

Middlefield Broadband Options Budget Comparison

Baseline all-wireless CapEx - one year full town installation

	material	labor	total	
towers and poles	\$82,300	\$79,000	\$161,300	
field network equipment	\$124,700	\$27,150	\$151,850	
CPE radios	\$43,400	\$24,400	\$67,800	Mimosa/ePMP/Runcom assumed
Core routing/switching	\$5,000	\$2,000	\$7,000	
Spares	\$5,188		\$5,188	
Design/engineering/integration		\$20,000	\$20,000	
Fiber extension to transfer station	\$2,000	\$4,000	\$6,000	
Administrative total		\$50,000	\$50,000	

Total full town wireless \$262,588 \$206,550 **\$469,138** Contingency *not* included (for comparison, not budgeting)
 Total full town wireless with CWR fiber **\$459,138** half-mile stretch of fiber west from River Road

HFW Plan #1 - Interisle -- fiber CapEx atop full town wireless, eventually 48% on fiber

	miles	per mile	total	
Fiber - non-MBI routes	9.2	\$40,000	\$368,000	includes engineering
Fiber - River Road option	4.1	\$40,000	\$164,000	
Fiber - Overbuild MBI	1.4	\$40,000	\$56,000	
Optronics - common (AE sw)			\$20,000	

	count	material	installation	total
Optronics - terminals	100	\$100	\$100	\$20,000
Reduction in CPE		30%		-\$20,340

Total HFW without River \$856,798
 Total HFW with River \$1,020,798
 Total HFW without River, overbuilding \$912,798 overbuilding is unnecessary; wireless coverage is adequate
 Total HFW with River, overbuilding \$1,076,798

Clark Wright standalone fiber 0.5 \$40,000 \$20,000 This is an engineering option, not contiguous fiber
 Clark Wright tower net savings -\$30,000 \$38000 for installed monopole, replace with 80' and 50' wood poles
 Optional impact of Clark Wright fiber -\$10,000 assumes it can be built quickly to not delay service
 Total HFW with CWR, without River **\$846,798** Most economical HFW plan

HFW Plan #2 - Knickerbocker - wireless follows fiber installation (3-year plan)

	count	material	installation	total
towers and poles	10	\$3,000	\$2,000	\$50,000
Sector radios (TVWS)	13	\$3,800	\$350	\$53,950 includes sectors, antennas
Tower base "NW interface"	10	\$1,500	\$1,000	\$25,000
CPE radios	96	\$450	\$175	\$60,000 radios <i>and</i> separate antennas; 10 Mbps service
Design/engineering/integration				\$10,000
Spares				\$5,000
Radio network subtotal				\$203,950

Core POPs	2	\$15,000	\$5,000	\$40,000
CPE optronics (fiber)	73	\$100	\$100	\$14,600
Fiber core engineering				\$10,000
New fiber miles	12.5	\$40,000		\$500,000
MBI overbuild if needed	3.5	\$40,000		\$140,000
Fiber network subtotal with overbuild				\$704,600
Fiber network subtotal without overbuild				\$564,600

Administrative \$50,000 NOT SPECIFIED BY HK
 HFW plan 2 total **\$958,550** with overbuild
\$818,550 without overbuild (MBI cooperates)

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