Department of Revenue
Washington State

COST OF CAPITAL STUDY

YIELD CAPITALIZATION

2025 ASSESSMENT YEAR

APPENDIX C

TELECOMMUNICATIONS

								PAGE
EQUITY RATE							**8.50%**	
CAPITAL ASSET PRICING MODEL								
CAPM Ex Ante			8.50%					6
DIVIDEND GROWTH MODELS								
Value Line, based on Dividends Growth			8.50%					7
Value Line, based on Earnings Growth			9.00%					8
Value Line, based on Return on Equity			8.50%					10
						RANGE	8.5-9.0%	
DEBT RATE							**6.00%**	11
SECURED DEBT (LEASE) RATE							**5.25%**	11
MARKET CAPITAL STRUCTURE								
Equity	55%	x	8.50%	=			4.68%	3
Debt	45%	x	6.00%	=	2.70%			3
Marginal Tax Rate	24%	=	(1-.024)	x	2.70%		2.05%	
WEIGHTED AVERAGE COST OF CAPITAL							**6.73%**	
								rounded

SUPPORT FOR GUIDELINE COMPANIES

WASHINGTON STATE DEPARTMENT OF REVENUE

2025 ASSESSMENT YEAR

TELECOMMUNICATIONS

Capital Structure at Book Value

Company	Ticker	Beta	Fin'l Strength	Price Stability	Growth Persist	Earnings Predict	P/E Ratio	Div'd Yield	Common Stock	%	Preferred Stock	%	Long Term Debt	%	Total Debt & Equity
AT&T Inc	t	0.80	B++	90	10	100	11.8	4.20%	99,170,875,119	44.5%	-	0.0%	123,532,000,000	55.5%	222,702,875,119
Altice USA, Inc	atus	1.25	C+	10	10	25	nmf	nil		nmf		nmf		nmf	
BCE Inc	bce	0.90	B++	100	15	100	9.7	11.60%	9,323,533,313	27.7%	2,633,000,000	7.8%	21,699,305,556	64.5%	33,655,838,868
Cable One	cabo	1.00	B	50	40	45	6.5	4.20%	1,941,209,639	34.9%		0.0%	3,616,664,000	65.1%	5,557,873,639
Charter Communications	chtr	1.00	B+	55	50	65	10.5	nil	15,587,137,149	14.2%		0.0%	93,933,000,000	85.8%	109,520,137,149
Comcast Corp	cmcsa	0.85	A	95	45	95	8.4	3.40%	85,792,455,779	46.4%		0.0%	99,093,000,000	53.6%	184,885,455,779
Lumen Technologies Inc	lumn	1.15	C+	5	5	15	nmf	nil	355,168,800	1.9%	-	0.0%	17,906,000,000	98.1%	18,261,168,800
Shenandoah Telecom	shen	0.90	B+	35	nmf	35	nmf	1.00%	918,456,100	68.3%		0.0%	427,161,000	31.7%	1,345,617,100
Telus Corp	tu	0.70	B++	100	35	65	33.3	7.30%	10,736,333,333	34.9%	-	0.0%	20,037,500,000	65.1%	30,773,833,333
Verizon Communications	vz	0.65	A+	100	15	95	9.4	6.20%	100,569,258,975	41.1%	-	0.0%	144,014,000,000	58.9%	244,583,258,975
Mean		**0.92**	**B+**	**64**	**25**	**64**	**12.8**	**5.41%**	**36,043,825,356**	**34.9%**		**0.9%**	**58,250,958,951**	**64.2%**	
Weighted Mean									**324,394,428,207**	**38.1%**	**2,633,000,000**	**0.3%**	**524,258,630,556**	**61.6%**	**851,286,058,762**
Median		**0.90**		**73**	**15**	**65**	**10**	**4.20%**		**34.9%**		**0.0%**		**64.5%**	
Trimmed Mean		**0.91**		**67**	**24**	**61**	**10**	**5.06%**		**34.8%**		**0.0%**		**64.1%**	
Max		**1.25**		**100**	**50**	**100**	**33**	**11.60%**		**68.3%**		**7.8%**		**98.1%**	
Min		**0.65**		**5**	**5**	**15**	**6.5**	**1.00%**		**1.9%**		**0.0%**		**31.7%**	
Say		**0.90**								**40%**		**0.0%**		**60%**	**100%**

SUPPORT FOR CAPITAL STRUCTURE

MARKET VALUE

WASHINGTON STATE DEPARTMENT OF REVENUE

2025 ASSESSMENT YEAR

TELECOMMUNICATIONS

Capital Structure at Market Value

Company	Ticker	Stock Close	Common Shares	Common Stock	%	Preferred Stock	%	Long Term Debt (FV)	%	Total Debt & Equity
AT&T Inc	t	22.48	7,175,895,450	161,314,129,716	58.3%	-	0.0%	115,583,000,000	41.7%	276,897,129,716
Altice USA, Inc	atus	2.41	463,204,545	1,116,322,953	5.1%	-	0.0%	20,911,498,000	94.9%	22,027,820,953
BCE Inc	bce	23.18	912,283,103	21,146,722,328	46.8%	2,633,000,000	5.8%	21,447,916,667	47.4%	45,227,638,994
Cable One	cabo	358.50	5,619,365	2,014,542,353	37.4%	-	0.0%	3,377,278,000	62.6%	5,391,820,353
Charter Communications In	chtr	342.77	141,946,427	48,654,976,783	37.0%	-	0.0%	82,856,000,000	63.0%	131,510,976,783
Comcast Corp	cmcsa	37.22	3,787,746,392	140,979,920,710	61.1%	-	0.0%	89,800,000,000	38.9%	230,779,920,710
Lumen Technologies Inc	lumn	5.31	1,014,768,000	5,388,418,080	23.7%	-	0.0%	17,381,000,000	76.3%	22,769,418,080
Shenandoah Telecom	shen	12.61	54,605,000	688,569,050	61.7%	-	0.0%	427,161,000	38.3%	1,115,730,050
Telus Corp	tu	13.56	1,488,000,000	20,177,280,000	50.8%	-	0.0%	19,560,416,667	49.2%	39,737,696,667
Verizon Communications	vz	39.29	4,209,680,158	165,398,333,408	54.3%	-	0.0%	139,365,000,000	45.7%	304,763,333,408
			Mean		**43.6%**		**0.6%**		**55.8%**	
			Weighted Mean	**566,879,215,380**	**52.5%**	**2,633,000,000**	**0.24%**	**510,709,270,333**	**47.3%**	**1,080,221,485,714**
			Median		**48.8%**		**0.00%**		**48.3%**	
			Trimmed Mean		**46.1%**		**0.0%**		**53.1%**	
			Max		**61.7%**		**5.8%**		**94.9%**	
			Min		**5.1%**		**0.0%**		**38.3%**	
Source:			**Say**		**55%**		**0%**		**45%**	**100%**

Stock Price: Yahoo

Market Value Debt: Fair Value 10k

SUPPORT FOR MARKET MULTIPLES

WASHINGTON STATE DEPARTMENT OF REVENUE

2025 ASSESSMENT YEAR

TELECOMMUNICATIONS

Company	Ticker	Stock Close	Revenues	Multiple	Cash Flow	Multiple	Earnings	Multiple	Divds Decld	Multiple	Captl Spend	Multiple	Book Value	Multiple
AT&T Inc	t	22.48	17.05	1.3	5.13	4.4	2.26	9.9	1.11	20.3	2.82	8.0	13.82	1.6
Altice USA, Inc	atus	2.41	19.33	0.1	3.33	0.7	(0.22)		nil		3.09	0.8	(1.01)	
BCE Inc	bce	23.18	18.46	1.3	5.90	3.9	2.10	11.0	2.88	8.0	3.00	7.7	10.22	2.3
Cable One	cabo	358.50	287.25	1.2	98.75	3.6	35.10	10.2	11.80	30.4	56.35	6.4	345.45	1.0
Charter Communications	chtr	342.77	388.07	0.9	96.91	3.5	34.97	9.8	nil		79.39	4.3	109.81	3.1
Comcast Corp	cmcsa	37.22	32.75	1.1	7.84	4.7	4.33	8.6	1.22	30.5	3.25	11.5	22.65	1.6
Lumen Technologies Inc	lumn	5.31	13.32	0.4	2.95	1.8	(0.06)		nil		3.28	1.6	0.35	15.2
Shenandoah Telecom	shen	12.61	6.01	2.1	1.22	10.3	(0.59)		0.10	126.1	5.84	2.2	16.82	0.7
Telus Corp	tu	13.56	9.41	1.4	2.32	5.8	0.48	28.3	1.11	12.2	1.27	10.7	7.22	1.9
Verizon Communications	vz	39.29	32.02	1.2	8.95	4.4	4.59	8.6	2.67	14.7	4.06	9.7	23.89	1.6
Mean				**1.1**		**4.3**		**12.4**		**34.6**		**6.3**		**3.2**
Median				**1.2**		**4.2**		**9.9**		**20.3**		**7.0**		**1.6**
Trimmed Mean				**1.1**		**4.0**		**9.9**		**21.6**		**6.3**		**1.9**
Max				**2.1**		**10.3**		**28.3**		**126.1**		**11.5**		**15.2**
Min				**0.1**		**0.7**		**8.6**		**8.0**		**0.8**		**0.7**
Std Dev				**0.5**		**2.6**		**7.1**		**41.3**		**3.9**		**4.5**
Coefficient of Variation				**0.5**		**0.6**		**0.6**		**1.2**		**0.6**		**1.4**
Harmonic Mean				**0.6**		**2.7**		**10.6**		**17.6**		**3.0**		**1.6**
Percentile .25				**0.9**		**3.6**		**9.2**		**13.4**		**2.7**		**1.6**
Percentile .75				**1.3**		**4.7**		**10.6**		**30.4**		**9.3**		**2.3**
Say				**1.10**		**4.00**		**10.50**		**20.00**		**6.00**		**1.80**

