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Table V-1
Cell Site Cost Unit Cost Inputs
Capital Expenditures and Operations and Maintenance Costs

Cell Site Capital Expenditures (per cell site)	
New Construction of 4G Site	[redacted]
Upgrade non-Wireless Site to 4G Site	
Upgrade Wireless 2G Site to 4G Site	
Upgrade 3G Site to 4G Site	
MSC Server in Anchorage for Wireless 4G Sites	
Cell Site Operations and Maintenance (10 yr PV per cell site)	
New Construction of 4G Site	[redacted]
Upgrade non-Wireless Site to 4G Site	
Upgrade Wireless 2G Site to 4G Site	
Upgrade 3G Site to 4G Site	
MSC Server in Anchorage for Wireless 4G Sites	

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Table VI-1
Breakdown of Backhaul by Borough

	Fiber			Remote Terrestrial			Satellite			Total
Borough / Census Area	AK Plan Unserved Census Blocks	AK Plan Served Census Blocks	Total Fiber	AK Plan Unserved Census Blocks	AK Plan Served Census Blocks	Total Remote Terrestrial	AK Plan Unserved Census Blocks	AK Plan Served Census Blocks	Total Satellite	Total Sites
Aleutians East	0	0	0	0	0	0	1	7	8	8
Aleutians West	0	0	0	0	0	0	3	3	6	6
Anchorage	0	2	2	0	0	0	0	0	0	2
Bethel	0	0	0	10	20	30	0	1	1	31
Bristol Bay	0	0	0	0	4	4	0	0	0	4
Denali	1	6	7	0	0	0	0	0	0	7
Dillingham	0	0	0	2	13	15	0	0	0	15
Fairbanks North Star	3	7	10	0	0	0	0	0	0	10
Haines	0	0	0	2	5	7	0	0	0	7
Hoonah-Angoon	0	0	0	3	3	6	0	0	0	6
Juneau	9	1	10	0	0	0	0	0	0	10
Kenai Peninsula	3	7	10	0	0	0	0	1	1	11
Ketchikan Gateway	10	6	16	0	0	0	0	0	0	16
Kodiak Island	2	13	15	0	0	0	1	2	3	18
Lake and Peninsula	0	0	0	3	9	12	1	4	5	17
Matanuska-Susitna	3	10	13	0	0	0	0	0	0	13
Nome	0	0	0	2	8	10	3	15	18	28
North Slope	12	7	19	0	0	0	16	13	29	48
Northwest Arctic	0	0	0	1	3	4	0	9	9	13
Petersburg	1	4	5	0	0	0	0	0	0	5
Prince of Wales-Hyder	0	0	0	6	12	18	0	0	0	18
Sitka	0	0	0	2	3	5	0	0	0	5
Skagway	0	0	0	1	2	3	0	0	0	3
Southeast Fairbanks	20	10	30	0	0	0	0	0	0	30
Valdez-Cordova	8	53	61	0	0	0	0	0	0	61
Wade Hampton	0	0	0	4	12	16	0	1	1	17
Wrangell	1	2	3	0	0	0	0	0	0	3
Yakutat	0	0	0	0	0	0	0	0	0	0
Yukon-Koyukuk	0	0	0	41	10	51	14	3	17	68
Total	73	128	201	77	104	181	39	59	98	480

Source: U.S. Census Bureau 2010 Census; GCI Cell Site Data; Carrier Cell Sites from FCC ULS database; Brattle Analysis.

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Table VI-2
Satellite Backhaul Cost Inputs
Ground Station and Hub Capital and O&M Costs

Satellite Backhaul Capital Expenditures	
Remote Ground Station (per cell site)	[redacted]
HUB iDirect Satellite (for Central Hub)	
Satellite Backhaul Operations and Maintenance (10 yr PV per cell site)	
New Remote Ground Station for New 4G Site	[redacted]
Upgrade Remote Ground Station from 2G Site to 4G Site	

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Table VI-3
Satellite Backhaul Costs Inputs
HUB iDirect Satellite
(Based on Sample Population of 3,000)

Population at Non-Terrestrial Locations		3,000
Population Peneration Rate		50%
Population Served (using penetration rate)		1,500
User Traffic Rate		25%
Downstream Data Rate (per user)	*kbps*	**3000**
Upstream Data Rate (per user)	*kbps*	**750**
Downstream Oversubscription Rate		[redacted]
Upstream Oversubscription Rate		
Upstream Throughput Required	*Gbps*	[redacted]
Downstream Throughput Required	*Gbps*	
Downstream Spectral Efficiency	*bits/Hz*	
Upstream Spectral Efficiency	*bits/Hz*	
Downstream Bandwidth Required, Year 1	*MHz*	[redacted]
Upstream Bandwidth Required	*MHz*	
Transponder Monthly Cost (per MHz)	*$*	
Cost (per month for space segment), Year 1	**$**	[redacted]
Cost (per month for space segment), Year 2	**$**	
Cost (per month for space segment), Year 3	**$**	
Cost (per month for space segment), Year 4	**$**	
Cost (per month for space segment), Year 5	**$**	
Cost (per month for space segment), Year 6	**$**	
Cost (per month for space segment), Year 7	**$**	
Cost (per month for space segment), Year 8	**$**	
Cost (per month for space segment), Year 9	**$**	
Cost (per month for space segment), Year 10	**$**	
Annual Cost (for space segment), Year 1	**$**	
Annual Cost (for space segment), Year 2	**$**	
Annual Cost (for space segment), Year 3	**$**	
Annual Cost (for space segment), Year 4	**$**	
Annual Cost (for space segment), Year 5	**$**	
Annual Cost (for space segment), Year 6	**$**	
Annual Cost (for space segment), Year 7	**$**	
Annual Cost (for space segment), Year 8	**$**	
Annual Cost (for space segment), Year 9	**$**	
Annual Cost (for space segment), Year 10	**$**	
Present Value (10 Years) of Bandwidth Cost	**$**	$33,632,004

