



2017 Capitalization Rate Study
Final

Telecommunications

MONTANA DEPARTMENT OF REVENUE

**Yield Capitalization Rate Study
Industry: Telecommunications
2017 Assessment Year**

Capital Structure

Equity	57.00%	<i>Page Tel-5</i>
Debt	43.00%	<i>Page Tel-5</i>

Equity Cost of Capital

Capital Asset Pricing Model	9.09%	<i>Page Tel-6</i>
Dividend Growth Model (g = Earnings Growth)	11.00%	<i>Page Tel-10</i>
Dividend Growth Model (g = Dividend Growth)	8.70%	<i>Page Tel-10</i>
Dividend Growth Model (g = b x ROE)	NMF	<i>Page Tel-10</i>
	9.70%	

Debt Cost of Capital

Standard and Poor's Yield to Maturity	4.00%	<i>Page Tel-16</i>
Mergent's Corporate Bond Yields:		
A	3.96%	
Baa - Corporate (Annual Avg)	4.72%	
Baa - Corporate (4th Qtr Avg)	4.64%	
Baa - Corporate (December)	4.83%	
	4.83%	

Telecommunications - Weighted Average Cost of Capital (WACC)

Source of Capital	Capital Structure	Cost of Capital	Marginal Tax Rate	After-tax Cost of Capital	Weighted Cost
Equity	57.00%	9.70%		9.70%	5.53%
Debt	43.00%	4.83%	38.00%	2.99%	1.29%
WACC	100.00%				6.82%
WACC (Rounded)					6.90%

MONTANA DEPARTMENT OF REVENUE

**Direct Capitalization Rate Study
Industry: Telecommunications
2017 Assessment Year**

Capital Structure

Equity	57.00%	<i>Page Tel-5</i>
Debt	43.00%	<i>Page Tel-5</i>

Equity Cost of Capital

NOI After-tax	4.50%	<i>Page Tel-18</i>
GCF	18.70%	<i>Page Tel-18</i>

Debt Cost of Capital

Standard and Poor's Current Yield	5.90%	<i>Page Tel-19</i>
Calculated Current Yield	6.10%	<i>Page Tel-20</i>
	6.10%	

Telecommunications - NOI After-tax Direct Capitalization Rate

Source of Capital	Capital Structure	Cost of Capital	Marginal Tax Rate	After-tax Cost of Capital	Weighted Cost
Equity	57.00%	4.50%		4.50%	2.57%
Debt	43.00%	6.10%	38.00%	3.78%	1.63%
Total	100.00%				4.19%
Total (Rounded)					4.20%

Telecommunications - GCF Direct Capitalization Rate

Source of Capital	Capital Structure	Cost of Capital	Marginal Tax Rate	After-tax Cost of Capital	Weighted Cost
Equity	57.00%	18.70%		18.70%	10.66%
Debt	43.00%	6.10%	38.00%	3.78%	1.63%
WACC	100.00%				12.29%
Total (Rounded)					12.30%

MONTANA DEPARTMENT OF REVENUE

**Support for Capital Structure
Industry: Telecommunications
2017 Assessment Year**

A	B	C	D	E	F	G	H	I	J	K	L	M	N
Company	Ticker Symbol	Industry Group	Financial Strength	Shares Outstanding	Avg. 4Q Stock Price	MV Common Stock	MV Preferred Stock*	MV Long Term Debt*	PV of Operating Leases	Total Common, Preferred, LT Debt, & OpLeases	% Common	% Preferred	% Debt & OpLeases
										G+H+I+J			
		Value Line	Value Line	10-K	Yahoo	ExF	10-K	10-K	10-K	(\$000)	G/K	H/K	(I+J)/K
				(000)		(\$000)	(\$000)	(\$000)	(\$000)	(\$000)			
Cincinnati Bell	CBB	TELUTIL	C+	42,056	49.45	2,079,821	129,400	1,177,900	26,218	3,413,339	61%	4%	35%
Charter Communications	CHTR	CABLETV	B	268,898	266.17	71,573,421	0	64,146,000	0	135,719,421	53%	0%	47%
Consol. Communic.	CNSL	TELUTIL	C++	50,612	26.01	1,316,596	0	1,390,773	46,856	2,754,225	48%	0%	52%
CenturyLink Inc	CTL	TELUTIL	B++	546,545	26.17	14,300,350	0	19,639,000	1,844,042	35,783,392	40%	0%	60%
FairPoint Communications Inc.	FRP	TELESERV	C+	27,074	16.63	450,383	0	932,995	16,136	1,399,513	32%	0%	68%
Frontier Communications	FTR	TELUTIL	C++	1,172,553	3.74	4,379,485	0	17,539,000	80,953	21,999,439	20%	0%	80%
Sprint Nextel Corp	S	TELESERV	C++	3,975,000	7.35	29,203,000	0	28,361,000	11,989,803	69,553,803	42%	0%	58%
Shenandoah Telecoms	SHEN	TELESERV	B	48,935	26.71	1,307,135	0	829,265	384,193	2,520,594	52%	0%	48%
AT&T Corp	T	TELESERV	A++	6,495,231	39.01	253,400,612	0	131,317,000	24,363,317	409,080,929	62%	0%	38%
Telephone & Data Sys	TDS	TELESERV	B	110,165	27.00	2,974,639	1,000	2,480,000	1,154,258	6,609,896	45%	0%	55%
T-Mobile US	TMUS	TELESERV	B+	826,357	52.40	43,298,369	0	27,679,000	9,748,148	80,725,517	54%	0%	46%
U.S. Cellular	USM	TELESERV	B+	84,849	37.54	3,185,231	0	2,250,000	1,051,330	6,486,561	49%	0%	51%
Verizon Communications	VZ	TELESERV	A++	4,242,374	50.02	212,217,703	0	117,584,000	14,975,547	344,777,250	62%	0%	38%
Windstream Holdings	WIN	TELUTIL	C+	96,300	7.89	759,807	0	4,884,400	414,738	6,058,945	13%	0%	87%
All Companies						640,446,553	130,400	420,210,333	66,095,538	1,126,882,824	57%	0%	43%
Average											45%	0%	54%
Median											48%	0%	52%
High											62%	4%	80%
Low											20%	0%	35%
Say											57%	0%	43%

*Market value of preferred stock assumed to equal book value. Market value of long term debt is fair value.

Notes/Rational for Changes to Guideline Companies

2017 Changes to Guideline Companies

Wireless, Telephone, and Cable studies combined to better match telecommunications industry.

CVC removed, sold to Altice

CRWN removed, no longer publically traded.

TWC removed, merged with CHTR.

GNCMA removed due to regionally limited primary operations.

HCOM removed due to regionally limited primary operations.

CMCSA removed due to company's diverse holdings.

SHEN added.

WIN added.

MONTANA DEPARTMENT OF REVENUE

**Capital Asset Pricing Model (CAPM)
Industry: Telecommunications
2017 Assessment Year**

$$k_e = R_f + \beta \times ERP$$

		Telecom
$k_e =$	Cost of Equity	9.09%
$R_f =$	Risk Free Rate	2.79%
$\beta =$	Beta	1.05
$ERP =$	Equity Risk Premium ($R_m - R_f$)	6.00%
$R_m =$	Market Rate of Return	8.79%

Risk Free Rate Measures (R_f):

The Value Line Investment Survey: Selection & Opinion¹

January 6, 2017

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Selected Yields on Taxable U.S. Treasury Securities

10-year	2.51%
30-year	3.09%

Federal Reserve Statistical Release² and U.S. Department of the Treasury, Daily Treasury Yield Curve Rates³

U.S. government securities, Treasury constant maturities, Nominal, December 30, 2016

10-year	2.45%
20-year	2.79%
30-year	3.06%

Risk Free Rate Selected

2.79%

¹ "Value Line Selection & Opinion", Value Line (January 6, 2017)

² <https://www.federalreserve.gov/datadownload/Choose.aspx?rel=H.15>

³ <https://www.treasury.gov/resource-center/data-chart-center/interest-rates/Pages/TextView.aspx?data=yieldYear&year=2016>

MONTANA DEPARTMENT OF REVENUE

**Capital Asset Pricing Model (CAPM)
Industry: Telecommunications
2017 Assessment Year**

$$k_e = R_f + \beta \times ERP$$

Equity Risk Premium Measures (ERP = R_m - R_f)

DOR S&P 500, 3 Stage Dividend Growth Model (See Exhibit)

	<u>R_m⁴</u>	<u>R_m</u>	<u>R_f</u>	<u>ERP</u>
ERP - <i>Ex Ante</i>	8.00%	8.00%	2.79%	5.21%

Duff & Phelps, 2017 Valuation Handbook

		<u>R_m⁴</u>	<u>R_m</u>	<u>R_f</u>	<u>ERP</u>
ERP "Historical" - <i>Ex Post</i>	<i>Arithmetic Avg.</i>	9.73%	9.66%	2.72%	6.94%
ERP "Supply-side" - <i>Ex Post</i>	<i>Arithmetic Avg.</i>	8.76%	8.69%	2.72%	5.97%
ERP "Adj. Supply-side" - <i>Ex Post</i>	<i>Arithmetic Avg.</i>	7.89%	7.82%	2.72%	5.10%
ERP "Conditional" - <i>Ex Ante</i>			9.50%	4.00%	5.50%

Damodaran Implied ERP (Jan 1, 2017)

	<u>R_m⁴</u>	<u>R_m</u>	<u>R_f</u>	<u>ERP</u>
Implied Premium (FCFE) - <i>Ex Ante</i>	8.48%	8.14%	2.45%	5.69%
Implied Premium (FCFE with sustainable payout) - <i>Ex Ante</i>	7.29%	6.95%	2.45%	4.50%

	<u>R_m⁴</u>	<u>R_m</u>	<u>R_f</u>	<u>ERP</u>
<u>Average</u>	8.36%	8.39%		5.56%
<u>Median</u>	8.24%	8.14%		5.50%
<u>High</u>	9.73%	9.66%		6.94%
<u>Low</u>	7.29%	6.95%		4.50%

Equity Risk Premium Selected

8.79%	2.79%	6.00%
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⁴ R_m estimated using selected Risk Free Rate (R_f)

