



**MONTANA**  
DEPARTMENT OF  
**REVENUE**

**2023 Capitalization Rate Study  
Scheduled Airlines - Passenger**

*Final*

*Completed: April 28, 2023*

**MONTANA DEPARTMENT OF REVENUE**

**Yield Capitalization Rate Conclusion  
Industry: Scheduled Airlines - Passenger  
2023 Assessment Year**

**Capital Structure <sup>[1]</sup>**

Equity	<b>45.00%</b>
Debt	<b>55.00%</b>

**Equity Cost of Capital**

		<b>Weighting</b>
Capital Asset Pricing Model - Ex Post <sup>[2]</sup>	15.25%	64%
Capital Asset Pricing Model - Ex Ante <sup>[2]</sup>	12.94%	16%
3 Stage Dividend Discount Model - Dividends <sup>[3]</sup>	14.32%	10%
3 Stage Dividend Discount Model - Earnings <sup>[3]</sup>	12.03%	10%
Weighted Average	<u>14.47%</u>	100%
Selected Cost of Equity	<b><u>14.47%</u></b>	

**Debt Cost of Capital**

		<b>Weighting</b>
A - Mergent's - Avg. YTM of A Rated Corporate Bonds <sup>[4]</sup>	5.12%	0%
Baa - Mergent's - Avg. YTM of Baa Rated Corporate Bonds <sup>[4]</sup>	5.59%	50%
Ba - Avg. of MTDOR Debt Study, Bloomberg and Capital IQ	7.04%	25%
B - Avg. of MTDOR Debt Study, Bloomberg and Capital IQ	9.15%	25%
Weighted Average	<u>6.84%</u>	100%
Selected Cost of Debt	<b><u>6.84%</u></b>	

**Weighted Average Cost of Capital (WACC)**

<b>Source of Capital</b>	<b>Capital Structure</b>	<b>Cost of Capital</b>	<b>Marginal Tax Rate</b>	<b>Pre-tax Cost of Capital</b>	<b>After-tax Cost of Capital</b>
Equity	45.00%	14.47%		6.51%	6.51%
Debt	55.00%	6.84%	24.00%	3.76%	2.86%
<b>WACC</b>	<b>100.00%</b>			<b>10.27%</b>	<b>9.37%</b>
<b>WACC (Rounded)</b>					<b>9.40%</b>

Notes

- [1] From worksheet: Capital Structure
- [2] From worksheet: Capital Asset Pricing Model Summary
- [3] From worksheet: Yield Equity Summary
- [4] January 2023, Mergent Bond Record

**MONTANA DEPARTMENT OF REVENUE**

**Direct Capitalization Rate Conclusion  
Industry: Scheduled Airlines - Passenger  
2023 Assessment Year**

**Capital Structure <sup>[1]</sup>**

Equity	<b>45.00%</b>
Debt	<b>55.00%</b>

**Equity Capitalization Rate <sup>[2]</sup>**

NOI After-tax	<b>10.45%</b>
GCF	<b>21.86%</b>

**Debt Capitalization Rate <sup>[3]</sup>**

Calculated Current Yield	<b>4.97%</b>
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**NOI After-tax Direct Capitalization Rate**

Source of Capital	Capital Structure	Capitalization Rate	Marginal Tax Rate	Pre-tax Capitalization Rate	After-tax Capitalization Rate
Equity	45.00%	10.45%		4.70%	4.70%
Debt	55.00%	4.97%	24.00%	2.73%	2.08%
<b>Total</b>	<b>100.00%</b>			<b>7.44%</b>	<b>6.78%</b>
<b>Total (Rounded)</b>					<b>6.80%</b>

**GCF Direct Capitalization Rate**

Source of Capital	Capital Structure	Capitalization Rate	Marginal Tax Rate	Pre-tax Capitalization Rate	After-tax Capitalization Rate
Equity	45.00%	21.86%		9.84%	9.84%
Debt	55.00%	4.97%	24.00%	2.73%	2.08%
<b>WACC</b>	<b>100.00%</b>			<b>12.57%</b>	<b>11.92%</b>
<b>Total (Rounded)</b>					<b>11.95%</b>

Notes:

[1] From worksheet: Capital Structure

[2] From worksheet: Direct Equity Summary

[3] From worksheet: Calculated Current Yield

**MONTANA DEPARTMENT OF REVENUE**

**Selection of Guideline Companies**

**Industry: Scheduled Airlines - Passenger**

**2023 Assessment Year**

**Screening Requirements:**

The universe of companies is all companies listed in Value Line under the air transport industry.

Companies were then selected using the following screening criteria:

1. Operates primarily as a passenger airline.
2. Actively traded on an American exchange.
3. Headquartered / incorporated in the United States
4. No significant merger & acquisition activity during the year.

