

**Appendix N**

**WyoLink LifeCycle Costs**  
**All VHF**

## Estimated WyoLink Life-Cycle Costs



**Alternatives**

<b>≤ 2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>
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		Item	Design/Pilot	Core	Expansion	Expansion	Expansion	Expansion	O&M	O&M	O&M	O&M	10-Year Totals
				% Deployed	10%	50%	10%	10%	10%	10%			
<b>VHF</b>	\$51,000,000	System Cost (by year)	\$5,100,000	\$25,500,000	\$5,100,000	\$5,100,000	\$5,100,000	\$5,100,000	\$0	\$0	\$0	\$0	\$51,000,000
	# of sites = 57	% Maintenance	0%	10%	10%	10%	10%	10%	10%	10%	10%	10%	
		O&M Cost	\$0	\$510,000	\$3,060,000	\$3,570,000	\$4,080,000	\$4,590,000	\$5,100,000	\$5,100,000	\$5,100,000	\$5,100,000	\$36,210,000
		Existing Systems %	90%	40%	30%	20%	10%	0%					
	<b>\$108,864,014</b>	Existing Systems Value	\$97,977,613	\$43,545,606	\$32,659,204	\$21,772,803	\$10,886,401	\$0					
	10%	O&M on existing systems	\$9,797,761	\$4,354,561	\$3,265,920	\$2,177,280	\$1,088,640	\$0					\$20,684,163
		<b>Total Annual Costs</b>	<b>\$14,897,761</b>	<b>\$30,364,561</b>	<b>\$11,425,920</b>	<b>\$10,847,280</b>	<b>\$10,268,640</b>	<b>\$9,690,000</b>	<b>\$5,100,000</b>	<b>\$5,100,000</b>	<b>\$5,100,000</b>	<b>\$5,100,000</b>	<b>\$5,100,000</b>

		Item	Design/Pilot	Core	Expansion	Expansion	Expansion	Expansion	O&M	O&M	O&M	O&M	10-Year Totals
				% Deployed	10%	50%	10%	10%	10%	10%			
<b>800 MHz</b>	\$73,900,000	System Cost (by year)	\$7,390,000	\$36,950,000	\$7,390,000	\$7,390,000	\$7,390,000	\$7,390,000	\$0	\$0	\$0	\$0	\$73,900,000
	# of sites = 123	% Maintenance	0%	10%	10%	10%	10%	10%	10%	10%	10%	10%	
		O&M Cost	\$0	\$739,000	\$4,434,000	\$5,173,000	\$5,912,000	\$6,651,000	\$7,390,000	\$7,390,000	\$7,390,000	\$7,390,000	\$52,469,000
		Existing Systems %	90%	40%	30%	20%	10%	0%					
	<b>\$108,864,014</b>	Existing Systems Value	\$97,977,613	\$43,545,606	\$32,659,204	\$21,772,803	\$10,886,401	\$0					
	10%	O&M on existing systems	\$9,797,761	\$4,354,561	\$3,265,920	\$2,177,280	\$1,088,640	\$0					\$20,684,163
		<b>Total Annual Costs</b>	<b>\$17,187,761</b>	<b>\$42,043,561</b>	<b>\$15,089,920</b>	<b>\$14,740,280</b>	<b>\$14,390,640</b>	<b>\$14,041,000</b>	<b>\$7,390,000</b>	<b>\$7,390,000</b>	<b>\$7,390,000</b>	<b>\$7,390,000</b>	<b>\$7,390,000</b>

		Item	Design/Pilot	1/2 Core	1/2 Core	O&M	O&M	O&M	O&M	O&M	O&M	O&M	10-Year Totals
				% Deployed	10%	45%	45%						
<b>Do-Nothing WYDOT</b>	\$16,900,000	System Cost (by year)	\$1,690,000	\$7,605,000	\$7,605,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$16,900,000
	# of repeaters = 105	% Maintenance	0%	10%	10%	10%	10%	10%	10%	10%	10%	10%	
		O&M Cost	\$0	\$169,000	\$929,500	\$1,690,000	\$1,690,000	\$1,690,000	\$1,690,000	\$1,690,000	\$1,690,000	\$1,690,000	\$12,928,500
		Existing Systems %	90%	45%	0%	0%	0%	0%					
	<b>\$9,286,136</b>	Existing Systems Value	\$8,357,523	\$4,178,761	\$0	\$0	\$0	\$0					
	10%	O&M on existing systems	\$835,752	\$417,876	\$0	\$0	\$0	\$0					\$1,253,628
		<b>Total Annual Costs</b>	<b>\$2,525,752</b>	<b>\$8,191,876</b>	<b>\$8,534,500</b>	<b>\$1,690,000</b>	<b>\$1,690,000</b>	<b>\$1,690,000</b>	<b>\$1,690,000</b>	<b>\$1,690,000</b>	<b>\$1,690,000</b>	<b>\$1,690,000</b>	<b>\$1,690,000</b>

