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HIGHWAY RESEARCH BOARD

Bulletin 81

Parking Meters

A Study of Their Number Revenue and Use

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PRESENTED AT THE

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Foreword

This study of the parking meter has been made possible by the contributions of thousands of busy local and municipal officials. In every state of the nation and in Alaska, their willingness to devote valuable time to this project has been demonstrated.

The contribution of the municipal leagues in 42 states and Alaska has been a major one. Their assistance and cooperation in this common effort in the public interest, through their national organization, the American Municipal Association, is gratefully acknowledged.

Acknowledgement is made of assistance in the assembly and analysis of questionnaire data, especially by Conya L. Hardy, transportation economist; and also by Anna M. Hutsell, clerk, Oliver F. Redmond, clerk-stenographer, and Jamie R. Tramontana, formerly clerk, all of the Land Studies Section; and Helen J. Greenhalgh, Statistical Clerk, Taxation and Economic Studies Section, Financial and Administrative Research Branch, Bureau of Public Roads.

This is a factual survey of existing practices relating to the number, revenue, and use of parking meters in municipalities. The data indicate only what is being done and should not be interpreted as suggesting or implying that such practices are necessarily the best.

Grateful acknowledgement is also made to the following for the use of the illustrative material indicated: Figure 4, from the study, TRAFFIC SURVEY OF BOISE METROPOLITAN AREA, by Idaho Bureau of Highways, the city of Boise, and Public Roads Administration (Bureau of Public Roads), 1948; Figure 10, THE AMERICAN CITY, September 1953; Figure 13, cartoon by Ferme, THE AMERICAN CITY, October 1950; Figure 21, based upon "A Parking Meter Revenue 'Contour' Map" by Benedict G. Barkan, TRAFFIC ENGINEERING, March 1952; Figure 22, from the study, RENO PARKING SURVEY, by Nevada Department of Highways, the city of Reno, and the Bureau of Public Roads, 1950; Figure 24, The League of Kansas Municipalities, Topeka, Kansas; Figure 54, from the study, SO YOU WANT TO PARK! prepared by the Kansas State Highway Commission and the Bureau of Public Roads, 1952.

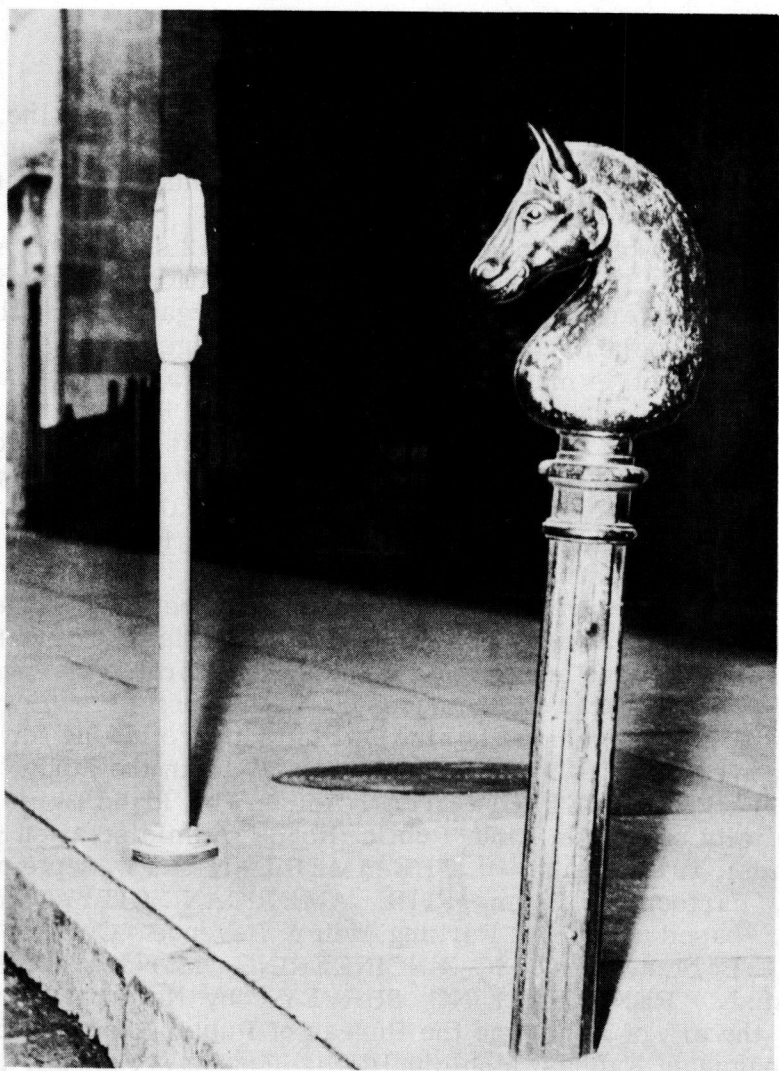


Figure 1. "Hitching Posts." A study in contrasts.

Summary and Conclusions

From the data obtained in this investigation, it is possible to isolate some important findings and major trends in the development of the parking meter:

1. In general, it may well be concluded that the parking meter is no longer an insignificant gadget which can painlessly extract pennies and nickels from parker-motorists. It has become an American institution of great moment to municipalities.

2. Both the number of parking meters and the revenues derived from their use have reached astonishing proportions and are likely to continue to increase. It is estimated that there were approximately 1,113,000 parking meters in the United States, as of January 1952, in over 2,800 localities, with a total estimated gross revenue of about \$76 million. There were proposals for installation of more than 90,000 additional meters. If you are skeptical as to the future of the parking meter, just bear in mind that only 16.4 percent of the urbanized areas of the country now have meters.

3. Once installed, meters do not necessarily become permanent fixtures. Survey data reveal that over 13,000 meters had been removed in 22 states. Such removals have resulted not from any basic quarrel with the parking meter but from a desire to appropriately adjust meter locations with the need for loading zones, bus stops, driveways, and similar requirements. But in one state, meters have been prohibited entirely, by a close margin in a referendum. This does not take into consideration those few places in other states where meters have been completely abolished.

4. The use of the parking meter is no longer confined to the curb; the number used in off-street-parking facilities is constantly increasing. In 124 of the incorporated localities surveyed in the United States, it is reported that over 18,000 meters are in use in off-street areas, and that an even greater total is planned for use in the near future.

5. Parking meters are of two types, manual and automatic. Of the total number of meters surveyed, 55 percent were automatic and 38 percent were manual; the remainder were not classified. In general, the larger the municipality, the greater is the percentage of automatic meters utilized.

6. The great bulk of curb parking meters is placed in the commercial district — the use district with the highest intensity of use of curb space and containing the largest generators of parking demand.

7. In the past, one of the most difficult of obstacles that needed to be surmounted in a particular community was the attitude of the community in general toward the installation of parking meters. In terms of the number of places involved, there was almost an equal division, before

installation of meters, between attitudes substantially opposed to the meters, those neither preponderantly for nor against, and those generally favorable. Farmer opposition and public support is less prevalent than imagined; this survey indicates that approximately 1 percent of the places have preinstallation attitudes of this kind.

8. Community attitudes toward meters before their installation involve uncertainty and perhaps fear of the unknown. Such attitudes may change substantially, once meters have been installed and their precise effects have been tested. Survey data bear this out, indicating an overwhelming 95.6 percent approval of the parking meter after installation.

9. A diversity exists among the kinds of executive agencies responsible for the administration of the parking-meter program. This variety is in evidence in connection with functions involving selection of parking meter locations, repair and maintenance of meters, and collection of revenues; and to a lesser extent, enforcement of meter regulations.

Because the parking meter program in many cities is an expanding enterprise; because it is part of an over-all parking program; and because it can be exceedingly complex, if viewed in the light of its economic implications — for all these reasons the functions involved in its administration should be lodged in those city departments where it can be performed most expertly on the basis of merit or need, rather than because of political expediency or partisan pressures.

10. At least 58 different general parking-meter-purchase arrangements exist in the 1,107 municipalities furnishing data. In over 40 percent of the agreements, the company retained ownership of the meters until paid for; in at least 10 percent, the city acquired title immediately.

11. The estimated average annual revenue per meter was \$70.48 for 1951. Per-meter revenue varied significantly with population: The lowest figure was \$42.28 per meter for places having under 2,500 persons; the highest was \$89.67 per meter for localities of a quarter to a half million persons. In general, the larger the place, the greater was its average annual revenue per meter in 1951.

12. A vigorous tendency is discernible toward lowering fines for violation of parking meter regulations, and toward making it easier for motorists to pay whatever penalties are involved. Frequently, no sacrifice in the total revenue from fines results from such practices.

13. It is estimated that in excess of \$16 million was collected during 1951 as fines for the violation of meter regulations. This was the equivalent of approximately 21 percent of the gross revenue collected from the meters themselves. The average curb parking-meter fine was \$12.33 per meter for 1951. The lowest average fine per meter, for the smallest places, was \$2.61; the highest, for the larger municipalities, was \$58.57 per meter. The lion's share of these fines was assigned to the general fund.

14. The need for parking accommodations looms so large that any diversion of revenues to nonparking purposes is beginning to be looked upon as undesirable in the public interest, as well as possibly contraven-

ing the legal justification for the parking meter. In 1951, approximately 35 percent of gross parking-meter revenues was spent for curb and off-street parking accommodations and their necessary administration and upkeep. The bulk of the balance was diverted to nonparking purposes. In general, the larger places are the greater diverters of such funds.

15. Costs of administration of the parking-meter program, excluding amortization of the meters, absorbed 15.6 percent of the gross parking-meter revenues in 1951. Though administrative costs in the aggregate do not seem to vary with size of municipality, generally speaking, the extent of the repair and maintenance item, standing alone, is closely correlated with size of place. The smaller the municipality, the smaller is this item likely to be. This is also true of the collection expense.

16. Since the end of World War II, the average price of the parking meter has actually come down, from approximately \$69 in 1945 to \$61 in 1951, the survey year. This, during a period when the price of just about everything else has gone up.

17. Though much remains to be done, an increasing tendency is apparent, to integrate curb- and off-street-parking facilities into a single legal, functional, and financial whole. At least 212 places in 30 states are making effective use of this so-called system concept.

An impressive quantity of off-street-parking accommodations has already been provided from parking-meter funds: At least 20,315 spaces and 165 lots were reported to have been so provided by 1951, in 167 places in 26 states. Some of the largest cities are among these.

It is in this role that the parking meter can perhaps make its greatest contribution toward the economic and social well-being of the urbanized areas of the United States.

18. Despite its doubtful legality and the questionable wisdom of the public policy it engenders, the movement to place commercial advertising on parking meters seems to be gaining momentum. At least 49 localities in 23 states reported that they already had or had contracted for such advertising on their meters in 1951. In addition, 18 other localities in 10 states were considering proposals in that direction.

In addition to these, one of the largest cities in the nation has awarded a franchise to authorize meter advertising. But many difficulties have developed in connection with that program, not the least of which is a decision which holds that the advertising constitutes a nonstreet, additional servitude which may not lawfully be imposed without making compensation to the owners of abutting property.

19. It is quite apparent from the survey data that without regard to any other advantages the parking meter may possess, it does effectively and substantially reduce overtime parking at the curb.

20. In addition to assisting in the enforcement of parking restrictions, the parking meter increases parking turnover at the curb. This constitutes its second principal regulatory objective. The findings of this investigation reveal that municipalities in overwhelming numbers have found that turnover is augmented greatly by use of the parking meter.

21. While the bulk of the curb meters in use still are tagged with the 5-cents-an-hour rate or its equivalent, there seems to be an increasing willingness on the part of municipalities to experiment with higher rates in order to accomplish desirable objectives. If the funds so derived, above the costs of the meter program itself, are dedicated to alleviating parking difficulties, there is much to commend such efforts and to bolster the legality of the use of the meter.

22. The opinion is prevalent in some quarters that metered off-street parking facilities generally have higher price tags and that they cater, by and large, to the long-time rather than the short-time parker. The evidence assembled in this survey indicates that both of these presumptions are incorrect, in terms of relative numbers of meters involved. More than three-quarters of the total metered off-street parking spaces had relatively low rates and served the short-time parker.

23. There seems to be a developing tendency among municipalities to graduate their parking-meter-fee schedules so that higher rates or shorter permissible time, or both, are placed on metered spaces that are closer to the major generators of parking demand than on those farther away. This is but good sense, since the more valuable space should command the higher price, all other things being equal.

24. The hours of operation of curb meters constitute another area of potential surprise to the casual student of the parking problem. The survey data indicate there are at least 50 possible combinations of effective hours and days of the week for operation of meters. The most prevalent one extends from 8 a. m. to 6 p. m. on week days.

25. Though from some points of view the 18 years of existence of the parking meter is a rather limited period of time, it is sufficient perhaps to have enabled some municipalities to make reasonable estimates of the service life of their meters. Without regard to type, the bulk of the meters for which service life was estimated reported a service life of between 6 and 15 years.

26. Do not scoff any longer at the lowly parking meter. It may yet provide, through the golden flow of the pennies and nickels and dimes it facilitates, the "open sesame" for solution of the parking difficulties confronting cities in the United States.

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PARKING METERS

A Study of Their Number, Revenue and Use

DAVID R. LEVIN, Chief,
Lands Studies Section, Financial and Administrative Research Branch
Bureau of Public Roads

● AN amusing incident concerning parking meters was recently reported by a bell hop in one of the principal hotels in Grand Forks, North Dakota. Parking meters were outlawed for the second time in that state by referendum not so long ago, and the city fathers in Grand Forks removed the heads of the meters, leaving the posts standing, pending their further disposition. A woman motorist approached one such curb space, parked her car, and then curiously examined the post. After pondering on the matter for some time, she finally took the nickel she had in her hand and dropped it into the empty meter post, where the coin came to rest with a resounding noise. She then proceeded on her errand.

Though this incident may seem frivolous, it is evidence of the wide-spread acceptance of the parking meter and the regulation it facilitates. The parking meter has now fully matured as an American institution.

A comprehensive, factual survey of parking meters and their usage in the urbanized areas of the United States had never been made prior to this survey. In order to fulfill an obvious need, the American Municipal Association, the Committee on Highway Taxation and Finance of the Highway Research Board, and the Bureau of Public Roads undertook a joint study to assemble the essential facts concerning the numbers and types of parking meters, their financing, revenues, legal and administrative aspects, and related matters.

SCOPE OF INVESTIGATION

There were 17,118 incorporated places in the United States in 1950, distributed according to the various population groups in the manner indicated in Table 1. The heaviest concentrations of such places are

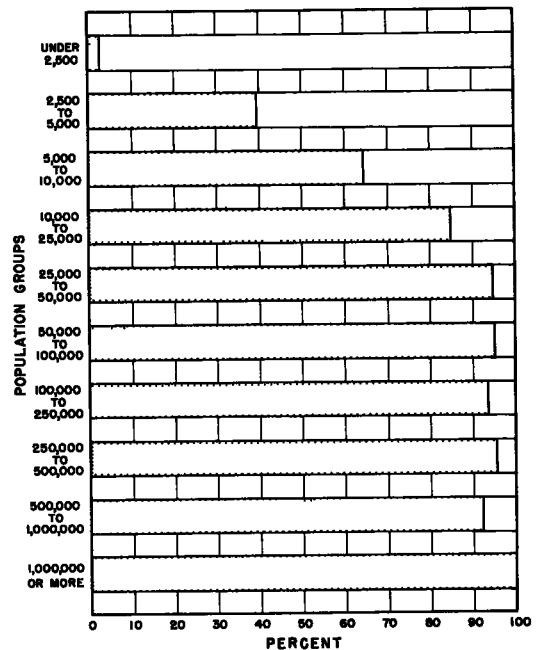


Figure 2. Percentage of all incorporated places in each population group having curb parking meters, January 1, 1952.

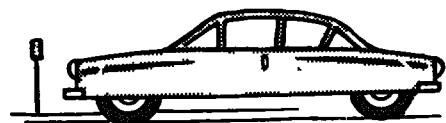
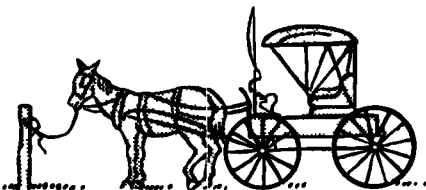


TABLE 1

Total number of incorporated places in the United States, number having parking meters at the curb, and number included in study, by population groups (January 1, 1952)

Population group	Total number of places (1950 census)	Places that have curb parking meters ¹		Places with curb parking meters that returned questionnaires ²		
		Number	Percentage of total number of places	Number	Percentage of total number of places	Percentage of total number of places having meters
Under 2,500	13,235	385	2.9	86	0.6	22.3
2,500 - 5,000	1,557	616	39.6	217	13.9	35.2
5,000 - 10,000	1,093	707	64.7	300	27.4	42.4
10,000 - 25,000	752	639	85.0	311	41.4	48.7
25,000 - 50,000	249	236	94.8	128	51.4	54.2
50,000 - 100,000	126	120	95.2	61	48.4	50.8
100,000 - 250,000	65	61	93.8	37	56.9	60.7
250,000 - 500,000	23	22	95.7	13	56.5	59.1
500,000 - 1,000,000	13	12	92.3	8	61.5	66.7
1,000,000 or more	5	5	100.0	4	80.0	80.0
Total	17,118	2,803	16.4	² 1,165	6.8	41.6

¹ Figures are approximate, based on data assembled from companies marketing parking meters and state municipal leagues.

² Los Angeles County, California, no population group, and Juneau Alaska, 5,000-10,000 population group, also returned questionnaires but are not included in above tabulation since they do not form a part of the total number of incorporated places reported by the Bureau of the Census from which percentages were derived.

in the small population groups, of course, with 92.8 percent of them having a population of less than 10,000.

Of the aggregate of such incorporated places, 16.4 percent (or 2,803 localities) are known to have curb parking meters. As a student of the parking problem might expect, more of the larger places, relatively speaking, have parking meters than have the smaller ones. For example, only 2.9 percent of places with less than 2,500 population are known to have parking meters at the curb, 85 percent of the

10,000-to-25,000 group have meters, while all of the five cities having a population of a million or more have installed parking meters. Of the cities of over half a million population, only Baltimore has failed to be intrigued by the tinkling of nickels and dimes in parking meters.

Completed questionnaires were returned by 1,165 incorporated places in the United States. This constitutes a 41.6-percent sample of the places known to have parking meters, and 6.8 percent of all incorporated places in the United States. Additionally, Los Angeles County reported the installation of meters on county roads, and Juneau,

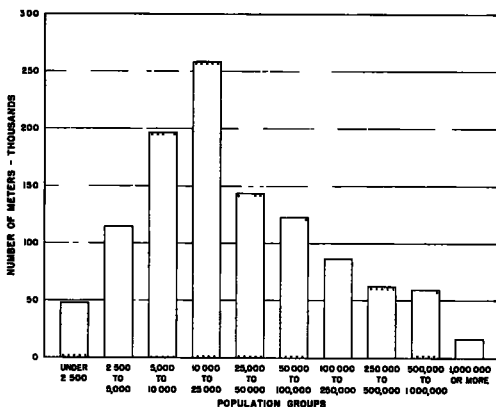


Figure 3. Estimated total number of curb parking meters in all places having meters, by population groups, January 1, 1952.

TABLE 2

Total number of curb and off-street parking meters in operation as of January 1, 1952, in places reporting, by population groups

Population group	Total number of meters			
	Curb		Off-street	
	Number	Percentage of total	Number	Percentage of total
Under 2,500	10,730	2.0	177	0.9
2,500-5,000	40,219	7.3	87	0.5
5,000-10,000	83,531	15.2	643	3.5
10,000-25,000	125,931	23.0	3,713	19.9
25,000-50,000	78,494	14.3	7,301	39.2
50,000-100,000	62,849	11.4	3,801	20.4
100,000-250,000	53,271	9.7	1,559	8.4
250,000-500,000	37,230	6.8	947	5.1
500,000-1,000,000	39,823	7.3	352	1.9
1,000,000 or more	13,571	2.5	-	-
Los Angeles County, California - no population group	2,462	0.5	46	0.2
Total	547,911	100.0	18,626	100.0



Figure 4. Location and capacity of curb and off-street parking facilities in Boise, Idaho, Note particularly the distribution and permissible time limits of the metered curb spaces, ranging from 12 minutes to two hours.

Alaska, returned a questionnaire, making a grand total of 1,167 places reporting. This relatively large sample of parking-metered localities is deemed to be representative, in all essential respects, of the universe from which it is taken.

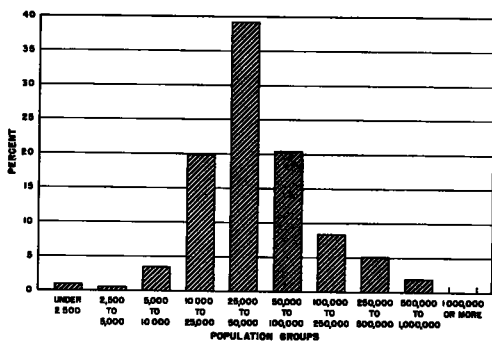


Figure 5. Percentage distribution of off-street parking meters, by population groups, January 1, 1952.

It is noteworthy that, relatively speaking, more of the larger places submitted returns than smaller ones. For example, 22.3 percent of the places having meters in the under-2,500 population group furnished data, while 80 percent in the million-or-more class completed the questionnaires.

NUMBER OF PARKING METERS

The number of parking meters in use in the urbanized areas of the United States have increased fantastically since their original installation in Oklahoma City in 1935. Though Carl Magee was optimistic about the potentialities of his invention, he probably never dreamed of the widespread acceptance his little gadget finally attained.

This investigation reveals that there are at least 547,911 parking meters at the curb in the 1,167 places that completed returns for this study. Additionally, 124 localities, most of which also reported curb parking meters, reported having 18,626 parking meters in off-street parking facilities. These data are summarized by population groups in Table 2.

It is significant to note the population groups wherein the bulk of the meters are concentrated. The tabulation indicates that 15.2 percent of the total number of curb meters reported are in the 5,000-to-

10,000 population class, 23.0 percent in the 10,000-to-25,000 category, and 14.3 percent in the 25,000-to-50,000 group. A somewhat similar pattern is displayed in the distribution of off-street parking meters, although the modal class interval in the latter case is the population group from 25,000 to 50,000.

