

# Muni Wireless Return on Investment



**MuniWireless Minneapolis 2006 • 24 October 2006**

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# 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***

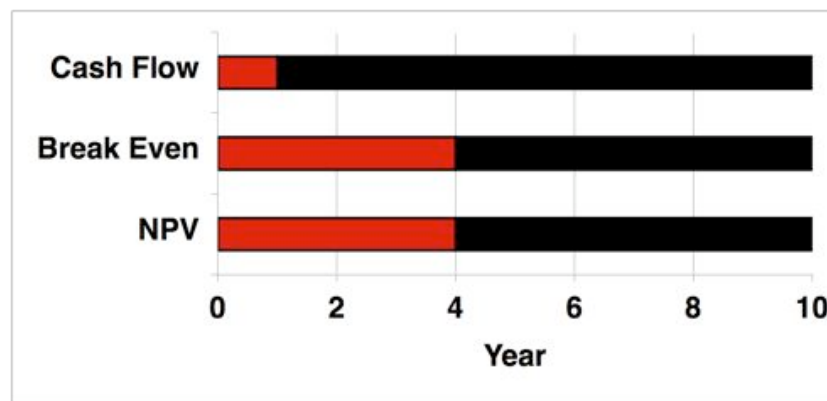
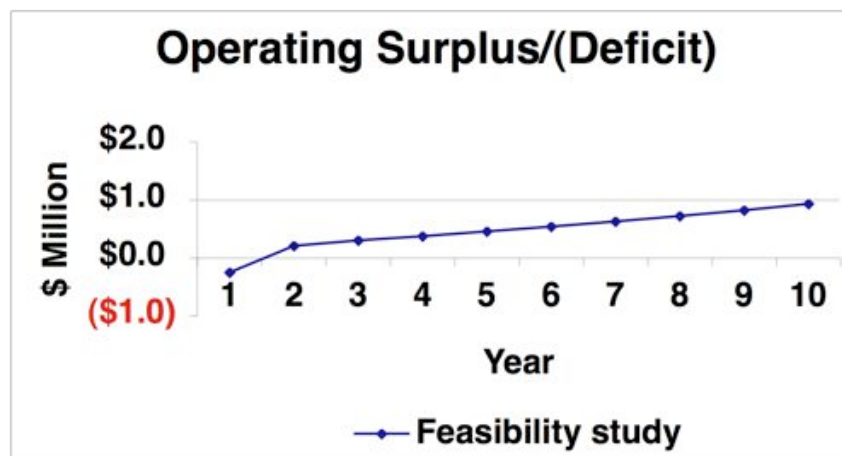
# Costs depend on service model

- 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%

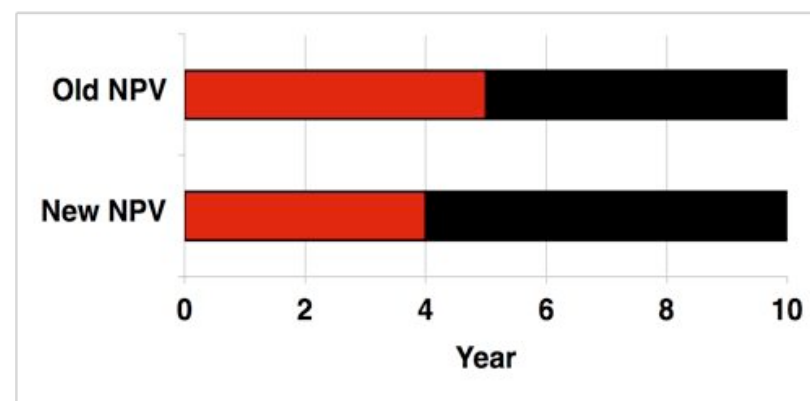
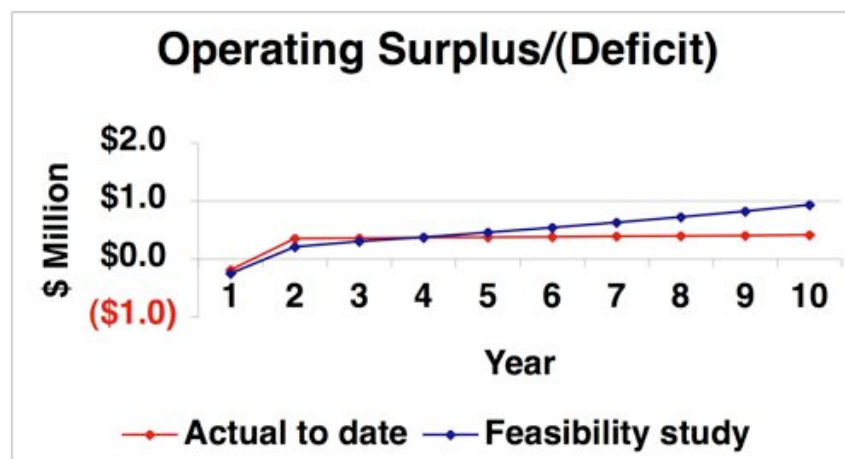