MONTANA DEPARTMENT OF REVENUE

**Capital Asset Pricing Model (CAPM)
Industry: Telecommunications
2017 Assessment Year**

$$k_e = R_f + \beta \times ERP$$

Inflation and Growth Estimates⁵

	<u>Inflation</u> (CPI)	<u>Real Growth</u> (GDP)	<u>Nominal</u> <u>Growth</u>	<u>Nominal Growth</u>	
				<u>Low</u>	<u>High</u>
Livingston Survey	2.30%	2.20%	4.50%		
Survey of Professional Forecasters	2.30%	2.45%	4.75%		
Congressional Budget Office	2.53%	2.17%	4.70%		
Office of Budget and Management	2.38%	2.07%	4.45%		
OASDI Trustee Report	2.70%	2.70%	5.40%		
Average	2.44%	2.32%	4.76%		
Median	2.38%	2.20%	4.58%		
High	2.70%	2.70%	5.40%		
Low	2.30%	2.07%	4.37%		
Say	2.40%	2.20%	4.60%	4.37%	5.40%
Rounded				4.00%	6.00%

⁵ Real Growth Sources: "The Livingston Survey", Federal Reserve Bank of Philadelphia (December 9, 2016); "Survey of Professional Forecasters", Federal Reserve Bank of Philadelphia (February 10, 2017); "Congressional Budget Office", An Update to the Budget and Economic Outlook: 2016 to 2026 (August 2016); "Office of Budget and Management", FY 2017 Mid-Session Review (July 15, 2016); "OASDI Trustee Report", Board of Trustees of the Federal Old-Age Survivors Insurance and Federal Disability Insurance Trust Funds (June 22, 2016)

MONTANA DEPARTMENT OF REVENUE

**Support for Beta Selection in CAPM
Industry: Telecommunications
2017 Assessment Year**

A	B	C	D	E
Company	Ticker Symbol	Industry Group	Financial Strength	Beta
		<i>Value Line</i>	<i>Value Line</i>	<i>Value Line</i>
Cincinnati Bell	CBB	TELUTIL	C+	1.20
Charter Communications	CHTR	CABLETV	B	0.95
Consol. Communic.	CNSL	TELUTIL	C++	0.90
CenturyLink Inc	CTL	TELUTIL	B++	0.95
FairPoint Communications Inc.	FRP	TELESERV	C+	1.05
Frontier Communications	FTR	TELUTIL	C++	1.15
Sprint Nextel Corp	S	TELESERV	C++	1.35
Shenandoah Telecoms	SHEN	TELESERV	B	1.05
AT&T Corp	T	TELESERV	A++	0.75
Telephone & Data Sys	TDS	TELESERV	B	1.25
T-Mobile US	TMUS	TELESERV	B+	1.00
U.S. Cellular	USM	TELESERV	B+	1.05
Verizon Communications	VZ	TELESERV	A++	0.75
Windstream Holdings	WIN	TELUTIL	C+	-
Average				1.03
Median				1.05
High				1.35
Low				-
Say				1.05

MONTANA DEPARTMENT OF REVENUE

Support for Yield Capitalization Cost of Equity Component - Based on Dividend Growth Model
 Industry: Telecommunications
 2017 Assessment Year

$$K_e = (D_1 / P_0) + g$$

K_e = Cost of Equity
 D_1 = Expected Dividend
 P_0 = Current Price Per Share

g = Sustainable Growth
 b = Retention Ratio (1 - Payout Ratio)
 ROE = Return on Equity

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
Company Name	Ticker	Avg. 4Q Stock Price	2017 Est Dividend	Dividend Yield	2017 Est Earnings Per Share	2017 Est Payout Ratio	Retention Ratio	2017 Est Return on Equity	Multistage Long Term Earnings Growth Estimate	Multistage Long Term Dividends Growth Estimate	Sustainable Growth*	Cost of Equity	Cost of Equity	Cost of Equity
		P_0	D_1	D_1/P_0	EPS	D_1/EPS	$b = 1 - \text{Payout Ratio}$	ROE	$g = \text{Earnings } g$	$g = \text{Dividends } g$	$g = b \times \text{ROE}$	K_e $g = \text{Earnings } g$	K_e $g = \text{Dividends } g$	K_e $g = b \times \text{ROE}$
		Yahoo	Value Line	D/C	Value Line	D/F	1-G	Value Line	Multi Stg g Wrksht	Multi Stg g Wrksht	H*I	E+J	E+K	E+L
Cincinnati Bell	CBB	49.45	0.00		0.05			0.00%	3.22%	1.71%				
Charter Communications	CHTR	266.17	0.00		6.30			5.00%	3.22%	1.71%				
Consol. Communic.	CNSL	26.01	1.55	5.96%	0.40	387.50%	-287.50%	10.00%	19.95%	1.71%	-28.75%	25.91%	7.66%	
CenturyLink Inc	CTL	26.17	2.16	8.26%	2.15	100.47%	-0.47%	9.00%	7.68%	1.71%	-0.04%	15.94%	9.96%	
FairPoint Communications Inc.	FRP	16.63	0.00		0.00			0.00%	1.08%	3.22%				
Frontier Communications	FTR	3.74	0.42	11.24%	(0.05)	-840.00%	940.00%	0.00%	11.77%	2.02%	0.00%	23.02%	13.27%	
Sprint Nextel Corp	S	7.35	0.00		(0.40)			0.00%	3.22%	1.71%				
Shenandoah Telecoms	SHEN	26.71	0.26	0.97%	0.85	30.59%	69.41%	13.50%	8.63%	6.11%	9.37%	9.60%	7.08%	10.34%
AT&T Corp	T	39.01	1.96	5.02%	2.95	66.44%	33.56%	14.00%	5.80%	4.54%	4.70%	10.82%	9.56%	9.72%
Telephone & Data Sys	TDS	27.00	0.62	2.30%	0.30	206.67%	-106.67%	1.00%	6.11%	3.91%	-1.07%	8.41%	6.20%	
T-Mobile US	TMUS	52.40	0.00		1.85			8.00%	3.22%	1.71%				
U.S. Cellular	USM	37.54	0.00		0.30			0.50%	2.96%	1.71%				
Verizon Communications	VZ	50.02	2.32	4.64%	3.90	59.49%	40.51%	0.00%	3.59%	2.96%	0.00%	8.23%	7.60%	
Windstream Holdings	WIN	7.89	0.60	7.60%	(3.25)	-18.46%	118.46%	0.00%	3.22%	3.22%	0.00%	10.82%	10.82%	
Average				5.75%		-0.91%	100.91%	4.36%	5.97%	2.71%	-1.97%	14.09%	9.02%	10.03%
Median				5.49%		62.96%	37.04%	0.75%	3.40%	1.86%	0.00%	10.82%	8.61%	10.03%
High				11.24%		387.50%	940.00%	14.00%	19.95%	6.11%	9.37%	25.91%	13.27%	10.34%
Low				0.97%		-840.00%	-287.50%	0.00%	1.08%	1.71%	-28.75%	8.23%	6.20%	9.72%
Say												11.00%	8.70%	NMF

MONTANA DEPARTMENT OF REVENUE

Support for Yield Capitalization Cost of Equity Component - Multi-Stage Growth Model
 Industry: Telecommunications
 2017 Assessment Year

Company		
CenturyLink		CTL
Value Line 5 yr est. earnings growth		9.50%
LT nominal economic growth rate		4.60%
Year	Weight	Adj. Growth Rate
1	30	0.095
2	29	0.095
3	28	0.095
4	27	0.095
5	26	0.095
6	25	0.092
7	24	0.089
8	23	0.086
9	22	0.083
10	21	0.080
11	20	0.077
12	19	0.074
13	18	0.071
14	17	0.067
15	16	0.064
16	15	0.061
17	14	0.058
18	13	0.055
19	12	0.052
20	11	0.049
21	10	0.046
22	9	0.046
23	8	0.046
24	7	0.046
25	6	0.046
26	5	0.046
27	4	0.046
28	3	0.046
29	2	0.046
30	1	0.046
Weighted Average		7.68%
Value Line 5 yr est. div'd growth		0.00%
LT nominal economic growth rate		4.60%
Year	Weight	Adj. Growth Rate
1	30	0.000
2	29	0.000
3	28	0.000
4	27	0.000
5	26	0.000
6	25	0.003
7	24	0.006
8	23	0.009
9	22	0.012
10	21	0.014
11	20	0.017
12	19	0.020
13	18	0.023
14	17	0.026
15	16	0.029
16	15	0.032
17	14	0.035
18	13	0.037
19	12	0.040
20	11	0.043
21	10	0.046
22	9	0.046
23	8	0.046
24	7	0.046
25	6	0.046
26	5	0.046
27	4	0.046
28	3	0.046
29	2	0.046
30	1	0.046
Weighted Average		1.71%

Company		
Charter Comm.		CHTR
Selected Inflation Rate - CAPM		2.40%
LT nominal economic growth rate		4.60%
Year	Weight	Adj. Growth Rate
1	30	0.024
2	29	0.024
3	28	0.024
4	27	0.024
5	26	0.024
6	25	0.025
7	24	0.027
8	23	0.028
9	22	0.030
10	21	0.031
11	20	0.032
12	19	0.034
13	18	0.035
14	17	0.036
15	16	0.038
16	15	0.039
17	14	0.041
18	13	0.042
19	12	0.043
20	11	0.045
21	10	0.046
22	9	0.046
23	8	0.046
24	7	0.046
25	6	0.046
26	5	0.046
27	4	0.046
28	3	0.046
29	2	0.046
30	1	0.046
Weighted Average		3.22%
Value Line 5 yr est. div'd growth		0.00%
LT nominal economic growth rate		4.60%
Year	Weight	Adj. Growth Rate
1	30	0.000
2	29	0.000
3	28	0.000
4	27	0.000
5	26	0.000
6	25	0.003
7	24	0.006
8	23	0.009
9	22	0.012
10	21	0.014
11	20	0.017
12	19	0.020
13	18	0.023
14	17	0.026
15	16	0.029
16	15	0.032
17	14	0.035
18	13	0.037
19	12	0.040
20	11	0.043
21	10	0.046
22	9	0.046
23	8	0.046
24	7	0.046
25	6	0.046
26	5	0.046
27	4	0.046
28	3	0.046
29	2	0.046
30	1	0.046
Weighted Average		1.71%

