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Loss-of-Setback Tables For Residential Buildings

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IN CONDEMNATION PROCEEDINGS, severance damage is defined as: "A loss in value to the remaining property after a part of the whole property is taken."

TAKING CHANGES USE

Severance damage to land occurs when the remainder is reduced to such a degree that the site can no longer be used for the same purpose. Severance damage to the building is caused by the loss of setback, sometimes termed "proximity damage" or "highway encroachment." While there are numerous other elements of severance damage, this article considers only the loss of setback and the consequential reduction in value of the dwelling. Because of the wide divergence among appraisers when measuring setback damage, it has become necessary to consider a new table to standardize the approach.

The basic principle used for this table is similar to the 4-3-2-1 rule in reverse. More specifically, it is based on the formula $Y = \frac{2X}{X+S}$, where Y is the unknown



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depth factor, X is the depth under consideration, and S is the legal or ideal setback depth. For example, to find the depth factor for 20' in a 40' setback, $Y = \frac{2 \times 20}{20 + 40} = \frac{40}{60} = .667$. This depth

factor is then multiplied by the appropriate maximum damage factor to obtain the composite factor in the table.

PLOT ON GRAPH

When the coordinates are plotted on a graph, the percentage of depth versus the percentage of value takes the form of a gradual curve (Figure 1). In a 100' setback with 50% maximum damage, the factor for the first foot of legal setback taken is $\frac{1}{4}$ of 1% and the factor for the last foot taken is 1% of the dwelling value.

As the encroachment gets closer to the dwelling, the ratio of damage increases proportionately. Condemnation appraisals for the Pennsylvania Department of Highways indicate that the maximum damage rate, except in unusual instances, would not exceed 50% of the dwelling value when the encroachment is adjacent to the dwelling but does not take any part of the dwelling. This could happen when there are extreme grade changes which leave the dwelling completely below the road level.

Allowance has been made for varying setback requirements. Contrary to some opinions, an owner may suffer proximity damage although his "after" setback still exceeds the required legal setback. After all, his original intention when he placed his home farther back than the required setback, was to gain additional privacy.

This privacy is reduced to some degree whenever the distance between the dwelling and the right of way is reduced. Of course, there is a limit to this theory, too, and the table is based on the premise that usually no damage exists if the "after" setback exceeds 150% of the legally required setback. The exception might occur in the case of very expensive dwellings, for which category the table is extended to 200%.

To use the table, only four steps are necessary:

1. Decide the legal setback table to be used as indicated by the zoning requirements of the subject area. Where there is no such zoning, then a "typical" or ideal setback may be used.
2. Estimate what the maximum percentage of damage would be if all of the setback area were taken, in order to select a factor column.

3. Subtract the "after" factor from the "before" factor to arrive at the proper setback damage factor.

4. Multiply the building value by the setback damage factor to estimate setback damage in dollars.

The following examples (see Figure 2) are designed to assist in understanding the application of the table. Basic assumptions are that the legal, required setback is 40', that maximum proximity damage is 50%, and that all dwellings are valued at \$10,000.

Since appraising is not a precise science, damages have been rounded. The method described here is intended to measure setback damage only as related to the structure. Other items of severance damage would have to be considered to the extent that the property is affected. Loss of extensive shrubbery, stone walls, fencing, and trees would