*Feasibility study showed significant surpluses, after all capital costs are considered, within 10 years.*

# Plan adapted to real world results

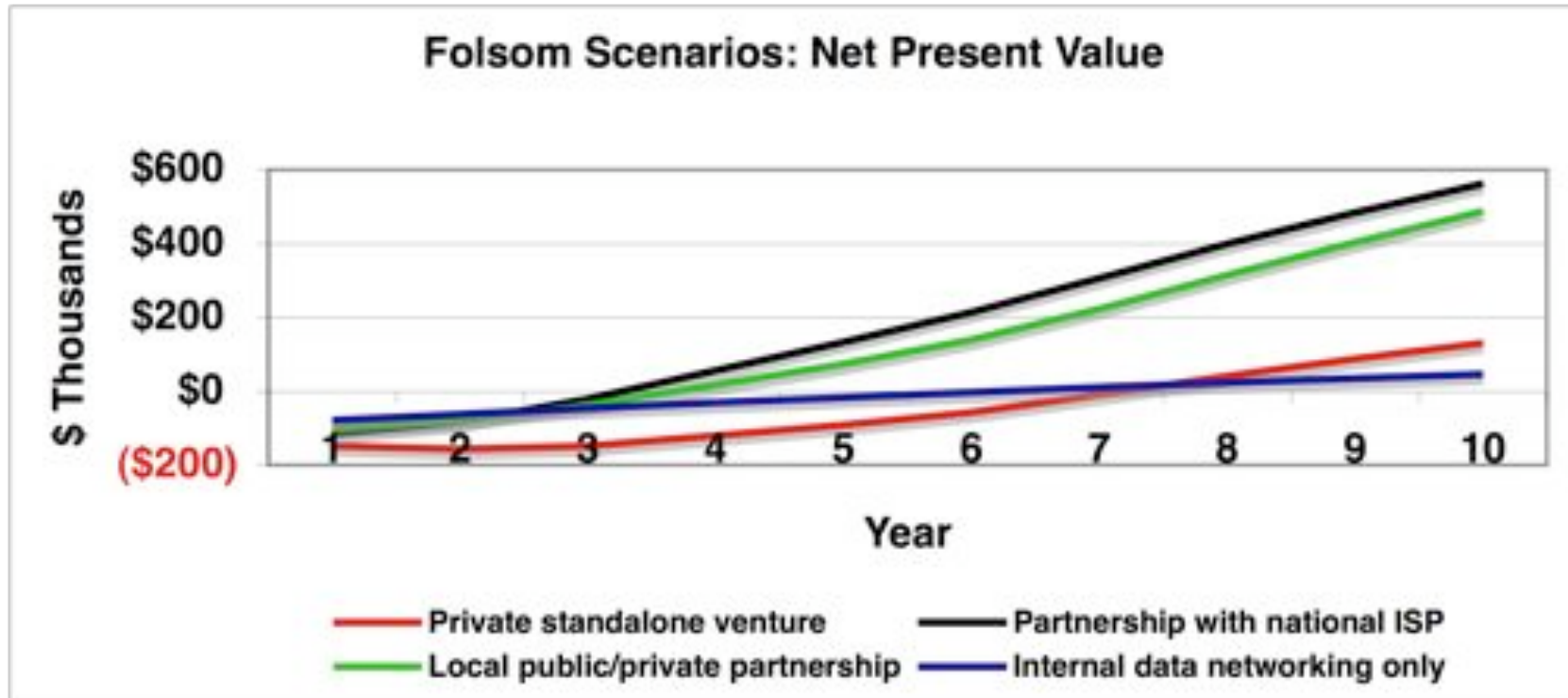
	Feasibility Study	Actual to Date
Capex (upfront)	\$1,200	\$1,500 (over run paid by contractor)
Year 10 Metrics:		
Opex	\$1,050	\$600
Margin	\$933	\$413
NPV	\$2,559	\$927
IRR	33%	17%

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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# 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?

