				UTILITY PROPE	RTY CASH FLOW - I	NCOME TAXES BASE	D ON RETURN ON EC	OUITY			
						hern Pass					
	Input Number			Input De	scription				Input		
	1						Northern Pass Original Cost				
	3					Equity Percent 50.00% Debt Percent 50.00%					
	4						After-Tax Return on Equity				
	5						Debt Rate				
	6 7					Δfter-T	Weighted Average Cost of Capital ax Weighted Average Cost of Capital				
	8						Effective Tax Rate (State and Federal)	44%			
	9						Interest Payment on Bond				
	10						Annual Depreciation Rate Imputed Book Life (Years)	2.500%			
	12						Allowed Annual Depreciation	\$40,000,000			
	13				Percer			(((Input #1 x Input #2 x Input #4) / Input #3 x Input #4)		4.84%	
	14	, , , , , , , , , , , , , , , , , , ,						17 Years Straight line - Then Zero Inc		6.00%	
	A	В	С	D	E	F	G	Н	I	J	
Row	Year	Investment Remaining (Input #1) (Book Cost)	Allowed Return on Equity (Input #4)	Pre-Tax Return on Debt (Input #5)	Cash Flow From Return on Equity (B x Input #2) x C)	Cash Flow From Return on Debt (B x Input #3) x D)	Cash Flow Allowed For Depreciation (Input #12)	Cash Flows From Federal & State Taxes Included in Revenue (B x Input #13)	Total Cash Flow Revenue Requirement (E + F + G + H)	PV of Cash Flow Pre-Tax (PV of I based on Input #7)	
1		\$	%	%	\$	\$	\$	\$	\$	\$	
2	1	\$ 1,600,000,000	12.56%	7.00%	\$ 100,480,000	\$ 56,000,000	\$ 40,000,000	\$ 77,360,708	\$ 273,840,708	\$252,953,105	
3	3	\$ 1,560,000,000 \$ 1,520,000,000	12.56% 12.56%	7.00% 7.00%	\$ 97,968,000 \$ 95,456,000	\$ 54,600,000 \$ 53,200,000	\$ 40,000,000 \$ 40,000,000	\$ 75,426,690 \$ 73,492,673	\$ 267,994,690 \$ 262,148,673	\$228,670,532 \$206,620,630	
5	4	\$ 1,480,000,000	12.56%	7.00%	\$ 93,436,000			, ,	\$ 256,302,655	\$186,604,078	
6	5	\$ 1,440,000,000	12.56%	7.00%	\$ 90,432,000	\$ 50,400,000	\$ 40,000,000	,, ,	\$ 250,456,637	\$168,438,970	
7	6 7	\$ 1,400,000,000 \$ 1,360,000,000	12.56% 12.56%	7.00% 7.00%	\$ 87,920,000 \$ 85,408,000	\$ 49,000,000 \$ 47,600,000	\$ 40,000,000 \$ 40,000,000	\$ 67,690,619 \$ 65,756,602	\$ 244,610,619 \$ 238,764,602	\$151,959,321 \$137,013,697	
9	8	\$ 1,320,000,000	12.56%	7.00%	\$ 82,896,000	\$ 46,200,000	\$ 40,000,000	\$ 63,822,584	\$ 232,918,584	\$137,013,697	
10	9	\$ 1,280,000,000	12.56%	7.00%	\$ 80,384,000	\$ 44,800,000	\$ 40,000,000	, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	\$ 227,072,566	\$111,184,110	
11 12	10 11	\$ 1,240,000,000 \$ 1,200,000,000	12.56% 12.56%	7.00% 7.00%	\$ 77,872,000 \$ 75,360,000	\$ 43,400,000 \$ 42,000,000	\$ 40,000,000 \$ 40,000,000	\$ 59,954,549 \$ 58,020,531	\$ 221,226,549 \$ 215,380,531	\$100,059,265 \$89,984,667	
13	12	\$ 1,160,000,000	12.56%	7.00%	\$ 73,360,000	\$ 42,000,000	\$ 40,000,000	\$ 56,086,513	\$ 209,534,513	\$80,864,824	
14	13	\$ 1,120,000,000	12.56%	7.00%	\$ 70,336,000	\$ 39,200,000	\$ 40,000,000	\$ 54,152,496	\$ 203,688,496	\$72,612,700	
15 16	14 15	\$ 1,080,000,000 \$ 1,040,000,000	12.56% 12.56%	7.00% 7.00%	\$ 67,824,000 \$ 65,312,000	\$ 37,800,000 \$ 36,400,000	\$ 40,000,000 \$ 40,000,000	. , ., .,	\$ 197,842,478 \$ 191,996,460	\$65,148,982 \$58,401,408	
17	16	\$ 1,000,000,000	12.56%	7.00%	\$ 62,800,000	\$ 35,000,000	\$ 40,000,000	\$ 48,350,442	\$ 186,150,442	\$52,304,153	
18	17	\$ 960,000,000	12.56%	7.00%	\$ 60,288,000	\$ 33,600,000	\$ 40,000,000	, ., ., .	\$ 180,304,425	\$46,797,267	
19 20	18 19	\$ 920,000,000 \$ 880,000,000	12.56% 12.56%	7.00% 7.00%	\$ 57,776,000 \$ 55,264,000			, , , , , , , , , , , , , , , , , , , ,	\$ 174,458,407 \$ 168,612,389	\$41,826,162 \$37,341,143	
21	20	\$ 840,000,000	12.56%	7.00%	\$ 52,752,000 \$	\$ 29,400,000	\$ 40,000,000	, ,	\$ 162,766,372	\$33,296,977	
22	21	\$ 800,000,000	12.56%	7.00%	\$ 50,240,000	\$ 28,000,000	\$ 40,000,000	\$ 38,680,354	\$ 156,920,354	\$29,652,507	
23 24	22 23	\$ 760,000,000 \$ 720,000,000	12.56% 12.56%	7.00% 7.00%	\$ 47,728,000 \$ 45,216,000	\$ 26,600,000 \$ 25,200,000	\$ 40,000,000 \$ 40,000,000	\$ 36,746,336 \$ 34,812,319	\$ 151,074,336 \$ 145,228,319	\$26,370,286 \$23,416,256	
25	24	\$ 680,000,000	12.56%	7.00%	\$ 42,704,000		\$ 40,000,000	\$ 32,878,301	\$ 139,382,301	\$20,759,447	
26	25	\$ 640,000,000	12.56%	7.00%	\$ 40,192,000	\$ 22,400,000	\$ 40,000,000	, ,	\$ 133,536,283	\$18,371,704	
27 28	26 27	\$ 600,000,000 \$ 560,000,000	12.56% 12.56%	7.00% 7.00%	\$ 37,680,000 \$ 35,168,000	\$ 21,000,000 \$ 19,600,000	\$ 40,000,000 \$ 40,000,000	\$ 29,010,265 \$ 27,076,248	\$ 127,690,265 \$ 121,844,248	\$16,227,438 \$14,303,397	
29	28	\$ 520,000,000	12.56%	7.00%	\$ 32,656,000	\$ 18,200,000	\$ 40,000,000	\$ 25,142,230	\$ 115,998,230	\$12,578,462	
30	29	\$ 480,000,000	12.56%	7.00%	\$ 30,144,000	\$ 16,800,000	\$ 40,000,000	, ,		\$11,033,452	
31 32	30 31	\$ 440,000,000 \$ 400,000,000	12.56% 12.56%	7.00% 7.00%	\$ 27,632,000 \$ 25,120,000	\$ 15,400,000 \$ 14,000,000	\$ 40,000,000 \$ 40,000,000	\$ 21,274,195 \$ 19,340,177	\$ 104,306,195 \$ 98,460,177	\$9,650,955 \$8,415,168	
33	32	\$ 360,000,000	12.56%	7.00%	\$ 22,608,000	\$ 12,600,000	\$ 40,000,000		\$ 92,614,159	\$7,311,754	
34	33	\$ 320,000,000	12.56%	7.00%	\$ 20,096,000	\$ 11,200,000	\$ 40,000,000	\$ 15,472,142	\$ 86,768,142	\$6,327,709	
35 36	34 35	\$ 280,000,000 \$ 240,000,000	12.56% 12.56%	7.00% 7.00%	\$ 17,584,000 \$ 15,072,000		\$ 40,000,000 \$ 40,000,000	, ,	\$ 80,922,124 \$ 75,076,106	\$5,451,242 \$4,671,668	
37	36	\$ 240,000,000	12.56%	7.00%	\$ 13,072,000 \$ 12,560,000	\$ 8,400,000	\$ 40,000,000	\$ 9,670,088	\$ 69,230,088	\$3,979,304	
38	37	\$ 160,000,000	12.56%	7.00%	\$ 10,048,000	\$ 5,600,000	\$ 40,000,000	\$ 7,736,071	\$ 63,384,071	\$3,365,382	
39 40	38 39	\$ 120,000,000 \$ 80,000,000	12.56% 12.56%	7.00% 7.00%	\$ 7,536,000 \$ 5,024,000	\$ 4,200,000 \$ 2,800,000	\$ 40,000,000 \$ 40,000,000	\$ 5,802,053 \$ 3,868,035	\$ 57,538,053 \$ 51,692,035	\$2,821,964 \$2,341,865	
40	40	\$ 80,000,000	12.56%	7.00%	\$ 5,024,000 \$ 2,512,000			, ,	\$ 51,692,035 \$ 45,846,018	\$2,341,865 \$1,918,589	
	Totals	\$ -			\$ 2,059,840,000	\$ 1,148,000,000	\$ 1,600,000,000	\$ 1,585,894,513	\$ 6,393,734,513	\$ 2,474,514,496	
43								Ratio of PV of	Cash-Flows to Book Value	1.55	

Revenue Requirment Worksheet

			A	В	С	D	Е	F
			Capitalization		Weighted Cost of			
			Ratios	Cost of Capital	Capital	Equity Portion		
					Col. A X Col. B			
1	Ca	pital Structure:						
2		Long-term Debt	50.00%	7.00%	3.50%			
3		Preferred Stock	0.00%	0.00%	0.00%	0.00%		
4		Common Equity	50.00%	12.56%	6.2800%	6.28%		
5		Total Investment Return	100.00%		9.78%	6.28%		
6								
7	Re	turn on Equity (excluding income taxes)	6.28%					
8	Re	turn on Long-term Debt	3.50%					
9								
					Equity AFUDC in			
				Amortization of	Depreciation	Total	Federal Income Tax	State Income
10			ROE	ITC	Expense	Investment Base	****	Tax Rate
11			6.28%	-	4,667,200	1,600,000,000	35.00%	8.50%
12								
	Fee	leral Income Taxes associated with Return on Equity	3.54%					
14		Line 11, (Col A + ((Col. B + Col. C) ÷ Col. D)) ÷ (1 - Col. E)) X Col. E						
15								
	Sta	te Income Taxes associated with Return on Equity	0.94%					
17		Line 11, ((Col A + ((Col. B + Col. C) ÷ Col. D) ÷ (1 - Col. F)) + (Line 13, Col.D)) X Col. F	7					
18								
19	To	tal Cost of Capital Rate	14.258%					
20		Col. D, Sum of Lines 7, 8, 13 & 14						
21								
				Return on Long-	Federal Income	State Income		
22	Cal	culation of Annual Investment Returns & Income Tax:	Return on Equity	term Debt	Taxes	Taxes	Total Return	
23								
24		Investment Base	1,600,000,000	1,600,000,000	1,600,000,000	1,600,000,000	1,600,000,000	
25		Associated Rate	6.28%	3.50%	3.5386%	0.94%	14.258%	
26		Investment Return & Income Tax Calculation (Lines 24 + 25)	100,480,000	56,000,000	56,617,600	15,027,200	228,124,800	

	REVENUE REQUIREMENTS	
1	Return on Equity	\$ 100,480,000
2	Return on Long-term Debt	56,000,000
3	Federal Income Taxes associated with Return on Equity	56,617,600
4	State Income Taxes associatged with Return on Equity	15,027,200
5	Depreciation Expense (SL - 40 year ASL)	40,000,000
6	Amortization of Investment Tax Credits	-
7	Municipal Tax Expense	38,400,000
8	Payroll Tax Expense	-
9	Operations and Maintenance Expense (O&M)	3,500,000
10	Transmission Administrative and General Expense (A&G)	4,000,000
11	Taxes and Fees Charge	-
12	Right-of-Way (Rental) Expense	7,000,000
13	Scheduling, System Control and Dispatch Service Expense	1,000,000
14	Amortization of Regulatory Asset - Pre-COD Expenses	-
15	Levelized Annual Decommissioning Payment	-
16	Transmission Support Expense	-
17	Miscellaneous Revenues (such as Rents Received from Elec Property)	-
18	Total Revenue Requirement	\$ 322,024,800
19	Total KW Capacity	1,090,000
20	Revenue Requirement per KW per Year (Line 18 ÷ Line 19)	\$ 295
21	Revenue Requirement per KW per Month (Line 20 ÷ 12 mos.)	\$ 25