ENTERPRISE VALUE MULTIPLES

WASHINGTON STATE DEPARTMENT OF REVENUE

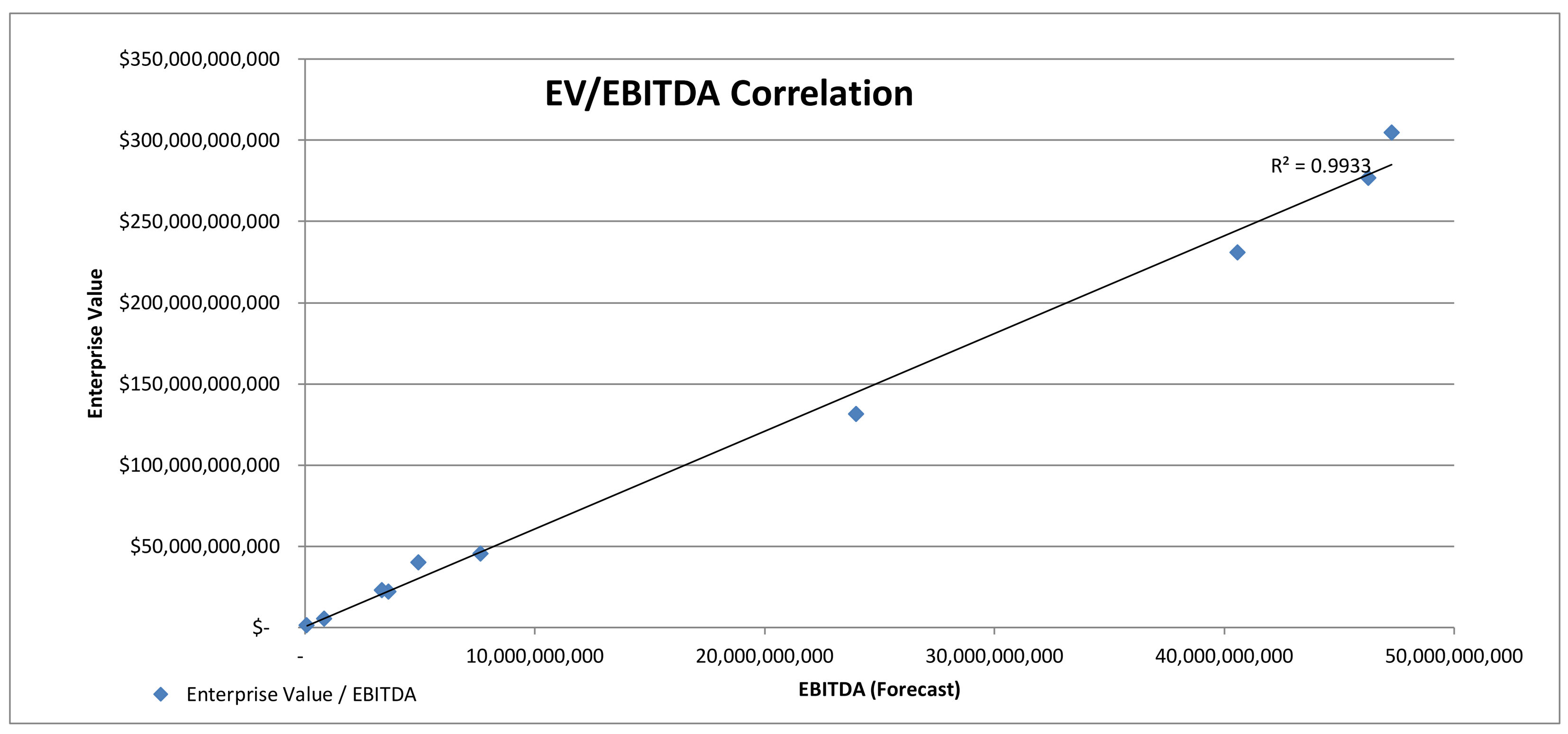
2025 ASSESSMENT YEAR

TELECOMMUNICATIONS

Guideline Companies	Ticker	EV	EBITDA	EBITDA	EV / EBITDA	EV / EBITDA	Annual Change Rate	EBITDA	EV / EBITDA	Sales (Revenue)	EV / Sales	CF	Debt Service	EV / CF
			historic	historic M*	historic	historic M*	(CF growth)	forecast	forecast	forecast		forecast		
AT&T Inc	t	$ 276,897,129,716	44,704,000,000	46,528,000,000	6.19	5.95	3.50%	46,268,640,000	5.98	124,605,000,000	2.22	39,405,000,000	6,934,980,000	5.98
Altice USA, Inc	atus	$ 22,027,820,953	3,346,019,000	3,413,181,000	6.58	6.45	9.00%	3,647,160,710	6.04	8,593,200,000	2.56	1,593,900,000	1,254,689,880	7.73
BCE Inc	bce	$ 45,227,638,994	7,353,472,222	7,353,472,222	6.15	6.15	4.00%	7,647,611,111	5.91	17,005,000,000	2.66	5,415,000,000	1,286,875,000	6.75
Cable One	cabo	$ 5,391,820,353	796,767,000	853,986,000	6.77	6.31	7.00%	852,540,690	6.32	1,540,000,000	3.50	580,000,000	202,636,680	6.89
Charter Communications Inc	chtr	$ 131,510,976,783	21,918,000,000	22,569,000,000	6.00	5.83	9.50%	24,000,210,000	5.48	55,120,307,500	2.39	14,059,110,000	4,971,360,000	6.91
Comcast Corp	cmcsa	$ 230,779,920,710	38,100,000,000	38,069,000,000	6.06	6.06	6.50%	40,576,500,000	5.69	122,496,000,000	1.88	28,512,000,000	5,388,000,000	6.81
Lumen Technologies Inc	lumn	$ 22,769,418,080	3,281,000,000	3,445,000,000	6.94	6.61	2.50%	3,363,025,000	6.77	12,372,500,000	1.84	1,919,000,000	1,042,860,000	7.69
Shenandoah Telecom	shen	$ 1,115,730,050	84,753,000	94,590,000	13.16	11.80	6.00%	89,838,180	12.42	374,100,000	2.98	78,300,000	25,629,660	10.74
Telus Corp	tu	$ 39,737,696,667	4,581,944,444	5,092,361,111	8.67	7.80	8.00%	4,948,500,000	8.03	15,769,692,423	2.52	3,927,981,995	1,173,625,000	7.79
Verizon Communications	vz	$ 304,763,333,408	46,578,000,000	48,791,000,000	6.54	6.25	1.50%	47,276,670,000	6.45	136,987,500,000	2.22	37,935,000,000	8,361,900,000	6.58
Mean					**7.31**	**6.92**	**5.75%**		**6.91**		**2.48**			**7.39**
Median					**6.56**	**6.28**	**6.25%**		**6.18**		**2.45**			**6.90**
Trimmed Mean					**6.74**	**6.45**	**5.81%**		**6.40**		**2.43**			**7.14**
Max					**13.16**	**11.80**	**9.50%**		**12.42**		**3.50**			**10.74**
Min					**6.00**	**5.83**	**1.50%**		**5.48**		**1.84**			**5.98**
Std Dev					**2.20**	**1.80**	**0.03**		**2.06**		**0.50**			**1.31**
Coefficient of Variation					**0.30**	**0.26**	**0.48**		**0.30**		**0.20**			**0.18**
Harmonic Mean					**6.93**	**6.65**	**5.17%**		**6.55**		**2.39**			**7.22**
Say					**6.75**	**6.50**	**5.75%**		**6.50**		**2.40**			**7.00**

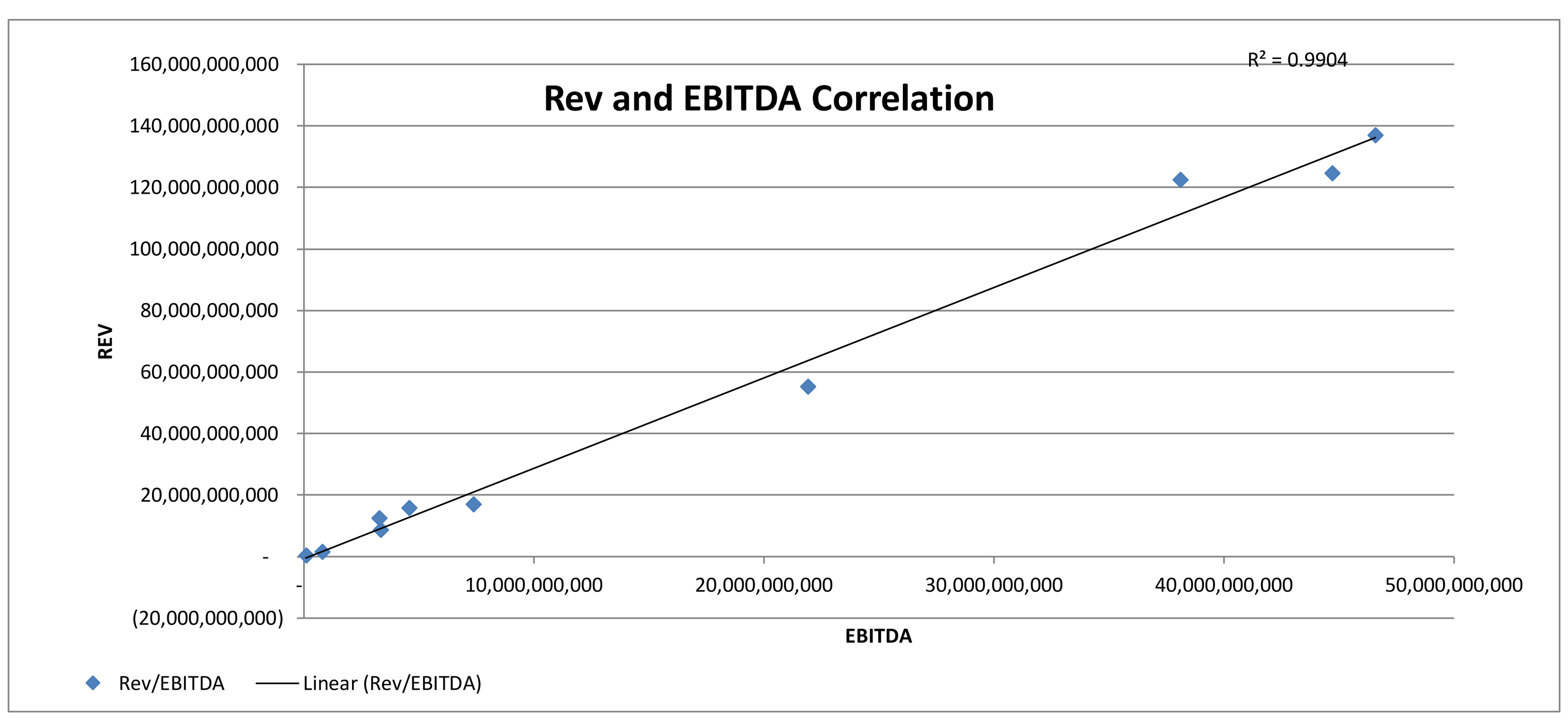
EBITDA from Morningstar

Morningstar-data page

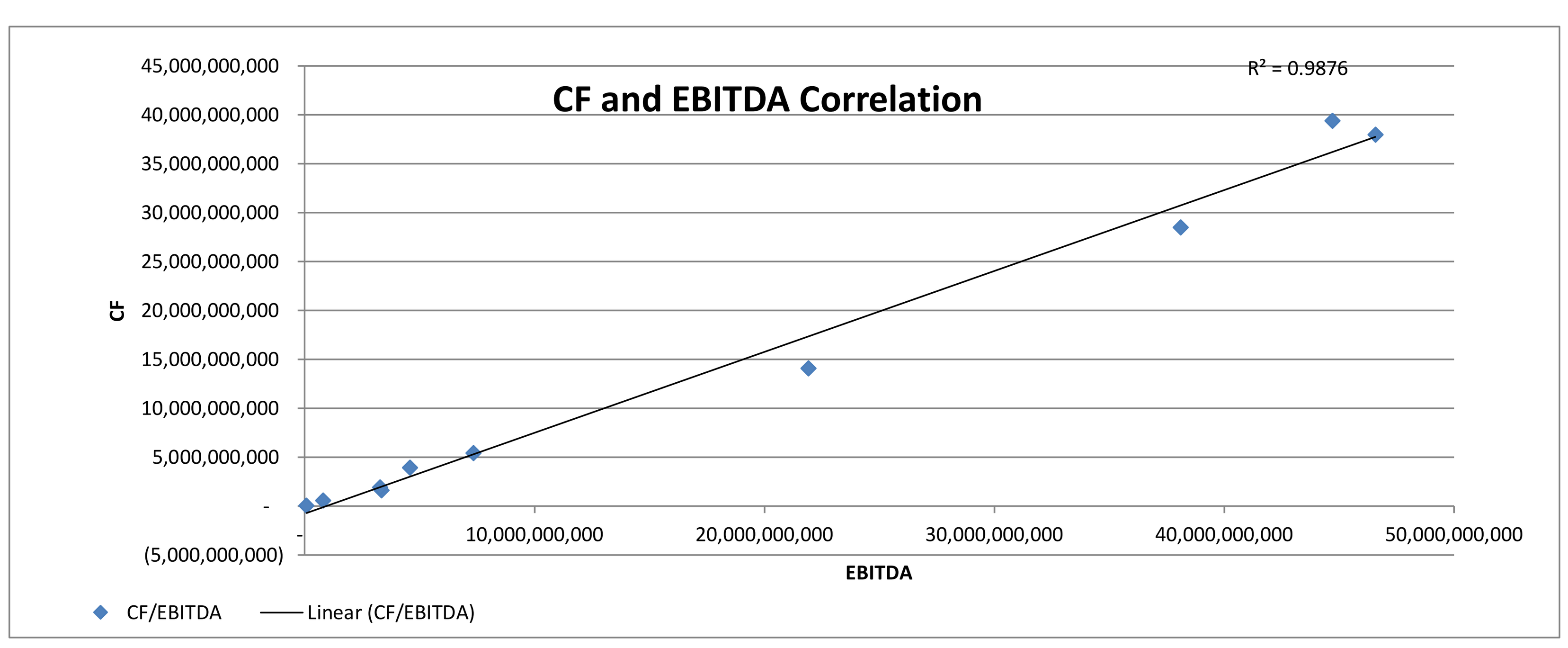


Forecast EV/EBITDA By Rank

Guideline Companies	DA forecast
Charter Communications Inc	5.48
Comcast Corp	5.69
BCE Inc	5.91
AT&T Inc	5.98
Altice USA, Inc	6.04
Cable One	6.32
Verizon Communications	6.45
Lumen Technologies Inc	6.77
Telus Corp	8.03
Shenandoah Telecom	12.42
Low Average	5.82
Low Median	5.91
Say	**5.90**
High Average	8.00
High Median	6.77
Say	**8.00**



Guideline Companies	EV/Sales
Lumen Technologies Inc	1.84
Comcast Corp	1.88
AT&T Inc	2.22
Verizon Communications	2.22
Charter Communications Inc	2.39
Telus Corp	2.52
Altice USA, Inc	2.56
BCE Inc	2.66
Shenandoah Telecom	2.98
Cable One	3.50
Low Average	2.11
Low Median	2.22
Say	**2.10**
High Average	2.85
High Median	2.66
Say	**2.85**



Guideline Companies	EV/CF
AT&T Inc	5.98
Verizon Communications	6.58
BCE Inc	6.75
Comcast Corp	6.81
Cable One	6.89
Charter Communications Inc	6.91
Lumen Technologies Inc	7.69
Altice USA, Inc	7.73
Telus Corp	7.79
Shenandoah Telecom	10.74
Low Average	6.60
Low Median	6.75
Say	**6.60**
High Average	8.17
High Median	7.73
Say	**8.00**

SUPPORT FOR YIELD CAPITALIZATION EQUITY COMPONENT
CAPITAL ASSET PRICING MODEL

WASHINGTON STATE DEPARTMENT OF REVENUE

2025 ASSESSMENT YEAR

TELECOMMUNICATIONS

Ex Ante

Ke = Rf + B (Rp)

Ke = Cost of Equity **8.50%**

to page 1

Rm =	rate of return	8.91%	
Rf =	risk free rate	4.78%	
Rp =	risk premium	4.13%	
B =	Beta	0.90	page 2

