

A study of 1930  
Motor Bus operating Cost



# A Study of 1930 MOTOR BUS OPERATING COSTS

*National Association of Motor Bus Operators*  
Tower Building, Washington, D. C.

Following the form developed from 1928 figures, in the preparation of "The Motor Bus Tax Burden" (1930), of obtaining trend curves based on varying seating capacity in operating and cost statistics, "A Study of 1929 Motor Bus Operating Costs" found this form highly suitable as a means of arriving at what might be considered nation-wide standards. Items of cost, revenue, and miscellaneous operating statistics readily lent themselves to such analysis in dealing with 1929 experience. The 1930 experience, however, of motor bus operators throughout the country, and particularly of inter-city motor bus operators, offered difficulties not experienced in "A Study of 1929 Motor Bus Operating Costs."

These difficulties may partly be attributed to the subnormal economic conditions prevailing and to a consequent effort on the part of operators to do more business with given facilities or to otherwise increase efficiencies of operation. Such efforts, though being almost universally evident, were by no means confined to identical elements and consequently a greater variety of experience rendered average conditions more difficult to determine.

Departures from 1929 experience as witnessed by the sample obtained may also be due to the fact that a large number of companies contributing the 1929 sample did not respond as to their 1930 experience, and that a large body of companies responding for 1930 were not included in the investigation of 1929 data. Moreover, a new body of inter-city operations exceeding an average per bus seating capacity of 30 passengers influenced the trends as indicated by seating capacities averaging between 10 and 30. A large part of the difficulty, therefore, was a mechanical one encountered in the handling of complex curves rather than the simple and almost altogether geometric curves found in the inter-city experience of 1929.

Delay in the completion of this present study may be attributable to a general delay in our entire sta-

tistical program this year, caused by the preparation of material at the beginning of the year to present to the public at large and before the Interstate Commerce Commission in Docket No. 23,400, in response to nation-wide propaganda directed against the bus business. The delay has also been caused by a general delay in receiving filled-out questionnaires from operators whose personnel were also affected with increased duties due to conditions peculiar to the past winter.

## MAJOR VARIATIONS FROM 1929 EXPERIENCE

In the following discussion it must be remembered that comparison by seating capacity of vehicles is almost synonymous with comparison by size of operation. Large vehicles denote large companies, on the average, and vice versa. It is also well to note that inter-city buses larger than 30 passengers in capacity are operated in territory fairly densely populated and their characteristics begin to conform to those of city operations.

Costs of operation increased during 1930 for inter-city buses up to 20 passengers in capacity, thereafter decreasing as compared to 1929. This also was true for city buses up to 25 passengers in seating capacity, after which costs showed a decrease. Such changes in costs may be attributable, roughly, to similar changes in annual mileage per vehicle, though costs per bus mile were actually less for the very small inter-city buses and were considerably greater for the inter-city bus seating in the neighborhood of 30 passengers. City buses throughout the entire range cost less per bus mile to operate in 1930 than they did in 1929.

A very great increase is noted for passengers carried by the smaller buses in both classifications as well as a marked decrease in passengers carried by the larger buses in both classifications. Changes occurred in pro-

motion expense in the same direction but the increases and decreases were so slight as to make it out of the question to attribute changes in passengers carried to this cause.

The 1930 depression apparently did not affect investment or capital additions in bus lines. New and better equipment was added so that the per bus investment in rolling stock witnessed a notable increase throughout the seating capacity range of both groups of companies. City companies did not increase their holdings in garage and other facilities, while inter-city companies, on the other hand, increased such holdings by an average of 78.7 per cent, a large part of which probably occurred in the purchase of terminal facilities, though this could not be determined from the questionnaires.

In spite of such increased investment the operating net, in per cent of investment, though consistently

small, was on the plus side throughout all the seating capacities save the 10 to 12.5 passenger groups in inter-city operation, but even here was greater than in 1929, and for the 30 passenger inter-city group showed a decided improvement over 1929. The greatest increase in such financial soundness occurred with the very small city groups.