Company		
Cincinnati Bell		CBB
Selected Inflation Rate - CAPM		2.40%
LT nominal economic growth rate		4.60%
Year	Weight	Adj. Growth Rate
1	30	0.024
2	29	0.024
3	28	0.024
4	27	0.024
5	26	0.024
6	25	0.025
7	24	0.027
8	23	0.028
9	22	0.030
10	21	0.031
11	20	0.032
12	19	0.034
13	18	0.035
14	17	0.036
15	16	0.038
16	15	0.039
17	14	0.041
18	13	0.042
19	12	0.043
20	11	0.045
21	10	0.046
22	9	0.046
23	8	0.046
24	7	0.046
25	6	0.046
26	5	0.046
27	4	0.046
28	3	0.046
29	2	0.046
30	1	0.046
Weighted Average		3.22%
Value Line 5 yr est. div'd growth		0.00%
LT nominal economic growth rate		4.60%
Year	Weight	Adj. Growth Rate
1	30	0.000
2	29	0.000
3	28	0.000
4	27	0.000
5	26	0.000
6	25	0.003
7	24	0.006
8	23	0.009
9	22	0.012
10	21	0.014
11	20	0.017
12	19	0.020
13	18	0.023
14	17	0.026
15	16	0.029
16	15	0.032
17	14	0.035
18	13	0.037
19	12	0.040
20	11	0.043
21	10	0.046
22	9	0.046
23	8	0.046
24	7	0.046
25	6	0.046
26	5	0.046
27	4	0.046
28	3	0.046
29	2	0.046
30	1	0.046
Weighted Average		1.71%

MONTANA DEPARTMENT OF REVENUE

Support for Yield Capitalization Cost of Equity Component - Multi-Stage Growth Model
 Industry: Telecommunications
 2017 Assessment Year

Company	Consol. Comm.	CNSL
Value Line 5 yr est. earnings growth		29.00%
LT nominal economic growth rate		4.60%
Year	Weight	Adj. Growth Rate
1	30	0.290
2	29	0.290
3	28	0.290
4	27	0.290
5	26	0.290
6	25	0.275
7	24	0.260
8	23	0.244
9	22	0.229
10	21	0.214
11	20	0.199
12	19	0.183
13	18	0.168
14	17	0.153
15	16	0.138
16	15	0.122
17	14	0.107
18	13	0.092
19	12	0.077
20	11	0.061
21	10	0.046
22	9	0.046
23	8	0.046
24	7	0.046
25	6	0.046
26	5	0.046
27	4	0.046
28	3	0.046
29	2	0.046
30	1	0.046
Weighted Average		19.95%
Value Line 5 yr est. div'd growth		0.00%
LT nominal economic growth rate		4.60%
Year	Weight	Adj. Growth Rate
1	30	0.000
2	29	0.000
3	28	0.000
4	27	0.000
5	26	0.000
6	25	0.003
7	24	0.006
8	23	0.009
9	22	0.012
10	21	0.014
11	20	0.017
12	19	0.020
13	18	0.023
14	17	0.026
15	16	0.029
16	15	0.032
17	14	0.035
18	13	0.037
19	12	0.040
20	11	0.043
21	10	0.046
22	9	0.046
23	8	0.046
24	7	0.046
25	6	0.046
26	5	0.046
27	4	0.046
28	3	0.046
29	2	0.046
30	1	0.046
Weighted Average		1.71%

Company	FairPoint Comm.	FRP
Value Line 5 yr est. earnings growth		-1.00%
LT nominal economic growth rate		4.60%
Year	Weight	Adj. Growth Rate
1	30	-0.010
2	29	-0.010
3	28	-0.010
4	27	-0.010
5	26	-0.010
6	25	-0.007
7	24	-0.003
8	23	0.001
9	22	0.004
10	21	0.008
11	20	0.011
12	19	0.015
13	18	0.018
14	17	0.022
15	16	0.025
16	15	0.029
17	14	0.032
18	13	0.036
19	12	0.039
20	11	0.043
21	10	0.046
22	9	0.046
23	8	0.046
24	7	0.046
25	6	0.046
26	5	0.046
27	4	0.046
28	3	0.046
29	2	0.046
30	1	0.046
Weighted Average		1.08%
Selected Inflation Rate - CAPM		2.40%
LT nominal economic growth rate		4.60%
Year	Weight	Adj. Growth Rate
1	30	0.024
2	29	0.024
3	28	0.024
4	27	0.024
5	26	0.024
6	25	0.025
7	24	0.027
8	23	0.028
9	22	0.030
10	21	0.031
11	20	0.032
12	19	0.034
13	18	0.035
14	17	0.036
15	16	0.038
16	15	0.039
17	14	0.041
18	13	0.042
19	12	0.043
20	11	0.045
21	10	0.046
22	9	0.046
23	8	0.046
24	7	0.046
25	6	0.046
26	5	0.046
27	4	0.046
28	3	0.046
29	2	0.046
30	1	0.046
Weighted Average		3.22%

Company	Frontier Comm.	FTR
Value Line 5 yr est. earnings growth		16.00%
LT nominal economic growth rate		4.60%
Year	Weight	Adj. Growth Rate
1	30	0.160
2	29	0.160
3	28	0.160
4	27	0.160
5	26	0.160
6	25	0.153
7	24	0.146
8	23	0.139
9	22	0.132
10	21	0.124
11	20	0.117
12	19	0.110
13	18	0.103
14	17	0.096
15	16	0.089
16	15	0.082
17	14	0.075
18	13	0.067
19	12	0.060
20	11	0.053
21	10	0.046
22	9	0.046
23	8	0.046
24	7	0.046
25	6	0.046
26	5	0.046
27	4	0.046
28	3	0.046
29	2	0.046
30	1	0.046
Weighted Average		11.77%
Value Line 5 yr est. div'd growth		0.50%
LT nominal economic growth rate		4.60%
Year	Weight	Adj. Growth Rate
1	30	0.0050
2	29	0.0050
3	28	0.0050
4	27	0.0050
5	26	0.0050
6	25	0.0076
7	24	0.0101
8	23	0.0127
9	22	0.0153
10	21	0.0178
11	20	0.0204
12	19	0.0229
13	18	0.0255
14	17	0.0281
15	16	0.0306
16	15	0.0332
17	14	0.0358
18	13	0.0383
19	12	0.0409
20	11	0.0434
21	10	0.0460
22	9	0.0460
23	8	0.0460
24	7	0.0460
25	6	0.0460
26	5	0.0460
27	4	0.0460
28	3	0.0460
29	2	0.0460
30	1	0.0460
Weighted Average		2.02%

MONTANA DEPARTMENT OF REVENUE

Support for Yield Capitalization Cost of Equity Component - Multi-Stage Growth Model
 Industry: Telecommunications
 2017 Assessment Year

Company		Shenandoah	SHEN
Value Line 5 yr est. earnings growth		11.00%	
LT nominal economic growth rate		4.60%	
Year	Weight	Adj. Growth Rate	
1	30	0.110	
2	29	0.110	
3	28	0.110	
4	27	0.110	
5	26	0.110	
6	25	0.106	
7	24	0.102	
8	23	0.098	
9	22	0.094	
10	21	0.090	
11	20	0.086	
12	19	0.082	
13	18	0.078	
14	17	0.074	
15	16	0.070	
16	15	0.066	
17	14	0.062	
18	13	0.058	
19	12	0.054	
20	11	0.050	
21	10	0.046	
22	9	0.046	
23	8	0.046	
24	7	0.046	
25	6	0.046	
26	5	0.046	
27	4	0.046	
28	3	0.046	
29	2	0.046	
30	1	0.046	
Weighted Average		8.63%	
Value Line 5 yr est. div'd growth		7.00%	
LT nominal economic growth rate		4.60%	
Year	Weight	Adj. Growth Rate	
1	30	0.070	
2	29	0.070	
3	28	0.070	
4	27	0.070	
5	26	0.070	
6	25	0.069	
7	24	0.067	
8	23	0.066	
9	22	0.064	
10	21	0.063	
11	20	0.061	
12	19	0.060	
13	18	0.058	
14	17	0.057	
15	16	0.055	
16	15	0.054	
17	14	0.052	
18	13	0.051	
19	12	0.049	
20	11	0.048	
21	10	0.046	
22	9	0.046	
23	8	0.046	
24	7	0.046	
25	6	0.046	
26	5	0.046	
27	4	0.046	
28	3	0.046	
29	2	0.046	
30	1	0.046	
Weighted Average		6.11%	

Company		Windstream	WIN
Selected Inflation Rate - CAPM		2.40%	
LT nominal economic growth rate		4.60%	
Year	Weight	Adj. Growth Rate	
1	30	0.024	
2	29	0.024	
3	28	0.024	
4	27	0.024	
5	26	0.024	
6	25	0.025	
7	24	0.027	
8	23	0.028	
9	22	0.030	
10	21	0.031	
11	20	0.032	
12	19	0.034	
13	18	0.035	
14	17	0.036	
15	16	0.038	
16	15	0.039	
17	14	0.041	
18	13	0.042	
19	12	0.043	
20	11	0.045	
21	10	0.046	
22	9	0.046	
23	8	0.046	
24	7	0.046	
25	6	0.046	
26	5	0.046	
27	4	0.046	
28	3	0.046	
29	2	0.046	
30	1	0.046	
Weighted Average		3.22%	
Selected Inflation Rate - CAPM		2.40%	
LT nominal economic growth rate		4.60%	
Year	Weight	Adj. Growth Rate	
1	30	0.024	
2	29	0.024	
3	28	0.024	
4	27	0.024	
5	26	0.024	
6	25	0.025	
7	24	0.027	
8	23	0.028	
9	22	0.030	
10	21	0.031	
11	20	0.032	
12	19	0.034	
13	18	0.035	
14	17	0.036	
15	16	0.038	
16	15	0.039	
17	14	0.041	
18	13	0.042	
19	12	0.043	
20	11	0.045	
21	10	0.046	
22	9	0.046	
23	8	0.046	
24	7	0.046	
25	6	0.046	
26	5	0.046	
27	4	0.046	
28	3	0.046	
29	2	0.046	
30	1	0.046	
Weighted Average		3.22%	