Ticker Symbol	Passenger Airline	Actively traded on an American exchange	Headquartered in the United States	Consider as Potential Guideline Company	Not Engaged in Material M&A Activity	Use as Guideline Company	Note
AAL	Yes	Yes	Yes	Yes	Yes	Yes	
AAWW	No						
AIRT	No						
ALGT	Yes	Yes	Yes	Yes	Yes	Yes	
ALK	Yes	Yes	Yes	Yes	Yes	Yes	
ATSG	No						
CPA			No				
DAL	Yes	Yes	Yes	Yes	Yes	Yes	
FDX	No						
HA	Yes	Yes	Yes	Yes	Yes	No	[1]
JBLU	Yes	Yes	Yes	Yes	No	No	[2]
LUV	Yes	Yes	Yes	Yes	Yes	Yes	
MESA	Yes	Yes	Yes	Yes	Yes	Yes	
RLGT	No						
SAVE	Yes	Yes	Yes	Yes	No	No	[3]
SKYW	Yes	Yes	Yes	Yes	Yes	Yes	
SNCY	Yes	Yes	Yes	No			
UAL	Yes	Yes	Yes	Yes	Yes	Yes	
UP	No						
UPS	No						
VTOL	No						

[1] Operates primarily in Hawaii

[2] Engaged in acquisition of SAVE

[3] Set to be acquired by JBLU

**MONTANA DEPARTMENT OF REVENUE**

Support for Capital Structure  
Industry: Scheduled Airlines - Passenger  
2023 Assessment Year

(\$ and Shares Outstanding In Millions, Except Per Share Amounts)

A	B	C	D	E	F	G	H	I	J	K	L	M	N
Ticker	Company	Industry Group	Financial Strength	Shares Outstanding	End of Year Closing Stock Price	MV Common Stock	MV Preferred Stock	MV Long Term Debt	PV of Operating Leases	Total Common, Preferred, LT Debt, & Op Leases	% Common	% Preferred	% Debt & Op Leases
					Value Line								
							Note [1]	Note [2]					
AAL	Amer. Airlines	AIRTRANS	C+	651	12.72	8,276	0	33,330	8,024	49,630	17%	0%	83%
ALGT	Allegiant Travel	AIRTRANS	B+	18	67.99	1,233	0	2,033	115	3,380	36%	0%	64%
ALK	Alaska Air Group	AIRTRANS	B	128	42.94	5,476	0	1,972	1,621	9,069	60%	0%	40%
DAL	Delta Air Lines	AIRTRANS	B+	641	32.86	21,072	0	22,349	7,580	51,001	41%	0%	59%
LUV	Southwest Airlines	AIRTRANS	B+	594	33.67	20,000	0	7,952	1,343	29,295	68%	0%	32%
MESA	Mesa Air Group Inc	AIRTRANS	C	36	1.53	56	0	526	34	616	9%	0%	91%
SKYW	SkyWest	AIRTRANS	B+	51	16.51	835	0	3,236	160	4,231	20%	0%	80%
UAL	United Airlines Hldgs.	AIRTRANS	C++	327	37.70	12,325	0	29,590	5,020	46,935	26%	0%	74%
<b>All Companies</b>						69,273	0	100,988	23,897	194,158	<b>36%</b>	<b>0%</b>	<b>64%</b>
<b>Average</b>											<b>35%</b>	<b>0%</b>	<b>65%</b>
<b>Median</b>											<b>31%</b>	<b>0%</b>	<b>69%</b>
<b>Trimmed Average</b>											<b>33%</b>	<b>0%</b>	<b>67%</b>
High											68%	0%	91%
Low											9%	0%	32%
<b>Selected</b>											<b>45%</b>	<b>0%</b>	<b>55%</b>

Notes:

[1] Market value of preferred stock assumed to equal book value

[2] Market value of debt is fair value of long term debt from 10-K notes

**MCA 15-1-210, rationale for changes to guideline companies:**

2023 - JBLU removed for ongoing acquisition activities

		<u>Median</u>	
Current Year	31%	0%	69%
Prior Year	37%	0%	63%
2 Years Prior	41%	0%	59%
3 Year Average	<u>37%</u>	<u>0%</u>	<u>63%</u>

**MONTANA DEPARTMENT OF REVENUE**

Capital Asset Pricing Model (CAPM)

Industry: Scheduled Airlines - Passenger

2023 Assessment Year

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

		<i>Ex Post</i>	<i>Ex Ante</i>
$k_e =$	Cost of Equity	<b>15.25%</b>	<b>12.94%</b>
$R_f =$	Risk Free Rate	4.14%	4.14%
$\beta =$	Beta	1.55	1.55
$ERP =$	Equity Risk Premium ( $R_m - R_f$ )	7.17%	5.68%
$R_m =$	Market Rate of Return	11.31%	9.82%

**Risk Free Rate Measures ( $R_f$ ):**

The Value Line Investment Survey: Selection & Opinion<sup>[1]</sup>

January 6, 2023 Page 1465

Selected Yields on Taxable U.S. Treasury Securities as of 12/27/22

10-year	3.84%
30-year	3.93%

Federal Reserve Statistical Release<sup>[2]</sup>

U.S. government securities, Treasury constant maturities, Nominal, December 30, 2022

10-year	3.88%
20-year	4.14%
30-year	3.97%

**Risk Free Rate Selected** 4.14%

Notes

[1] "Value Line Selection & Opinion", Value Line (January 6, 2023)

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

**Ex Post - Equity Risk Premium Measures ( $ERP = R_m - R_f$ )**

Kroll, 2023 Cost of Capital Navigator

		<u><math>R_m</math></u>	<u><math>R_f</math></u>	<u>ERP</u>
ERP "Historical" - <i>Ex Post</i>	<i>Arithmetic Avg.</i>	11.31%	4.14%	7.17%
ERP "Supply-side" - <i>Ex Post</i>	<i>Arithmetic Avg.</i>	10.49%	4.14%	6.35%
<b>Ex Post Equity Risk Premium Selected</b>		<u><u>11.31%</u></u>	<u><u>4.14%</u></u>	<u><u>7.17%</u></u>

**MONTANA DEPARTMENT OF REVENUE**

Capital Asset Pricing Model (CAPM)