The study revealed that most of these meters are to be found in the larger and more-urbanized states, as one might expect. Of more than half a million curb meters in the places reporting, the following numbers are found in a few selected states:

California	66,984	New York	29,801
Florida	14,520	Ohio	22,645
Illinois	22,522	Oregon	19,687
Iowa	15,421	Pennsylvania	37,293
Massachusetts	20,925	Tennessee	18,418
Michigan	23,833	Texas	28,932
Minnesota	14,256	Washington	16,206
New Jersey	16,551	Wisconsin	18,165

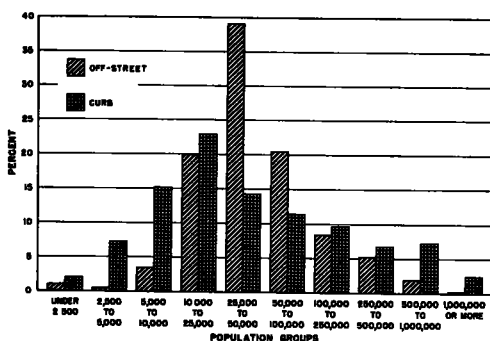


Figure 6. Percentage distribution of curb and off-street parking meters in places reporting, by population groups, January 1, 1952.

This same state pattern is not entirely followed with respect to off-street meters, where the bulk are concentrated in California, Florida, Illinois, Iowa, Massachusetts, Michigan, New Jersey, New York, North Carolina, Pennsylvania, Tennessee, and Wisconsin.

The total number of curb meters surveyed in this investigation are tabulated by states and population groups in Table 3. The same type of tabulation for off-street meters is available in Table 4.

This study constitutes a 41.6-percent sample of all incorporated places in the

TABLE 3

Total number of curb parking meters in operation in places reporting, by States and population groups, as of January 1, 1962
(United States and Alaska)

State	Population group										Total	
	Under 2,500	2,500- 5,000	5,000- 10,000	10,000- 25,000	25,000- 50,000	50,000- 100,000	100,000- 250,000	250,000- 500,000	500,000- 1,000,000	1,000,000 and over	Number of meters	Percentage of total
Alabama	230	200	2,637	1,842	723	555		2,422			8,609	1.6
Arizona		500	1,267	404	982		2,157				5,310	1.0
Arkansas		1,005	4,770	3,368	1,689						10,832	2.0
California	604	2,858	5,368	14,271	5,846	9,763	3,398	13,100	10,500	1,276	66,984	12.2
Colorado	232	510	1,414	2,764	1,323	1,015					7,258	1.3
Connecticut			297	287	709		1,350				2,643	0.5
Delaware		80	140								220	-
Florida	245	465	1,850	2,497	4,695	725	2,094	1,949			14,520	2.7
Georgia	286	520	1,278	430	1,185	2,807					6,506	1.2
Idaho	281	583		1,763	768						3,395	0.6
Illinois	701	1,276	5,742	5,637	4,000	5,166					22,522	4.1
Indiana		1,112	3,663	2,760	382	1,010	2,908				11,835	2.2
Iowa	516	2,185	3,945	1,414	2,406	3,255	1,700				15,421	2.8
Kansas	100	1,059	750	5,141	1,324	1,440	1,729				11,543	2.1
Kentucky	325	331	796	290	975	772					3,489	0.6
Louisiana		200	581	665	600						2,046	0.4
Maine		338	932	780							2,050	0.4
Maryland	427	374		889	761						2,451	0.4
Massachusetts		53	354	2,400	2,397	4,141	3,380		8,200		20,925	3.8
Michigan		779	2,168	6,275	3,886	2,594	2,482			5,649	23,632	4.3
Minnesota		877	3,289	3,698	1,765			2,227	2,400		14,258	2.6
Mississippi	420	905	1,882	900	1,372	1,240					6,719	1.2
Missouri		1,010	1,273	2,305	1,391	1,127		980			8,068	1.5
Montana		242	876	1,916	1,877						4,911	0.9
Nebraska		191	1,250	1,705							3,146	0.6
Nevada				760							760	0.1
New Hampshire	189	288		464	1,014						1,955	0.4
New Jersey	520	1,025	1,140	4,733	3,311	3,216	2,606				16,551	3.0
New Mexico		245	300								545	0.1
New York	117	1,938	1,315	8,068	4,894	1,793	5,110	2,208	2,912	1,446	29,801	5.4
North Carolina	41	332	1,160	2,981	1,515	3,712	1,127				10,688	2.0
North Dakota	190		633	705	463						1,991	0.4
Ohio	179	1,231	1,036	2,454	4,486	1,266	2,027	1,500	8,466		22,845	4.1
Oklahoma		174	888	1,658	1,806		5,216				9,742	1.8
Oregon	874	2,867	4,647	4,158	2,623		4,718				19,687	3.6
Pennsylvania	1,366	4,750	7,444	9,960	2,812	3,111	2,650			5,200	37,293	6.8
Rhode Island				300			1,325				1,625	0.3
South Carolina		553	1,121	1,396	447	2,930					6,447	1.2
South Dakota		125	479	920							1,524	0.3
Tennessee	1,577	3,001	4,504	3,806	1,183		2,129	2,218			18,418	3.4
Texas	108	1,549	6,798	8,304	2,677	4,008	2,743	2,746			28,832	5.3
Utah			452	460	850	1,470	2,839				6,671	1.1
Vermont	141	160	914	296							1,511	0.3
Virginia	560	920	119	1,547	915	2,035	1,901				7,997	1.5
Washington	368	1,220	602	5,070	3,363		2,400	3,183			16,206	3.0
West Virginia	223	354	169	485	653						1,884	0.3
Wisconsin	100	1,650	3,128	2,861	4,126	3,498			2,802		18,165	3.3
Wyoming		194		444							638	0.1
District of Columbia									4,543		4,543	0.8
Alaska			160								160	-
Total	10,730	40,219	83,531	125,931	78,494	62,649	53,271	37,230	39,823	13,571	545,449	
Los Angeles County, California - no population classification											2,462	0.4
Grand total											547,911 ¹	108.0

¹ Figures include 8,802 parking meter spaces represented by 4,401 twin-head meters

United States known to have parking meters. In order to obtain an estimate of the total number of parking meters and the dis-

PROPOSALS FOR ADDITIONAL METERS

Having obtained an insight into the num-



Figure 7. An example of a large metered off-street parking area in Davenport, Iowa, August, 1951. Note the arrangement of the meters, and the ample isle and maneuvering areas.

tribution thereof, this more-than-adequate sample was expanded by population groups.¹ Table 5 reveals the result of this expansion, for both the number of meters and the annual revenue, by population groups. An estimated total of 1,113,164 parking meters was found in the United States in January 1952. There are even more now.²

¹ The percentage that the number of places reporting was of the total number of places having parking meters, in each population group, was ascertained. The number of meters in places reporting was then expanded on the basis of this percentage to 100 percent.

² Not many years ago, it was estimated that there were definite limits to the growth of the parking meter industry and that a maximum of 800,000 to 1,000,000 parking spaces in urban areas could become sufficiently congested to justify meter installation. See "Curbstone Future," in *BUSINESS WEEK*, April 21, 1945, page 41. This survey reveals that such estimates fall far short of the potential. As a matter of fact, it is difficult to place any kind of ceiling on the potential inherent in the use of the parking meter.

ber of parking meters now in operation, it is appropriate to inquire into proposals for additional installations. In the aggregate, 67,023 meters are proposed for use at the curb in 39 jurisdictions, and 23,734 meters in off-street facilities in 28 states and the District of Columbia, or a total of 90,757 meters.

Table 6 indicates the distribution of these meters by population groups. More than half of the contemplated additions are being considered in the largest cities, of half a million and over. The most-substantial numbers are proposed for: Arkansas, California, Illinois, Indiana, Massachusetts, Michigan, Minnesota, New Jersey, New York, Ohio, Pennsylvania, Tennessee, Texas, Virginia, Washington, Wisconsin, and the District of Columbia.

Unlike the situation with respect to

TABLE 4

Total number of off-street parking meters in operation in places reporting, by states and population groups, as of January 1, 1952

State	Population group										Total	
	Under 2,500	2,500-5,000	5,000-10,000	10,000-25,000	25,000-50,000	50,000-100,000	100,000-250,000	250,000-500,000	500,000-1,000,000	1,000,000 or more	Number of meters	Percentage of total
(Number of Meters)												
Arizona							43				43	0.2
California			24	1,079	617	792		181		46	2,739	14.7
Connecticut					133						133	0.7
Florida	177	27		237	440						881	4.7
Idaho				80							80	0.4
Illinois				332	422	366					1,120	6.0
Indiana				212							212	1.1
Iowa			20			756					776	4.2
Kansas							7				7	-
Maine				12							12	0.1
Maryland				166	158						324	1.6
Massachusetts		30				578	96				704	3.8
Michigan			301	532	1,222	130	139				2,324	12.5
Minnesota					145				260		405	2.2
Mississippi				100							100	0.5
Montana					156						156	0.8
New Jersey				121	623						744	4.0
New York				199	1,486	250	659	481			3,075	16.5
North Carolina					295	468					763	4.1
Ohio					76	127					203	1.1
Oregon		30		119							149	0.8
Pennsylvania			298	150	410	125					983	5.3
Rhode Island							316				316	1.7
South Carolina				40							40	0.2
Tennessee				63			299	285			647	3.5
Texas				151	414						414	2.2
Virginia					321	77					549	3.0
Wisconsin				120	363	132			35		670	3.6
District of Columbia									57		57	0.3
Total	177	87	643	3,713	7,301	3,801	1,559	947	352	46	18,626	100.0
Percentage of total	0.9	0.5	3.5	19.9	39.2	20.4	8.4	5.1	1.9	0.2	100.0	

TABLE 5

Total estimated number of curb parking meters and their estimated annual revenues, by population groups,¹ as of January 1, 1952

Population group	Percentage that number of places reporting is of total number of places having parking meters (See table 1)	Number of meters in places reporting (See table 2)	Estimated total number of curb parking meters in all places having parking meters	Estimated average annual revenue per meter in places reporting (See table 27)	Estimated total annual revenue from all curb parking meters
Under 2,500	22.3	10,730	48,117	\$42.28	\$ 2,034,387
2,500-5,000	35.2	40,219	114,259	48.73	5,567,841
5,000-10,000	42.4	83,371	196,630	55.62	10,936,561
10,000-25,000	48.7	125,931	258,585	67.43	17,436,387
25,000-50,000	54.2	78,494	144,823	74.80	10,832,760
50,000-100,000	50.8	62,649	123,325	77.25	9,526,856
100,000-250,000	60.7	53,271	87,761	82.92	7,277,142
250,000-500,000	59.1	37,230	62,995	89.67	5,648,762
500,000-1,000,000	66.7	39,823	59,705	82.34	4,916,110
1,000,000 or more	80.0	13,571	16,964	86.78	1,472,136
Total or average	41.6	¹ 545,289	1,113,164	\$ 70.48	² \$75,648,942

¹Figures do not include Juneau, Alaska, with 160 meters, and Los Angeles County, California, with 2,462 meters, since they do not form a part of the total number of incorporated places reported by the Bureau of the Census from which percentages were derived.

²Total estimated amount of revenue shown is the sum of the separate items shown for each population group. The computed total, based on the estimated total number of curb parking meters for all population groups and the estimated average annual revenue per meter for all groups, is \$78,455,799.

additional curb meters, the bulk of new proposals for off-street meters is concentrated in the 10,000-to-250,000 groups, with the exception of one proposed for over 5,000 in the $\frac{1}{2}$ -to-1-million group. Most of the off-street devices are contemplated

in: California, Florida, Illinois, Massachusetts, Michigan, New Jersey, New York, Ohio, Pennsylvania, Virginia, and Wisconsin, and the District of Columbia. Significantly, a far-greater percentage increase is proposed for off-street installa-

tions than for installations at the curb.

Perhaps it would be helpful to indicate specific places where 200 or more meters are proposed, at the curb or off-street, as follows:

ARIZONA Phoenix Tucson	MINNESOTA Minneapolis
ARKANSAS Conway Hot Springs Malvern Searcy	NEW JERSEY Camden Kearny Plainfield Rahway Seaside Park
COLORADO Colorado Springs	NEW YORK Buffalo Corning Hempstead New York Rochester Syracuse Watertown Yonkers
CALIFORNIA Alhambra Chico Oakland Palo Alto Redwood City San Diego San Francisco Whittier	OHIO Cincinnati Cleveland Elyria Youngstown
DISTRICT OF COLUMBIA Washington	OKLAHOMA Oklahoma City
FLORIDA Clearwater Daytona Beach Miami Orlando	OREGON The Dalles
ILLINOIS Elmhurst Galesburg Joliet	PENNSYLVANIA Easton Lewiston Philadelphia
INDIANA Lafayette	SOUTH CAROLINA Columbia
IOWA Fort Madison	TENNESSEE La Follette
KENTUCKY Paducah	TEXAS Alice Austin El Paso Lubbock Port Arthur
MASSACHUSETTS Boston Brookline Medford Quincy Somerville Worcester	VIRGINIA Alexandria Harrisburg Norfolk Portsmouth
MICHIGAN Ann Harbor Benton Harbor Ferndale Flint Detroit Grand Rapids	WASHINGTON Seattle
	WISCONSIN Madison Milwaukee

TABLE 6

Proposed additional curb and off-street parking meters in places reporting, by population groups, as of January 1, 1952

Population group	Number of proposed additional parking meters			
	Curb		Off-street	
	Number	Percentage of total	Number	Percentage of total
Under 2,500	1,044	1.6	160	0.7
2,500-5,000	1,745	2.6	242	1.0
5,000-10,000	5,337	8.0	892	3.8
10,000-25,000	5,705	8.5	3,490	14.7
25,000-50,000	7,899	11.5	4,788	20.2
50,000-100,000	2,700	4.0	3,054	12.9
100,000-250,000	4,005	6.0	3,705	15.6
250,000-500,000	2,500	3.7	1,128	4.7
500,000-1,000,000	10,600	15.8	5,275	22.2
1,000,000 or more	25,688	38.3	1,000	4.2
Total	67,023	100.0	23,734	100.0

Details of the additional parking meters have been cross-classified by population groups and by states in Table 7 for proposed additional curb meters and in Table 8 for proposed additional off-street meters.

A few of the cities contemplating substantial additions to their present meter installations include: New York, 12,000; Philadelphia, 10,687; Norfolk, 1,250; Minneapolis, 1,400; Detroit, 2,727; Washington, 5,000; Orlando (Florida), 1,000; and San Francisco, 2,000.

PARKING-METER REMOVALS

As we have seen, well over a million parking meters have already been installed, and thousands more are being proposed for installation. It should not be inferred, however, that meters become permanent fixtures once installed. This survey reveals that 13,409 meters had been removed, as of January 1, 1952, in at least 22 states.

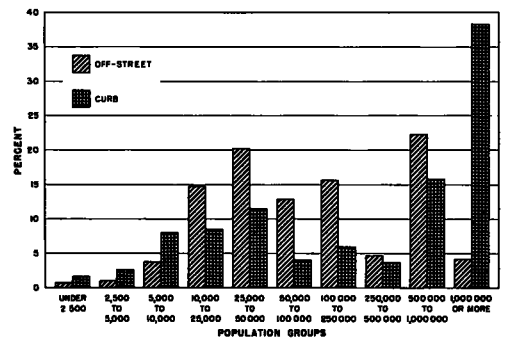


Figure 8. Percentage distribution of proposed additional curb and off-street parking meters in places reporting, by population groups, January 1, 1952.

TABLE 7

Proposed additional curb parking meters in places reporting, by states and population groups, as of January 1, 1952

State	Population group										Total	
	Under 2,500	2,500-5,000	5,000-10,000	10,000-25,000	25,000-50,000	50,000-100,000	100,000-250,000	250,000-500,000	500,000-1,000,000	1,000,000 or more	Number of meters	Percentage of total
Alabama			15	100							115	0.2
Arizona		223			200		300				723	1.1
Arkansas		161	1,266		350						1,777	2.6
California	50	72	195	496	297	301	125	1,700	2,000	274	5,510	8.2
Colorado				156	375	50					581	0.9
Connecticut				25	210						235	0.3
Florida			25	273	250	212					760	1.1
Idaho	50			155							205	0.3
Illinois		56	258	60	1,265	86					1,725	2.6
Indiana		135	55	307	350						847	1.3
Iowa	17	6	128	26							177	0.3
Kansas		2	322	50			150				524	0.8
Kentucky					320	90					410	0.6
Maryland		6		50							56	0.1
Massachusetts				180	264	419	400		400		1,663	2.5
Michigan		19	44	180	1,135	60	650			2,727	4,815	7.2
Minnesota		214	175	279					1,400		2,068	3.1
Mississippi			19	18	75						112	0.2
Missouri		25	30	50	71						176	0.3
Montana			230	110							340	0.5
Nebraska				10							10	
Nevada				123							123	0.2
New Hampshire				160							160	0.2
New Jersey	290	29	279	113	279	112					1,102	1.6
New York		144	300	537	212	150	400		500	12,000	14,243	21.2
North Carolina		20	97	37		100					254	0.4
North Dakota					600						600	0.9
Ohio		33	30	25	490		250		900		1,728	2.6
Oklahoma				100			500				600	0.9
Oregon		15	435	25	30						505	0.7
Pennsylvania	120	125	584	673	375	50				10,697	12,614	18.8
South Carolina		100	215	35	59	200					609	0.9
Tennessee	232	110	405	280	125		65				1,217	1.8
Texas				727	65	400	800				1,992	3.0
Virginia	285	128	153	76		373	365				1,380	2.0
Washington		75		148				800			1,023	1.5
West Virginia				50							50	0.1
Wisconsin		47	77	71	302	97			400		994	1.5
District of Columbia									5,000		5,000	7.5
Total	1,044	1,745	5,337	5,705	7,699	2,700	4,005	2,500	10,600	25,688	67,023	100.0
Percentage of total	1.6	2.6	8.0	8.5	11.5	4.0	6.0	3.7	15.8	38.3	100.0	

The reasons for such removals are summarized in Table 9.

Municipalities assigned more than 20 different reasons for removal of parking meters. The most-important single reason,

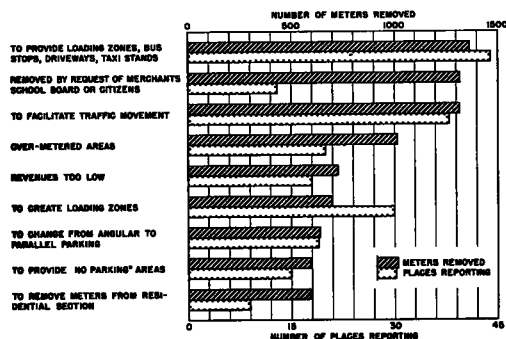


Figure 9. Most prevalent reasons for parking meter removals, in terms of number of places reporting and number of meters removed, as of January 1, 1952.

from the standpoint of numbers of meters involved, was to provide loading zones, bus stops, driveways and taxi stands at the curb. Over 10 percent of the total meters removed were in this category, in 44 places in 18 states, plus an additional 5.2 percent that could be separately identified as removals for the purpose of creating loading zones only. In approximately 10 percent of the cases, meters were removed at the request of merchants, the school board, or private citizens of the municipality. Another important reason was to facilitate traffic movement, and slightly under 10 percent of the total number of meters removed were so involved, in 38 places in 22 states.

Sometimes, areas were found to be over-metered; almost 8 percent of the total removals were for causes so identified, in 20 places in 12 states. In over 5 percent of the meters involved, removals could be attributed to the fact that revenues

were too low, a reason closely related to the foregoing one. Approximately 5 per-



Figure 10. Metal parking meter hoods used in San Diego, California, to accommodate special conditions.

cent of the meters were removed to change from angular to parallel parking, in 19 places in 11 states.

Among other significant reasons for



Figure 11. This type of parking meter was used to regulate curb parking in Miami, Florida in May 1938.

TABLE 8

Proposed additional off-street parking meters in places reporting, by states and population groups, as of January 1, 1952

State	Population group										Total	
	Under 2,500	2,500-5,000	5,000-10,000	10,000-25,000	25,000-50,000	50,000-100,000	100,000-250,000	250,000-500,000	500,000-1,000,000	1,000,000 or more	Number of meters	Percentage of total
Arizona						279	150				150	0.6
California		74	64	272	378						1,067	4.5
Colorado				32							32	0.1
Florida			80	42	600	1,000		200			1,922	8.1
Illinois			70	450	55	324					899	3.8
Indiana					500						500	2.1
Iowa			46		100	150					296	1.2
Kansas					100						100	0.4
Maine				25							25	0.1
Massachusetts				140		690	595				1,425	6.0
Michigan			185	613		111	560				1,469	6.2
Minnesota				100					125		225	1.0
Missouri					57						57	0.2
Montana			50								50	0.2
New Hampshire				160							160	0.7
New Jersey	150	35		386	520		500				1,591	6.7
New York				164	637	70	300	400		1,000	2,571	10.8
North Carolina		13			80	180					273	1.2
Ohio				159	1,075			28			1,262	5.4
Oregon		20		50							70	0.3
Pennsylvania			212	417	149	50					828	3.5
South Carolina				125							125	0.5
South Dakota		20									20	0.1
Tennessee			60		160		100				320	1.3
Texas							250				250	1.1
Virginia	10	80	125	220		200	1,250				1,885	7.9
Washington								500			500	2.1
Wisconsin				135	377				150		662	2.8
District of Columbia									5,000		5,000	21.1
Total	160	242	892	3,490	4,788	3,054	3,705	1,128	5,275	1,000	23,734	100.0
Percentage of total	0.7	1.0	3.8	14.7	20.2	12.9	15.6	4.7	22.2	4.2	100.0	

removal were those to provide no-parking areas; to remove meters from residential sections; and to provide free parking space (see Table 9).

