

Muni Wireless Return on Investment



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Steve Blum

+1-831-582-0700

steveblum@tellusventure.com

www.tellusventure.com

Return on investment quantifies costs & benefits

- Primary ROI measures and analyses....
 - Money in
 - Money out
 - Value over time, including cost of money
- Provides hard numbers for decisions
 - Drives private sector investment and operations
- Second order effects evaluated separately
 - Economic development
 - Digital divide
 - Increased efficiency and service levels
 - Other policy-level considerations

Key concepts and terms

- Net present value (NPV)
 - Muni benchmark full breakeven within 5 to 10 years
- Internal rate of return (IRR)
 - Private sector benchmark 30% or more within 5 years
- Capital expenditure (Capex)
 - Investment - you expect a return
- Operating expenditure (Opex)
 - Cost of doing business

“Never appeal to a man's ‘better nature.’ He may not have one. Invoking his self-interest gives you more leverage.” RAH

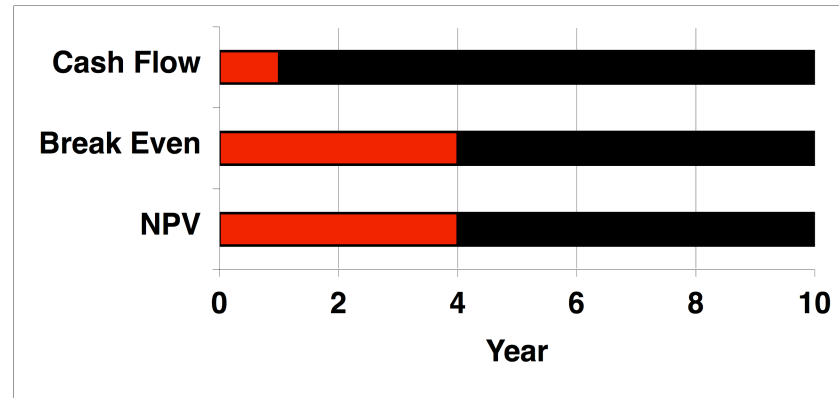
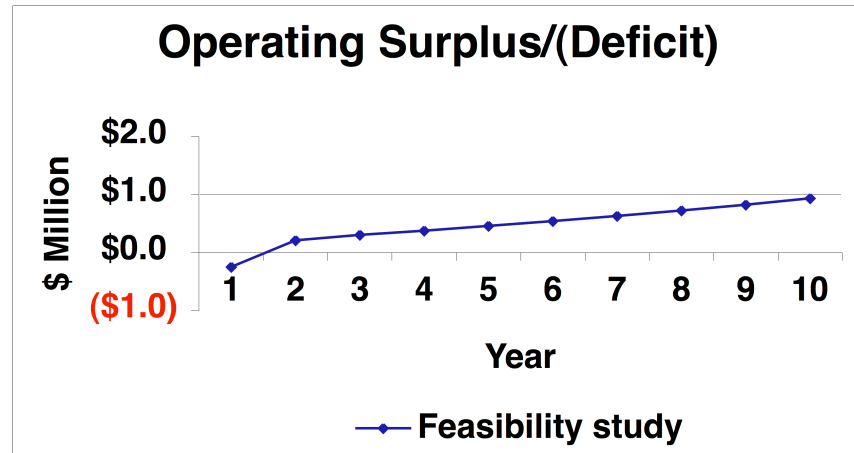
Costs depend on service model

- Hotspots
 - Cheap and easy, particularly if offered for free
- Internal data networking only
 - Public safety, meter reading, mobile workforce
 - Capex potentially under \$100K per square mile (or not)
 - Opex +/- 15% of capex annually for core network
- Universal service
 - Reach 90% to 95% of homes and businesses
 - Capex +/- \$250K per square mile
 - Opex +/- 30% of capex
 - Economies of scale begin at around 20 square miles
 - Build slowly, but can be significant for very large networks

Common industry cost figures frequently limit scope of costs, and make overly optimistic assumptions about absorbing costs into existing operations, or relying on existing resources and staff.