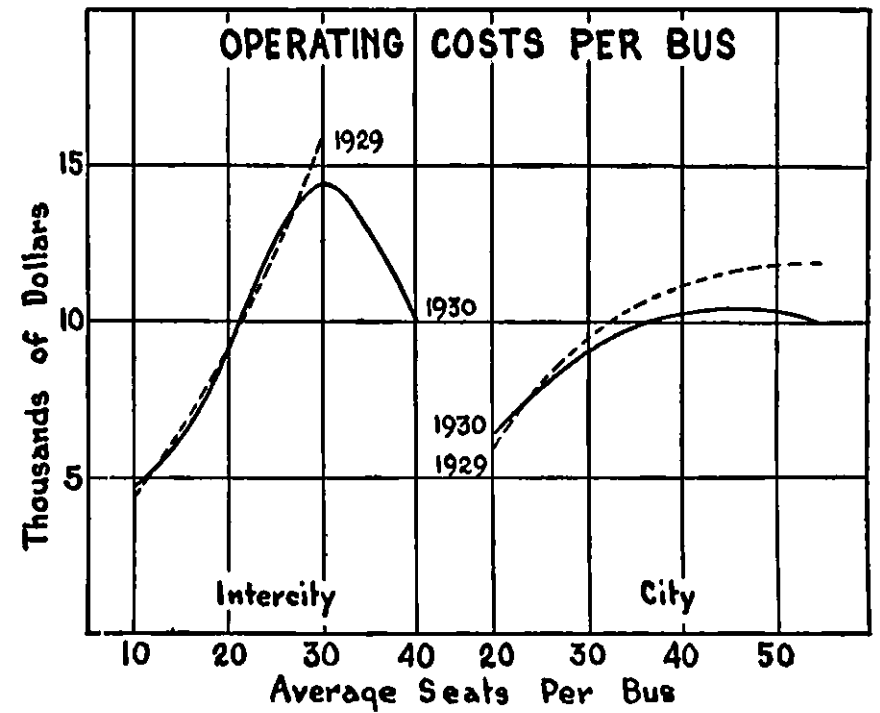
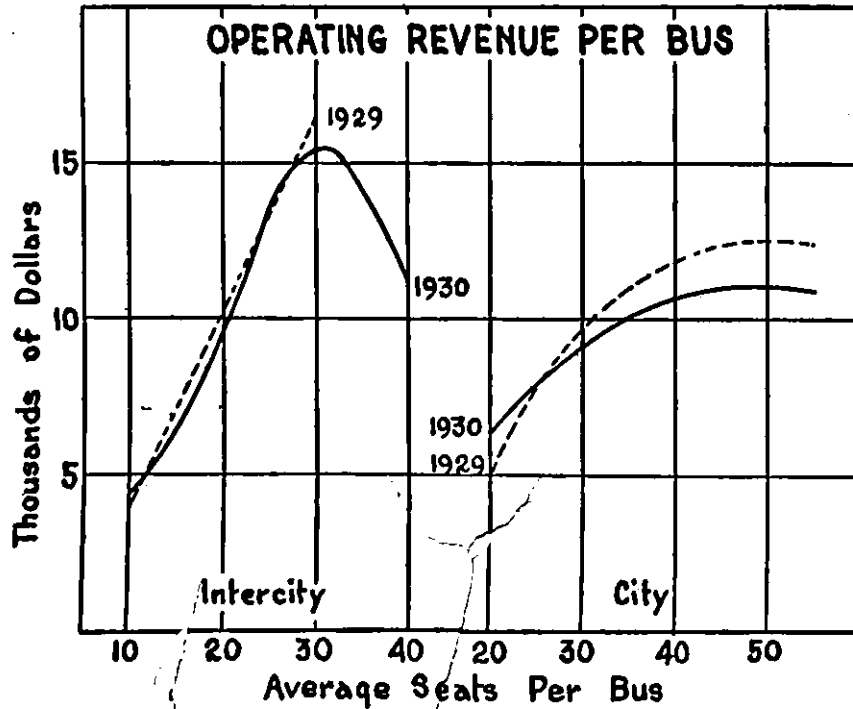
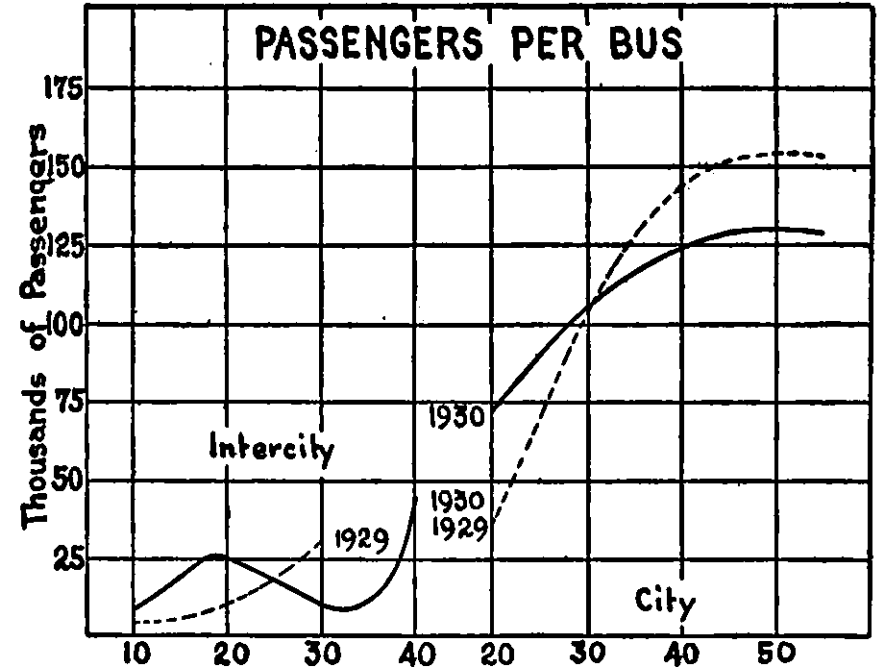