Industry: Scheduled Airlines - Passenger

2023 Assessment Year

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

**Ex Ante - Equity Risk Premium Measures (ERP = Rm - Rf)**

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

	<u>R<sub>m</sub></u>	<u>R<sub>f</sub></u>	<u>ERP</u>
ERP - <i>Ex Ante</i>	8.81%	4.14%	4.67%

Kroll, 2023 Cost of Capital Navigator

	<u>R<sub>m</sub></u>	<u>R<sub>f</sub></u>	<u>ERP</u>
ERP "Conditional" - <i>Ex Ante</i>	9.50%	3.50%	6.00%

Damodaran Implied ERP (Jan 1, 2023)

	<u>R<sub>m</sub></u>	<u>R<sub>f</sub></u>	<u>ERP</u>
Implied Premium - <i>Ex Ante</i> - Trailing 12 month, with adjusted payout	8.99%	3.88%	5.11%
Implied Premium - <i>Ex Ante</i> - Trailing 12 month cash yields	9.82%	3.88%	5.94%
Implied Premium - <i>Ex Ante</i> - Average CF yield last 10 years	9.73%	3.88%	5.85%
Implied Premium - <i>Ex Ante</i> - Net cash yield	9.56%	3.88%	5.68%
Implied Premium - <i>Ex Ante</i> - Normalized earnings and payout	8.71%	3.88%	4.83%

	<u>R<sub>m</sub></u>	<u>R<sub>f</sub></u>	<u>ERP</u>
<u>Average</u>	9.30%		5.44%
<u>Median</u>	9.50%		5.68%
<u>High</u>	9.82%		6.00%
<u>Low</u>	8.71%		4.67%

**Ex Ante Equity Risk Premium Selected**

<b>9.82%</b>	<b>4.14%</b>	<b>5.68%</b>
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**MONTANA DEPARTMENT OF REVENUE**

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Support for Beta Selection in CAPM  
Industry: Scheduled Airlines - Passenger  
2023 Assessment Year

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<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>E</b>
<b>Ticker</b>	<b>Company</b>	<b>Industry Group</b>	<b>Financial Strength</b>	<b>Beta</b>
		<i>Value Line</i>	<i>Value Line</i>	<i>Value Line</i>
AAL	Amer. Airlines	AIRTRANS	C+	1.60
ALGT	Allegiant Travel	AIRTRANS	B+	1.40
ALK	Alaska Air Group	AIRTRANS	B	1.50
DAL	Delta Air Lines	AIRTRANS	B+	1.55
LUV	Southwest Airlines	AIRTRANS	B+	1.10
MESA	Mesa Air Group Inc	AIRTRANS	C	1.70
SKYW	SkyWest	AIRTRANS	B+	1.65
UAL	United Airlines Hldgs.	AIRTRANS	C++	1.65
<b>Average</b>				<b>1.52</b>
<b>Median</b>				<b>1.58</b>
<b>Trimmed Average</b>				<b>1.56</b>
High				1.70
Low				1.10
<b>Selected</b>				<b>1.55</b>



**MONTANA DEPARTMENT OF REVENUE**

**Inflation & Real Growth**

**Industry: Scheduled Airlines - Passenger**

**2023 Assessment Year**

A	B	C	D	Nominal Growth	
				E	F
Source Description	Inflation (CPI)	Real Growth (GDP)	Nominal Growth	Low	High
Livingston Survey <sup>[1]</sup>	2.55%	1.97%	4.52%		
Survey of Professional Forecasters <sup>[2]</sup>	2.44%	1.96%	4.40%		
Congressional Budget Office <sup>[3]</sup>	2.30%	1.80%	4.10%		
<b>Average</b>	<b>2.43%</b>	<b>1.91%</b>	<b>4.34%</b>		
<b>Median</b>	<b>2.44%</b>	<b>1.96%</b>	<b>4.40%</b>		
High	2.55%	1.97%	4.52%		
Low	2.30%	1.80%	4.10%		
<b>Selected</b>	<b>2.45%</b>	<b>2.00%</b>	<b>4.45%</b>	<b>4.10%</b>	<b>4.52%</b>

Inflationary Trend Factors						
Year	Dec. CPI-U Index	Percent Change From Previous	Dec. to Dec. Conversion Factor	Annual Avg. CPI-U Index	Percent Change From Previous	Annual Conversion Factor
	<i>Note [5]</i>	<i>Note [6]</i>	<i>Note [7]</i>	<i>Note [5]</i>	<i>Note [6]</i>	<i>Note [7]</i>
2011	225.672	2.9%	1.3152	224.939	3.1%	1.3010
2012	229.601	1.7%	1.2927	229.594	2.0%	1.2747
2013	233.049	1.5%	1.2735	232.957	1.4%	1.2563
2014	234.812	0.8%	1.2640	236.736	1.6%	1.2362
2015	236.525	0.7%	1.2548	237.017	0.1%	1.2347
2016	241.432	2.0%	1.2293	240.007	1.2%	1.2194
2017	246.524	2.1%	1.2039	245.120	2.1%	1.1939
2018	251.233	1.9%	1.1814	251.107	2.4%	1.1655
2019	256.974	2.2%	1.1550	255.657	1.8%	1.1447
2020	260.474	1.3%	1.1394	258.811	1.2%	1.1308
2021	278.802	6.6%	1.0645	270.970	4.5%	1.0800
2022	296.797	6.1%	1.0000	292.655	7.4%	1.0000