- Example A: 1. Legal setback 40' (For all examples)
 2. Maximum damage factor 50% (For all examples)
 3. "Before" factor for 40' (.50) minus "After" factor for 0' (.00) equals .50
 4. $\$10,000 \times .50 = \$5,000$ loss of setback damage.
- Example B: 3. "Before" factor for 40' (.50) minus "After" factor for 10' (.20) equals .30
 4. $\$10,000 \times .30 = \$3,000$ damage.
- Example C: 3. "Before" factor for 40' (.50) minus "After" factor for 20' (.3333) equals .1667
 4. $\$10,000 \times .1667 = \$1,667$ damage—rounded to \$1,650.
- Example D: 3. "Before" factor for 40' (.50) minus "After" factor for 30' (.4286) equals .0714
 4. $\$10,000 \times .0714 = \714 damage—rounded to \$700.
- Example E: 3. "Before" factor for 30' (.4286) minus "After" factor for 20' (.3333) equals .0953
 4. $\$10,000 \times .0953 = \953 damage—rounded to \$950.
- NOTE: When the "Before" setback is less than the legal setback, the table automatically compensates the property owner on a fair basis.
- Example F: 3. "Before" factor for 51' (.5745) minus "After" factor for 44' (.5238) equals .0507
 4. $\$10,000 \times .0507 = \507 damage—rounded to \$500.
- Example G: 3. "Before" factor for 74' (.6491) minus "After" factor for 64' (.6154) equals .0337
 4. Since the "After" setback is more than 150% of required setback, there is probably no setback damage except if warranted in the judgment of the appraiser.

have to be estimated separately as severance damage to the land.

The tables that follow on pages 16 through 28 are not offered as a magic cure-all, but are to be used with discretion as guidelines in order to reduce the extreme differences that sometimes occur between two equally qualified appraisers.

These are not hard and fast rules, but are rather a refinement of past methods with recognition that further refinement is imminent. Due to the scarcity of reliable market data, the first problem encountered is establishing maximum damage benchmarks. Several states are now

FIGURE 1

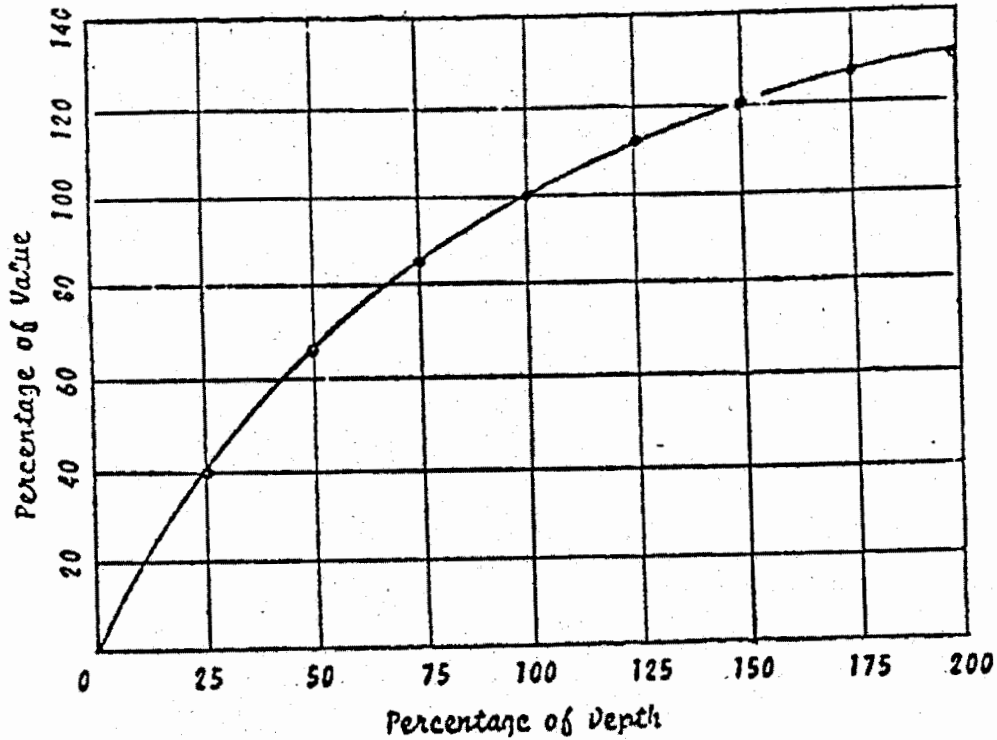
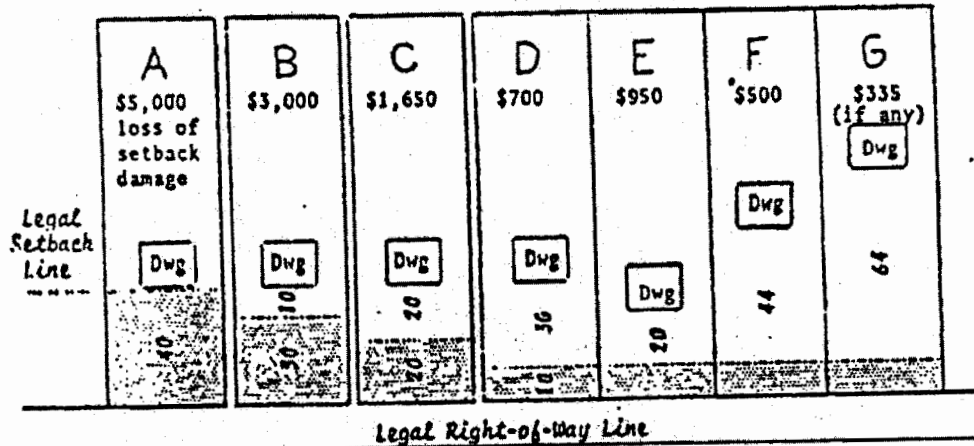