TABLE 9
Number of parking meters removed in places reporting, and reasons for removals, as of January 1, 1952
(United States and Alaska)

Reasons for removal	Meters removed ^a		Places reporting	
	Number	Percentage of total removed	Number of places ^b	Number of states represented ^c
To provide loading zones, bus stops, driveways, taxi stands ^d	1,398	10.2	44	18
Removed by request of merchants, school board or citizens	1,318	9.8	13	9
To facilitate traffic movement	1,317	9.8	38	22
Over-metered areas	1,016	7.6	20	12
Revenues too low	727	5.4	18	13
To create loading zones	698	5.2	30	17
To change from angular to parallel parking	640	4.8	19	11
To provide "no parking" areas	595	4.4	15	10
To remove meters from residential section	589	4.4	9	8
To provide bus zones	488	3.6	15	12
To open driveways	379	2.8	36	21
To widen parking spaces	359	2.7	11	9
Not feasible	350	2.6	2	2
To give free parking space	287	2.1	1	1
Removed as off-street parking lots are provided	261	2.0	5	5
Meters relocated	249	1.9	6	6
On right-of-way of limited access highway	200	1.5	1	1
To provide unmetered space in front of county building, court house, post office, or doctor's office ^e	163	1.2	12	10
Bad location	135	1.0	8	6
Meters broken, destroyed, or stolen	69	0.5	10	9
To provide taxi stands	33	0.3	9	8
To eliminate parking because of one-way street designation	18	0.1	2	2
Miscellaneous ^f	2,154	16.1	53	25 (States and Alaska)
Total	13,405 ^g	100.0	1	1
Information incomplete ^h			81	30
No meters removed ⁱ			507	40
Places not reporting on removals ^j			209	

^aFigures do not include removals for the purpose of installing a different type of meter, those that were removed temporarily for construction work or paving, or those that are removed temporarily during certain seasons of the year.

^bNon-additive. Meters were sometimes removed for more than one reason in the same place.

^cThe numbers of meters removed for each of the designated reasons were not separately reported in the places indicated.

^dIncludes removals for combinations of the various reasons shown, the number for each item not being separately identified, and in addition for such miscellaneous reasons as the following: Change in character of commercial area, curb cuts, fire hydrants, mail boxes, filling stations, creamery, hotels, apartment buildings, police barracks, theaters, banks, office buildings, and removals for unstated reasons.

^eEighty-one places indicated that removals had been made but failed to report the number of meters involved.

^fFive hundred and seven places reported that no meters had been removed, while 209 places failed to indicate whether or not any removals had been made.

These data, can assist municipalities in eliminating most of the points of conflict in the parking-meter program, where location of parking meters is an irritant in connection with the use of the property to which they are adjacent and other public needs.

This discussion thus far has concerned itself only with the removal of parking meters to increase the efficiency of the program generally. Occasionally, parking meters are banned altogether in a par-

ticular place, because of substantial opposition by the public. Such was the case in North Dakota, where parking meters were prohibited in 1948 by an initiative measure that had been duly submitted to the state electorate; at that time, meters were outlawed by the narrow margin of 2,500 votes (94,000 to 91,500), despite the fact that over 150,000 tickets had been issued for violations in the several years prior to the election.⁵

At the time of this contest, four advantages of the parking meter program were publicized: (1) Police protection against pilfering of vehicles was provided. It was asserted that the fact that a police officer makes regular rounds in metered areas, observing not only the meter, but the vehicle as well, is worth the meter charge. (2) Additional protection is provided against certain types of traffic accidents and dented fenders due to improper parking. The parking meter assists in more careful parking and unparking, it was asserted. (3) A more-equitable distribution of available curb space is made possible by the parking meter among an ever-increasing motorist demand for space. The all-day monopoly of curb space is rendered much more difficult. (4) Parking-meter fees are eventually used to improve parking accommodations generally. Such revenues were being used to provide free parking lots, remove snow from city streets, and improve highways generally.

The 1948 campaign was further dramatized by a declaration of a state-wide moratorium of a week on the payment of parking meter fees (by means of cloth hoods on the meters). The consequences of this week's trial of the non-use of the parking meter are significant. It was reported that: "Traffic on the streets was snarled, parking places were filled from morning until night by parking hogs, motorists fought for a place to park . . . those not in favor of the meters, as well as those favoring, had to park out from the central shopping areas."

Nine North Dakota cities would be affected particularly: Fargo with an investment in parking meters of more than \$76,000; Bismarck \$31,000; Devils Lake \$18,000; Dickinson \$29,000; Grafton \$13,000; Grand Forks \$30,000; Jamestown

⁵This discussion of the North Dakota experience is based upon "The People Banned Parking Meters in North Dakota," by J. Adin Mann, TRAFFIC QUARTERLY, April 1950, pages 189-197.

\$26,000; Wahpeton \$9,000; and Minot \$43,000.

Despite all this, meters were outlawed but not for long. The 1951 legislature re-

Arizona.⁵ In 1953, these meters were removed. It is asserted that they will probably be restored next year. This strange behavior results from the fact

TABLE 10

Number of automatic and manual curb parking meters in places reporting, by population groups, as of January 1, 1952

Population group	Automatic		Manual		Type not indicated		Total
	Number	Percentage	Number	Percentage	Number	Percentage	
Under 2,500	3,353	31.2	5,639	52.6	1,738	16.2	10,730
2,500 - 5,000	21,547	53.6	15,526	38.6	3,146	7.8	40,219
5,000 - 10,000	47,494	56.8	32,376	38.8	3,661	4.4	83,531
10,000 - 25,000	64,235	51.0	56,670	45.0	5,026	4.0	125,931
25,000 - 50,000	41,353	52.7	32,396	41.3	4,745	6.0	78,494
50,000 - 100,000	32,110	51.3	26,971	43.1	3,568	5.6	62,649
100,000 - 250,000	23,446	44.0	21,952	41.2	7,873	14.8	53,271
250,000 - 500,000	22,319	60.0	9,610	25.8	5,301	14.2	37,230
500,000 - 1,000,000	31,623	79.4	8,200	20.6	-	-	39,823
1,000,000 or more	13,571	100.0	-	-	-	-	13,571
Los Angeles County, California - no population group	1,063	43.2	1,399	56.8	-	-	2,462
Total	302,114	55.1	210,739	38.5	35,058	6.4	547,911

legalized parking meters by the required two-thirds majority vote. But opponents of the program again forced a referendum of the issue, and in June 1952, meters were again outlawed (effective July 1952) in North Dakota, by a narrow margin (approximately 82,000 to 80,000 votes).

Some municipalities—those in North Dakota aside—have removed their parking meters after installation, some of these later reinstalling them. According to the International City Managers' Association, 17 cities of over 5,000 population had removed parking meters as of 1949 and had not reinstalled them.⁴ However, 21 places are reported as having removed them but later reinstated them. A good illustration of the latter is Providence, Rhode Island, where the original attitude was so hostile to parking meters over 10 years ago that a court order removed them; by 1946 the attitude had changed completely and another court order at that time authorized reinstallation of the meters.

Sometimes, the removal and reinstallation of parking meters have strange backgrounds. It is reported that in 1952, parking meters were installed on Buchanan Street at the Union Station in Phoenix,

that both the Union Station and Buchanan Street are private property, jointly owned

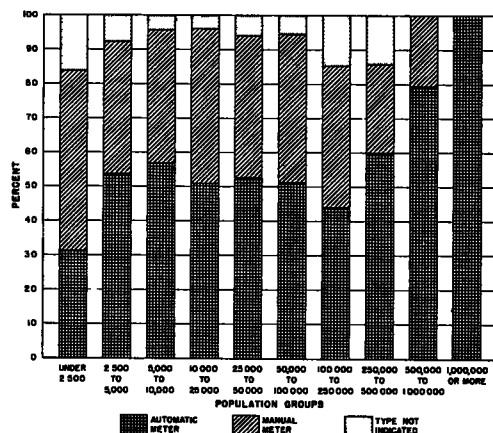


Figure 12. Percentage distribution of curb parking meters according to types in places reporting, by population groups, January 1, 1952.

by the Santa Fe and the Southern Pacific Railroads. Control of the area shifts each year from the one railroad to the other, and a difference of opinion exists as to whether meters are desirable or not.

⁴1950 MUNICIPAL YEAR BOOK, International City Managers' Association, pages 452-453.

⁵Adapted from "Movable Meters," in BUSINESS WEEK, July 25, 1953, page 114.

TABLE 11

Number of automatic and manual curb parking meters in places reporting, by states, as of
January 1, 1952

State	Automatic		Manual		Type not indicated		Total
	Number	Percentage	Number	Percentage	Number	Percentage	
Alabama	5,723	66.5	2,886	33.5			8,609
Arizona	3,139	59.0	2,171	41.0			5,310
Arkansas	7,607	70.2	2,274	20.9	951	8.9	10,832
California	29,841	43.0	33,383	48.1	6,222	8.9	69,446
Colorado	5,605	77.2	1,065	14.7	588	8.1	7,258
Connecticut	138	5.2	2,505	94.8			2,643
Delaware	80	36.4	140	63.6			220
Florida	6,166	42.5	7,740	53.3	614	4.2	14,520
Georgia	3,351	51.5	3,155	48.5			6,506
Idaho	1,211	35.7	995	29.3	1,189	35.0	3,395
Illinois	11,096	49.3	8,718	38.7	2,708	12.0	22,522
Indiana	6,561	55.4	3,255	27.5	2,019	17.1	11,835
Iowa	7,998	51.9	4,904	31.8	2,519	16.3	15,421
Kansas	5,563	48.2	5,544	48.0	436	3.8	11,543
Kentucky	2,628	75.3	861	24.7			3,489
Louisiana	290	14.2	1,756	85.8			2,046
Maine	1,577	76.9	473	23.1			2,050
Maryland	360	14.7	1,510	61.6	581	23.7	2,451
Massachusetts	7,711	36.9	12,459	59.5	755	3.6	20,925
Michigan	20,273	85.0	3,360	14.1	200	0.9	23,833
Minnesota	10,416	73.0	3,840	27.0			14,256
Mississippi	4,701	70.0	1,598	23.8	420	6.2	6,719
Missouri	3,615	44.8	3,706	46.0	745	9.2	8,066
Montana	624	12.7	4,287	87.3			4,911
Nebraska	1,835	58.3	1,311	41.7			3,146
Nevada	760	100.0					760
New Hampshire	1,491	76.3	464	23.7			1,955
New Jersey	5,471	33.0	9,844	59.5	1,236	7.5	16,551
New Mexico	245	45.0			300	55.0	545
New York	17,812	59.8	11,727	39.4	262	0.8	29,801
North Carolina	3,975	36.6	5,721	52.6	1,172	10.8	10,868
North Dakota			1,991	100.0			1,991
Ohio	16,983	75.0	4,555	20.1	1,107	4.9	22,645
Oklahoma	6,890	70.7			2,852	29.3	9,742
Oregon	12,464	63.3	7,023	35.7	200	1.0	19,687
Pennsylvania	18,036	48.4	18,237	48.9	1,020	2.7	37,293
Rhode Island	1,625	100.0					1,625
South Carolina	3,200	49.6	3,247	50.4			6,447
South Dakota	1,274	83.6	250	16.4			1,524
Tennessee	9,628	52.3	8,060	43.8	730	3.9	18,418
Texas	22,774	78.7	1,898	6.6	4,260	14.7	28,932
Utah			6,071	100.0			6,071
Vermont	1,352	89.5	159	10.5			1,511
Virginia	5,203	65.0	2,541	31.8	253	3.2	7,997
Washington	5,483	33.8	9,814	60.6	909	5.6	16,206
West Virginia	809	42.9	970	51.5	105	5.6	1,884
Wisconsin	13,987	77.0	3,667	20.2	511	2.8	18,165
Wyoming			444	69.6	194	30.4	638
District of Columbia	4,543	100.0					4,543
Alaska			160	100.0			160
Total	302,114	55.1	210,739	38.5	35,058	6.4	547,911

TABLE 12
Location of curb parking meters with respect to use districts of city in places reporting, by population groups, as of January 1, 1952
(United States and Alaska)

Population Group	District in which located										Total number meters
	Commercial		Industrial		Residential		Other		District not indicated		
	Number of meters	Percentage	Number of meters	Percentage	Number of meters	Percentage	Number of meters	Percentage	Number of meters	Percentage	
Under 2,500	9,425	87.9	88	0.8	196	1.8			1,021	9.5	10,730
2,500 - 5,000	37,642	93.6	192	0.5	242	0.6			2,093	5.2	40,219
5,000 - 10,000	74,961	89.7	934	1.1	163	0.3	50	0.1	7,473	9.9	83,531
10,000 - 25,000	110,336	87.5	26	0.2	928	0.7			14,641	11.6	125,931
25,000 - 50,000	65,183	83.1	23		173	0.2			13,115	16.7	78,494
50,000 - 100,000	46,861	74.8	514	0.8	46	0.1	580	0.9	14,648	23.4	62,649
100,000 - 250,000	40,127	75.3	57	0.1	218	0.5			12,869	24.1	53,271
250,000 - 500,000	17,995	48.4					500	1.3	18,735	50.3	37,230
500,000 - 1,000,000	30,911	77.6			400	1.0			8,512	21.4	39,823
1,000,000 or more	2,722	20.1							10,849	79.9	13,571
Los Angeles County, California - no population group	2,462	100.0									2,462
Total	438,725	80.1	1,834	0.3	2,366	0.4	1,130	0.2	103,856	19.0	547,911

It is interesting to note some of the reasons advanced for the wholesale removal of meters after installation: Highly emotional reaction against meters as an encroachment on the liberty of the citizen; parking-meter fees regarded as another tax; installed before they were authorized by state enabling legislation and therefore regarded as unconstitutional; and installation in places where there was no curb parking problem, resulting in insufficient income to pay for the meters and for their maintenance and operation.

It is apparent, of course, that in terms of relative numbers of meters, wholesale removals are relatively insignificant. But removals in specific locations, due to special reasons, can become quite important, in that they facilitate the elimination of sources of irritation to the program.

TYPES OF PARKING METERS

With respect to their operation, parking meters are of two types, manual and automatic. The insertion of a coin and the operation of a lever or handle starts the meter timing on the manual type. The coin insertion alone suffices for this purpose on the automatic variety.⁶

Data concerning the types of parking meters were submitted in connection with 512,853 meters, out of a total of 547,911 reported upon in this investigation. As Table 10 indicates, approximately 55 percent of the total were automatic and 38 percent were manual.

Apparently, a significant relationship exists between the type of parking meter used and size of the municipality involved.

⁶ See *TRAFFIC ENGINEERING HANDBOOK*, 2d Edition, 1950, Institute of Traffic Engineers.

As the data in the table reveal, meters of the automatic variety account for 31.2 percent of the total number of meters surveyed for the smallest places and 100 percent in the largest cities. In general, though not invariably, the larger the municipality, the greater is the percentage of automatic parking meters.

Data for a relatively small number of meters were not available by types, amounting to 6.4 percent of the total number of meters surveyed. Whatever the nature of this group of meters may be, with respect to types, its influence on the findings indicated above can be disregarded for all practical purposes.

The number of automatic and manual meters, by states, is summarized in Table 11. Some interesting groupings can be made from this tabulation. For example, all the curb meters in three jurisdictions (Nevada, Rhode Island, and the District of Columbia) are of the automatic variety. In three others (North Dakota⁷, Utah, and Alaska) all the meters are manual. At least three quarters of the meters are automatic in 10 other states: Colorado, Kentucky, Maine, Michigan, New Hampshire, Ohio, South Dakota, Texas, Vermont, and Wisconsin. More than three fourths of those in Connecticut, Louisiana, and Montana are manual.

LOCATION OF METERS IN USE DISTRICTS

Questions have frequently arisen concerning the locations of curb meters with reference to the several use districts of a

⁷ This survey refers throughout, of course, to 1951. Since that time, parking meters in North Dakota have been outlawed, by referendum.

city. An analysis of the data submitted for almost half a million meters is quite revealing in this respect.

As one might logically expect, the great bulk of curb parking meters are placed in the district with the highest intensity of use of curb space and containing the largest generators of parking demand, viz., the commercial district. Table 12 indicates the location of curb meters with respect to the use districts of a city, by population groups. It reveals that the greatest bulk of meters, by far, are found in the commercial districts--over 80 percent in the ag-

gregate. And when one considers that the use district was not specified for approximately 19 percent of the meters for which questionnaires were returned, it becomes apparent that the numbers of meters in the industrial, residential, or other districts are insignificant--approximately 1 percent for all of them combined.

There are slight variations of these percentages in the various population groups comprising the aggregate, but none are particularly significant. Of all curb meters surveyed in urban areas under 2,500 population, 1.8 percent were found to be located

TABLE 13

Location of curb parking meters with respect to use districts of city, in places reporting, by states, as of January 1, 1952
(United States and Alaska)

State	District in which located										Total number of meters
	Commercial		Industrial		Residential		Other		District not indicated		
	Number of meters	Per-centage	Number of meters	Per-centage	Number of meters	Per-centage	Number of meters	Per-centage	Number of meters	Per-centage	
Alabama	8,256	95.9							353	4.1	8,609
Arizona	5,253	98.9	57	1.1							5,310
Arkansas	9,408	86.9			104	0.9			1,320	12.2	10,832
California	50,644	72.9	514	0.8	160	0.2	580	0.8	17,548	25.3	69,446
Colorado	5,653	77.9							1,605	22.1	7,258
Connecticut	846	32.0							1,797	68.0	2,643
Delaware	220	100.0									220
Florida	11,846	82.0							2,674	18.0	14,520
Georgia	5,731	88.0							775	12.0	6,506
Idaho	3,393	99.9			2	0.1					3,395
Illinois	20,172	89.6	405	1.7	66	0.2			1,879	8.4	22,522
Indiana	9,199	77.7	444	3.7	10	0.1			2,182	18.4	11,835
Iowa	15,421	100.0									15,421
Kansas	11,108	96.2							435	3.8	11,543
Kentucky	2,717	77.9							772	22.1	3,489
Louisiana	2,046	100.0									2,046
Maine	2,050	100.0									2,050
Maryland	1,189	47.7			137	5.6			1,145	46.7	2,451
Massachusetts	17,016	81.3			558	2.7			3,351	16.0	20,925
Michigan	13,301	55.8			40	0.2			10,492	44.0	23,833
Minnesota	13,651	95.8							605	4.2	14,256
Mississippi	6,209	92.4							510	7.6	6,719
Missouri	7,355	91.2							711	8.8	8,066
Montana	4,911	100.0									4,911
Nebraska	3,146	100.0									3,146
Nevada	760	100.0									760
New Hampshire	1,596	81.6							359	18.4	1,955
New Jersey	9,293	56.1			311	2.0			6,947	41.9	16,551
New Mexico	545	100.0									545
New York	19,264	64.6			106	0.4			10,431	35.0	29,801
North Carolina	7,910	72.8							2,958	27.2	10,868
North Dakota	1,991	100.0									1,991
Ohio	16,217	71.6			106	0.5	500	2.2	5,822	25.7	22,645
Oklahoma	8,509	87.3			17	0.2			1,216	12.5	9,742
Oregon	18,101	91.9							1,586	8.1	19,687
Pennsylvania	23,777	63.7	267	0.8	687	1.8			12,562	33.7	37,293
Rhode Island	300	18.5							1,325	81.5	1,625
South Carolina	6,050	93.8							397	6.2	6,447
South Dakota	762	50.0							762	50.0	1,524
Tennessee	16,965	92.1	61	0.3	12	0.1	50	0.3	1,330	7.2	18,418
Texas	26,063	90.1	50	0.2					2,819	9.7	28,932
Utah	6,071	100.0									6,071
Vermont	1,511	100.0									1,511
Virginia	6,292	78.7							1,705	21.3	7,997
Washington	13,023	80.4							3,183	19.6	16,206
West Virginia	1,063	56.4							821	43.6	1,884
Wisconsin	16,500	90.9	36	0.1	50	0.3			1,579	8.7	18,165
Wyoming	638	100.0									638
District of Columbia	4,543	100.0									4,543
Alaska	160	100.0									160
Total	438,725	80.1	1,834	0.3	2,366	0.4	1,130	0.2	103,856	19.0	547,911

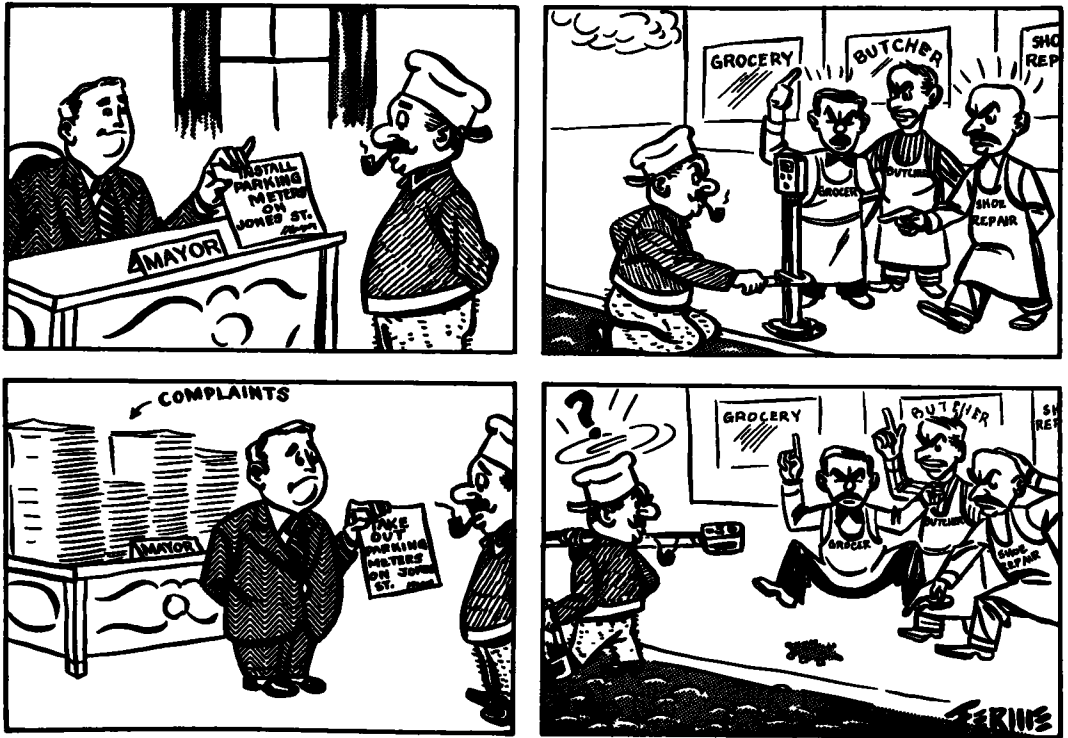


Figure 13. It is amazing how quickly community attitudes toward the parking meter change after a fair trial.

in residential areas. In the 5,000 to 10,000 population group, 1.1 percent of the meters were in industrial areas.

