Montana Department of
REVENUE

2017 Capitalization Rate Study

Telecommunications

MONTANA DEPARTMENT OF REVENUE

Yield Capitalization Rate Study
Industry: Telecommunications
2017 Assessment Year

Capital Structure		
Equity	**57.00%**	*Page Tel-5*
Debt	**43.00%**	*Page Tel-5*
Equity Cost of Capital		
Capital Asset Pricing Model	8.79%	*Page Tel-6*
Dividend Growth Model (g = Earnings Growth)	11.00%	*Page Tel-10*
Dividend Growth Model (g = Dividend Growth)	8.70%	*Page Tel-10*
Dividend Growth Model (g = b x ROE)	10.00%	*Page Tel-10*
	9.25%	
Debt Cost of Capital		
Standard and Poor's Yield to Maturity	4.00%	*Page Tel-16*
Mergent's Corporate Bond Yields:		
A	3.96%	
Baa	4.72%	
	4.60%	

Cable - 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%	9.25%		9.25%	5.27%
Debt	43.00%	4.60%	38.00%	2.85%	1.23%
WACC	**100.00%**				**6.50%**
WACC (Rounded)					**6.50%**

MONTANA DEPARTMENT OF REVENUE

Direct Capitalization Rate Study
Industry: Telecommunications
2017 Assessment Year

Capital Structure		
Equity	**57.00%**	*Page Tel-5*
Debt	**43.00%**	*Page Tel-5*
Equity Cost of Capital		
NOI After-tax	**4.50%**	*Page Tel-18*
GCF	**18.70%**	*Page Tel-18*
Debt Cost of Capital		
Standard and Poor's Current Yield	5.90%	*Page Tel-19*
Calculated Current Yield	6.10%	*Page Tel-20*
	6.00%	

Passenger Airlines - 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%	6.00%	38.00%	3.72%	1.60%
Total	**100.00%**				**4.16%**
Total (Rounded)					**4.20%**

Passenger Airlines - 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%	6.00%	38.00%	3.72%	1.60%
WACC	**100.00%**				**12.26%**
Total (Rounded)					**12.30%**

MONTANA DEPARTMENT OF REVENUE

Direct Capitalization Rate Study
Industry: Telecommunications
2017 Assessment Year

Capital Structure:

Equity	**57%**	*Page Tel-5*
Debt	**43%**	*Page Tel-5*

Benefit Stream Capitalized:

Net Operating Profit After Tax (NOPAT)
NOPAT = EBIT x (1-*t*)

Gross Cash Flow (GCF)
GCF = NOPAT + Dep. & Amort.

Capitalization Rate:

NOPAT	**4.50%**	*Page Tel-17*
GCF	**12.00%**	*Page Tel-17*

NOPAT - Band of Investment - Cable

Source of Capital	Capital Structure	Weighted After-Tax Cost
Equity	57%	2.56%
Debt	43%	1.94%
Total	**100%**	**4.50%**

GCF - Band of Investment - Cable

Source of Capital	Capital Structure	Weighted After-Tax Cost
Equity	57%	6.82%
Debt	43%	5.18%
Total	**100%**	**12.00%**

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**
		Value Line	*Value Line*	*10-K*	*Yahoo*	*ExF*	*10-K*	*10-K*	*10-K*	*G+H+I+J*	*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	**8.79%**
R_f =	Risk Free Rate	2.79%
β =	Beta	1.00
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 & Opinion[1]
January 6, 2017
Page 3197
Selected Yields on Taxable U.S. Treasury Securities

10-year	2.51%
30-year	3.09%

Federal Reserve Statistical Release[2] and U.S. Department of the Treasury, Daily Treasury Yield Curve Rates[3]
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 = Rm - Rf)

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

		R_m[4]	R_m	R_f	ERP
ERP - *Ex Ante*		8.00%	8.00%	2.79%	5.21%

Duff & Phelps, 2017 Valuation Handbook

		R_m[4]	R_m	R_f	ERP
ERP "Historical" - *Ex Post*	*Arithmetic Avg.*	9.73%	9.66%	2.72%	6.94%
ERP "Supply-side" - *Ex Post*	*Arithmetic Avg.*	8.76%	8.69%	2.72%	5.97%
ERP "Adj. Supply-side" - *Ex Post*	*Arithmetic Avg.*	7.89%	7.82%	2.72%	5.10%
ERP "Conditional" - *Ex Ante*			9.50%	4.00%	5.50%

Damodaran Implied ERP (Jan 1, 2017)

	R_m[4]	R_m	R_f	ERP
Implied Premium (FCFE) - *Ex Ante*	8.48%	8.14%	2.45%	5.69%
Implied Premium (FCFE with sustainable payout) - *Ex Ante*	7.29%	6.95%	2.45%	4.50%

	R_m[4]	R_m	R_f	ERP
Average	8.36%	8.39%		5.56%
Median	8.24%	8.14%		5.50%
High	9.73%	9.66%		6.94%
Low	7.29%	6.95%		4.50%
Equity Risk Premium Selected	**8.79%**		**2.79%**	**6.00%**

[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 Estimates[5]

	Inflation (CPI)	Real Growth (GDP)	Nominal Growth	Nominal Growth Low	Nominal Growth High
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**
		Value Line	*Value Line*	*Value Line*
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				**1.00**

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-Payout Ratio*	*ROE*	*g = Earnings g*	*g = Dividends g*	*g = b x ROE*	*K_e g = Earnings g*	*K_e g = Dividends g*	*K_e g = b x 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%**	**10.00%**

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%**

Compnay	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

Compnay	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

Compnay	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 O	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 O	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	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 Bonds		
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 Capital
Industry: Telecommunications
2017 Assessment Year