FIGURE 2



conducting studies along these lines. by the novice, but only by experienced
Therefore, this method is not to be used appraisers.

FEET	LEGAL SETBACK TABLE						20
	DAMAGE FACTORS						
	25%	30%	35%	40%	45%	50%	
1	0,0238	0,0286	0,0333	0,0381	0,0429	0,0476	
2	0,0455	0,0545	0,0636	0,0727	0,0818	0,0909	
3	0,0652	0,0783	0,0913	0,1043	0,1174	0,1304	
4	0,0833	0,1000	0,1167	0,1333	0,1500	0,1667	
5	0,1000	0,1200	0,1400	0,1600	0,1800	0,2000	
6	0,1154	0,1385	0,1615	0,1846	0,2077	0,2308	
7	0,1296	0,1556	0,1815	0,2074	0,2333	0,2593	
8	0,1429	0,1714	0,2000	0,2286	0,2571	0,2857	
9	0,1552	0,1862	0,2172	0,2483	0,2793	0,3103	
10	0,1667	0,2000	0,2333	0,2667	0,3000	0,3333	
11	0,1774	0,2129	0,2484	0,2839	0,3194	0,3548	
12	0,1875	0,2250	0,2625	0,3000	0,3375	0,3750	
13	0,1970	0,2364	0,2758	0,3152	0,3545	0,3939	
14	0,2059	0,2471	0,2882	0,3294	0,3706	0,4118	
15	0,2143	0,2571	0,3000	0,3429	0,3857	0,4286	
16	0,2222	0,2667	0,3111	0,3556	0,4000	0,4444	
17	0,2297	0,2757	0,3216	0,3676	0,4135	0,4595	
18	0,2368	0,2842	0,3316	0,3789	0,4263	0,4737	
19	0,2436	0,2923	0,3410	0,3897	0,4385	0,4872	
20	0,2500	0,3000	0,3500	0,4000	0,4500	0,5000	

FEET	LEGAL SETBACK TABLE						20
	DAMAGE FACTORS						
	25%	30%	35%	40%	45%	50%	
21	0,2561	0,3073	0,3585	0,4098	0,4610	0,5122	
22	0,2619	0,3143	0,3667	0,4190	0,4714	0,5238	
23	0,2674	0,3209	0,3744	0,4279	0,4814	0,5349	
24	0,2727	0,3273	0,3818	0,4364	0,4909	0,5455	
25	0,2778	0,3333	0,3889	0,4444	0,5000	0,5556	
26	0,2826	0,3391	0,3957	0,4522	0,5087	0,5652	
27	0,2872	0,3447	0,4021	0,4596	0,5170	0,5745	
28	0,2917	0,3500	0,4083	0,4667	0,5250	0,5833	
29	0,2959	0,3551	0,4143	0,4735	0,5327	0,5918	
30	0,3000	0,3600	0,4200	0,4800	0,5400	0,6000	
31	0,3039	0,3647	0,4255	0,4863	0,5471	0,6078	
32	0,3077	0,3692	0,4308	0,4923	0,5538	0,6154	
33	0,3113	0,3736	0,4358	0,4981	0,5604	0,6226	
34	0,3148	0,3778	0,4407	0,5037	0,5667	0,6296	
35	0,3182	0,3818	0,4455	0,5091	0,5727	0,6364	
36	0,3214	0,3857	0,4500	0,5143	0,5786	0,6429	
37	0,3246	0,3895	0,4544	0,5193	0,5842	0,6491	
38	0,3276	0,3931	0,4586	0,5241	0,5897	0,6552	
39	0,3305	0,3966	0,4627	0,5288	0,5949	0,6610	
40	0,3333	0,4000	0,4667	0,5333	0,6000	0,6667	