Rp = Risk Premium **4.13%**

to above

Shannon Pratt and Roger Grabowski	3.5 - 6%	
Cost of Capital, Applications and Examples, Third Edition, 2008, Page 113		
Dr. Aswath Damodaran	4.33%	chart page 15
http://pages.stern.nyu.edu/~adamodar/	4.13%	adjusted for Rf
2024 Implied Premium		

Rf = Risk Free Rate **4.78%**

to above

Value Line Investment Survey, Selected Yields January 10, 2025, page 206
as of 12-30-24

US Treasury Securities year end data

5 year	4.37%
10 year	4.55%
30 year	4.77%

Federal Reserve Statistical Release (http://www.federalreserve.gov/Releases/H15/Current/)
As of 12-31-24

Treasury Constant Maturities

5 year	4.38%	
10 year	4.58%	
20 year	4.86%	
30 year	4.78%	
20 year TIPS	2.41%	2.45%
30 year TIPS	2.48%	2.30%
		TIPS inflation indication

Inflation **2.30%**

to appraisal template

The Livingston Survey December 20, 2024, page 2, 8

Inflation median (measured by the Consumer Price Index) over next 10 years 2.28%

Gross Domestic Product (GDP) Nominal **4.10%**

real GDP + inflation est

Federal Reserve Projected Long Run Real GDP Growth		
Median Projection Value From Dec 18, 2024 Report, Table 1		1.80%
https://www.federalreserve.gov/monetarypolicy/files/fomcprojtabl20241218.pdf		
Congressional Budget Office Real GDP Economic Projections		
The Budget and Economic Outlook 2025-2035		Table C-3, pg 29
Average Percentage Change Year To Year	2025-2029	2.20%
https://www.cbo.gov/system/files/2025-01/60870-Outlo	2030-2035	1.90%
Federal Reserve Bank of Philadelphia		
The Livingston Survey, December 20, 2024, page 8		
Average Real GDP Growth Rate for Next 10 Years		2.11%
https://www.philadelphiafed.org/research-and-data/real-time-center/livingston-survey		

SUPPORT FOR YIELD CAPITALIZATION EQUITY COMPONENT
DIVIDEND GROWTH MODEL

WASHINGTON STATE DEPARTMENT OF REVENUE

2025 ASSESSMENT YEAR

TELECOMMUNICATIONS

Based on Dividend Growth

$$Ke = (D1 / Po) + G$$

Ke = Cost of Equity
D1 = Expected Dividends
Po = Current Price
G = Sustainable Growth
Adj G assumption: Sustainable g can not exceed inflation plus real GDP. Minimum g inflation

Company	Ticker	Stock Price (Po)	Expected Dividend (D1)	Dividend Yield (D1/Po)	Dividend Growth (G)	Ke	Sustainable Dividend Growth	Ke (Sus)
AT&T Inc	t	22.48	1.11	4.94%	0.50%	5.44%	2.30%	7.24%
Altice USA, Inc	atus	2.41	nil					
BCE Inc	bce	23.18	2.79	12.04%	0.00%	12.04%	2.30%	14.34%
Cable One	cabo	358.50	12.25	3.42%	2.50%	5.92%		5.92%
Charter Communications Inc	chtr	342.77	nil					
Comcast Corp	cmcsa	37.22	1.30	3.49%	7.00%	10.49%	4.10%	7.59%
Lumen Technologies Inc	lumn	5.31	nil					
Shenandoah Telecom	shen	12.61	0.11	0.87%	9.00%	9.87%	4.10%	4.97%
Telus Corp	tu	13.56	1.22	9.02%	5.50%	14.52%	4.10%	13.12%
Verizon Communications	vz	39.29	2.72	6.92%	2.50%	9.42%		9.42%
						9.67%	**Mean**	**8.94%**
						9.87%	**Median**	**7.59%**
						9.55%	**Trimmed Mean**	**8.66%**
						14.52%	**Max**	**14.34%**
						5.44%	**Min**	**4.97%**
Source: Value Line Projections 22-24 to 28-30						**9.75%**		**8.50%**
						Say	**8.50%**	

SUPPORT FOR YIELD CAPITALIZATION EQUITY COMPONENT
DIVIDEND GROWTH MODEL

WASHINGTON STATE DEPARTMENT OF REVENUE

2025 ASSESSMENT YEAR

TELECOMMUNICATIONS

Based on Earnings Growth

Ke = (D1 / Po) + G

Ke = Cost of Equity
D1 = Expected Dividends
Po = Current Price
G = Sustainable Growth
Adj G assumption: Sustainable g can not exceed inflation plus real GDP. Minimum g inflation

Company	Ticker	Stock Price (Po)	Expected Dividend (D1)	Dividend Yield (D1/Po)	Earnings Growth (G)	Ke	Sustainable Earnings Growth	Ke (Sus)
AT&T Inc	t	22.48	1.11	4.94%	6.50%	11.44%	4.10%	9.04%
Altice USA, Inc	atus	2.41	nil					
BCE Inc	bce	23.18	2.79	12.04%	0.50%	12.54%	2.30%	14.34%
Cable One	cabo	358.50	12.25	3.42%	1.00%	4.42%	2.30%	5.72%
Charter Communications Inc	chtr	342.77	nil					
Comcast Corp	cmcsa	37.22	1.30	3.49%	7.50%	10.99%	4.10%	7.59%
Lumen Technologies Inc	lumn	5.31	nil					
Shenandoah Telecom	shen	12.61	0.11	0.87%	nmf		2.30%	3.17%
Telus Corp	tu	13.56	1.22	9.02%	14.00%	23.02%	4.10%	13.12%
Verizon Communications	vz	39.29	2.72	6.92%	0.50%	7.42%	2.30%	9.22%
						11.64%	**Mean**	**8.89%**
						11.22%	**Median**	**9.04%**
						10.60%	**Trimmed Mean**	**8.94%**
						23.02%	**Max**	**14.34%**
						4.42%	**Min**	**3.17%**
Source: Value Line Projections 22-24 to 28-30						**11.00%**		**9.00%**
						Say	**9.00%**	

SUPPORT FOR YIELD CAPITALIZATION EQUITY COMPONENT
DIVIDEND GROWTH MODEL

WASHINGTON STATE DEPARTMENT OF REVENUE

2025 ASSESSMENT YEAR

TELECOMMUNICATIONS

Based on Earnings Growth

$$Ke = (D1 / Po) + G$$

Ke = Cost of Equity
D1 = Expected Dividends
Po = Current Price
G = Sustainable Growth
Adj G assumption: Sustainable g can not exceed inflation plus real GDP. Minimum g inflation

Company	Ticker	Stock Price (Po)	Expected Dividend (D1)	Dividend Yield (D1/Po)	Earnings Growth (G)	Ke	Sustainable Earnings Growth	Ke (Sus)
AT&T Inc	t	22.48	1.11	4.94%	4.10%	9.04%		9.04%
Altice USA, Inc	atus	2.41	nil					
BCE Inc	bce	23.18	2.79	12.04%	3.00%	15.04%		15.04%
Cable One	cabo	358.50	12.25	3.42%	na		2.30%	5.72%
Charter Communications Inc	chtr	342.77	nil					
Comcast Corp	cmcsa	37.22	1.30	3.49%	4.72%	8.21%	4.10%	7.59%
Lumen Technologies Inc	lumn	5.31	nil					
Shenandoah Telecom	shen	12.61	0.11	0.87%	na		2.30%	3.17%
Telus Corp	tu	13.56	1.22	9.02%	4.20%	13.22%	4.10%	13.12%
Verizon Communications	vz	39.29	2.72	6.92%	2.00%	8.92%	2.30%	9.22%
						10.89%	**Mean**	**8.99%**
						9.04%	**Median**	**9.04%**
						10.39%	**Trimmed Mean**	**8.94%**
						15.04%	**Max**	**15.04%**
						8.21%	**Min**	**3.17%**
Source: Zack's 5 year growth est						**10.25%**		**9.00%**
						Say	**9.00%**	

SUPPORT FOR YIELD CAPITALIZATION EQUITY COMPONENT

DIVIDEND GROWTH MODEL

WASHINGTON STATE DEPARTMENT OF REVENUE

2025 ASSESSMENT YEAR

TELECOMMUNICATIONS

Based on Return on Equity

Ke = (D1 / Po) + G

Ke = Cost of Equity
D1 = Expected Dividends
E1 = Expected Earnings
Po = Current Price
G = Sustainable Growth
b = Retained Earnings % (plowback) (1 - payout ratio)
ROE = Return on Equity
Adj G assumption: Sustainable g can not exceed inflation plus real GDP. Minimum g inflation

Value Line

Company	Ticker	Stock Price (Po)	Expected Dividend (D1)	Dividend Yield (D1/Po)	b (1-payout ratio)	ROE book	Proj Earnings (E1)	=ROE market	mk:bk	=ROE market	Growth (b*ROE)	Growth (b*ROE)	Growth (b*ROE) book	Ke	Sustainable Reinvestment Growth	Ke (Sus)
AT&T Inc	t	22.48	1.11	4.94%	50.0%	15.00%	2.35	10.45%	1.63	9.22%	5.23%	4.6%	7.50%	10.16%	4.10%	9.04%
Altice USA, Inc	atus	2.41	nil			nmf	(0.15)	-6.22%	(2.39)	nmf						
BCE Inc	bce	23.18	2.79	12.04%		16.00%	1.90	8.20%	2.27	7.05%						
Cable One	cabo	358.50	12.25	3.42%	66.0%	11.00%	40.00	11.16%	1.04	10.60%	7.36%	7.0%	7.26%	10.78%	4.10%	7.52%
Charter Communications Inc	chtr	342.77	nil			27.00%	37.30	10.88%	3.12	8.65%						
Comcast Corp	cmcsa	37.22	1.30	3.49%	72.0%	18.50%	4.30	11.55%	1.64	11.26%	8.32%	8.1%	13.32%	11.81%	4.10%	7.59%
Lumen Technologies Inc	lumn	5.31	nil			nmf	(1.00)	-18.83%	15.17	nmf						
Shenandoah Telecom	shen	12.61	0.11	0.87%		nmf	(0.45)	-3.57%	0.75	nmf						
Telus Corp	tu	13.56	1.22	9.02%		7.50%	0.56	4.15%	1.88	3.99%						
Verizon Communications	vz	39.29	2.72	6.92%	41.0%	19.50%	4.70	11.96%	1.64	11.86%	4.90%	4.9%	8.00%	11.83%	4.10%	11.02%
														11.15%	**Mean**	**8.79%**
														11.30%	**Median**	**8.32%**
														11.30%	**Trimmed Mean**	**8.32%**
														11.83%	**Max**	**11.02%**
														10.16%	**Min**	**7.52%**
														11.25%		**8.50%**
														Say	**8.50%**	

SUPPORT FOR DEBT RATING AND DEBT YIELD RATE

WASHINGTON STATE DEPARTMENT OF REVENUE

2025 ASSESSMENT YEAR

TELECOMMUNICATIONS

Company	Ticker	Moody's Ratings	S&P Ratings	WAYTM
AT&T Inc	t	Baa2	BBB	5.89%
Altice USA, Inc	atus	Caa2	CCC+	12.91%
BCE Inc	bce	Baa2	BBB	5.99%
Cable One	cabo	Ba3	BB	
Charter Communications Inc	chtr	Ba1	BB+	6.93%
Comcast Corp	cmcsa	A3	A-	5.89%
Lumen Technologies Inc	lumn	Caa1	CCC+	9.78%
Shenandoah Telecom	shen			
Telus Corp	tu	Baa2	BBB	6.13%
Verizon Communications	vz	Baa1	BBB+	5.78%
Overall Average Debt Rating		**Ba1**	**BB+**	**5.50%**

bond analysis, A-BBB- bonds

	All issues	20+ year maturities
Guideline Companies, All Ratings	**6.12%**	**6.00%**

bond analysis page 12

Mergent's Bond Record February 2025, page 21

Corporate	**Aaa**	**Aa**	**A**	**Baa**
October	4.95%	5.17%	5.33%	5.63%
November	5.14%	5.33%	5.49%	5.78%
December	5.20%	5.37%	5.53%	5.80%
4th Qtr Average	**5.10%**	**5.29%**	**5.45%**	**5.74%**
2024 Average	**5.04%**	**5.27%**	**5.43%**	**5.75%**
Public Utilities	**Aaa**	**Aa**	**A**	**Baa**
October		5.29%	5.41%	5.61%
November		5.43%	5.55%	5.75%
December		5.45%	5.58%	5.77%
4th Qtr Average		**5.39%**	**5.51%**	**5.71%**
2024 Average		**5.42%**	**5.54%**	**5.76%**
Industrials	**Aaa**	**Aa**	**A**	**Baa**
October	4.95%	5.05%	5.24%	5.65%
November	5.14%	5.23%	5.43%	5.80%
December	5.20%	5.28%	5.47%	5.83%
4th Qtr Average	**5.10%**	**5.19%**	**5.38%**	**5.76%**
2024 Average	**5.04%**	**5.12%**	**5.32%**	**5.74%**