Based on FERC TSA Filing, Appendix B

A	С	Е	G	Н	I	J	K	L	M	N	0	P	Q	R	S
	Fo	recast Pric	ing	Sansoucy							London Economics				
				Annual Capacity	Annual					Annual Capacity					
	Annual	Electricity	Electricty	Revenue @	Electricity		Annual			Revenue @	Annual Electricity		Annual		
	Capacity	Price - On	Price - All	1,090,000 KW	Revenues @ 30%	Total Annual	Revenue		Gross Margin	1,090,000 KW	Revenues @ 83%	Total Annual	Revenue		Gross Margin
	Price	Peak	Hours	Capacity	Capacity Factor	Revenues	Requirement	Gross Margin	Per KWH	Capacity	Capacity Factor	Revenues	Requirement	Gross Margin	Per KWH
									Col. L ÷						Col. R ÷
	@ 2.5%	@ 2.5%	@ 2.5%	1,090,000 KW X					2,864,520,000	1,090,000 KW X	7,958,000 ¹ X Col.				7,958,000,000
	Inflation	Inflation	Inflation	Col. C	X Col. E	Col. H + Col. I		Col. J - Col. K	KWH	Col. C	G	Col. N + Col. O		Col. P - Col. Q	KWH
2020	81.84	52.69	45.92	89,209,619	150,938,028	240,147,647	322,024,800	(81,877,153)	(0.0286)	89,209,619	365,420,348	454,629,967	322,024,800	132,605,167	0.0167
2021	101.55	56.79	49.46	110,690,357	162,679,452	273,369,808	322,024,800	(48,654,992)	(0.0170)	110,690,357	393,617,447	504,307,804	322,024,800	182,283,004	0.0229
2022	101.83	59.43	51.47	110,991,146	170,246,655	281,237,800	322,024,800	(40,787,000)	(0.0142)	110,991,146	409,580,431	520,571,577	322,024,800	198,546,777	0.0249
2023	102.05	61.51	53.30	111,237,793	176,197,023	287,434,816	322,024,800	(34,589,984)	(0.0121)	111,237,793	424,157,497	535,395,289	322,024,800	213,370,489	0.0268
2024	106.98	62.68	54.16	116,610,072	179,546,394	296,156,467	322,024,800	(25,868,333)	(0.0090)	116,610,072	430,977,610	547,587,682	322,024,800	225,562,882	0.0283
2025	109.66	65.14	56.53	119,525,324	186,582,856	306,108,180	322,024,800	(15,916,620)	(0.0056)	119,525,324	449,896,732	569,422,056	322,024,800	247,397,256	0.0311
2026	107.40	67.54	58.35	117,068,415	193,465,411	310,533,826	322,024,800	(11,490,974)	(0.0040)	117,068,415	464,324,455	581,392,870	322,024,800	259,368,070	0.0326
2027	111.37	70.08	60.52	121,390,417	200,758,821	322,149,238	322,024,800	124,438	0.0000	121,390,417	481,637,237	603,027,655	322,024,800	281,002,855	0.0353
2028	115.46	71.81	62.15	125,855,352	205,702,621	331,557,974	322,024,800	9,533,174	0.0033	125,855,352	494,617,911	620,473,263	322,024,800	298,448,463	0.0375
2029	114.32	74.83	64.69	124,603,950	214,350,926	338,954,876	322,024,800	16,930,076	0.0059	124,603,950	514,796,275	639,400,225	322,024,800	317,375,425	0.0399
2030	115.79	76.62	66.65	126,216,471	219,472,773	345,689,244	322,024,800	23,664,444	0.0083	126,216,471	530,408,730	656,625,201	322,024,800	334,600,401	0.0420
2031	121.52	79.48	69.36	132,452,166	227,671,412	360,123,578	322,024,800	38,098,778	0.0133	132,452,166	551,989,838	684,442,004	322,024,800	362,417,204	0.0455
2032	126.00	83.02	72.49	137,342,115	237,802,284	375,144,399	322,024,800	53,119,599	0.0185	137,342,115	576,854,118	714,196,233	322,024,800	392,171,433	0.0493
2033	130.64	85.66	75.09	142,393,779	245,363,252	387,757,031	322,024,800	65,732,231	0.0229	142,393,779	597,536,730	739,930,509	322,024,800	417,905,709	0.0525
2034	133.90	88.82	77.88	145,953,624	254,417,666	400,371,289	322,024,800	78,346,489	0.0274	145,953,624	619,740,571	765,694,195	322,024,800	443,669,395	0.0558
2035	131.01	94.44	83.13	142,802,352	270,517,636	413,319,988	322,024,800	91,295,188	0.0319	142,802,352	661,547,025	804,349,377	322,024,800	482,324,577	0.0606
2036	135.89	97.45	86.44	148,114,940	279,158,117	427,273,056	322,024,800	105,248,256	0.0367	148,114,940	687,881,686	835,996,625	322,024,800	513,971,825	0.0646
2037	145.84	101.18	90.35	158,962,181	289,845,211	448,807,392	322,024,800	126,782,592	0.0443	158,962,181	719,031,645	877,993,826	322,024,800	555,969,026	0.0699
2038	149.48	104.54	93.23	162,936,235	299,448,827	462,385,062	322,024,800	140,360,262	0.0490	162,936,235	741,952,898	904,889,133	322,024,800	582,864,333	0.0732
2039	158.38	111.27	98.61	172,639,180	318,721,274	491,360,454	322,024,800	169,335,654	0.0591	172,639,180	784,751,190	957,390,369	322,024,800	635,365,569	0.0798
2040	162.34	112.94	99.68	176,955,159	323,504,806	500,459,965	322,024,800	178,435,165	0.0623	176,955,159	793,276,180	970,231,339	322,024,800	648,206,539	0.0815
2041	166.40	115.11	102.28	181,379,038	329,727,219	511,106,257	322,024,800	189,081,457	0.0660	181,379,038	813,971,715	995,350,753	322,024,800	673,325,953	0.0846

Note 1: LEI Update of the Electricity Market Impacts Associated with the Proposed Northern Pass Transmission Project, March 17, 2017, p. 6.

					Chalmers Report Referenced Professional Studies Duplication	
Row	A Report Title Number	B Report Title	C Author(s)	D Voltage	E Studies Referenced Within the Report	F Report Title Number Utilizing this
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16	Number 1	Tower Lines and Residential Property Values	Kinnard	Not Indicated	Barton, Stanley B, "Handling Complaints and Problems Created for Landowners Arising Out of the Location and Operation of Extra High Voltage Transmission Lines," Proceedings of the American Right of Way Association (Detroit: May 25-29, 1964). Bigns, Roland, "Real Estate Values Unaffected by High Tension Power Lines," Right of Way (April 1964). Brehmer, Ralph Edward, The Impact of an Electric Transmission Line on Land Use and Development in the Detroit M metropolitan Area; Master's Thesis (Detroit: Wayne State University, 1960). Brennan, P. F., A Study of the Effect of Transmission Line Right-of-Way," Right of Way (August 1955). Christian, Archie H., "The Use of Land Economic Studies in the Administration on of a Hight-of-Way Program," Proceedings of the American Right of Way Association (Detroit: May 25-29, 1964). Cardli, Cloice D., "Valuation of a Power Line Right-of-Way," Right of Way (August 1955). Christian, Archie H., "The Use of Land Economic Studies in the Administration on of a Hight-of-Way Program," Proceedings of the American Right of Way Association (Detroit: May 25-29, 1964). Cardli, Cloice D., "Valuation of a Power Line Right-of-Way," Right of Way Association (Detroit: May 25-29, 1964). Cardli, Cloice D., "Walland Control of Power Lines, Right of Way Association (Detroit: May 25-29, 1964). Cardli, Cloice D., "Valuation of a Power Line Right-of-Way Program," Proceedings of the American Right of Way Association (Detroit: May 25-29, 1964). Cardli, Cloice D., "Valuation of a Power Line Right-of-Way Program," Proceedings of the American Right of Way Association (Detroit: May 25-29, 1964). Cardli, Cloice D., "Valuation of a Power Lines, Real Estate & Right of Way Association (Detroit: May 25-29, 1964). Cardli, Cloice D., "Valuation of a Power Lines, Real Estate & Right of Way Association (Detroit: May 25-29, 1964). Cardli, Cloice D., "Valuation of a Power Lines, Real Estate & Right of Way Control Edison Company, 1960). Layton, Charles W., A Study of Land Values Unaffected by Tower Lines (Real	Reference 1 1,22 1 1,8 1 1,8 1 1,1 1 1,10 1 1 1 1 1 1 1 1 1 1 1 1 1
18 19 20 21 22 23 24 25 26	2	The Effect of Power Line Structures and Easements on Farm Land Values	Brown	138 kV on H Frame Wood Structures	Steiger, Martin L., "The Effect of Property Takings on Land Values," Pennsylvanian, The Magazine of Local Governments (February and April 1962). Zandel, R. C., A Study of the Eff ects Which an Existing Transmission Line Has on the Development of the Immediate Area for Residential Housing (Bethlehem, Pennsyl-vania, January 1959) American Right of way assoc, right of way, Los Angeles, California, December, 1970. Appraisal Institute of Canada, Appraisal Institute magazine, Winnipeg, Volume 15, Summer, 1971. Government of Saskatchewan seventh Annual Report of the Director of economics and statistics queens printer, Regina, 1971. Robinson I C report of committee on valuation of power line easements for Saskatchewan power corporation, annual report 1974 Regina Saskatchewan Saskatchewan Power Corporation, annual report 1974 Regina Saskatchewan Saskatchewan Power Corporation, petailed maps showing locations and specifications of all power line in crop districts 1 and 2 Regina Saskatchewan	1 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
27 28 29 30 31 32 33 34 35 36 37 38 39	3	Powerline Frequency Electric and Magnetic Fields: A Pilot Study of Risk	Morgan, et al.	Not Indicated	GG. F. Knickerbocker, Study in the USSR of Medical Effects of Electric Fields of Electric Power System (Special Publication #10, IEEE Power Engineering Society, 1975). A R. Sheppard and M. Eisenbud, Biological Effects of Electric and Magnetic Fields of Extremely Low Frequency (New York University Press, New York, 1977) M. Grandolfo, S. Michaelson and A Rindi, Biological Effects and Dosimetry of Non Ionizing Radiation: Static and EL-F Eichds (Plenum, New York, 1984) P. Slavic, B. Fischhoff, and S Lichteinstein, "Facts and Fears: Understanding perceived risk," in R. C. Schwing and W. Adlbers, Jr. (eds.), Societal Risk Assessment: How Safe is Safe Enough? (Plenum, New York, 1980). D Kahneman, P. Slovic, and A Tversky (eds.), Judging Under Uncertainty: Heuristics and Biases (Cambridge University Press, New York, 1982), 555 pp. 1. M G. Morgan, D R. Lincoln, I Nair, and H. K. Florig, and Exploration of Risk Assessment Needs and Opportunities for Possible Health Consequences from 50/ 60 Hz (Department of Engineering and Public Policy, Pittsburgh, Pennsylvania, 1983) M. G. Morgan, H. K. Florig, D. Lincoln, and I. Nair, "Power- line Frequency Electromagnetic Fields," IEEE Spectrun! 22, 62-68 (1985). B. Fischhoff, P. Slovic, S. Lichtenstein, S. Read, and B Combs, "How Safe is Safe Enough? A Psychometric Study of Attitudes Towards Technological Risks and Benefits," Policy Sciences 9, 127-152 (1978) B. Fischhoff, and S. Lichtenstein, "Characterizing Perceived Risk," in R. W. Kates, C. Hohenesmer, and J. Kasperson (eds.), Perilous Progress: Technology as Hazard (Boulder, Colorado, Westview Inc, in press). P. Slovic, B. Fischhoff, and S. Lichtenstein, "Why Study Risk Perception" Risk Analysis 2, 83-93 (1982) E. Rogers and IM Lee, "Environmental Studies of an 1100 kV Prototype and of 500 kV: transmission Lines," Paper presented at the U.S. DOE/EPRI contractors' review meeting on biological effects from electric fields associated with high voltage transmission lines, Kansas City, MO, 1983 November B. Greenberg, U.	3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3
41	5	Transmission Line Easement Effect on Rural land in Northwest Wisconsin Effects of Proximity to High Voltage Electric Transmission Lines on Sales Price and Market Values of Vacant Land and Single Family Residential	Solum Kinnard, et al.	69 kV to 161 kV 345 kV	NO REFERENCES PROVIDED Can't Locate Source	
43	6	Property: January 1978-June 1988 Power Lines and Land Value	Colwell	138 kV	Unable to view source	
44	7	A Statistical Analysis of Transmission Line Impacts on Residential Property Values in Six Neighborhoods	Ignelzi and Priestley	230 kV and 115 kV	Can't Locate source	