**Notes**

[1] Federal Reserve Bank of Philadelphia The Livingston Survey December 16, 2023 Table 3 Inflation Rate and Real GDP mean

<https://www.philadelphiafed.org/research-and-data/real-time-center/livingston-survey>

[2] Federal Reserve Bank of Philadelphia Survey of Professional Forecasters February 10, 2023 Table 8 and Table 9 Average over next 10-Year mean

<https://www.philadelphiafed.org/surveys-and-data/real-time-data-research/survey-of-professional-forecasters>

[3] The Budget and Economic Outlook: 2023 To 2033, Table B-1

<https://www.cbo.gov/about/products/budget-economic-data#4>

[5] Historical Consumer Price Index for All Urban Consumers (CPI-U): U.S. city average, all items, index averages (1982-84=100, unless otherwise noted)

<https://www.bls.gov/cpi/tables/supplemental-files/historical-cpi-u-202212.pdf>

[6] (Row year - Previous Year) / Row Year

[7] Most current year / Row year

## MONTANA DEPARTMENT OF REVENUE

3 Stage Dividend Discount Model (DDM)

Industry: Scheduled Airlines - Passenger

2023 Assessment Year

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

$k_e$  = Cost of Equity

$D_1$  = Expected Dividend

$P_0$  = Current Price Per Share

$g$  = Sustainable Long-Term Growth

A	B	C	D	E	F	G	H	I
Ticker	Company	2022 Year End Stock Price	2023 Est Div'ds Decl'd per sh	Expected Equity Payout Yield	Sustainable Long-Term Growth Rate <sup>[1]</sup>	Sustainable Long-Term Growth Rate <sup>[1]</sup>	Cost of Equity Dividend Growth	Cost of Equity Earnings Growth
		<i>Yahoo</i>	<i>Value Line</i>	<i>D/C</i>	<i>Dividends</i>	<i>Earnings</i>	<i>E+F</i>	<i>E+G</i>
		$P_0$	$D_1$	$D_1/P_0$	$g$	$g$	$k_e$	$k_e$
AAL	Amer. Airlines	12.72	0.00	0.00%	0.00%	0.00%		
ALGT	Allegiant Travel	67.99	0.50	0.74%	49.74%	18.01%	NMF	18.75%
ALK	Alaska Air Group	42.94	0.10	0.23%	97.85%	6.01%	NMF	6.24%
DAL	Delta Air Lines	32.86	0.00	0.00%	0.00%	0.00%		
LUV	Southwest Airlines	33.67	0.36	1.07%	17.59%	10.68%	18.66%	11.75%
MESA	Mesa Air Group Inc	1.53	0.00	0.00%	0.00%	0.00%		
SKYW	SkyWest	16.51	0.20	1.21%	8.77%	10.18%	9.98%	11.39%
UAL	United Airlines Hldgs.	37.70	0.00	0.00%	0.00%	0.00%		
<b>Average</b>							<b>14.32%</b>	<b>12.03%</b>
<b>Median</b>							<b>14.32%</b>	<b>11.57%</b>
<b>Trimmed Average</b>								<b>11.57%</b>
High							18.66%	18.75%
Low							9.98%	6.24%
<b>Selected</b>							<b>14.32%</b>	<b>12.03%</b>

Notes

[1] From worksheet: DDM Sustainable Long-Term Growth

*Implied Sustainable LTG:*                      13.18%                      11.22%

**MONTANA DEPARTMENT OF REVENUE**

**Support for DDM - Short Term Growth Rate Calculations**

**Industry: Scheduled Airlines - Passenger**

**2023 Assessment Year**

<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>E</b>	<b>F</b>	<b>G</b>
<b>Ticker</b>	<b>Company</b>	<b>End of Year Closing Stock Price</b>	<b>Div'ds Decl'd per sh 2023 Est</b>	<b>Expected Dividend Yield</b>	<b>Div'ds Decl'd per sh 2025-2027 Est</b>	<b>Short-Term Growth Rate</b>
		<i>Yahoo</i>	<i>Value Line</i>	<i>D / C</i>	<i>Value Line</i>	<i>Note [1]</i>
AAL	Amer. Airlines	12.72	0.00	0.00%	0.00	0.00%
ALGT	Allegiant Travel	67.99	0.50	0.74%	3.00	81.71%
ALK	Alaska Air Group	42.94	0.10	0.23%	1.90	166.84%
DAL	Delta Air Lines	32.86	0.00	0.00%	1.50	NMF
LUV	Southwest Airlines	33.67	0.36	1.07%	0.84	32.64%
MESA	Mesa Air Group Inc	1.53				
SKYW	SkyWest	16.51	0.20	1.21%	0.32	16.96%
UAL	United Airlines Hldgs.	37.70	0.00	0.00%	0.00	0.00%

<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>E</b>
<b>Ticker</b>	<b>Company</b>	<b>Earnings per share 2023 Est</b>	<b>Earnings per share 2025-2027 Est</b>	<b>Short-Term Growth Rate</b>
		<i>Value Line</i>	<i>Value Line</i>	<i>Note [1]</i>
AAL	Amer. Airlines	1.40	4.25	44.80%
ALGT	Allegiant Travel	12.00	30.25	36.10%
ALK	Alaska Air Group	5.75	9.50	18.22%
DAL	Delta Air Lines	5.00	7.50	14.47%
LUV	Southwest Airlines	2.80	5.00	21.32%
MESA	Mesa Air Group Inc			
SKYW	SkyWest	3.50	6.00	19.68%
UAL	United Airlines Hldgs.	5.70	13.50	33.30%