FEET	LEGAL SETBACK TABLE						25
	DAMAGE FACTORS						
	25%	30%	35%	40%	45%	50%	
1	0,0192	0,0231	0,0269	0,0308	0,0346	0,0385	
2	0,0370	0,0444	0,0519	0,0593	0,0667	0,0741	
3	0,0536	0,0643	0,0750	0,0857	0,0964	0,1071	
4	0,0690	0,0828	0,0966	0,1103	0,1241	0,1379	
5	0,0833	0,1000	0,1167	0,1333	0,1500	0,1667	
6	0,0968	0,1161	0,1355	0,1548	0,1742	0,1935	
7	0,1094	0,1313	0,1531	0,1750	0,1969	0,2188	
8	0,1212	0,1455	0,1697	0,1939	0,2182	0,2424	
9	0,1324	0,1588	0,1853	0,2118	0,2382	0,2647	
10	0,1429	0,1714	0,2000	0,2286	0,2571	0,2857	
11	0,1528	0,1833	0,2139	0,2444	0,2750	0,3056	
12	0,1622	0,1946	0,2270	0,2595	0,2919	0,3243	
13	0,1711	0,2053	0,2395	0,2737	0,3079	0,3421	
14	0,1795	0,2154	0,2513	0,2872	0,3231	0,3590	
15	0,1875	0,2250	0,2625	0,3000	0,3375	0,3750	
16	0,1951	0,2341	0,2732	0,3122	0,3512	0,3902	
17	0,2024	0,2429	0,2833	0,3238	0,3643	0,4048	
18	0,2093	0,2512	0,2930	0,3349	0,3767	0,4186	
19	0,2159	0,2591	0,3023	0,3455	0,3886	0,4318	
20	0,2222	0,2667	0,3111	0,3556	0,4000	0,4444	
21	0,2283	0,2739	0,3196	0,3652	0,4109	0,4565	
22	0,2340	0,2809	0,3277	0,3745	0,4213	0,4681	
23	0,2396	0,2875	0,3354	0,3833	0,4313	0,4792	
24	0,2449	0,2939	0,3429	0,3918	0,4408	0,4898	
25	0,2500	0,3000	0,3500	0,4000	0,4500	0,5000	