The location of curb parking meters with respect to use districts of the city, by states, is summarized in Table 13. Obviously, the same conclusions are supported by these data: The vast bulk of the curb meters are concentrated in commercial districts.

Perhaps several small variations as between states can be mentioned. Most of the states have reported that parking meters are not placed at the curb in industrial districts. But 3.7 percent of all meters surveyed in Indiana were located in industrial districts; 1.7 percent of all meters surveyed in Illinois; 1.1 percent in Arizona; and 0.8 percent in California and in Pennsylvania. Perhaps in the Midwest and Far West the industrial use districts are relatively close to the commercial districts.

The situation in residential uses is not much different. Approximately 5.6 percent of all meters surveyed in Maryland were located in residential areas; 2.7 percent in Massachusetts; 2.0 percent in New Jer-

sey; and 1.8 percent in Pennsylvania. In the Eastern and older cities, residential areas are situated closer to the commercial districts than to other sections.

COMMUNITY ATTITUDES TOWARD METERS BEFORE INSTALLATION

One of the most-difficult obstacles that need to be surmounted is the community attitude toward the installation of parking meters. Appropriate questions were included in the questionnaire in order to elicit empirically the magnitude and character of these attitudes. Perhaps the findings are not different from what might be expected, but the detail is significant as well as the variations from state to state and as between the several population groups.

The story is told⁸ of how two men, Carl Magee (lawyer and newspaperman) and G. A. Hale (engineering professor at Oklahoma A. & M.) finally convinced officials of Oklahoma City to try their new invention

⁸ Adapted from "Gold Mines at the Curbstone," by Norman Carlisle, in *CORONET*, October 1952, page 115 et seq.

TABLE 14
Reported attitudes of communities toward parking meters before installation in places reporting, by population groups,
as of January 1, 1932

Attitude	Number of places with indicated attitude in each population group																				Total	
	Under 2,500		2,500-5,000		5,000-10,000		10,000-25,000		25,000-50,000		50,000-100,000		100,000-250,000		250,000-500,000		500,000-1,000,000		1,000,000 or more		Number of places reporting	Percentage of total reporting
	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage		
Decided opposition	3	4.0	13	6.5	18	6.3	22	7.5	4	3.5	4	7.1	2	5.4	1	9.1	-	-	-	-	67	6.2
Controversial	-	-	-	-	2	0.7	-	-	1	0.9	3	5.4	-	-	-	-	-	-	-	-	6	0.6
Generally unfavorable	19	25.4	38	19.0	54	18.8	61	20.9	30	26.1	8	14.3	8	21.6	4	36.3	-	-	-	-	222	20.5
Small majority opposed	5	6.7	16	8.0	30	10.5	17	5.8	4	3.5	5	8.9	-	-	1	9.1	-	-	-	-	78	7.2
Strong minority opposed	-	-	-	-	-	-	1	0.4	-	-	-	-	-	-	-	-	-	-	-	-	1	0.1
Public opposed, business men and employees favored	1	1.3	1	0.5	1	0.4	6	2.1	-	-	1	1.8	1	2.7	-	-	-	-	-	-	11	1.0
Equally divided for and against	6	8.0	19	9.5	30	10.5	29	9.9	11	9.5	4	7.1	4	10.8	-	-	1	20.0	-	-	104	9.6
Indifferent	1	1.3	3	1.5	2	0.7	3	1.0	1	0.9	-	-	-	-	-	-	-	-	-	-	10	0.9
Uncertain, willing to try meters	10	13.3	24	12.0	38	13.2	25	8.6	19	16.5	5	8.9	9	24.4	1	9.1	1	20.0	1	25.0	133	12.3
Businessmen and employees opposed, public mostly favored	6	8.0	12	6.0	17	5.9	15	5.1	7	6.1	1	1.8	3	8.1	1	9.1	1	20.0	-	-	63	5.8
Businessmen opposed, farmers and public favored	3	4.0	6	3.0	3	1.0	4	1.4	1	0.9	1	1.8	2	5.4	-	-	1	20.0	-	-	21	1.9
Public favored, farmers opposed	2	2.7	4	2.0	3	1.0	3	1.0	-	-	-	-	-	-	-	-	-	-	-	-	12	1.1
Some opposition, parking control considered necessary	1	1.3	4	2.0	-	-	2	0.7	2	1.7	-	-	-	-	-	-	-	-	-	-	9	0.8
Generally in favor, some opposition	9	12.0	33	16.5	43	15.0	54	18.5	17	14.8	13	23.2	3	8.1	2	18.2	1	20.0	1	25.0	176	16.3
Slight majority favorable	-	-	6	3.0	8	2.8	4	1.4	1	0.9	-	-	-	-	-	-	-	-	-	-	19	1.8
Favorable if proceeds will be used for off-street parking	-	-	-	-	1	0.3	3	1.0	-	-	1	1.8	-	-	-	-	-	-	-	-	5	0.5
Favorable	9	12.0	20	10.0	31	10.8	40	13.7	15	13.0	10	17.9	4	10.8	1	9.1	-	-	2	50.0	132	12.2
Public attitude unknown	-	-	1	0.5	6	2.1	3	1.0	2	1.7	-	-	1	2.7	-	-	-	-	-	-	13	1.2
Total	75	100.0	200	100.0	287	100.0	292	100.0	115	100.0	56	100.0	37	100.0	11	100.0	5	100.0	4	100.0	1,082	100.0

on two city blocks. The first day was a discouraging one for Hale and Magee, for the metered parking places remained conspicuously empty; worried and enraged shopkeepers set up a storm of protest at city hall. But it took only several more days to convince everybody concerned that meters helped shoppers, and merchants began clamoring for more meters. The community attitudes which characterized

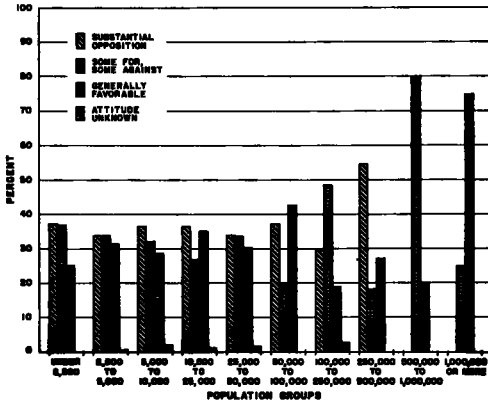


Figure 14. Percentage distribution of community attitudes toward parking meters before installation in places reporting, by population groups, January 1, 1952.

TABLE 15

Summary of community attitudes toward parking meters prior to installation in places reporting, by population groups, as of January 1, 1952

Attitudes consolidated	Percentage of places with indicated attitude										Total
	Under 2,500	2,500-5,000	5,000-10,000	10,000-25,000	25,000-50,000	50,000-100,000	100,000-250,000	250,000-500,000	500,000-1,000,000	1,000,000 or more	
Substantial opposition	37.4	34.0	36.7	36.7	34.0	37.5	29.7	54.5	-	-	35.6
Some for, some against	37.3	34.0	32.3	27.0	33.9	19.6	48.7	18.2	80.0	25.0	31.6
Generally favorable	25.3	31.5	28.9	35.3	30.4	42.9	18.9	27.3	20.0	75.0	31.6
Attitude unknown	-	0.5	2.1	1.0	1.7	-	2.7	-	-	-	1.2
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

this first experiment with the parking meter were typical of those that followed meter installations in cities all over the United States.

In Table 14, attitudes have been summarized under 18 different headings. These have been indicated substantially as suggested in the questionnaire returns. The categories of attitudes listed may be grouped roughly into three larger classes: (1) substantial opposition; (2) some for, some against; and (3) generally favorable. The first class included attitudes identified

as decided opposition, controversial, generally unfavorable, small majority opposed, strong minority opposed, public opposed but business men and employees favored. The second class included attitudes that were equally divided for and against, indifferent, uncertain but willing to try meters, businessmen and employees opposed but public mostly favored, businessmen opposed but farmers and public favored, and public favored but farmers opposed. The third class involved attitudes where there was some opposition but parking control was considered necessary, those generally in favor with some opposition, slight majority favored, favorable if proceeds of the parking meters would be used for off-street parking facilities, and favorable. Wide variation obviously exists.

In terms of the number of places involved, there was almost an equal division between attitudes (before installation of meters) substantially opposed to the parking meter, those neither preponderantly for or against, and those generally favorable. More precise percentages are the following: (1) substantial opposition, 35.6 percent; (2) some for, some against, 31.6 percent; (3) generally favorable, 31.6 percent; and (4) attitude unknown, 1.2 percent.

The data tend to debunk several hypotheses with respect to community attitudes that have sometimes been put forth: (1) Strong minority opposition rarely was found to exist; only one place out of more than a thousand reported such a preinstallation attitude. (2) Attitudes involving uncertainty as to the desirability of parking meters, but a willingness to try them prevailed in over 12 percent of the places reporting. (3) Difficulties arising from opposition of businessmen and employees and support of public were not particularly

widespread, constituting less than 6 percent of the 1,082 places for which attitude data were available. (4) Farmer opposition and public support is far less prevalent than imagined; this survey indicates that approximately 1 percent of the places have pre-installation attitudes of this kind.⁹

for and against, and 25 percent were generally favorable, of the largest places there were more with substantial opposition, 25 percent reported some for and some against, and 75 percent were generally favorable. But the variations in between these two population extremes were sub-

TABLE 17
Reported attitudes of communities toward parking meters after installation in places reporting, by population groups, as of January 1, 1938

Attitude	Number of places in each population group with indicated attitude																		Total			
	Under 5,000		5,000 - 9,999		10,000 - 24,999		25,000 - 49,999		50,000 - 99,999		100,000 - 249,999		250,000 - 499,999		500,000 - 1,000,000		1,000,000 or more		Number of places reporting	Percent of total reporting		
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%				
Decided opposition	-	-	-	-	-	1	0.4	-	-	-	-	-	-	-	-	-	-	-	1	0.1		
Controversial	-	-	-	-	-	-	-	-	-	1	1.7	-	-	-	-	-	-	-	1	0.1		
Generally unfavorable	1	1.3	3	1.5	6	2.1	-	2	1.8	1	1.7	-	-	-	-	-	-	-	12	1.2		
Small majority opposed	-	-	1	0.5	3	1.0	1	0.4	1	0.9	1	1.7	-	-	-	-	-	-	7	0.6		
Public opposed, businessmen and employees favored	-	-	-	-	-	1	0.4	-	-	-	-	-	-	-	-	-	-	-	1	0.1		
Equally divided for and against	4	5.1	4	2.0	3	1.0	3	1.0	-	-	-	-	-	-	-	-	-	-	14	1.3		
Indifferent	-	-	-	-	-	1	0.3	-	-	-	-	-	-	-	-	-	-	-	1	0.1		
Businessmen and employees opposed, public mostly favored	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Businessmen opposed, farmers and public favored	1	1.3	-	-	-	-	1	0.3	-	-	-	-	-	-	-	-	-	-	2	0.2		
Public favored, farmers opposed	-	-	1	0.5	-	-	2	0.7	-	-	-	-	-	-	-	-	-	-	3	0.3		
Generally in favor, some opposition	34	43.5	75	38.3	127	44.6	111	38.4	32	28.6	13	21.7	10	27.0	2	22.2	-	1	25.0	405	37.6	
Favorable if proceeds will be used for off-street parking	30	38.5	77	39.3	100	35.1	108	37.4	31	45.5	32	53.3	13	35.1	3	33.3	2	43.3	-	1	0.1	
Favorable	30	38.5	77	39.3	100	35.1	108	37.4	31	45.5	32	53.3	13	35.1	3	33.3	2	43.3	-	416	38.7	
Very satisfactory, in many cases more meters were requested	8	10.3	34	17.4	64	22.4	50	20.4	25	22.3	12	19.9	14	37.9	4	44.5	4	45.7	3	75.0	207	19.2
Public attitude unknown	-	-	1	0.5	1	0.4	-	-	1	0.9	-	-	-	-	-	-	-	-	2	0.3		
Total	78	100.0	196	100.0	289	100.0	289	100.0	112	100.0	60	100.0	37	100.0	9	100.0	6	100.0	4	100.0	1076	100.0

A summary of community attitudes toward parking meters prior to their installation, is indicated in Table 15 in the form of percentages applicable to the three general categories of such attitudes. An analysis of these data fails to reveal any significant relationship between the character of the community attitude and population group. Whereas of the smallest places, approximately 37 percent had community attitudes unfavorable to the parking meter, 37 percent were divided

stantial.

An analysis by states completes the pattern of community attitudes toward the parking meter before its installation (see Table 16).

COMMUNITY ATTITUDES TOWARD METERS AFTER INSTALLATION

Community attitudes toward meters before their installation involve uncertainty and fear of the unknown, but this investigation reveals that such attitudes may change substantially once meters have been installed and their precise effects have been tested and measured.

In Table 17, different attitudes are tabulated by population groups. The three principal categories involved in the foregoing section show: (1) substantial opposition, 2.1 percent; (2) some for, some against, 2.0 percent; (3) generally favorable, 95.6 percent; and (4) attitude unknown, 0.3 percent. This overwhelming endorsement of the parking meter, once its advantages have been demonstrated, is quite in contrast to the attitudes that prevailed before their installation in a particular place.

The summary by population groups of how substantially these community attitudes change after parking meters have been installed is contained in Table 18. The following may be concluded: (1) In places of over 100,000 population, the opposition to parking meters after their

⁹The attitudes of the rural folks toward the parking meter has often been misrepresented and misconstrued. The findings of this investigation in this area are supported by surveys in 1949 in Illinois by three independent groups:

1. Illinois chambers of commerce. This survey sought personal experiences and opinions concerning the effects of parking meters upon rural trade in the respective cities polled. Twenty percent of the local chambers of commerce reported that the installation of parking meters had had no effect upon sales, 70 percent indicated that the installation of meters had favorably affected sales. The remaining 10 percent replied that farmers had voiced considerable objection to the meters in their respective cities.

2. Illinois county farm bureaus. This poll sought opinions concerning the farmers' attitudes toward the parking meter. Forty percent indicated that farmers in their areas favored the parking meter as a device to obtain some betterment in the parking muddle; 50 percent reported that farmers in their counties tolerated the meters, being neither strongly for them nor strongly against them. The remaining 10 percent replied that farmers in their vicinity were violently opposed to meters.

3. Individual Illinois farmers. This survey involved the interviewing of farmers in their homes. Sixty-three percent of the farmers asked, approved of parking meters. The remaining 37 percent disapproved of meters. Of those who disapproved, 24 percent (of the whole) disapproved with restraint; the other 13 percent (of the whole) were so vehemently opposed to meters that they sought meterless municipalities in which to shop.

Based upon "The Farmer vs. The Parking Meters," by Charles M. Trost, in PLANNING, 1949 PROCEEDINGS OF THE ANNUAL NATIONAL PLANNING CONFERENCE, American Society of Planning Officials.

TABLE 18

Summary of community attitudes toward parking meters after installation in places reporting, by population groups, as of January 1, 1952

Attitudes consolidated	Percentage of places with indicated attitude									
	Under 2,500-	2,500-5,000	5,000-10,000	10,000-25,000	25,000-50,000	50,000-100,000	100,000-250,000	250,000-500,000	500,000-1,000,000	1,000,000 or more
Substantial opposition	1.3	2.0	3.1	1.2	2.7	5.1	-	-	-	-
Some for, some against	6.4	2.5	1.0	2.6	-	-	-	-	-	-
Generally favorable	92.3	95.0	95.5	96.2	98.4	94.9	100.0	100.0	100.0	100.0
Attitude unknown	-	0.5	0.4	-	0.9	-	-	-	-	-
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

installation seems to fade away entirely. (2) Substantial opposition in the smaller places rarely exists in even 5 percent of the places for which information was available. (3) Once installed, parking meters are overwhelmingly approved. These data by states are tabulated in Table 19.

ADMINISTRATION OF PARKING-METER PROGRAM

This survey of parking meters in the United States reveals an amazing diversity of executive agencies responsible for the administration of the parking-meter program. Many students of the problem question whether such diversity is warranted.

Administration involving the parking meter logically can be divided into five major functions: (1) selection of parking meter locations; (2) enforcement; (3) repair and maintenance; (4) collection of revenues; and (5) miscellaneous functions.

Selection of Parking-Meter Locations

First, let us consider the matter of selection of meter locations. As summarized in Table 20, at least 16 important classes of local administrative bodies responsible for this function were reported by the 1,116 places furnishing information.

In approximately 48 percent of the cases, the local legislative body itself determined location; it was probably felt in these places that this function should be responsive directly to the will of the people. In over 18 percent of the places, the police department performs this important function. The chief executive officer of the locality is assigned this function in over 12 percent of the places furnishing data. In only slightly more than 6 percent of the instances was the function assigned to a traffic or transportation department, where many might assert such function most logically belongs. Allied administrative bodies, such as local street or highway

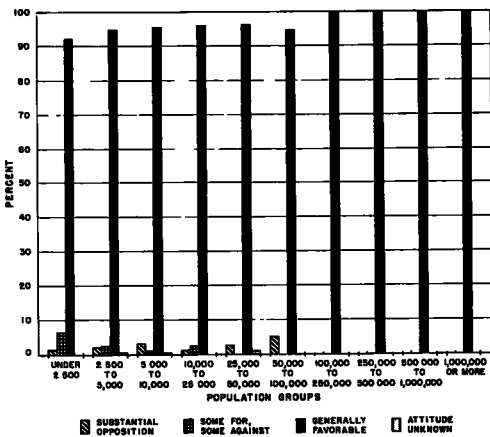


Figure 15. Percentage distribution of community attitudes toward parking meters after installation in places reporting, by population groups, January 1, 1952.

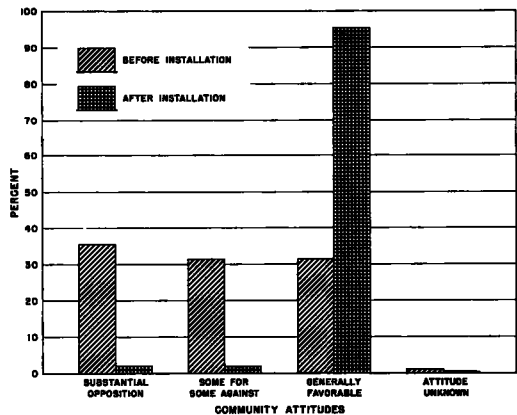


Figure 16. A comparison of community attitudes toward parking meters before and after installation, expressed as a percentage of places reporting, January 1, 1952.

