

2017

CAPITALIZATION RATE STUDY FOR CENTRALLY ASSESSED PROPERTIES

FOR: JANUARY 1, 2017



UTAH STATE TAX COMMISSION

**PROPERTY TAX DIVISION
UTILITIES & TRANSPORTATION SECTION
210 NORTH 1950 WEST, THIRD FLOOR
SALT LAKE CITY, UTAH 84134**

(801) 297-3600

www.propertytax.utah.gov



UTAH STATE TAX COMMISSION
PROPERTY TAX DIVISION
SUMMARY OF EQUITY RATES AND CAPITAL STRUCTURE

4/1/2017
2017
Page 1 of 28

Industry	Page	Equity Yield Rate	Debt / Equity	Income Tax Rate
LEGACY AIR CARRIERS	3	11.30%	45% / 55%	36.76%
DISCOUNT AIR CARRIERS	5	10.13%	25% / 75%	37.08%
REGIONAL AIR CARRIERS	7	12.07%	65% / 35%	39.37%
SOUTHWEST AIRLINES	9	10.13%	20% / 80%	37.31%
FREIGHT AIR CARRIERS	11	9.13%	25% / 75%	34.77%
ELECTRIC UTILITIES	13	8.43%	35% / 65%	33.19%
NATURAL GAS UTILITIES	15	7.80%	35% / 65%	38.06%
NATURAL GAS PIPELINES	17	11.81%	45% / 55%	30.58%
LIQUID PIPELINES	19	12.31%	40% / 60%	38.50%
RAILROAD & TERMINAL	21	11.08%	20% / 80%	32.96%
RAILROAD - SHORTLINE	23	11.23%	25% / 75%	32.99%
WIRELESS TELECOMS	25	8.48%	35% / 65%	30.68%
WIRELINE TELECOMS	27	10.42%	55% / 45%	40.24%



**UTAH STATE TAX COMMISSION
PROPERTY TAX DIVISION
KEY RATES AND FIGURES**

4/1/2017

2017

Page 2 of 28

CORPORATE BONDS

Aaa	4.06%
Aa	4.12%
A	4.28%
Baa	4.83%
Ba1	6.94%
Ba2	7.00%
Ba3	7.00%
B1	7.57%
B2	7.57%
B3	7.57%
Caa1	8.18%
Caa2	8.18%
Caa3	8.99%
Ca	12.55%
C	15.87%

PUBLIC UTILITY BONDS

Aaa	N/A
Aa	4.11%
A	4.27%
Baa	4.79%

PREFERRED STOCKS

Aaa	N/A
Aa	N/A
A	N/A
Baa	N/A

MISCELLANEOUS RATES

Airline 'TEFRA' Relief Factor	5.30%
4-R Act Relief for Railroads	11.67%
4-R Act Relief (BNSF only)	5.29%
Rural Telephone Equity Rate Adj.	4.00%
Default Income Tax Rate	38.50%
ValueLine GDP Price Deflator Forecast	2.40%

INFLATION FACTORS

Year	4th Quarter GDP Implicit Price Deflator	Annual Percent Change	Conversion Factor
2006	95.591	N/A	1.174
2007	97.945	2.46%	1.146
2008	99.805	1.90%	1.125
2009	100.183	0.38%	1.120
2010	101.963	1.78%	1.101
2011	103.913	1.91%	1.080
2012	105.937	1.95%	1.060
2013	107.674	1.64%	1.042
2014	109.321	1.53%	1.027
2015	110.498	1.08%	1.016
2016	112.243	1.58%	1.000

2017 - 2007 Average Change: 1.62%

Source:

U.S. Department of Commerce: Bureau of Economic Analysis
Gross Domestic Product: Implicit Price Deflator

Website:

<http://alfred.stlouisfed.org/series?seid=GDPDEF>

MISCELLANEOUS INFORMATION

Resources:

Market risk premium and supply side risk premium are taken from:

CRSP Deciles Size Premia Study: Key Variables as of 12/31/2016. 2017 Valuation Handbook - U.S. Guide to Cost of Capital

Stock prices are December 30, 2016 closing from Yahoo! Finance. (2017). Retrieved from <http://finance.yahoo.com/>

Bond yield information derived from Mergent bond record. (January 2017 Vol. 84, No. 1). New York: Mergent, Inc.

Company and industry data from (2017). Value line. New York: Value Line Inc. Retrieved from <http://www.valueline.com/>



UTAH STATE TAX COMMISSION
PROPERTY TAX DIVISION
LEGACY AIR CARRIERS -- EQUITY RATE MODELS

RECONCILIATION	
Equity Models	Equity Rate
CAPM: Rule 62 Compliant	11.47%
CAPM: Supply Side	10.25%
CAPM: Implied ERP	9.82%
CAPM: Total NYSE	N/A
CAPM: Deciles 1 & 2	N/A
Division's Risk Premium	10.01%
DGM: Earnings & Dividend	20.90%
DGM: Plowback Ratio	32.69%
Reconciled Equity Rate	11.30%
Debt/Equity Structure	45.00% / 55.00%

CAPM: RULE 62 COMPLIANT	
Market Risk Premium	6.94%
x Industry Beta	1.25
Industry Risk Premium	8.68%
Add: Risk-Free Rate	2.79%
Indicated Rate	11.47%

DIVISION'S RISK PREMIUM	
Market Risk Premium	6.94%
x Industry Financial Strength	1.04
Industry Risk Premium	7.22%
Add: Risk-Free Rate	2.79%
Indicated Rate	10.01%

CAPM: IMPLIED ERP	
Market Risk Premium	5.62%
x Industry Beta	1.25
Industry Risk Premium	7.03%
Add: Risk-Free Rate	2.79%
Indicated Rate	9.82%

CAPM: SUPPLY SIDE	
Market Risk Premium	5.97%
x Industry Beta	1.25
Industry Risk Premium	7.46%
Add: Risk-Free Rate	2.79%
Indicated Rate	10.25%

DIVIDEND GROWTH MODELS						
Company Name	Recent Stock Price	Next Year's Dividend	EPS & DIV. GROWTH		PLOWBACK RATIO	
			Market Growth Rate	D.G.M. Rate	Market Growth Rate	D.G.M. Rate
American Airlines	\$46.69	\$0.40	-	-	42.86%	43.71%
Delta Air Lines	\$49.19	\$0.81	19.25%	20.90%	20.03%	21.67%
United Cont'l Hldgs.	\$75.17	-	5.50%	-	-	-
Indicated Rate			20.90%		32.69%	



**UTAH STATE TAX COMMISSION
PROPERTY TAX DIVISION
LEGACY AIR CARRIERS -- CAPITAL STRUCTURE**

4/1/2017
2017
Page 4 of 28

CALCULATION OF CAPITAL STRUCTURE

Company Name	Total Debt	Long-Term Interest	Implied Coupon Rate*	Market Value of Debt**	Fair Value of Debt***	Pref'd Divs	MV of Pref Eqty+	Recent Stock Price	Shares Outstd	Market Value of Equity
American Airlines	23,343.0	1,000.0	2.14%	16,573.3	32,193.1	-	-	46.69	624.6	29,163.5
Delta Air Lines	7,565.0	400.0	2.64%	6,181.7	18,091.5	-	-	49.19	730.7	35,945.0
United Cont'l Hldgs.	11,457.0	620.0	2.71%	9,513.8	24,970.7	-	-	75.17	314.6	23,649.4
Total				75,255.4			-			88,757.9