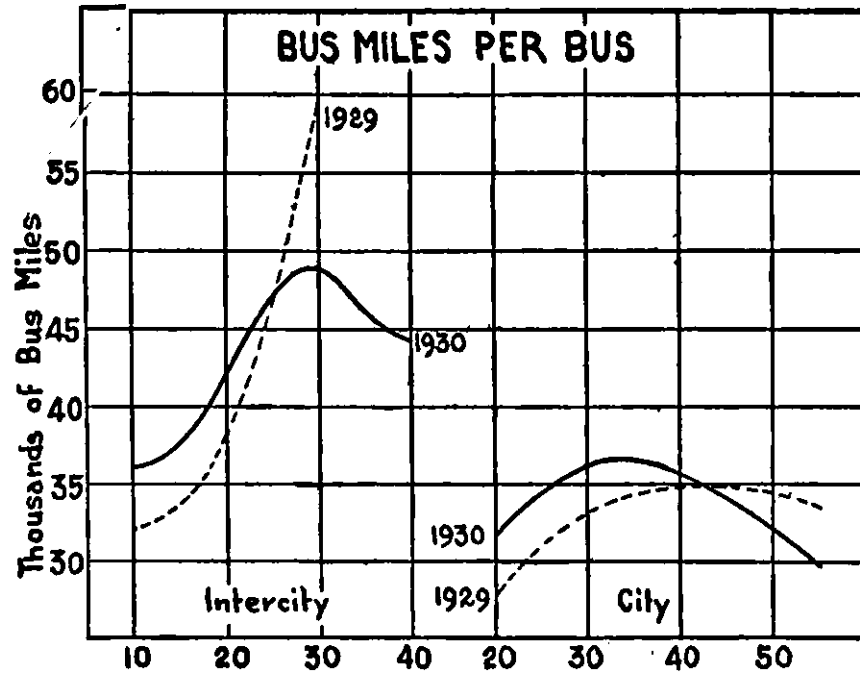
#### THE SAMPLE ON WHICH THIS STUDY IS BASED