TABLE 19
Reported attitudes of communities toward parking meters after installation in places reporting, by states, as of January 1, 1952

State	Number of places with each indicated attitude in each state											Total number of places reporting				
	Decided opposition	Controversial	Generally unfavorable	Small majority opposed	Public businessmen and employees favored	Equally divided for and against	Indifferent	Businessmen and employees opposed, public mostly favored	Businessmen opposed, farmers and farmers public favored	Generally in favor, some opposition	Favorable if proceeds will be used for off-street parking		Very satisfactory, in many cases more meters were requested	Public attitude unknown		
Alabama	-	-	-	1	-	1	-	-	-	9	-	3	-	17		
Arizona	-	-	-	1	-	-	-	-	-	3	-	3	-	8		
Arkansas	-	-	-	1	-	-	-	-	-	6	-	7	-	24		
California	-	1	-	2	-	-	-	-	-	32	1	19	1	69		
Colorado	-	-	-	1	-	-	-	-	1	3	-	7	-	15		
Connecticut	-	-	-	-	-	-	-	-	-	1	-	3	-	4		
Delaware	-	-	-	-	-	-	-	-	-	1	-	1	-	2		
Florida	-	-	-	-	-	-	-	-	-	9	-	6	-	22		
Georgia	-	-	-	-	-	-	-	-	-	5	-	7	-	13		
Idaho	-	-	1	-	-	-	-	-	-	5	-	2	-	8		
Illinois	1	-	1	-	-	-	-	-	-	22	-	18	-	51		
Indiana	-	-	-	-	-	2	-	-	-	12	-	8	-	28		
Iowa	-	-	2	-	-	1	-	-	-	19	-	5	-	39		
Kansas	-	-	-	-	-	-	-	-	-	13	-	7	-	23		
Kentucky	-	-	-	-	-	-	-	-	-	4	-	6	-	12		
Louisiana	-	-	1	-	-	-	-	-	-	2	-	2	-	5		
Maine	-	-	-	-	-	-	-	-	-	3	-	3	-	6		
Maryland	-	-	-	-	-	-	-	-	-	3	-	7	-	11		
Massachusetts	-	-	-	-	-	-	-	-	-	7	-	12	-	27		
Michigan	-	-	-	-	-	-	1	-	2	8	-	22	-	45		
Minnesota	-	-	1	1	-	1	-	-	-	13	-	7	-	30		
Mississippi	-	-	-	-	-	-	-	-	-	12	-	5	-	20		
Missouri	-	-	-	-	1	-	-	1	-	6	-	6	-	21		
Montana	-	-	-	-	-	-	-	-	-	7	-	1	-	8		
Nebraska	-	-	-	-	-	-	-	-	-	2	-	2	-	7		
Nevada	-	-	-	-	-	-	-	-	-	-	-	1	-	1		
New Hampshire	-	-	-	-	-	-	-	-	-	4	-	1	-	6		
New Jersey	-	-	-	-	-	-	-	-	-	11	-	11	-	27		
New Mexico	-	-	-	-	-	-	-	-	-	1	-	1	-	2		
New York	-	-	-	-	-	-	-	-	-	19	-	15	-	48		
North Carolina	-	-	-	-	-	-	-	-	-	9	-	4	1	24		
North Dakota	-	-	-	-	-	1	-	-	-	1	-	2	-	5		
Ohio	-	-	-	-	-	-	-	-	1	16	-	12	-	33		
Oklahoma	-	-	-	-	-	-	-	-	-	3	-	15	-	10		
Oregon	-	-	-	1	-	1	-	-	-	17	-	15	-	38		
Pennsylvania	-	-	3	-	-	2	-	-	-	27	-	55	-	116		
Rhode Island	-	-	-	-	-	-	-	-	-	2	-	2	-	2		
South Carolina	-	-	1	-	-	-	-	-	-	4	-	8	-	14		
South Dakota	-	-	-	-	-	-	-	-	-	3	-	1	-	4		
Tennessee	-	-	-	-	-	2	-	-	-	33	-	19	-	60		
Texas	-	-	-	-	-	-	-	-	-	13	-	27	-	53		
Utah	-	-	-	-	-	-	-	-	-	2	-	3	-	5		
Vermont	-	-	-	-	-	-	-	-	-	4	-	3	-	7		
Virginia	-	-	1	-	-	1	-	-	-	6	-	15	-	29		
Washington	-	-	-	-	-	-	-	-	-	11	-	9	-	25		
West Virginia	-	-	-	-	-	-	-	-	-	1	-	8	-	9		
Wisconsin	-	-	-	-	-	1	-	-	-	11	-	16	-	39		
Wyoming	-	-	-	-	-	-	-	-	-	1	-	1	-	2		
District of Columbia	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Alaska	-	-	-	-	-	-	-	-	-	1	-	1	-	1		
Total number of places reporting	1	1	13	7	1	14	1	1	2	3	405	1	416	207	3	1,076
Percentage of total number of places reporting	0.1	0.1	1.2	0.6	0.1	1.3	0.1	0.1	0.2	0.3	37.6	0.1	38.7	19.2	0.3	100.0

TABLE 20
Agencies responsible for selecting parking meter locations in places reporting,
as of January 1, 1952

Agency	Places reporting,	
	Number	Percentage
1 Legislative body (sometimes in cooperation with chief executive officer, police department, division of public safety, engineering or traffic department, marshal, parking authority, parking meter company, or State traffic board)	534	47.8
2. Police department (sometimes in cooperation with local business firms or parking meter company)	206	18.5
3. Chief executive officer (sometimes in cooperation with police department, street commission or department, or safety division)	137	12.3
4 Traffic and transportation departments, bureaus, or commissions, bureau of traffic inspection (sometimes in cooperation with police department, township committee, or engineering or electrical division)	71	6.4
5 Street commission or department, streets and traffic commission, streets and alley commission, or highway department (sometimes in cooperation with police)	44	3.9
6. Department or board of public affairs, public works, public works and safety, or public works and grounds (sometimes in cooperation with mayor or superintendent of meters)	37	3.3
7 Department or board of public safety or public health and safety (sometimes in cooperation with police)	34	3.0
8 Engineering department (sometimes in cooperation with police, director of service, chief executive officer, public works, alley and street committee, or sealer)	30	2.7
9 Planning department or commission (sometimes in cooperation with police department, traffic commission, or city manager)	6	0.5
10 Parking meter department or committee (sometimes in cooperation with traffic department or police department)	6	0.5
11 Parking commission, parking authority, or parking and traffic commission	4	0.4
12. Public service commission or parking meter division of electric lines and light department	2	0.2
13 Judiciary committee or marshal in cooperation with police	2	0.2
14 City clerk	1	0.1
15 Finance commissioner	1	0.1
16 Merchants	1	0.1
Total	1,116	100.0

departments, are given this responsibility in approximately 4 percent of the cases. In approximately 1 percent of the places this function was lodged with the parking-meter department, a parking commission, parking authority, or similar body. In all the remaining instances (10.2 percent) a host of other agencies were involved, including the department of public affairs, board of public safety, engineering department, planning commission, public service commission, the judiciary committee, city clerk, finance commissioner, or even merchants themselves. While it is recognized that experience plays a substantial role in the assignment of responsibility in this field, it may be difficult logically to understand the functional connection between the selection of parking meter locations and some of the agencies included in this motley array.

No categorical assertions can be made as to precisely where the function of selecting meter locations should be lodged. Variations are justifiable, based on such factors as size of city, nature of the local governmental organization, the place of the parking meter in the overall program of fostering the provision of parking facilities.

But this much is now apparent: The parking-meter program in many cities is an ex-

panding enterprise; is part of an overall parking program; and can be exceedingly complex, if viewed in the light of its economic implications. Accordingly, the function should be lodged in that city department where it can be performed most expertly on its merits, rather than because of political expediency or partisan pressures.

Enforcement

Substantially less variation apparently exists concerning the enforcement of parking-meter regulations than with respect to the determination of meter locations (see Table 21). Eleven classes of agencies are here concerned, but most of them are relatively insignificant in terms of numbers of places involved. Over 75 percent of the 1,127 places for which information was submitted assign the enforcement function to the police department, where it logically belongs.

In approximately 12 percent of the places, this responsibility is lodged with the legislative body; but even in some of these places, the legislative body cooperates with the police department on the matter. All the other agencies grouped together constitute but 12.9 percent of the total number of localities involved; these

include the mayor or manager, the department of public safety, the traffic department, the parking-meter department, the city attorney, the public-service commission, and others.

A municipality is responsible for many different public functions and facilities, concerning which regulations in the public interest are necessary to promote the safety, health, and general welfare of its citizens. Such regulations should be impartially enforced by the police department, where the enforcement function is best lodged. The parking-meter program should be no exception.

22 are based upon accurate questionnaire returns, there is reason to believe that some of it needs to be used with caution and restraint. In general, the averages appear to be entirely reasonable.

Based upon a fairly adequate sample of municipalities, the average number of meters served per full-time policeman is 277. This average seems to vary some between population groups, ranging from 88 for the smallest places, steadily increasing as population increases, to 314 for the 50,000-to-100,000 group; the average seems to be irregular thereafter.

The comparable average number of

TABLE 21

Agencies responsible for enforcement of parking meter programs in places reporting, as of January 1, 1952

Agency	Places reporting	
	Number	Percentage
1. Police department - patrolmen, commissioners, meter division, traffic division, finance department, sheriff's office, or police committee	849	75.3
2. Legislative body (sometimes in cooperation with chief executive officer, police department, or department of public safety)	133	11.8
3. Mayor or manager (sometimes in cooperation with police department, engineer, department of public works, or street commission)	51	4.5
4. Department of public safety or public health and safety (sometimes in cooperation with police department or traffic bureau)	41	3.6
5. Traffic department, bureau, or commission (sometimes in cooperation with police department)	17	1.5
6. Parking meter department - officers, inspectors, or patrolmen	13	1.2
7. Department, board, or commission of public affairs, public works, or public buildings and grounds (sometimes in cooperation with police department)	10	0.9
8. City court or attorney, judiciary committee, judge, or marshal (sometimes in cooperation with police)	8	0.7
9. Street or highway department (sometimes in cooperation with police)	3	0.3
10. Parking commission	1	0.1
11. Public service commission	1	0.1
Total	1,127	100.0

The matter of enforcement sometimes has some interesting, and legally complex, ramifications. In Philadelphia recently, a young attorney proved that he could park two vehicles for the price of one, at a parking meter. He and his friend both placed their small foreign-made cars in a single space. This practice was continued for a week, until one day a policeman ticketed one of the two vehicles as illegally parked. The budding lawyer argued that the meter ordinance, as written, did not prohibit two cars from occupying a single space and paying a single fee therefor. The magistrate before whom the case was heard dismissed the suit.¹⁰

Information was also tabulated concerning the number of policemen engaged with enforcement of parking-meter regulations. While much of the data in Table

meters served per part-time policeman for 245 places reporting was 122. The data do not indicate the number of hours the various municipalities consider to be part time. If it is presumed that part time would mean half a day on the average, then this average appears to be of about the same magnitude as the average for full-time policemen.

Additionally, other places reported that both full-time and part-time policemen were used in connection with the parking-meter enforcement program. These data are also summarized by population groups in Table 22. The averages of all places reporting for this group were 317 meters served per full-time policeman and 216 meters served per part-time policeman; the meters involved in these averages are taken from a common aggregate. These averages appear to be somewhat higher than those for places where either full-

¹⁰ As reported in THE WASHINGTON POST, October 14, 1953.

TABLE 22
Number of policemen required to enforce curb parking meter regulations in places reporting, by population groups, as of January 1, 1952

Item	Population group										Total
	Under 2,500	2,500 to 5,000	5,000 to 10,000	10,000 to 25,000	25,000 to 50,000	50,000 to 100,000	100,000 to 250,000	250,000 to 500,000	500,000 to 1,000,000	1,000,000 or more	
Policemen used full time											
Number of places reporting	2	22	36	46	17	14	2	-	3	2	144
Number of meters served	177	5,106	11,178	19,190	10,793	14,142	1,583	-	21,612	10,849	94,630
Number of policemen required	2	27	39	65	35	45	7	-	68	54	342
Average number of meters served per policeman	88	189	287	295	308	314	226	-	318	201	277 ¹
Policemen used part time											
Number of places reporting	36	71	60	54	14	4	2	2	2	-	245
Number of meters served	4,496	11,717	15,341	19,223	6,470	2,551	2,967	6,261	8,466	-	77,491
Number of policemen required	48	127	130	149	43	37	24	21	55	-	634
Average number of meters served per policeman	94	92	118	129	150	69	124	198	154	-	122 ¹
Both full time and part time policemen used											
Number of places reporting	6	14	23	40	16	6	2	3	-	1	111
Number of meters served	722	4,073	7,123	16,530	11,846	7,897	2,804	7,310	-	2,462	60,587
Number of policemen required -											
Full time	7	17	28	43	27	22	15	27	-	5	191
Part time	8	26	38	72	31	32	27	44	-	3	281
Average number of meters served per policeman -											
Full time	103	240	254	384	439	359	174	271	-	492	317 ¹
Part time	90	157	187	230	382	247	96	166	-	821	216 ¹
Fulltime and part time policemen not distinguished											
Number of places reporting	34	76	140	108	38	10	17	3	-	3	427
Number of meters served	4,263	15,022	39,833	47,292	22,403	10,530	25,845	10,060	-	7,265	182,303
Number of policemen required	38	101	196	202	102	48	130	38	-	35	890
Average number of meters served per policeman	112	149	203	234	220	219	197	264	-	208	205 ¹

¹The average was computed from the total number of parking meters in all population groups and the total number of policemen required for the time period indicated.

time or part-time policemen, but not both, are involved.

Finally, some places, while reporting data on enforcement, did not distinguish between full- or part-time policemen in connection with their parking-meter activities. Because of the incompleteness of these data, they should be used with caution.

The use of women on the police force is becoming more common, particularly in connection with enforcement of meter regulations. Both Greensboro and Charlotte, North Carolina, are making extensive use of policewomen. The latter place has set up a 12-member policewoman patrol to check parking meter violations in the downtown shopping district. These policewomen have no police power other than to issue citations.¹¹

Another noteworthy development concerns the use of civilians in the enforcement of meter regulations. The corporation counsel for the District of Columbia has found no legal reason why civilians could not enforce parking meter laws in the district.¹² This apparently cleared the way for formation of a "flying squad" of traffic bureau employees to check on all-day parkers in metered zones — an illegal practice in the Nation's capital.

¹¹ TRAFFIC ENGINEERING, June 1951, "Parking Meter Checkers."

¹² THE EVENING STAR, June 21, 1953, "Parking Meter 'Watchdog' Plan Gets Green Light."

Repair and Maintenance

Roughly speaking, about the same extent of variation exists with respect to the repair and maintenance function in connection with parking meters as is found with respect to the designation of parking-meter locations. Nineteen different types of agencies are involved, as designated in Table 23. In terms of numbers of municipalities involved, the most-important single agency concerned with the repair and maintenance of meters is the police department; of 1,112 places reporting the information, over 53 percent have designated the police department. In over 8 percent of the places reporting, the parking-meter department is assigned the repair and maintenance function, a logical designation where such a division of local government exists. In 5 percent of the cases, the legislative body retains this function unto itself. The remaining 33 percent of the places designate a variety of other agencies, each of no particular significance in terms of the number of municipalities involved.

Collection of Revenues

Apparently a greater variety of local governmental agencies are concerned with the collection of meter revenues than obtains with respect to any other of the functions associated with the meter program. Thirty-one different agencies were desig-

nated by the 1,108 municipalities replying to this inquiry.

In approximately 59 percent of the places reporting, the police department is the collector of meter revenues. Sometimes, such function is performed by the police department in cooperation with other departments, such as the traffic bureau, the treasurer, the department of public works — even with the water department, in some instances. Six percent of the municipalities designated the treasurer's office. About 6 percent indicated that the parking meter department makes the collections. Other and smaller percentages involve the legislative body, the finance department, the clerk, the chief executive officer, the traffic department, the department of public health, and a host of others (See Table 24).

and many other variables. Questions of economy perhaps dictate that policemen be used for this purpose in many of the smaller places where the function can be performed by the officer on the beat. But it would seem that, all other things being equal, a department should be designated that has some functional relationship with the meter program rather than one totally unrelated to it. For example, agencies that would qualify, if this standard is used, might include the police department, the parking-meter department, the treasurer's office and the traffic department.

Miscellaneous Functions

In addition to the foregoing, there are a number of other functions that are essential to the parking-meter program. One group

TABLE 23
Agencies responsible for repair and maintenance of parking meters in
places reporting, as of January 1, 1952

Agency	Places reporting	
	Number	Percentage
1 Police department - patrolman, ordinance officer, communications division, or meter reader (sometimes in cooperation with parking meter department, repairmen, building inspector, or departments of public safety, public works, or streets)	595	53.5
2 Parking meter department - collector, patrolman, inspector, attendants, maintenance man, technician, meter shop (sometimes in cooperation with traffic control department)	95	8.5
3. Miscellaneous city employees - clerk, assistant clerk, sealer, auditor, collector, comptroller, custodian of equipment, borough foreman, recorder, maintenance department, or mechanic (sometimes in cooperation with police)	69	6.2
4 Legislative body or committees or employees of council (sometimes in cooperation with police, mayor, or light department)	56	5.0
5 Traffic bureau, commission, or department, traffic and lighting, traffic maintenance, traffic and transportation, or motor division (sometimes in cooperation with police department, public safety, or electrical services)	49	4.4
6 Highway or street department, or department of streets and traffic	47	4.2
7 Department of public affairs, public works, public buildings or properties (sometimes in cooperation with parking meter or utility department)	40	3.6
8 Electrical affairs or division, public service, light department, parking meter division of electric light and lines department, electrician, water meter shop	24	2.1
9 Chief executive officer (sometimes in cooperation with police department or city engineer)	23	2.1
10. Department of public health or department of public health and safety	22	2.0
11 Fire department (sometimes in cooperation with police department)	20	1.8
12. Finance department (sometimes in cooperation with parking meter department)	17	1.5
13. Treasurer's office - clerk, treasurer	14	1.3
14 Water department, water meter department, water and sewer department, or light and street department	14	1.3
15. Department of engineering (sometimes with police, street, or traffic departments)	13	1.2
16 Nongovernmental technicians - watch repairer, jeweler, mechanic (sometimes in cooperation with police)	8	0.7
17 Judiciary committee or marshal (sometimes in cooperation with police)	3	0.3
18. Weights and measures	2	0.2
19 Parking meter company	1	0.1
Total	1,112	100.0

It is difficult to point to any single agency which should be designated for the collection of meter revenues in all places. The type of agency will vary with size of municipality, administrative organization,

of such miscellaneous functions includes the counting, sorting, and depositing of revenues, keeping of records, and mailing delinquent notices. The agencies responsible for one or more of these func-

TABLE 24

Agencies responsible for collection of parking meter revenues in places reporting, as of January 1, 1952

Agency	Places reporting	
	Number	Percentage
1 Police department (sometimes in cooperation with traffic bureau, water department, public safety, treasurer, secretary, street department, or department of public works)	649	58.6
2 Treasurer's office (sometimes in cooperation with chief of traffic division or police)	68	6.1
3 Parking meter department - superintendent of meters, collector, repairman, inspector, supervisor (sometimes in cooperation with city treasurer or recorder)	65	5.9
4 Finance department (sometimes in cooperation with police, meter, or traffic department)	44	4.0
5 Legislative body (sometimes in cooperation with police, light department, secretary, or committees of council)	43	3.9
6 Clerk (sometimes in cooperation with police, treasurer, or meterman)	42	3.8
7 Chief executive officer (sometimes in cooperation with police, recorder, or treasurer)	23	2.1
8 Traffic department or engineer (sometimes in cooperation with parking meter department or collector of taxes)	23	2.1
9 Department of public health and safety (sometimes in cooperation with auditor)	20	1.8
10 Department of public affairs, public service, or public works (sometimes in cooperation with treasurer or finance department)	19	1.7
11 Maintenance man or department (sometimes in cooperation with police and city treasurer)	15	1.3
12. Collector (sometimes in cooperation with police)	13	1.2
13 Tax collector or revenue office (sometimes in cooperation with police, city clerk, or comptroller)	13	1.2
14 Comptroller (sometimes in cooperation with police)	8	0.7
15 Nongovernmental employee (sometimes in cooperation with police department)	8	0.7
16 Auditor (sometimes in cooperation with police department, city clerk, or service department)	7	0.6
17. Street department (sometimes in cooperation with treasurer)	7	0.6
18. Recorder (sometimes in cooperation with police department)	7	0.6
19 Electrical or light department (sometimes in cooperation with police)	5	0.4
20 Engineering department (sometimes in cooperation with street department, treasury, or municipal court)	5	0.4
21 Secretary (sometimes in cooperation with maintenance man)	5	0.4
22 Marshall or judiciary committee (sometimes in cooperation with police)	4	0.4
23 Water department	3	0.3
24. Department of custodian	2	0.2
25. Fire department	2	0.2
26 Parking meter company and police	2	0.2
27 Janitor (in cooperation with bank or police)	2	0.2
28 Department of buildings and grounds	1	0.1
29 Utilities collection, commercial division	1	0.1
30 Sealers and helpers	1	0.1
31 Weights and measures	1	0.1
Total	1,108	100.0

tions are given in Table 25. As a group, the agency most-frequently mentioned is the municipal clerk's office, which performs these miscellaneous functions in 28 percent of the 121 places reporting. The city treasurer is responsible for these duties in approximately 26 percent of the places. Of lesser importance, in terms of their frequency, are the chief executive officer, the finance department, the police department, banks, the city controller, and others.

Aside from these functions, the following additional duties are performed by the agencies indicated: (1) Overall supervision and answering of complaints, by

motor-vehicle-parking agency in one place and by traffic-engineering division in one place. (2) Studies relating to parking meters and development of an off-street-parking program, by planning department in one place, police department in one place, and service department in one place. (3) Rental of parking-meter hoods, by city treasurer in one place. (4) Purchasing, by purchasing department in one place, by parking-meter department and police in one place, and by department of public works in one place.

As is true of some of the previous functions mentioned, it seems but natural that each of these miscellaneous functions

should be performed by an agency having a functional connection with the parking-meter program or with the particular function to be performed. Only in that way can efficient and satisfactory performance of that function be obtained.

TABLE 25

Agencies responsible for counting, sorting, and depositing revenues, keeping records, and mailing delinquent notices in places reporting, as of January 1, 1952

Agency	Places reporting	
	Number	Percentage
City (or village) clerk's office (sometimes in cooperation with treasurer)	34	28.1
City treasurer (sometimes in cooperation with maintenance man, accompanied by patrolman)	31	25.6
Chief executive officer	10	8.3
Finance department	9	7.4
Police department	6	5.0
Bank	6	5.0
City controller	5	4.1
City (or borough) secretary	4	3.3
City recorder	4	3.3
Auditor	3	2.5
Tax collector (sometimes in cooperation with custodian of parking meters)	3	2.5
Water department	2	1.7
Utilities department	1	0.8
Fire department	1	0.8
Parking meter technician	1	0.8
Superintendent	1	0.8
Total	121	100.0

PARKING-METER PURCHASE ARRANGEMENTS

Since the parking meter has been utilized for over 18 years already, one might suppose that purchase arrangements in connection with their acquisition by municipalities would have become standardized. Such has not been the case, however. As indicated in Table 26, at least 58 different plans were reported in use as of 1951, in the 1,107 places furnishing data.

Many places pay cash for the meters, sometimes with short trial periods preceding the purchase. Discounts for cash are frequently given. Sometimes, though the city pays cash, the company agrees to maintain the meters for a year. In other municipalities, the title to the meters vested in the city immediately, but 25 percent of the revenue is paid to the company involved; in other places this percentage is 50 percent, or 70 or 75 percent. In some places the meters

may be purchased from revenue collected from the meters, or from the fines accruing from violations of the meter regulations. Under some arrangements, the company retains ownership of the meters until paid for.

The greatest variety of acquisition plans exists in ten states: California, Iowa, Massachusetts, Michigan, Minnesota, New York, Ohio, Pennsylvania, Tennessee, and Texas. Many of the most-urbanized states are among these, it will be noted. Information for these 10 states is given in Table 26.

In terms of the relative frequency of their use, four different plans appear to be the most important, accounting for 69.4 percent of the 1,107 places reporting: (1) Company retains ownership until meters are paid for, 21.3 percent of places, 43 states. (2) Company retains ownership until meters are paid for, at the rate of 50 percent of revenue received, 19.7 percent, 37 states. (3) Company receives 50 percent of revenue received until meters are paid for, 18.9 percent, 39 states. (4) Municipality pays cash, with no restrictions, 10.0 percent, 31 states.

With respect to ownership, these data indicate that in over 40 percent of the places supplying information, the company retained ownership until the meters were paid for, and in at least 10 percent of the cases, the city acquired title immediately. Naturally, if these facts were known and had been reported (but they were not) concerning the remaining 49.5 percent, these ownership percentages would be higher in both instances.