Notes

[1] 4 year compound annual growth rate (CAGR) - 3 periods

**MONTANA DEPARTMENT OF REVENUE**

Support for DDM - Sustainable Long Term Growth

Industry: Scheduled Airlines - Passenger

2023 Assessment Year

Dividend Growth Rate									Stage 1				
Ticker	Company	Year End Stock Price	Expected Short-Term Dividend Growth Rate	Expected Long-Term Growth Rate	Expected Dividend Yield	Internal Rate of Return	Implied Sustainable Long-Term Growth Rate (g)	Initial Investment	D <sub>1</sub>	D <sub>2</sub>	D <sub>3</sub>	D <sub>4</sub>	D <sub>5</sub>
		Yahoo	Note [1]	Note [2]	$D_1/P_0$	$K_e = IRR \text{ of } D_1:D_{500}$	$g = IRR - Div. \text{ Yield}$						
AAL	Amer. Airlines	12.72	0.00%	4.45%	0.00%			(12.72)	0.00	0.00	0.00	0.00	0.00
ALGT	Allegiant Travel	67.99	81.71%	4.45%	0.74%	50.47%	49.74%	(67.99)	0.50	0.91	1.65	3.00	5.45
ALK	Alaska Air Group	42.94	166.84%	4.45%	0.23%	98.08%	97.85%	(42.94)	0.10	0.27	0.71	1.90	5.07
DAL	Delta Air Lines	32.86	NMF	4.45%	0.00%			(32.86)	0.00				
LUV	Southwest Airlines	33.67	32.64%	4.45%	1.07%	18.66%	17.59%	(33.67)	0.36	0.48	0.63	0.84	1.11
MESA	Mesa Air Group Inc	1.53	0.00%	4.45%	0.00%			(1.53)	0.00	0.00	0.00	0.00	0.00
SKYW	SkyWest	16.51	16.96%	4.45%	1.21%	9.98%	8.77%	(16.51)	0.20	0.23	0.27	0.32	0.37
UAL	United Airlines Hldgs.	37.70	0.00%	4.45%	0.00%			(37.70)	0.00	0.00	0.00	0.00	0.00

Earnings Growth Rate									Stage 1				
Ticker	Company	Year End Stock Price	Expected Short-Term Earnings Growth Rate	Expected Long-Term Growth Rate	Expected Dividend Yield	Internal Rate of Return	Implied Sustainable Long-Term Growth Rate (g)	Initial Investment	D <sub>1</sub>	D <sub>2</sub>	D <sub>3</sub>	D <sub>4</sub>	D <sub>5</sub>
		Yahoo	Note [1]	Note [2]	$D_1/P_0$	$K_e = IRR \text{ of } D_1:D_{500}$	$g = IRR - Div. \text{ Yield}$						
AAL	Amer. Airlines	12.72	44.80%	4.45%	0.00%			(12.72)	0.00	0.00	0.00	0.00	0.00
ALGT	Allegiant Travel	67.99	36.10%	4.45%	0.74%	18.75%	18.01%	(67.99)	0.50	0.68	0.93	1.26	1.72
ALK	Alaska Air Group	42.94	18.22%	4.45%	0.23%	6.24%	6.01%	(42.94)	0.10	0.12	0.14	0.17	0.20
DAL	Delta Air Lines	32.86	14.47%	4.45%	0.00%			(32.86)	0.00	0.00	0.00	0.00	0.00
LUV	Southwest Airlines	33.67	21.32%	4.45%	1.07%	11.75%	10.68%	(33.67)	0.36	0.44	0.53	0.64	0.78
MESA	Mesa Air Group Inc	1.53	0.00%	4.45%	0.00%			(1.53)	0.00	0.00	0.00	0.00	0.00
SKYW	SkyWest	16.51	19.68%	4.45%	1.21%	11.39%	10.18%	(16.51)	0.20	0.24	0.29	0.34	0.41
UAL	United Airlines Hldgs.	37.70	33.30%	4.45%	0.00%			(37.70)	0.00	0.00	0.00	0.00	0.00

**Notes**

[1] From worksheet: DDM Short Term Growth Rate Calculations

[2] From worksheet: Inflation & Real Growth

**MONTANA DEPARTMENT OF REVENUE**

Support for DDM - Sustainable Long Term Growth

Industry: Scheduled Airlines - Passenger

2023 Assessment Year

Dividend	Stage 2															Stage 3		
	D <sub>6</sub>	D <sub>7</sub>	D <sub>8</sub>	D <sub>9</sub>	D <sub>10</sub>	D <sub>11</sub>	D <sub>12</sub>	D <sub>13</sub>	D <sub>14</sub>	D <sub>15</sub>	D <sub>16</sub>	D <sub>17</sub>	D <sub>18</sub>	D <sub>19</sub>	D <sub>20</sub>	D <sub>21</sub>	D <sub>22</sub>	D <sub>500</sub>
AAL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
ALGT	9.62	16.99	30.00	52.98	93.54	165.15	291.59	514.84	909.00	1,604.94	2,833.70	5,003.22	8,833.75	15,596.99	27,538.24	28,763.69	30,043.67	32,808,728,218,955
ALK	12.98	33.23	85.07	217.80	557.60	1,427.54	3,654.71	9,356.57	23,954.14	61,325.99	157,003.21	401,950.45	1,029,050.03	2,634,513.74	6,744,728.06	7,044,868.46	7,358,365.10	8,035,589,004,292,280
DAL																		
LUV	1.46	1.90	2.49	3.26	4.26	5.57	7.28	9.52	12.45	16.28	21.28	27.83	36.39	47.58	62.21	64.98	67.87	74,118,574,058
MESA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
SKYW	0.43	0.50	0.59	0.68	0.79	0.92	1.07	1.24	1.44	1.67	1.94	2.25	2.61	3.04	3.53	3.68	3.85	4,199,739,924
UAL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0