Debt Yield Rate		**6.00%**
Secured Debt (Lease) Rate	based on Aa rate	**5.25%**

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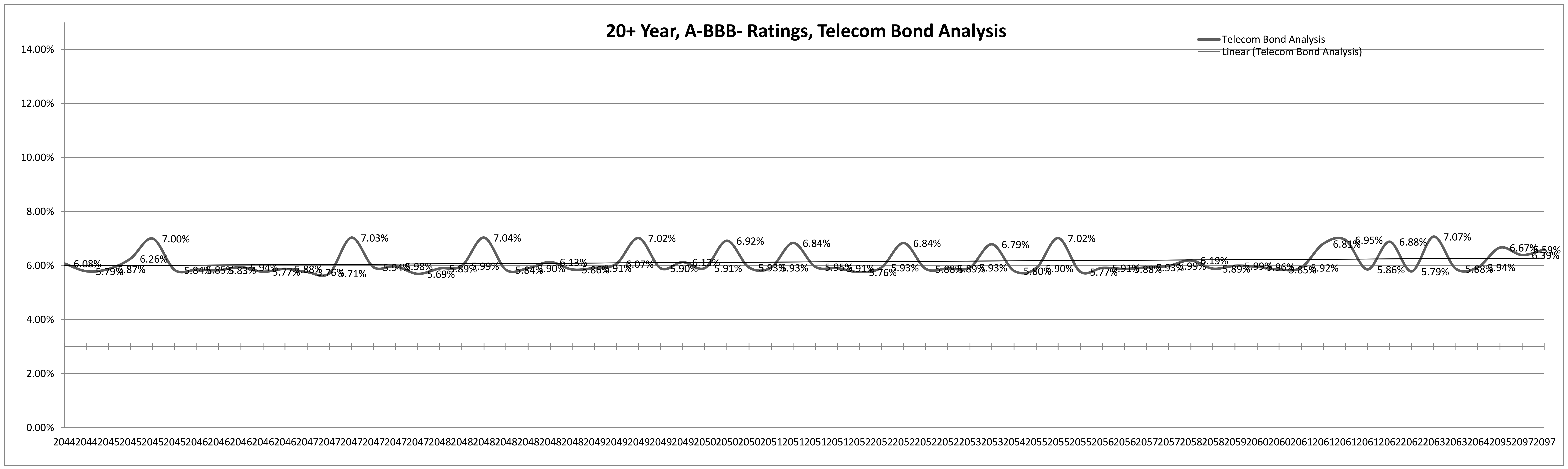
12/31/2024 Telecom Bond Analysis 2025.5

Company	type	Call	coupon	maturity	Price 12/24		Issued / Book		current yield	yield to maturity	Weighted Avei	Rating		Mkt Val	Mkt : Book	Embedded Rat		Debt Service	WAYTM	WAYTM	YTM
Bell South Capital Funding	deb	Z100	7.120	2097	111.26	$	500,000,000		6.40%	6.39%	0.02%	BBB	$	556,300,000	111.26%			35,600,000	0.000151947	0.000412084	6.39
AT&T Inc	deb		7.120	2097	107.90	$	85,856,000		6.60%	6.59%	0.00%	BBB	$	92,638,624	107.90%			6,112,947	0.000026916	0.000072996	6.59
Bell South Telecommunications	deb	NC	7.000	2095	104.95	$	500,000,000		6.67%	6.67%	0.02%	BBB	$	524,750,000	104.95%			35,000,000	0.000158475	0.000429791	6.66
AT&T Inc	SUN		3.500	2061	64.40	$	1,500,000,000		5.43%	5.92%	0.04%	BBB	$	966,000,000	64.40%			52,500,000	0.000422393	0.001145545	5.89
AT&T Inc	SUN		3.850	2060	69.43	$	1,500,000,000		5.55%	5.96%	0.04%	BBB	$	1,041,450,000	69.43%			57,750,000	0.000424872	0.001152269	5.92
AT&T Inc	SUN		3.650	2059	66.48	$	6,495,911,000		5.49%	5.99%	0.19%	BBB	$	4,318,481,633	66.48%			237,100,752	0.001850587	0.005018859	5.94
AT&T Inc	FR Global Notes		5.300	2058	87.63	$	643,706,000		6.048%	6.19%	0.02%	BBB	$	564,079,568	87.63%			34,116,418	0.000189529	0.000514010	6.17
AT&T Inc	FR Global Notes		5.700	2057	96.70	$	1,000,000,000		5.895%	5.93%	0.03%	BBB	$	967,000,000	96.70%			57,000,000	0.000282129	0.000765144	5.93
AT&T Inc	SUN		3.800	2057	69.26	$	5,923,231,000		5.487%	5.99%	0.17%	BBB	$	4,102,429,791	69.26%			225,082,778	0.001687698	0.004577098	5.93
AT&T Inc	SUN		3.550	2055	67.51	$	7,495,129,000		5.258%	5.90%	0.21%	BBB	$	5,059,961,588	67.51%			266,077,080	0.002102557	0.005702209	5.83
AT&T Inc	SUN		3.500	2053	67.43	$	7,496,266,000		5.191%	5.93%	0.21%	BBB	$	5,054,732,164	67.43%			262,369,310	0.002113420	0.005731670	5.85
AT&T Inc	SUN		3.300	2052	67.00	$	2,250,000,000		4.925%	5.76%	0.06%	BBB	$	1,507,500,000	67.00%			74,250,000	0.000615918	0.001670393	5.70
AT&T Inc	SUN		3.650	2051	70.44	$	3,000,000,000		5.181%	5.93%	0.08%	BBB	$	2,113,290,000	70.44%			109,500,000	0.000845236	0.002292309	5.84
AT&T Inc	FR Global Notes		5.150	2050	90.31	$	1,694,666,000		5.703%	5.91%	0.05%	BBB	$	1,530,452,865	90.31%			87,275,299	0.000476056	0.001291081	5.89
AT&T Inc	FR Global Notes		4.550	2049	82.92	$	2,494,000,000		5.487%	5.91%	0.07%	BBB	$	2,068,024,800	82.92%			113,477,000	0.000701205	0.001901694	5.88
AT&T Inc	FR Global Notes		4.500	2048	82.87	$	4,498,000,000		5.430%	5.89%	0.13%	BBB	$	3,727,492,600	82.87%			202,410,000	0.001260466	0.003418428	5.85
AT&T Inc	Fx Rate S Notes		5.650	2047	98.68	$	1,500,000,000		5.726%	5.76%	0.04%	BBB	$	1,480,200,000	98.68%			84,750,000	0.000410693	0.001113815	5.75
AT&T Inc	FR Global Notes		5.450	2047	96.80	$	2,000,000,000		5.630%	5.71%	0.05%	BBB	$	1,936,000,000	96.80%			109,000,000	0.000543181	0.001473126	5.70
AT&T Inc	Fixed Rate		4.750	2046	87.07	$	3,500,000,000		5.455%	5.85%	0.10%	BBB	$	3,047,450,000	87.07%			166,250,000	0.000973323	0.002639686	5.81
AT&T Inc	SUN		5.150	2046	92.00	$	1,749,603,000		5.598%	5.83%	0.05%	BBB	$	1,609,634,760	92.00%			90,104,555	0.000484874	0.001314995	5.79
AT&T Inc	note		4.350	2045	82.60	$	3,044,000,000		5.266%	5.87%	0.08%	BBB	$	2,514,344,000	82.60%			132,414,000	0.000849839	0.002304795	5.81
Bell South Telecommunications	deb	NC	5.850	2045	95.50	$	300,000,000		6.13%	6.26%	0.01%	BBB	$	286,500,000	95.50%			17,550,000	0.000089231	0.000241997	6.23
AT&T Inc	SUN fixed		4.800	2044	86.01	$	2,500,000,000		5.581%	6.08%	0.07%	BBB	$	2,150,250,000	86.01%			120,000,000	0.000722715	0.001960030	6.03
AT&T Inc	SUN fixed		3.100	2043	72.39	$	2,500,000,000		4.282%	5.62%	0.07%	BBB	$	1,809,750,000	72.39%			77,500,000	0.000667922	0.001811427	5.53
AT&T Inc	Fixed Rate		5.150	2042	92.66	$	1,209,000,000		5.558%	5.86%	0.03%	BBB	$	1,120,259,400	92.66%			62,263,500	0.000336607	0.000912889	5.83
AT&T Inc	Fixed Rate Ptl		4.300	2042	85.24	$	1,955,000,000		5.045%	5.70%	0.05%	BBB	$	1,666,442,000	85.24%			84,065,000	0.000530207	0.001437940	5.61
AT&T Inc	FR SN		6.375	2041	104.89	$	984,000,000		6.078%	5.89%	0.03%	BBB	$	1,032,117,600	104.89%			62,730,000	0.000275349	0.000746756	5.90
AT&T Inc	Fixed Rate		5.550	2041	97.49	$	2,000,000,000		5.693%	5.80%	0.06%	BBB	$	1,949,800,000	97.49%			111,000,000	0.000551513	0.001495723	5.78
AT&T Inc	Fixed Rate		3.500	2041	76.57	$	2,500,000,000		4.571%	5.84%	0.07%	BBB	$	1,914,250,000	76.57%			87,500,000	0.000693958	0.001882038	5.71
AT&T Inc	FR Global Notes		6.000	2040	104.63	$	1,234,000,000		5.734%	5.53%	0.03%	BBB	$	1,291,134,200	104.63%			74,040,000	0.000324306	0.000879528	5.54
AT&T Inc	SUN fixed		5.350	2040	96.72	$	3,500,000,000		5.531%	5.69%	0.09%	BBB	$	3,385,200,000	96.72%			187,250,000	0.000946571	0.002567134	5.66
31	**Book Val**	**3100**		**sum**	**2675.743**	**$**	**77,552,368,000**	**Percent of book**		**86.31%**	**2.17%**		**$**	**61,387,915,592**	**79.16%**	**4.28%**	**$**	**3,322,038,638**		**5.888%**	
Bell CDA	Senior unsec		3.200	2052	63.96	$	650,000,000		5.00%	5.93%	0.02%	Baa2	$	415,740,000	63.96%			20,800,000	0.000183281	0.019274297	5.87
Bell CDA	Senior unsec		4.300	2049	78.18	$	600,000,000		5.50%	6.07%	0.02%	Baa2	$	469,080,000	78.18%			25,800,000	0.000173053	0.018198662	6.00
Bell CDA	Senior unsec		4.464	2048	81.41	$	750,000,000		5.48%	5.99%	0.02%	Baa2	$	610,575,000	81.41%			33,480,000	0.000213583	0.022460886	5.94
3	**Book Val**	**300**		**sum**	**223.55**	**$**	**2,000,000,000**	**Percent of book**		**74.52%**	**0.06%**		**$**	**1,495,395,000**	**74.77%**	**4.00%**	**$**	**80,080,000**		**5.993%**	
CSC HLDGS LLC	Senior unsec	callable	3.375	2031	69.74	$	1,000,000,000		4.84%	11.00%	0.05%	CCC+	$	697,400,000	69.74%			33,750,000	0.000522809	0.026819444	10.12
CSC HLDGS LLC	deb	callable	4.500	2031	72.00	$	1,500,000,000		6.25%	11.68%	0.08%	CCC+	$	1,080,000,000	72.00%			67,500,000	0.000833220	0.042743110	10.28
CSC HLDGS LLC	Senior unsec	callable	5.000	2031	52.00	$	500,000,000		9.62%	20.25%	0.05%	CCC-	$	260,000,000	52.00%			25,000,000	0.000481455	0.024698027	17.15
CSC HLDGS LLC	Senior unsec	callable	4.125	2030	71.11	$	1,100,000,000		5.80%	13.00%	0.07%	CCC+	$	782,210,000	71.11%			45,375,000	0.000680092	0.034887851	10.86
4	**Book Val**	**400**		**sum**	**264.85**		**4,100,000,000**	**Percent of book**		**66.21%**	**0.25%**		**$**	**2,819,610,000**	**68.77%**	**4.19%**	**$**	**171,625,000**		**12.915%**	
Centurylink Inc	sr unsec note		7.650	2042	82.86	$	285,230,000		9.23%	9.78%	0.01%	CCC-	$	236,341,578	82.86%			21,820,095	0.00013269	0.097845589	9.71
1	**Book Val**	**100**		**sum**	**82.86**	**$**	**285,230,000**	**Percent of book**		**82.86%**	**0.01%**		**$**	**236,341,578**	**82.86%**	**7.65%**	**$**	**21,820,095**		**9.785%**	
Charter Communications	SSN	callable	5.500	2063	79.48	$	1,000,000,000		6.92%	7.07%	0.03%	BBB-	$	794,800,000	79.48%			55,000,000	0.00033627	0.003097516	7.05
Charter Communications	SSN	callable	3.950	2062	61.13	$	1,400,000,000		6.46%	6.88%	0.05%	BBB-	$	855,820,000	61.13%			55,300,000	0.00045824	0.004221049	6.84
Charter Communications	SSN		3.850	2061	60.74	$	1,350,000,000		6.34%	6.81%	0.04%	BBB-	$	819,990,000	60.74%			51,975,000	0.00043701	0.004025528	6.76
Charter Communications	Note	callable	4.400	2061	66.67	$	1,400,000,000		6.60%	6.95%	0.05%	BBB-	$	933,380,000	66.67%			61,600,000	0.00046274	0.004262514	6.90
Charter Communications	SSN		6.834	2055	97.73	$	500,000,000		6.99%	7.02%	0.02%	BBB-	$	488,650,000	97.73%			34,170,000	0.00016684	0.001536865	7.01
Charter Communications	SSN		5.250	2053	81.04	$	1,500,000,000		6.48%	6.79%	0.05%	BBB-	$	1,215,600,000	81.04%			78,750,000	0.00048428	0.004460918	6.76
Charter Communications	Note		3.900	2052	64.5	$	1,000,000,000		6.05%	6.84%	0.03%	BBB-	$	645,000,000	64.50%			39,000,000	0.00032501	0.002993781	6.76
Charter Communications	Note		3.700	2051	62.6	$	1,400,000,000		5.91%	6.84%	0.05%	BBB-	$	876,400,000	62.60%			51,800,000	0.00045521	0.004193113	6.76
Charter Communications	SSN		4.800	2050	75.32	$	1,500,000,000		6.37%	6.92%	0.05%	BBB-	$	1,129,800,000	75.32%			72,000,000	0.00049345	0.004545442	6.87
Charter Communications	SSN		5.125	2049	78.5	$	1,250,000,000		6.53%	7.02%	0.04%	BBB-	$	981,250,000	78.50%			64,062,500	0.00041713	0.003842359	6.96
Charter Communications	SSN		5.750	2048	85.69	$	1,700,000,000		6.71%	7.04%	0.06%	BBB-	$	1,456,730,000	85.69%			97,750,000	0.00056863	0.005237883	7.00
Charter Communications	Note		5.375	2047	81.88	$	2,483,038,000		6.56%	7.03%	0.08%	BBB-	$	2,033,111,514	81.88%			133,463,293	0.00083046	0.007649784	6.98
Charter Communications	SSN		6.484	2045	94.59	$	3,499,875,000		6.85%	7.00%	0.12%	BBB-	$	3,310,531,763	94.59%			226,931,895	0.00116497	0.010731119	6.97
Charter Communications	SSN		3.500	2042	68.14	$	1,350,000,000		5.14%	6.76%	0.04%	BBB-	$	919,890,000	68.14%			47,250,000	0.00043410	0.003998676	6.63
Charter Communications	Note		3.500	2041	68.97	$	1,500,000,000		5.07%	6.80%	0.05%	BBB-	$	1,034,550,000	68.97%			52,500,000	0.00048501	0.004467692	6.62
15	**Book Val**	**1500**		**sum $**	**1,127**	**$**	**22,832,913,000**	**Percent of book**		**75.13%**	**0.75%**		**$**	**17,495,503,277**	**76.62%**	**4.91%**	**$**	**1,121,552,688**		**6.93%**	
Comcast Corp NEW	sr note		5.500	2064	93.37	$	1,400,000,000		5.89%	5.94%	0.04%	A-	$	1,307,180,000	93.37%			77,000,000	0.000395510	0.001888200	5.93
Comcast Corp NEW	sr note		2.987	2063	56.56	$	3,983,204,000		5.28%	5.88%	0.11%	A-	$	2,252,900,182	56.56%			118,978,303	0.001113829	0.005317520	5.82
Comcast Corp NEW	sr note		2.650	2062	52.76	$	1,250,000,000		5.02%	5.79%	0.03%	A-	$	659,500,000	52.76%			33,125,000	0.000343850	0.001641570	5.71
Comcast Corp NEW	sr note		4.950	2058	86.57	$	2,500,000,000		5.72%	5.89%	0.07%	A-	$	2,164,250,000	86.57%			123,750,000	0.000699692	0.003340394	5.86
Comcast Corp NEW	sr note		2.937	2056	58.38	$	5,963,382,000		5.03%	5.91%	0.17%	A-	$	3,481,422,412	58.38%			175,144,529	0.001677046	0.008006372	5.82
Comcast Corp NEW	sr note		4.049	2052	75.72	$	1,499,879,000		5.35%	5.88%	0.04%	A-	$	1,135,708,379	75.72%			60,730,101	0.000419261	0.002001590	5.82
Comcast Corp NEW	sr note		2.450	2052	54.39	$	1,500,000,000		4.50%	5.89%	0.04%	A-	$	815,850,000	54.39%			36,750,000	0.000420252	0.002006323	5.77
Comcast Corp NEW	sr note		2.887	2051	60.27	$	4,959,172,000		4.79%	5.95%	0.14%	A-	$	2,988,892,964	60.27%			143,171,296	0.001404019	0.006702914	5.83
Comcast Corp NEW	sr note		2.800	2051	59.59	$	1,700,000,000		4.70%	5.91%	0.05%	A-	$	1,013,030,000	59.59%			47,600,000	0.000477308	0.002278713	5.83
Comcast Corp NEW	sr note		3.450	2050	68.36	$	1,800,000,000		5.05%	5.93%	0.05%	A-	$	1,230,480,000	68.36%			62,100,000	0.000507630	0.002423475	5.87
Comcast Corp NEW	sr note		3.999	2049	76.15	$	1,999,999,000		5.25%	5.90%	0.06%	A-	$	1,522,999,239	76.15%			79,979,960	0.000561096	0.002678722	5.82
Comcast Corp NEW	sr note		4.700	2048	85.88	$	4,000,000,000		5.47%	5.84%	0.11%	A-	$	3,435,200,000	85.88%			188,000,000	0.001111398	0.005305917	5.80
Comcast Corp NEW	sr note		4.000	2048	76.63	$	1,000,000,000		5.22%	5.90%	0.03%	A-	$	766,300,000	76.63%			40,000,000	0.000280672	0.001339953	5.85
Comcast Corp	gtd fixed rate		4.000	2047	76.77	$	850,000,000		5.21%	5.94%	0.02%	A-	$	652,545,000	76.77%			34,000,000	0.000240120	0.001146357	5.86
Comcast Corp NEW	sr note		3.969	2047	76.05	$	1,999,812,000		5.22%	5.98%	0.06%	A-	$	1,520,857,026	76.05%			79,372,538	0.000568286	0.002713050	5.88
Comcast Corp	gtd fixed rate		3.400	2046	70.35	$	1,400,000,000		4.83%	5.94%	0.04%	A-	$	984,900,000	70.35%			47,600,000	0.000395320	0.001887293	5.83
Comcast Corp	gtd fixed rate		4.600	2045	85.82	$	1,700,000,000		5.36%	5.84%	0.05%	A-	$	1,458,940,000	85.82%			78,200,000	0.000471775	0.002252295	5.78
Comcast Corp	gtd fx rt notes		4.750	2044	88.36	$	1,000,000,000		5.38%	5.79%	0.03%	A-	$	883,600,000	88.36%			47,500,000	0.000275375	0.001314663	5.75
Comcast Corp	gtd notes		4.500	2043	83.40	$	500,000,000		5.40%	6.07%	0.01%	A-	$	417,000,000	83.40%			22,500,000	0.000144193	0.000688390	6.02
Comcast Corp	fixed rate		4.650	2042	87.35	$	1,250,000,000		5.32%	5.87%	0.03%	A-	$	1,091,875,000	87.35%			58,125,000	0.000348711	0.001664779	5.80
Comcast Corp	notes		6.400	2040	109.15	$	1,000,000,000		5.86%	5.47%	0.03%	A-	$	1,091,500,000	109.15%			64,000,000	0.000260061	0.001241556	5.50
Comcast Corp NEW	deb		3.750	2040	80.62	$	800,000,000		4.65%	5.76%	0.02%	A-	$	644,960,000	80.62%			30,000,000	0.000218983	0.001045444	5.66
22	**Book Val**	**2200**		**sum**	**1662.5**	**$**	**44,055,448,000**	**Percent of book**		**75.57%**	**1.23%**		**$**	**31,519,890,202**	**71.55%**	**3.74%**	**$**	**1,647,626,727**		**5.889%**	