Part						Chalmers Report Referenced Professional Studies Duplication					
Part	Row		B Report Title	C Author(s)			Number Utilizing this				
Income Land Application Appli	45										
Page Company	47			Pinton C.I.		Colwell, Dr. Peter F. and Foley, Kenneth W., "Electric Transmission Lines and the Selling Price of Residential Property, "The Appraisal Journal, October 1979, pp. 490-499.	8,10,12,17,21,22				
	48		138 kV Transmission Lines and the Value of		Dieder CV					ata CI 129 NV	Colwell, Dr. Peter F. 1990, "Power Lines and Land Value," T/ Estate Research, April 1990, pp. 117-127.
Rest	49	8		Rigdon, G.J	138 kV	Crawford, Claude O., "Appraising Damages to Land from Power Line Easements, "The Appraisal journal, July 1955, pp. 367-378.	8				
	50					Dempsey, William E., "The DUPA Technique for Electric Transmission-line Easement Acquisitions," The Appraisal Journal 1 July 1981, pp. 382-390.	8,20				
Part	51					Kinnard, W.N., Jr., "Tower Lines and Residential Property Values, "Tire Appraisal formal, April 1967, pp. 269-284.	8,22				
							8				
The content of the	54					Rams, Edwin M., Real Estate Consultants Handbook, Reston, VA: Prentice-Hall Company Reese, Louie, "The Puzzle of the Power Line," The Appraisal journal, October 1967, pp 555-560.	8				
	56					Thompson, Robert R. and Phillips, W.E., "Agricultural Land Value Changes from Electric Transmission Lines: Implications for Compensation," Right of Way, December 1982 pp 24-26.	8				
Activation of the content of the c							8				
The content of the property	59					Additional information provided by: Various, Gerald K., supervisor of right of way real estate department, Upper Peninsula Pm' Company, Houghton, Michigan.	8				
Section Part	61					American Inst of Real Estate Appraisers, The Appraisal of Real Estate, 9th ed. (Chicago: American Inst. of Real Estate Appraisers, 1987), 35-41.	9				
Part							9				
Sequent Flows: Case Seeds William Charles Control Report New Flows: Sequent Flows: The Control Report New Flows: Case Seeds William Charles Control Report New Flows: Case Seeds William Charle			Impact of Power Transmission Lines on Property				9				
Maria A, Southy Themse Exposers a South of Marry And President Seed South President South Seed	66	9		Kung and Seagle	Various	Stephen F.Perry, "Environmental Power-Frequency Magnetic Fields and Suicide," Health Physics, v.41 (August 1981):267-277.	9				
Rame Frame and part and Residents Transmission Residents Transmis	68						9				
Time The Resonance Effects of Power Laws Adjusted Windows (Particular Springtons and Promotion of Powers and Pow	69 70						9				
D. howe, The fifteet of New Line Sepaciane and Enumers on Farm Land Value, Right of Way (December 175) sourcy [76, 113.8]. D. howe, The fifteet of New Line Sepaciane and Enumers on Farm Land Value, Right of Way (December 175) sourcy [76, 113.8]. D. howe, The fifteet of New Line Sepaciane and Enumers on Farm Land Value, Right of Way (December 175) sourcy [76, 113.8]. P. Calenti McK. Policy, Exercit. Transmission Lines and Property Values. Transmission Lines (Spring 175). P. Calenti New Lines and Land Values. Learned of Rod Fasce Recent \$1 (Spring 175). P. Calenti New Lines and Land Values. Learned of Rod Fasce Recent \$1 (Spring 175). P. Calenti New Lines and Land Values. Learned of Rod Fasce Recent \$1 (Spring 175). P. Calenti New Lines and Land Values. Learned \$1 (Rod Fasce Recent \$1 (Spring 175). P. Calenti New Lines and Land Values. Learned \$1 (Rod Fasce Recent \$1 (Spring 175). P. Calenti New Lines and Land Values. Learned \$1 (Rod Fasce Recent \$1 (Spring 175). P. Calenti New Lines and Land Values. Learned \$1 (Rod Fasce Recent \$1 (Spring 175). P. Calenti New Lines and Land Values. Learned \$1 (Rod Fasce Recent \$1 (Spring 175). P. Calenti New Lines and Land Values. Learned \$1 (Rod Fasce Recent \$1 (Spring 175). P. Calenti New Lines and Land Values. Learned \$1 (Rod Fasce Recent \$1 (Spring 175). P. Calenti New Lines and Land Values. Learned \$1 (Rod Fasce Recent \$1 (Spring 175). P. Calenti New Lines and Land Values. Learned \$1 (Rod Fasce Recent \$1 (Spring 175). P. Calenti New Lines and Land Values. Learned \$1 (Rod Fasce Recent \$1 (Spring 175). P. Calenti New Lines and Land Values. Learned \$1 (Rod Fasce Recent \$1 (Spring 175). P. Calenti New Lines and Land Values. Learned \$1 (Rod Fasce Recent \$1 (Spring 175). P. Calenti New											
Canadian Real Fater Research Corporation, List Help Voltage Electric Transmission Lines and Property Values. Transmission Lines (Real State Research 5.1 Spring [1972]. 127 10											
P. Cobedil and K. Faley, Electric Transmission Lines and the Soding Price of Residential Property. Appraisal Journal 47-4 (October 1779) 400-99. Residential Property Value? P. Cobedil Power Lines and Land Values. Journal of Real Estate Research 51 (Spring Ferri 117-27). Residential Property Value? P. Cobedil Power Lines and Land Values. Journal of Real Estate Research 51 (Spring Ferri 117-27). Residential Property Value? P. Cobedil Power Lines and Land Values. Journal of Real Estate Research 51 (Spring Ferri 117-27). Residential Property Value? P. Cobedil Power Lines and Land Values. Journal of Real Estate Research 51 (Spring Ferri 117-27). Residential Property Values? P. Cobedil Power Lines and Land Values. Journal of Real Estate Research 51 (Spring Ferri 117-27). Residential Property Values? P. Cobedil Power Lines and Land Values. Journal of Real Estate Research 51 (Spring Ferri 117-27). Residential Property Values in Comments of Lines and Land Values. Journal of Real Estate Research 51 (Spring Ferri 117-27). Residential Property Values in Comments of Lines and Land Values. Journal of Real Estate Research 51 (Spring Ferri 117-27). Residential Property Values in Comments of Lines and Land Values. Journal of Real Estate Research 51 (Spring Ferri 117-27). Residential Property Values in Comments of Lines and Residential Property Values in Comments of Lines on Residential Property Value	73					D. Brown. The Effect of Power Line Structures and Easements on Farm Land Value. Right of Way (December 1975-) annuary 1976), 33-38.	10,21,22				
For the fight Voltage Transmission Lines. Do They Affect Residential Property Value? For the fight Voltage Transmission Lines. Do They Affect Residential Property Value?	74					Canadian Real Estate Research Corporation, Ltd. High Voltage Electric Transmission Lines and Property Values. Toronto, Canada: July 1973.	10				
High Voltage Transmission Lines: Do They Affect Residential Property Value? Part	75					P. Colwell and K. Foley. Electric Transmission Lines and the Selling Price of Residential Property. Appraisal Journal 47:4 (October 1979), 490-99.	8,10,12,17,21,22				
Residential Property Value? Residential Property Value of Property Values in the State of New Hampshire; Vol. 2. Boston, MA: New England Hydro Transmission Lines on Residential Property Values in Orange County, New York. Storrs, CT: Real Estate Counseling Group of Connecticut, Inc., May 1981. Residential Property Values. Residential Property	76					P. Colwell. Power Lines and Land Values. Journal of Real Estate Research 5:1 (Spring(1990), 117-27.	8,10,12,17,21,22				
Commonwealth Edison Company. The Effect of An Electrical Transmission Line Right of Way on Adjoining Property Values in Orange County, New York, Storrs, CT: Real Estate Comesting Group of Connecticut, Inc., May 1954. 10, 12, 17 79 80 80 80 80 81 82 82 82 83 84 85 85 86 87 88 88 88 88 88 88 88 88		10		Delaney and Timmons	Not Indicated						
S. Lamprey. Economic Impact of Transmission Lines on Property Values in the State of New Hampshire, Vol. 2. Boston, MA: New England Hydro Transmission Corp., 1985. 1.10 1.1	77		Residential Property Value?			Commonwealth Edison Company. The Effect of An Electrical Transmission Line Right of Way on Adjoining Property Values. Chicago, IL: January 1978.	10				
C. Layton. Subdivision Values Unaffected by Tower Lines Rosalie Subdivision No. 2.Maronb County, Detroit, MI: Detroit Edison Co., 1962. Minnesota Power. Affected Landowner Interviews. Duluth, MN: February 1983. New York Times. E.P.A. Draft Report Cites Studies Linking Cancer to Electricity, May 22, 1990, A22. U.S. Sees Possible Cancer Tie to Electromagnetism. May 23, 1990, A 10. Realty Research Group. Lid. Impact of Hydro Transmission Lines on Residential Property Values. Toronto, Canada: 1974. Impact of Hydro Transmission Lines on Residential Property Values. Toronto, Canada: 1974. Impact of Hydro Transmission Lines on Agricultural Property Values. Toronto, Canada: 1974. Impact of Power Line Essenement on a Residential Subdivision No. 2.Maronb Countbus, OH. Ohio Electric Co., 1974. The Real Estate Counseling Group of Connecticut, Inc. The Effect of High-Voltage Outputs, OH. Ohio Electric Co., 1974. In Ohio Effects of Transmission Lines on Sale Prices and Market Values: An Annotated Bibliography and Evaluative Analysis. Prepared by W. Kinnard for Central Maine Power Company, September 1988. In Ohio Effects of Transmission Lines on Property Values on West Chenango Road, County of Broome, State of New York. Albany, NY: New York State Electric and Gas Authority, June 1974. In Deffects of Transmission Lines on Property Values on Prop	78					W. Kinnard, M. Geekier, J. Geekier, J. Geekier, J. Kinnard and P. Mitchell. An Analysis of the Impact of High Voltage Electric Transmission Lines on Residential Property Values in Orange County, New York. Storrs, CT: Real Estate Counseling Group of Connecticut, Inc., May 1984.	10,12,17				
Minnesota Power. Affected Landowner Interviews. Duluth, MN; February 1983. New York Times. E.P.A. Draft Report Cites Studies Linking Cancer to Electricity, May 22, 1990, A22. U.S. Sees Possible Cancer Tie to Electromagnetism. May 23, 1990, A10. Realty Research Group, Lid. Impact of Plydro Transmissions Lines on Residential Property Values. Toronto, Canada: 1974. Impact of Power Line Easement on a Residential Property Values. Toronto, Canada: 1974. Impact of Power Line Easement on a Residential Property Values. Toronto, Canada: 1974. Impact of Power Line Easement on a Residential Property Values. Toronto, Canada: 1974. Impact of Power Line Easement on a Residential Property Values. Toronto, Canada: 1974. Impact of Power Line Easement on a Residential Property Values. Toronto, Canada: 1974. Impact of Power Line Easement on a Residential Property Values on Sale Prices and Market Values: An Annotated Bibliography and Evaluative Analysis. Prepared by W. Kinnard for Central Maine Power Company, September 1988. Impact of Power Line Easement on a Residential Property Values on West Chenango Road, County of Broome, State of New York. Albany, NY: New York State Electric and Gas Authority, June 1974. In Effects of Transmission Lines on Property Values. In Power Line Effects of Transmission Lines on Property Values. In Power Line Effects of Transmission Lines on Property Values. In Power Line Effects of Transmission Lines on Property Values. In Power Line Effects of Transmission Lines on Property Values. In Power Line Effects of Transmission Lines on Property Values. In Power Line Effects of Transmission Lines on Property Values. In Power Line Effects of Transmission Lines on Property Values. In Power Line Effects of Transmission Lines on Property Values. In Power Line Effects of Transmission Lines on Property Values. In Power Line Effects of Transmission Lines on Property Values. In Power Line Effects of Transmission Lines on Property Values. In Power Line Effects of Transmission Lines on Property V							10				
New York Times. E.P.A. Draft Report Cites Studies Linking Cancer to Electricity. May 22, 1990, A22. 10 U.S. Sees Possible Cancer Tie to Electromagnetism. May 23, 1990, A 10. Realty Research Group, Ltd. Impact of Hydro Transmission Lines on Agricultural Property Values. Toronto, Canada: 1974. 10 Impact of Hydro Transmission Lines on Agricultural Property Values. Toronto, Canada: 1974. 10 R. Sherman. Impact of Power Line Easement on a Residential Subdivision. Columbus, OH: Ohio Electric Co., 1974. 10 R. Sherman. Impact of Power Line Easement on a Residential Subdivision. Columbus, OH: Ohio Electric Co., 1974. 10 Real Estate Counseling Group of Connecticut, Inc. The Effects of High-Voltage Overhead Transmission Lines on Sale Prices and Market Values: An Annotated Bibliography and Evaluative Analysis. Prepared by W. Kinnard for Central Maine Power Company, September 1988. 10 Real Estate Counseling Group of Connecticut, Inc. The Effects of Transmission Lines on Sale Prices and Market Values on West Chenango Road, County of Broome, State of New York. Albibiography and Evaluative Analysis. Prepared by W. Kinnard for Central Maine Power Company, September 1988. 10 Real Estate Counseling Group of Connecticut, Inc. The Effects of Transmission Lines on Property Values on West Chenango Road, County of Broome, State of New York State Electric and Gas Authority, June 1974. 10 Real Estate Counseling Group of Connecticut, Inc. The Effects of Transmission Lines on Property Values on West Chenango Road, County of Broome, State of New York State Electric and Gas Authority, June 1974. 11 Real Estate Counseling Group of Connecticut, Inc. The Effects of Transmission Lines on Property Values on West Chenango Road, County of Broome, State of New York State Electric and Gas Authority, June 1974. 12 Real Estate Counseling Group of Connecticut, Inc. The Effects of Transmission Lines on Property Values on West Chenango Road, County of Broome, State of New York State Electric and Gas Authority, June 1974. 13 Real Estate Counseli											
U.S. Sees Possible Cancer Tie to Electromagnetism. May 23, 1990, A 10. Realty Research Group, Ltd. Impact of Hydro Transmission Lines on Agricultural Property Values. Toronto, Canada: 1974. Impact of Hydro Transmission Lines on Agricultural Property Values. Toronto, Canada: 1974. R. Sherman. Impact of Power Line Easement on a Residential Subdivision. Columbus, OH: Ohio Electric Co., 1974. R. Sherman. Impact of Power Line Easement on a Residential Subdivision. Columbus, OH: Ohio Electric Co., 1974. In Real Estate Counseling Group of Connecticut, Inc. The Effect of High-Voltage Overhead Transmission Lines on Sale Prices and Market Values: An Annotated Bibliography and Evaluative Analysis. Prepared by W. Kinnard for Central Maine Power Company, September 1988. Realty Company, September 1988. Realty Counter Co	82										
Impact of Hydro Transmission Lines on Agricultural Property Values. Toronto, Canada: 1974. R. Sherman. Impact of Power Line Easement on a Residential Subdivision. Columbus, OH: Ohio Electric Co., 1974. R. Sherman. Impact of Power Line Easement on a Residential Subdivision. Columbus, OH: Ohio Electric Co., 1974. The Real Estate Counseling Group of Connecticut, Inc. The Effect of High-Voltage Overhead Transmission Lines on Sale Prices and Market Values: An Annotated Bibliography and Evaluative Analysis. Prepared by W. Kinnard for Central Maine Power Company, September 1988. M. Vredenburgh. Effects of Transmission Line Right of Way Upon Residential Property Values on West Chenango Road, County of Broome, State of New York. Albany, NY: New York State Electric and Gas Authority, June 1974. Mall Street Journal. How Electric Fields May Damage Human Cells. February 16, 1990. The Effects of Transmission Lines on Property Values The Effects of Transmissio	83					U.S. Sees Possible Cancer Tie to Electromagnetism. May 23, 1990, A IO.	10				
The Real Estate Counseling Group of Connecticut, Inc. The Effect of High-Voltage Overhead Transmission Lines on Sale Prices and Market Values: An Annotated Bibliography and Evaluative Analysis. Prepared by W. Kinnard for Central Maine Power Company, September 1988. 88	85					Impact of Hydro Transmission Lines on Agricultural Property Values. Toronto, Canada: 1974.	10				
M. Vredenburgh. Effects of Transmission Line Right of Way Upon Residential Property Values on West Chenango Road, County of Broome, State of New York. Albany, NY: New York State Electric and Gas Authority, June 1974. M. Vredenburgh. Effects of Transmission Line Right of Way Upon Residential Property Values on West Chenango Road, County of Broome, State of New York. Albany, NY: New York State Electric and Gas Authority, June 1974. M. Vredenburgh. Effects of Transmission Line Right of Way Upon Residential Property Values on West Chenango Road, County of Broome, State of New York. Albany, NY: New York State Electric and Gas Authority, June 1974. M. Vredenburgh. Effects of Transmission Line Right of Way Upon Residential Property Values on West Chenango Road, County of Broome, State of New York. Albany, NY: New York State Electric and Gas Authority, June 1974. 10 10 11 The Effects of Transmission Lines on Property Values M. Vredenburgh. Effects of Transmission Line Right of Way Upon Residential Property Values on West Chenango Road, County of Broome, State of New York. Albany, NY: New York State Electric and Gas Authority, June 1974. 10 10 11 The Effects of Transmission Lines on Property Values M. Vredenburgh. Effects of Transmission Line Right of Way Upon Residential Property Values on West Chenango Road, County of Broome, State of New York. Albany, NY: New York State Electric and Gas Authority, June 1974. 10 11 The Effects of Transmission Lines on Property Values M. Vredenburgh. Effects of Transmission Line Right of Way Upon Residential Property Values on West Chenango Road, County of Broome, State of New York. Albany, NY: N	87						10 10				
90 11 The Effects of Transmission Lines on Property Values Hamilton and Compther SOLEV 200 by COLV							-				
	90	11	The Effects of Transmission Lines on Property Values	Hamilton and Carruthers	500 kV, 230 kV, 60kV						