Company		AT&T Corp	T
Value Line 5 yr est. earnings growth		6.50%	
LT nominal economic growth rate		4.60%	
Year	Weight	Adj. Growth Rate	
1	30	0.065	
2	29	0.065	
3	28	0.065	
4	27	0.065	
5	26	0.065	
6	25	0.064	
7	24	0.063	
8	23	0.061	
9	22	0.060	
10	21	0.059	
11	20	0.058	
12	19	0.057	
13	18	0.056	
14	17	0.054	
15	16	0.053	
16	15	0.052	
17	14	0.051	
18	13	0.050	
19	12	0.048	
20	11	0.047	
21	10	0.046	
22	9	0.046	
23	8	0.046	
24	7	0.046	
25	6	0.046	
26	5	0.046	
27	4	0.046	
28	3	0.046	
29	2	0.046	
30	1	0.046	
Weighted Average		5.80%	
Value Line 5 yr est. div'd growth		4.50%	
LT nominal economic growth rate		4.60%	
Year	Weight	Adj. Growth Rate	
1	30	0.045	
2	29	0.045	
3	28	0.045	
4	27	0.045	
5	26	0.045	
6	25	0.045	
7	24	0.045	
8	23	0.045	
9	22	0.045	
10	21	0.045	
11	20	0.045	
12	19	0.045	
13	18	0.046	
14	17	0.046	
15	16	0.046	
16	15	0.046	
17	14	0.046	
18	13	0.046	
19	12	0.046	
20	11	0.046	
21	10	0.046	
22	9	0.046	
23	8	0.046	
24	7	0.046	
25	6	0.046	
26	5	0.046	
27	4	0.046	
28	3	0.046	
29	2	0.046	
30	1	0.046	
Weighted Average		4.54%	

MONTANA DEPARTMENT OF REVENUE

Support for Yield Capitalization Cost of Equity Component - Multi-Stage Growth Model
 Industry: Telecommunications
 2017 Assessment Year

Company		Sprint Nextel	S
Selected Inflation Rate - CAPM		2.40%	
LT nominal economic growth rate		4.60%	
Year	Weight	Adj. Growth Rate	
1	30	0.024	
2	29	0.024	
3	28	0.024	
4	27	0.024	
5	26	0.024	
6	25	0.025	
7	24	0.027	
8	23	0.028	
9	22	0.030	
10	21	0.031	
11	20	0.032	
12	19	0.034	
13	18	0.035	
14	17	0.036	
15	16	0.038	
16	15	0.039	
17	14	0.041	
18	13	0.042	
19	12	0.043	
20	11	0.045	
21	10	0.046	
22	9	0.046	
23	8	0.046	
24	7	0.046	
25	6	0.046	
26	5	0.046	
27	4	0.046	
28	3	0.046	
29	2	0.046	
30	1	0.046	
Weighted Average		3.22%	
Value Line 5 yr est. div'd growth		0.00%	
LT nominal economic growth rate		4.60%	
Year	Weight	Adj. Growth Rate	
1	30	0.000	
2	29	0.000	
3	28	0.000	
4	27	0.000	
5	26	0.000	
6	25	0.003	
7	24	0.006	
8	23	0.009	
9	22	0.012	
10	21	0.014	
11	20	0.017	
12	19	0.020	
13	18	0.023	
14	17	0.026	
15	16	0.029	
16	15	0.032	
17	14	0.035	
18	13	0.037	
19	12	0.040	
20	11	0.043	
21	10	0.046	
22	9	0.046	
23	8	0.046	
24	7	0.046	
25	6	0.046	
26	5	0.046	
27	4	0.046	
28	3	0.046	
29	2	0.046	
30	1	0.046	
Weighted Average		1.71%	

Company		Telephone & Data	TDS
Value Line 5 yr est. earnings growth		7.00%	
LT nominal economic growth rate		4.60%	
Year	Weight	Adj. Growth Rate	
1	30	0.070	
2	29	0.070	
3	28	0.070	
4	27	0.070	
5	26	0.070	
6	25	0.069	
7	24	0.067	
8	23	0.066	
9	22	0.064	
10	21	0.063	
11	20	0.061	
12	19	0.060	
13	18	0.058	
14	17	0.057	
15	16	0.055	
16	15	0.054	
17	14	0.052	
18	13	0.051	
19	12	0.049	
20	11	0.048	
21	10	0.046	
22	9	0.046	
23	8	0.046	
24	7	0.046	
25	6	0.046	
26	5	0.046	
27	4	0.046	
28	3	0.046	
29	2	0.046	
30	1	0.046	
Weighted Average		6.11%	
Value Line 5 yr est. div'd growth		3.50%	
LT nominal economic growth rate		4.60%	
Year	Weight	Adj. Growth Rate	
1	30	0.035	
2	29	0.035	
3	28	0.035	
4	27	0.035	
5	26	0.035	
6	25	0.036	
7	24	0.036	
8	23	0.037	
9	22	0.038	
10	21	0.038	
11	20	0.039	
12	19	0.040	
13	18	0.041	
14	17	0.041	
15	16	0.042	
16	15	0.043	
17	14	0.043	
18	13	0.044	
19	12	0.045	
20	11	0.045	
21	10	0.046	
22	9	0.046	
23	8	0.046	
24	7	0.046	
25	6	0.046	
26	5	0.046	
27	4	0.046	
28	3	0.046	
29	2	0.046	
30	1	0.046	
Weighted Average		3.91%	

Company		T-Mobile US	TMUS
Selected Inflation Rate - CAPM		2.40%	
LT nominal economic growth rate		4.60%	
Year	Weight	Adj. Growth Rate	
1	30	0.024	
2	29	0.024	
3	28	0.024	
4	27	0.024	
5	26	0.024	
6	25	0.025	
7	24	0.027	
8	23	0.028	
9	22	0.030	
10	21	0.031	
11	20	0.032	
12	19	0.034	
13	18	0.035	
14	17	0.036	
15	16	0.038	
16	15	0.039	
17	14	0.041	
18	13	0.042	
19	12	0.043	
20	11	0.045	
21	10	0.046	
22	9	0.046	
23	8	0.046	
24	7	0.046	
25	6	0.046	
26	5	0.046	
27	4	0.046	
28	3	0.046	
29	2	0.046	
30	1	0.046	
Weighted Average		3.22%	
Value Line 5 yr est. div'd growth		0.00%	
LT nominal economic growth rate		4.60%	
Year	Weight	Adj. Growth Rate	
1	30	0.000	
2	29	0.000	
3	28	0.000	
4	27	0.000	
5	26	0.000	
6	25	0.003	
7	24	0.006	
8	23	0.009	
9	22	0.012	
10	21	0.014	
11	20	0.017	
12	19	0.020	
13	18	0.023	
14	17	0.026	
15	16	0.029	
16	15	0.032	
17	14	0.035	
18	13	0.037	
19	12	0.040	
20	11	0.043	
21	10	0.046	
22	9	0.046	
23	8	0.046	
24	7	0.046	
25	6	0.046	
26	5	0.046	
27	4	0.046	
28	3	0.046	
29	2	0.046	
30	1	0.046	
Weighted Average		1.71%	

MONTANA DEPARTMENT OF REVENUE

Support for Yield Capitalization Cost of Equity Component - Multi-Stage Growth Model
 Industry: Telecommunications
 2017 Assessment Year

Company	U.S. Cellular	USM
Value Line 5 yr est. earnings growth		2.00%
LT nominal economic growth rate		4.60%
Year	Weight	Adj. Growth Rate
1	30	0.020
2	29	0.020
3	28	0.020
4	27	0.020
5	26	0.020
6	25	0.022
7	24	0.023
8	23	0.025
9	22	0.027
10	21	0.028
11	20	0.030
12	19	0.031
13	18	0.033
14	17	0.035
15	16	0.036
16	15	0.038
17	14	0.040
18	13	0.041
19	12	0.043
20	11	0.044
21	10	0.046
22	9	0.046
23	8	0.046
24	7	0.046
25	6	0.046
26	5	0.046
27	4	0.046
28	3	0.046
29	2	0.046
30	1	0.046
Weighted Average		2.96%
Value Line 5 yr est. div'd growth		0.00%
LT nominal economic growth rate		4.60%
Year	Weight	Adj. Growth Rate
1	30	0.000
2	29	0.000
3	28	0.000
4	27	0.000
5	26	0.000
6	25	0.003
7	24	0.006
8	23	0.009
9	22	0.012
10	21	0.014
11	20	0.017
12	19	0.020
13	18	0.023
14	17	0.026
15	16	0.029
16	15	0.032
17	14	0.035
18	13	0.037
19	12	0.040
20	11	0.043
21	10	0.046
22	9	0.046
23	8	0.046
24	7	0.046
25	6	0.046
26	5	0.046
27	4	0.046
28	3	0.046
29	2	0.046
30	1	0.046
Weighted Average		1.71%

Company	Verizon Comm.	VZ
Value Line 5 yr est. earnings growth		3.00%
LT nominal economic growth rate		4.60%
Year	Weight	Adj. Growth Rate
1	30	0.030
2	29	0.030
3	28	0.030
4	27	0.030
5	26	0.030
6	25	0.031
7	24	0.032
8	23	0.033
9	22	0.034
10	21	0.035
11	20	0.036
12	19	0.037
13	18	0.038
14	17	0.039
15	16	0.040
16	15	0.041
17	14	0.042
18	13	0.043
19	12	0.044
20	11	0.045
21	10	0.046
22	9	0.046
23	8	0.046
24	7	0.046
25	6	0.046
26	5	0.046
27	4	0.046
28	3	0.046
29	2	0.046
30	1	0.046
Weighted Average		3.59%
Value Line 5 yr est. div'd growth		2.00%
LT nominal economic growth rate		4.60%
Year	Weight	Adj. Growth Rate
1	30	0.020
2	29	0.020
3	28	0.020
4	27	0.020
5	26	0.020
6	25	0.022
7	24	0.023
8	23	0.025
9	22	0.027
10	21	0.028
11	20	0.030
12	19	0.031
13	18	0.033
14	17	0.035
15	16	0.036
16	15	0.038
17	14	0.040
18	13	0.041
19	12	0.043
20	11	0.044
21	10	0.046
22	9	0.046
23	8	0.046
24	7	0.046
25	6	0.046
26	5	0.046
27	4	0.046
28	3	0.046
29	2	0.046
30	1	0.046
Weighted Average		2.96%

