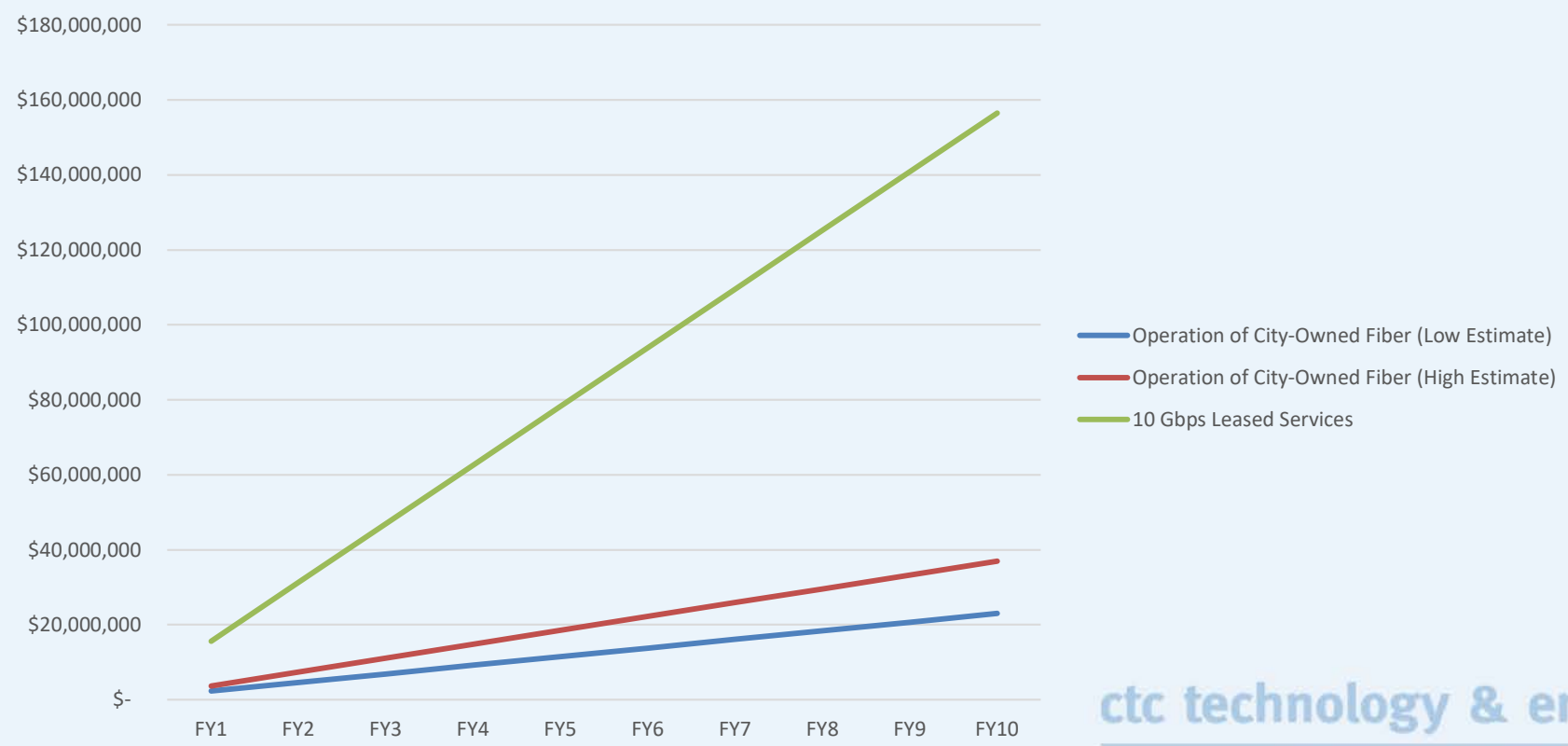
Cumulative Cost of Public-Private Fiber Construction and 1 Gbps Operations v. cost of 1 Gbps Leased Services