GUIDELINE COMPANY INFORMATION SUMMARY

Company Name	Tax Rate	Relative Financial Strength	Beta	Percent Debt & Preferred Equity	Percent Common Equity
American Airlines	NMF	1.00 (B+)	1.25	52.47%	47.53%
Delta Air Lines	36.76%	1.00 (B+)	1.25	33.48%	66.52%
United Cont'l Hldgs.	NMF	1.11 (B)	1.25	51.36%	48.64%
Mean	36.76%	1.04	1.25	45.77%	54.23%
Weighted Mean				45.88%	54.12%



**UTAH STATE TAX COMMISSION
PROPERTY TAX DIVISION
DISCOUNT AIR CARRIERS -- EQUITY RATE MODELS**

4/1/2017
2017
Page 5 of 28

RECONCILIATION

Equity Models	Equity Rate
CAPM: Rule 62 Compliant	10.42%
CAPM: Supply Side	9.36%
CAPM: Implied ERP	8.97%
CAPM: Total NYSE	N/A
CAPM: Deciles 1 & 2	N/A
Division's Risk Premium	8.62%
DGM: Earnings & Dividend	21.16%
DGM: Plowback Ratio	19.97%
Reconciled Equity Rate	10.13%
Debt/Equity Structure	25.00% / 75.00%

CAPM: RULE 62 COMPLIANT

Market Risk Premium	6.94%
x Industry Beta	1.10
Industry Risk Premium	7.63%
Add: Risk-Free Rate	2.79%
Indicated Rate	10.42%

DIVISION'S RISK PREMIUM

Market Risk Premium	6.94%
x Industry Financial Strength	0.84
Industry Risk Premium	5.83%
Add: Risk-Free Rate	2.79%
Indicated Rate	8.62%

CAPM: IMPLIED ERP

Market Risk Premium	5.62%
x Industry Beta	1.10
Industry Risk Premium	6.18%
Add: Risk-Free Rate	2.79%
Indicated Rate	8.97%

CAPM: SUPPLY SIDE

Market Risk Premium	5.97%
x Industry Beta	1.10
Industry Risk Premium	6.57%
Add: Risk-Free Rate	2.79%
Indicated Rate	9.36%

DIVIDEND GROWTH MODELS

Company Name	Recent Stock Price	Next Year's Dividend	EPS & DIV. GROWTH		PLOWBACK RATIO	
			Market Growth Rate	D.G.M. Rate	Market Growth Rate	D.G.M. Rate
Alaska Air Group	\$88.73	\$1.10	17.50%	18.74%	19.83%	21.06%
Allegiant Travel	\$166.40	\$2.80	22.50%	24.18%	17.05%	18.73%
Hawaiian Hldgs.	\$57.00	-	22.00%	-	41.00%	-
JetBlue Airways	\$22.42	-	13.00%	-	16.85%	-
Southwest Airlines	\$49.84	\$0.40	19.75%	20.55%	19.32%	20.12%
Spirit Airlines	\$57.86	-	6.50%	-	20.00%	-
Indicated Rate			21.16%		19.97%	



**UTAH STATE TAX COMMISSION
PROPERTY TAX DIVISION
DISCOUNT AIR CARRIERS -- CAPITAL STRUCTURE**

4/1/2017
2017
Page 6 of 28

CALCULATION OF CAPITAL STRUCTURE

Company Name	Total Debt	Long-Term Interest	Implied Coupon Rate*	Market Value of Debt**	Fair Value of Debt***	Pref'd Divs	MV of Pref Eqty+	Recent Stock Price	Shares Outstd	Market Value of Equity
Alaska Air Group	2,136.0	105.0	2.46%	1,660.6	5,266.9	-	-	88.73	123.3	10,943.0
Allegiant Travel	699.0	26.5	1.90%	459.5	1,379.5	-	-	166.40	16.6	2,767.8
Hawaiian Hldgs.	564.6	27.5	2.44%	436.2	1,244.8	-	-	57.00	53.4	3,045.8
JetBlue Airways	1,689.0	75.0	2.22%	1,227.4	2,465.5	-	-	22.42	337.0	7,555.5
Southwest Airlines	3,295.0	110.0	1.67%	2,006.8	6,690.8	-	-	49.84	615.2	30,659.6
Spirit Airlines	979.2	50.0	2.55%	781.2	2,731.1	-	-	57.86	69.3	4,011.2
Total				19,778.7			-			58,982.9

GUIDELINE COMPANY INFORMATION SUMMARY

Company Name	Tax Rate	Relative Financial Strength	Beta	Percent Debt & Preferred Equity	Percent Common Equity
Alaska Air Group	35.37%	0.78 (A)	1.10	32.49%	67.51%
Allegiant Travel	36.45%	0.89 (B++)	0.80	33.26%	66.74%
Hawaiian Hldgs.	38.23%	1.11 (B)	1.15	29.01%	70.99%
JetBlue Airways	38.29%	1.00 (B+)	1.10	24.60%	75.40%
Southwest Airlines	37.31%	0.78 (A)	1.10	17.91%	82.09%
Spirit Airlines	36.86%	0.89 (B++)	1.30	40.51%	59.49%
Selected	37.08%	0.84	1.10	29.63%	70.37%
Weighted Mean				25.11%	74.89%



**UTAH STATE TAX COMMISSION
PROPERTY TAX DIVISION
REGIONAL AIR CARRIERS -- EQUITY RATE MODELS**

RECONCILIATION	
Equity Models	Equity Rate
CAPM: Rule 62 Compliant	12.85%
CAPM: Supply Side	11.45%
CAPM: Implied ERP	10.94%
CAPM: Total NYSE	N/A
CAPM: Deciles 1 & 2	N/A
Division's Risk Premium	9.73%
DGM: Earnings & Dividend	11.80%
DGM: Plowback Ratio	7.13%
Reconciled Equity Rate	12.07%
Debt/Equity Structure	65.00% / 35.00%

CAPM: RULE 62 COMPLIANT	
Market Risk Premium	6.94%
x Industry Beta	1.45
Industry Risk Premium	10.06%
Add: Risk-Free Rate	2.79%
Indicated Rate	12.85%

DIVISION'S RISK PREMIUM	
Market Risk Premium	6.94%
x Industry Financial Strength	1.00
Industry Risk Premium	6.94%
Add: Risk-Free Rate	2.79%
Indicated Rate	9.73%

CAPM: IMPLIED ERP	
Market Risk Premium	5.62%
x Industry Beta	1.45
Industry Risk Premium	8.15%
Add: Risk-Free Rate	2.79%
Indicated Rate	10.94%

CAPM: SUPPLY SIDE	
Market Risk Premium	5.97%
x Industry Beta	1.45
Industry Risk Premium	8.66%
Add: Risk-Free Rate	2.79%
Indicated Rate	11.45%

DIVIDEND GROWTH MODELS						
Company Name	Recent Stock Price	Next Year's Dividend	EPS & DIV. GROWTH		PLOWBACK RATIO	
			Market Growth Rate	D.G.M. Rate	Market Growth Rate	D.G.M. Rate
SkyWest	\$36.45	\$0.20	11.25%	11.80%	6.58%	7.13%
Indicated Rate			11.80%		7.13%	



UTAH STATE TAX COMMISSION
PROPERTY TAX DIVISION
REGIONAL AIR CARRIERS -- CAPITAL STRUCTURE

4/1/2017
2017
 Page 8 of 28

CALCULATION OF CAPITAL STRUCTURE

Company Name	Total Debt	Long-Term Interest	Implied Coupon Rate*	Market Value of Debt**	Fair Value of Debt***	Pref'd Divs	MV of Pref Eqty+	Recent Stock Price	Shares Outstd	Market Value of Equity
SkyWest	2,225.1	80.0	1.80%	1,875.3	3,361.6	-	-	36.45	51.8	1,886.9
Total				3,361.6			-			1,886.9