MONTANA DEPARTMENT OF REVENUE

**Support for Cost of Debt Component - Yield to Maturity From Standard & Poor's Bond Guide
Industry: Telecommunications
2017 Assessment Year**

Company Name	Coupon	CUSIP	Issue	Maturity Date	Years to Maturity	Old S&P Bond Rating	Jan-16	Feb-16	Mar-16	Apr-16	May-16	Jun-16	Jul-16	Aug-16	Sep-16	Oct-16	Nov-16	Dec-16	Avg Full Year	Avg 4th QTR
AT&T Inc.	6.8	00206RAB8	Nts	05/15/36	20	A-	5.70	5.58	5.24	4.89	4.97	4.67	4.40	4.31	5.00	5.00	5.35	5.21	5.03%	5.19%
AT&T Inc.	6.5	00206RAD4	GlobalNts	09/01/37	21	A-	5.70	5.58	5.24	4.89	5.01	4.81	4.54	4.35	4.96	4.96	5.41	5.27	5.06%	5.21%
AT&T Inc.	6.3	00206RAG7	GlobalNts	01/15/38	22	A-	5.63	5.71	5.32	4.92	5.02	4.83	4.52	4.41	5.05	5.05	5.35	5.25	5.09%	5.22%
AT&T Inc.	5.5	00206RAJ1	Gbl Nts	02/01/18	2	A-	1.88	1.94	1.69	1.43	1.72	1.37	1.33	1.43	1.60	1.60	1.88	1.84	1.64%	1.77%
AT&T Inc.	5.6	00206RAM4	Gbl Nt	05/15/18	2	A-	1.92	2.00	1.79	1.57	1.68	1.48	1.32	1.43	1.70	1.70	1.95	1.90	1.70%	1.85%
AT&T Inc.	6.4	00206RAN2	GlobalNts	05/15/38	22	A-	5.84	5.65	5.39	5.13	5.06	4.76	4.62	4.41	4.98	4.98	5.37	5.27	5.12%	5.21%
America Movil, S.A.B. de C.V.	6.38	02364WAJ4	Sr Nt	03/01/35	19	A-	5.39	5.35	5.04	4.73	4.87	4.72	4.32	4.26	4.62	4.62	5.29	5.03	4.85%	4.98%
Comcast Cable Commun	8.88	20029PAG4	Sr Nt - Exchanged From C	05/01/17	1	A-	1.25	1.35	1.24	1.12	1.07	0.99	1.11	1.01	1.16	1.16	1.26	1.28	1.17%	1.23%
Comcast Cable Commun	8.5	20029PAH2	Sr Nt - Exchanged From C	05/01/27	11	A-	4.25	3.99	3.95	3.91	4.10	3.58	3.51	3.58	3.76	3.76	3.75	3.88	3.84%	3.80%
Comcast Corp.	7.05	20030NAC5	Sr Nt	03/15/33	17	A-	4.73	4.46	4.22	3.97	3.95	3.76	3.54	3.64	3.81	3.81	4.27	4.15	4.03%	4.08%
Comcast Corp.	5.65	20030NAF8	Gtd Fixed Rt Sr Nt	06/15/35	19	A-	4.45	4.36	4.07	3.78	3.80	3.61	3.51	3.52	3.76	3.76	4.27	4.15	3.92%	4.06%
Comcast Corp.	4.95	20030NAG6	Gtd Fixed Rt Sr Nt	06/15/16	1	A-	0.81	0.80	0.82	0.84									0.82%	
Comcast Corp.	6.45	20030NAM3	Gtd Nt	03/15/37	21	A-	4.59	4.68	4.35	4.01	4.15	3.86	3.71	3.73	3.99	3.99	4.39	4.31	4.15%	4.23%
Comcast Corp.	6.5	20030NAP6	Nts	01/15/17	2	A-	1.14	1.09	1.06	1.03	1.02	0.94	0.76	0.95	0.89	0.89	0.72		0.95%	0.81%
Comcast Corp.	5.88	20030NAR2	Nt	02/15/18	2	A-	1.42	1.41	1.23	1.05	1.23	1.03	1.02	1.16	1.27	1.27	1.60	1.57	1.27%	1.48%
Comcast Corp.	6.3	20030NAU5	Sr Nts	11/15/17	1	A-	1.47	1.37	1.22	1.06	1.17	0.86	0.97	1.10	1.22	1.22	1.40	1.50	1.21%	1.37%
Comcast Corp.	6.95	20030NAV3	Sr Nts	08/15/37	21	A-	4.68	4.62	4.31	3.99	4.12	3.76	3.73	3.70	3.96	3.96	4.41	4.32	4.13%	4.23%
Time Warner Cos Inc	9.15	887315AM1	Deb Dtd 02/04/1993	02/01/23	8	BBB	3.89	4.25	3.96	3.67	3.73	3.26	3.22	3.03	3.39	3.39	3.91	3.97	3.64%	3.76%
Time Warner Cos Inc	6.88	887315AY5	Deb	06/15/18	3	BBB	2.03	2.00	1.89	1.77	1.77	1.40	1.46	1.48	1.57	1.57	2.03	2.03	1.75%	1.88%
Time Warner Cos Inc	6.85	887315BB4	Deb	01/15/26	11	BBB	5.13	4.87	4.80	4.73	4.79	4.42	4.29	4.34	4.86	4.86	5.54	5.56	4.85%	5.32%
Time Warner Cos Inc	7.57	887315BH1	Deb	02/01/24	9	BBB	4.60	4.32	4.05	3.77	3.83	3.45	3.56	3.08	3.34	3.34	3.83	3.87	3.75%	3.68%
Time Warner Cos Inc	7.25	887315BJ7	Deb	10/15/17	2	BBB	2.06	1.97	1.81	1.64	1.72	1.31	1.36	1.35	1.30	1.30	1.45	1.54	1.57%	1.43%
Time Warner Cos Inc	6.95	887315BM0	Gtd Deb	01/15/28	13	BBB	4.95	4.86	4.49	4.11	4.22	3.75	3.86	3.58	3.71	3.71	4.18	4.20	4.13%	4.03%
Time Warner Cos Inc	6.62	887315BN8	Deb	05/15/29	14	BBB	4.74	5.09	4.65	4.20	4.14	3.60	3.53	3.59	3.79	3.79	4.30	4.35	4.15%	4.15%
Time Warner Inc.	6.5	887317AD7	Deb	11/15/36	21	BBB	5.69	6.08	5.49	4.90	4.88	4.45	4.26	4.28	4.61	4.61	5.07	4.87	4.93%	4.85%
Time Warner Entertainment	8.38	88731EAF7	Sr Deb	03/15/23	8	BBB	4.73	4.72	4.08	3.44	3.79	3.37	3.32	3.27	3.25	3.25	3.91	3.91	3.75%	3.69%
Qwest Corp	6.5	74913GAT2	Nts	06/01/17	2	BBB-	2.85	2.65	2.41	2.16	2.45	2.38	2.41	1.95	1.92	1.92	2.49	2.11	2.31%	2.17%
TCA Cable TV	6.53	872241AB0	Deb	02/01/28	13	BBB-	5.86	5.70	5.67	5.63	5.65	5.24	5.18	5.25	5.26	5.26	5.47	5.40	5.46%	5.38%
U S WESTCommunications	7.125	912920AG0	Deb	11/15/43	27	BBB-	7.64	7.78	7.58	7.38	7.32	7.36	7.08	7.12	7.12	7.12	7.52	7.57	7.38%	7.40%
U S WESTCommunications	7.25	912920AM7	Deb	10/15/35	19	BBB-	7.49	7.53	7.53	7.53	7.53	7.15	7.16	7.27	7.32	7.32	7.74	7.78	7.45%	7.61%
CenturyLink, Inc.	6	156700AL0	Fixed Rt Sr Nts Ser N	04/01/17	1	BB	3.36	3.42	3.16	2.90	2.38	2.46	2.05	2.11	1.73	1.73	0.81	2.47	2.38%	1.67%
Embarq Corp.	8	29078EAA3	Nts	06/01/36	20	BB	7.84	8.51	8.25	7.99	7.98	7.99	7.57	7.62	7.84	7.84	8.41	8.66	8.04%	8.30%
Century Tel Enterpr	7.2	156686AJ6	Sr Nts 'D'	12/01/25	10	BB	8.28	8.25	8.18	8.11	8.31	7.96	7.91	7.23	7.82	7.82	8.29	7.83	8.00%	7.98%
Century Tel Enterpr	6.875	156686AM9	Deb 'G'	01/15/28	13	BB	11.17	9.83	9.44	9.04	9.21	9.39	8.07	7.26	7.68	7.68	8.21	8.12	8.76%	8.00%
Embarq Corp.	7.08	29078EAB1	Nts	06/01/16	1	BB	1.86	4.13	2.87	1.60									2.61%	
Cin Bell Tel	7.25	171870AK4	Sec Nts	06/15/23	8	BB-	11.14	11.17	11.21	11.24	11.27	11.31	11.35	11.39	11.47	11.47	11.51	11.56	11.34%	11.51%
Cincinnati Bell Tel	6.3	171875AD9	Deb	12/01/28	12	BB-	7.57	7.73	7.41	7.08	6.96	6.96	6.97	6.90	6.82	6.82	6.66	6.60	7.04%	6.69%
Citizens Communications Co.	9	17453BAJ0	Sr Nts	08/31/31	16	BB-	12.23	12.64	11.71	10.78	10.90	11.13	9.90	9.37	10.77	10.77	11.61	11.09	11.08%	11.16%
							38	38	38	38	38	36	36	36	36	36	36	35		

NOTES:

Data downloaded from the S&P website and missing data supplemented from month end Bond Guides when available.

