

Cambridge MA Broadband Task Force Meeting

March 2, 2016



Today's Agenda

- Opening Remarks/Comments (10 minutes)
- Upcoming Steps in the Task Force Process (15 minutes)
- Presentation and discussion on:
 - Operating Models (40 minutes)
 - Funding and Financing Strategies (15 minutes)
 - Capital Cost Strategies (20 minutes)
- Public Comment

Expected Upcoming Steps In Task Force Process

- Mid-March: Draft Full Report and Recommendations from Tilson to Task Force
- Late March: Written Task Force Comments on Draft
- Mid-April: Task Force Meeting to Discuss Differing Comments
- Late April: Revised Final Report and Recommendation from Tilson
- Mid-May: Task Force Meeting to Discuss Task Force Recommendations to the City

Major Report Headings

- Goals
- Existing Broadband Services
- Community Outreach Summary & Survey Results
- The Gap Between Current State and Goals
- Business Models
 - Capital Cost Strategies
 - Operating Models
 - Funding and Financing Models
- Sample Fiber Designs and High-Level Capital Cost Estimates
- Operating Expenses
- Case Studies and Lessons Learned
- Regulatory & Public Policy Analysis
- Conclusions, Recommendations and Potential Next Steps



OPERATING MODELS



Three Broad Categories / Approaches

- Own and operate it yourself
- Own it and have a private partner / contractor operate it
- Anchor a privately owned and operated network.

Operating Responsibilities— Public *or* Private

	Targeted Network	Partial Network	Full Network
Physical maintenance	Smaller network, less to maintain, still may require rapid-response capability	May be larger, but “dark” network; still requires rapid-response capability	Greatest level of maintenance; both glass and electronics
Marketing and customer acquisition	Limited user base; customers may even be captive	Small number of wholesale, institutional, and enterprise users	Essential to have in most cases
Billing	Small number of users to bill; billing may be aggregated	Small number of users, relatively simple billing	Large volume of bills; many have many types of services
Customer service and technical support	Smaller number of users; closer to internal helpdesk	“Dark” network, less to trouble-shoot; must be able to handle interconnection requests	Large number of customers to support; many may not be technically sophisticated
Network management and monitoring	Smaller number of users; closer to internal network management	“Dark” network requires little active management	Requires active, continual monitoring capability

Operating Model Responsibilities

	Ownership	Who operates facilities	Who takes operating risk	Who gets revenue
City Operator	City	City	City	City
Private Operator on Municipal Network	City and (and possibly Private Partner)	Private Partner	Private Partner (and possibly City)	Private Partner (and possibly City)
Private Owner; City is Anchor	Private Partner	Private Partner	Private Partner (and possibly City)	Private Partner (and possibly City)

Operating Model Examples

- Municipally owned and operated
 - Chattanooga, TN
 - Lafayette, LA
 - Burlington, VT
 - Utopia, UT
 - Santa Monica, CA
- Municipally owned, partner operated
 - Leverett, MA
 - Westminster, MD
- Privately Owned and Operated Network; City is Anchor User
 - South Portland, ME

Local Control and Risk

	Municipally Owned and Operated	Publicly Owned Network Operated by Private Partner	Privately Owned and Operated Network; City is Anchor User
Local Control	Green	Yellow	Red
Operating & Execution Risk Undertaken by the City	Red	Yellow	Green



Operating Models: Major Types of Risk

Municipally Owned and Operated	Private Operator on Municipal Network	Privately Owned and Operated Network; City is Anchor User
<ul style="list-style-type: none">• Municipality's capacity to execute on a commercial venture• Financial risk from competition	<ul style="list-style-type: none">• Performance by the selected partner• Financial risk from lack of success of the private partner (depending on terms of agreement)	<ul style="list-style-type: none">• Performance of selected partner• Financial risk from lack of success of the private partner (depending on terms of agreement)• Long-term alignment of interests