Whatever the peculiarities of the 1930 sample may be, it is gratifying to note that responses were received covering 5,889 city buses, operated by 46 companies, and 2,164 inter-city buses, operated by 38 companies, making a total of 8,053 buses operated by 84 companies. These represent 17.5 per cent of the common carrier motor buses in operation at the close of 1930.

	In Intercity Operation	In City Operation
Number of Companies Responding.....	38	46
Buses Owned .....	2,164	5,889
Per Cent of Common Carrier Buses in United States.....	4.70	12.78
Miles of Route Served.....	119,372	8,726
Revenue Passengers Carried .....	37,182,863	602,651,505
Number of States Represented.....	17	25
Investment .....	\$39,602,886	\$64,021,711

Submitted: WARNER TUFTS.

Approved: JOHN M. MEIGHAN, *Secretary-Manager.*



Average Seats Per Bus	PER BUS OPERATING STATISTICS			PER BUS OPERATING REVENUE IN DOLLARS				
	Average Buses Per Company	Bus Miles Operated	Revenue Passengers Carried	From Passengers	From Charter Service	From Express and Advertising—See Notes—	From All Other Operating Sources	TOTAL OPERATING REVENUE

INTERCITY BUSES

10	3	36,000	8,730	4,241	63	12	47	4,363
12.5	5	36,250	14,563	5,157	90	68	78	5,390
15	8	37,500	21,420	6,245	120	127	116	6,608
17.5	15	39,498	25,147	7,535	158	203	158	8,046
20	28	42,500	24,560	9,138	203	284	201	9,826
22.5	50	45,000	21,172	10,792	250	362	238	11,642
25	85	47,250	16,775	12,439	290	424	266	13,419
27.5	135	48,950	12,953	13,861	317	453	274	14,905
30	195	49,200	10,380	14,575	314	430	253	15,572
32.5	245	47,775	9,620	14,350	278	336	205	15,169
35	190	45,990	12,145	13,493	219	229	145	14,082
37.5	114	45,000	19,613	12,440	141	121	83	12,785
40	30	44,520	44,960	11,030	46	30	24	11,130

CITY BUSES

20	5	31,748	71,864	5,971	215	13	221	6,420
22.5	50	33,242	81,480	6,770	205	22	192	7,189
25	110	34,453	90,242	7,498	195	30	162	7,885
27.5	180	35,429	98,269	8,165	185	37	133	8,520
30	260	36,195	105,575	8,772	176	44	106	9,098
32.5	330	36,532	111,785	9,288	168	50	82	9,588
35	375	36,603	117,021	9,723	161	55	61	10,000
37.5	405	36,186	121,016	10,055	155	59	43	10,312
40	422	35,641	124,158	10,316	151	62	28	10,557
42.5	432	34,961	126,661	10,524	149	64	16	10,753
45	434	34,153	123,466	10,674	143	65	8	10,895
47.5	430	33,237	129,513	10,761	147	66	4	10,978
50	420	32,218	129,838	10,788	147	66	4	11,005
52.5	405	31,110	129,465	10,757	147	65	8	10,977
55	385	29,918	123,393	10,668	147	63	16	10,894

PER BUS OPERATING COSTS IN DOLLARS

Average Seats Per Bus	Repair Materials for Chassis	Repair Materials for Bodies	Repair Wages for Chassis	Repair Wages for Bodies	Tires and Tubes Including Repair	Depreciation Allowed on Buses	Superintendent-ence of Maintenance	All Other Maintenance Items	TOTAL MAINTENANCE
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INTERCITY BUSES

10	167	65	136	43	422	845	21	16	1,715
12.5	197	78	144	45	423	957	49	33	1,926
15	244	97	175	55	444	1,065	76	54	2,210
17.5	314	125	227	72	482	1,192	101	77	2,590
20	412	164	311	98	529	1,337	125	101	3,077
22.5	538	218	425	134	572	1,444	146	125	3,597
25	680	270	569	180	601	1,508	162	146	4,116
27.5	822	326	729	231	607	1,517	169	161	4,562
30	941	377	885	280	576	1,436	164	164	4,823
32.5	1,015	404	997	318	499	1,216	145	154	4,748
35	1,040	415	1,037	339	415	1,010	120	138	4,514
37.5	1,027	407	1,018	348	332	814	92	118	4,156
40	966	385	952	348	256	597	62	96	3,662