	Chalmers Report Referenced Professional Studies Duplication										
	A	В	С	D	E	F					
Row	Report Title Number	Report Title	Author(s)	Voltage	Studies Referenced Within the Report	Report Title Number Utilizing this Reference					
91 92					Blanton, Herman W. 1980. A Study of Transmission Line Effects on Subdivisions in Harris County, Texas. Unpublished report, Austin, Texas. Carriere, Jean, Joseph H. Chung, and Kim Anh Lam. 1976. L'impact des Lignes de Transport d'energie Electrique sur la Valeur Fonciere. L'aboratoire de recherche en sciences immo- bilieres, Universite de Quebec a Montreal. December.	12 12					
93					Colwell, Peter F. 1990. Power Lines and Land Value." Journal of Real Estate Research 5 (1):117-27.	8,10,12,17,21,22					
94					Colwell, Peter F., and Kenneth W. Foley. 1979. Electric Transmission Lines and the Selling Price of Residential Property." The Appraisal Journal 47:490-99.	8,10,12,17,21,22					
95 96					Earley, Edward M., and Michael H. Earley. 1988. "Real Estate Market Data Analysis." (For a Proposed 230 KV Electrical Transmission Line, Transylvania County, North Carolina.) Prepared for Duke Power Company, Golden, Colorado. Economics Consultants Northwest. 1990. Garri- son-West High Voltage Transmission Line Social Monitoring Study. Report Submitted to the Facility Siting Bureau of the Montana Department of Natural Re-sources and Conservation and the Bonneville Power Administration, Helena, Montana.	12 12					
97	12	Do High Voltage Electric Transmission Lines Affect	Hamilton and Schwann	500 kV, 230 kV, 60kV	Hamilton, S. W., and Cameron Carruthers. 1993. The Effects of Transmission Lines on Property Values in Residential Areas. University of British Columbia.	12,17					
98	12	Property Value?	Hamilton and Schwann	300 KV, 230 KV, 00KV	Hamilton, S. W., Dean Uyeno, and Andrew Biggs. 1993. "Density of Residential Land Use and the Impact of Airport Noise." Journal of Transport Economics and Policy 27 (1):3-18.	12,17					
99					Harvey, A. C. 1974, "Estimating the Parameters in a Heteroscedastic Regression Model." Pa- per presented at the European Meeting of the Econometric Society, Grenoble, September.	12					
100					Ignelzi, Patrice, and Thomas Priestley. 1989. A Methodology for Assessing Transmission Line Impacts in Residential Communities. Prepared for Edison Electric Institute Siting and Environmental Planning Task Force, Washington, DC.	12,20					
101					1991. A Statistical Analysis of Transmission Line Impacts on Residential Property Values in Six Neighborhoods. Prepared for Southern California Edison Environmental Affairs.	12,17					
102					Kinnard, William N., Jr., M. B. Geekier, J. K. Geekier, J. B. Kinnard, and P. S. Mitchell. 1984. An Analysis of the Impact of High Voltage Electric Transmission Lines on Residential Property Values in Orange County, New York. Storrs: Real Estate Counseling Group of Connecticut.	12,10,17					
103										Kroll, Cynthia A., and Thomas Priestley. 1991. The Effects of Overhead Transmission Lines on Property Values: A Review and Analysis of the Literature. Prepared for the Siting and Environmental Planning Task Force of the Edison Electric Institute (draft), Washington, DC.	12,17
104					Market Trends, Inc. 1988. Arizona Utility Aesthetics Summary Report, June.	12					
105						Peiser, Richard, and Gregory Schwann. 1993, "The Private Value of Public Open Space within Subdivisions." Journal of Architectural and Planning Research 10:91-104.	12				
106					Priestley, Thomas, and Gary Evans. 1990. Perceptions of Transmission Lines in Residential Neighborhoods: Results of a Case Study in Vallejo, California. Study prepared for the Southern California Edison Company.	12,17					
107					Rhodeside and Harwell, Inc. 1988, Perceptions of Power Lines. Residents' Attitudes. Report prepared for Virginia Power Company, Richmond, Virginia.	12,17					
108	13	Resident Perceptions of a Nearby Electric Transmission Line	Priestley and Evans	115kV line on 60' steel lattice structures upgraded to 115 kV and double circuit 230 kV on 120' to 160' steel poles in a 100 for ROW	Unable to view source						
109	14	Statistical Analysis of High Voltage Overhead Transmission Line Construction on the Value of Vacant Land	Mitchell	Marcy South 345kV Line	Unable to view source						
110	15	Post 1992 Evidence of EMF Impacts on Nearby Residential Property Values: Price Effects from Publication of and Widespread Publicity about the Floderus and Ahlbom-Feychting Studies in Sweeden (Nevada Study)	Kinnard, et al.	138 kV	Can't locate source						
111	16	Post 1992 Evidence of EMF Impacts on Nearby Residential Property Values: Price Effects from Publication of and Widespread Publicity about the Floderus and Ahlbom-Feychting Studies in Sweeden (Missouri Study)	Kinnard, et al.	138 kV	Can't Locate source						