How Operating Models Address Other Task Force Goals

	Municipally Owned and Operated	Publicly Owned Network Operated by Private Partner	Privately Owned and Operated Network; City is Anchor User
Affordability & Equity	Direct City control over services, prices, and build-out	Contract terms on services and prices, City direction or control of build-out	Contract terms on services prices, and build-out
Supporting Small Business	Direct City control over services, prices, and build-out	Contract terms on services and prices, City direction or control of build-out	Contract terms on services prices, and build-out
Innovation & Excellence	Direct City control over level of service offered and integration of broadband into public service delivery	<ul style="list-style-type: none"> • Private innovation in the use of the network and services delivered. • Contract terms on the level of service offered • Reservation of capacity for integration of broadband into public service delivery 	
Choice & Competition	<ul style="list-style-type: none"> • Any operating model should provide at least one more competitive choice. • Even more choice depends more on whether network is operated on a closed or open basis. 		



FUNDING AND FINANCING STRATEGIES



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Common Funding Sources and Financing Models

Funding

- User fees
- Re-directed municipal telecom expenditures
- Special or enterprise funds
- Grants
- Taxes

Financing

- Pay-as-you-go
- Revenue borrowing
- General obligation borrowing
- Private financing with City as “anchor user” in a long-term contract



Some Funding Strategies

Examples

- Leverett
 - Taxes
 - User fees
- Santa Monica
 - Re-directed municipal telecom expenditures
 - User fees
- Chattanooga
 - Enterprise funds
 - User fees
 - Grants

Some Financing Strategy Examples

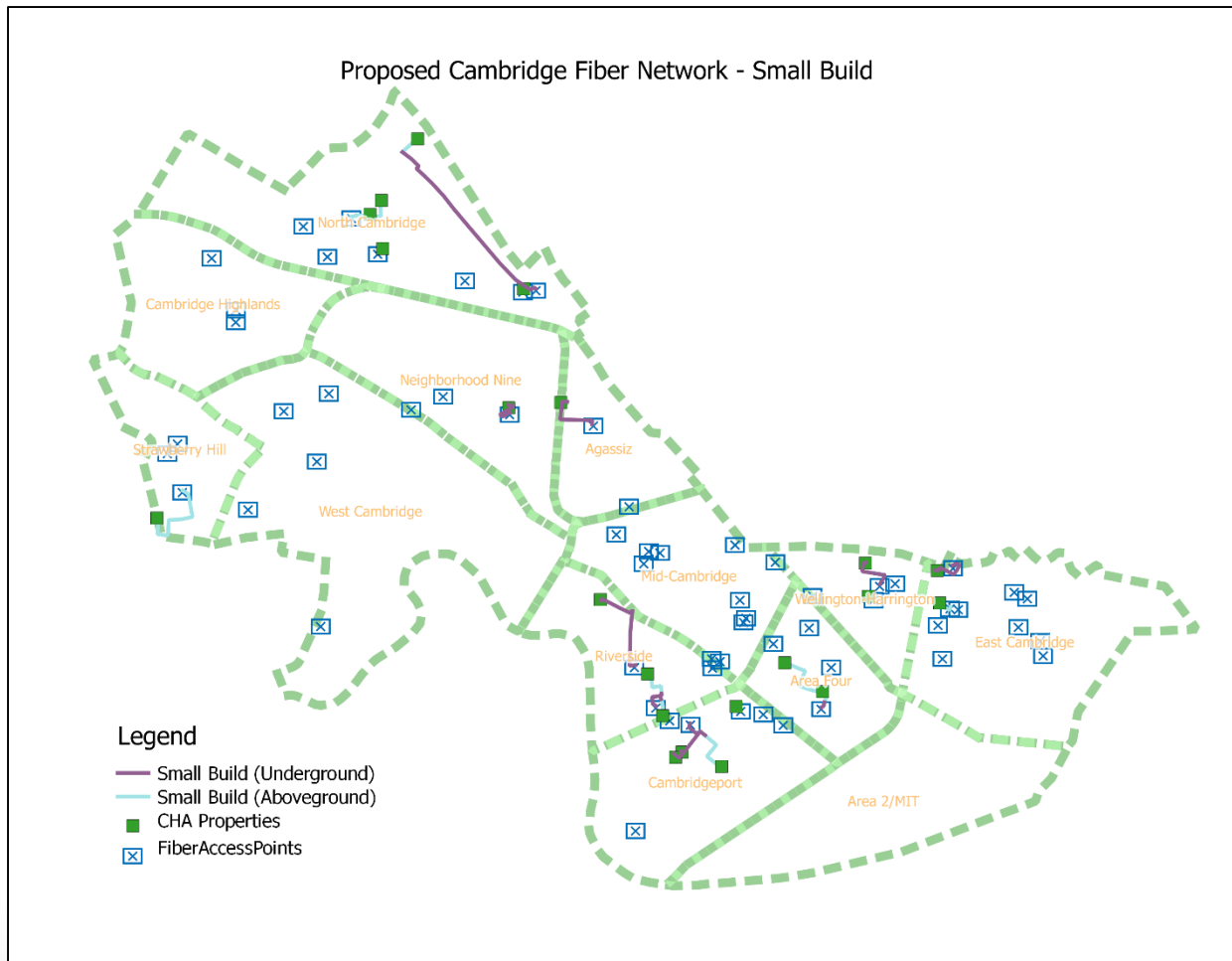
- Leverett
 - General obligation borrowing
- Santa Monica
 - Pay-as-you-go
- Burlington
 - Revenue borrowing