means the data was not available in S&P Guide

means issuance matured or called

All Bonds	
Annual	4th Qtr

All Ratings	4.43%	4.59%
Investment Grade (BBB- & Above)	3.64%	3.80%

Bonds With 20 or More Years to Maturity

All Ratings	5.44%	5.54%
Investment Grade (BBB- & Above)	5.11%	5.19%

Say: 4.00%

MONTANA DEPARTMENT OF REVENUE

Support for Direct Capitalization Cost of Equity (k_e)

Industry: Telecommunications

2017 Assessment Year

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
Company	Ticker Symbol	Avg. 4Q Stock Price	VL Historic EPS	VL Est EPS	VL Historic P/E Ratio	VL Est P/E Ratio	Ke Estimate - Earnings (Hist. P/E)	Ke Estimate - Earnings (Est. P/E)	VL Historic Cash Flow Per Share	VL Est Cash Flow Per Share	VL Historic P/CF Ratio	VL Est P/CF Ratio	Ke Estimate - Cash Flow (Hist. P/CF)	Ke Estimate - Cash Flow (Est. P/CF)
		Yahoo	Value Line	Value Line	C/D	C/E	1/F	1/G	Value Line	Value Line	C/J	C/K	1/L	1/M
Cincinnati Bell	CBB	49.45	2.18	0.05	22.69	989.07	4.41%		6.26	4.40	7.90	11.24	12.66%	8.90%
Charter Communications	CHTR	266.17	15.67	6.30	16.99	42.25	5.89%	2.37%	38.78	31.30	6.86	8.50	14.57%	11.76%
Consol. Communic.	CNSL	26.01	0.29	0.40	89.70	65.03	1.11%	1.54%	3.73	3.95	6.97	6.59	14.34%	15.18%
CenturyLink Inc	CTL	26.17	1.16	2.15	22.56	12.17	4.43%	8.22%	8.31	9.10	3.15	2.88	31.76%	34.78%
FairPoint Communications Inc.	FRP	16.63	3.84	0.00	4.33		23.08%		12.06	0.00	1.38		72.50%	
Frontier Communications	FTR	3.74	(0.14)	(0.05)					1.60	1.95	2.33	1.92	42.84%	52.21%
Sprint Nextel Corp	S	7.35	(0.42)	(0.40)					1.28	1.65	5.74	4.45	17.42%	22.46%
Shenandoah Telecoms	SHEN	26.71	0.94	0.85	28.42	31.43	3.52%	3.18%	2.30	3.80	11.61	7.03	8.61%	14.23%
AT&T Corp	T	39.01	2.84	2.95	13.74	13.22	7.28%	7.56%	7.07	7.15	5.52	5.46	18.12%	18.33%
Telephone & Data Sys	TDS	27.00	0.38	0.30	71.06	90.01	1.41%	1.11%	9.76	8.00	2.77	3.38	36.15%	29.63%
T-Mobile US	TMUS	52.40	1.07	1.85	48.97	28.32	2.04%	3.53%	8.63	10.10	6.07	5.19	16.47%	19.28%
U.S. Cellular	USM	37.54	0.55	0.30	68.25	125.13	1.47%	0.80%	10.05	7.75	3.74	4.84	26.77%	20.64%
Verizon Communications	VZ	50.02	3.87	3.90	12.93	12.83	7.74%	7.80%	7.94	5.80	6.30	8.62	15.87%	11.59%
Windstream Holdings	WIN	7.89	(4.11)	(3.25)					9.14	10.20	0.86	0.77	115.84%	129.28%
Average					36.33	140.95	5.67%	4.01%			5.09	5.45	31.71%	29.87%
Median					22.69	36.84	4.41%	3.18%			5.63	5.19	17.77%	19.28%
High					89.70	989.07	23.08%	8.22%			11.61	11.24	115.84%	129.28%
Low					4.33	12.17	1.11%	0.80%			0.86	0.77	8.61%	8.90%
Say								4.50%						18.70%

MONTANA DEPARTMENT OF REVENUE

**Support for Cost of Debt Component - Current Yield From Standard & Poor's Bond Guide
Industry: Telecommunications
2017 Assessment Year**

Company Name	Coupon	CUSIP	Issue	Maturity Date	Years to Maturity	Old S&P Bond Rating	Jan-16	Feb-16	Mar-16	Apr-16	May-16	Jun-16	Jul-16	Aug-16	Sep-16	Oct-16	Nov-16	Dec-16	Avg Full Year	Avg 4th QTR
AT&T Inc.	6.8	00206RAB8	Nts	05/15/36	20	A-	6.01	5.93	5.70	5.47	5.53	5.33	5.17	5.12	5.56	5.56	5.79	5.70	5.57%	5.68%
AT&T Inc.	6.5	00206RAD4	GlobalNts	09/01/37	21	A-	5.91	5.83	5.60	5.36	5.45	5.31	5.14	5.02	5.42	5.42	5.72	5.63	5.48%	5.59%
AT&T Inc.	6.3	00206RAG7	GlobalNts	01/15/38	22	A-	5.81	5.87	5.60	5.33	5.40	5.27	5.07	5.00	5.43	5.43	5.63	5.56	5.45%	5.54%
AT&T Inc.	5.5	00206RAJ1	Gbl Nts	02/01/18	2	A	5.13	5.15	5.14	5.13	5.17	5.16	5.17	5.20	5.24	5.24	5.28	5.29	5.19%	5.27%
AT&T Inc.	5.6	00206RAM4	Gbl Nt	05/15/18	2	A-	5.17	5.19	5.19	5.18	5.20	5.20	5.20	5.23	5.28	5.28	5.32	5.33	5.23%	5.31%
AT&T Inc.	6.4	00206RAN2	GlobalNts	05/15/38	22	A-	5.99	5.85	5.67	5.49	5.44	5.24	5.15	5.02	5.40	5.40	5.66	5.59	5.49%	5.55%
America Movil, S.A.B. de C.V.	6.38	02364WAJ4	Sr Nt	03/01/35	19	A-	5.71	5.68	5.49	5.29	5.39	5.29	5.06	5.02	5.24	5.24	5.66	5.50	5.38%	5.47%
Comcast Cable Commun	8.88	20029PAG4	Sr Nt - Exchanged From C	05/01/17	1	A-	8.10	8.15	8.19	8.23	8.28	8.32	8.38	8.43	8.54	8.54	8.60	8.65	8.37%	8.60%
Comcast Cable Commun	8.5	20029PAH2	Sr Nt - Exchanged From C	05/01/27	11	A-	6.17	6.05	6.04	6.03	6.14	5.90	5.88	5.93	6.03	6.03	6.04	6.11	6.03%	6.06%
Comcast Corp.	7.05	20030NAC5	Sr Nt	03/15/33	17	A-	5.55	5.39	5.26	5.12	5.12	5.02	4.90	4.96	5.06	5.06	5.32	5.26	5.17%	5.21%
Comcast Corp.	5.65	20030NAF8	Gtd Fixed Rt Sr Nt	06/15/35	19	A-	4.89	4.84	4.68	4.51	4.52	4.42	4.37	4.38	4.52	4.52	4.81	4.74	4.60%	4.69%
Comcast Corp.	4.95	20030NAG6	Gtd Fixed Rt Sr Nt	06/15/16	1	A-	4.87	4.88	4.90	4.92									4.89%	
Comcast Corp.	6.45	20030NAM3	Gtd Nt	03/15/37	21	A-	5.16	5.22	5.01	4.80	4.89	4.72	4.63	4.64	4.81	4.81	5.06	5.01	4.90%	4.96%
Comcast Corp.	6.5	20030NAP6	Nts	01/15/17	2	A-	6.18	6.20	6.23	6.25	6.28	6.31	6.33	6.36	6.42	6.42	6.45		6.31%	6.44%
Comcast Corp.	5.88	20030NAR2	Nt	02/15/18	2	A-	5.39	5.40	5.41	5.41	5.44	5.45	5.46	5.50	5.55	5.55	5.59	5.60	5.48%	5.58%
Comcast Corp.	6.3	20030NAU5	Sr Nts	11/15/17	1	A-	5.80	5.81	5.82	5.83	5.86	5.86	5.89	5.93	5.98	5.98	6.01	6.04	5.90%	6.01%
Comcast Corp.	6.95	20030NAV3	Sr Nts	08/15/37	21	A-	5.32	5.28	5.09	4.89	4.97	4.75	4.74	4.73	4.89	4.89	5.18	5.12	4.99%	5.06%
Time Warner Cos Inc	9.15	887315AM1	Deb Dtd 02/04/1993	02/01/23	8	BBB	6.93	7.08	6.99	6.90	6.94	6.79	6.80	6.75	6.92	6.92	7.12	7.16	6.94%	7.07%
Time Warner Cos Inc	6.88	887315AY5	Deb	06/15/18	3	BBB	6.18	6.19	6.20	6.21	6.23	6.21	6.25	6.27	6.33	6.33	6.40	6.43	6.27%	6.39%
Time Warner Cos Inc	6.85	887315BB4	Deb	01/15/26	11	BBB	6.04	5.93	5.91	5.88	5.92	5.76	5.72	5.75	5.97	5.97	6.27	6.28	5.95%	6.17%
Time Warner Cos Inc	7.57	887315BH1	Deb	02/01/24	9	BBB	6.32	6.22	6.13	6.04	6.07	5.94	5.99	5.84	5.95	5.95	6.14	6.17	6.06%	6.09%
Time Warner Cos Inc	7.25	887315BJ7	Deb	10/15/17	2	BBB	6.67	6.68	6.69	6.70	6.74	6.73	6.77	6.80	6.86	6.86	6.90	6.94	6.78%	6.90%
Time Warner Cos Inc	6.95	887315BM0	Gtd Deb	01/15/28	13	BBB	5.89	5.85	5.68	5.51	5.56	5.35	5.41	5.29	5.37	5.37	5.58	5.60	5.54%	5.52%
Time Warner Cos Inc	6.62	887315BN8	Deb	05/15/29	14	BBB	5.59	5.78	5.66	5.33	5.31	5.06	5.03	5.06	5.17	5.17	5.42	5.45	5.33%	5.35%
Time Warner Inc.	5.88	887317AC9	Nt	11/15/16	1	BBB	5.57	5.57	5.57	5.57	5.57	5.57	5.57	5.57					5.57%	
Time Warner Inc.	6.5	887317AD7	Deb	11/15/36	21	BBB	5.92	6.19	5.79	5.39	5.38	5.11	4.99	5.00	5.22	5.22	5.51	5.39	5.43%	5.37%
Time Warner Entertainment	8.38	88731EAF7	Sr Deb	03/15/23	8	BBB	6.87	6.88	6.66	6.44	6.58	6.45	6.45	6.45	6.48	6.48	6.71	6.73	6.60%	6.64%
Qwest Corp	6.5	74913GAT2	Nts	06/01/17	2	BBB-	6.20	6.20	6.21	6.21	6.24	6.26	6.28	6.28	6.33	6.33	6.37	6.38	6.27%	6.36%
TCA Cable TV	6.53	872241AB0	Deb	02/01/28	13	BBB-	6.17	6.09	6.08	6.06	6.08	5.88	5.85	5.89	5.90	5.90	6.00	5.97	5.99%	5.96%
U S WESTCommunications	7.125	912920AG0	Deb	11/15/43	27	BBB-	7.57	7.69	7.52	7.34	7.29	7.33	7.09	7.12	7.12	7.12	7.47	7.50	7.35%	7.36%
U S WESTCommunications	7.25	912920AM7	Deb	10/15/35	19	BBB-	7.43	7.46	7.46	7.46	7.46	7.17	7.18	7.26	7.30	7.30	7.61	7.65	7.40%	7.52%
CenturyLink, Inc.	6	156700AL0	Fixed Rt Sr Nts Ser N	04/01/17	1	BB	5.82	5.83	5.83	5.83	5.82	5.84	5.84	5.86	5.89	5.89	5.89	5.94	5.86%	5.91%
Embarq Corp.	8	29078EAA3	Nts	06/01/36	20	BB	7.87	8.41	8.20	7.99	7.99	7.99	7.66	7.70	7.87	7.87	8.32	8.52	8.03%	8.24%
Century Tel Enterpr	7.2	156686AJ6	Sr Nts 'D'	12/01/25	10	BB	7.76	7.74	7.70	7.65	7.76	7.57	7.55	7.21	7.50	7.50	7.73	7.50	7.60%	7.58%
Century Tel Enterpr	6.875	156686AM9	Deb 'G'	01/15/28	13	BB	9.54	8.64	8.39	8.13	8.23	8.33	7.54	7.08	7.31	7.31	7.61	7.55	7.97%	7.49%
Embarq Corp.	7.08	29078EAB1	Nts	06/01/16	1	BB	6.96	7.02	7.03	7.04										
Cin Bell Tel	7.25	171870AK4	Sec Nts	06/15/23	8	BB-	8.97	8.97	8.97	8.97	8.97	8.97	8.97	8.97	8.97	8.97	8.97	8.97	8.97%	8.97%
Cincinnati Bell Tel	6.3	171875AD9	Deb	12/01/28	12	BB-	7.02	7.11	6.92	6.73	6.66	6.66	6.66	6.63	6.57	6.57	6.49	6.46	6.71%	6.51%
Citizens Communications Co.	9	17453BAJ0	Sr Nts	08/31/31	16	BB-	11.57	11.92	11.15	10.37	10.46	10.65	9.67	9.27	10.34	10.34	11.00	10.58	10.61%	10.64%
						39	39	39	39	39	37	37	37	37	36	36	36	35		