GUIDELINE COMPANY INFORMATION SUMMARY

Company Name	Tax Rate	Relative Financial Strength	Beta	Percent Debt & Preferred Equity	Percent Common Equity
SkyWest	39.37%	1.00 (B+)	1.45	64.05%	35.95%
Mean	39.37%	1.00	1.45	64.05%	35.95%
Weighted Mean				64.05%	35.95%



**UTAH STATE TAX COMMISSION
PROPERTY TAX DIVISION
SOUTHWEST AIRLINES -- EQUITY RATE MODELS**

4/1/2017
2017
Page 9 of 28

RECONCILIATION

Equity Models	Equity Rate
CAPM: Rule 62 Compliant	10.42%
CAPM: Supply Side	9.36%
CAPM: Implied ERP	8.97%
CAPM: Total NYSE	N/A
CAPM: Deciles 1 & 2	N/A
Division's Risk Premium	8.20%
DGM: Earnings & Dividend	20.55%
DGM: Plowback Ratio	20.12%
Reconciled Equity Rate	10.13%
Debt/Equity Structure	20.00% / 80.00%

CAPM: RULE 62 COMPLIANT

Market Risk Premium	6.94%
x Industry Beta	1.10
Industry Risk Premium	7.63%
Add: Risk-Free Rate	2.79%
Indicated Rate	10.42%

DIVISION'S RISK PREMIUM

Market Risk Premium	6.94%
x Industry Financial Strength	0.78
Industry Risk Premium	5.41%
Add: Risk-Free Rate	2.79%
Indicated Rate	8.20%

CAPM: IMPLIED ERP

Market Risk Premium	5.62%
x Industry Beta	1.10
Industry Risk Premium	6.18%
Add: Risk-Free Rate	2.79%
Indicated Rate	8.97%

CAPM: SUPPLY SIDE

Market Risk Premium	5.97%
x Industry Beta	1.10
Industry Risk Premium	6.57%
Add: Risk-Free Rate	2.79%
Indicated Rate	9.36%

DIVIDEND GROWTH MODELS

Company Name	Recent Stock Price	Next Year's Dividend	EPS & DIV. GROWTH		PLOWBACK RATIO	
			Market Growth Rate	D.G.M. Rate	Market Growth Rate	D.G.M. Rate
Southwest Airlines	\$49.84	\$0.40	19.75%	20.55%	19.32%	20.12%
Indicated Rate				20.55%		20.12%



**UTAH STATE TAX COMMISSION
PROPERTY TAX DIVISION
SOUTHWEST AIRLINES -- CAPITAL STRUCTURE**

4/1/2017
2017
Page 10 of 28

CALCULATION OF CAPITAL STRUCTURE

Company Name	Total Debt	Long-Term Interest	Implied Coupon Rate*	Market Value of Debt**	Fair Value of Debt***	Pref'd Divs	MV of Pref Eqty+	Recent Stock Price	Shares Outstd	Market Value of Equity
Southwest Airlines	3,295.0	110.0	1.67%	2,669.2	6,919.0	-	-	49.84	615.2	30,659.6
Total				6,919.0			-			30,659.6

GUIDELINE COMPANY INFORMATION SUMMARY

Company Name	Tax Rate	Relative Financial Strength	Beta	Percent Debt & Preferred Equity	Percent Common Equity
Southwest Airlines	37.31%	0.78 (A)	1.10	18.41%	81.59%
Mean	37.31%	0.78	1.10	18.41%	81.59%
Weighted Mean				18.41%	81.59%



UTAH STATE TAX COMMISSION
PROPERTY TAX DIVISION
FREIGHT AIR CARRIERS -- EQUITY RATE MODELS

RECONCILIATION

Equity Models	Equity Rate
CAPM: Rule 62 Compliant	9.38%
CAPM: Supply Side	8.46%
CAPM: Implied ERP	8.13%
CAPM: Total NYSE	N/A
CAPM: Deciles 1 & 2	N/A
Division's Risk Premium	7.65%
DGM: Earnings & Dividend	14.48%
DGM: Plowback Ratio	14.12%
Reconciled Equity Rate	9.13%
Debt/Equity Structure	25.00% / 75.00%

CAPM: RULE 62 COMPLIANT

Market Risk Premium	6.94%
x Industry Beta	0.95
Industry Risk Premium	6.59%
Add: Risk-Free Rate	2.79%
Indicated Rate	9.38%

DIVISION'S RISK PREMIUM

Market Risk Premium	6.94%
x Industry Financial Strength	0.70
Industry Risk Premium	4.86%
Add: Risk-Free Rate	2.79%
Indicated Rate	7.65%

CAPM: IMPLIED ERP

Market Risk Premium	5.62%
x Industry Beta	0.95
Industry Risk Premium	5.34%
Add: Risk-Free Rate	2.79%
Indicated Rate	8.13%

CAPM: SUPPLY SIDE

Market Risk Premium	5.97%
x Industry Beta	0.95
Industry Risk Premium	5.67%
Add: Risk-Free Rate	2.79%
Indicated Rate	8.46%

DIVIDEND GROWTH MODELS

Company Name	Recent Stock Price	Next Year's Dividend	EPS & DIV. GROWTH		PLOWBACK RATIO	
			Market Growth Rate	D.G.M. Rate	Market Growth Rate	D.G.M. Rate
Atlas Air Worldwide	\$52.15	-	15.00%	-	9.00%	-
FedEx Corp.	\$151.78	\$1.60	16.00%	17.05%	13.07%	14.12%
United Parcel Serv.	\$114.64	\$3.32	9.00%	11.90%	-	-
Indicated Rate			14.48%		14.12%	



UTAH STATE TAX COMMISSION
PROPERTY TAX DIVISION
FREIGHT AIR CARRIERS -- CAPITAL STRUCTURE

4/1/2017
2017
 Page 12 of 28

CALCULATION OF CAPITAL STRUCTURE

Company Name	Total Debt	Long-Term Interest	Implied Coupon Rate*	Market Value of Debt**	Fair Value of Debt***	Pref'd Divs	MV of Pref Eqty+	Recent Stock Price	Shares Outstd	Market Value of Equity
Atlas Air Worldwide	1,872.7	110.0	2.94%	2,121.6	2,564.3	-	-	52.15	25.0	1,304.6
FedEx Corp.	13,782.0	450.0	1.63%	11,035.9	28,968.4	-	-	151.78	265.5	40,301.3
United Parcel Serv.	15,326.0	325.0	1.06%	10,038.7	18,452.2	-	-	114.64	869.0	99,622.2
Total				49,984.9			-			141,228.1

GUIDELINE COMPANY INFORMATION SUMMARY

Company Name	Tax Rate	Relative Financial Strength	Beta	Percent Debt & Preferred Equity	Percent Common Equity
Atlas Air Worldwide	NMF	1.00 (B+)	1.30	66.28%	33.72%
FedEx Corp.	35.53%	0.56 (A++)	1.10	41.82%	58.18%
United Parcel Serv.	34.01%	0.78 (A)	0.85	15.63%	84.37%
Selected	34.77%	0.70	0.95	41.24%	58.76%
Weighted Mean				26.14%	73.86%



UTAH STATE TAX COMMISSION
PROPERTY TAX DIVISION
ELECTRIC UTILITIES -- EQUITY RATE MODELS

RECONCILIATION

Equity Models	Equity Rate
CAPM: Rule 62 Compliant	7.72%
CAPM: Supply Side	7.03%
CAPM: Implied ERP	6.78%
CAPM: Total NYSE	N/A
CAPM: Deciles 1 & 2	N/A
Division's Risk Premium	8.34%
DGM: Earnings & Dividend	9.13%
DGM: Plowback Ratio	6.93%
Reconciled Equity Rate	8.43%
Debt/Equity Structure	35.00% / 65.00%