NETWORK DESIGNS/ CAPITAL COST STRATEGIES

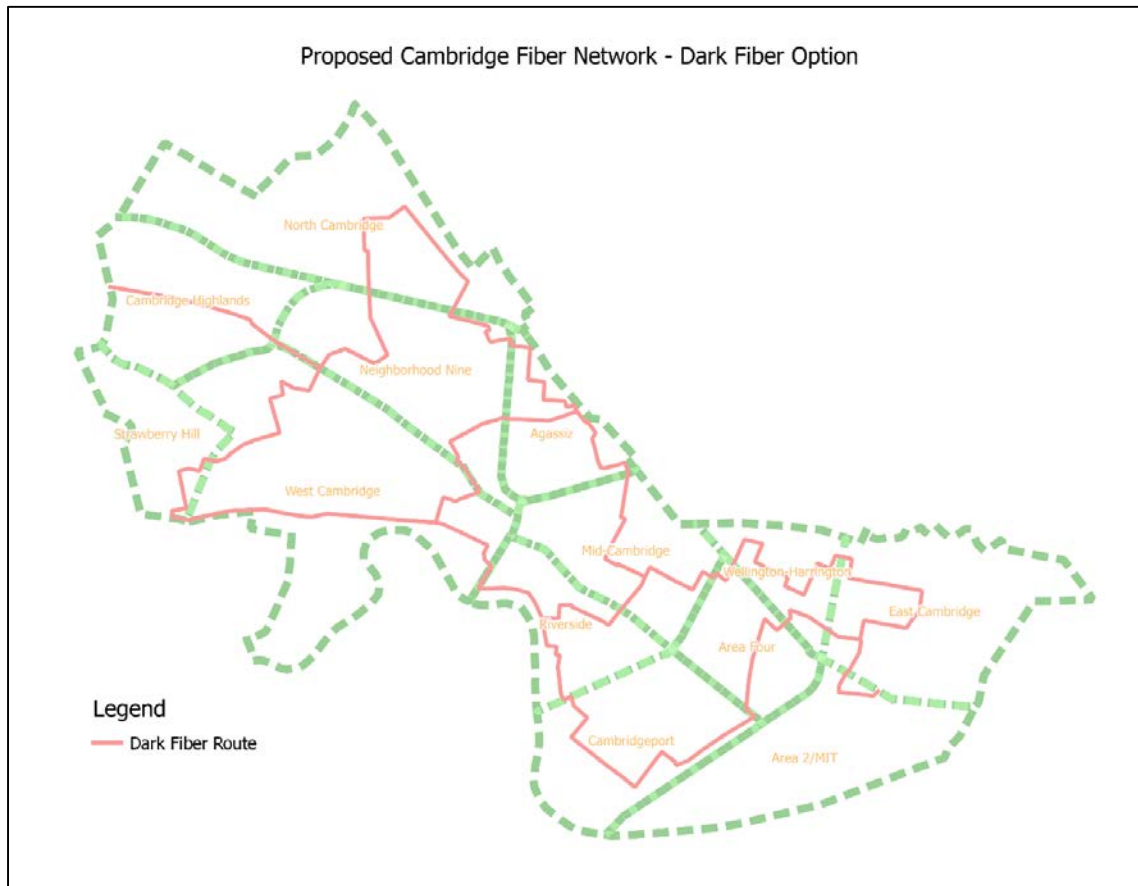


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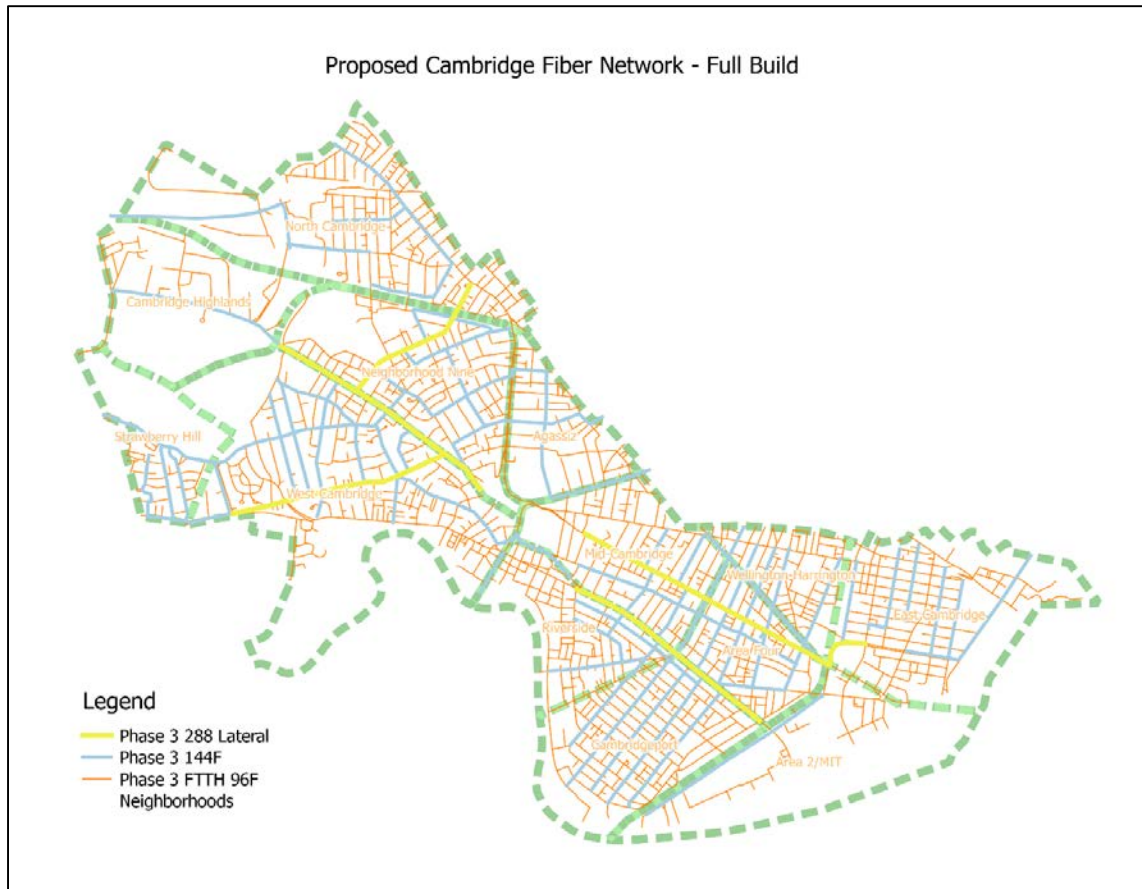
“Small” Targeted Network Design



“Medium” Partial Network Design



“Large” Full Network Design



Alignment of Goals and Capital Cost Strategies

	Full Build	Partial Build (Dark Fiber Only)	Targeted Build (CHA Properties Only)
Affordability & Equity	Green	Yellow	Yellow
Choice & Competition	Yellow	Green	Yellow
Supports Small Business	Green	Yellow	Red
Innovation & Excellence	Yellow	Green	Red
Local Control	Green	Yellow	Green
Capital Cost	Highest	Lower	Lowest