NOTES:

Data downloaded from the S&P website and missing data supplemented from month end Bond Guides when available.

means the data was not available in S&P Guide
means issuance matured or called

All Bonds	
Annual	4th Qtr

All Ratings	6.25%	6.36%
Investment Grade (BBB- & Above)	5.87%	5.99%

Bonds With 20 or More Years to Maturity

All Ratings	5.85%	5.93%
Investment Grade (BBB- & Above)	5.58%	5.64%

Say: 5.90%

MONTANA DEPARTMENT OF REVENUE

**Support for Cost of Debt Component - Calculated Current Yield
Industry: Telecommunications
2017 Assessment Year**

A	B	C	D	E	F	G	H	I	J	K
	2016	YE 2016	YE 2015	YE 2015	YE 2016	YE 2016	2016 Avg	2016	2016 Avg	
Company	Ticker	Interest Exp.	MV LT Debt	BV LT Debt	MV LT Debt	BV LT Debt	MV LT Debt	Current Yield	BV LT Debt	MTBR
<i>Source</i>		<i>10-K</i>	<i>10-K</i>	<i>10-K</i>	<i>10-K</i>	<i>10-K</i>	<i>(D+F)/2</i>	<i>(C/H)</i>	<i>(E+G)/2</i>	<i>(H/J)</i>
		<i>(\$000)</i>	<i>(\$000)</i>	<i>(\$000)</i>	<i>(\$000)</i>	<i>(\$000)</i>	<i>(\$000)</i>		<i>(\$000)</i>	
Cincinnati Bell	CBB	75,700	1,155,600	1,178,000	1,177,900	1,149,200	1,166,750	6.49%	1,163,600	1.00
Charter Communications	CHTR	2,499,000	36,018,000	35,723,000	64,146,000	61,747,000	50,082,000	4.99%	48,735,000	1.03
Consol. Communic.	CNSL	76,826	1,312,383	1,393,567	1,390,773	1,388,786	1,351,578	5.68%	1,391,177	0.97
CenturyLink Inc	CTL	1,318,000	19,473,000	19,800,000	19,639,000	19,553,000	19,556,000	6.74%	19,676,500	0.99
FairPoint Communications Inc.	FRP	82,697	912,454	911,262	932,995	908,166	922,725	8.96%	909,714	1.01
Frontier Communications	FTR	1,531,000	14,767,000	15,508,000	17,539,000	17,560,000	16,153,000	9.48%	16,534,000	0.98
Sprint Nextel Corp	S	2,182,000	33,554,000	33,245,000	28,361,000	33,645,000	30,957,500	7.05%	33,445,000	0.93
Shenandoah Telecoms	SHEN	25,102	199,661	199,661	829,265	829,265	514,463	4.88%	514,463	1.00
AT&T Corp	T	4,910,000	131,701,000	127,555,000	131,317,000	124,972,000	131,509,000	3.73%	126,263,500	1.04
Telephone & Data Sys	TDS	170000	2482000	2,502,000	2,480,000	2,494,000	2,481,000	6.85%	2,498,000	0.99
T-Mobile US	TMUS	1418000	26323000	25,363,000	27,679,000	26,315,000	27,001,000	5.25%	25,839,000	1.04
U.S. Cellular	USM	113000	2359000	2,379,000	2,250,000	2,239,000	2,304,500	4.90%	2,309,000	1.00
Verizon Communications	VZ	4,376,000	118,216,000	108,772,000	117,584,000	107,128,000	117,900,000	3.71%	107,950,000	1.09
Windstream Holdings	WIN	860,600	4,452,700	5,233,300	4,884,400	4,914,600	4,668,550	18.43%	5,073,950	0.92
Total		19,637,925					406,568,066	4.83%	392,302,904	1.04
Average								6.94%		1.00
Median								6.09%		1.00
High								18.43%		1.09
Low								3.71%		0.92
Say								6.10%		1.00