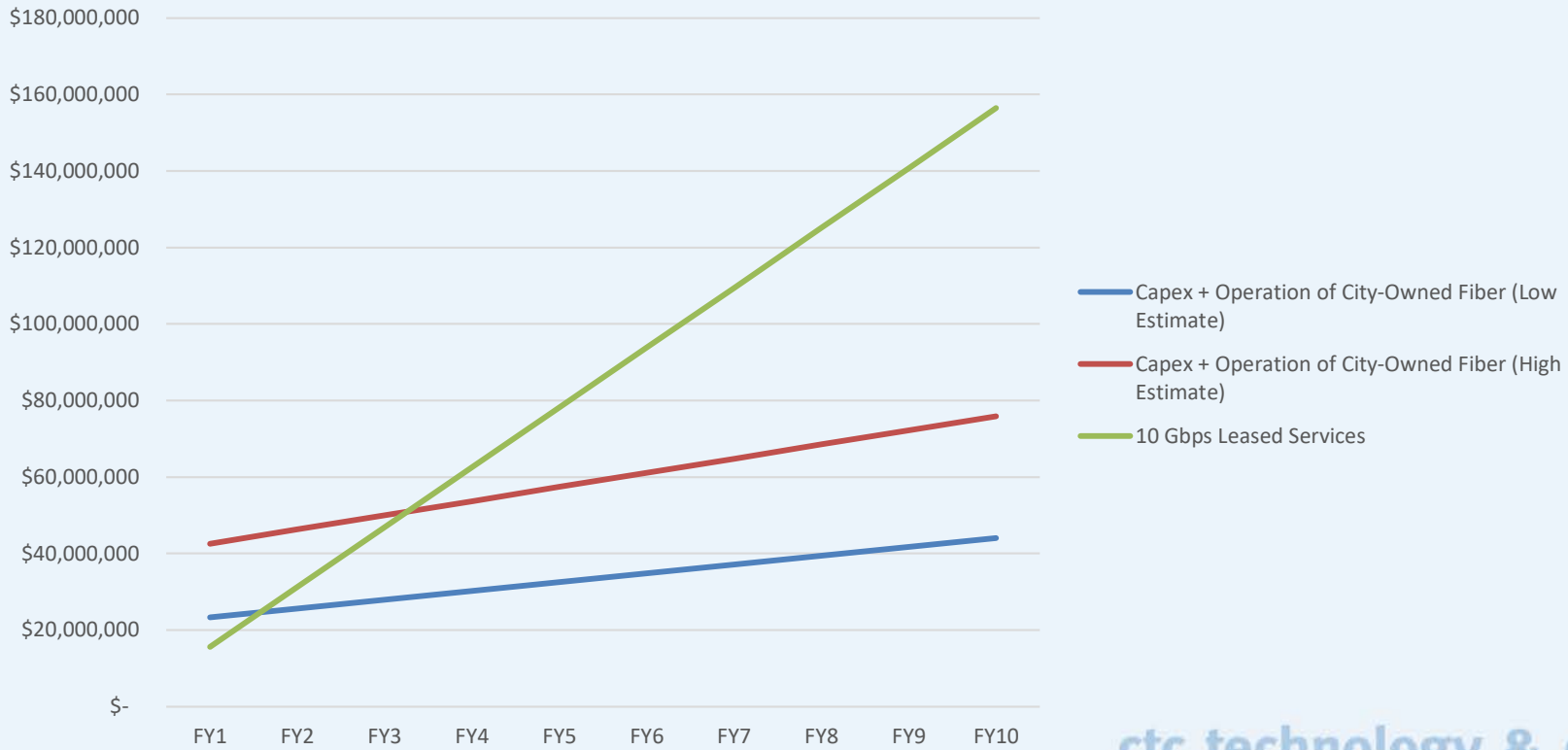
Cumulative Cost of Financed Fiber Construction and 1 Gbps Operations v. Cost of 1 Gbps Leased Services




Cumulative Cost of 10 Gbps Public-Private Fiber Operations v. Cost of 10 Gbps Leased Services



Cumulative Cost of Public-Private Fiber Construction and 10 Gbps Operations v. Cost of 10 Gbps Leased Services





Phase 2: Route fiber to pass key economic development target areas

Deploy fiber strategically, with focus on key economic development targets

- Historic downtowns, rehab areas, business parks
- Connect to Internet peering point (could be local meet point)

City to build and own the infrastructure, and work with a private partner who will serve customers and other ISPs

- Public-private collaboration enables pricing designed to support anchor entities and attract ISP customers



Phase 2 case study: Westminster, MD


Public deployment and ownership of fiber

- Prioritize business areas & parks, historic downtown revitalization area

Private sector service to these businesses

- City is infrastructure owner only
- Private partner responsible for:
 - Equipment to “light” fiber
 - Marketing and sales
 - Services
 - Customer service
 - Billing and collections

Very high “take rate” by businesses who previously struggled



Phase 3: Private partner leases services to ISPs for expansion to homes and small businesses

Enormous capacity of fiber serves as platform for economic development, retail broadband opportunity

- Private partner serves as both wholesaler and retailer
- Serves key target customers itself, and
 - Also leases capacity to other ISPs that are focused on small business and residential opportunities
- Pricing designed to enable new opportunity
- Public-private collaboration designed to protect the port's asset



Phase 3 Case Study: OneMaryland

Public fiber network to serve public entities, with private service provision for residential and commercial customers

1. Statewide fiber to public facilities
2. Collaboration between state and counties
3. Excess capacity for economic development leased to Maryland Broadband Cooperative
4. Cooperative provides services to commercial users and to ISPs such as Verizon and cell companies
5. Remarkable use of Cooperative services by small ISPs in rural Appalachia and on Eastern Shore of Chesapeake Bay



Phase 3 Case Study: Commonwealth of Kentucky

Public spending redirected to fund new network owned by public & operated by private partner

1. Long-haul and “middle mile” fiber to public facilities
2. Funding from savings/avoided costs
3. Excess capacity for economic development
4. Private sector to design, build, finance, maintain, and operate, deliver services to ISPs and end users
5. Long-term opportunity for revenue share between public and private

Phases 1-3 case study: KINBER, PA

Keystone Initiative for Network Based Education & Research

- **Phase 1:** Statewide robust fiber rings built for K-12, higher ed, health care users
- **Phase 2:** Passes business parks and key targets
 - Designed strategically
 - Enable service to homes & businesses in future
- **Phase 3:** Partnership agreement with Sunesys (now Crown Castle)
 - Sunesys will lease excess fiber
 - Sunesys will serve commercial and ISP customers



Resources at www.CTCnet.us

Public-Private Partnerships

Primer on emerging models for broadband public-private collaboration

Fiber Planning, Design, and Construction

Multiple feasibility studies at citywide, statewide, and regional scales

Fiber, Network Security, and Protection Against Hacking

Guidance document for protecting public fiber and network assets from bad actors