					Chalmers Report Referenced Professional Studies Duplication																	
Row	A Report Title Number	B Report Title	C Author(s)	D Voltage	E Studies Referenced Within the Report	F Report Title Number Utilizing this Reference																
112 113 114 115 116							Boyle, M. A. and K. A. Kiel, A Survey of House Price Hedonic Studies of the Impact of Environmental Externalities, Journal of Real Estate Literature, 2001, 9:2, 117-44. Bryant, J. A. and D. R. Epley, Cancerphobia: Electromagnetic Fields and Their Impact on Residential Loan Values, Journal of Real Estate Research, 1998, 15:1/2, 115-29. Brookshire, D. S., M.A. Thayer, W.D. Schulze and R.C. D'Arge, Valuing Public Goods: A Comparison of Survey and Hedonic Approaches, The American Economics Review, 1982, 72, 165-77. Callanan, J. and R. V. Hargreaves, The Effect of Transmission Lines on Property Values: A Statistical Analysis, New Zealand Valuers Journal, June, 1995. Cartee, C. P., A Review of Sanitary Landfill Impacts on Property Values, The Real Estate Appraiser and Analyst, Spring 1989, 43-6.	17 17 17 17 17														
117									Colwell, P. F., Power Lines and Land Values, Journal of Real Estate Research, 1990, 5:1, 117–27.	8,10,12,17,21,22												
118							Colwell, P. F. and K. W. Foley, Electric Transmission Lines and the Selling Price of Residential Property, The Appraisal Journal, October 1979, 490–99.	8,10,12,17,21,22														
119 120 121 122					Delaney, C. J. and D. Timmons, High Voltage Power Lines: Do They Affect Residential Property Value? Journal of Real Estate Research, 1992, 7:3, 315–29. Des Rosiers, F., A. Bolduc and M. The 'riault, Environment and Value: Does Drinking Water Quality Affect House Prices? Journal of Property Investment & Finance, 1999, 17:5, 444–63. Diamond, D. B. Jr., The Relationship Between Amenities and Urban Land Prices, Land Economics, 1980, 56:1, 21–32. Ford, D. A. and M. Gilligan, The Effect of Lead Paint Abatement Laws on Rental Property Values, Journal of the American Real Estate and Urban Economics Association, 1988, 16: 1, 35–46.	17,20 17 17 17																
123 124 125 126 127					Furby, L., P. Slovic, B. Fischhoff and R. Gregory, Public Perception of Electric Power Transmission Lines, Journal of Environmental Psychology, 1988, 27, 69–83. Furby, L., R. Gregory, P. Slovic and B. Fischhoff, Electric Power Transmission Lines, Property Values and Compensation, Journal of Environmental Management, 1988, 8, 19–43. Gamble, B. H. and H. R. Downing, Effects of Nuclear Power Plants on Residential Property Values, Journal of Regional Science, 1982, 22:4, 457–78. Goeters, J. E., Environmental Issues in Real Estate, Upper Saddle River, NJ: Prentice Hall, 1997. Graves, P., J. C. Murdoch, M. A. Thayer and D. Waldman, The Robustness of Hedonic Price Estimation: Urban Air Quality, Land Economics, 1988, 64:3, 220–33.	17 17,20 17 17 17																
128 129					Hamilton, S. W. and G. M. Schwann, Do High Voltage Electric Transmission Lines Affect Property Value? Land Economics, 1995, 71:4, 436–44. Hydro-Que bec, Les champs e Tectriques et magne tiques et la sante', Environnement et Collectivite's, 2e'me e'd., February 1996.	17,12 17,21,22																
131 132 133					Ignelzi, P. C and T. Priestley, A Statistical Analysis of Transmission Line Impacts in Six Neighborhoods, Volumes I & II, Albany, CA: Pacific Consulting Services, 1991. Kask, S. B. and S. A. Maani, Uncertainty, Information and Hedonic Pricing, Land Economics, 1992, 68:2, 170–84. Ketkar, K., Hazardous Waste Sites and Property Values in the State of New-Jersey, Applied Economics, 1992, 24, 647–59. Kinnard, W. N. Jr., The Impact of High-Voltage Transmission Lines on Real Estate Values, Journal of Property Tax Management, 1990, 1:4, 324–46.	17,12 17 17 17																
135 136	17	Power Lines, Visual Encumbrance and House Values: A Micro-Spatial Approach to Impact Measurement	Des Rosiers	315 KV	EMF and the Eighth Deadly Sin: The Literature on Property Value Impacts from Proximity to High-Voltage Transmission Lines Since 1994, Paper presented at the EMF Regulation and Litigation Institute, Washington, DC, April 15-16, 1996. Kinnard, W. N. Jr. and S. A. Dickey, A Primer on Proximity Impact Research: Residential Property Values Near High-Voltage Transmission Lines, Real Estate Issues, 1995, 20:1,23–29. Kinnard, W. N. Jr., M.B. Geckler, J. K. Geckler and P.S. Mitchell, An Analysis of the Impact of High Voltage Overhead Electric Transmission Lines on Residential Property Values in Orange County, New York, Storrs, CT: Real Estate Counseling Group of Connecticut, May 1984.	17 17 17,10,12																
138 139					Kinnard, W. N. Jr., M. B. Geckler and J. W. DeLottie, Effects of Proximity to High-Voltage Transmission Lines on Nearby Residential Property Values: An International Perspective, Real Estate Counseling Group of Connecticut, Inc., August 1996. Post-1992 Evidence of EMF Impacts on Nearby Residential Property Values, Paper presented at the 1997 Annual Conference of the American Real Estate Society, Sarasota, FL, April 16–19, 1997. Kroll, C. A. and T. Priestley, The Effects of Overhead Transmission Lines on Property Values: A Review and Analysis of the Literature, Washington, DC: Edison Electric Institute, 1991.	17 17 17,12																
141 142 143					Kung, H-T. and C. Seagle, Impact of Power Transmission Lines on Property Values: A Case Study, The Appraisal Journal, July 1992, 413–18. McEvoy, S. A., Double-Edge Sword of Damocles: Utility Companies' Liability for Diminution of Property Values Due to Electromagnetic Fields, Real Estate Law Journal, 1994, 23, 109–22. Mendelsohn, R., D. Hellerstein, M. Hughenin, R. Unseworth and R. Brazee, Measuring Hazardous Waste Damages with Panel Models, Journal of Environmental Economics and Management, 1992, 22, 259–71.	17,22 17																
144 145 146 147 148																					Michaels, R. G. and V. K. Smith, Market Segmentation and Valuing Amenities with Hedonic Models: The Case of Hazardous Waste Site, Journal of Urban Economics, 1990, 28, 223–42. Mitchell, P. S., Estimating Economic Damages to Real Property Due to Loss of Marketability, Rentability and Stigma, The Appraisal Journal, 2000, 68:2, 162–70. Mundy, B., The Impact of Hazardous Materials on Property Values, The Appraisal Journal, 1992, 60:2, 155–62. Murdoch, J. C. and M. A. Thayer, Hedonic Price Estimation of Variable Urban Air Quality, Journal of Environmental Economics and Management, 1988, 15, 143–46. Murdoch, J. C., H. Singh and M. Thayer, The Impact of Natural Hazards on Housing Values: The Loma Prieta Earthquake, The Journal of the American Real Estate and Urban Economics Association, 1993, 21:2, 167–84.	17 17 17 17 17
149 150 151 152 153					Nelson, J. P., Airports and Property Values; Journal of Transport Economics and Policy, 1980, 14:1, 37–52. Three Mile Island Residential Property Values: Empirical Analysis and Policy Implications, Land Economics, 1981, 57:3, 363–72. Nelson, A. C., J. Genereux and M. Genereux, Price Effects of Landfills on House Value, Land Economics, 1992, 68:4, 359–65. O'Byrne, P. H., J. P. Nelson and J. J. Seneca, Housing Values, Census Estimates, Desequilibrium and the Environmental Cost of Airport Noise: A Case Study of Atlanta, Journal of Environmental Economics and Management, 1985, 12, 169–78. Orland, B., J. Vining and A. Ebreo, The Effect of Street Trees on Perceived Values of Residential Property, Environment and Behavior, 1992, 24:3, 298–325.	17 17 17 17 17																
154 155 156 157					Palmquist, R. B., Estimating the Demand for the Characteristics of Housing, The Review of Economics and Statistics, 1984, 66, 394–404. Welfare Measurement for Environmental Improvements Using the Hedonic Model: The Case of Nonparametric Marginal Prices, Journal of Environmental Economics and Management, 1988, 15, 297–312. Pennington, G., N. Topham and R. Ward, Aircraft Noise and Residential Property Values Adjacent to Manchester International Airport, Journal of Transport Economics and Policy, 1990, 24:1, 49–59. Priestley, T. and G. Evans, Perceptions of Transmission Lines in Residential Neighborhoods: A Case Study in Vallejo, California, Southern California Edison Company, 1990.	17 17 17 17,12																
158 159 160 161				R R R S S S]	R R R	R R R	Rhodeside and Harwell, Inc., Perceptions of Power Lines: Residents' Attitudes, Report prepared for the Virginia Power Company, Richmond, Virginia, 1988. Rikon, M., Electromagnetic Radiation Field Property Devaluation, The Appraisal Journal, 1996, 64:1, 87–90. Rosen, S., Hedonic Prices and Implicit Markets: Product Differentiation in Pure Competition, Journal of Political Economics, 1974, 82, 34–55. Saint-Laurent, Jose'e, E' valuation de l'exposition re'sidentielle aux champs e l'ectromagne 'tiques ge'ne're's par une ligne a' haute tension et perceptions des risques potentiels, Master's thesis, Laval University, September 1996.	17,12 17 17 17									
162 163 164					Simons, R. A., The Effect of Pipeline Ruptures on Noncontaminated Residential Easement holding Property in Fairfax County, The Appraisal Journal, 1999, 67:3, 255–63. Smith, V. K., and W. H. Desvousges, The Value of Avoiding a LUI.U: Hazardous Waste Disposable Sites, The Review of Economics and Statistics, 1986, 68, 293–99. Uyeno, D., S. W. Hamilton and A. J. G. Biggs, Density of Residential Land Use and the Impact of Airport Noise, Journal of Transport Economics and Policy, 1993, 27:1, 3–17.	17 17 17,12																
165 166					Zeiss, C., Waste Facility Impacts on Residential Property Values, Journal of Urban Planning and Development, 1989, 115:2, 64–80. Zeiss, C., Incinerator Impacts on Residential Property Sales: Beyond Price Effects, Journal of Urban Planning and Development, 1990, 116:2, 80–97."	17 17																

	Chalmers Report Referenced Professional Studies Duplication								
	A	В	С	D	E E	F			
Row	Report Title Number	Report Title	Author(s)	Voltage	Studies Referenced Within the Report	Report Title Number Utilizing this Reference			
167					J. R. Cowger, Steven C. Bottemiller, and James M. Cahill, ""Transmission Line Impact on Residential Property Values,"" Right of Way (September/October 1996):13-17.	18,22			
168					Francois Des Rosiers, ""Power Lines, Visual Encumbrance and House Values: A Microspatial Approach to Impact Measurement,"" Journal of Real Estate Research 23, no.3 (2002): 275-301.	18,22			
169	18	Further Analysis of Transmission Line Impact on	Wolverton and	500 kV-115kV	For a thorough discussion and listing of EMF-related epidemiological studies, see www.niehs.nih.gov/emfrapid/booklet/home.htm.	18			
170 171	10	Residential Property Values	Bottenmiller	300 KV-113KV	William G.Hardin and Marvin L Wolverton, •An introduction to the Analysis of Covariance Model Using an Empirical Test of Foreclose Status on Sale Price," Assessment Journal 6, no. 1 (1999): 50-55. Joseph F. Hair, Rolph E. Anderson, Ronald L Tatham, and William C. Black, Multivariate Data Analysis, 5th ed. (Upper Saddle River, N.J.: Prentice Hall, 1998).	18 18			
172					John Neter, William Wasserman, and Michael H.Kutner, Applied Linear Statistical Models, 3d ed. (Homewood, Ill: Irwin, 1990), 305.	18			
173 174					The term blocking, as used in this paper, refers to controlling for the systematic effects of variables that are not of interest to the researcher (often referred to as supplemental variables). Generally speaking, the effects of such variables can be managed directly through experimental design or indirectly through statistical means. Indirect statistical means are Cowger, Bottemiller, and Cahill, 13-17.	18 18			
175 176 177	19	Transmission Lines & Industrial Property Values	Chapman, D	Various	NO REFERENCES PROVIDED				
178 179					Acks, Kenneth. "Valuation of Environmental Damages to Real Estate." http://www.damagevaluation.com/text/html/valredi4.html (January 1995). Barth, James R., and James T. Bennett. "The Effects of Electric Utility Power Plant Location on Area Property Values." Land Economics (February 1974).	20 20			
180					Delaney, Charles J., and Douglas Timmons. "High Voltage Power Lines: Do They Affect Residential Property Value?" Journal of Real Estate Research 7, no. 3 (June 1992); 315–329.	20,17			
181					Delaney, Charles J., and Douglas Timmons. "Valuation Implications for Residential Property Proximate to High Voltage Power Lines: A New Environmental Concern?" Unpublished paper, Department of Real Estate, Baylor University, January 1991.	20			
182					Dempsey, William E. "The DUPA Technique for Electric Transmission-Line Easement Acquisitions." The Appraisal Journal (July 1981): 382–390.	8,20			
183					Furby, Lita, Robin Gregory, Paul Slovic, and Baruch Fischoff. "Electric Power Transmission Lines, Property Values, and Compensation." Journal of Environmental Management 27 (January 1988): 69–83. Green, Gordon G. "Easement-to-Fee-Simple Value Ratios for Electric Transmission Line Easements: A Common Approach." The Appraisal Journal (July 1992): 399–412.	17,20			
185	20	High Voltage Transmission Lines: Proximity,	Chalmers and Voorvart	345 kV	Gregory, Robin, and Detlof von Winterfeldt. Proposal for Property Values Feasibility Studies. Irvine, CA: Decision Insights, Inc., 1999.	20 20			
186	20	Visibility and Encumbrance Effects	Chamicis and voorvar	343 KV	Kinnard, William N., Jr. Patterns of Property Value Impacts from Proximity to High-Voltage Transmission Lines: Analytical Update. Storr, CT: Real Estate Counseling Group of Connecticut, Inc., 1992.	20			
187					Kinnard, William N., Jr. "The Impact of High Voltage Transmission Lines on Real Estate Values." Journal of Property Tax Management 1, no. 4 (1990): 324–346. Kinnard, William N., Jr. Tools and Techniques for Measuring the Effects of Proximity to Radioactive Contamination on Single-Family Residential Sales Prices. Storr, CT: Real Estate Counseling Group of Connecticut, Inc.	20,17			
189					Kinnard, William N., Jr., and Sue Ann Dickey. "A Primer on Impact Research: Residential Property Values Near High-Voltage Transmission Lines." Real Estate Issues (April 1995): 23–29.	20			
190 191					Kroll, Cynthia A. "Property Valuation: A Primer on Proximity Impact Research." Paper presented at Conference on Electric and Magnetic Fields, February 1994. Pitts, Jennifer, and Thomas O. Jackson. "Power Lines and Property Values Revisited." The Appraisal Journal (Fall 2007): 323–325.	20 20			
192					Priestley, Thomas, and Patrice C. Ignelzi. A Methodology for Assessing Transmission Line Impacts in Residential Communities. Washington, DC: Edison Electric Institute, June 1989.	20,12			
193					Wilson, Albert R. "Proximity Stigma: Testing the Hypothesis." The Appraisal Journal (Summer 2004): 253–262.	20			
194					S. W. Hamilton & G. M. Schwann, "Do High Voltage Electric Transmission Lines Affect Property Value?" Land Economics, Volume 71, Number 4 (November 1995): 436-444; and F. Des Rosiers, "Power Lines, Visual Encumbrance and House Values: A Microspatial Approach to Impact Measurement," Journal of Real Estate Research Volume 23, Number 3 (2002).	17,21,22			
195					P. F. Colwell & K. W. Foley, "Electric Transmission Lines and the Selling Price of Residential Property," The Appraisal Journal, Volume 47, Number 4 (October 1979): 490-499.	8,10,12,17,21,22			
196	21	Electric Transmission Lines: Is there and Impact of	Jackson	115kV- 345 kV with	P. F. Colwell, "Power Lines and Land Value," Journal of Real Estate Research, Volume 5, Number 1 (Spring 1990): 117:127.	8,10,12,17,21,22			
	21	Rural Land Values?	Juckson	majority 345 kV					
197					M. L. Wolverton & S. C. Bottemiller, "Further Analysis of Transmission Line Impact on Residential Property Values," The Appraisal Journal (July 2003): 244-252.	21,22			
198					Des Rosiers.	21			
199					D. Brown, "The Effect of Power Line Structures on Farm Land Values," Right of Way (December 1975-January 1976).	21,10,22			
200					G. J. Rigdon, "138Kv Transmission Lines and the Value of Recreational Land," Right of Way (December 1991): 8-19.	21,22			
201					J. A. Chalmers and F. A. Voorvaart, "High-Voltage Transmission Lines: Proximity, Visibility and Encumbrance Effects," The Appraisal Journal, 2009, Summer 2009, 227-245.	21,22			
202					T. O. Jackson, "Evaluating Environmental Stigma with Multiple Regression Analysis," The Appraisal Journal, 2005, Vol. 73, No. 4, 363-369."	21,22			