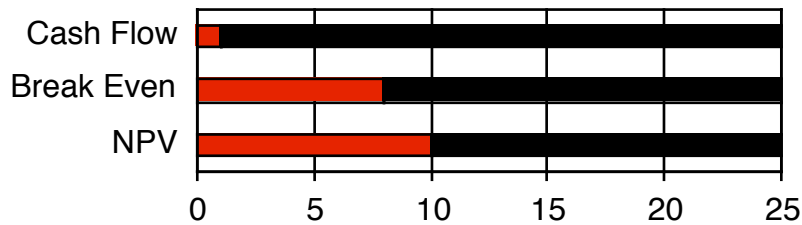
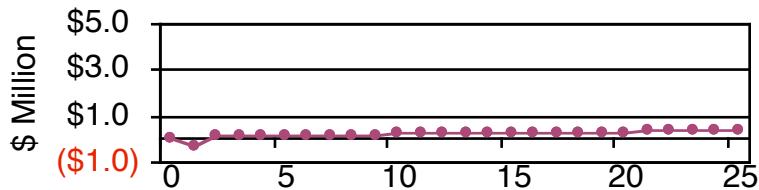
<b>Deployed</b>		
Sunnyvale, Santa Clara, Cupertino	MetroFi	Free, ad supported with paid tier (few takers)
Tempe	MobilePro	Fee based wholesale
Lexington, Colorado Springs, Hillsboro	Skytel	Free now but biz model is fee based
<b>In Progress</b>		
Anaheim, Milpitas, Philadelphia	Earthlink	Fee based, tiered 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...***

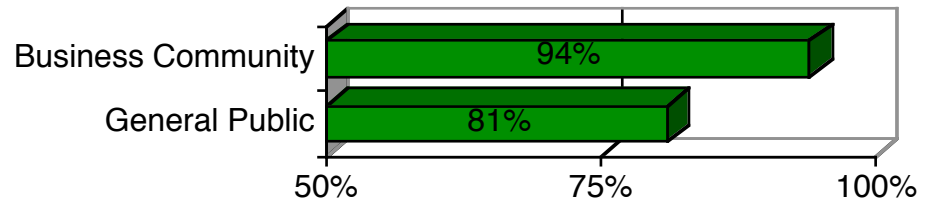
# Is a Municipal WiFi Utility Feasible for Lompoc?

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%

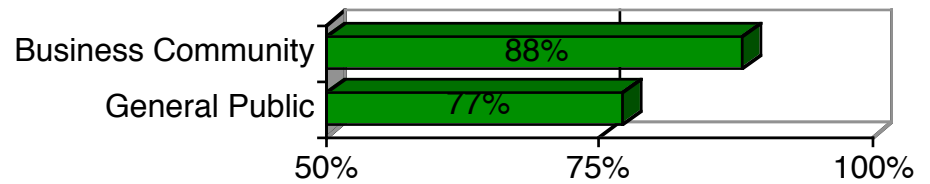
Operating Profit/(Loss)



Agree: Build it

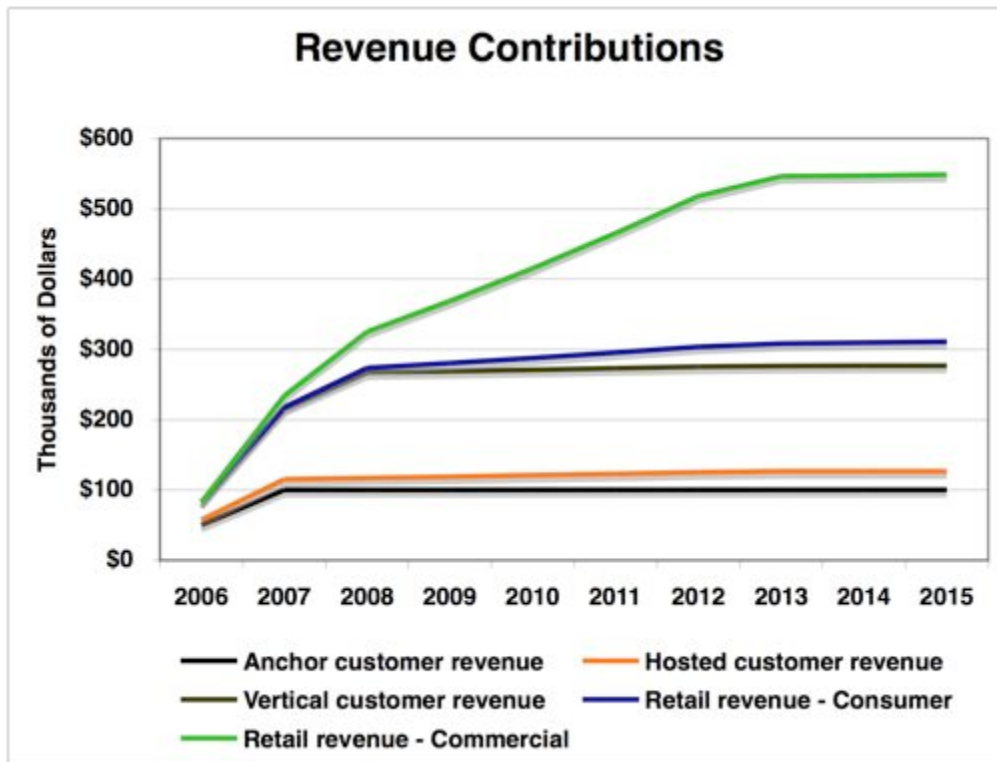


Agree: Good for Economic Development



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.***