Again based on the relative frequency of their use, seven other plans rank next in importance, accounting for an additional 15.3 percent in the aggregate, of the places reporting, as follows: (1) Title in city, sometimes with trial periods and other conditions, 2.0 percent, 15 states. (2) Title in city, with 50 percent of revenue paid to company, 2.2 percent, 16 states. (3) Company retains ownership until paid for out of revenue, 2.6 percent, 19 states. (4) Company retains ownership until paid for at rate of 75 percent of revenue, 2.0 percent, 12 states. (5) Company retains ownership until paid for under lease-purchase contract, 2.2 percent, 11 states. (6) Company retains ownership until paid for, with a combina-

TABLE 26

Parking meter purchase arrangements in places reporting, as of January 1, 1952

Purchase arrangement	Number of places utilizing each indicated purchase arrangement												Total number of places reporting		
	Number of places in the ten States having the greatest variety of purchase arrangements										Number of places in remaining States, District of Columbia, and Alaska				
	Calif- ornia	Iowa	Mass- achusetts	Michigan	Minne- sota	New York	Ohio	Pennsyl- vania	Tennessee	Texas	Places	States ^{1/}	Number	Percentage of total reporting	Number of States rep- resented ^{1/}
City paid cash (sometimes with short trial period)	6	1	4	6	1	5	5	12	2	6	63	21	111	10.0	31
City paid cash, receiving 5% or 6% discount	-	-	1	-	-	1	-	-	1	-	2	2	5	0.4	5
City paid cash for some meters, others bought on time-payment plan or for percentage of revenue	-	-	-	-	1	-	-	-	-	-	7	6	8	0.7	8
City paid cash, company maintained first year	-	-	-	-	-	-	1	-	-	-	-	-	1	0.1	1
City paid cash on first purchase; paid 50% of revenue on subsequent purchases	-	-	-	-	-	-	-	-	-	-	2	2	2	0.2	2
City paid cash after 90-day trial period on first purchase; subsequent purchases for cash	-	-	-	1	-	-	-	-	-	-	-	-	1	0.1	1
Title in city (sometimes with trial periods ranging from 6 to 12 months or with other conditions)	2	2	1	3	1	1	-	1	1	4	6	6	22	2.0	15
Title in city, time-payment plan or percentage of revenue paid to company	1	1	-	-	-	1	1	-	-	-	3	3	7	0.6	7
Title in city, 25% of revenue paid to company	-	-	-	-	-	1	-	-	-	-	-	-	1	0.1	1
Title in city, 50% of revenue paid to company (sometimes with 6 to 12 months trial periods)	2	2	1	4	-	-	-	-	-	1	15	11	25	2.2	16
Title in city: 70% of revenue paid to company, one place; 75% of revenue paid to company, 2 places; 75% of revenue less maintenance cost paid to company, one place	-	-	-	-	1	1	-	2	-	-	-	-	4	0.4	3
Title in city: Cash for some meters and a percentage of revenue for others, 2 places; cash for some meters and \$3 per meter per month for others, one place	-	1	-	1	-	-	-	-	-	-	1	1	3	0.3	3
Title obtained by city 60 days to 15 months after installation: Company received 50% of revenue until paid for, one place; company received 50% of revenue for 3 months and 25% thereafter, one place; amount of payments not specified, 5 places	2	-	-	-	-	-	-	1	-	-	4	4	7	0.6	6
Meters purchased from revenue collected from fines	-	-	-	-	-	-	-	-	-	-	1	1	1	0.1	1
Meters charged to capital improvement account	-	-	-	-	-	-	-	-	-	-	1	1	1	0.1	1
Meters purchased on time-payment plan or on installment plan	-	-	-	-	-	-	1	1	-	2	5	4	9	0.8	7
Company retained ownership until paid for (in some cases trial periods of from 6 to 12 months)	11	7	5	8	8	7	10	25	13	9	133	33	236	21.3	43
Company retained ownership until paid for, 12 months to pay	-	-	1	-	-	-	-	-	-	-	-	-	1	0.1	1
Company retained ownership and maintained until paid for	-	-	-	-	-	-	-	-	1	-	1	1	2	0.2	2
Company retained ownership until paid for, receiving a fixed amount per month	-	-	-	-	-	-	-	1	-	-	-	-	1	0.1	1
Company retained ownership until paid for, receiving percentage of revenue after maintenance	1	-	-	-	-	-	-	-	-	-	-	-	1	0.1	1
Company retained ownership until paid for out of revenues (a minimum guarantee per meter per month sometimes required, specified as \$2, \$2.50, or \$3 per meter per month in some cases)	1	1	2	2	1	1	4	4	1	-	12	10	29	2.6	19
Company retained ownership until paid for at rate of 25% of revenue	-	-	-	-	-	-	-	-	1	-	-	-	1	0.1	1
Company retained ownership until paid for at rate of 50% of revenue (in one place city had option to remove meters at any time at company's expense)	12	9	2	1	5	7	3	28	20	9	117	27	213	19.2	37

TABLE 26

Parking meter purchase arrangements in places reporting, as of January 1, 1952

30

Purchase arrangement	Number of places utilizing each indicated purchase arrangement												Total number of places reporting		
	Number of places in the ten States having the greatest variety of purchase arrangements										Number of places in remaining States, District of Columbia, and Alaska				
	California	Iowa	Massachusetts	Michigan	Minnesota	New York	Ohio	Pennsylvania	Tennessee	Texas	Places	States ¹	Number	Percentage of total reporting	Number of States represented ¹
Company retained ownership until paid for at rate of 50% of revenue (6 to 24 months trial periods in 7 places; a guarantee of a minimum of \$2 per meter per month in one place)	-	1	-	1	-	1	-	-	-	-	5	5	8	0.7	8
Company retained ownership until paid for at rate of 50% of revenue, after maintenance for one place, after deducting 25% per meter per month for maintenance for 3 places, after maintenance, installation, and other costs, 2 places	2	-	-	-	-	-	-	1	-	-	3	3	6	0.5	5
Company retained ownership until paid for, received 50% of revenue first 6 months and 25% thereafter	-	-	-	-	-	-	-	-	1	-	-	-	1	0.1	1
Company retained ownership until paid for at rate of 75% of revenue	5	-	-	-	1	3	-	2	2	1	7	6	21	2.0	12
Company retained ownership until paid for at rate of 75% of revenue first 4 months and 50% thereafter	-	-	-	-	-	-	-	-	-	-	1	1	1	0.1	1
Company retained ownership until paid for, received percentage of revenue first 6 months, after which city paid cash for balance	-	-	-	-	-	-	-	-	-	-	1	1	1	0.1	1
Company retained ownership until paid for, received all revenue except 25% per meter per week for maintenance	-	-	-	-	-	-	-	1	-	-	-	-	1	0.1	1
Company retained ownership until paid for, received all revenue in one place and all revenue in excess of \$1084 monthly (159 meters) in one place	1	-	-	-	-	-	-	-	-	-	1	1	2	0.2	2
Company retained ownership until paid for, lease-purchase contract (option to purchase after trial period, rental to apply on purchase price)	4	-	-	-	3	-	4	5	2	1	6	5	25	2.2	11
Company retained ownership until paid for at rate of 50% of revenue in 8 places and 75% of revenue in one place, lease-purchase contract	2	-	1	-	-	-	-	-	3	1	2	2	9	0.8	6
Company retained ownership until paid for on first 4 purchases; city paid cash less 5% discount on last purchase	-	-	-	-	-	1	-	-	-	-	-	-	1	0.1	1
Company retained ownership until paid for, time-payment plan or out of revenues, 21 places, lease-purchase contract with 6 months trial period, 1 place; subsequent purchases for cash (sometimes with 5% discount)	1	1	1	2	-	-	1	4	1	-	11	10	22	2.0	17
Company retained ownership on first purchase until paid for, receiving 50% of revenue in 6 places, 75% of revenue in 3 places, and \$4 per meter per month in one place; subsequent purchases for cash to save interest or for a discount	-	-	1	1	-	-	-	-	1	-	7	6	10	0.9	9
Company retained ownership on first purchase until paid for, receiving 50% of revenue; received all revenue above a fixed amount for city on second purchase	-	-	-	-	-	-	-	-	1	-	-	-	1	0.1	1
Company retained ownership, received 50% of revenue less maintenance cost of 25% per meter per month on first purchase, \$2.50 per meter per month on subsequent purchases	-	-	-	-	-	-	-	-	-	-	1	1	1	0.1	1
Company received 10% of revenue until paid for after 6 months trial period	-	-	-	-	-	1	-	-	-	-	-	-	1	0.1	1
Company received 25% of revenue until paid for	-	-	-	1	-	-	-	-	-	-	-	-	1	0.1	1
Company received 50% of revenue until paid for (sometimes with guarantee or 6 to 24 months trial period)	8	8	7	6	6	13	2	22	4	15	118	29	209	18.9	39
Company received 50% of revenue or a minimum of \$1.50 to \$2 per meter per month until paid for	-	-	-	-	-	-	-	-	1	-	1	1	2	0.2	2
Company received 50% of revenue for short period, 5 places; for 2 years, one place; for 2 1/2 years, one place; then city paid balance in cash to save interest charge or to obtain discount	-	1	-	-	-	-	-	-	3	1	2	2	7	0.6	5

TABLE 26

Parking meter purchase arrangements in places reporting, as of January 1, 1952

Purchase arrangement	Number of places utilizing each indicated purchase arrangement												Total number of places reporting		
	Number of places in the ten States having the greatest variety of purchase arrangements										Number of places in remaining States, District of Columbia, and Alaska		Number	Percentage of total reporting	Number of States represented ^{1/}
	California	Iowa	Massachusetts	Michigan	Minnesota	New York	Ohio	Pennsylvania	Tennessee	Texas	Places	States ^{1/}			
Company received 50% of revenue until 60% of debt was paid, then city paid balance in cash receiving 5% discount	-	-	-	-	-	-	-	-	-	-	1	1	1	0.1	1
Company received 50% of revenue; Less maintenance, 2 places; less freight and/or installation charge, 3 places; less 50¢ per meter per month, one place (in some places 6 months trial period)	2	1	-	-	-	-	-	-	-	-	3	3	6	0.5	5
Company received 50% of revenue until paid for on first purchase; \$75 per month until paid for on second purchase, one place; subsequent purchases on cash basis, 5 places; time-payment plan, 2 places	-	1	-	-	-	1	-	2	1	-	3	3	8	0.7	7
Company received 50% of revenue until paid for on automatic meters and \$2 per month per meter on manual meters	1	-	-	-	-	-	-	-	-	-	-	-	1	0.1	1
Company received 60% of revenue for 6 months after which city paid cash for balance to obtain discount	-	-	1	-	-	-	-	-	-	-	-	-	1	0.1	1
Company received 75% of revenue until paid for (sometimes 6 to 12 months trial period)	-	-	1	4	1	1	-	1	1	1	9	7	19	1.7	14
Company received 75% of revenue until paid for, or a minimum of \$2 per meter per month	-	-	-	-	-	-	-	-	-	-	1	1	1	0.1	1
Company received 75% of revenue until paid for after deducting 25¢ per meter per month for maintenance, one place; after deducting salary of one officer, one place	-	-	-	-	-	-	-	1	-	-	1	1	2	0.2	2
Company received 75% of revenue until paid for on first purchase; 50% of revenue until paid for on second purchase, one place; cash with discount on second purchase, one place	-	-	-	-	-	-	-	1	-	-	1	1	2	0.2	2
Company received percentage of revenue (5 year guarantee, one place)	6	-	-	1	1	2	1	5	-	1	8	6	25	2.3	13
Company received percentage of revenue after cost of operation until paid for	-	-	-	-	-	-	-	-	-	-	1	1	1	0.1	1
Company received \$300 per month until paid for (115 meters), one place; \$100 per week out of revenues until paid for, one place	-	-	-	-	-	-	-	-	-	-	2	2	2	0.2	2
Company received \$2 per meter per month until paid for, one place; \$2.50 per meter per month until paid for, one place	-	-	-	-	-	-	-	-	-	1	1	1	2	0.2	2
Company received payment out of revenues, first purchase; subsequent purchases on cash basis	5	2	-	1	1	-	-	-	-	-	5	5	14	1.3	9
Total number of places reporting	75	39	29	43	31	48	33	120	61	53	575	1/	1,107	100.0	1/

^{1/} Nonadditive

TABLE 27
Summary of curb parking meter revenues in places reporting, as of January 1, 1952
(United States and Alaska)

Population group	Number of places reporting revenues ¹	Number of meters in operation as of January 1, 1952 ²	Gross revenues for year ³	Estimated average annual revenue per meter ⁴
Under 2,500	85	10,664	\$413,215	\$42 28
2,500 - 5,000	214	39,681	1,784,503	48 73
5,000 - 10,000	288	82,108	4,370,989	55 62
10,000 - 25,000	309	126,153	6,145,185	67 43
25,000 - 50,000	127	77,771	5,894,593	74 80
50,000 - 100,000	59	61,597	4,708,018	77 25
100,000 - 250,000	36	52,168	4,098,727	82 92
250,000 - 500,000	13	37,230	3,338,319	89 67
500,000 - 1,000,000	8	39,523	3,055,536	82 34
1,000,000 or more	4	13,971	819,129	86 78
Los Angeles, County, Calif				
-no population group ⁵	1	2,462	106,392	42 81
Total	¹ 1,152	² 542,228	³ \$26,529,702	⁴ \$70 48

¹Figures do not include the following numbers of places and parking meters for which no gross revenue was reported: Under 2,500 population, 1 place, 66 meters; 2,500-5,000 population, 3 places, 538 meters; 5,000-10,000 group, 5 places, 1,423 meters; 10,000-25,000 group, 2 places, 778 meters; 25,000-50,000 group, 1 place, 723 meters; 50,000-100,000 group, 2 places, 1,052 meters; 100,000-250,000 group, 1 place, 1,105 meters; total 15 places and 5,685 meters.

²Either calendar year or fiscal year. Figures represent actual collections, including revenues from meters installed for less than one year and those operated seasonally.

³Averages were based on estimated gross revenues for a 12-month period from meters in operation as of January 1, 1952. Gross revenues were obtained by weighting the numbers of meters by the respective number of months in operation, computing the average monthly revenue per meter, and expanding to an annual basis. Meters that are operated seasonally and those for which no gross revenue was reported were not included in the computations.

⁴Represents meters installed on county roads.

tion of three financing plans, 2.0 percent, 17 states. (7) Company receives percentage of revenue, 2.3 percent, 13 states.

The balance of the places reporting, 15.3 percent of the total employed 47 other

The company was reported to have retained ownership in 53.7 percent of the municipalities reporting. All other data almost defied consolidation.

Ten-State Analysis

Of the 1,107 places reporting, 532 (48 percent) were contained in the 10 states that had the greatest variety of arrangements for the purchase of parking meters. The number of places and the number of such plans in each state are: Pennsylvania, 120 places and 20 plans; California, 75 places and 20 plans; Tennessee, 61 places and 20 plans; Texas, 53 places and 14 plans; New York, 48 places and 17 plans; Michigan, 43 places and 16 plans; Iowa, 39 places and 15 plans; Ohio, 33 places and 11 plans; Minnesota, 31 places and 13 plans; and Massachusetts, 29 places and 14 plans. The distribution of the purchase plans for these 10 states is in the same proportion, approximately, as the totals for all the states.

Some Desirable Practices

A number of the plans listed in Table 26 suggest desirable practices with respect to purchase arrangements. For example, at least five places have indicated that the municipalities involved pay cash and get a 5 or 6 percent discount. Perhaps other municipalities have taken advantage of such discounts without specifically reporting them on the questionnaire returns. In one instance the city paid cash, but the

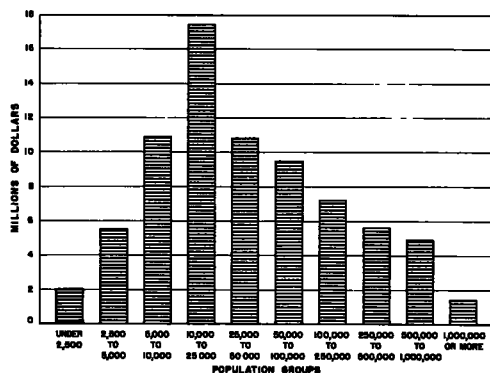


Figure 17. Estimated total 1951 curb parking meter revenues, by population groups.

kinds of purchasing arrangements, each particular one of which represented an insignificant portion of the whole.

The two most-significant characteristics of all of the plans described in the questionnaire returns concern: (1) the ownership of the parking meters and when title vests in the city and (2) financing schemes. Some consolidation of the many permutations of these characteristics was possible. The municipality paid for parking meters in cash in 11.5 percent of the places. Title to the meters vested in the governmental unit immediately upon purchase in 5.6 percent of the cases in addition to the above.

company maintained the meters for a year.

Quite a few places have reported trial periods preceding the actual purchase, sometimes as high as a year. Where meters are new to a particular municipality, such a trial period might have decided advantages, making it possible for a demonstration of the advantages of the meter prior to a definite commitment to purchase on the part of the municipality.

ANNUAL REVENUES FROM METERS

It has sometimes been alleged that the parking meter has converted the curb stones into gold mines. The revenue data of this study seem to support this assertion. The 542,226 meters reported upon in this survey for which revenue figures were available yielded an aggregate gross revenue of \$36,529,702 during 1951. The components of this total by population groups are indicated in Table 27.

An array of the gross revenues by states (Table 28) reveals some interesting overtones. California seems to be the best revenue producer in this field, with an annual take of over \$4.5 million. Pennsylvania is next with over \$2.3 million. Meters in seven states (Illinois, Michigan, New York, Ohio, Oregon, and Texas) produce between approximately \$1½ million and \$2 million of gross revenue. Six states (Iowa, Minnesota, New Jersey, Tennessee, Washington, and Wisconsin) each collect approximately a million dollars. These data represent only gross revenue for the places reporting.

Perhaps a listing of selected municipalities with relatively high annual revenues will further support and emphasize the large amounts of revenue collected from meters. As indicated in Table 29, the figures for Oakland (Maryland), Union Township (New Jersey), and Plymouth (New Hampshire) are substantial ones for places under 2,500 population. The same observation applies to the largest cities. The largest annual gross revenue figure reported was \$763,291 for San Francisco.

This annual gross revenue for approximately half the number of meters that are known to exist can be expanded to include the whole.

The resulting estimated total annual revenue for 1,113,164 parking meters is

\$75,648,942, as indicated in Table 5.¹³ This is an all-time high in parking-meter

TABLE 28

Summary of curb parking meter revenues in places reporting, by states, as of January 1, 1952 (United States and Alaska)

State	Number of places reporting revenues ¹	Number of meters in operation as of January 1, 1952 ²	Gross revenues for year ³	Estimated average annual revenue per meter ⁴
Alabama	15	7,331	\$516,681	\$71.34
Arizona	8	5,310	329,153	74.73
Arkansas	26	10,462	574,472	59.36
California	76	69,179	4,655,757	68.52
Colorado	15	7,258	505,971	70.13
Connecticut	6	3,643	126,113	49.24
Delaware	2	220	13,669	62.13
Florida	25	14,323	852,988	61.97
Georgia	14	6,506	396,841	61.07
Idaho	9	3,395	181,503	53.46
Illinois	55	22,347	1,527,027	70.42
Indiana	30	11,134	770,911	70.28
Iowa	41	15,421	987,009	69.69
Kansas	24	11,188	711,920	67.66
Kentucky	12	3,489	268,041	78.57
Louisiana	6	2,046	109,082	56.62
Maine	10	2,050	132,499	64.53
Maryland	14	5,451	158,217	64.55
Massachusetts	29	19,820	1,454,796	75.42
Michigan	46	23,633	1,806,835	78.71
Minnesota	32	14,256	1,165,484	84.10
Mississippi	20	6,719	430,999	65.45
Missouri	23	8,096	516,095	68.16
Montana	9	4,911	265,880	58.21
Nebraska	7	3,146	192,001	61.03
Nevada	1	760	85,739	86.50
New Hampshire	6	1,956	127,046	70.37
New Jersey	31	16,551	1,095,682	69.78
New Mexico	2	545	18,230	33.45
New York	51	29,801	1,827,457	70.74
North Carolina	25	10,888	811,900	74.95
North Dakota	6	1,991	70,411	57.42
Ohio	35	22,148	1,555,035	76.90
Oklahoma	11	9,742	696,130	88.74
Oregon	41	19,687	1,597,221	81.99
Pennsylvania	125	36,919	2,331,103	67.28
Rhode Island	2	1,625	157,384	96.85
South Carolina	16	6,447	467,884	74.92
South Dakota	5	1,524	92,732	63.61
Tennessee	62	18,418	1,037,373	57.54
Texas	57	28,932	1,840,942	64.83
Utah	6	6,071	369,611	64.49
Vermont	7	1,511	94,436	62.50
Virginia	29	7,931	642,600	82.44
Washington	27	16,206	1,141,976	70.59
West Virginia	10	1,894	148,355	79.40
Wisconsin	39	17,665	1,213,349	72.51
Wyoming	2	638	36,990	57.98
District of Columbia	1	4,543	404,790	95.26
Alaska	1	160	6,402	40.01
Total	1,152	542,226	\$36,529,702	\$70.48

¹ Figures do not include the following numbers of places and parking meters for which no gross revenue was reported: Alabama, 2 places, 1,278 meters, Arkansas, 1 place, 370 meters, California, 1 place, 267 meters, Florida, 1 place, 197 meters, Illinois, 1 place, 175 meters, Indiana, 2 places, 701 meters, Kansas, 1 place, 355 meters, Massachusetts, 1 place, 1,105 meters, Ohio, 1 place, 497 meters, Pennsylvania, 2 places, 374 meters, Virginia, 1 place, 66 meters, Wisconsin, 1 place, 300 meters, total, 15 places and 5,665 meters

² See footnote 2, Table 27.

³ See footnote 3, Table 27.

⁴ Some of the meters are operated seasonally.

finance, and documents the fact that the regulation of parking space by means of the parking meter is now big business.