	Chalmers Report Referenced Professional Studies Duplication								
Row	A Report Title Number	B Report Title	C Author(s)	D Voltage	E Studies Referenced Within the Report	F Report Title Number Utilizing this Reference			
203 204 205 206 207 208 209 210 211 212 213 214 215 216 217 218 219 220 221	Number 22	The Effects of High Voltage Electric Transmission Lines on Commercial and Industrial Properties	Jackson, Pitts and Norwood	138 kV and higher	Within the Report Andrews, B. W. As Analysis of the Factors Affecting Light Industrial Property Valuation, Journal of Real Estate Research, 1998; 5.1, 355-70. Bigons, R. Roll Estate Values Unaffected by High Tension Power Loos. Right of Way, 1998. April, 11-6. Brown, D. The Effect of Power Line Structures and Escenterio on Firm Land Values, Right of Way, December 1972 memory 1978, 13-8. Chalmers, J.A., and F.A. Voorvaart High-Voltage Transmission Lines Providing, Visibility and Exemplaneare Effects. The Appraisal Journal, 2009, Summer, 227-45. Chalmers, J.A., and F.A. Voorvaart High-Voltage Transmission Lines (Nov. 1978). April, 11-7. Coheell, P.F. Power Lines and Land Value. Journal of Real Estate Research, 1979, 551, 117-27. Coheell, P.F. Power Lines and Land Value. Journal of Real Estate Research, 1979, 551, 117-27. Coheell, P.F. Expert Tentimery: Regression Analysis and Other Systematic Methodologies, The Appraisal Journal, 1979, 47-4, 490-59. Coheell, P.F. Expert Tentimery: Regression Analysis and Other Systematic Methodologies, The Appraisal Journal, 1979, 47-4, 490-59. Coheell, P.F. Power Lines, Vanal Encandeance and Heave Values. A Microgradial Property Values. Eight of Way 1978. September Corder, 13-7. De Rainer, P. Power Lines, Vanal Encandeance and Heave Values. A Microgradial Property Values Research, 1992, 483, 365-76. Generoums, L. Santiny Landfield, Salpean and Industrial Real Estate Research, 1992, 483, 365-76. Generoums, L. L. Santiny Landfield, Salpean and Industrial Real Estate Research, 1992, 483, 365-76. Generoums, L. L. Santiny Landfield, Salpean and Industrial Real Estate Property Values Land Economics, 1997, 14, 355-109. Jackson, T.O. Devictorsemand Contamination and Industrial Real Estate Prices, Journal of Real Estate Research, 1992, 483, 485-444. Jackson, T.O. Devictorsemand Contamination and Industrial Real Estate Prices, Journal of Real Estate Literature, 2010, 182, 239-239. Kannell M. To Get Lines for Extention Property Values. Land Lines Research, 1992, 481-481.	Reference 22 22,11 22,10,21 22,21 22 8,10,12,17,21,22 8,10,12,17,21,22 22 18,22 22,18 22 22 21,22 22 21,22 22 21,22 22 22,28 17,22,22 22 22,28 17,22 22 22,28 17,22 22 22,28 17,22 22 22,28			
224 225 226 227 228 229 230	23	High Voltage Transmission Lines and Rural, Western Real Estate Values	Chalmers, J.A	structures and half is double	Electric Transmission Line Construction Standards and Policies, Illinois Department of Agriculture http://www.agr.state.il.us/Environment/LandWater/electrictransmissionlineconstructionstds.pdf Environmental Impacts of Transmission Lines, Public Service Commission of Wisconsin http://psc.wi.gov/thelibrary/publications/electric/electric10.pdf Federal Energy Regulatory Commission—Transmission Line Siting http://www.ferc.gov/industries/electric/indus-act/siting.asp U.S. Department of Energy http://www.energy.gov	22,21 23 23,25 23 23,25 23,25 23,25			
231	24	Transmission Lines and rural Property Values	Chalmers	Double Circuit 500 kV on 185' steel lattice structures	U.S. Energy Information Administration http://www.eia.gov/ NO REFERENCES PROVIDED	23,25			
233 234 235 236 237	25	The Price Effect of HVTLs on Abutting Homes	Wolverton and Bottenmiller	115kV,230kV,345kV and 500kV	Electric Power Research Institute http://my.epri.com Environmental Impacts of Transmission Lines, Public Service Commission of Wisconsin http://psc.wi.gov/thelibrary/publications/electric/lo.pdf Federal Energy Regulatory Commission—Transmission Line Siting http://www.ferc.gov/industries/electric/indus-act/siting.asp US Department of Energy http://www.energy.gov US Energy Information Administration http://www.eia.gov/	25,23 25,23 25,23 25,23 25,23			

Report #	Report Title
1	Tower Lines and Residential Property Values
2	The Effect of Power Line Structures and Easements on Farm Land Values
3	Powerline Frequency Electric and Magnetic Fields: A Pilot Study of Risk
4	Transmission Line Easement Effect on Rural land in Northwest Wisconsin
5	Effects of Proximity to High Voltage Electric Transmission Lines on Sales Price and Market Values of Vacant Land and Single Family Residential Property: January 1978-June 1988
6	Power Lines and Land Value
7	A Statistical Analysis of Transmission Line Impacts on Residential Property Values in Six Neighborhoods
8	138 kV Transmission Lines and the Value of Recreational Land
9	Impact of Power Transmission Lines on Property Values: A Case Study
10	High Voltage Transmission Lines: Do They Affect Residential Property Value?
11	The Effects of Transmission Lines on Property Values in Residential Areas
12	Do High Voltage Electric Transmission Lines Affect Property Value?
13	Resident Perceptions of a Nearby Electric Transmission Line
14	Statistical Analysis of High Voltage Overhead Transmission Line Construction on the Value of Vacant Land
15	Post 1992 Evidence of EMF Impacts on Nearby Residential Property Values: Price Effects from Publication of and Widespread Publicity about the Floderus and Ahlbom-Feychting Studies in Sweeden (Nevada Study)
16	Post 1992 Evidence of EMF Impacts on Nearby Residential Property Values: Price Effects from Publication of and Widespread Publicity about the Floderus and Ahlbom-Feychting Studies in Sweeden (Missouri Study)
17	Power Lines, Visual Encumbrance and House Values: A Micro-Spatial Approach to Impact Measurement
18	Further Analysis of Transmission Line Impact on Residential Property Values
19	Transmission Lines & Industrial Property Values
20	High Voltage Transmission Lines: Proximity, Visibility and Encumbrance Effects
21	Electric Transmission Lines: Is there and Impact of Rural Land Values?
22	The Effects of High Voltage Electric Transmission Lines on Commercial and Industrial Properties
23	High Voltage Transmission Lines and Rural, Western Real Estate Values
24	Transmission Lines and rural Property Values
25	The Price Effect of HVTLs on Abutting Homes
[1] Reports	of Chalmers are indicated in red text.

Row	Reference Title	Duplicated # of times	Report #
1	Bigras, Roland, "Real Estate Values Unaffected by High Tension Power Lines," Right of Way (April 1964).	2	1,22
2	Carll, Cloice D., "Valuation of a Power Line Right-of-Way," Right of Way (August 1955). Christian, Archie H., "The Use of Land Economic Studies in the Administration on of a Hight-of-Way Program," Proceedings of the American Right of Way Association (Detroit: May 25-29, 1964).	2	1,8,
3	Layton, Charles W., Subdivision Values Unaffected by Tower Lines (Real Estate & Rights of Way Department, Detroit Edison Company, 1960).	2	1,10
4	Colwell, Dr. Peter F. and Foley, Kenneth W.,"Electric Transmission Lines and the Selling Price of Residential Property, "The Appraisal Journal, October 1979,pp. 490-499.	6	8,10,12,17,21,22
5	Colwell, Dr. Peter F. 1990, "Power Lines and Land Value," T/ Estate Research, April 1990, pp. 117-127.	6	8,10,12,17,21,22
6	Dempsey, William E., "The DUPA Technique for Electric Transmission-line Easement Acquisitions," The Appraisal Journal 1 July 1981, pp. 382-390.	2	8,20
7	Kinnard, W.N., Jr., "Tower Lines and Residential Property Values, "Tire Appraisal formal, April 1967, pp. 269-284.	2	8,22
8	D. Brown. The Effect of Power Line Structures and Easements on Farm Land Value. Right of Way (December 1975-January 1976), 33-38.	3	10,21,22
9	W. Kinnard, M. Geekier, J. Geekier, J. Kinnard and P. Mitchell. An Analysis of the Impact of High Voltage Electric Transmission Lines on Residential Property Values in Orange County, New York. Storrs, CT: Real Estate Counseling Group of Connecticut, Inc., May 1984.	3	10,12,17
10	Hamilton, S. W., and Cameron Carruthers. 1993. The Effects of Transmission Lines on Property Values in Residential Areas. University of British Columbia.	2	12,17
11	Hamilton, S. W., Dean Uyeno, and Andrew Biggs. 1993. "Density of Residential Land Use and the Impact of Airport Noise." Journal of Transport Economics and Policy 27 (1):3-18.	2	12,17
12	Ignelzi, Patrice, and Thomas Priestley. 1989. A Methodology for Assessing Transmission Line Impacts in Residential Communities. Prepared for Edison Electric Institute Siting and Environmental Planning Task Force, Washington, DC.	2	12,20
13	1991. A Statistical Analysis of Transmission Line Impacts on Residential Property Values in Six Neighborhoods. Prepared for Southern California Edison Environmental Affairs.	2	12,17
14	Kroll, Cynthia A., and Thomas Priestley. 1991. The Effects of Overhead Transmission Lines on Property Values: A Review and Analysis of the Literature. Prepared for the Siting and Environmental Planning Task Force of the Edison Electric Institute (draft), Washington, DC.	2	12,17
15	Priestley, Thomas, and Gary Evans. 1990. Perceptions of Transmission Lines in Residential Neighborhoods: Results of a Case Study in Vallejo, California. Study prepared for the Southern California Edison Company.	2	12,17
16	Rhodeside and Harwell, Inc. 1988. Perceptions of Power Lines. Residents' Attitudes. Report prepared for Virginia Power Company, Richmond, Virginia.	2	12,17
17	Delaney, C. J. and D. Timmons, High Voltage Power Lines: Do They Affect Residential Property Value? Journal of Real Estate Research, 1992, 7:3, 315–29.	2	17, <mark>20</mark>
18	Furby, L., R. Gregory, P. Slovic and B. Fischhoff, Electric Power Transmission Lines, Property Values and Compensation, Journal of Environmental Management, 1988, 8, 19–43.	2	17, <mark>20</mark>
19	Kinnard, W. N. Jr., The Impact of High-Voltage Transmission Lines on Real Estate Values, Journal of Property Tax Management, 1990, 1:4, 324–46.	2	17, <mark>20</mark>
20	Kung, H-T. and C. Seagle, Impact of Power Transmission Lines on Property Values: A Case Study, The Appraisal Journal, July 1992, 413–18.	2	17,22
21	J. R. Cowger, Steven C. Bottemiller, and James M. Cahill, ""Transmission Line Impact on Residential Property Values," Right of Way (September/October 1996):13-17.	2	18,22
22	Francois Des Rosiers, ""Power Lines, Visual Encumbrance and House Values: A Microspatial Approach to Impact Measurement,"" Journal of Real Estate Research 23, no.3 (2002): 275-301.	2	18,22
23	Wolverton, M.L. and S.C. Bottemiller. Further Analysis of Transmission Line Impact on Residential Property Values. The Appraisal Journal, 2003, July, 244-52.	2	21,22
24	Rigdon, G.J. 138 Kv Transmission Lines and the Value of Recreational Land. Right of Way, 1991, December, 8-19.	2	21,22
25	Jackson, T.O. Evaluating Environmental Stigma with Multiple Regression Analysis. The Appraisal Journal, 2005, 73:4, 363-369.	2	21,22
26	Environmental Impacts of Transmission Lines, Public Service Commission of Wisconsin http://psc.wi.gov/thelibrary/publications/electric/electric10.pdf	2	23 ,25
27	Federal Energy Regulatory Commission—Transmission Line Siting http://www.ferc.gov/industries/electric/indus-act/siting.asp	2	23 ,25
28	U.S. Department of Energy http://www.energy.gov	2	23 ,25
	U.S. Energy Information Administration http://www.eia.gov/	2	23 ,25
	Electric Power Research Institute http://my.epri.com Chalmers, J.A. and F.A. Voorvaart. High-Voltage Transmission Lines: Proximity, Visibility and Encumbrance Effects. The	2	23,25
31	Appraisal Journal, 2009, Summer, 227-45. [1] Reports of Chalmers are indicated in red text.	2	21,22

