



ValleyNet Testimony

1/19/21

VT House and Technology
re: Broadband Financing

VT's Broadband Problem – How large*?

- VT Households 308,000
 - >100/100 40,000
 - >25/3 < 100/100 180,000
 - Therefore 88,000 Underserved at <25/3?
- **NO!!**
 - **Anything not served by cable or FTTH is Underserved**
- **Problem could be closer to 200,000 Households than 80,000**
 - ECFiber spends \$3000 per HH covered (at 40% penetration)
- **Capital Requirement could be as high as ~ \$600M**
 - or more because CUDs must build through cabled areas

*based on 2018 VT Telecommunications Plan Data

Leveraging Startup Capital

- ECFiber in 2016 - \$9.5M in capital and other support
 - \$7M in startup capital raised
 - 326 miles, 1500 customers, EBITDA positive
 - \$2.5M in state aid (dark fiber and connectivity grants)
- ECFiber in 2021
 - \$54M in revenue bonds raised (\$66M to finish 31 towns in 2022)
 - Startup capital repaid
- 5X “leverage” currently (7X in 2022)
 - Leverage will be lower if faster build out is required ~ 3-4X
- ECFiber had advantages that may not be available to nascent CUDs
 - Non-profit operator, unsustainably low salaries
 - Less competition for materials and construction labor

What is Startup Capital?

- Grants and Dark Fiber
 - Very low cost of capital 😊 i.e., zero
- In general, higher risk, higher reward/cost of capital – no or limited required interest and principal payments
 - VEDA loan – if allowed to be pari passu with revenue bonds
 - Subordinated Debt (7-9%)
 - Equity – difficult for CUDS with universal coverage mandate

Required Startup Capital and LEVERAGE

- Ranges of Required Startup Capital based on “problem size”
 - \$240M (based on 80,000 HH) / 4 X Leverage = **\$60M**
 - \$600M (based on 200,000 HH) / 4 X Leverage = **\$150M**
- Conclusions
 - \$10M in (remaining) VEDA lending not nearly enough
 - VEDA lending must be contingent on leveraging startup capital 3-5X (?) for eventual UNIVERSAL REGIONAL COVERAGE
- \$10M in VEDA lending will support 300 miles of plant covering 3600 households if not properly leveraged
 - \$40M unleveraged would cover ~ 13,000 households (7-17% of problem)