CAPM: RULE 62 COMPLIANT

Market Risk Premium	6.94%
x Industry Beta	0.71
Industry Risk Premium	4.93%
Add: Risk-Free Rate	2.79%
Indicated Rate	7.72%

DIVISION'S RISK PREMIUM

Market Risk Premium	6.94%
x Industry Financial Strength	0.80
Industry Risk Premium	5.55%
Add: Risk-Free Rate	2.79%
Indicated Rate	8.34%

CAPM: IMPLIED ERP

Market Risk Premium	5.62%
x Industry Beta	0.71
Industry Risk Premium	3.99%
Add: Risk-Free Rate	2.79%
Indicated Rate	6.78%

CAPM: SUPPLY SIDE

Market Risk Premium	5.97%
x Industry Beta	0.71
Industry Risk Premium	4.24%
Add: Risk-Free Rate	2.79%
Indicated Rate	7.03%

DIVIDEND GROWTH MODELS

Company Name	Recent Stock Price	Next Year's Dividend	EPS & DIV. GROWTH		PLOWBACK RATIO	
			Market Growth Rate	D.G.M. Rate	Market Growth Rate	D.G.M. Rate
Alliant Energy	\$37.89	\$1.18	6.50%	9.61%	4.66%	7.77%
Avista Corp.	\$39.99	\$1.41	4.50%	8.03%	2.83%	6.36%
CMS Energy Corp.	\$41.62	\$1.32	6.25%	9.42%	4.86%	8.03%
G't Plains Energy	\$27.35	\$1.12	5.50%	9.60%	0.80%	4.89%
OGE Energy	\$33.45	\$1.24	6.25%	9.96%	3.07%	6.78%
Pinnacle West Capital	\$78.03	\$2.62	4.50%	7.86%	3.47%	6.83%
Portland General	\$43.33	\$1.32	5.75%	8.80%	3.24%	6.29%
Vectren Corp.	\$52.15	\$1.70	7.00%	10.26%	5.43%	8.69%
WEC Energy Group	\$58.65	\$2.08	6.50%	10.05%	3.46%	7.00%
Westar Energy	\$56.35	\$1.52	5.00%	7.70%	3.97%	6.66%
Indicated Rate			9.13%		6.93%	



**UTAH STATE TAX COMMISSION
PROPERTY TAX DIVISION
ELECTRIC UTILITIES -- CAPITAL STRUCTURE**

4/1/2017
2017
Page 14 of 28

CALCULATION OF CAPITAL STRUCTURE

Company Name	Total Debt	Long-Term Interest	Implied Coupon Rate*	Market Value of Debt**	Fair Value of Debt***	Pref'd Divs	MV of Pref Eqty+	Recent Stock Price	Shares Outstd	Market Value of Equity
Alliant Energy	4,130.9	180.0	2.18%	3,902.6	4,320.2	10.2	-	37.89	227.7	8,626.6
Avista Corp.	1,817.1	83.9	2.31%	1,777.0	1,825.4	-	-	39.99	64.2	2,566.9
CMS Energy Corp.	9,912.0	392.0	1.98%	8,854.3	9,970.0	2.0	-	41.62	279.2	11,620.3
G't Plains Energy	4,197.8	166.8	1.99%	3,759.9	3,466.3	-	-	27.35	154.5	4,225.7
OGE Energy	2,843.3	131.5	2.31%	2,783.3	2,903.8	-	-	33.45	199.7	6,680.0
Pinnacle West Capital	-	-	-	-	-	-	-	78.03	111.0	8,661.3
Portland General	2,325.0	112.0	2.41%	2,333.1	2,693.0	-	-	43.33	88.9	3,854.1
Vectren Corp.	1,713.8	84.0	2.45%	1,738.2	1,835.8	-	-	52.15	82.9	4,324.4
WEC Energy Group	9,966.9	460.7	2.31%	9,753.4	-	1.2	-	58.65	315.6	18,509.2
Westar Energy	3,722.9	145.0	1.95%	3,297.1	3,737.2	-	-	56.35	142.0	8,004.2
Total				40,505.1			-			77,072.7

GUIDELINE COMPANY INFORMATION SUMMARY

Company Name	Tax Rate	Relative Financial Strength	Beta	Percent Debt & Preferred Equity	Percent Common Equity
Alliant Energy	NMF	0.78 (A)	0.70	33.37%	66.63%
Avista Corp.	36.34%	0.78 (A)	0.70	41.56%	58.44%
CMS Energy Corp.	34.05%	0.89 (B++)	0.65	46.18%	53.82%
G't Plains Energy	36.68%	1.00 (B+)	0.70	45.06%	54.94%
OGE Energy	29.24%	0.78 (A)	0.90	30.30%	69.70%
Pinnacle West Capital	34.26%	0.67 (A+)	0.70	-	100.00%
Portland General	20.74%	0.89 (B++)	0.70	41.13%	58.87%
Vectren Corp.	33.57%	0.78 (A)	0.75	29.80%	70.20%
WEC Energy Group	40.39%	0.67 (A+)	0.60	34.51%	65.49%
Westar Energy	33.50%	0.78 (A)	0.70	31.83%	68.17%
Mean	33.19%	0.80	0.71	33.37%	66.63%
Weighted Mean				34.45%	65.55%



UTAH STATE TAX COMMISSION
PROPERTY TAX DIVISION
NATURAL GAS UTILITIES -- EQUITY RATE MODELS

RECONCILIATION

Equity Models	Equity Rate
CAPM: Rule 62 Compliant	7.58%
CAPM: Supply Side	6.91%
CAPM: Implied ERP	6.67%
CAPM: Total NYSE	N/A
CAPM: Deciles 1 & 2	N/A
Division's Risk Premium	8.83%
DGM: Earnings & Dividend	8.28%
DGM: Plowback Ratio	7.95%
Reconciled Equity Rate	7.80%
Debt/Equity Structure	35.00% / 65.00%

CAPM: RULE 62 COMPLIANT

Market Risk Premium	6.94%
x Industry Beta	0.69
Industry Risk Premium	4.79%
Add: Risk-Free Rate	2.79%
Indicated Rate	7.58%

DIVISION'S RISK PREMIUM

Market Risk Premium	6.94%
x Industry Financial Strength	0.87
Industry Risk Premium	6.04%
Add: Risk-Free Rate	2.79%
Indicated Rate	8.83%

CAPM: IMPLIED ERP

Market Risk Premium	5.62%
x Industry Beta	0.69
Industry Risk Premium	3.88%
Add: Risk-Free Rate	2.79%
Indicated Rate	6.67%

CAPM: SUPPLY SIDE

Market Risk Premium	5.97%
x Industry Beta	0.69
Industry Risk Premium	4.12%
Add: Risk-Free Rate	2.79%
Indicated Rate	6.91%

DIVIDEND GROWTH MODELS

Company Name	Recent Stock Price	Next Year's Dividend	EPS & DIV. GROWTH		PLOWBACK RATIO	
			Market Growth Rate	D.G.M. Rate	Market Growth Rate	D.G.M. Rate
Atmos Energy	\$74.15	\$1.83	6.50%	8.97%	5.61%	8.08%
Chesapeake Utilities	\$66.95	\$1.26	7.25%	9.13%	8.13%	10.01%
NiSource Inc.	\$22.14	\$0.66	1.50%	4.48%	4.72%	7.70%
Northwest Nat. Gas	\$59.80	\$1.88	4.50%	7.64%	3.66%	6.81%
Southwest Gas	\$76.62	\$1.86	7.75%	10.18%	5.37%	7.80%
Spire Inc.	\$64.55	\$2.10	6.00%	9.25%	4.07%	7.32%
Indicated Rate			8.28%		7.95%	