CITY BUSES

20	274	66	128	39	295	1,344	11	390	2,457
22.5	309	69	195	60	322	1,212	40	339	2,546
25	347	73	269	84	346	1,149	67	307	2,642
27.5	384	77	338	107	367	1,095	90	282	2,740
30	418	80	391	125	385	1,068	109	262	2,833
32.5	448	83	427	138	398	1,042	123	244	2,903
35	473	85	453	148	407	1,019	132	226	2,943
37.5	493	87	471	156	411	993	136	208	2,955
40	507	88	483	162	411	966	137	189	2,943
42.5	516	89	489	166	409	937	134	170	2,910
45	521	89	490	168	404	906	130	151	2,859
47.5	523	89	488	169	398	874	123	132	2,796
50	523	89	483	170	391	840	115	114	2,725
52.5	521	89	476	170	385	809	105	97	2,652
55	519	89	469	169	379	781	94	80	2,580

Average Seats Per Bus	PER BUS OPERATING COSTS IN DOLLARS										
	Gasoline Used in Buses		Lubricants Used in Buses	Wages of General Garage Employees	All Other Operation Items	TOTAL OPERATION	Wages of Drivers and Conductors	Wages of Station Employees	Superinten- dence of Transportation	All Other Transporta- tion Items	TOTAL TRANSPOR- TATION
	Gallons	Cost									

INTERCITY BUSES

10	3,636	569	79	84	43	775	801	238	74	62	1,175
12.5	4,215	587	84	155	49	875	955	249	82	74	1,360
15	4,902	657	98	217	68	1,040	1,135	274	98	101	1,613
17.5	5,766	762	118	274	96	1,250	1,324	325	122	144	1,915
20	6,911	893	144	330	133	1,500	1,513	380	153	199	2,245
22.5	8,182	1,040	174	381	175	1,770	1,684	425	191	265	2,575
25	9,643	1,183	205	419	218	2,025	1,806	442	233	326	2,797
27.5	11,253	1,298	234	438	250	2,220	1,856	430	274	375	2,905
30	12,713	1,330	248	421	255	2,254	1,803	398	302	374	2,877
32.5	13,650	1,290	253	360	237	2,140	1,634	352	298	326	2,610
35	14,151	1,214	251	290	179	1,934	1,494	307	272	255	2,318
37.5	14,423	1,100	239	220	131	1,690	1,419	280	247	194	2,150
40	14,315	957	214	157	101	1,429	1,378	263	243	142	2,026

CITY BUSES

20	5,825	625	91	253	106	1,075	1,214		97	86	1,397
22.5	6,784	717	108	288	117	1,230	1,518		156	104	1,778
25	7,699	802	121	312	130	1,365	1,791		208	125	2,123
27.5	8,578	880	132	325	145	1,482	2,033		254	144	2,431
30	9,377	948	140	333	161	1,582	2,250		295	164	2,704
32.5	9,995	995	143	343	179	1,665	2,435		330	184	2,944
35	10,458	1,023	143	368	199	1,733	2,591		360	203	3,154
37.5	10,690	1,031	141	391	221	1,784	2,724		385	220	3,329
40	10,800	1,024	137	414	244	1,819	2,833		406	235	3,474
42.5	10,757	1,004	132	432	269	1,837	2,909		423	248	3,585
45	10,574	970	125	449	296	1,840	2,963		437	259	3,664
47.5	10,243	924	118	459	325	1,826	2,993		447	267	3,710
50	9,778	868	111	463	355	1,797	2,995		455	273	3,723
52.5	9,191	803	103	462	387	1,755	2,975		460	275	3,710
55	8,487	726	94	466	421	1,707	2,933		462	274	3,669

Few Isolated Instances Included Under "All Other Transportation Items"

Average Seats Per Bus	PER BUS OPERATING COSTS IN DOLLARS									
	Advertising and Promo- tional Printing	All Other Promotion Items	TOTAL PROMOTION	Administra- tive and Office Salaries	Office Supplies	Insurance Against Claims (Injuries and Damages)	Property Insurance	Employee Insurance	All Other Administra- tive and General Items	TOTAL GENERAL