Not everything deposited in a parking meter constitutes a coin, of course. In fact, some municipalities are flabbergasted

¹³ Having estimated the total number of meters in all places having meters, it is a relatively simple matter to obtain this aggregate figure by multiplying the total number of meters, by population groups, by the estimated annual average gross revenue per meter, as indicated in Table 5

TABLE 29

Gross annual curb parking meter revenues for selected places,
as of January 1, 1952

Population group	Place	Gross revenue
Under 2,500	Oakland, Maryland	\$ 7,782
	Union (Township), New Jersey	11,383
	Plymouth, New Hampshire	11,554
2,500 - 5,000	Auburn, California	20,310
	Phillipsburg, Pennsylvania	15,213
5,000 - 10,000	Marysville, California	50,212
	Paris, Illinois	33,512
10,000 - 25,000	Selma, Alabama	49,515
	Eureka, California	61,588
	Modesto, California	66,899
	Las Vegas, Nevada	65,739
	Asbury Park, New Jersey	82,202
25,000 - 50,000	Tucson, Arizona	78,193
	Palo Alto, California	84,450
	Colorado Springs, Colorado	122,000
	Daytona Beach, Florida	81,622
	Salem, Oregon	111,756
50,000 - 100,000	Santa Monica, California	108,378
	Stockton, California	191,810
	Macon, Georgia	108,000
	Rockford, Illinois	194,445
	Topeka, Kansas	111,450
	Jackson, Mississippi	116,813
	Columbia, South Carolina	161,104
100,000 - 250,000	Phoenix, Arizona	162,005
	Sacramento, California	213,320
	Grand Rapids, Michigan	128,717
	Syracuse, New York	174,779
	Tulsa, Oklahoma	241,860
	El Paso, Texas	147,045
	Salt Lake City, Utah	213,625
	Spokane, Washington	193,042
	Birmingham, Alabama	258,800
250,000 - 500,000	Oakland, California	426,609
	San Diego, California	458,985
	St. Paul, Minnesota	197,960
	Dallas, Texas	287,838
	Seattle, Washington	262,056
	San Francisco, California	763,291
500,000 - 1,000,000	District of Columbia	404,790
	Boston, Massachusetts	637,000
	Minneapolis, Minnesota	372,751
	Cincinnati, Ohio	301,819
	Milwaukee, Wisconsin	213,511
1,000,000 or more	Los Angeles, California	94,682
	Detroit, Michigan	442,965
	Philadelphia, Pennsylvania	237,064

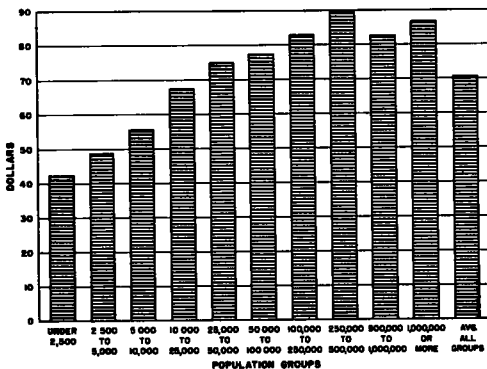


Figure 18. Estimated average revenue per meter in 1951 in places reporting, by population groups.

at the lengths to which some motorist-parkers will go to save a nickel. They report that slugs, streetcar tokens, paper clips, and even buttons have been used. It is reported that one woman, in desperation, even dropped in her wedding ring; later, seeking to reclaim her prized possession, she explained that she didn't have a nickel. Sometimes, such efforts to obtain free parking time are substantial in amount. For example, it is said that 22,794 slugs were collected at parking meters in Salt Lake City in a single year.¹⁴ In Evanston, Illinois, a much smaller place, 828 slugs were passed off as coins in parking meters in 1949.

Sometimes, unusual sources account for a portion, at least, of the aggregate revenue derived from parking meters. To illustrate, a 1947 Greensboro, North Carolina, ordinance authorized the execution of an agreement with a local bus company under which the company was to pay the city \$500 annually for the use of a designated amount of parking-meter space.¹⁵

Municipalities occasionally have used the parking meter for charitable purposes. It is reported that Elgin, Illinois, used its meters in 1948 for a new purpose: to collect dimes for the March of Dimes drive. Motorists were urged to deposit a dime, in addition to the nickel required for parking, to assist the fight on infantile paralysis.¹⁶

AVERAGE ANNUAL REVENUE PER METER

Aggregate revenue figures frequently obscure significant characteristics of their component elements. Accordingly, an analysis has been made of the average annual revenue per meter, both by population groups and by states. The former is summarized in Table 27, while the latter may be found in Table 28.

Based upon a study of the gross revenues for 542,226 meters in 1,152 places in the United States and Alaska, the estimated average annual revenue per meter was \$70.48 for 1951 (see Table 27). The estimated average annual revenue per meter varied sig-

¹⁴See "Gold Mines at the Curbstone," by Norman Carlisle, in *CORONET*, October 1952, beginning at page 115.

¹⁵"Municipal Developments in Review: Parking and Traffic," *AMERICAN MUNICIPAL NEWS*, October 1947, p. 14.

¹⁶"1500 Cities Use Parking Meters," in *WESTERN CITY*, May 1948, page 32.

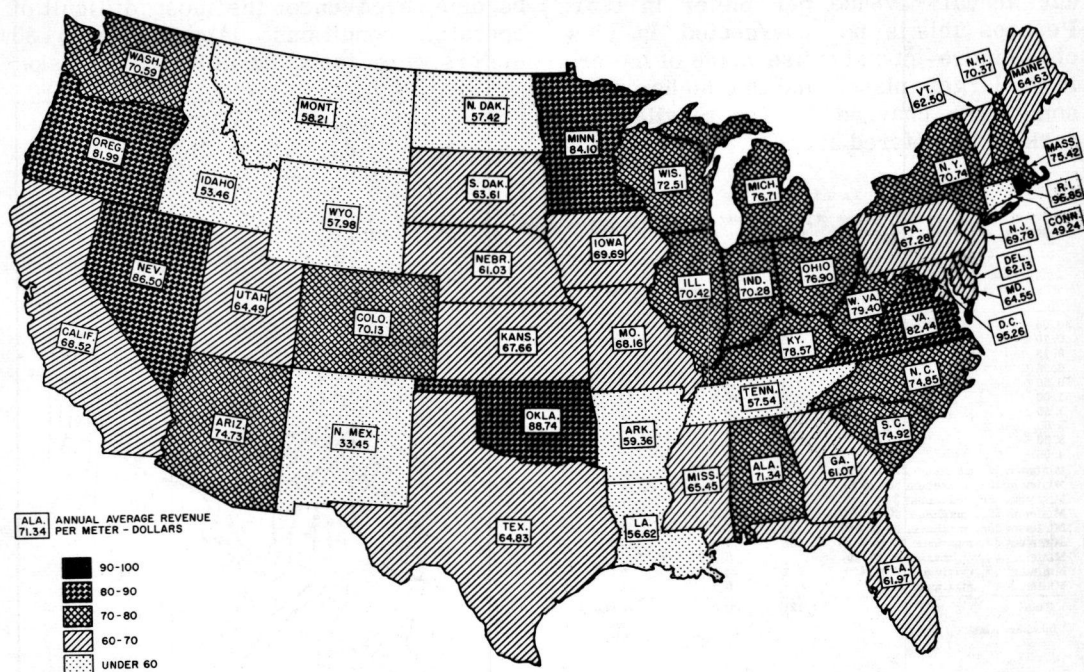


Figure 19. Estimated 1951 average annual revenue per meter for places reporting, by States. In some States relatively high revenue-producing meters are concentrated in only a few urban areas.

nificantly with population. The lowest figure was \$42.28 per meter for places with a population under 2,500; the highest

was \$89.67 per meter for localities of $\frac{1}{4}$ to $\frac{1}{2}$ million persons. In general, the larger the place, the greater was its aver-



Figure 20. Parking meters are sometimes used for diagonal, center-street parking, as well as at the curb, as is here illustrated on Broad Street, Augusta, Georgia. This is justifiable where the center areas are not needed for traffic movement presumably a paramount use of street space.

age annual revenue per meter in 1951. Perhaps this is not unexpected, in view of the more-intensive use made of meters in the larger places and the higher rates sometimes charged for the privilege of parking in metered areas.

TABLE 30

Rates of fines imposed for violation of parking meter regulations in places reporting, and number of places imposing each rate, as of January 1, 1952 (United States and Alaska)

Rates of fines	Places reporting		Number of states
	Number	Percentage of total	
\$0 05	7	0.6	5
0 10	13	1.2	8
0 15	1	0.1	1
0 25	26	2.3	13
0.50	124	11.1	25
1.00	569	50.8	42
1.50	1	0.1	1
2.00	23	2.0	13
3.00	4	0.3	4
4.00	2	0.2	2
Minimum 5¢, maximum 25¢ to \$50	53	4.7	20
Minimum 10¢, maximum 50¢ to \$1	54	4.9	19
Minimum 15¢, maximum \$1	1	0.1	1
Minimum 25¢, maximum 50¢ to \$10	53	4.7	21
Minimum 50¢, maximum \$1 to \$50	80	7.1	25
Minimum \$1, maximum \$2 to \$100	106	9.4	32
Minimum \$1.50, maximum \$3.50	1	0.1	1
Minimum \$2, maximum \$7 to \$20	2	0.2	2
Minimum \$3, maximum \$5	1	0.1	1
Total	1,121	100.0	48 States and Alaska

¹ Includes Alaska

The estimated average annual revenue per meter by states is of interest but is far less significant than the comparable figures by population groups. A low of \$33.45 per meter per year was reported for New Mexico, while a high of \$96.85 per meter was collected in Rhode Island, during 1951. The bulk of the states had averages ranging from \$60 to \$90 per year per meter (see Table 28).

Sometimes, individual meters earn what might appear to some to be fantastic amounts. For example, a meter in Toledo, Ohio, is reliably reported to have earned \$256.65 in 1952. This particular meter, timed for a maximum of 15-min. of parking, is near the entrance of a public-utility collection office. Apparently, motorists place nickels in the meter even if there is some time left on the meter from its previous user, to make sure that they have the full time allowed by the meter. This means that not infrequently, the meter will receive a nickel every 5 or 6 min. Others near banks or public-utility collection offices are reported to be similar to this one in their annual take.¹⁷

It is sometimes amazing what good revenue producers the parking meters have

¹⁷ "Toledo Says Parking Meter Did Collect \$256," in THE AMERICAN CITY, June 1953, page 7. The particular meter involved is No. 933 posted in front of the Ohio Fuel Gas Company Building on Huron Street.

become, even under the most difficult of operating conditions. Approximately 35 meters were installed in Kodiak, Alaska,

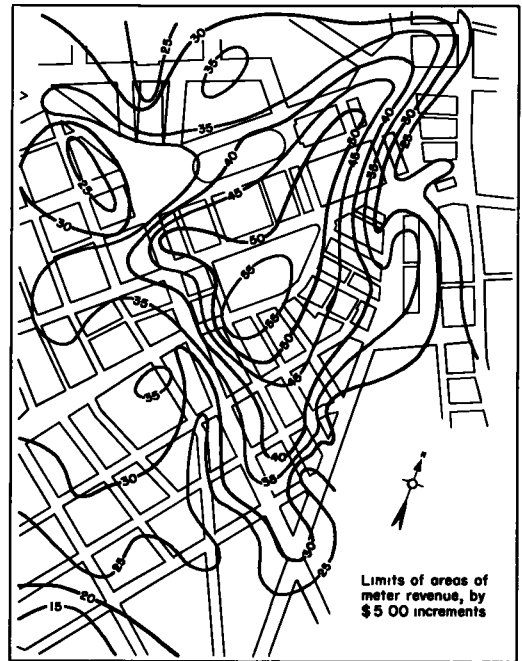


Figure 21. A parking meter revenue contour map, such as this one for Providence, Rhode Island, is frequently very revealing, and a helpful aid in the effective administration of a parking meter program. The contours represent parking meter revenue per meter, for the first quarter of 1951, the range is equivalent to an annual amount of between \$40 and \$240 per meter.

(population 2,000) about a year ago, and the average annual gross revenue per meter is reported to have been \$63.59 or about \$7 less than the U. S. national average as reported in this study. This seems an excellent return per meter, considering the freezing temperatures, the high winds and the ocean salt spray which characterize that portion of the world. Apparently, the parking meter is destined to become a symbol of civilization.¹⁸

FINES FOR VIOLATION

Localities derive revenue not only from

¹⁸ "Parking Meters in Kodiak, Alaska," Municipal Finance Officers Association News Letter, April 16, 1953, page 35.

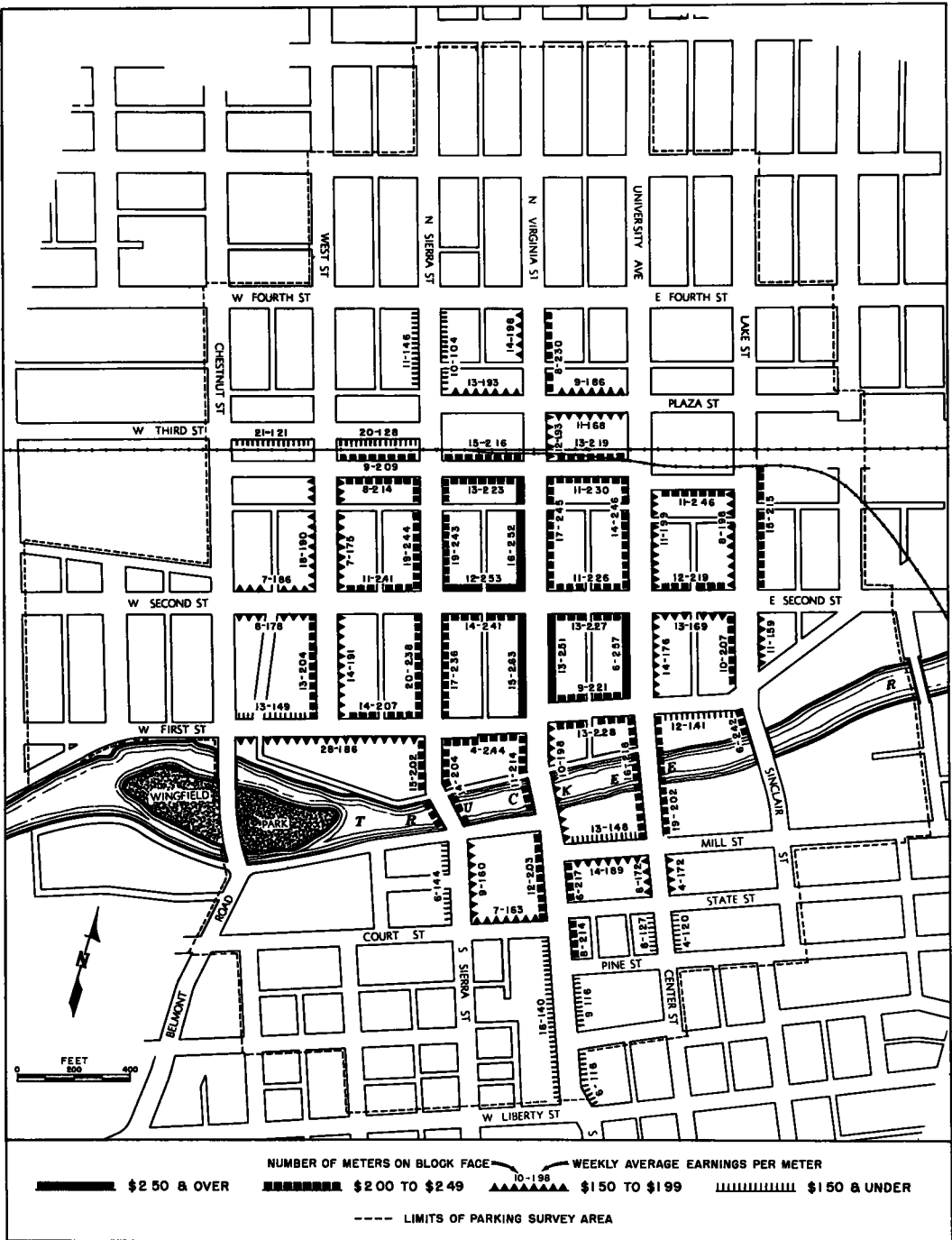


Figure 22. Weekly average earnings per meter, by blocks, central business district of Reno, Nevada, 1950. Diagrams such as this, indicating the intensity of parking turnover in metered areas, might be useful in any proposed extension or contraction of the metered district.

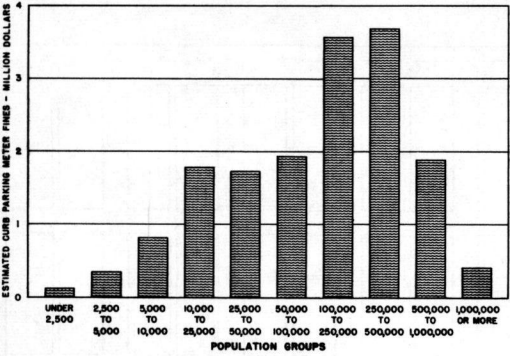


Figure 23. Estimated annual curbside parking meter fines, by population groups, January 1, 1952.

parking meters but also from fines levied for violation of parking-meter time restrictions and other regulations.

Rates of Fines

The rates of these fines were found to vary widely. For 1,121 places for which the information was available located in the



Figure 24. City Manager (and President of The League of Kansas Municipalities) El Dorado, Kansas, and Chief of Police demonstrate the use of a collection box and overtime-parking ticket in connection with El Dorado's parking meters. This new idea is well worth investigation by municipalities.

48 states and Alaska, the range was from 5 cents (for seven places in five states) to a minimum of \$3 and a maximum of \$5 (for one place in a single state). See Table 30 for a summary of the rates of these

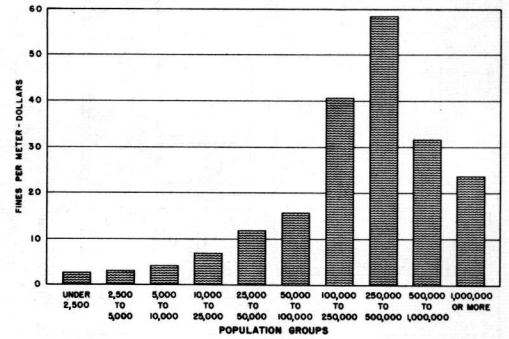


Figure 25. Average annual fines per meter in places reporting, by population groups, January 1, 1952.

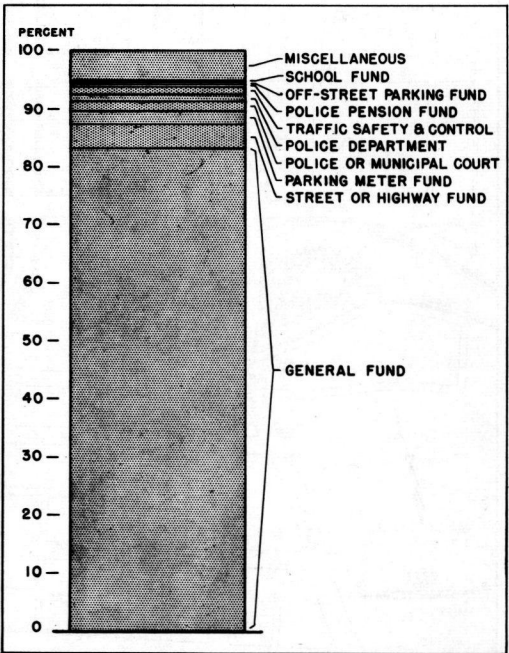


Figure 26. Percentage of parking meter fines allocated for stated purposes in places reporting, January 1, 1952.

fines; 19 different rates or combinations thereof are being imposed. The most-common fine was \$1, levied in 569 localities in 42 states. Also prevalent was a 50-cent fine, found in 124 places in 25 states. The next-most-common rate was a minimum of \$1 and a maximum ranging

from \$2 to \$100, levied in 32 jurisdictions.

Some interesting practices in this sphere of activity have developed. In Cullman, Alabama, the fine for a parking-meter violation is 25 cents if paid within 48 hours, \$1 if paid within a week, and \$5 thereafter.