Permanent Capital

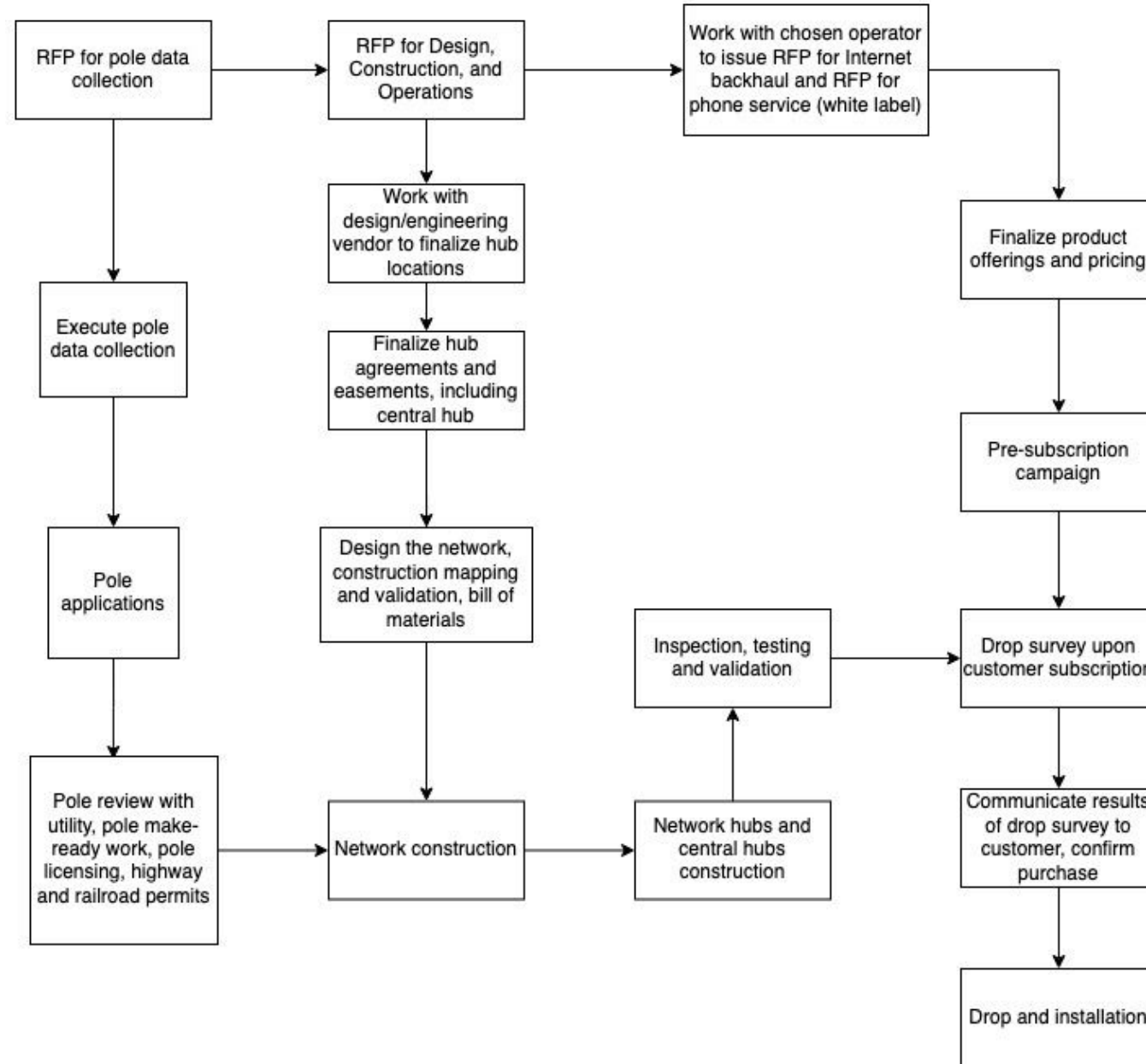
- Repays Earlier High Cost/Short Amortization Debt
- Lower Interest Rate
 - Established operation, minimal execution risk
- Longer Amortization –25-35 years
 - Aligned with minimal estimated life of fiber asset
- Example, Municipal Revenue Bonds
 - ECFiber -2020 Offering \$12M, 30 years, 4.4% interest, no principal for 3 years
- Other possibilities
 - RUS USDA BB loans – limited to unserved only, also by VTEL Wireless
 - Slow/impact capital
 - General Obligation Bonds – IMHO this vote will be very difficult to achieve in towns with non-trivial cable coverage in town centers



Capital Requirements by Phase

	months	
Stage 1 – municipal/governance set-up	2	\$50,000
Stage 2 -- market intel/business plan (BIG)	3	\$60,000
CHOOSE OPERATOR, SECURE FINANCING	?	
sketch of build plan (High Level Design)	1	\$200/mile
Stage 3 – pole survey, detailed design	3	\$1000/mile
Stage 4 -- make-ready (in parallel with Stage 3)	6-9	\$5000/mile
Stage 5 -- network build/materials	6	\$22000/mile
Stage 6 -- connections	24	\$1400 per
System operation – initial operating losses		\$1M one time
Repeat Stage 3-6 in additional groups towns		
4-8 towns per year (200-400 miles)		

Construction Process





Construction Costs ~ \$35K/mile

Pole Collection \$20/ pole 30 poles/mile incl. drop poles	\$600
High Level Design (based on a recent quote)	\$200
Detailed Design and Engineering if HLD Completed	\$750
Pole App/Make Ready/Process	\$4,650
Construction, Fiber, Equipment incl project mgt	<u>\$22,000</u>
Total Without drops	\$28,200
Drop and Installation per customer	\$1,400