INTERCITY BUSES

10	54	51	105	280	48	221	30	24	27	630
12.5	68	62	130	293	50	224	38	24	71	700
15	89	76	165	314	52	243	45	24	124	802
17.5	122	98	220	353	54	278	52	24	184	945
20	169	128	297	418	55	336	60	24	267	1,160
22.5	235	168	403	501	57	420	68	24	360	1,430
25	317	214	531	578	59	529	77	24	433	1,700
27.5	409	259	668	629	61	638	88	24	480	1,920
30	502	298	800	638	63	719	100	24	481	2,025
32.5	545	305	850	608	65	761	112	24	385	1,950
35	485	255	740	540	66	774	123	24	273	1,800
37.5	308	152	460	461	68	758	134	24	165	1,610
40	75	35	110	365	70	710	144	24	12	1,325

CITY BUSES

20	135	24	159	247	23	237	53	21	21	602
22.5	99	30	129	227	26	333	52	25	71	734
25	78	27	100	214	29	420	51	29	114	857
27.5	53	21	74	204	32	491	51	33	150	961
30	38	15	53	196	35	540	52	36	179	1,038
32.5	28	11	39	190	38	575	53	39	200	1,095
35	21	9	30	186	40	599	54	42	214	1,135
37.5	17	7	24	183	42	614	55	44	222	1,160
40	14	6	20	181	44	623	56	46	225	1,175
42.5	12	5	17	179	45	628	57	47	224	1,180
45	11	4	15	177	46	630	58	48	222	1,181
47.5	9	4	13	175	46	630	59	48	220	1,178
50	9	3	12	172	46	628	59	48	219	1,179
52.5	8	3	11	169	46	625	59	47	219	1,165
55	8	2	10	165	46	621	59	46	218	1,155

Average Seats Per Bus	PER BUS OPERATING COSTS IN DOLLARS									PER BUS INVESTMENT		
	Rent of Extra Buses	Rent of Other Property	TOTAL RENT	Gasoline Tax	State Special Taxes	State General Taxes	All Local Taxes	TOTAL TAXES	TOTAL COST OF OPERATION	Investment in Buses—Dollars—	Investment in Other Property—Dollars—	TOTAL INVESTMENT—Dollars—

INTERCITY BUSES

10	28	132	160	116	60	15	12	203	4,768	4,200	8,686	12,886
12.5	39	140	179	133	60	15	12	220	5,390	5,118	8,686	13,799
15	56	154	210	155	81	14	13	263	6,303	5,975	8,686	14,661
17.5	81	179	260	182	171	24	23	400	7,580	6,781	8,686	15,467
20	118	212	330	219	301	36	36	592	9,201	7,534	8,686	16,220
22.5	170	252	422	259	414	45	47	765	10,962	8,231	8,686	16,917
25	238	293	531	305	489	48	53	895	12,595	8,875	8,686	17,561
27.5	321	331	652	356	516	48	53	973	13,900	9,466	8,686	18,152
30	405	347	752	402	496	43	50	991	14,522	9,999	8,686	18,685
32.5	474	338	812	432	446	37	44	959	14,069	10,481	8,686	19,167
35	523	308	831	448	380	30	37	895	13,032	10,910	8,686	19,596
37.5	553	267	820	456	303	22	28	809	11,695	11,280	8,686	19,966
40	559	218	777	453	213	15	20	701	10,030	11,600	8,686	20,286

CITY BUSES

20	7	116	123	176	267	38	96	577	6,390	6,400	150	6,550
22.5	10	114	124	205	213	36	137	592	7,133	7,650	446	8,096
25	14	113	127	232	169	34	172	607	7,821	8,650	743	9,393
27.5	17	115	132	260	136	33	194	623	8,443	9,405	1,039	10,444
30	20	118	138	264	115	33	207	639	8,992	9,930	1,336	11,266
32.5	23	121	144	303	100	33	219	655	9,450	10,270	1,632	11,902
35	27	123	150	317	89	34	230	670	9,815	10,465	1,929	12,394
37.5	30	126	156	324	82	35	241	682	10,090	10,575	2,225	12,800
40	33	128	161	327	77	36	251	691	10,283	10,600	2,521	13,121
42.5	37	129	166	326	73	37	261	697	10,385	10,583	2,818	13,401
45	40	131	171	320	71	38	271	700	10,427	10,530	3,114	13,644
47.5	43	132	175	310	70	39	281	700	10,395	10,450	3,411	13,861
50	46	133	179	296	69	41	291	697	10,298	10,350	3,707	14,057
52.5	50	133	183	278	69	42	302	691	10,168	10,238	4,004	14,242
55	53	133	186	257	69	44	312	682	9,989	10,120	4,300	14,420