Earnings	Stage 2															Stage 3		
	D <sub>6</sub>	D <sub>7</sub>	D <sub>8</sub>	D <sub>9</sub>	D <sub>10</sub>	D <sub>11</sub>	D <sub>12</sub>	D <sub>13</sub>	D <sub>14</sub>	D <sub>15</sub>	D <sub>16</sub>	D <sub>17</sub>	D <sub>18</sub>	D <sub>19</sub>	D <sub>20</sub>	D <sub>21</sub>	D <sub>22</sub>	D <sub>500</sub>
AAL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
ALGT	2.30	3.08	4.13	5.53	7.41	9.93	13.30	17.82	23.87	31.99	42.86	57.43	76.94	103.10	138.14	144.28	150.70	164,572,742,096
ALK	0.23	0.27	0.32	0.37	0.43	0.51	0.60	0.70	0.82	0.96	1.13	1.33	1.55	1.82	2.14	2.23	2.33	2,548,561,359
DAL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
LUV	0.94	1.13	1.35	1.63	1.96	2.35	2.83	3.40	4.08	4.91	5.90	7.09	8.52	10.25	12.32	12.86	13.44	14,671,979,978
MESA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
SKYW	0.49	0.58	0.69	0.81	0.97	1.15	1.36	1.61	1.91	2.27	2.70	3.20	3.80	4.51	5.35	5.58	5.83	6,369,457,851
UAL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0

**MONTANA DEPARTMENT OF REVENUE**

**Support for Cost of Debt Component - Yield to Maturity**

**Industry: Scheduled Airlines - Passenger**

**2023 Assessment Year**

A	B	C	D	E	F
Ticker	Company	Industry Group	Financial Strength	Moody's Long Term Rating	Yield to Maturity
		<i>Value Line</i>	<i>Value Line</i>	<i>Moody's.com</i>	
AAL	Amer. Airlines	AIRTRANS	C+	B2	9.15%
ALGT	Allegiant Travel	AIRTRANS	B+	Ba3	7.04%
ALK	Alaska Air Group	AIRTRANS	B	Baa	5.59%
DAL	Delta Air Lines	AIRTRANS	B+	Baa3	5.59%
LUV	Southwest Airlines	AIRTRANS	B+	Baa1	5.59%
MESA	Mesa Air Group Inc	AIRTRANS	C	B	9.15%
SKYW	SkyWest	AIRTRANS	B+	Baa	5.59%
UAL	United Airlines Hldgs.	AIRTRANS	C++	Ba1	7.04%
<b>All Companies</b>					
	<b>Average</b>				<b>6.84%</b>
	<b>Median</b>				<b>6.32%</b>
	<b>Trimmed Average</b>				<b>6.67%</b>
	High				9.15%
	Low				5.59%
<b>Selected</b>					<b>6.84%</b>

*\*Highlighted ratings are estimated based on financial strength and historical interest coverage ratios*

**MONTANA DEPARTMENT OF REVENUE**

Support for Direct Capitalization - Equity Capitalization Rate

Industry: Scheduled Airlines - Passenger

2023 Assessment Year

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
Ticker	Company	End of Year Closing Stock Price	VL Historic EPS	VL Est EPS	VL Historic P/E Ratio	VL Est P/E Ratio	Ke Estimate - Earnings (Hist. P/E)	Ke Estimate - Earnings (Est. P/E)	VL Historic Cash Flow Per Share	VL Est Cash Flow Per Share	VL Historic P/CF Ratio	VL Est P/CF Ratio	Ke Estimate - Cash Flow (Hist. P/CF)	Ke Estimate - Cash Flow (Est. P/CF)	Market Value of Equity	Book Value of Equity	MTBR
		Yahoo	Value Line	Value Line	C/D	C/E	1/F	1/G	Value Line	Value Line	C/J	C/K	1/L	1/M	Price x Shrs	Value Line	P/Q
AAL	Amer. Airlines	12.72	0.30	1.95	42.40	6.52	2.36%	15.33%	(5.21)	3.52	(2.44)	3.61		27.67%	8,276	(7,340.00)	(1.13)
ALGT	Allegiant Travel	67.99	3.13	8.00	21.72	8.50	4.60%	11.77%	11.93	14.10	5.70	4.82	17.55%	20.74%	1,233	1,223.60	1.01
ALK	Alaska Air Group	42.94	4.31	6.50	9.96	6.61	10.04%	15.14%	1.10	7.70	39.04	5.58	2.56%	17.93%	5,476	3,801.00	1.44
DAL	Delta Air Lines	32.86	3.20	5.10	10.27	6.44	9.74%	15.52%	(0.94)	8.70	(34.96)	3.78		26.48%	21,072	3,887.00	5.42
LUV	Southwest Airlines	33.67	1.10	2.50	30.61	13.47	3.27%	7.43%	3.49	4.85	9.65	6.94	10.37%	14.40%	20,000	10,687.00	1.87
MESA	Mesa Air Group Inc	1.53	(4.90)	0.00	(0.31)				(2.78)	0.00	(0.55)				56	308.20	0.18
SKYW	SkyWest	16.51	1.45	0.40	11.39	41.28	8.78%	2.42%	12.23	8.25	1.35	2.00	74.08%	49.97%	835	2,267.50	0.37
UAL	United Airlines Hldgs.	37.70	2.46	8.50	15.33	4.44	6.53%	22.55%	(6.19)	16.15	(6.09)	2.33		42.84%	12,325	5,029.00	2.45
<b>Average</b>					<b>17.67</b>	<b>12.46</b>	<b>6.47%</b>	<b>12.88%</b>			<b>1.46</b>	<b>4.15</b>	<b>26.14%</b>	<b>28.58%</b>			<b>1.45</b>
<b>Median</b>					<b>13.36</b>	<b>6.61</b>	<b>6.53%</b>	<b>15.14%</b>			<b>0.40</b>	<b>3.78</b>	<b>13.96%</b>	<b>26.48%</b>			<b>1.22</b>
<b>Trimmed Average</b>					<b>16.55</b>	<b>8.31</b>	<b>6.58%</b>	<b>13.04%</b>			<b>1.27</b>	<b>4.02</b>	<b>13.96%</b>	<b>27.13%</b>			<b>1.22</b>
High					42.40	41.28	10.04%	22.55%			39.04	6.94	74.08%	49.97%			5.42
Low					(0.31)	4.44	2.36%	2.42%			(34.96)	2.00	2.56%	14.40%			(1.13)
<b>Selected</b>						9.56		<b>10.45%</b>				4.57		<b>21.86%</b>			<b>1.85</b>