**UTAH STATE TAX COMMISSION
PROPERTY TAX DIVISION
NATURAL GAS UTILITIES -- CAPITAL STRUCTURE**

4/1/2017
2017
Page 16 of 28

CALCULATION OF CAPITAL STRUCTURE

Company Name	Total Debt	Long-Term Interest	Implied Coupon Rate*	Market Value of Debt**	Fair Value of Debt***	Pref'd Divs	MV of Pref Eqty+	Recent Stock Price	Shares Outstd	Market Value of Equity
Atmos Energy	3,126.1	135.0	2.16%	2,922.5	2,788.2	-	-	74.15	105.1	7,793.9
Chesapeake Utilities	310.1	9.0	1.45%	234.0	161.5	-	-	66.95	16.3	1,091.5
NiSource Inc.	7,737.8	450.0	2.91%	8,708.9	7,064.1	-	-	22.14	323.2	7,154.8
Northwest Nat. Gas	790.1	45.0	2.85%	877.2	793.3	-	-	59.80	28.6	1,712.1
Southwest Gas	1,642.4	72.0	2.19%	1,549.1	1,679.8	-	-	76.62	47.5	3,638.1
Spire Inc.	2,482.4	70.0	1.41%	1,847.0	2,258.1	-	-	64.55	45.7	2,952.1
Total				14,745.1			-			24,342.5

GUIDELINE COMPANY INFORMATION SUMMARY

Company Name	Tax Rate	Relative Financial Strength	Beta	Percent Debt & Preferred Equity	Percent Common Equity
Atmos Energy	38.31%	0.78 (A)	0.70	26.35%	73.65%
Chesapeake Utilities	39.55%	0.89 (B++)	0.65	12.89%	87.11%
NiSource Inc.	41.57%	1.00 (B+)		49.68%	50.32%
Northwest Nat. Gas	39.97%	0.78 (A)	0.65	31.66%	68.34%
Southwest Gas	36.43%	0.89 (B++)	0.75	31.59%	68.41%
Spire Inc.	32.52%	0.89 (B++)	0.70	43.34%	56.66%
Mean	38.06%	0.87	0.69	32.59%	67.41%
Weighted Mean				37.72%	62.28%



UTAH STATE TAX COMMISSION
PROPERTY TAX DIVISION
NATURAL GAS PIPELINES -- EQUITY RATE MODELS

RECONCILIATION

Equity Models	Equity Rate
CAPM: Rule 62 Compliant	11.05%
CAPM: Supply Side	9.89%
CAPM: Implied ERP	9.48%
CAPM: Total NYSE	N/A
CAPM: Deciles 1 & 2	N/A
Division's Risk Premium	9.87%
DGM: Earnings & Dividend	13.22%
DGM: Plowback Ratio	7.10%
Reconciled Equity Rate	11.81%
Debt/Equity Structure	45.00% / 55.00%

CAPM: RULE 62 COMPLIANT

Market Risk Premium	6.94%
x Industry Beta	1.19
Industry Risk Premium	8.26%
Add: Risk-Free Rate	2.79%
Indicated Rate	11.05%

DIVISION'S RISK PREMIUM

Market Risk Premium	6.94%
x Industry Financial Strength	1.02
Industry Risk Premium	7.08%
Add: Risk-Free Rate	2.79%
Indicated Rate	9.87%

CAPM: IMPLIED ERP

Market Risk Premium	5.62%
x Industry Beta	1.19
Industry Risk Premium	6.69%
Add: Risk-Free Rate	2.79%
Indicated Rate	9.48%

CAPM: SUPPLY SIDE

Market Risk Premium	5.97%
x Industry Beta	1.19
Industry Risk Premium	7.10%
Add: Risk-Free Rate	2.79%
Indicated Rate	9.89%

DIVIDEND GROWTH MODELS

Company Name	Recent Stock Price	Next Year's Dividend	EPS & DIV. GROWTH		PLOWBACK RATIO	
			Market Growth Rate	D.G.M. Rate	Market Growth Rate	D.G.M. Rate
Boardwalk Pipeline	\$17.36	\$0.40	7.00%	9.30%	5.00%	7.30%
DCP Midstream Partners	\$38.38	\$3.12	5.50%	13.63%	-3.66%	-
Energy Transfer Part.	\$35.81	\$4.22	7.25%	19.03%	-22.99%	-
Enterprise Products	\$27.04	\$1.62	9.25%	15.24%	1.52%	7.51%
Kinder Morgan Inc.	\$20.71	\$0.50	2.25%	4.66%	2.50%	4.91%
ONEOK Inc.	\$57.41	\$2.57	9.75%	14.23%	-	-
ONEOK Partners L.P.	\$43.01	\$3.16	4.50%	11.85%	-4.00%	-
Spectra Energy Corp.	\$41.09	\$1.62	10.00%	13.94%	0.59%	4.53%
TransCanada Corp.	\$45.15	\$2.26	18.50%	23.51%	4.26%	9.27%
Williams Cos.	\$31.14	\$0.80	4.25%	6.82%	6.50%	9.07%
Indicated Rate			13.22%		7.10%	



UTAH STATE TAX COMMISSION
PROPERTY TAX DIVISION
NATURAL GAS PIPELINES -- CAPITAL STRUCTURE

4/1/2017
2017
Page 18 of 28

CALCULATION OF CAPITAL STRUCTURE

Company Name	Total Debt	Long-Term Interest	Implied Coupon Rate*	Market Value of Debt**	Fair Value of Debt***	Pref'd Divs	MV of Pref Eqty+	Recent Stock Price	Shares Outstd	Market Value of Equity
Boardwalk Pipeline	3,626.8	193.6	2.67%	3,861.4	3,709.2	-	-	17.36	250.3	4,345.2
DCP Midstream Partners	2,231.0	88.0	1.97%	1,979.4	2,250.0	-	-	38.38	114.7	4,402.2
Energy Transfer Part.	30,481.0	860.0	1.41%	22,685.5	33,850.0	-	-	35.81	529.9	18,974.6
Enterprise Products	23,959.3	976.4	2.04%	21,656.7	-	-	-	27.04	2,117.6	57,259.6
Kinder Morgan Inc.	39,700.0	1,700.0	2.14%	36,930.4	41,015.0	-	-	20.71	2,230.1	46,185.4
ONEOK Inc.	9,474.3	415.0	2.19%	8,931.8	8,800.0	-	-	57.41	210.7	12,095.2
ONEOK Partners L.P.	7,842.9	338.9	2.16%	7,334.7	7,100.0	-	-	43.01	285.8	12,293.4
Spectra Energy Corp.	15,198.0	750.0	2.47%	15,400.9	15,168.0	-	-	41.09	702.0	28,845.2
TransCanada Corp.	37,167.8	785.0	1.06%	24,304.9	45,047.0	-	-	45.15	864.0	39,009.6
Williams Cos.	23,409.0	1,300.0	2.78%	25,565.3	24,090.0	-	-	31.14	785.0	24,444.9
Total				202,415.3			-			247,855.3