REVENUE AND COSTS PER BUS MILE

Average Seats Per Bus	REVENUE AND COSTS PER BUS MILE									OPERATING RATIOS	
	TOTAL OPERATING REVENUE	TOTAL MAINTENANCE	TOTAL OPERATION	TOTAL TRANSPORTATION	TOTAL PROMOTION	TOTAL GENERAL	TOTAL RENT	TOTAL TAXES	TOTAL COST OF OPERATION	Cost In Per Cent of Revenue	Operating Net In Per Cent of Investment

INTERCITY BUSES

10	12.12	4.77	2.15	3.26	.29	1.75	.45	.56	13.23	109.17	- 3.11
12.5	14.87	5.31	2.42	3.75	.36	1.93	.49	.61	14.87	100.00	0.00
15	17.62	5.89	2.77	4.30	.44	2.14	.56	.70	16.80	95.38	+ 2.08
17.5	20.37	6.56	3.16	4.85	.56	2.39	.66	1.01	19.19	94.21	+ 3.01
20	23.12	7.24	3.53	5.28	.70	2.73	.78	1.39	21.65	93.64	+ 3.85
22.5	25.87	7.99	3.93	5.72	.90	3.18	.94	1.70	24.36	94.16	+ 4.02
25	28.40	8.71	4.29	5.92	1.12	3.60	1.12	1.89	26.65	93.86	+ 4.69
27.5	30.45	9.32	4.54	5.93	1.37	3.92	1.38	1.99	28.40	93.26	+ 5.54
30	31.65	9.80	4.58	5.85	1.63	4.12	1.53	2.01	29.52	93.26	+ 5.62
32.5	31.75	9.94	4.48	5.46	1.78	4.08	1.70	2.01	29.45	92.75	+ 5.74
35	30.62	9.81	4.21	5.04	1.61	3.91	1.81	1.95	28.34	92.54	+ 5.36
37.5	28.41	9.23	3.76	4.78	1.02	3.58	1.82	1.80	25.99	91.47	+ 5.46
40	25.00	8.23	3.21	4.55	.25	2.98	1.75	1.57	22.53	90.12	+ 5.42

CITY BUSES

20	20.22	7.74	3.38	4.40	.50	1.90	.39	1.82	20.13	99.53	+ .46
22.5	22.30	7.66	3.70	5.85	.39	2.21	.37	1.78	21.46	99.22	+ .69
25	22.89	7.67	3.96	6.16	.29	2.49	.37	1.76	22.70	99.19	+ .68
27.5	24.05	7.74	4.18	6.86	.21	2.71	.37	1.76	23.83	99.10	+ .74
30	25.14	7.83	4.37	7.47	.15	2.87	.38	1.76	24.83	98.78	+ .99
32.5	26.25	7.95	4.56	8.06	.10	3.00	.39	1.79	25.85	98.51	+ 1.20
35	27.32	8.04	4.73	8.62	.08	3.10	.41	1.83	26.81	98.15	+ 1.49
37.5	28.50	8.17	4.93	9.20	.07	3.20	.43	1.88	27.88	97.85	+ 1.73
40	29.62	8.26	5.10	9.75	.05	3.29	.45	1.94	28.85	97.40	+ 2.09
42.5	30.76	8.32	5.25	10.25	.05	3.38	.48	1.99	29.72	96.64	+ 2.69
45	31.90	8.37	5.39	10.78	.04	3.46	.50	2.05	30.54	95.73	+ 3.41
47.5	33.03	8.41	5.49	11.16	.04	3.54	.53	2.11	31.28	94.72	+ 4.18
50	34.16	8.46	5.58	11.56	.04	3.64	.55	2.16	31.99	93.64	+ 4.98
52.5	35.28	8.52	5.64	11.93	.04	3.74	.59	2.22	32.68	92.62	+ 5.69
55	36.41	8.63	5.71	12.26	.03	3.86	.62	2.28	33.37	91.60	+ 6.28