MONTANA DEPARTMENT OF REVENUE

**Support of Stock Price - From YAHOO Finance
Industry: Telecommunications
2017 Assessment Year**

Ticker	Company		Jan-16	Feb-16	Mar-16	Apr-16	May-16	Jun-16	Jul-16	Aug-16	Sep-16	Oct-16	Nov-16	Dec-16	End of Year Closing	4th Qtr Average	Annual Average
ALSK	Alaska Communic Sys Grp	high	\$ 1.90	\$ 1.66	\$ 1.87	\$ 1.97	\$ 1.88	\$ 1.84	\$ 1.74	\$ 1.75	\$ 1.85	\$ 1.80	\$ 1.72	\$ 1.66	\$ 1.64	\$ 1.63	\$ 1.69
		low	\$ 1.54	\$ 1.30	\$ 1.56	\$ 1.75	\$ 1.66	\$ 1.64	\$ 1.64	\$ 1.64	\$ 1.64	\$ 1.65	\$ 1.58	\$ 1.49	\$ 1.50		
CBB	Cincinnati Bell 1:5 Stock Split 10/05/16	high	\$ 44.97	\$ 48.22	\$ 50.16	\$ 51.06	\$ 49.74	\$ 53.59	\$ 54.08	\$ 52.59	\$ 51.91	\$ 50.25	\$ 51.46	\$ 52.88	\$ 52.46	\$ 49.45	\$ 48.90
		low	\$ 41.50	\$ 44.69	\$ 45.56	\$ 46.29	\$ 46.30	\$ 48.69	\$ 50.65	\$ 49.15	\$ 47.79	\$ 46.84	\$ 46.97	\$ 48.32			
CHTR	Charter Communications	high	\$ 182.04	\$ 184.72	\$ 204.61	\$ 213.32	\$ 233.70	\$ 229.80	\$ 244.51	\$ 261.75	\$ 279.95	\$ 270.99	\$ 281.43	\$ 294.87	\$ 287.92	\$ 266.17	\$ 227.44
		low	\$ 160.74	\$ 156.13	\$ 179.91	\$ 193.77	\$ 201.04	\$ 214.06	\$ 226.81	\$ 233.00	\$ 261.68	\$ 242.47	\$ 241.50	\$ 265.78			
CMCSA	Comcast Corp.	high	\$ 56.05	\$ 59.70	\$ 61.37	\$ 62.91	\$ 63.39	\$ 65.42	\$ 68.36	\$ 67.96	\$ 67.53	\$ 66.38	\$ 70.28	\$ 71.32	\$ 69.05	\$ 66.11	\$ 62.85
		low	\$ 52.34	\$ 54.38	\$ 58.05	\$ 60.02	\$ 59.62	\$ 60.66	\$ 64.27	\$ 64.97	\$ 64.74	\$ 60.60	\$ 60.04	\$ 68.07			
CNSL	Consol. Communic.	high	\$ 20.89	\$ 23.59	\$ 25.91	\$ 26.09	\$ 26.22	\$ 27.24	\$ 28.78	\$ 28.13	\$ 26.26	\$ 25.38	\$ 30.23	\$ 29.09	\$ 26.46	\$ 26.01	\$ 24.67
		low	\$ 17.76	\$ 18.53	\$ 22.36	\$ 23.32	\$ 23.45	\$ 23.85	\$ 26.80	\$ 23.68	\$ 23.21	\$ 23.12	\$ 21.85	\$ 26.41			
CTL	CenturyLink Inc	high	\$ 25.43	\$ 30.82	\$ 32.49	\$ 32.94	\$ 31.50	\$ 29.03	\$ 31.56	\$ 31.44	\$ 28.94	\$ 33.45	\$ 26.50	\$ 24.49	\$ 23.78	\$ 26.17	\$ 28.11
		low	\$ 21.94	\$ 24.50	\$ 30.33	\$ 30.95	\$ 26.35	\$ 26.56	\$ 28.64	\$ 27.72	\$ 26.51	\$ 26.45	\$ 22.86	\$ 23.24			
CVC	Cablevision Sys. 'A'	high	\$ 46.89	\$ 38.44	\$ 34.80	\$ 34.28	\$ 31.88	\$ 31.88	\$ 34.27	\$ 41.97	\$ 41.20	\$ 36.30	\$ 34.05	\$ 37.89	\$ 36.90	\$ 33.26	\$ 33.30
		low	\$ 29.85	\$ 33.77	\$ 26.26	\$ 25.98	\$ 26.02	\$ 27.20	\$ 28.61	\$ 32.80	\$ 33.50	\$ 30.03	\$ 29.70	\$ 31.56			
FRP	FairPoint Communications Inc.	high	\$ 16.29	\$ 15.25	\$ 16.06	\$ 15.35	\$ 14.80	\$ 15.53	\$ 16.40	\$ 16.15	\$ 15.14	\$ 16.50	\$ 17.60	\$ 19.60	\$ 18.70	\$ 16.63	\$ 15.04
		low	\$ 13.98	\$ 12.69	\$ 13.99	\$ 13.15	\$ 12.99	\$ 12.81	\$ 14.54	\$ 13.04	\$ 13.10	\$ 14.66	\$ 14.90	\$ 16.55			
FTR	Frontier Communications	high	\$ 4.79	\$ 5.52	\$ 5.85	\$ 5.75	\$ 5.58	\$ 5.30	\$ 5.21	\$ 5.22	\$ 4.80	\$ 4.36	\$ 4.07	\$ 3.73	\$ 3.38	\$ 3.74	\$ 4.64
		low	\$ 3.81	\$ 4.06	\$ 4.97	\$ 5.18	\$ 4.89	\$ 4.57	\$ 4.78	\$ 4.58	\$ 4.07	\$ 3.88	\$ 3.10	\$ 3.27			
GNCMA	Gen'l Communic. 'A'	high	\$ 20.23	\$ 19.23	\$ 19.55	\$ 18.75	\$ 18.25	\$ 15.87	\$ 17.25	\$ 15.32	\$ 14.05	\$ 15.95	\$ 17.55	\$ 19.55	\$ 19.45	\$ 16.26	\$ 16.35
		low	\$ 17.60	\$ 16.85	\$ 16.41	\$ 16.83	\$ 14.84	\$ 14.12	\$ 14.95	\$ 12.26	\$ 12.53	\$ 13.44	\$ 14.40	\$ 16.65			
HCOM	Hawaiian Telcom Holdco Inc	high	\$ 25.55	\$ 24.26	\$ 25.48	\$ 24.89	\$ 24.14	\$ 21.78	\$ 23.28	\$ 24.15	\$ 23.19	\$ 23.00	\$ 23.48	\$ 25.79	\$ 24.78	\$ 22.56	\$ 22.53
		low	\$ 21.55	\$ 20.30	\$ 21.34	\$ 22.27	\$ 20.16	\$ 19.00	\$ 20.92	\$ 22.01	\$ 21.14	\$ 20.50	\$ 20.10	\$ 22.49			
S	Sprint Nextel Corp	high	\$ 3.67	\$ 3.46	\$ 4.19	\$ 3.90	\$ 3.85	\$ 4.56	\$ 6.35	\$ 6.35	\$ 7.03	\$ 7.16	\$ 8.11	\$ 8.98	\$ 8.42	\$ 7.35	\$ 5.08
		low	\$ 2.18	\$ 2.45	\$ 3.12	\$ 3.30	\$ 3.37	\$ 3.61	\$ 4.36	\$ 5.85	\$ 6.16	\$ 6.16	\$ 5.83	\$ 7.84			
T	AT&T Corp	high	\$ 36.06	\$ 37.50	\$ 39.72	\$ 39.36	\$ 39.67	\$ 43.42	\$ 43.89	\$ 43.50	\$ 41.70	\$ 41.04	\$ 39.67	\$ 42.84	\$ 42.04	\$ 39.01	\$ 39.21
		low	\$ 33.41	\$ 35.79	\$ 37.06	\$ 37.73	\$ 37.77	\$ 38.58	\$ 41.70	\$ 40.55	\$ 39.55	\$ 36.27	\$ 36.10	\$ 38.16			
TDS	Telephone & Data Sys	high	\$ 25.50	\$ 26.79	\$ 30.29	\$ 30.70	\$ 30.15	\$ 29.68	\$ 31.92	\$ 32.00	\$ 28.41	\$ 27.97	\$ 27.50	\$ 30.17	\$ 28.87	\$ 27.00	\$ 27.51

MONTANA DEPARTMENT OF REVENUE

Support of Stock Price - From YAHOO Finance

Industry: Telecommunications

2017 Assessment Year

Ticker	Company		Jan-16	Feb-16	Mar-16	Apr-16	May-16	Jun-16	Jul-16	Aug-16	Sep-16	Oct-16	Nov-16	Dec-16	End of Year Closing	4th Qtr Average	Annual Average
TMUS	T-Mobile US	low	\$ 20.83	\$ 21.05	\$ 26.47	\$ 28.61	\$ 25.54	\$ 27.32	\$ 28.92	\$ 27.61	\$ 26.46	\$ 25.67	\$ 24.12	\$ 26.58	\$ 57.51	\$ 52.40	\$ 44.28
		high	\$ 41.23	\$ 40.65	\$ 39.79	\$ 42.20	\$ 42.97	\$ 44.13	\$ 46.96	\$ 48.11	\$ 47.67	\$ 51.65	\$ 56.09	\$ 59.19			
		low	\$ 35.49	\$ 33.23	\$ 36.26	\$ 37.93	\$ 38.67	\$ 40.50	\$ 42.71	\$ 45.45	\$ 44.35	\$ 44.91	\$ 48.76	\$ 53.78			
TWX	Time Warner	high	\$ 73.58	\$ 73.00	\$ 73.64	\$ 77.40	\$ 77.28	\$ 76.75	\$ 79.24	\$ 81.33	\$ 79.90	\$ 94.44	\$ 93.42	\$ 97.10	\$ 96.53	\$ 90.03	\$ 77.13
		low	\$ 63.50	\$ 55.53	\$ 65.90	\$ 71.64	\$ 70.44	\$ 68.97	\$ 72.88	\$ 75.61	\$ 74.27	\$ 78.32	\$ 85.22	\$ 91.71			
USM	U.S. Cellular	high	\$ 40.02	\$ 41.49	\$ 45.80	\$ 45.87	\$ 43.91	\$ 39.47	\$ 41.73	\$ 41.68	\$ 38.18	\$ 36.89	\$ 37.99	\$ 44.82	\$ 43.72	\$ 37.54	\$ 38.84
		low	\$ 34.06	\$ 32.72	\$ 37.71	\$ 41.59	\$ 35.66	\$ 36.16	\$ 38.13	\$ 36.97	\$ 35.86	\$ 34.82	\$ 33.30	\$ 37.42			
VZ	Verizon Communications	high	\$ 49.99	\$ 51.38	\$ 54.37	\$ 54.49	\$ 51.70	\$ 55.92	\$ 56.95	\$ 55.82	\$ 53.88	\$ 52.14	\$ 51.20	\$ 53.90	\$ 52.82	\$ 50.02	\$ 51.45
		low	\$ 43.79	\$ 49.27	\$ 50.98	\$ 49.47	\$ 49.05	\$ 50.12	\$ 54.44	\$ 51.90	\$ 51.02	\$ 47.58	\$ 46.01	\$ 49.31			
ZAYO	Zayo Group Holdings Inc	high	\$ 27.10	\$ 25.67	\$ 25.03	\$ 26.46	\$ 28.27	\$ 28.19	\$ 29.76	\$ 29.64	\$ 30.59	\$ 32.93	\$ 35.65	\$ 34.76	\$ 32.86	\$ 32.80	\$ 28.02
		low	\$ 23.67	\$ 19.59	\$ 23.25	\$ 23.68	\$ 25.65	\$ 26.10	\$ 27.16	\$ 27.63	\$ 28.15	\$ 29.48	\$ 31.49	\$ 32.50			
WIN	Windstream Holdings	high	\$ 6.37	\$ 7.94	\$ 8.35	\$ 8.98	\$ 9.47	\$ 9.50	\$ 9.74	\$ 9.38	\$ 10.46	\$ 10.10	\$ 7.93	\$ 7.96	\$ 7.17	\$ 7.89	\$ 8.03
		low	\$ 4.75	\$ 5.22	\$ 7.00	\$ 7.18	\$ 7.36	\$ 8.07	\$ 9.00	\$ 8.13	\$ 8.52	\$ 7.61	\$ 6.63	\$ 7.11			
SHEN	Shenandoah Telecoms	high	\$ 44.94	\$ 24.37	\$ 27.53	\$ 29.00	\$ 32.38	\$ 39.11	\$ 42.66	\$ 41.45	\$ 27.83	\$ 27.22	\$ 28.90	\$ 30.20	\$ 27.30	\$ 26.71	\$ 29.42
		low	\$ 19.18	\$ 20.55	\$ 23.52	\$ 25.69	\$ 28.43	\$ 31.26	\$ 37.80	\$ 24.92	\$ 25.24	\$ 25.20	\$ 22.05	\$ 26.70			