																						_		
A	В	С	D	E	F	G	Н	I	J	K	L	М	N	0	Р	ر ا دید ا	R	S	T	U	V	W	Х	Y
1														unde	rwoo	d Stud	у керс	ρrτ						
														DOM			Most Recent				Assessment	:		
2 Case Study	Address	Acreage		Distance to ROW	Row Acerage	%Encumbered by ROW		Nearest Structure	Most Visible	House View	Yard View	Sale Date	Days on Market	for Town	DOM Variance	ORIGINAL Listing Price	REListing Price	Sale Price	Difference	Appraisal	From Tax Card		Interview Notes	Summary
																-							Broker states once house was appropriately priced it sold within a resonable time period	Interview with broker and appraisal evidence suggest that the HVTL had no effect on sale price or marketing period
3 1	1314 Monroe, Littleton	47.14	2132	675	9.00	19.1%	7	950	805	Barely	Partially	5/10/2010	237	142	66.9%	\$ 750,000	\$ 599,000	\$ 400,000	(\$199,000)	\$ 375,000	\$ 418,800	Unaffected by HVTL	·	· · · · · · · · · · · · · · · · · · ·
																							Boker Indicated that wil there may be a set of buyers not willing to purchase property that is in close proximity	Interview with broker and appraisal evidence suggest that the HVTL had no effect on sale price or marketing period
																							to HVTL's there is a subset buyers who have no reservations. This was a	
4 2	2477 Lime Kiln, Haverhill	8.44	870	153	6.00	71.1%	5	395	395	Clearly	Visible	4/30/2012	131	198	-33.8%	\$ 129,000	\$ 109,900	\$ 107,000	(\$2,900)	\$ 108,000	\$ 109,600	Unaffected by HVTL	tough property to sell due to a prior murder that had occurred on the property(not in the house)	
5 3	2464 Lime Kiln. Haverhill	1.31	1404	101	0.50	38.2%	0	280	280	Clearly	Visible	9/24/2010	566	193	193.3%	\$ 139,000	\$ 119.900	\$ 117.300	(\$2,600)	\$ 112.000	\$ 116,700) May have impacted	Broker indicated that the HVTL may have affected the marketing period by not the selling price	ut Evidence suggest a possible effect of the HVTL on the marketing period but no effect on the sale price
	·									,													Broker indicated the HVTL had "nothing to do with nothing." The HVTL is used for multiple recreation uses.	Interview with broker and appraisal evidence suggest that the
6 4	208 Atwell Hill, Wentworth	2.02	864	253	0.00	0.0%	0	427	320	Partially	Partially	4/30/2013	50	160	-68.8%	\$ 129,900	\$ 129,900	\$ 126,000	(\$3,900)	\$ 130,000	\$ 139,400	Unaffected by HVTL		HVTL had no effect on sale price or marketing period
																							Broker indicated the HVTL had "nothing to do with nothing." The HVTL is used for multiple recreation uses.	Interview with broker and appraisal evidence suggest that the HVTL had no effect on sale price or marketing period
7 5	287 Mt. Moosilauke, Wentworth	30.00	1779	413	5.00	16.7%	4	515	515	Partially	Partially	2/5/2010	130	101	28.7%	\$ 299,900	\$ 299,900	\$ 225,000	(\$74,900)	\$ 220,000	\$ 251,400	Unaffected by HVTL		Interview with broker and appraisal evidence suggest that the
																							Broker indicated property was shown a lot but the HVTL was not a factor. Property sold at market value	HVTL had no effect on sale price or marketing period
8 6	88 Sculputured Rock, Groton	0.90	1367	177	0.00	0.0%	0	272	272	Partially	Partially	2/20/2013	238	192	24.0%	\$ 165,000	\$ 165,000	\$ 125,000	(\$40,000)	\$ 120,000	\$ 116,500	Unaffected by HVTL	Broker indicted that this was a market transaction and not a distressed	Interview with broker and appraisal evidence suggest that the
																							sale. The market conditions of 2010 was dead with little or no sales activity.	HVTL had no effect on sale price or marketing period
9 7	816 Murray Hill, Hill	33.30	2872	448	5.20	15.6%	4	565	n/a	None	None	8/10/2012	828	231	258.4%	\$ 489,000	\$ 489,000	\$ 365,000	(\$124,000)	\$ 390,000	\$ 383,220	Unaffected by HVTL	,	
																							Broker discussed HVTL with the buyer but more from a disclosure point of view.	Interview with broker and appraisal evidence suggest that the HVTL had no effect on sale price or marketing period
10 8	81 West Shore, Andover	5.90	1530	781	1.50	25.4%	0	850	n/a	None	None	8/15/2010	175	89	96.6%	\$ 175,900	\$ 175,900	\$ 143,000	(\$32,900)	\$ 152,000	\$ 189,400	Unaffected by HVTL	Broker discussed HVTL with the buyer but more from a disclosure point of	· · · · · · · · · · · · · · · · · · ·
11 9	45 West Shore,Andover	7.40	1512	910	0.01	0.1%	0	975	n/a	None	None	7/27/2009	33	76	-56.6%	\$ 265,000	\$ 265,000	\$ 230,000	(\$35,000)	\$ 203,000	\$ 225,200	Unaffected by HVTL	view. "out of sight out of mind."	there is no impact on value from the HVTL
																							Neither the listing nor the selling broker could be contacted	Based upon the physical relatonship of the HVTL to the property, the marketing period, and appraised value of the
12 10	548 Raccoon Hill, Salisbury	4.90	768	953	1.00	20.4%	0	1045	n/a	None	None	10/28/2011	29	82	-64.6%	\$ 139.000	\$ 139,000	\$ 136,000	(\$3,000)	\$ 130,000	\$ 110.800	No interview conducted		property, there is no evidence that the property was adversley affected by the HVTL.
10	540 Naccoon Till, Salisbary	4.50	700	333	1.00	20.470		1045	11/4	ivone	None	10/20/2011	25	02	04.070	ŷ 133,000	ŷ 133,000	\$ 130,000	(\$3,000)	ÿ 130,000	J 110,000	No interview conducted	Broker states the presence of the HVTL had no impact on marketing time	or Concluded that there was a possible impact of the HVTL on the
13 11	419 Raccoon Hill, Salisbury	2.50	1344	160	0.00	0.0%	0	239	n/a	None	None	11/30/2010	15	126	-88.1%	\$ 159,900	\$ 159,900	\$ 160,000	\$100	\$ 170,000	\$ 148,700	Unaffected by HVTL	the sales price of property	sale price but not adverse impact on the marketing period.
																							Broker notes \$10,000 impact and some potential buyers turned away due to a cmbination of condition	Interview suggest at 10% effect on sale price due to the HVTL. The market period was unusually long, attributable in part to
																							of the house, flood zone and HVTL.	the HVTL and with the issues of the property including the
14 12	1143 Long Street, Webster	26.69	1370	19	19.00	71.2%	15	190	190	Clearly	Clearly	5/24/2012	587	80	633.8%	\$ 224,900	\$ 224,900	\$ 157,500	(\$67,400)	\$ 160,000	\$ 226,300	Affected by HVTL		conditions and requirement of flood insurance
																							Highly motivated seller and house needed some work. The HVTL did not signicfically impact the marketing	Interview with broker and appraisal evidence suggest that the HVTL had no effect on sale price or marketing period
15 13	894 Hopkinton, Hopkinton	5.08	1602	63	0.10	2.0%	0	168	338	Partially	Clearly	6/15/2012	123	114	7.9%	\$ 235,000	\$ 235,000	\$ 180,000	(\$55,000)	\$ 175,000	\$ 233,500	Considered	period of the property.	· · · · · · · · · · · · · · · · · · ·
																							Broker notes HVTL may have affected sale price. His opinion is the house may have sold in the high	Based on the brokers opinion the marketing period and the appraised value were adversely impacted by the HVTL
16 14	74 Horizon, Goffstown	4.97	2208	24	2.30	46.3%	2	165	165	Partially	Clearly	4/20/2013	112	75	49 3%	\$ 279,900	\$ 279 900	\$ 273 500	(\$6.400)	\$ 285,000	\$ 278 500	Unaffected by HVTL	\$200,000s. Broker also indicated that some potential buyers were turned away by the HVTL due to health concerns.	
												,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,				,	7 2:0,000	7 2.0,000	(40)100)	, 200,000	7 2.0,000		Broker notes house should of sold for \$400,000 without any HVTL	Concluded that the HVTL had an adverse effect on the sale
																							influence. Property had 11 showings in 2 hours and 1 offer was made. The potential buyers all rejected the property due to th	price but not the marketing period. e
17 15	21 Bixby Farm, Bedford	2.60	2180	60	2.00	76.9%	1	357	357	Clearly	Clearly	5/20/2013	1	78	-98.7%	\$ 349,900	\$ 349,900	\$ 365,000	\$15,100	\$ 400,000	\$ 359,970	Affected by HVTL	prominent HVTL in the backyard. Broker states the buyer considered the HVTL an attibute for recreational	Concluded no impact on sale price or marketing period
10 16	O laba Caffa Badfaad	2.65	2360	165	1.20	45.3%	0	242	242	Classic	Classic	5/2/2013	2	70	07.40/	ć 220 F00	ć 220 F00	ć 245 000	ćr 100	ć 340.000	ć 350.400	Unaffected by HVTL	purposes. Did not care about the HVTL	, and the second
18 16	8 John Goffe, Bedford		2360			45.3%	0		242	Clearly	Clearly		2	78	-97.4%					\$ 340,000			otherwise and it was not a consideration in the purchase direction On the day the house was listed there was multiple showings that resulted	d Concluded no impact on sale price or marketing period
19 17 20 18	15 Bixby Farm, Bedford 1 Southgate, Bedford	1.51	2546 2049	260 49	0.20	13.2% 2.0%	0	300 110	300 110	Partially None	Partially Clearly	10/12/2012 8/24/2012	1 48	89 92	-98.9% -47.8%	\$ 425,000 \$ 399,900	\$ 425,000 \$ 399,900			\$ 420,000 \$ 360,000		Unaffected by HVTL Unaffected by HVTL	in an offer slightly above the asking price. Brokers states home had floor plan issues for most buyers	Concluded no impact on sale price or marketing period
21 19	19 Bixby Farm, Bedford	2.72	1921	88	2.00	73.5%	2	260	260	Partially	Partially	6/25/2012	36	94	-61.7%	\$ 339,000	\$ 339,900	\$ 344,400	\$4,500	\$ 350,000	\$ 342,600	Unaffected by HVTL	Broker indicated house sold below market value because of sellers motivations and not because of HVTL	Concluded no impact on sale price or marketing period
22 20	54 Pilgrim, Bedford	1.84	2434	423	0.01	0.5%	0	485	n/a	Partially	None	11/5/2010	25	75	-66.7%	\$ 389,900	\$ 389,900	\$ 381,000	(\$8,900)	\$ 382,000	\$ 347,400	Unaffected by HVTL	Broker says HVTL did not impact property	Concluded no impact on sale price or marketing period
23 21 24 22	7 Hawkview, Hudson 29B Lund, Hudson	1.22 1.15	1954 1926	25 240	0.00	0.0% 60.9%	0	274 480	274 480	None Partially	Partially Partially	7/27/2012 7/13/2012	76 17	77 79		\$ 273,900 \$ 214,900		\$ 275,000 \$ 213,900		\$ 278,000 \$ 200,000	\$ 265,200		Buyer did not consider HVTL to be an issue	Concluded no impact on sale price or marketing period Concluded no impact on sale price or marketing period
25 23	224 Portland Street. Lancaster	24.01	1400		2.50	10.4%	1	743	n/a	None	None	1/14/2013	397	218	82.1%	\$ 359,000	\$ 359,000	\$ 317,500	(\$41 500)	\$ 290,000	\$ 312.623	Unaffected by HVTL	Broker states marketing period was typical of those in the region due to depressed real estate market.	Concluded no impact on sale price or marketing period
	, , , , , , , , , , , , , , , , , , , ,																						Broker says HVTL did not impact property	Appraisal evidence suggests a possible 6% impact on value.
26 24	2220 NH Route 117, Sugar Hill	10.12	1701	369	0.00	0.0%	0	435	435	Partially	None	11/18/2011	197	329	-40.1%	\$ 339,000	\$ 339,000	\$ 235,000	(\$104,000)	\$ 250,000	\$ 256,800	Unaffected by HVTL	Broker said sale price was impacted by the proposed NPT	Appraisal evidence suggested there was a possible effect on
27 25	216 Hadley Road, Sugar Hill	6.84	2081	257	0.30	4.4%	0	320	320	Partially	Partially	8/1/2012	328	161	103.7%	\$ 395,000	\$ 395,000	\$ 340 000	(\$55,000)	\$ 325,000	\$ 328 500	Affected by HVTL		sale price and an adverse effect on the marketing period
	node, node, sugar rim	0.04	2001	237	0.30	7.7/0		320	320	. or dally	. ar cally	5,1,2012	320	101	203.770	2 223,000	÷ 333,000	÷ 340,000	(422,000)	y 323,000	y 320,300		Broker stated that the discount for properties potentially impacted by NP	The brokers opinion of proposed 20%-30% impact due to the
																							ranges from 20% to 30%	NPT is not supported by appraisal evidence. It is possible that there was and adverse effect on the sale price and marketing
28 26	354 Garnet Hill Rd, Sugar Hill	14.50	1164	199	6.00	41.4%	3	350	350	Partially	Partially	11/26/2012	161	135	19.3%	\$ 299,000	\$ 249,000	\$ 225,000	(\$24,000)	\$ 219,000	\$ 313,400	Affected by HVTL	Neither the listing nor the selling broker could be contacted	period. Appraisal evidence indicated that there is no impact on sale
					1																	<u>.</u>	The state of the sening proper could be contacted	price but possible adverse effect on marketing time
29 27	798 NH Rte 18, Sugar Hill	2.18	664	132		27.5%	3	150	150	Clearly	Clearly	8/6/2013	300	181	65.7%	\$ 89,500						No interview conducted	Broker indicated NPT project affected selling price	Possible effect on sale price but no effect on the marketing
30 28	150 Sundance Rd, Woodstock	1.81	1464	24	1.00	55.2%	0	165	165	Partially	Partially	12/24/2012	47	88	-46.6%	\$ 265,000	\$ 265,000	\$ 230,000	(\$35,000)	\$ 225,000	\$ 229,600	Somewhat Impacted	Broker states buyers viewed the HVTL as an access to the river and for	period No adverse impact on sale price or marketing period
31 29	261 Daniel Webster Hwy, Woodstock	5.70	924	16	4.20	73.7%	4	25	25	Clearly	Clearly	10/5/2012	45	189	-76.2%	\$ 89,000	\$ 89,000	\$ 87,500	(\$1,500)	\$ 80,000	\$ 86,600	Unaffected by HVTL	recreation.	
32 30	321 Lost River, Woodstock	3.00	1024	1057	0.10	3.3%	0	1220	n/a	None	None	5/14/2010	30	168	-82.1%	\$ 259,000	\$ 259,000	\$ 245,000	(\$14,000)	\$ 250,000	\$ 212,540	Unaffected by HVTL	Broker states sale price was indicative of market value and HVTL had no impact on property	No adverse impact on sale price or marketing period
33 31	1710 NH RTE 175. Thornton	1.25	1152	28	0.04	3.2%	0	118	360	Clearly	Clearly	9/30/2013	475	160	196.9%	\$ 130,000	\$ 125,000	\$ 115.000	(\$10,000)	\$ 1/0 000	\$ 165,500	Affected by HVTL	Broker indicated sale price was affected by proposed NPT. Should have so for \$140,000	Id Concluded that both the sale price and marketing period were adversley affected by the HVTL ROW.
							0			,													Broker noted sale price and market time was affected by existing HVTL	Concluded that HVTL had an adverse effect on both the sale
34 32 35 33	173 Sunrise Hill Rd, Thornton 47 Trapper Rd, Campton	1.44 1.00	1056 1620	106 143	0.10	6.9% 0.0%	0	296 285	295 285	Clearly None	Clearly Partially	2/19/2010 8/15/2013	255 212	149 180	71.1% 17.8%	\$ 164,500 \$ 129,900	\$ 164,500 \$ 129,900			\$ 168,000 \$ 117,000		Affected by HVTL Unaffected by HVTL	No potential buyers expressed concern for the HVTL	price and the marketing period No adverse impact on sale price or marketing period
		00	,			/								1			,500	, , , , , , , , , , , , , , ,	, 500)	,,000				period