Telus	Sr unsecured note		4.300	2049	77.54	$	500,000,000		5.55%	6.13%	0.01%	Baa2	$	387,700,000	77.54%		$	21,500,000	0.000145686	0.02451312	6.07
Telus	Sr unsecured note		4.600	2048	81.57	$	750,000,000		5.64%	6.13%	0.02%	Baa2	$	611,775,000	81.57%		$	34,500,000	0.000218643	0.03678877	6.07
2	**Book Value**	**200**		**sum**	**159.11**	**$**	**1,250,000,000**	**Percent of book**	**79.56%**		**0.04%**		**$**	**999,475,000**	**79.96%**	**4.48%**		**56,000,000**		**6.130%**	
Verizon Communications	Sr unsec note		3.700	2061	68.049	$	3,500,000,000		5.44%	5.86%	0.10%	BBB+	$	2,381,715,000	68.05%			129,500,000	0.000974745	0.003519607	5.82
Verizon Communications	Sr unsec note		3.000	2060	58.09	$	2,000,000,000		5.16%	5.85%	0.06%	BBB+	$	1,161,800,000	58.09%			60,000,000	0.000556717	0.002010195	5.78
Verizon Communications	Sr unsec note		2.987	2056	59.44	$	4,498,814,000		5.03%	5.88%	0.13%	BBB+	$	2,674,095,042	59.44%			134,379,574	0.001257103	0.004539147	5.79
Verizon Communications	fx rt Notes		4.672	2055	84.6	$	5,500,000,000		5.52%	5.77%	0.15%	BBB+	$	4,653,000,000	84.60%			256,960,000	0.001509014	0.005448748	5.75
Verizon Communications	fx rt Notes		5.012	2054	89.08	$	5,500,000,000		5.63%	5.80%	0.15%	BBB+	$	4,899,400,000	89.08%			275,660,000	0.001517904	0.005480847	5.78
Verizon Communications	sr nt		4.522	2048	83.558	$	5,000,000,000		5.41%	5.86%	0.14%	BBB+	$	4,177,900,000	83.56%			226,100,000	0.001391973	0.005026136	5.80
Verizon Communications	fx rt Notes		5.500	2047	97.63	$	1,500,000,000		5.63%	5.69%	0.04%	BBB+	$	1,464,450,000	97.63%			82,500,000	0.000406079	0.001466270	5.68
Verizon Communications	nt		4.862	2046	89.207	$	4,500,000,000		5.45%	5.77%	0.12%	BBB+	$	4,014,315,000	89.21%			218,790,000	0.001235288	0.004460376	5.73
Verizon Communications	fx rt Notes		4.125	2046	79.43	$	1,500,000,000		5.19%	5.88%	0.04%	BBB+	$	1,191,450,000	79.43%			61,875,000	0.000419171	0.001513542	5.80
Verizon Communications	fx rt Notes		6.550	2043	110.10	$	15,000,000,000		5.95%	5.63%	0.40%	BBB+	$	16,515,000,000	110.10%			982,500,000	0.004013687	0.014492618	5.66
Verizon Communications	Notes		3.850	2042	78.65	$	1,250,000,000		4.90%	5.91%	0.04%	BBB+	$	983,125,000	78.65%			48,125,000	0.000351303	0.001268483	5.78
Verizon Communications	fixed rate notes		4.750	2041	89.88	$	750,000,000		5.28%	5.75%	0.02%	BBB+	$	674,100,000	89.88%			35,625,000	0.000205191	0.000740905	5.69
Verizon Communications	fixed rate notes		3.400	2041	75.79	$	3,750,000,000		4.49%	5.81%	0.10%	BBB+	$	2,842,125,000	75.79%			127,500,000	0.001036218	0.003741575	5.70
Verizon Communications	fixed rate notes		2.850	2041	69.24	$	1,000,000,000		4.12%	5.94%	0.03%	BBB+	$	692,400,000	69.24%			28,500,000	0.000282472	0.001019950	5.74
Verizon Communications	fixed rate notes		2.650	2040	68.44	$	3,000,000,000		3.87%	5.96%	0.09%	BBB+	$	2,053,200,000	68.44%			79,500,000	0.000850355	0.003070461	5.69
15	**Book Val**	**1500**		**sum**	**1201.184**	**$**	**58,248,814,000**	**Percent of book**	**80.08%**		**1.60%**		**$**	**50,378,075,042**	**86.49%**	**4.72%**	**$**	**2,747,514,574**		**5.780%**	
					Total	**$**	**210,324,773,000**					**Total**	**$**	**166,332,205,690**	**79.08%**	**4.36%**	**$**	**9,168,257,722**	**6.12%**	7.413%	6.32
														Embedded debt rate				**4.3591%**			
														Weighted average yield to maturity				**6.1155%**			
														Debt service / Market value				**5.5120%**			