A	B	C	D	E	F	G	H	I	J	K	L	M
Company	**Ticker Symbol**	**Avg. 4Q Stock Price**	**Common Shares Outs.**	**MV Equity**	**MV Debt**	**MVIC**	**NOPAT = EBIT*(1-t)**	**MVIC to NOPAT Multiple**	**NOPAT Cap Rate**	**GCF = NOPAT + D&A**	**MVIC to GCF Multiple**	**GCF Cap Rate**
		Yahoo	*10-K*	*CxD*	*Cap Str WS*	*E+F*	*Nx(1-R)*	*G/H*	*1/I*	*H+S*	*G/K*	*1/L*
			(000)	*($000)*	*($000)*	*($000)*	*($000)*			*($000)*		
Cincinnati Bell	CBB	49.45	42,056	2,079,821	1,333,518	3,413,339	149,107	22.89	4.37%	331,307	10.30	9.71%
Charter Communications	CHTR	266.17	268,898	71,573,421	64,146,000	135,719,421	15,158,116	8.95	11.17%	22,065,116	6.15	16.26%
Consol. Communic.	CNSL	26.01	50,612	1,316,596	1,437,629	2,754,225	15,196					
CenturyLink Inc	CTL	26.17	546,545	14,300,350	21,483,042	35,783,392	1,434,890	24.94	4.01%	5,352,890	6.68	14.96%
FairPoint Communications Inc.	FRP	16.63	27,074	450,383	949,131	1,399,513	162,677	8.60	11.62%	384,980	3.64	27.51%
Frontier Communications	FTR	3.74	1,172,553	4,379,485	17,619,953	21,999,439	543,634	40.47	2.47%	2,620,634	8.39	11.91%
Sprint Nextel Corp	S	7.35	3,975,000	29,203,000	40,350,803	69,553,803	352,945					
Shenandoah Telecoms	SHEN	26.71	48,935	1,307,135	1,213,458	2,520,594	(12,446)					
AT&T Corp	T	39.01	6,495,231	253,400,612	155,680,317	409,080,929	16,637,312	24.59	4.07%	42,484,312	9.63	10.39%
Telephone & Data Sys	TDS	27.00	110,165	2,974,639	3,635,258	6,609,896	148,087	44.64	2.24%	998,087	6.62	15.10%
T-Mobile US	TMUS	52.40	826,357	43,298,369	37,427,148	80,725,517	12,247					
U.S. Cellular	USM	37.54	84,849	3,185,231	3,301,330	6,486,561	116,524	55.67	1.80%	734,524	8.83	11.32%
Verizon Communications	VZ	50.02	4,242,374	212,217,703	132,559,547	344,777,250	16,445,540	20.96	4.77%	32,373,540	10.65	9.39%
Windstream Holdings	WIN	7.89	96,300	759,807	5,299,138	6,058,945	246,949	24.54	4.08%	1,515,249	4.00	25.01%
All Companies, (Excl. Negatives)				639,139,418	485,222,813	1,124,362,230	51,423,225	**21.86**	**4.57%**	108,860,639	**10.33**	**9.68%**
Average								**27.62**	**5.06%**		**7.49**	**15.16%**
Median								**24.56**	**4.07%**		**7.54**	**13.44%**
High								55.67	11.62%		10.65	27.51%
Low								8.60	1.80%		3.64	9.39%
Say									**4.50%**			**12.00%**

Income and Cash Flow (in Million's)

A	B	N	O	P	Q	R	S
Company	**Ticker Symbol**	**EBIT**	**Interest Exp**	**Income Before Tax**	**Income Tax Exp**	**Effective Tax Rate**	**Dep & Amort**
		Yahoo	*Yahoo*	*N-O*	*Yahoo*	*Q/P*	*Yahoo*
Cincinnati Bell	CBB	239	76	163	61	38%	182
Charter Communications	CHTR	3,319	2,499	820	(2,925)	-357%	6,907
Consol. Communic.	CNSL	38	-	38	23	60%	177
CenturyLink Inc	CTL	2,338	1,318	1,020	394	39%	3,918
FairPoint Communications Inc.	FRP	230	83	147	43	29%	222
Frontier Communications	FTR	908	1,531	(623)	(250)	40%	2,077
Sprint Nextel Corp	S	328	2,182	(1,854)	141	-8%	6,772
Shenandoah Telecoms	SHEN	27	25	2	3	146%	162
AT&T Corp	T	24,722	4,910	19,812	6,479	33%	25,847
Telephone & Data Sys	TDS	262	170	92	40	43%	850
T-Mobile US	TMUS	19	17	2	1	35%	92
U.S. Cellular	USM	195	113	82	33	40%	618
Verizon Communications	VZ	25,362	4,376	20,986	7,378	35%	15,928
Windstream Holdings	WIN	337	861	(524)	(140)	27%	1,268

Implied Capital Structure			*Implied Cost of Capital*	
Source of Capital	**MV**	**%**	**NOPAT**	**GCF**
Equity	640,446,553	57%	2.56%	6.82%
Debt	486,436,271	43%	1.94%	5.18%
	1,126,882,824	100%	4.50%	12.00%

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 O	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 O	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	5.56	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	All Bonds 4th Qtr
All Bonds		
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**
Source		*10-K*	*10-K*	*10-K*	*10-K*	*10-K*	*(D+F)/2*	*(C/H)*	*(E+G)/2*	*(H/J)*
		($000)	*($000)*	*($000)*	*($000)*	*($000)*	*($000)*		*($000)*	
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	$ 1.65	$ 1.58	$ 1.49	$ 1.50			
CBB	Cincinnati Bell	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
	1:5 Stock Split 10/05/16	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			

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
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
		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			
TMUS	T-Mobile US	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	$ 57.51	$ 52.40	$ 44.28
		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			