Building the Donut

- CUDs cannot build **ONLY** in unserved neighborhoods
 - Need to pass through served town centers to get to unserved areas (“**build the donut first**”)
 - 20%-40% of cabled miles in any town need to be built to reach outskirts
 - CUDs can then build heavily cabled towns in out years after prioritizing unserved areas in earliest years
- But CUDs can be profitable in served/cabled neighborhoods
 - Half the take rate but more than twice the density
 - Competition forces cable companies to increase speeds and keep prices in check



ValleyNet's Findings for new CUDs*

- To hit the ground running and start building 200+ miles per yr requires ~ \$20M of startup capital per CUD
 - \$7-8M from VEDA
 - \$12-14M subordinated debt
 - Builds 500 miles, 2000 customers over 4 years
- Revenue bonds feasible in year 5 – possibly year 4
 - CUD then raises \$56M over next 4 years to build 1,500 miles covering 20,000 HH
 - 2.5X leverage of startup capital
- IRR 5-6% (including Terminal Value of 5X EBITDA)
 - Larger CUDs more profitable (fixed costs)
 - Could be higher – these plans assume 50% unserved penetration after 4 years

*ValleyNet (and CORI) have completed several feasibility studies and business plans for nascent CUD

Choosing the Right Partner and Operator

- Remember the desired outcome – 100% universal service
- Cultural fit
- Private – Public Partnership where both are invested in the outcome
- An operator that is a current ISP – with their own outside plant crews, installation and support technicians, customer support, business and operations software, regulatory experience
- Avoid building an ISP from scratch

Market Demand

- Experience of ECFiber

Year	Served with Fiber or Cable	Unserved
1	11.0%	22.0%
2	17.9%	35.8%
3	22.0%	44.0%
4	24.8%	49.5%

- Market Survey

- Our experience has been that a survey often yields inaccurate results.
- Respondents are often those less satisfied with their current options.
- The survey will often show a higher propensity of those on cable to switch to fiber than actual results

- Demand Aggregation

- There are software products (Crowdfiber and COS Systems) that are great at demand aggregation. They are primarily used to determine where to build first, not whether to build at all.



One Year Sample Build

Capital Costs - 250 miles - 5 customers per mile		
	Per Mile	Total
Pole Collection \$20/ pole 30 poles/mile incl. drop poles	\$600	\$150,000
High Level Design (based on a recent quote)	\$200	\$50,000
Detailed Design and Engineering if HLD Completed	\$750	\$187,500
Pole App/Make Ready/Process	\$4,650	\$1,162,500
Construction, Fiber, Equipment	<u>\$22,000</u>	<u>\$5,500,000</u>
Total Without drops	\$28,200	\$7,050,000
Drop/Installation per customer (over 3 years)	\$1,400	\$1,750,000
TOTAL	\$35,200	\$8,800,000

Implications of Weak CUDs

- CUDs are already off to a slow start
 - Need to build much faster than ECFiber in order to meet state's 5 year goal
 - Pandemic has made need for real broadband more obvious
 - From first injection of real capital, 12-18 months until first connections can be made
- Other operators will continue to “cherry pick” based on federal RDOF or state connectivity grants
 - Leaving CUDs to cover the least profitable, least dense neighborhoods
 - Town based solutions (apparently this is NH's strategy with CCI) have same problem – cherry pick towns with density/demographics leaving more rural towns to CUDs (Hancock vs Thetford)

Policy Recommendations

- Increase amount of startup capital available
 - Grants or VEDA loans
- Base availability of startup capital on total business plan miles or unserved HH covered or highest leverage
 - Otherwise no leverage, minimal permanent capital in place
- Reinstating VTA (without massive overhead) is a good idea
 - Can be advocate for regional coverage