**MONTANA DEPARTMENT OF REVENUE**

Support for Direct Capitalization - Debt Capitalization Rate

Industry: Scheduled Airlines - Passenger

2023 Assessment Year

(\$ in Millions)

A	B	C	D	E	F	G	H	I	J
Ticker	Company	Current Year Interest Exp.	Previous Year MV LT Debt	Previous Year BV LT Debt	Current Year MV LT Debt	Current Year BV LT Debt	Average MV LT Debt	Current Yield	MTBR
		<i>10-K</i>	<i>10-K</i>	<i>10-K</i>	<i>10-K</i>	<i>10-K</i>	<i>(D+F)/2</i>	<i>(C/H)</i>	<i>(F/G)</i>
AAL	Amer. Airlines	1,962	39,304	38,060	33,330	32,389	36,317	5.40%	1.03
ALGT	Allegiant Travel	116	1,556	1,743	2,033	1,944	1,795	6.45%	1.05
ALK	Alaska Air Group	108	2,637	2,539	1,972	1,883	2,305	4.69%	1.05
DAL	Delta Air Lines	1,029	28,736	26,920	22,349	20,671	25,543	4.03%	1.08
LUV	Southwest Airlines	340	10,547	10,727	7,952	8,046	9,249	3.68%	0.99
MESA	Mesa Air Group Inc	35	658	651	526	503	592	5.96%	1.05
SKYW	SkyWest	127	3,100	3,109	3,236	2,942	3,168	4.01%	1.10
UAL	United Airlines Hldgs.	1,778	34,845	33,658	29,590	28,398	32,218	5.52%	1.04
<b>All Companies</b>		5,495			100,988	96,775	111,185	<b>4.94%</b>	<b>1.04</b>
<b>Average</b>								<b>4.97%</b>	<b>1.05</b>
<b>Median</b>								<b>5.04%</b>	<b>1.05</b>
<b>Trimmed Average</b>								<b>4.93%</b>	<b>1.05</b>
High								6.45%	1.10
Low								3.68%	0.99
<b>Selected</b>								<b>4.97%</b>	<b>1.05</b>