GUIDELINE COMPANY INFORMATION SUMMARY

Company Name	Tax Rate	Relative Financial Strength	Beta	Percent Debt & Preferred Equity	Percent Common Equity
Boardwalk Pipeline	NMF	1.22 (C++)	0.85	46.05%	53.95%
DCP Midstream Partners	NMF	1.00 (B+)	1.35	31.02%	68.98%
Energy Transfer Part.	NMF	0.89 (B++)	1.15	64.08%	35.92%
Enterprise Products	NMF	1.00 (B+)	1.15	27.44%	72.56%
Kinder Morgan Inc.	NMF	1.11 (B)	1.25	47.04%	52.96%
ONEOK Inc.	35.24%	1.00 (B+)	1.35	42.11%	57.89%
ONEOK Partners L.P.	NMF	1.00 (B+)	1.05	36.61%	63.39%
Spectra Energy Corp.	25.93%	1.11 (B)	1.05	34.46%	65.54%
TransCanada Corp.	NMF	0.89 (B++)	1.00	53.59%	46.41%
Williams Cos.	NMF	1.00 (B+)	1.70	49.63%	50.37%
Mean		30.58%	1.02	43.20%	56.80%
Weighted Mean				44.95%	55.05%



**UTAH STATE TAX COMMISSION
PROPERTY TAX DIVISION**

4/1/2017

2017

LIQUID PIPELINES -- EQUITY RATE MODELS

Page 19 of 28

RECONCILIATION

Equity Models	Equity Rate
CAPM: Rule 62 Compliant	11.05%
CAPM: Supply Side	9.89%
CAPM: Implied ERP	9.48%
CAPM: Total NYSE	N/A
CAPM: Deciles 1 & 2	N/A
Division's Risk Premium	9.59%
DGM: Earnings & Dividend	14.65%
DGM: Plowback Ratio	5.94%
Reconciled Equity Rate	12.31%
Debt/Equity Structure	40.00% / 60.00%

CAPM: RULE 62 COMPLIANT

Market Risk Premium	6.94%
x Industry Beta	1.19
Industry Risk Premium	8.26%
Add: Risk-Free Rate	2.79%
Indicated Rate	11.05%

DIVISION'S RISK PREMIUM

Market Risk Premium	6.94%
x Industry Financial Strength	0.98
Industry Risk Premium	6.80%
Add: Risk-Free Rate	2.79%
Indicated Rate	9.59%

CAPM: IMPLIED ERP

Market Risk Premium	5.62%
x Industry Beta	1.19
Industry Risk Premium	6.69%
Add: Risk-Free Rate	2.79%
Indicated Rate	9.48%

CAPM: SUPPLY SIDE

Market Risk Premium	5.97%
x Industry Beta	1.19
Industry Risk Premium	7.10%
Add: Risk-Free Rate	2.79%
Indicated Rate	9.89%

DIVIDEND GROWTH MODELS

Company Name	Recent Stock Price	Next Year's Dividend	EPS & DIV. GROWTH		PLOWBACK RATIO	
			Market Growth Rate	D.G.M. Rate	Market Growth Rate	D.G.M. Rate
Buckeye Partners L.P.	\$66.16	\$5.05	7.00%	14.63%	-2.18%	-
Energy Transfer Part.	\$35.81	\$4.22	7.25%	19.03%	-22.99%	-
Enterprise Products	\$27.04	\$1.62	9.25%	15.24%	1.52%	7.51%
Kinder Morgan Inc.	\$20.71	\$0.50	2.25%	4.66%	2.50%	4.91%
Magellan Midstream	\$75.63	\$3.52	9.75%	14.40%	0.73%	5.38%
Plains All Amer. Pipe.	\$32.29	\$2.20	5.00%	11.81%	-	-
Sunoco Logistics Part.	\$24.02	\$2.04	14.25%	22.74%	-5.41%	-
Indicated Rate			14.65%			5.94%



**UTAH STATE TAX COMMISSION
PROPERTY TAX DIVISION
LIQUID PIPELINES -- CAPITAL STRUCTURE**

4/1/2017
2017
Page 20 of 28

CALCULATION OF CAPITAL STRUCTURE

Company Name	Total Debt	Long-Term Interest	Implied Coupon Rate*	Market Value of Debt**	Fair Value of Debt***	Pref'd Divs	MV of Pref Eqty+	Recent Stock Price	Shares Outstd	Market Value of Equity
Buckeye Partners L.P.	4,045.2	188.0	2.32%	3,951.2	4,333.5	-	-	66.16	140.3	9,279.8
Energy Transfer Part.	30,481.0	860.0	1.41%	22,685.5	33,850.0	-	-	35.81	529.9	18,974.6
Enterprise Products	23,959.3	976.4	2.04%	21,656.7	-	-	-	27.04	2,117.6	57,259.6
Kinder Morgan Inc.	39,700.0	1,700.0	2.14%	36,930.4	41,015.0	-	-	20.71	2,230.1	46,185.4
Magellan Midstream	4,323.5	195.0	2.26%	4,147.5	-	-	-	75.63	227.8	17,227.3
Plains All Amer. Pipe.	11,018.0	460.0	2.09%	10,099.1	-	-	-	32.29	669.2	21,608.3
Sunoco Logistics Part.	6,014.0	260.0	2.16%	5,625.9	-	-	-	24.02	322.4	7,743.6
Total				120,727.7			-			178,278.6

GUIDELINE COMPANY INFORMATION SUMMARY

Company Name	Tax Rate	Relative Financial Strength	Beta	Percent Debt & Preferred Equity	Percent Common Equity
Buckeye Partners L.P.	NMF	1.00 (B+)	1.05	31.83%	68.17%
Energy Transfer Part.	NMF	0.89 (B++)	1.15	64.08%	35.92%
Enterprise Products	NMF	1.00 (B+)	1.15	27.44%	72.56%
Kinder Morgan Inc.	73.06%	1.11 (B)	1.25	47.04%	52.96%
Magellan Midstream	NMF	0.89 (B++)	1.05	19.40%	80.60%
Plains All Amer. Pipe.	NMF	1.00 (B+)	1.25	31.85%	68.15%
Sunoco Logistics Part.	NMF	1.00 (B+)	1.45	42.08%	57.92%
Selected	38.50%	0.98	1.19	37.68%	62.32%
Weighted Mean				40.38%	59.62%



UTAH STATE TAX COMMISSION
PROPERTY TAX DIVISION
RAILROAD & TERMINAL -- EQUITY RATE MODELS

RECONCILIATION	
Equity Models	Equity Rate
CAPM: Rule 62 Compliant	10.49%
CAPM: Supply Side	9.42%
CAPM: Implied ERP	9.03%
CAPM: Total NYSE	N/A
CAPM: Deciles 1 & 2	N/A
Division's Risk Premium	8.20%
DGM: Earnings & Dividend	11.25%
DGM: Plowback Ratio	16.41%
Reconciled Equity Rate	11.08%
Debt/Equity Structure	20.00% / 80.00%

CAPM: RULE 62 COMPLIANT	
Market Risk Premium	6.94%
x Industry Beta	1.11
Industry Risk Premium	7.70%
Add: Risk-Free Rate	2.79%
Indicated Rate	10.49%

DIVISION'S RISK PREMIUM	
Market Risk Premium	6.94%
x Industry Financial Strength	0.78
Industry Risk Premium	5.41%
Add: Risk-Free Rate	2.79%
Indicated Rate	8.20%

CAPM: IMPLIED ERP	
Market Risk Premium	5.62%
x Industry Beta	1.11
Industry Risk Premium	6.24%
Add: Risk-Free Rate	2.79%
Indicated Rate	9.03%

CAPM: SUPPLY SIDE	
Market Risk Premium	5.97%
x Industry Beta	1.11
Industry Risk Premium	6.63%
Add: Risk-Free Rate	2.79%
Indicated Rate	9.42%