		Item	Upgrades	Upgrades	Upgrades	Upgrades	Upgrades	Upgrades	Upgrades	Upgrades	Upgrades	Upgrades	10-Year Totals
				% Deployed	10%	10%	10%	10%	10%	10%	10%	10%	10%
<b>Do-Nothing Non-WYDOT</b>	\$54,100,000	System Cost (by year)	\$5,410,000	\$5,410,000	\$5,410,000	\$5,410,000	\$5,410,000	\$5,410,000	\$5,410,000	\$5,410,000	\$5,410,000	\$5,410,000	\$54,100,000
	# of repeaters = 205	% Maintenance	0%	10%	10%	10%	10%	10%	10%	10%	10%	10%	
		O&M Cost	\$0	\$541,000	\$1,082,000	\$1,623,000	\$2,164,000	\$2,705,000	\$3,246,000	\$3,787,000	\$4,328,000	\$4,869,000	\$24,345,000
		Existing Systems %	90%	80%	70%	60%	50%	40%	30%	20%	10%	0%	
	<b>\$99,577,878</b>	Existing Systems Value	\$89,620,090	\$79,662,302	\$69,704,514	\$59,746,727	\$49,788,939	\$39,831,151	\$29,873,363	\$19,915,576	\$9,957,788	\$0	
	10%	O&M on existing systems	\$8,962,009	\$7,966,230	\$6,970,451	\$5,974,673	\$4,978,894	\$3,983,115	\$2,987,336	\$1,991,558	\$995,779	\$0	\$44,810,045
		<b>Total Annual Costs</b>	<b>\$14,372,009</b>	<b>\$13,917,230</b>	<b>\$13,462,451</b>	<b>\$13,007,673</b>	<b>\$12,552,894</b>	<b>\$12,098,115</b>	<b>\$11,643,336</b>	<b>\$11,188,558</b>	<b>\$10,733,779</b>	<b>\$10,279,000</b>	<b>\$10,279,000</b>

		Item	Upgrades	Upgrades	Upgrades	Upgrades	Upgrades	Upgrades	Upgrades	Upgrades	Upgrades	Upgrades	10-Year Totals
				System Cost (by year)	\$7,100,000	\$13,015,000	\$13,015,000	\$5,410,000	\$5,410,000	\$5,410,000	\$5,410,000	\$5,410,000	\$5,410,000
<b>Do-Nothing Combined</b>		O&M Cost	\$9,797,761	\$9,094,106	\$8,981,951	\$9,287,673	\$8,832,894	\$8,378,115	\$7,923,336	\$7,468,558	\$7,013,779	\$6,559,000	\$83,337,173
		<b>Combined Annual Costs</b>	<b>\$16,897,761</b>	<b>\$22,109,106</b>	<b>\$21,996,951</b>	<b>\$14,697,673</b>	<b>\$14,242,894</b>	<b>\$13,788,115</b>	<b>\$13,333,336</b>	<b>\$12,878,558</b>	<b>\$12,423,779</b>	<b>\$11,969,000</b>	<b>\$154,337,173</b>

Estimated Value of Current PSMR in Wyoming

20%

Item	WyoLink	Current	WYDOT			Non-WYDOT			Combined	
	\$/each	\$/each	#	\$/each	Total \$	#	\$/each	Total \$	#	Total \$
Base Stations/Repeaters	\$34,000	\$6,800	105	\$6,800	\$714,000	205	\$6,800	\$1,394,000	310	\$2,108,000
Backbone Communication	\$120,000			Incl	\$0	Lot	\$7,380,000	\$7,380,000	Lot	\$7,380,000
Sites	\$568,000	\$201,500	30	\$201,500	\$6,045,000	392	\$201,500	\$78,988,000	422	\$85,033,000
Mobiles	\$3,670	\$734	1689	\$734	\$1,239,726	4611	\$734	\$3,384,474	6300	\$4,624,200
Portables	\$3,230	\$646	1035	\$646	\$668,610	3965	\$646	\$2,561,390	5000	\$3,230,000
Control Stations	\$6,050	\$1,210	77	\$1,210	\$93,170	193	\$1,210	\$233,530	270	\$326,700
Subtotal					\$8,760,506			\$93,941,394		\$102,701,900
Other Contingencies		5%			\$438,025			\$4,697,070	0	\$5,135,095
Administrative Overhead*		1%	Lot		\$87,605	Lot		\$939,414		\$1,027,019
<b>Grand Totals</b>					<b>\$9,286,136</b>			<b>\$99,577,878</b>		<b>\$108,864,014</b>

\* Assume direct technical staff is totally for maintenance and not included here

Analog, conventional, wideband equipment = 20% of P25, trunked, narrowband equipment

Non-WYDOT Backbone = \$300/month \* 12 months \* 205 repeaters \* 10 years

WYDOT new site = \$571,500 (5-channel, digital, trunked, narrowband w/AC)

WYDOT existing site = \$269,500 (4-channel, analog, conventional, wideband)

WYDOT existing site = \$201,500 (w/o radio and microwave)