Source: FINRA , February 2025, 2024 Yr End Prices

Trace data



03/05/2025 Telecom Bond Analysis

Telecom Bond Analysis 12/2024

Company	type	Call	coupon	maturity	Price 12/24	Issued / Book	current yield	yield to maturity	Weighted Aver	Rating	Mkt Val	Mkt : Book	Embedded Rat	Debt Service	WAYTM	WAYTM	YTM
AT&T Inc	SUN fixed		4.800	2044	86.01	$ 2,500,000,000	5.581%	6.08%	0.10%	BBB	$ 2,150,250,000	86.01%		120,000,000	0.000956562	0.002464797	6.03
Comcast Corp	gtd fx rt notes		4.750	2044	88.36	$ 1,000,000,000	5.38%	5.79%	0.04%	A-	$ 883,600,000	88.36%		47,500,000	0.000364477	0.001429884	5.75
AT&T Inc	note		4.350	2045	82.60	$ 3,044,000,000	5.27%	5.87%	0.11%	BBB	$ 2,514,344,000	82.60%		132,414,000	0.001124819	0.002898350	5.81
Bell South Telecommunications	deb	NC	5.850	2045	95.50	$ 300,000,000	6.126%	6.26%	0.01%	BBB	$ 286,500,000	95.50%		17,550,000	0.000118103	0.000304318	6.23
Charter Communications	SSN		6.484	2045	94.59	$ 3,499,875,000	6.85%	7.00%	0.15%	BBB-	$ 3,310,531,763	94.59%		226,931,895	0.001541920	0.012261610	6.97
Comcast Corp	gtd fixed rate		4.600	2045	85.82	$ 1,700,000,000	5.360%	5.84%	0.06%	A-	$ 1,458,940,000	85.82%		78,200,000	0.000624425	0.002449692	5.78
AT&T Inc	Fixed Rate		4.750	2046	87.07	$ 3,500,000,000	5.46%	5.85%	0.13%	BBB	$ 3,047,450,000	87.07%		166,250,000	0.001288258	0.003319485	5.81
AT&T Inc	SUN		5.150	2046	92	$ 1,749,603,000	5.60%	5.83%	0.06%	BBB	$ 1,609,634,760	92.00%		90,104,555	0.00064176	0.001653647	5.79
Comcast Corp	gtd fixed rate		3.400	2046	70.35	$ 1,400,000,000	4.83%	5.94%	0.05%	A-	$ 984,900,000	70.35%		47,600,000	0.000523232	0.002052700	5.83
Verizon Communications	nt		4.862	2046	89.21	$ 4,500,000,000	5.450%	5.77%	0.16%	BBB+	$ 4,014,315,000	89.21%		218,790,000	0.001634986	0.007755844	5.73
Verizon Communications	fx rt Notes		4.125	2046	79.43	$ 1,500,000,000	5.193%	5.88%	0.06%	BBB+	$ 1,191,450,000	79.43%		61,875,000	0.000554801	0.002631795	5.80
AT&T Inc	Fx Rate S Notes		5.650	2047	98.68	$ 1,500,000,000	5.73%	5.76%	0.05%	BBB	$ 1,480,200,000	98.68%		84,750,000	0.000543580	0.001400657	5.75
AT&T Inc	FR Global Notes		5.450	2047	96.8	$ 2,000,000,000	5.63%	5.71%	0.07%	BBB	$ 1,936,000,000	96.80%		109,000,000	0.000718936	0.001852500	5.70
Charter Communications	Note		5.375	2047	81.88	$ 2,483,038,000	6.56%	7.03%	0.11%	BBB-	$ 2,033,111,514	81.88%		133,463,293	0.001099173	0.008740811	6.98
Comcast Corp	gtd fixed rate		4.000	2047	76.77	$ 850,000,000	5.210%	5.94%	0.03%	A-	$ 652,545,000	76.77%		34,000,000	0.000317816	0.001246827	5.86
Comcast Corp NEW	sr note		3.969	2047	76.05	$ 1,999,812,000	5.219%	5.98%	0.08%	A-	$ 1,520,857,026	76.05%		79,372,538	0.000752165	0.002950829	5.88
Verizon Communications	fx rt Notes		5.500	2047	97.63	$ 1,500,000,000	5.63%	5.69%	0.05%	BBB+	$ 1,464,450,000	97.63%		82,500,000	0.00053747	0.002549597	5.68
AT&T Inc	FR Global Notes		4.500	2048	82.87	$ 4,498,000,000	5.43%	5.89%	0.17%	BBB	$ 3,727,492,600	82.87%		202,410,000	0.001668311	0.004298778	5.85
Bell CDA	Senior unsec		4.464	2048	81.41	$ 750,000,000	5.48%	5.99%	0.03%	Baa2	$ 610,575,000	81.41%		33,480,000	0.000282691	0.022460886	5.94
Charter Communications	SSN		5.750	2048	85.69	$ 1,700,000,000	6.71%	7.04%	0.08%	BBB-	$ 1,456,730,000	85.69%		97,750,000	0.000752615	0.005984920	7.00
Comcast Corp NEW	sr note		4.700	2048	85.88	$ 4,000,000,000	5.473%	5.84%	0.15%	A-	$ 3,435,200,000	85.88%		188,000,000	0.001471010	0.005770941	5.80
Comcast Corp NEW	sr note		4.000	2048	76.63	$ 1,000,000,000	5.22%	5.90%	0.04%	A-	$ 766,300,000	76.63%		40,000,000	0.000371488	0.001457390	5.85
Telus	Sr unsecured note		4.600	2048	81.57	$ 750,000,000	5.64%	6.13%	0.03%	Baa2	$ 611,775,000	81.57%		34,500,000	0.00028939	0.036788766	6.07
Verizon Communications	sr nt		4.522	2048	83.56	$ 5,000,000,000	5.41%	5.86%	0.18%	BBB+	$ 4,177,900,000	83.56%		226,100,000	0.001842370	0.008739607	5.80
AT&T Inc	FR Global Notes		4.550	2049	82.92	$ 2,494,000,000	5.49%	5.91%	0.09%	BBB	$ 2,068,024,800	82.92%		113,477,000	0.000928092	0.002391438	5.88
Bell CDA	Senior unsec		4.300	2049	78.18	$ 600,000,000	5.50%	6.07%	0.02%	Baa2	$ 469,080,000	78.18%	$	25,800,000	0.000229047	0.01819866	6.00
Charter Communications	SSN		5.125	2049	78.5	$ 1,250,000,000	6.53%	7.02%	0.06%	BBB-	$ 981,250,000	78.50%		64,062,500	0.000552096	0.004390364	6.96
Comcast Corp NEW	sr note		3.999	2049	76.15	$ 1,999,999,000	5.251%	5.90%	0.07%	A-	$ 1,522,999,239	76.15%		79,979,960	0.000742648	0.002913492	5.82
Telus	Sr unsecured note		4.300	2049	77.54	$ 500,000,000	5.55%	6.13%	0.02%	Baa2	$ 387,700,000	77.54%		21,500,000	0.000192825	0.024513116	6.07
AT&T Inc	FR Global Notes		5.150	2050	90.31	$ 1,694,666,000	5.70%	5.91%	0.06%	BBB	$ 1,530,452,865	90.31%		87,275,299	0.00063009	0.001623574	5.89
Charter Communications	SSN		4.800	2050	75.32	$ 1,500,000,000	6.37%	6.92%	0.07%	BBB-	$ 1,129,800,000	75.32%		72,000,000	0.000653120	0.005193722	6.87
Comcast Corp NEW	sr note		3.450	2050	68.36	$ 1,800,000,000	5.05%	5.93%	0.07%	A-	$ 1,230,480,000	68.36%	$	62,100,000	0.000671883	0.00263587	5.87
AT&T Inc	SUN		3.650	2051	70.44	$ 3,000,000,000	5.181%	5.93%	0.11%	BBB	$ 2,113,290,000	70.44%		109,500,000	0.001118726	0.002882649	5.84
Charter Communications	Note		3.700	2051	62.6	$ 1,400,000,000	5.91%	6.84%	0.06%	BBB-	$ 876,400,000	62.60%		51,800,000	0.00060249	0.004791143	6.76
Comcast Corp NEW	sr note		2.887	2051	60.27	$ 4,959,172,000	4.79%	5.95%	0.19%	A-	$ 2,988,892,964	60.27%		143,171,296	0.001858313	0.007290374	5.83
Comcast Corp NEW	sr note		2.800	2051	59.59	$ 1,700,000,000	4.699%	5.91%	0.06%	A-	$ 1,013,030,000	59.59%		47,600,000	0.000631749	0.002478425	5.83
AT&T Inc	SUN		3.300	2052	67	$ 2,250,000,000	4.93%	5.76%	0.08%	BBB	$ 1,507,500,000	67.00%		74,250,000	0.00081521	0.002100570	5.70
Bell CDA	Senior unsec		3.200	2052	63.96	$ 650,000,000	5.00%	5.93%	0.02%	Baa2	$ 415,740,000	63.96%		20,800,000	0.000242585	0.019274297	5.87
Charter Communications	Note		3.900	2052	64.50	$ 1,000,000,000	6.05%	6.84%	0.04%	BBB-	$ 645,000,000	64.50%		39,000,000	0.000430167	0.003420759	6.76
Comcast Corp NEW	sr note		4.049	2052	75.72	$ 1,499,879,000	5.347%	5.88%	0.06%	A-	$ 1,135,708,379	75.72%		60,730,101	0.000554920	0.002177014	5.82
Comcast Corp NEW	sr note		2.450	2052	54.39	$ 1,500,000,000	4.50%	5.89%	0.06%	A-	$ 815,850,000	54.39%		36,750,000	0.000556232	0.002182163	5.77
AT&T Inc	SUN		3.500	2053	67.43	$ 7,496,266,000	5.19%	5.93%	0.28%	BBB	$ 5,054,732,164	67.43%		262,369,310	0.00279725	0.007207750	5.85
Charter Communications	SSN		5.250	2053	81.04	$ 1,500,000,000	6.48%	6.79%	0.06%	BBB-	$ 1,215,600,000	81.04%		78,750,000	0.000640975	0.005097142	6.76
Verizon Communications	fx rt Notes		5.012	2054	89.08	$ 5,500,000,000	5.63%	5.80%	0.20%	BBB+	$ 4,899,400,000	89.08%		275,660,000	0.002009048	0.009530273	5.78
AT&T Inc	SUN		3.550	2055	67.51	$ 7,495,129,000	5.258%	5.90%	0.28%	BBB	$ 5,059,961,588	67.51%		266,077,080	0.002782875	0.007170702	5.83
Charter Communications	SSN		6.834	2055	97.73	$ 500,000,000	6.99%	7.02%	0.02%	BBB-	$ 488,650,000	97.73%		34,170,000	0.00022083	0.001756056	7.01
Verizon Communications	fx rt Notes		4.672	2055	84.6	$ 5,500,000,000	5.52%	5.77%	0.20%	BBB+	$ 4,653,000,000	84.60%		256,960,000	0.001997282	0.009474459	5.75
Comcast Corp NEW	sr note		2.937	2056	58.38	$ 5,963,382,000	5.031%	5.91%	0.22%	A-	$ 3,481,422,412	58.38%		175,144,529	0.002219683	0.008708071	5.82
Verizon Communications	Sr unsec note		2.987	2056	59.44	$ 4,498,814,000	5.03%	5.88%	0.17%	BBB+	$ 2,674,095,042	59.44%		134,379,574	0.00166386	0.007892815	5.79
AT&T Inc	FR Global Notes		5.700	2057	96.7	$ 1,000,000,000	5.89%	5.93%	0.04%	BBB	$ 967,000,000	96.70%		57,000,000	0.000373416	0.000962191	5.93
AT&T Inc	SUN		3.800	2057	69.26	$ 5,923,231,000	5.49%	5.99%	0.22%	BBB	$ 4,102,429,791	69.26%		225,082,778	0.002233782	0.005755840	5.93
AT&T Inc	FR Global Notes		5.300	2058	87.63	$ 643,706,000	6.05%	6.19%	0.03%	BBB	$ 564,079,568	87.63%		34,116,418	0.000250855	0.000646384	6.17
Comcast Corp NEW	sr note		4.950	2058	86.57	$ 2,500,000,000	5.718%	5.89%	0.09%	A-	$ 2,164,250,000	86.57%		123,750,000	0.000926089	0.003633155	5.86
AT&T Inc	SUN		3.650	2059	66.48	$ 6,495,911,000	5.490%	5.99%	0.24%	BBB	$ 4,318,481,633	66.48%		237,100,752	0.002449376	0.006311368	5.94
AT&T Inc	SUN		3.850	2060	69.43	$ 1,500,000,000	5.545%	5.96%	0.06%	BBB	$ 1,041,450,000	69.43%		57,750,000	0.000562347	0.001449014	5.92
Verizon Communications	Sr unsec note		3.000	2060	58.09	$ 2,000,000,000	5.16%	5.85%	0.07%	BBB+	$ 1,161,800,000	58.09%		60,000,000	0.000736853	0.003495391	5.78
AT&T Inc	SUN		3.500	2061	64.40	$ 1,500,000,000	5.43%	5.92%	0.06%	BBB	$ 966,000,000	64.40%		52,500,000	0.000559066	0.001440558	5.89
Charter Communications	SSN		3.850	2061	60.74	$ 1,350,000,000	6.34%	6.81%	0.06%	BBB-	$ 819,990,000	60.74%		51,975,000	0.000578415	0.004599656	6.76
Charter Communications	Note	callable	4.400	2061	66.67	$ 1,400,000,000	6.60%	6.95%	0.06%	BBB-	$ 933,380,000	66.67%		61,600,000	0.000612467	0.004870442	6.90
Verizon Communications	Sr unsec note		3.700	2061	68.05	$ 3,500,000,000	5.44%	5.86%	0.13%	BBB+	$ 2,381,715,000	68.05%		129,500,000	0.001290140	0.006120006	5.82
Charter Communications	SSN	callable	3.950	2062	61.13	$ 1,400,000,000	6.46%	6.88%	0.06%	BBB-	$ 855,820,000	61.13%		55,300,000	0.00060651	0.004823063	6.84
Comcast Corp NEW	sr note		2.650	2062	52.76	$ 1,250,000,000	5.02%	5.79%	0.05%	A-	$ 659,500,000	52.76%		33,125,000	0.00045511	0.001785441	5.71
Charter Communications	SSN	callable	5.500	2063	79.48	$ 1,000,000,000	6.92%	7.07%	0.04%	BBB-	$ 794,800,000	79.48%		55,000,000	0.000445072	0.003539289	7.05
Comcast Corp NEW	sr note		2.987	2063	56.56	$ 3,983,204,000	5.28%	5.88%	0.15%	A-	$ 2,252,900,182	56.56%		118,978,303	0.00147423	0.005783561	5.82
Comcast Corp NEW	sr note		5.500	2064	93.37	$ 1,400,000,000	5.89%	5.94%	0.05%	A-	$ 1,307,180,000	93.37%		77,000,000	0.000523484	0.002053687	5.93
Bell South Telecommunications	deb	NC	7.000	2095	104.95	$ 500,000,000	6.67%	6.67%	0.02%	BBB	$ 524,750,000	104.95%		35,000,000	0.00020975	0.000540475	6.66
Bell South Capital Funding	deb	Z100	7.120	2097	111.26	$ 500,000,000	6.40%	6.39%	0.02%	BBB	$ 556,300,000	111.26%		35,600,000	0.000201111	0.000518209	6.39
AT&T Inc	deb		7.120	2097	107.90	$ 85,856,000	6.60%	6.59%	0.00%	BBB	$ 92,638,624	107.90%		6,112,947	0.000035625	0.000091795	6.59
					Total	$ 158,907,543,000				Total	$ 120,147,575,911.70	75.61%	4.19%	$ 6,652,339,127	6.03%	6.120%	6.08