FEET	LEGAL SETBACK TABLE						25
	DAMAGE FACTORS						
	25%	30%	35%	40%	45%	50%	
26	0,2549	0,3059	0,3569	0,4078	0,4588	0,5098	
27	0,2596	0,3115	0,3635	0,4154	0,4673	0,5192	
28	0,2642	0,3170	0,3698	0,4226	0,4755	0,5283	
29	0,2685	0,3222	0,3759	0,4296	0,4833	0,5370	
30	0,2727	0,3273	0,3818	0,4364	0,4909	0,5455	
31	0,2768	0,3321	0,3875	0,4429	0,4982	0,5536	
32	0,2807	0,3368	0,3930	0,4491	0,5053	0,5614	
33	0,2845	0,3414	0,3983	0,4552	0,5121	0,5690	
34	0,2881	0,3458	0,4034	0,4610	0,5186	0,5763	
35	0,2917	0,3500	0,4083	0,4667	0,5250	0,5833	
36	0,2951	0,3541	0,4131	0,4721	0,5311	0,5902	
37	0,2984	0,3581	0,4177	0,4774	0,5371	0,5968	
38	0,3016	0,3619	0,4222	0,4825	0,5429	0,6032	
39	0,3047	0,3656	0,4266	0,4875	0,5484	0,6094	
40	0,3077	0,3692	0,4308	0,4923	0,5538	0,6154	
41	0,3106	0,3727	0,4348	0,4970	0,5591	0,6212	
42	0,3134	0,3761	0,4388	0,5015	0,5642	0,6269	
43	0,3162	0,3794	0,4426	0,5059	0,5691	0,6324	
44	0,3188	0,3826	0,4464	0,5101	0,5739	0,6377	
45	0,3214	0,3857	0,4500	0,5143	0,5786	0,6429	
46	0,3239	0,3887	0,4535	0,5183	0,5831	0,6479	
47	0,3264	0,3917	0,4569	0,5222	0,5875	0,6528	
48	0,3288	0,3945	0,4603	0,5260	0,5918	0,6575	
49	0,3311	0,3973	0,4635	0,5297	0,5959	0,6622	
50	0,3333	0,4000	0,4667	0,5333	0,6000	0,6667	

FEET	LEGAL SETBACK TABLE					40
	DAMAGE FACTORS					
	25%	30%	35%	40%	45%	50%
1	0,0122	0,0146	0,0171	0,0195	0,0220	0,0244
2	0,0238	0,0286	0,0333	0,0381	0,0429	0,0476
3	0,0349	0,0419	0,0488	0,0558	0,0628	0,0698
4	0,0455	0,0545	0,0636	0,0727	0,0818	0,0909
5	0,0556	0,0667	0,0778	0,0889	0,1000	0,1111
6	0,0652	0,0783	0,0913	0,1043	0,1174	0,1304
7	0,0745	0,0894	0,1043	0,1191	0,1340	0,1489
8	0,0833	0,1000	0,1167	0,1333	0,1500	0,1667
9	0,0918	0,1102	0,1286	0,1469	0,1653	0,1837
10	0,1000	0,1200	0,1400	0,1600	0,1800	0,2000
11	0,1078	0,1294	0,1510	0,1725	0,1941	0,2157
12	0,1154	0,1385	0,1615	0,1846	0,2077	0,2308
13	0,1226	0,1472	0,1717	0,1962	0,2208	0,2453
14	0,1296	0,1556	0,1815	0,2074	0,2333	0,2593
15	0,1364	0,1636	0,1909	0,2182	0,2455	0,2727
16	0,1429	0,1714	0,2000	0,2286	0,2571	0,2857
17	0,1491	0,1789	0,2088	0,2386	0,2684	0,2982
18	0,1552	0,1862	0,2172	0,2483	0,2793	0,3103
19	0,1610	0,1932	0,2254	0,2576	0,2898	0,3220
20	0,1667	0,2000	0,2333	0,2667	0,3000	0,3333
21	0,1721	0,2066	0,2410	0,2754	0,3098	0,3443
22	0,1774	0,2129	0,2484	0,2839	0,3194	0,3548
23	0,1825	0,2190	0,2556	0,2921	0,3286	0,3651
24	0,1875	0,2250	0,2625	0,3000	0,3375	0,3750
25	0,1923	0,2308	0,2692	0,3077	0,3462	0,3846
26	0,1970	0,2364	0,2758	0,3152	0,3545	0,3939
27	0,2015	0,2418	0,2821	0,3224	0,3627	0,4030
28	0,2059	0,2471	0,2882	0,3294	0,3706	0,4118
29	0,2101	0,2522	0,2942	0,3362	0,3783	0,4203
30	0,2143	0,2571	0,3000	0,3429	0,3857	0,4286
31	0,2183	0,2620	0,3056	0,3493	0,3930	0,4366
32	0,2222	0,2667	0,3111	0,3556	0,4000	0,4444
33	0,2260	0,2712	0,3164	0,3616	0,4068	0,4521
34	0,2297	0,2757	0,3216	0,3676	0,4135	0,4595
35	0,2333	0,2800	0,3267	0,3733	0,4200	0,4667
36	0,2368	0,2842	0,3316	0,3789	0,4263	0,4737
37	0,2403	0,2883	0,3364	0,3844	0,4325	0,4805
38	0,2436	0,2923	0,3410	0,3897	0,4385	0,4872
39	0,2468	0,2962	0,3456	0,3949	0,4443	0,4937
40	0,2500	0,3000	0,3500	0,4000	0,4500	0,5000