	Α	В	С	D	E	F	G	Н	I	J	K	L	М	N	0	Р	Q	R	S	T	U	V	W	X	Υ
															Avg.										
															DOM			Most Recent				Assessment			
				House	Distance		%Encumbered			Most				Days on	for	DOM	ORIGINAL	_				From Tax			
2	Case Study	Address	Acreage	Size in SF	to ROW	Acerage	by ROW	on Site	Structure	Visible	House View	Yard View	Sale Date	Market	Town	Variance	Listing Pric	e Price	Sale Price	Difference	Appraisal	Card		Interview Notes	Summary
	34		l						l	l		<u>.</u>	. / . /					.						Broker states property was no impacted by HVTL	Appraisal evidence suggest a possible adverse effect of the
36	51	723 NH Route 175, Campton 74 Trapper Rd, Campton	1.40	1380	103 24	0.03	2.1% 40.0%	0	238	238 223	Clearly None	Clearly	4/6/2010 6/11/2010	36 80	163 160	-77.9%	\$ 149,90	,	\$ 141,000				0 Unaffected by HVTL 0 Unaffected by HVTL	2 1 11 11 17	HVTL on the sale price
3/	35	74 Trapper Rd, Campton	1.00	1140	24	0.40	40.0%	1 0	223	223	None	Partially	6/11/2010	80	100	-50.0%	\$ 119,90	3 119,900	\$ 118,500	(\$1,400)	\$ 118,000	\$ 128,400	U Unarrected by HVTL	Broker states property was no impacted by HVTL Broker noted that several potential buyers were lost due to the HVTL	No adverse impact on sale price or marketing period Inteview and extended marketing period relative to the town
																								bloker noted that several potential buyers were lost due to the TVTE	average both suggest and adverse effect of the HVTL on the
38	36	313 Mt. Prospect Rd, Holderness	6.43	2846	244	0.00	0.0%	0	320	429	None	Partially	4/24/2013	336	156	115.4%	\$ 389.00	0 \$ 389.000	\$ 327 500	(\$61 500)	\$ 334,000	\$ 295.950	0 Unaffected by HVTL		time the property was on the market
30	30	515 Marrospece Naj Holderness	0.15	20.0		0.00	0.070	 	320	123	110110	T di tidiiy	1,21,2013	330	150	113.170	ÿ 303,00	303,000	ÿ 327,500	(\$01,500)	331,000	233,330	o jonanected by TVTE	Broker noted 3 purchase and sale agreements fell through because of the	the state of the s
																								HVTL.	sale price and possible adverse effect on the marketing period
																								Property should have sold in the \$900,000 (private sale wasn't on market)	
39	37	81 Sargent Rd, Holderness	5.00	6083	133	1.80	36.0%	1	200	200	Partially	Partially	9/27/2013	883	194	355.2%	\$ 1,095,00	0 \$ 745,000	\$ 760,000	\$15,000	\$ 740,000	\$ 687,750	0 Affected by HVTL		
40	38	849 NH Rte 132, New Hampton	1.02	1350	131	0.60	58.8%	0	260	288	Partially	Partially	6/7/2013	38	138	-72.5%	\$ 164,50	0 \$ 164,500	\$ 164,500	\$0	\$ 157,000	\$ 155,500	0 Unaffected by HVTL	Broker states property was no impacted by HVTL	No adverse impact on sale price or marketing period
																								Property was price on low side because of HVTL. Several potential buyers	It is concluded that there was a possible adverse effect of the
																								walked due to NPT.	HVTL on the sale price and a possible adverse effect on the
41	39	696 Collidge Woods Rd, New Hampton	5.40	1264	194	0.60	11.1%	0	434	n/a	None	None	1/27/2012	226	157	43.9%	\$ 225,00		\$ 200,000		\$ 200,000		0 Affected by HVTL	Impact on value was \$25,000-\$30,000	marketing period.
42	40	226 Salisbury Rd, Franklin	5.24	1469	256	0.40	7.6%	0	308	308	None	Partially	6/27/2014	21	115	-81.7%	\$ 175,90	0 \$ 175,900	\$ 176,000	\$100	\$ 174,000	\$ 154,000	0 Unaffected by HVTL	Broker states property was no impacted by HVTL	No adverse impact on sale price or marketing period
																								Broker indicated marketing period was not impacted by HVTL. Property was	
																								shown 2-3 times before going under contract and it was priced to sell	acerge encumbered by the ROW, and the apparaisal evidence,
																									it is concluded that there was and adverse effect of the HVTL on the sale price, but not the marketing period.
43	41	76 Lark Stree. Franklin	1.01	1040	16	0.76	75.2%	1	202	202	Partially	Clearly	8/16/2011	16	87	-81.6%	\$ 69.90	s 69.900	\$ 65,000	(\$4,900)	\$ 73,000	\$ 97.400	0 Unaffected by HVTL		off the sale price, but not the marketing period.
44	42	575 Oak Hill Rd, Northfield	50.00	1998	920			5	1022	n/a	None	None	8/5/2013	5	99	-94.9%		0 \$ 161,500					9 Unaffected by HVTL	Broker stated the marketing period was not impacted by HVTL.	No adverse impact on sale price or marketing period
45	43	22 Battis Crossing Rd, Canterbury	5.40					1	521	n/a	None	None	6/28/2013	156		35.7%		0 \$ 219,500					0 Unaffected by HVTL	Broker states property was no impacted by HVTL	No adverse impact on sale price or marketing period
		<u> </u>	1		1			T .	1															Brokers states significant impact on marketing period and sale price due to	
																								the HVTL and proposed NPT.	saled price which is further supported by the appraisal
																								Property should have sold for \$200,000	evidence. Given the location of the ROW directly over the
																									property and the overall acreage encumbered by the ROW
																									coupled with the appraisal evidence, it is concluded that there
																									was and adverse effect of the HVTL on both the sale price and
40	44	41 Holt Rd, Concord	1.94	1624	,	1.20	61.9%		100	237	Clearly	Clearly	3/15/2013	106	78	35.9%	. 210.00	0 \$ 219,000	ć 100 000	(\$39,000)	¢ 200.000	ć 220.000	0 Affected by HVTL		the marketing period in this transaction
40	45	569 Mt Road. Concord			260	0.00		0	407	407	Partially												0 Unaffected by HVTL	Broker states property was no impacted by HVTL	No adverse impact on sale price or marketing period
4/	43	303 Mt Road, Concord	0.30	1344	203	0.00	0.076	- ·	407	407	raitially	raitially	1/3/2012	112	37	13.370	ÿ 204,50	3 204,900	\$ 150,000	(30,300)	3 130,000	3 132,100	O I Olianected by ITV IL	Broker states there was an impact on marketing period due to HVTL.	There was a possible adverse affect of the HVTL on the
																									marketing period but no adverse effect of the sale price.
48	46	16 Brookwood Rd, Concord	1.71	2144	51	1.00	58.5%	1	118	118	Clearly	Clearly	12/16/2011	105	96	9.4%	\$ 239,90	\$ 239,900	\$ 237,000	(\$2,900)	\$ 235,000	\$ 246,800	0 Affected by HVTL		
																								Miminal impact on marketing period and sales price due to the HVTL. A few	Concluded that there was no adverse effect of the HVTL on th
							1																	potential buyers did reject the property due to the HVTL	sale price or the marketing period in this transaction
49	47	86 Oak Hill Rd, Concord	2.34	638	23	0.50	21.4%	1	110	110	Clearly	Visible	8/3/2011	34	93	-63.4%	\$ 118,50	\$ 118,500	\$ 115,000	(\$3,500)	\$ 109,000	\$ 121,100	May have impacted		
							1											1						Broker states property was no impacted by HVTL	Concluded that there was no adverse effect of the HVTL on th
	40			202.			4.70/		400	400			44 /20 /20 -	450	_,	422.05				(640.055)		4 200			sale price or the marketing period in this transaction
50	48	534 Cross Country Rd, Pembroke	5.83	2024	33	0.10	1.7%	0	190	190	None	Clearly	11/29/2010	159	/1	123.9%	\$ 268,88	5 268,886	\$ 250,000	(\$18,886)	\$ 259,000	\$ 309,300	0 Unaffected by HVTL	Desire states according to the state of the	Constituted that the second of
							1											1						Broker states property was no impacted by HVTL	Concluded that there was no adverse effect of the HVTL on the
51	49	50 Mount Delight Rd, Allenstown	7.15	2216	849	0.07	1.0%	1	957	n/a	None	None	7/3/2013	22	101	-78 2%	\$ 200 00	n \$ 299 pnn	\$ 285,000	(\$14 900)	\$ 266,000	\$ 265 900	0 Unaffected by HVTL		sale price or the marketing period in this transaction
<u> </u>	43	50 Mount Delight Nu, Allenstown	7.13	2210	043	0.07	1.0/0	+	331	11/0	NOTIC	INOTIC	//3/2013		101	10.2/0	y 233,90	233,900	y 203,000	(914,500)	y 200,000	203,000	o Tonanecteu by HV IL	Broker noted there were a number of buyers who walked away or did not	Concluded that there was possible adverse effect of the HVTL
			1	1	1	1	1			1							1	1		1				want to view the property due to the HVTL	on the sale price and marketing period in this transaction
52	50	39 Hayes Rd, Deerfield	6.76	1872	30	2.00	29.6%	3	92	92	Partially	Partially	6/13/2013	121	164	-26.2%	\$ 249,90	0 \$ 249,900	\$ 245,000	(\$4,900)	\$ 239,000	\$ 254,100	0 Affected by HVTL		o Farmana and a same and a same a
53		Average of all Case Studies	7.62		263			1.34	387	282				167							\$ 228,480				
54		Average of Studies sold below listing price	7.66	1548	274	1.82	23.3%	1.45	397	283				182	137	33.1%	\$ 242,98	2 \$ 236,877	\$ 205,615	(\$31,262)	\$ 205,625	\$ 214,450	0		
55	•																								
56																									
57			 		 	1	_	1				L	L	L	لببا		<u></u>	—		 	ļ				
58			1	1	1	1	1	1	1	1	Average Pe	ercentage Los	s Between Mo	ost Recent N	larket Listi	ng and Actu	ial Sale Price	13.20	I	1	1	1	1	i	1