Source: FINRA , February 2025, 2024 Yr End Prices
Trace data

Embedded debt rate	**4.1863%**
Weighted average yield to maturity	**6.0286%**
Debt service / Market value	**5.5368%**
SAY	**6.00%**

DATA INPUT

WASHINGTON STATE DEPARTMENT OF REVENUE

2025 ASSESSMENT YEAR

TELECOMMUNICATIONS

Instructions: Data entered on this page will flow to the applicable worksheets.

Guideline Companies		**Stock Price**	**Revenues**	**Cash Flow**	**Earnings**	**Dividends**	**Capital Spending**	**Bk Value**	**Common**
Name	**Ticker**	**(YE Adj Close)**	**Per Share**	**Per Share**	**Per Share**	**Per Share**	**per share**	**Stock**	**Shares**
AT&T Inc	t	22.48	17.05	5.13	2.26	1.11	2.82	13.82	7,175,895,450
Altice USA, Inc	atus	2.41	19.33	3.33	(0.22)	nil	3.09	(1.01)	463,204,545
BCE Inc	bce	23.18	18.46	5.90	2.10	2.88	3.00	10.22	912,283,103
Cable One	cabo	358.50	287.25	98.75	35.10	11.80	56.35	345.45	5,619,365
Charter Communications Inc	chtr	342.77	388.07	96.91	34.97	nil	79.39	109.81	141,946,427
Comcast Corp	cmcsa	37.22	32.75	7.84	4.33	1.22	3.25	22.65	3,787,746,392
Lumen Technologies Inc	lumn	5.31	13.32	2.95	(0.06)	nil	3.28	0.35	1,014,768,000
Shenandoah Telecom	shen	12.61	6.01	1.22	(0.59)	0.10	5.84	16.82	54,605,000
Telus Corp	tu	13.56	9.41	2.32	0.48	1.11	1.27	7.22	1,488,000,000
Verizon Communications	vz	39.29	32.02	8.95	4.59	2.67	4.06	23.89	4,209,680,158
Value Line March 7, 2025		Yahoo	Value Line	Value Line	Value Line	Value Line	Value Line	Value Line	Value Line

											2025 Forecast			
Calculated Debt	**Wtd Avg YTM**	**Payout Ratio**	**Payout Ratio**	**ROE**	**Timeliness**	**Safety**	**Technical**	**Income Tax Rate**	**Return on Total Capital**	**CF growth**	**Revenues**	**CF**	**Earnings**	**Dividends**
mk to bk		**calculated**	**V L**	**V L**	**VL**	**VL**	**VL**	**VL**	**VL**	**VL**	**VL**	**VL**	**VL**	**VL**
79.16%	5.89%	49%	50%	15.8%	3	2	4	22.2%	9.00%	5.0%	17.55	5.55	2.35	1.11
68.77%	12.91%		nil	nmf		5		nmf	3.20%	-1.0%	18.60	3.45	(0.15)	nil
74.77%	5.99%	137%	nmf	15.4%	5	2	4	25.7%	7.50%	0.5%	17.90	5.70	1.90	2.79
93.38%		34%	34%	10.5%	3	3	3	22.0%	5.00%	4.5%	308.00	116.00	40.00	12.25
76.62%	6.93%		nil	32.6%	1	3	3	22.0%	7.10%	5.0%	397.55	101.40	37.30	nil
71.55%	5.89%	28%	28%	19.8%	2	1	5	22.1%	10.60%	8.5%	34.80	8.10	4.30	1.30
82.86%	9.78%		nil	nmf		5		26.0%	3.50%	-5.0%	12.25	1.90	(1.00)	nil
100.00%			nmf	nmf	4	3	4	nmf	nmf	12.0%	6.45	1.35	(0.45)	0.11
79.96%	6.13%	233%	nmf	6.4%	4	2	5	23.6%	3.80%	6.0%	10.24	2.55	0.56	1.22
86.49%	5.78%	58%	59%	19.0%	3	1	4	21.9%	10.50%	nil	32.50	9.00	4.70	2.72
					3	3	4	23%	6.69%	3.94%				
Bond analysis	Bond analysis	calculated	Value Line	Value Line					7.10%	5.00%				
81.36%									6.59%	4.92%				
79.08%		90%	43%	17.1%					**7.00%**	**4.0%**				
79.08%		53.6%	42.0%	15.8%					5.50%					
77.49%		52.5%	39.2%	13.6%					0.029					
									0.441					

		Forecast Dividends % Change						Forecast Earnings % Change						Forecast Ca
Common	**P/E**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2025**
Shares	**calc**	**VL**	**VL**	**VL**	**VL**	**VL**	**VL**	**VL**	**VL**	**VL**	**VL**	**VL**	**VL**	**VL**
7,100,000,000	9.57	4.5	2.5	-6.5	-6.5	-3.5	-3.5	5.5	2.5	0.5	1.5	4	4	3.5
462,000,000	nmf								44.5	10	-8.5	-12.5	-12.5	9
950,000,000	12.20	4	4.5	4	3.5	2	1	3	3.5	4.5	4.5	2.5	2	4
5,000,000	8.96	7.5	6.5	5.5	4	2.5	2.5	11.5	11.5	7	3.5	1	2.5	7
138,650,000	9.19							34	27.5	22.5	12.5	6.5	6.5	9.5
3,520,000,000	8.66	8.5	9	9	8.5	7	7	8.5	11	9	9	7.5	7.5	6.5
1,010,000,000	nmf	-9	-5.5	3	0	0		2.5	3.5	1.5	1.5	-31		2.5
58,000,000	nmf	8.5	5	-7	-1.5	12	11	19.5	6.5	9.5	44	39	32	6
1,540,000,000	24.10	7	7	7	6.5	6	6.5	9	13	15	16	12	12	8
4,215,000,000	8.36	2	2	2.5	2.5	2.5	2.5	4	2.5	2.5	1.5	0.5	0.5	1.5

avg	11.58
med	9.19
trimmed	9.71
max	24.10
min	8.36
std	5.67

ash Flow % Change					Forecast Revenue % Change						Income	
2026	2027	2028	2029	2030	2025	2026	2027	2028	2029	2030	Operating Income	EBITDA
VL	VL	VL	VL	VL	VL	VL	VL	VL	VL	VL	M*	M*
2	-0.5	0.5	3.5	3.5	2.5	1.5	-4.5	-2.5	-2		24,124,000,000	46,528,000,000
12	5	-0.5	-1	-2.5	6	7.5	3	2	-0.5	-1	1,703,788,000	3,413,181,000
3.5	3	2.5	2.5	2	0.5	2	2	2	1.5	1	3,852,777,778	7,353,472,222
7.5	3.5	7.5	4.5	5	5	3.5	-0.5	6.5	4	4	455,013,000	853,986,000
11	15	7	5	5	7.5	9	14.5	8	5.5	5.5	13,245,000,000	22,569,000,000
7.5	7.5	8.5	8.5	8.5	6.5	7.5	7	7.5	8.5	8.5	23,298,000,000	38,069,000,000
0.5	-1.5	1.5	76	76	-0.5	-2	-0.5	4	-4	-4	325,000,000	3,445,000,000
-7.5	0.5	10.5	10	11.5	4.5	-5.5	0.5	8.5	8.5	8.5	(13,700,000)	94,590,000
10	9.5	10.5	7	6.5	4	5	7	7	4	3.5	1,779,166,667	5,092,361,111
0.5	0.5	0.5	0		2	2.5	2.5	2	2	2	28,686,000,000	48,791,000,000

Balance Sheet						Cash Flow	Fair Value
Current Assets	**PP & E Gross**	**Intang**	**Current Liabilities**	**Long Term Debt**	**curr long term debt**	**Depreciation & Amortization**	**Debt**
M*	**M***	**M***	**M***	**M***	**M***	**M***	**10-K**
31,168,000,000	371,823,000,000	133,284,000,000	**46,872,000,000**	135,834,000,000	5,089,000,000	20,580,000,000	115,583,000,000
730,992,000	17,424,659,000	20,362,267,000	**2,254,796,000**	25,127,131,000	185,473,000	1,642,231,000	20,911,498,000
6,196,527,778	61,484,027,778	17,188,194,444	**10,309,722,222**	21,699,305,556		3,500,694,444	21,447,916,667
279,235,000	3,727,995,000	2,911,707,000	**213,872,000.00**	3,616,664,000	18,712,000	341,754,000	3,377,278,000
4,233,000,000	82,322,000,000	85,756,000,000	**13,486,000,000**	93,206,000,000	1,799,000,000	8,673,000,000	82,856,000,000
26,801,000,000	122,100,000,000	131,506,000,000	**39,581,000,000**	94,186,000,000	4,907,000,000	14,802,000,000	89,800,000,000
4,394,000,000	43,542,000,000	13,463,000,000	**3,639,000,000**	17,494,000,000	665,000,000	2,956,000,000	17,381,000,000
94,520,000	1,999,659,000	119,939,000	**114,571,000**	420,036,000	12,264,000	98,453,000	427,161,000
4,615,972,222	33,495,833,333	19,925,694,444	**6,827,083,333**	17,783,333,333	2,254,166,667	2,802,777,778	19,560,416,667
40,523,000,000	355,878,000,000	191,655,000,000	**64,771,000,000**	121,381,000,000	22,568,000,000	17,892,000,000	139,365,000,000
	1,093,797,174,111					73,288,910,222	510,709,270,333

AVERAGE FOURTH QUARTER STOCK PRICE

WASHINGTON STATE DEPARTMENT OF REVENUE

2025 ASSESSMENT YEAR

TELECOMMUNICATIONS

								12/31/2024
ATT	T							**Adj Close**
Date	Open	High	Low	Close	Adj Close	Volume		
12/31/2024	22.62	22.85	22.6	22.77	22.48	22,342,80		**22.48**
Lumen Tech	LUMN							
Date	Open	High	Low	Close	Adj Close	Volume		
12/31/2024	5.39	5.5	5.3	5.31	5.31	8,397,000		**5.31**
Comcast	CMCSA							
Date	Open	High	Low	Close	Adj Close	Volume		
12/31/2024	37.31	37.6	37.24	37.53	37.22	13,705,300		**37.22**
Verizon	VZ							
Date	Open	High	Low	Close	Adj Close	Volume		
12/31/2024	39.64	40.03	39.55	39.99	39.29	13,549,900		**39.29**
Telus	TU							
Date	Open	High	Low	Close	Adj Close	Volume		
12/31/2024	13.42	13.62	13.39	13.56	13.56	4,189,100		**13.56**
BCE	BCE							
Date	Open	High	Low	Close	Adj Close	Volume		
12/31/2024	22.6	23.29	22.54	23.18	23.18	3,820,900		**23.18**
Altice USA, In	ATUS							
Date	Open	High	Low	Close	Adj Close	Volume		
12/31/2024	2.36	2.43	2.35	2.41	2.41	2,224,100		**2.41**
CHTR								
Date	Open	High	Low	Close	Adj Close	Volume		
12/31/2024	344.48	345	341.06	342.77	342.77	472,80		**342.77**
Cable One, In	CABO							
Date	Open	High	Low	Close	Adj Close	Volume		
12/31/2024	359.52	362.17	358.73	362.12	358.5	79,900		**358.50**
Shenandoah T	SHEN							
Date	Open	High	Low	Close	Adj Close	Volume		
12/31/2024	12.56	12.79	12.41	12.61	12.61	145,200		**12.61**

Source:
finance.yahoo.com
Historical Stock Quotes
02/24/2025

IMPLIED PREMIUMS FOR US MARKET

Updated January 2025

These implied premiums are calculated using the S&P 500.