DIVIDEND GROWTH MODELS							
Company Name	Recent Stock Price	Next Year's Dividend	EPS & DIV. GROWTH		PLOWBACK RATIO		
			Market Growth Rate	D.G.M. Rate	Market Growth Rate	D.G.M. Rate	
Can. National Railway	\$67.40	\$1.12	11.50%	13.16%	14.01%	15.68%	
Can. Pacific Railway	\$142.77	\$1.50	13.25%	14.30%	23.26%	24.31%	
CSX Corp.	\$35.93	\$0.72	8.75%	10.75%	10.39%	12.39%	
Norfolk Southern	\$108.07	\$2.36	5.25%	7.43%	10.47%	12.65%	
Union Pacific	\$103.68	\$2.42	8.25%	10.58%	14.70%	17.03%	
Indicated Rate			11.25%		16.41%		



**UTAH STATE TAX COMMISSION
PROPERTY TAX DIVISION
RAILROAD & TERMINAL -- CAPITAL STRUCTURE**

4/1/2017
2017
Page 22 of 28

CALCULATION OF CAPITAL STRUCTURE

Company Name	Total Debt	Long-Term Interest	Implied Coupon Rate*	Market Value of Debt**	Fair Value of Debt***	Pref'd Divs	MV of Pref Eqty+	Recent Stock Price	Shares Outstd	Market Value of Equity
Can. National Railway	6,513.0	348.0	2.67%	6,938.6	8,942.2	-	-	67.40	762.0	51,358.8
Can. Pacific Railway	8,203.0	368.0	2.24%	7,843.9	7,385.9	-	-	142.77	146.3	20,887.3
CSX Corp.	11,293.0	580.0	2.57%	11,732.9	12,096.0	-	-	35.93	928.2	33,349.5
Norfolk Southern	10,112.0	550.0	2.72%	10,896.2	11,626.0	-	-	108.07	290.4	31,385.4
Union Pacific	15,007.0	758.0	2.53%	15,429.3	15,900.0	-	-	103.68	815.8	84,584.6
Total				55,950.1			-			221,565.6

GUIDELINE COMPANY INFORMATION SUMMARY

Company Name	Tax Rate	Relative Financial Strength	Beta	Percent Debt & Preferred Equity	Percent Common Equity
Can. National Railway	26.56%	0.78 (A)	1.00	14.83%	85.17%
Can. Pacific Railway	27.28%	0.89 (B++)	1.20	26.12%	73.88%
CSX Corp.	37.29%	0.89 (B++)	1.20	26.62%	73.38%
Norfolk Southern	36.28%	0.78 (A)	1.10	27.03%	72.97%
Union Pacific	37.41%	0.56 (A++)	1.05	15.82%	84.18%
Mean	32.96%	0.78	1.11	22.08%	77.92%
Weighted Mean				20.16%	79.84%



UTAH STATE TAX COMMISSION
PROPERTY TAX DIVISION
RAILROAD - SHORTLINE -- EQUITY RATE MODELS

RECONCILIATION

Equity Models	Equity Rate
CAPM: Rule 62 Compliant	10.84%
CAPM: Supply Side	9.72%
CAPM: Implied ERP	9.31%
CAPM: Total NYSE	N/A
CAPM: Deciles 1 & 2	N/A
Division's Risk Premium	8.41%
DGM: Earnings & Dividend	11.26%
DGM: Plowback Ratio	15.52%
Reconciled Equity Rate	11.23%
Debt/Equity Structure	25.00% / 75.00%

CAPM: RULE 62 COMPLIANT

Market Risk Premium	6.94%
x Industry Beta	1.16
Industry Risk Premium	8.05%
Add: Risk-Free Rate	2.79%
Indicated Rate	10.84%

DIVISION'S RISK PREMIUM

Market Risk Premium	6.94%
x Industry Financial Strength	0.81
Industry Risk Premium	5.62%
Add: Risk-Free Rate	2.79%
Indicated Rate	8.41%

CAPM: IMPLIED ERP

Market Risk Premium	5.62%
x Industry Beta	1.16
Industry Risk Premium	6.52%
Add: Risk-Free Rate	2.79%
Indicated Rate	9.31%

CAPM: SUPPLY SIDE

Market Risk Premium	5.97%
x Industry Beta	1.16
Industry Risk Premium	6.93%
Add: Risk-Free Rate	2.79%
Indicated Rate	9.72%

DIVIDEND GROWTH MODELS

Company Name	Recent Stock Price	Next Year's Dividend	EPS & DIV. GROWTH		PLOWBACK RATIO	
			Market Growth Rate	D.G.M. Rate	Market Growth Rate	D.G.M. Rate
Can. National Railway	\$67.40	\$1.12	11.50%	13.16%	14.01%	15.68%
Can. Pacific Railway	\$142.77	\$1.50	13.25%	14.30%	23.26%	24.31%
CSX Corp.	\$35.93	\$0.72	8.75%	10.75%	10.39%	12.39%
Genesee & Wyoming	\$69.41	-	6.50%	-	-	-
Kansas City South'n	\$84.85	\$1.32	9.75%	11.31%	9.49%	11.04%
Norfolk Southern	\$108.07	\$2.36	5.25%	7.43%	10.47%	12.65%
Union Pacific	\$103.68	\$2.42	8.25%	10.58%	14.70%	17.03%
Indicated Rate			11.26%		15.52%	



**UTAH STATE TAX COMMISSION
PROPERTY TAX DIVISION
RAILROAD - SHORTLINE -- CAPITAL STRUCTURE**

4/1/2017
2017
Page 24 of 28

CALCULATION OF CAPITAL STRUCTURE

Company Name	Total Debt	Long-Term Interest	Implied Coupon Rate*	Market Value of Debt**	Fair Value of Debt***	Pref'd Divs	MV of Pref Eqty+	Recent Stock Price	Shares Outstd	Market Value of Equity
Can. National Railway	8,203.0	368.0	2.24%	7,843.9	8,942.2	-	-	67.40	762.0	51,358.8
Can. Pacific Railway	6,513.0	348.0	2.67%	6,938.6	7,385.9	-	-	142.77	146.3	20,887.3
CSX Corp.	11,293.0	580.0	2.57%	11,732.9	12,096.0	-	-	35.93	928.2	33,349.5
Genesee & Wyoming	2,359.4	50.0	1.06%	1,545.0	2,303.5	-	-	69.41	61.4	4,259.1
Kansas City South'n	2,296.9	30.0	0.65%	1,266.3	2,303.8	-	-	84.85	106.6	9,045.0
Norfolk Southern	10,112.0	100.0	0.49%	5,166.4	11,626.0	-	-	108.07	290.4	31,385.4
Union Pacific	15,007.0	200.0	0.67%	8,324.2	15,900.0	-	-	103.68	815.8	84,584.6
Total				60,557.4			-			234,869.7

GUIDELINE COMPANY INFORMATION SUMMARY

Company Name	Tax Rate	Relative Financial Strength	Beta	Percent Debt & Preferred Equity	Percent Common Equity
Can. National Railway	26.56%	0.78 (A)	1.00	14.83%	85.17%
Can. Pacific Railway	27.28%	0.89 (B++)	1.20	26.12%	73.88%
CSX Corp.	37.29%	0.89 (B++)	1.20	26.62%	73.38%
Genesee & Wyoming	36.61%	1.00 (B+)	1.40	35.10%	64.90%
Kansas City South'n	29.49%	0.78 (A)	1.15	20.30%	79.70%
Norfolk Southern	36.28%	0.78 (A)	1.10	27.03%	72.97%
Union Pacific	37.41%	0.56 (A++)	1.05	15.82%	84.18%
Mean	32.99%	0.81	1.16	23.69%	76.31%
Weighted Mean				20.50%	79.50%