Lompoc WiFi decision based on ROI

Feasibility Study	
Capex (upfront)	\$1,200
Year 10 Metrics:	
Opex	\$1,050
Margin	\$933
NPV	\$2,559
IRR	33%

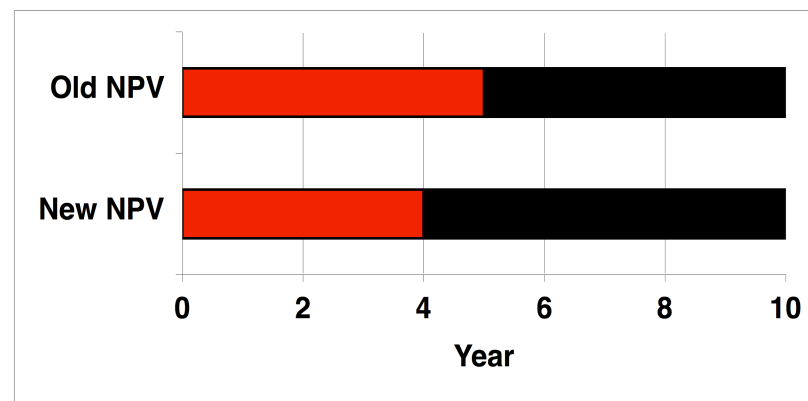
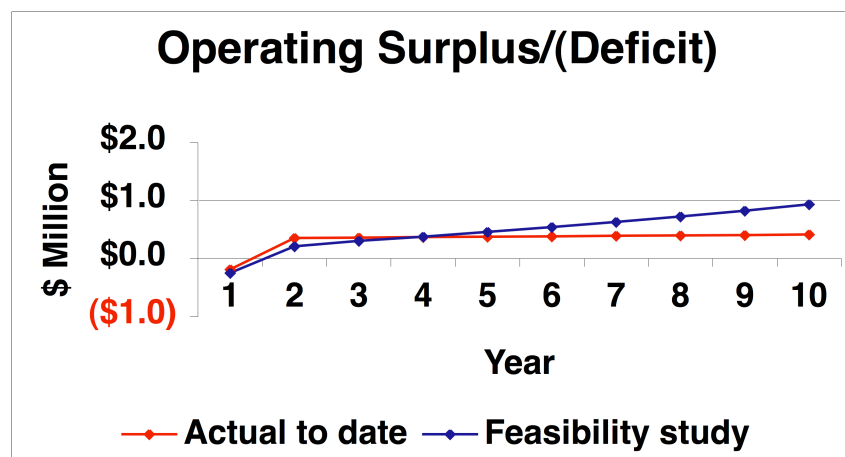


Feasibility study showed significant surpluses, after all capital costs are considered, within 10 years.

Plan adapted to real world results

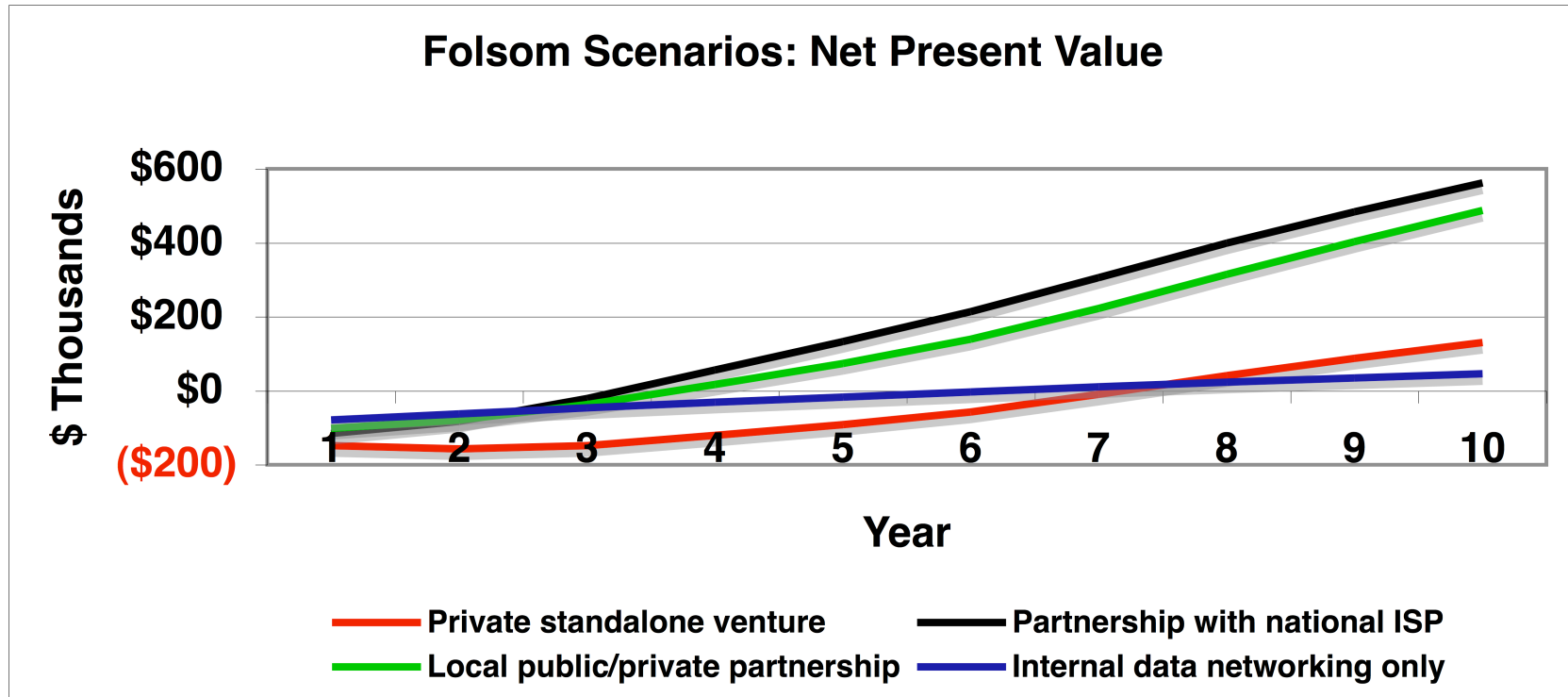
	Feasibility Study	Actual to Date
Capex (upfront)	\$1,200	\$1,500 (over run paid by contractor)
Year 10 Metrics:		
Opex	\$1,050	\$600
Margin	\$933	\$413
NPV	\$2,559	\$927
IRR	33%	17%