Year	*arnings Yiel*	*ividend Yiel*	*S&P 500*	*Earnings**	*Dividends**	*ends + Buyb*	*nge in Earni*	*nge in Divide*	*T.Bill Rate*	*T.Bond Rate*	*Bond-Bill*	*oothed Grow*	*d Premium (*	*t Growth Es*	*plied ERP (FCF*	*Implied Premiu*	*ERP/Riskfre*
1960	5.34%	3.41%	58.11	3.10	1.98				2.66%	2.76%	0.10%	2.45%					
1961	4.71%	2.85%	71.55	3.37	2.04		8.60%	2.91%	2.13%	2.35%	0.22%	2.41%	2.92%		2.92%		1.24
1962	5.81%	3.40%	63.1	3.67	2.15		8.79%	5.21%	2.73%	3.85%	1.12%	4.05%	3.56%		3.56%		0.92
1963	5.51%	3.13%	75.02	4.13	2.35		12.75%	9.45%	3.12%	4.14%	1.02%	4.96%	3.38%		3.38%		0.82
1964	5.62%	3.05%	84.75	4.76	2.58		15.23%	10.08%	3.54%	4.21%	0.67%	5.13%	3.31%		3.31%		0.79
1965	5.73%	3.06%	92.43	5.30	2.83		11.20%	9.42%	3.93%	4.65%	0.72%	5.46%	3.32%		3.32%		0.71
1966	6.74%	3.59%	80.33	5.41	2.88		2.23%	1.96%	4.76%	4.64%	-0.12%	4.19%	3.68%		3.68%		0.79
1967	5.66%	3.09%	96.47	5.46	2.98		0.85%	3.37%	4.21%	5.70%	1.49%	5.25%	3.20%		3.20%		0.56
1968	5.51%	2.93%	103.86	5.72	3.04		4.81%	2.09%	5.21%	6.16%	0.95%	5.32%	3.00%		3.00%		0.49
1969	6.63%	3.52%	92.06	6.10	3.24		6.66%	6.49%	6.58%	7.88%	1.30%	7.55%	3.74%		3.74%		0.47
1970	5.98%	3.46%	92.15	5.51	3.19		-9.72%	-1.61%	6.53%	6.50%	-0.03%	4.78%	3.41%		3.41%		0.52
1971	5.46%	3.10%	102.09	5.57	3.16		1.15%	-0.74%	4.39%	5.89%	1.50%	4.57%	3.09%		3.09%		0.52
1972	5.23%	2.70%	118.05	6.17	3.19		10.76%	0.71%	3.84%	6.41%	2.57%	5.21%	2.72%		2.72%		0.42
1973	8.16%	3.70%	97.55	7.96	3.61		28.93%	13.24%	6.93%	6.90%	-0.03%	8.30%	4.30%		4.30%		0.62
1974	13.64%	5.43%	68.56	9.35	3.72		17.48%	3.14%	8.00%	7.40%	-0.60%	6.42%	5.59%		5.59%		0.76
1975	8.55%	4.14%	90.19	7.71	3.73		-17.54%	0.30%	5.80%	7.76%	1.96%	5.99%	4.13%		4.13%		0.53
1976	9.07%	3.93%	107.46	9.75	4.22		26.39%	13.10%	5.08%	6.81%	1.73%	8.19%	4.55%		4.55%		0.67
1977	11.43%	5.11%	95.1	10.87	4.86		11.53%	15.07%	5.12%	7.78%	2.66%	9.52%	5.92%		5.92%		0.76
1978	12.11%	5.39%	96.11	11.64	5.18		7.07%	6.60%	7.18%	9.15%	1.97%	8.48%	5.72%		5.72%		0.63
1979	13.48%	5.53%	107.94	14.55	5.97		25.01%	15.23%	10.38%	10.33%	-0.05%	11.70%	6.45%		6.45%		0.62
1980	11.04%	4.74%	135.76	14.99	6.44		3.01%	7.81%	11.24%	12.43%	1.19%	11.01%	5.03%		5.03%		0.40
1981	12.39%	5.57%	122.55	15.18	6.83		1.31%	6.08%	14.71%	13.98%	-0.73%	11.42%	5.73%		5.73%		0.41
1982	9.83%	4.93%	140.64	13.82	6.93		-8.95%	1.58%	10.54%	10.47%	-0.07%	7.96%	4.90%		4.90%		0.47
1983	8.06%	4.32%	164.93	13.29	7.12		-3.84%	2.76%	8.80%	11.80%	3.00%	9.09%	4.31%		4.31%		0.37
1984	10.07%	4.68%	167.24	16.84	7.83		26.69%	9.85%	9.85%	11.51%	1.66%	11.02%	5.11%		5.11%		0.44
1985	7.42%	3.88%	211.28	15.68	8.20		-6.91%	4.74%	7.72%	8.99%	1.27%	7.89%	4.03%	6.75%	3.84%		0.43
1986	5.96%	3.38%	242.17	14.43	8.19		-7.93%	-0.15%	6.16%	7.22%	1.06%	5.54%	3.36%	6.96%	3.58%		0.50
1987	6.49%	3.71%	247.08	16.04	9.17		11.10%	11.99%	5.47%	8.86%	3.39%	9.66%	4.18%	8.58%	3.99%		0.45
1988	8.20%	3.68%	277.72	24.12	10.22		50.42%	11.49%	6.35%	9.14%	2.79%	9.76%	4.12%	7.67%	3.77%		0.41
1989	6.80%	3.32%	353.4	24.32	11.73		0.83%	14.80%	8.37%	7.93%	-0.44%	9.58%	3.85%	7.46%	3.51%		0.44
1990	6.58%	3.74%	330.22	22.65	12.35		-6.87%	5.26%	7.81%	8.07%	0.26%	7.39%	3.92%	7.19%	3.89%		0.48
1991	4.58%	3.11%	417.09	19.30	12.97		-14.79%	5.03%	7.00%	6.70%	-0.30%	6.34%	3.27%	7.81%	3.48%		0.52
1992	4.16%	2.90%	435.71	20.87	12.64		8.13%	-2.59%	5.30%	6.68%	1.38%	4.67%	2.83%	9.83%	3.55%		0.53
1993	4.25%	2.72%	466.45	26.90	12.69		28.89%	0.41%	3.50%	5.79%	2.29%	4.73%	2.74%	8.00%	3.17%		0.55
1994	5.89%	2.91%	459.27	31.75	13.36		18.03%	5.34%	5.00%	7.82%	2.82%	7.23%	3.06%	7.17%	3.55%		0.45
1995	5.74%	2.30%	615.93	37.70	14.17		18.74%	6.00%	3.50%	5.57%	2.07%	5.65%	2.44%	6.50%	3.29%		0.59
1996	4.83%	2.01%	740.74	40.63	14.89		7.77%	5.10%	5.00%	6.41%	1.41%	6.13%	2.11%	7.92%	3.20%		0.50
1997	4.08%	1.60%	970.43	44.09	15.52		8.52%	4.25%	5.35%	5.74%	0.39%	5.45%	1.67%	8.00%	2.73%		0.48
1998	3.11%	1.32%	1229.23	44.27	16.20		0.41%	4.37%	4.33%	4.65%	0.32%	4.60%	1.38%	7.20%	2.26%		0.49
1999	3.07%	1.14%	1469.25	51.68	16.71		16.74%	3.16%	5.37%	6.44%	1.07%	5.75%	1.20%	12.50%	2.05%		0.32
2000	3.94%	1.23%	1320.28	56.13	16.27		8.61%	-2.65%	5.73%	5.11%	-0.62%	3.71%	1.65%	12.00%	2.87%		0.56
2001	3.85%	1.37%	1148.09	38.85	15.74	30.08	-30.79%	-3.24%	1.80%	5.05%	3.25%	3.56%	1.73%	10.30%	3.62%	2.91%	0.72
2002	5.23%	1.83%	879.82	46.04	16.08	29.83	18.51%	2.15%	1.20%	3.81%	2.61%	3.57%	2.29%	8.00%	4.10%	4.73%	1.08
2003	4.87%	1.61%	1111.91	54.69	17.88	31.58	18.79%	11.19%	1.00%	4.25%	3.25%	5.35%	2.12%	11.00%	3.69%	4.74%	0.87
2004	5.58%	1.60%	1211.92	67.68	19.407	40.60	23.75%	8.54%	2.18%	4.22%	2.04%	4.90%	2.02%	8.50%	3.65%	4.86%	0.86
2005	5.47%	1.79%	1248.29	76.45	22.38	61.17	12.96%	15.32%	4.31%	4.39%	0.08%	6.16%	2.20%	8.00%	4.08%	5.22%	0.93
2006	6.18%	1.77%	1418.3	87.72	25.05	73.16	14.74%	11.93%	4.88%	4.70%	-0.18%	5.93%	1.97%	12.50%	4.16%	6.12%	0.89
2007	5.62%	1.89%	1468.36	82.54	27.73	95.36	-5.91%	10.70%	3.31%	4.02%	0.71%	5.03%	2.06%	5.00%	4.37%	4.59%	1.09
2008	7.24%	3.11%	903.25	65.39	28.05	67.52	-20.78%	1.15%	1.59%	2.21%	0.62%	2.11%	4.05%	4.00%	6.43%	6.92%	2.91
2009	5.35%	2.00%	1115.10	59.65	22.31	37.43	-8.78%	-20.46%	0.14%	3.84%	3.70%	0.28%	2.60%	7.20%	4.36%	4.64%	1.14
2010	6.65%	1.84%	1257.64	83.66	23.12	55.53	40.25%	3.63%	0.13%	3.29%	3.16%	3.33%	2.24%	6.95%	5.20%	6.09%	1.58
2011	7.72%	2.07%	1257.60	97.05	26.02	**71.28**	16.01%	12.54%	0.03%	1.88%	1.85%	2.75%	2.71%	7.18%	6.01%	8.34%	3.20
2012	7.18%	2.13%	1426.19	102.47	30.44	75.90	5.58%	16.99%	0.05%	1.76%	1.71%	2.93%	2.47%	5.27%	5.78%	7.30%	3.28
2013	5.81%	1.96%	1848.36	107.45	36.28	88.13	4.86%	19.19%	0.07%	3.04%	2.97%	5.01%	2.03%	4.28%	4.96%	4.99%	1.63
2014	5.49%	1.92%	2058.90	113.01	39.44	101.98	5.17%	8.71%	0.05%	2.17%	2.12%	2.77%	2.24%	5.58%	5.78%	5.48%	2.66
2015	5.20%	2.11%	2043.94	106.32	43.16	106.10	-5.92%	9.43%	0.21%	2.27%	2.06%	2.96%	2.46%	5.51%	6.12%	5.16%	2.70
2016	4.86%	2.01%	2238.83	108.86	45.03	108.67	2.39%	4.33%	0.51%	2.45%	1.94%	2.64%	2.41%	5.54%	5.69%	4.50%	2.32
2017	4.67%	1.86%	2673.61	124.94	49.73	108.28	14.77%	10.44%	1.39%	2.41%	1.02%	3.22%	2.36%	7.05%	5.08%	4.75%	2.11
2018	5.92%	2.14%	2506.85	148.34	53.61	136.65	18.73%	7.80%	2.37%	2.68%	0.31%	3.24%	2.50%	4.12%	5.96%	5.55%	2.22
2019	5.03%	1.82%	3230.78	*162.35*	*58.80*	150.50	9.44%	9.68%	1.55%	1.92%	0.37%	2.57%	2.03%	3.96%	5.20%	5.06%	2.71
2020	3.72%	1.51%	3756.07	139.76	56.70	127.78	-13.91%	-3.57%	0.09%	0.93%	0.84%	0.74%	1.65%	5.42%	4.72%	4.94%	5.08
2021	4.33%	1.24%	4766.18	206.38	59.20	147.24	47.67%	4.41%	0.06%	1.51%	1.45%	1.71%	1.72%	6.47%	4.24%	4.90%	2.81
2022	5.72%	1.78%	3839.50	219.49	68.34	181.99	6.35%	15.44%	4.42%	3.88%	-0.54%	5.59%	2.16%	6.41%	5.94%	5.11%	1.53
2023	4.64%	1.47%	4769.83	221.36	70.07	164.79	0.85%	2.53%	5.20%	3.88%	-1.32%	3.68%	1.97%	8.74%	4.60%	4.57%	1.19
2024	4.14%	1.25%	5881.63	243.32	73.40	168.60	9.92%	4.75%	5.07%	4.58%	-0.49%	4.61%	1.76%	9.57%	4.33%	4.00%	0.95

Update: January 2025