FEET	LEGAL SETBACK TABLE					40
	DAMAGE FACTORS					
	25%	30%	35%	40%	45%	50%
41	0,2531	0,3037	0,3543	0,4049	0,4556	0,5062
42	0,2561	0,3073	0,3585	0,4098	0,4610	0,5122
43	0,2590	0,3108	0,3627	0,4145	0,4663	0,5181
44	0,2619	0,3143	0,3667	0,4190	0,4714	0,5238
45	0,2647	0,3176	0,3706	0,4235	0,4765	0,5294
46	0,2674	0,3209	0,3744	0,4279	0,4814	0,5349
47	0,2701	0,3241	0,3782	0,4322	0,4862	0,5402
48	0,2727	0,3273	0,3818	0,4364	0,4909	0,5455
49	0,2753	0,3303	0,3854	0,4404	0,4955	0,5506
50	0,2778	0,3333	0,3889	0,4444	0,5000	0,5556
51	0,2802	0,3363	0,3923	0,4484	0,5044	0,5604
52	0,2826	0,3391	0,3957	0,4522	0,5087	0,5652
53	0,2849	0,3419	0,3989	0,4559	0,5129	0,5699
54	0,2872	0,3447	0,4021	0,4596	0,5170	0,5745
55	0,2895	0,3474	0,4053	0,4632	0,5211	0,5789
56	0,2917	0,3500	0,4083	0,4667	0,5250	0,5833
57	0,2938	0,3526	0,4113	0,4701	0,5289	0,5876
58	0,2959	0,3551	0,4143	0,4735	0,5327	0,5918
59	0,2980	0,3576	0,4172	0,4768	0,5364	0,5960
60	0,3000	0,3600	0,4200	0,4800	0,5400	0,6000
61	0,3020	0,3624	0,4228	0,4832	0,5436	0,6040
62	0,3039	0,3647	0,4255	0,4863	0,5471	0,6078
63	0,3058	0,3670	0,4282	0,4893	0,5505	0,6117
64	0,3077	0,3692	0,4308	0,4923	0,5538	0,6154
65	0,3095	0,3714	0,4333	0,4952	0,5571	0,6190
66	0,3113	0,3736	0,4358	0,4981	0,5604	0,6226
67	0,3131	0,3757	0,4383	0,5009	0,5636	0,6262
68	0,3148	0,3778	0,4407	0,5037	0,5667	0,6296
69	0,3165	0,3798	0,4431	0,5064	0,5697	0,6330
70	0,3182	0,3818	0,4455	0,5091	0,5727	0,6364
71	0,3198	0,3838	0,4477	0,5117	0,5757	0,6396
72	0,3214	0,3857	0,4500	0,5143	0,5786	0,6429
73	0,3230	0,3876	0,4522	0,5168	0,5814	0,6460
74	0,3246	0,3895	0,4544	0,5193	0,5842	0,6491
75	0,3261	0,3913	0,4565	0,5217	0,5870	0,6522
76	0,3276	0,3931	0,4586	0,5241	0,5897	0,6552
77	0,3291	0,3949	0,4607	0,5265	0,5923	0,6581
78	0,3305	0,3966	0,4627	0,5288	0,5949	0,6610
79	0,3319	0,3983	0,4647	0,5311	0,5975	0,6639
80	0,3333	0,4000	0,4667	0,5333	0,6000	0,6667