Current figures are pro forma estimates for comparison purposes only and do not necessarily represent approved budget items.



Higher capital costs partially offset by lower operating costs, however lower revenue projections pushed surpluses lower.

Folsom WiMAX scenarios evaluated by ROI



	Total Capital	Years to Positive Cash Flow	Years to Break Even	5 Year IRR	10 Year IRR
Private standalone venture	\$174	3	7	(16%)	22%
Partnership with national ISP	\$128	2	4	47%	66%
Local public/private partnership	\$106	2	4	29%	52%
Internal data networking only	\$83	2	6	(5%)	17%

Questions?

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Tellus Venture Associates

Back up Slides

It's about the business model

- ❑ Anchor tenants make Folsom business case
 - ❑ Substitution opportunity - Folsom \$35K
 - ❑ Intel has plant in Folsom
 - ❑ SMUD, Verizon, college also interested
 - ❑ Vertical markets - 2 hospitals in Folsom
 - ❑ Hot spot, hosting, ad hoc segments
- ❑ Lompoc - bottom up consumer demand exists
 - ❑ \$20 price point quantitatively tested
 - ❑ Competition lags, but now motivated to catch up

Is it financially feasible?

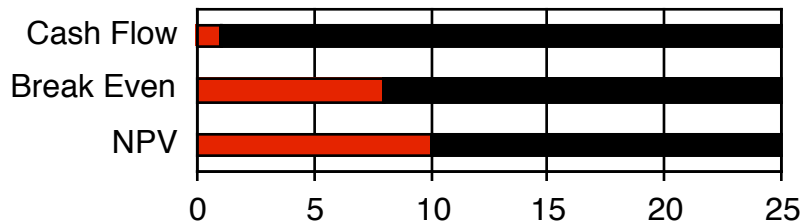
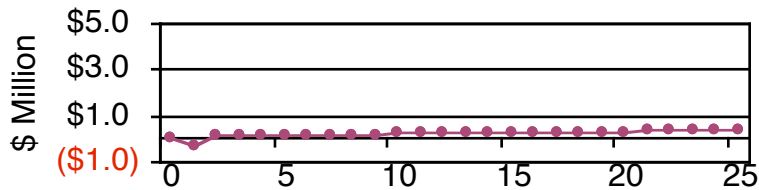
Deployed		
Sunnyvale, Santa Clara, Cupertino	MetroFi	Free, ad supported with paid tier (few takers)
Tempe	MobilePro	Fee based wholesale
Lexington, Colorado Springs, Hillsboro	Skytel	Free now but biz model is fee based
In Progress		
Anaheim, Milpitas, Philadelphia	Earthlink	Fee based, tiered pricing
San Francisco	Earthlink/Google	Free with paid tiers
Mountain View	Google	Free
Brookline	Galaxy/MobilePro	Fee based WiFi + 4.9GHz govt tier
Portland, Aurora	MetroFi	Free WiFi + paid 4.9GHz govt tier

Free sounds good, but it's not reality...