**UTAH STATE TAX COMMISSION
PROPERTY TAX DIVISION
WIRELESS TELECOMS -- EQUITY RATE MODELS**

RECONCILIATION

Equity Models	Equity Rate
CAPM: Rule 62 Compliant	8.48%
CAPM: Supply Side	7.69%
CAPM: Implied ERP	7.40%
CAPM: Total NYSE	N/A
CAPM: Deciles 1 & 2	N/A
Division's Risk Premium	7.30%
DGM: Earnings & Dividend	8.48%
DGM: Plowback Ratio	9.82%
Reconciled Equity Rate	8.48%
Debt/Equity Structure	35.00% / 65.00%

CAPM: RULE 62 COMPLIANT

Market Risk Premium	6.94%
x Industry Beta	0.82
Industry Risk Premium	5.69%
Add: Risk-Free Rate	2.79%
Indicated Rate	8.48%

DIVISION'S RISK PREMIUM

Market Risk Premium	6.94%
x Industry Financial Strength	0.65
Industry Risk Premium	4.51%
Add: Risk-Free Rate	2.79%
Indicated Rate	7.30%

CAPM: IMPLIED ERP

Market Risk Premium	5.62%
x Industry Beta	0.82
Industry Risk Premium	4.61%
Add: Risk-Free Rate	2.79%
Indicated Rate	7.40%

CAPM: SUPPLY SIDE

Market Risk Premium	5.97%
x Industry Beta	0.82
Industry Risk Premium	4.90%
Add: Risk-Free Rate	2.79%
Indicated Rate	7.69%

DIVIDEND GROWTH MODELS

Company Name	Recent Stock Price	Next Year's Dividend	EPS & DIV. GROWTH		PLOWBACK RATIO	
			Market Growth Rate	D.G.M. Rate	Market Growth Rate	D.G.M. Rate
AT&T Inc.	\$42.53	\$1.96	5.50%	10.11%	4.74%	9.35%
Sprint Corp.	\$8.42	-	-	-	-	-
T-Mobile US	\$57.51	-	65.00%	-	-	-
Verizon Communic.	\$53.38	\$2.32	2.50%	6.85%	5.95%	10.30%
Indicated Rate			8.48%		9.82%	



**UTAH STATE TAX COMMISSION
PROPERTY TAX DIVISION
WIRELESS TELECOMS -- CAPITAL STRUCTURE**

4/1/2017
2017
Page 26 of 28

CALCULATION OF CAPITAL STRUCTURE

Company Name	Total Debt	Long-Term Interest	Implied Coupon Rate*	Market Value of Debt**	Fair Value of Debt***	Pref'd Divs	MV of Pref Eqty+	Recent Stock Price	Shares Outstd	Market Value of Equity
AT&T Inc.	125,221.0	6,000.0	2.40%	96,360.7	129,858.0	-	-	42.53	6,139.0	261,091.4
Sprint Corp.	36,555.0	1,873.0	2.56%	29,432.9	39,049.0	-	-	8.42	3,985.0	33,553.7
T-Mobile US	30,379.0	1,485.0	2.44%	23,692.6	31,771.0	-	-	57.51	824.9	47,442.6
Verizon Communic.	106,591.0	1,795.0	0.84%	46,491.6	118,534.0	-	-	53.38	4,242.4	226,457.9
Total				319,212.0			-			568,545.6

GUIDELINE COMPANY INFORMATION SUMMARY

Company Name	Tax Rate	Relative Financial Strength	Beta	Percent Debt & Preferred Equity	Percent Common Equity
AT&T Inc.	32.36%	0.56 (A++)	0.75	33.22%	66.78%
Sprint Corp.	NMF	1.22 (C++)	1.35	53.78%	46.22%
T-Mobile US	25.05%	1.00 (B+)	1.00	40.11%	59.89%
Verizon Communic.	34.63%	0.56 (A++)	0.75	34.36%	65.64%
Selected	30.68%	0.65	0.82	40.37%	59.63%
Weighted Mean				35.96%	64.04%



**UTAH STATE TAX COMMISSION
PROPERTY TAX DIVISION
WIRELINE TELECOMS -- EQUITY RATE MODELS**

RECONCILIATION

Equity Models	Equity Rate
CAPM: Rule 62 Compliant	10.42%
CAPM: Supply Side	9.36%
CAPM: Implied ERP	8.97%
CAPM: Total NYSE	N/A
CAPM: Deciles 1 & 2	N/A
Division's Risk Premium	10.42%
DGM: Earnings & Dividend	17.88%
DGM: Plowback Ratio	11.88%
Reconciled Equity Rate	10.42%
Debt/Equity Structure	55.00% / 45.00%

CAPM: RULE 62 COMPLIANT

Market Risk Premium	6.94%
x Industry Beta	1.10
Industry Risk Premium	7.63%
Add: Risk-Free Rate	2.79%
Indicated Rate	10.42%

DIVISION'S RISK PREMIUM

Market Risk Premium	6.94%
x Industry Financial Strength	1.10
Industry Risk Premium	7.63%
Add: Risk-Free Rate	2.79%
Indicated Rate	10.42%

CAPM: IMPLIED ERP

Market Risk Premium	5.62%
x Industry Beta	1.10
Industry Risk Premium	6.18%
Add: Risk-Free Rate	2.79%
Indicated Rate	8.97%

CAPM: SUPPLY SIDE

Market Risk Premium	5.97%
x Industry Beta	1.10
Industry Risk Premium	6.57%
Add: Risk-Free Rate	2.79%
Indicated Rate	9.36%

DIVIDEND GROWTH MODELS

Company Name	Recent Stock Price	Next Year's Dividend	EPS & DIV. GROWTH		PLOWBACK RATIO	
			Market Growth Rate	D.G.M. Rate	Market Growth Rate	D.G.M. Rate
CenturyLink Inc.	\$23.78	\$2.16	6.00%	15.08%	2.80%	11.88%
Cincinnati Bell	\$22.35	-	-3.50%	-	-	-
Frontier Communic.	\$3.38	\$0.42	8.25%	20.68%	-0.35%	-
Level 3 Communic.	\$56.36	-	36.00%	-	-	-
Indicated Rate			17.88%		11.88%	



**UTAH STATE TAX COMMISSION
PROPERTY TAX DIVISION
WIRELINE TELECOMS -- CAPITAL STRUCTURE**

4/1/2017
2017
Page 28 of 28

CALCULATION OF CAPITAL STRUCTURE

Company Name	Total Debt	Long-Term Interest	Implied Coupon Rate*	Market Value of Debt**	Fair Value of Debt***	Pref'd Divs	MV of Pref Eqty+	Recent Stock Price	Shares Outstd	Market Value of Equity
CenturyLink Inc.	19,718.0	845.0	2.14%	18,350.7	19,774.0	-	-	23.78	546.5	12,996.8
Cincinnati Bell	1,224.3	50.0	2.04%	1,108.0	1,235.3	10.4	-	22.35	42.1	940.0
Frontier Communic.	17,943.0	695.0	1.94%	15,757.4	17,902.0	-	-	3.38	1,172.6	3,963.2
Level 3 Communic.	10,882.0	642.0	2.95%	12,364.1	11,137.0	-	-	56.36	360.0	20,290.8
Total				50,048.3			-			38,190.8

GUIDELINE COMPANY INFORMATION SUMMARY

Company Name	Tax Rate	Relative Financial Strength	Beta	Percent Debt & Preferred Equity	Percent Common Equity
CenturyLink Inc.	33.28%	0.89 (B++)	0.95	60.34%	39.66%
Cincinnati Bell	35.46%	1.33 (C+)	1.25	56.79%	43.21%
Frontier Communic.	NMF	1.22 (C++)	1.15	81.87%	18.13%
Level 3 Communic.	51.98%	1.22 (C++)	1.20	35.44%	64.56%
Selected	40.24%	1.10	1.10	58.61%	41.39%
Weighted Mean				56.72%	43.28%