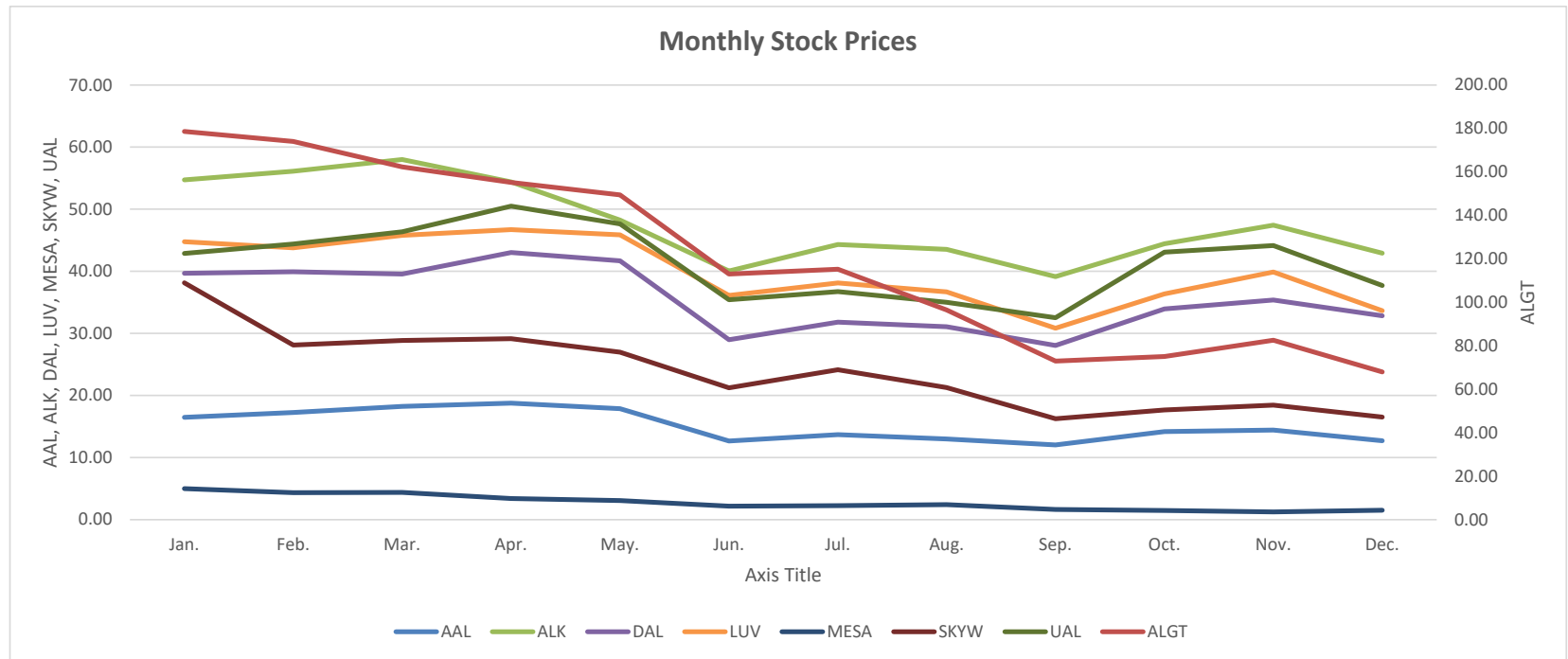
**MONTANA DEPARTMENT OF REVENUE**

Support of Stock Price - From YAHOO Finance

Industry: Scheduled Airlines - Passenger

2023 Assessment Year

		End of Period Closing Stock Price											
1	2	3	4	5	6	7	8	9	10	11	12	13	14
A	B	C	D	E	F	G	H	I	J	K	L	M	N
Ticker	Company	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
AAL	Amer. Airlines	16.47	17.25	18.25	18.77	17.87	12.68	13.71	12.99	12.04	14.18	14.43	12.72
ALGT	Allegiant Travel	178.66	174.09	162.39	155.19	149.45	113.09	115.31	96.50	72.98	75.05	82.61	67.99
ALK	Alaska Air Group	54.74	56.14	58.01	54.39	48.26	40.05	44.33	43.56	39.15	44.46	47.44	42.94
DAL	Delta Air Lines	39.69	39.92	39.57	43.03	41.69	28.97	31.80	31.07	28.06	33.93	35.37	32.86
LUV	Southwest Airlines	44.76	43.80	45.80	46.72	45.86	36.12	38.12	36.70	30.84	36.35	39.91	33.67
MESA	Mesa Air Group Inc	5.00	4.35	4.40	3.40	3.07	2.19	2.26	2.43	1.65	1.48	1.25	1.53
SKYW	SkyWest	38.15	28.11	28.85	29.15	26.96	21.25	24.15	21.29	16.26	17.68	18.45	16.51
UAL	United Airlines Hldgs.	42.88	44.40	46.36	50.50	47.63	35.42	36.75	35.01	32.53	43.08	44.17	37.70



**MONTANA DEPARTMENT OF REVENUE**

**Maintenance Capital Expenditures Estimate Based on Guideline Companies**  
**Industry: Scheduled Airlines - Passenger**  
**2023 Assessment Year**

(\$ In Millions)

1	2		3	4	5	6	7	8	9	10	11
A	B	C	D	E	F	G	H	I	J	K	L
Ticker	Company	Inflation	PP&E, Gross	PP&E, Gross	Average PP&E	Depreciation Expense	Average Life of Assets			Replacement Cost (RC)	RC as % of Depreciation
			Current Year	Previous Year		Current Year		Note [1]	Note [1]	Note [1]	
		MTDOR (CPI)	10-K, Notes	10-K, Notes	(D+E)/2	10-K	F/G	C*H	1/(1+C)^H	G*I/(1-J)	K/G
AAL	Amer. Airlines	2.45%	50,229	47,708	48,969	1,977	25	0.61	0.55	2,661	134.58%
ALGT	Allegiant Travel	2.45%	3,626	2,956	3,291	198	17	0.41	0.67	243	122.99%
ALK	Alaska Air Group	2.45%	11,384	10,000	10,692	415	26	0.63	0.54	565	136.04%
DAL	Delta Air Lines	2.45%	53,479	47,420	50,450	2,107	24	0.59	0.56	2,810	133.37%
LUV	Southwest Airlines	2.45%	30,984	27,574	29,279	1,351	22	0.53	0.59	1,757	130.08%
MESA	Mesa Air Group Inc	2.45%	1,271	1,621	1,446	82	18	0.43	0.65	101	124.50%
SKYW	SkyWest	2.45%	8,433	8,230	8,331	395	21	0.52	0.60	510	129.28%
UAL	United Airlines Hldgs.	2.45%	54,929	50,563	52,746	2,456	21	0.53	0.59	3,188	129.80%
<b>Average</b>											<b>130.08%</b>
<b>Median</b>											<b>129.94%</b>
<b>Trimmed Average</b>											<b>130.27%</b>
High											136.04%
Low											122.99%
<b>Selected</b>											<b>130.08%</b>

Notes

[1] Cornell, B. & Gerger, R. (2017). Estimating Terminal Values with Inflation: The Inputs Matter-It Is Not a Formulaic Exercise. *Business Valuation Review*, Volume 36, Number 4, 117-123.