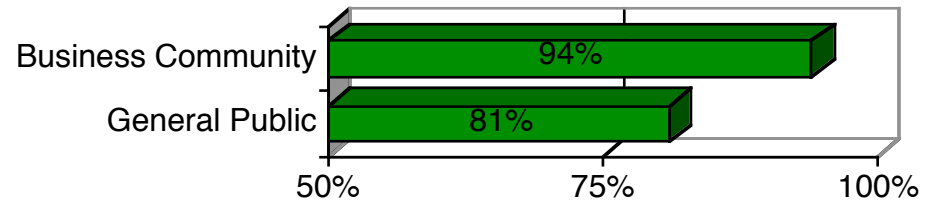
Is a Municipal WiFi Utility Feasible for Lompoc?

Capital funding required:	\$1.2 M
Year 15 metrics:	
Annual revenue	\$1.3 M
Operating surplus	\$0.3 M
Subscribers	5,100
Internal rate of return	12.2%

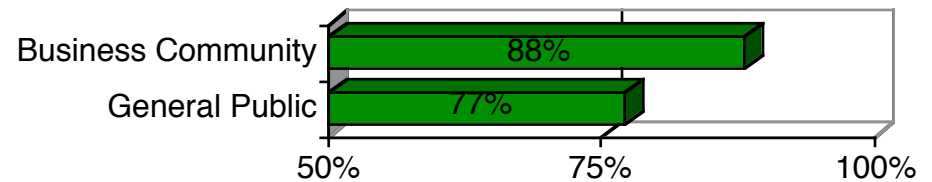
Operating Profit/(Loss)



Agree: Build it

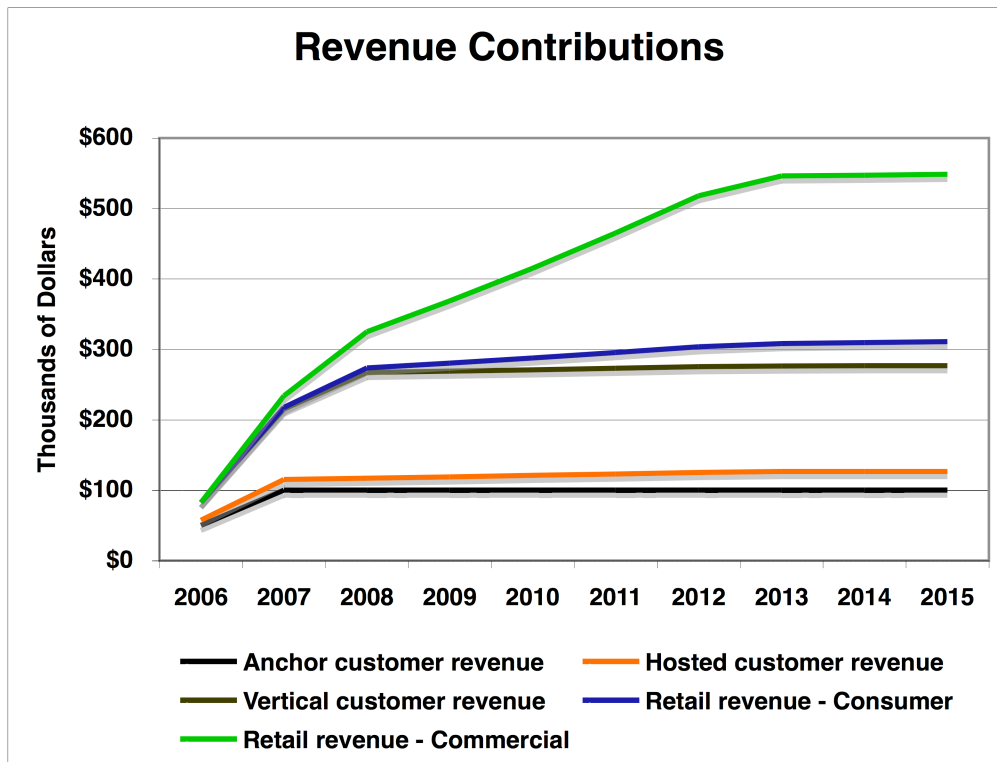


Agree: Good for Economic Development



Financially justified?	✓
Economically advantageous?	✓
Serve a public purpose?	✓

Folsom model puts revenue first



- Four scenarios
 - Standalone business
 - Local consortium
 - ISP partner
 - Membership
- Self supporting with user buy-in
 - Capex \$100K-\$200K
- Partners create growth
 - ISPs need options
 - Specific sectors, such as health care
 - Open to new ventures

Allows existing businesses to expand & develop, creates opportunities for new businesses, improves service for all.