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Table VI-4
Terrestrial Backhaul Cost Inputs
(Based on Sample Population of 500 and Connection Distance of 50 Miles)

		Microwave T3	Fiber T3	Terra 1Mbps	Fiber 1Mbps
Population at Non-Terrestrial Locations	*pops*	500	500	500	500
Population Peneration Rate		50%	50%	50%	50%
Population Served (using penetration rate)	*pops*	250	250	250	250
User Traffic Rate		25%	25%	25%	25%
Downstream Data Rate (per user)	*kbps*	6000	6000	6000	6000
Upstream Data Rate (per user)	*kbps*	1500	1500	1500	1500
Downstream Oversubscription Rate		[redacted]			
Upstream Oversubscription Rate					
Downstream Throughput Required, Year 1	*Gbps*	[redacted]			
Upstream Throughput Required	*Gbps*				
Usable Bandwidth per Unit	*Gbps*				
Bits per Pop	*bits/pop*				
Units Required, Year 1		[redacted]			
Units Required, Year 2					
Units Required, Year 3					
Units Required, Year 4					
Units Required, Year 5					
Units Required, Year 6					
Units Required, Year 7					
Units Required, Year 8					
Units Required, Year 9					
Units Required, Year 10					
Cost per Unit per Month at 50 Miles	*$*				
Cost (per month), Year 1	***$***	[redacted]			
Cost (per month), Year 2	***$***				
Cost (per month), Year 3	***$***				
Cost (per month), Year 4	***$***				
Cost (per month), Year 5	***$***				
Cost (per month), Year 6	***$***				
Cost (per month), Year 7	***$***				
Cost (per month), Year 8	***$***				
Cost (per month), Year 9	***$***				
Cost (per month), Year 10	***$***				
Annual Cost, Year 1	***$***				
Annual Cost, Year 2	***$***				
Annual Cost, Year 3	***$***				
Annual Cost, Year 4	***$***				
Annual Cost, Year 5	***$***				
Annual Cost, Year 6	***$***				
Annual Cost, Year 7	***$***				
Annual Cost, Year 8	***$***				
Annual Cost, Year 9	***$***				
Annual Cost, Year 10	***$***				
Present Value (10 Years) of Bandwidth Cost	***$***	$3,638,054	$1,444,307	$7,241,954	$724,195

Table VII-1
Present Value of Undersea Transport Costs

		Satellite (Anchorage)	Anchorage	Fairbanks	Juneau	Total
Downstream Throughput, Year 1	*Gbps*	[redacted]				
Upstream Throughput	*Gbps*					
Lines Required, Year 1	*Units*	26	114	18	44	
Lines Required, Year 2	*Units*	31	136	21	52	
Lines Required, Year 3	*Units*	37	163	25	63	
Lines Required, Year 4	*Units*	44	196	30	75	
Lines Required, Year 5	*Units*	53	235	36	90	
Lines Required, Year 6	*Units*	63	282	43	108	
Lines Required, Year 7	*Units*	75	338	52	129	
Lines Required, Year 8	*Units*	90	406	62	155	
Lines Required, Year 9	*Units*	108	487	75	186	
Lines Required, Year 10	*Units*	130	584	89	223	
Monthly Underwater Transport Cost	*$/Unit*	[redacted]				
Total Cost per Month, Year 1	*$*					
Total Cost per Month, Year 2	*$*					
Total Cost per Month, Year 3	*$*					
Total Cost per Month, Year 4	*$*					
Total Cost per Month, Year 5	*$*					
Total Cost per Month, Year 6	*$*					
Total Cost per Month, Year 7	*$*					
Total Cost per Month, Year 8	*$*					
Total Cost per Month, Year 9	*$*					
Total Cost per Month, Year 10	*$*					
PV (10 Years)						
Population Served	*Pops.*	15,054	33,945	5,173	12,930	67,103
Throughput per User, Year 1	*Kbps/Pop.*	78	151	157	153	
Throughput per User, Year 2	*Kbps/Pop.*	93	180	183	181	
Throughput per User, Year 3	*Kbps/Pop.*	111	216	217	219	
Throughput per User, Year 4	*Kbps/Pop.*	132	260	261	261	
Throughput per User, Year 5	*Kbps/Pop.*	158	312	313	313	
Throughput per User, Year 6	*Kbps/Pop.*	188	374	374	376	
Throughput per User, Year 7	*Kbps/Pop.*	224	448	452	449	
Throughput per User, Year 8	*Kbps/Pop.*	269	538	539	539	
Throughput per User, Year 9	*Kbps/Pop.*	323	646	652	647	
Throughput per User, Year 10	*Kbps/Pop.*	389	774	774	776	

ATTACHMENT A

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THIS HIGHLY CONFIDENTIAL MODEL HAS BEEN REDACTED IN ITS ENTIRETY