Frequently, the number of violations is taken into account in assessing the fine. For example, in McGehee, Arkansas, the fine is 10 cents for the first violation, and \$1 for the second violation. The rates are higher in Coral Gables, Florida, though

TABLE 31

Rates of fines imposed for violation of parking meter regulations in places reporting and number of places imposing each rate, by states, as of January 1, 1962 (United States and Alaska)

State	Rate of fine																				Number of places reporting
	Flat rate fines ¹										Fines varying with number of offenses and time elapsing before payment is made ²										
	5¢	10¢	15¢	25¢	50¢	\$1	\$1 50	\$2	\$3	\$4	Mini- mum 5¢, maxi- mum 25¢ to \$50	Mini- mum 10¢, maxi- mum 50¢ to \$1	Mini- mum 15¢, maxi- mum \$1	Mini- mum 25¢, maxi- mum 50¢ to \$10	Mini- mum 50¢, maxi- mum \$1 to \$50	Mini- mum \$1, maxi- mum \$2 to \$100	Mini- mum \$1 50, maxi- mum \$3 50	Mini- mum \$2, maxi- mum \$7 to \$20	Mini- mum \$3, maxi- mum \$5		
(Number of places imposing each rate)																					
Alabama	-	-	-	1	1	9	-	-	-	-	2	-	-	1	-	-	-	-	-	14	
Arizona	-	-	-	-	4	4	-	-	-	-	-	-	-	1	-	6	-	1	-	10	
Arkansas	-	-	-	-	7	3	-	-	-	-	-	-	-	-	-	9	5	-	-	18	
California	-	-	-	-	12	45	-	3	-	-	-	-	-	-	-	2	-	-	-	74	
Colorado	-	-	-	-	-	12	-	-	-	-	-	-	-	1	2	-	-	-	-	15	
Connecticut	-	-	-	-	4	-	-	-	-	-	-	-	-	-	-	1	-	-	-	5	
Delaware	-	-	-	-	1	-	-	-	-	-	-	1	-	-	-	-	-	-	-	2	
Florida	-	-	-	6	2	12	-	1	1	-	-	-	3	1	-	-	-	-	-	26	
Georgia	-	-	-	-	9	-	2	-	-	-	1	-	-	-	-	-	-	-	-	12	
Idaho	-	-	-	-	-	7	-	-	-	-	-	-	-	-	1	-	-	-	-	8	
Illinois	-	2	1	3	10	13	-	-	-	-	6	11	1	2	2	2	-	-	-	53	
Indiana	1	1	-	2	8	11	-	-	-	-	1	1	-	3	1	1	-	-	-	30	
Iowa	1	5	-	2	1	10	-	-	-	-	4	6	-	5	1	-	-	-	-	35	
Kansas	2	-	-	-	4	-	-	-	-	-	8	3	-	5	1	-	-	-	-	23	
Kentucky	-	-	-	-	3	9	-	-	-	-	-	-	-	-	-	-	-	-	-	12	
Louisiana	-	-	-	-	1	4	-	-	-	-	-	-	-	-	-	1	-	-	-	6	
Maine	-	-	-	-	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	
Maryland	-	-	-	-	8	-	-	-	-	-	-	2	-	-	-	3	-	-	-	13	
Massachusetts	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	27	-	-	-	27	
Michigan	-	-	-	1	3	26	-	1	-	-	2	7	-	-	3	3	-	-	-	46	
Minnesota	-	-	-	2	6	16	-	2	-	-	1	-	-	-	2	2	-	-	-	31	
Mississippi	-	-	-	1	-	12	-	-	-	-	1	3	-	1	1	1	-	-	-	20	
Missouri	-	-	-	1	5	13	1	-	-	-	-	1	-	-	-	2	-	-	-	23	
Montana	-	-	-	-	-	7	-	-	-	-	-	-	-	-	-	2	-	-	-	9	
Nebraska	1	-	-	-	-	-	-	-	-	-	1	1	-	2	-	1	-	-	-	6	
Nevada	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	1	
New Hampshire	-	-	-	-	3	1	-	-	-	-	-	-	-	-	-	2	-	-	-	6	
New Jersey	-	-	-	-	23	-	2	-	-	-	-	-	-	-	-	4	-	-	-	29	
New Mexico	1	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	
New York	-	-	-	-	35	-	3	-	1	-	-	-	-	-	5	5	-	-	-	49	
North Carolina	-	-	-	-	22	-	-	-	-	-	1	-	-	1	-	1	-	-	-	25	
North Dakota	-	-	-	-	3	-	-	-	-	-	-	-	-	-	-	2	-	-	-	5	
Ohio	1	-	-	1	17	-	2	1	-	-	-	6	-	2	2	3	-	-	1	36	
Oklahoma	-	-	-	-	4	-	1	-	-	-	2	-	-	1	1	2	-	-	-	11	
Oregon	-	-	-	-	10	11	-	-	-	-	-	-	-	1	17	1	-	-	-	40	
Pennsylvania	-	-	-	-	4	76	-	2	-	1	10	4	-	7	2	17	-	-	-	123	
Rhode Island	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	1	-	-	-	2	
South Carolina	-	-	-	-	2	8	-	-	-	-	-	-	-	-	3	2	-	-	-	15	
South Dakota	-	-	-	-	1	-	-	-	-	-	1	-	-	-	2	-	-	-	-	4	
Tennessee	1	-	3	20	25	-	-	-	-	-	1	1	-	4	2	3	-	-	-	60	
Texas	-	-	-	-	1	43	-	-	-	-	4	1	-	3	-	2	-	1	-	55	
Utah	-	-	-	2	-	-	-	-	-	-	2	-	-	1	1	-	-	-	-	6	
Vermont	-	-	-	-	1	3	-	-	-	-	-	-	-	-	1	3	-	-	-	7	
Virginia	2	-	-	-	21	-	1	-	-	-	2	2	-	1	1	-	-	-	-	30	
Washington	-	-	-	-	5	16	-	-	-	-	-	-	-	-	1	3	-	-	-	25	
West Virginia	-	-	-	1	-	1	-	2	-	-	2	1	-	1	1	-	-	-	-	9	
Wisconsin	1	1	-	1	3	17	-	1	1	-	1	2	-	7	12	1	1	-	-	49	
Wyoming	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	
Dist. of Col.	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	1	
Alaska	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	1	
Total	7	13	1	26	124	569	1	23	4	2	53	54	1	53	80	106	1	2	1	1,121	
Percentage of total number of places reporting	0.6	1.2	0.1	2.3	11.1	50.8	0.1	2.0	0.4	0.2	4.7	4.8	0.1	4.7	7.1	9.4	0.1	0.2	0.1	100.0	

¹ Only a flat rate was reported.

² Minimum rates shown denote the least fine imposed by the places indicated if the fine is paid within a specified time or if violation is the first offense, the maximum rates shown vary for the respective places between the low maximum and the high maximum depending either on the length of time the offense is allowed to stand or on the number of times the law has been violated. Most of the places reporting in Massachusetts, and a few in other States, issue a warning for the first offense.

The rates of fine are lower in Moulton, Alabama: 5 cents per hour, and \$1 if the citation has to be mailed. Another variation is found in Galena, Illinois, where 10 cents is assessed during the first 24 hours following the violation, 50 cents if paid within 5 days, and \$1 plus the cost of the warrant issued after 5 days.

the same principle is adhered to: 50 cents for the first violation, \$3 for the second violation, and \$5 for the third.

The rates of fines imposed for violation of parking-meter regulations and the number of places imposing each rate, by states, are indicated in Table 31. Some interesting facts stand out in this tabula-

tion. For example, frequently wide variation exists even within the same state concerning the rates of fines levied in different places. Eleven different rates were reported for the 53 places furnishing data in Illinois; five of these were flat-rate fines ranging from 10 cents to \$1, and six were variable with the number of offenses and the time elapsing before payment of the fine is made. Indiana, a neighboring state, has 10 separate rates applicable to 30 localities. Nine different rates were recorded for Iowa.

Fine Practices

This survey of parking meters has disclosed some rather unusual methods of dealing with the matter of overtime parking. El Dorado, Kansas, has recently initiated a new system under which the enforcement officer makes out a ticket for overtime parking on a small envelope that contains blanks for the date, license number, make of car, time, and a note reading:

Sorry, but you have overparked. The charge for this extra time, if paid within 24 hours is 25 cents. If not paid within 24 hours, the charge is \$1. You may pay this by placing 25 cents in this envelope and depositing it in one of the special boxes, painted yellow, which you will find next to one of the meter posts in this block. If you prefer, you may pay this at the traffic desk at the city building. An additional charge of 25 cents is made and an additional notice is issued for each hour a vehicle is overparked.

Approximately, 3,000 envelope notices have been issued in the four months since the plan was started on April 10, 1951. At the rate of 25 cents each, \$476.50 in penalties have been paid for overtime parking. Fines of \$1 were paid by each of 48 persons, and only 20 tickets on locally-owned vehicles remain unpaid. Though more tickets are issued, the dollar take is approximately the same as it was prior to the initiation of this system. City officials indicate that complaints and protests against fines have diminished substantially, and that the new system seems to have helped police public relations considerably. A similar plan is now authorized in Council Grove, Kansas.¹⁹ There is much in this practice to commend its wider application.

An intriguing variation of this so-called

envelope system is the one currently in operation in Red Oak, Iowa. Under this scheme, each violator is asked to contribute what his conscience dictates. Sometimes businessmen or chambers of commerce make pennies or nickels available for the use of motorists in paying fines.²⁰

Fine deposit boxes are also used in Spirit Lake, Iowa. Local officials there indicate that the collection of fines for overtime parking was a problem in the city until this plan was devised; a similar experience is repeated in Harrison, Arkansas, where penalty boxes are located on each corner of the city square.

Overtime parkers who have received tickets are required to deposit an appropriate amount of money in an indoor meter at the police station in Storm Lake (Iowa), Webster City (Iowa), and in Edenton (North Carolina). At the latter place, if a motorist reports within an hour after his meter time expires, he pays only a nickel. The penalty is two nickels if he reports within 2 hours; and he must deposit 24 nickels in the meter after 24 hours. Most motorists comply readily. Presumably the purpose of the indoor meter is to be symbolic — to learn by doing.

Pittsburg, Kansas, reported that overtime parking collections doubled after reduction of the rate of overparking fine from \$1 to 50 cents, and the provision of a penalty box for each eight parking meters. The average increased from \$6.12 to \$14.42 daily.²¹ It also reported improved public relations. Larned is another Kansas city that has adopted a simplified method for the payment of fines in conveniently located coin boxes.

Winter Haven, Florida, provides for the mailing of the fine to the police station.

While most of the evidence thus far assembled seems to be overwhelmingly in favor of making it easier for the motor-

²⁰ The problem of out-of-town violators of parking-meter regulations is a difficult one in most places. It is reported that in Kerrville, Texas, a popular courtesy device is used. If an out-of-town motorist is involved in a violation, a nickel is inserted for him, with the following courtesy card: "Through the courtesy of the Kerrville Police Department, you have been saved a \$1 fine. If you would like to return this card and a nickel to be used again, just mail them to the Chamber of Commerce." See "Gold Mines at the Curbstones," by Norman Carlisle, in CORONET, October 1952, beginning at page 115.

²¹ "Parking Penalty Payments Made Easy," MISSOURI MUNICIPAL REVIEW, April 1952.

TABLE 32

Amount and disposition of fines collected in 1951¹ for violation of curb and off-street parking meter regulations in places reporting (United States and Alaska)

Purposes for which revenues from fines were expended	Curb parking meter fines		Off-street parking meter fines		Curb and off-street parking meter fines not separately reported		Total amount of parking meter fines	
	Amount	Percentage of total amount of curb parking meter fines	Amount	Percentage of total amount of off-street parking meter fines	Amount	Percentage of total amount of combined curb and off-street parking meter fines	Amount	Percentage of total amount of parking meter fines
General fund	\$3,659,829 ²	81.9	\$11,177	83.7	\$618,604 ³	93.3	\$4,289,610	83.4
Street or highway fund ⁴	206,700	4.6	-	-	12,154	1.8	218,854	4.2
Parking meter fund ⁵	109,804	2.5	122	0.9	5,438	0.8	115,364	2.2
Police or municipal court	87,180	2.0	-	-	565	0.1	87,745	1.7
Police department ⁶	62,999	1.4	929	6.9	-	-	63,928	1.2
Police pension fund	16,074 ⁷	0.4	-	-	2,850	0.4	18,924	0.4
Traffic safety and control	59,480	1.3	1,100	8.2	-	-	60,580	1.2
School fund	9,880	0.2	-	-	-	-	9,880	0.2
Off-street parking fund	4,450	0.1	23	0.2	9,574	1.5	14,047	0.3
Miscellaneous ⁸	252,458 ⁹	5.6	10	0.1	13,894	2.1	266,362	5.2
Total	\$4,468,854 ¹⁰	100.0	\$13,361	100.0	\$663,079 ¹¹	100.0	\$5,145,294 ¹¹	100.0
Percentage of total amount of parking meter fines	86.8	-	0.3	-	12.9	-	100.0	-

¹ Either calendar year or fiscal year.² \$328,413 of amount shown represents fines collected for violation of both parking meter and other traffic regulations.³ \$49,142 of amount shown represents fines collected for violation of both parking meter and other traffic regulations.⁴ Includes expenditures for street lighting and cleaning, street widening, street and highway maintenance, and other street improvements.⁵ Included in this category are those items which were to be combined with other parking meter revenues and expended for the same purposes for which other revenues were to be expended.⁶ Includes such purposes as police enforcement fund, police salaries, and police uniforms, among other things.⁷ \$1,659 of amount shown represents fines collected for violation of both parking meter and other traffic regulations.⁸ Includes such purposes as bond retirement, library board, recreation fund, charity fund, and undesignated items.⁹ \$42,002 of amount shown represents fines collected for violation of both parking meter and other traffic regulations.¹⁰ \$370,074 of amount shown represents fines collected for violation of both parking meter and other traffic regulations.¹¹ A total of \$419,216 of amount shown represents fines collected for violation of both parking meter and other traffic regulations.

TABLE 33

Average annual amount of fines per meter for places reporting and estimated total amount of fines collected for curb parking meter violations, based on the estimated number of meters in operation, January 1, 1952, by population groups (United States)

Population group	Number of curb parking meters in places for which fines were reported ¹	Amount of curb parking meter fines ²	Average amount of fines per meter	Estimated number of meters in operation ³	Estimated total amount of fines for all curb parking meters
Under 2,500	8,194	\$21,350	\$2.61	48,117	\$125,585
2,500-5,000	32,107	96,213	3.00	114,259	342,777
5,000-10,000	65,884	273,019	4.14	196,830	814,048
10,000-25,000	98,451	666,979	6.82	258,585	1,789,408
25,000-50,000	45,112	538,804	11.94	144,823	1,729,187
50,000-100,000	31,427	493,672	15.71	123,325	1,937,436
100,000-250,000	21,598	877,132	40.61	87,761	3,563,974
250,000-500,000	7,923	464,031	58.57	62,995	3,689,617
500,000-1,000,000	13,366	423,165	31.66	59,705	1,890,260
1,000,000 or more	10,283	242,848	23.62	16,964	400,690
Total	¹ 332,345	² \$4,097,213	\$12.33	³ 1,113,164	⁴ \$16,282,982

¹ The numbers of meters shown are only those in the places for which curb parking meter fines were reported separately.² Curb parking meter fines were reported together with off-street parking fines or with other traffic fines by a number of places. Such fines, amounting to \$370,074, and curb fines for Juneau, Alaska, amounting to \$1,567, are not included in totals shown.³ See table 5.⁴ The total estimated amount of fines shown is the sum of the separate items for each population group. The computed total based on the totals for all population groups is \$13,725,312.

ist to pay his fine, it is not exclusively so. Harrodsburg, Kentucky, decided to discontinue using courtesy parking tickets because the public did not cooperate with the plan by returning the envelope-ticket with a nickel.

Revenue from Fines

The magnitude of the sums collected as fines for violation of meter regulations is perhaps of more than usual interest. For the 1,165 places for which information was available, fines collected during 1951 amounted to \$4,468,854, or the equivalent

additionally of approximately 12.2 percent of the gross revenue collected from the curb meters, (see Table 32). Additionally, \$13,361 in fines were collected in connection with off-street parking meters, while \$663,079 constituted fines for both curb and off-street meters not separately reported as between curb and off street. The total of all these fines items is \$5,145,294.²²

²² It should be noted in connection with Table 32 and the other fines tables that follow that an indeterminate amount of fines collected for violation of other traffic regulations is included with some of the items shown. The total of such combined items amount to only 8.1 percent of the total fines shown. See footnote 10 of Table 32.

Aggregate figures for fines are significant. But even more meaningful are average amounts of fines per meter, particularly on a population-group basis. It will be noted from Table 33 that the average curb-parking-meter fine for 1951 was \$12.33 for each of the 332,345 meters

for which fines data were reported. The lowest average fine per meter for the year was \$2.61 for places under 2,500 population. The highest was \$58.57 for the 250,000-to-500,000-population group.

Up to the 250,000-500,000 group, the magnitude of the average annual fine per

TABLE 34

Amount and disposition of fines collected in 1951¹ for violation of curb parking meter regulations in places reporting, by population groups²
(United States and Alaska)

Population group	Amount of fines and purposes for which expended										Total revenue from fines
	General fund	Street or highway fund ³	Parking meter fund ⁴	Police or municipal court	Police department ⁵	Police pension fund	Traffic safety and control	School fund	Off-Street parking fund	Miscellaneous ⁶	
Under 2,500	\$17,973	\$1,253	-	\$32	\$356	-	-	-	-	\$1,736	\$21,350
2,500 - 5,000	67,001	7,261	\$5,349	465	4,691	-	\$5,651	-	-	5,795	96,213
5,000 - 10,000	196,836 ⁷	13,620	20,504	3,279	14,123	\$497	2,546	\$658	\$751	21,772	274,586
10,000 - 25,000	576,862 ⁸	4,566	21,697	3,434	32,580	759	25,785	9,222	3,699	64,545	743,149
25,000 - 50,000	492,091 ⁹	-	2,828	10,331	4,160	7,825 ⁸	25,498	-	-	44,709 ⁸	587,442
50,000 - 100,000	385,447	-	19,426	39,639	7,089	6,993	-	-	-	35,078	493,672
100,000 - 250,000	714,645 ⁹	180,000	40,000	30,000	-	-	-	-	-	78,823	1,043,468
250,000 - 500,000	542,961 ⁹	-	-	-	-	-	-	-	-	-	542,961
500,000 - 1,000,000	423,165	-	-	-	-	-	-	-	-	-	423,165
1,000,000 or more	242,848	-	-	-	-	-	-	-	-	-	242,848
Total	\$3,659,829	\$206,700	\$109,804	\$87,180	\$62,999	\$16,074	\$59,480	\$9,880	\$4,450	\$252,458	\$4,468,854 ⁹
Percentage of total amount of fines	81.9	4.6	2.5	2.0	1.4	0.4	1.3	0.2	0.1	5.6	100.0

¹ Either calendar year or fiscal year.

² Curb and off-street parking meter fines were not reported separately by a number of places. See Table 38 for disposition of such fines by population groups and Table 39 for disposition by states.

³ Includes expenditures for street lighting and cleaning, street and highway maintenance, street widening, and other street improvements.

⁴ Included in this category are those items which were to be combined with other parking meter revenues and expended for the same purposes for which other revenues were to be expended.

⁵ Includes such purposes as police enforcement fund, police salaries, and police uniforms, among other things.

⁶ Includes such purposes as bond retirement, library board, recreation fund, charity fund, and undesignated items.

⁷ Includes \$1,567 reported by Juneau, Alaska.

⁸ Fines collected for violation of both parking meter and other traffic regulations in the following amounts are included in the expenditures for the purposes noted in the specified population groups: \$76,170, general fund, 10,000-25,000 group; \$4,977, general fund, \$1,659, police pension fund, and \$42,002, miscellaneous expenditures, 25,000-50,000 group; \$166,336, general fund, 100,000-250,000 group; \$78,930, general fund, 250,000-500,000 group; total \$370,074, all purposes, all groups.



Figure 27. Metered, angle, center-street parking in Davenport, Iowa. Note the relatively wide paved area between meters for pedestrians.

meter increased constantly with increase in size of the municipality. The average fine for the two population groups thereafter dropped off to \$23.62 per meter for the largest places.

Based upon these average annual fines

estimated total revenue derived from curb meters.

In order to test the validity of this method of estimating total fines, an entirely different approach was made (see Appendix B, Table A). Instead of using numbers of

TABLE 35
Amount and disposition of fines collected in 1951¹ for violation of curbparkingmeter regulations in places reporting, by states²
(United States and Alaska)

State	Amount of fines and purposes for which expended										Total revenue from fines
	General fund	Street or highway fund ³	Parking meter fund ⁴	Police or municipal court	Police department ⁵	Police pension fund	Traffic safety and control	School fund	Off-Street parking fund	Miscellaneous ⁶	
Alabama	\$20,806	-	-	-	\$7,089	-	-	-	-	-	\$27,895
Arizona	32,086	-	-	-	-	-	-	-	-	-	32,086
Arkansas	5,688	\$1,270	-	-	850	-	-	-	-	\$318	8,126
California	753,885 ⁷	195,990	\$47,944	-	-	-	\$25,816	-	\$3,699	27,359	1,054,393
Colorado	48,861	1,040	128	-	-	-	-	-	-	633	50,662
Connecticut	1,344	-	-	\$8,500	-	-	-	-	-	304	10,148
Delaware	860	-	-	-	-	-	-	-	-	-	860
Florida	76,575 ⁷	-	-	-	4,558	-	-	-	-	2,330	83,463
Georgia	7,313	-	618	-	294	-	-	-	-	633	8,858
Idaho	14,513	-	-	-	-	-	-	-	-	-	14,513
Illinois	26,766	800	15,823	820	12,133	\$549	-	-	-	7,028	63,919
Indiana	35,141	-	8,582	-	-	-	897	-	-	1,258	45,878
Iowa	18,796	-	2,586	30,000	2,030	317	-	-	-	653	54,382
Kansas	42,216	-	180	-	-	-	-	-	-	3,885	46,281
Kentucky	32,898	1,032	-	-	-	-	-	-	-	-	33,930
Louisiana	900	1,350	-	-	-	3,000	-	-	-	216	5,466
Maine	3,684	-	995	-	997	-	281	-	-	-	5,937
Maryland	23,904	-	-	-	215	-	-	-	-	564	24,683
Massachusetts	23,135	-	12,028	199	-	-	-	-	-	2,601	37,963
Michigan	228,403	-	2,221	1,400	8,506	-	-	-	-	2,563	243,093
Minnesota	23,532	-	3,770	545	4,708	-	-	-	-	9,005	41,560
Mississippi	26,935	398	2,177	-	-	-	-	-	-	42,002 ⁷	71,512
Missouri	94,723 ⁷	1,649	-	-	-	4,002	-	-	-	-	100,374
Montana	9,450	-	-	-	-	-	11,998	-	-	-	21,448
Nebraska	3,600	-	-	-	-	-	-	\$2,245	-	-	5,845
Nevada	13,275	-	-	-	-	-	-	-	-	-	13,275
New Hampshire	6,663	-	473	497	-	-	-	-	-	-	7,633
New Jersey	139,185	-	-	-	-	-	-	-	-	206	139,391
New Mexico	740	-	-	-	-	-	-	-	-	-	740
New York	127,401 ⁷	-	-	2,597	-	-	-	-	-	9,173	139,171
North Carolina	81,361	-	-	-	-	-	2,298	6,007	-	3,297	92,963
North Dakota	329	-	-	-	-	-	-	1,628	-	16	1,973
Ohio	287,565 ⁷	-	3,461	1,831	-	-	3,000	-	-	20,281	316,138
Oklahoma	130,931 ⁷	-	-	-	108	-	-	-	-	-	131,039
Oregon	372,442	1,853	-	-	2,211	-	1,610	-	-	12,251	390,367
Pennsylvania	261,688	-	1,545	15,873	2,180	-	-	-	-	5,557	287,063
Rhode Island	-	-	-	-	-	2,000	-	-	-	-	2,000
South Carolina	27,704	-	280	-	-	-	100	-	-	5,000	33,084
South Dakota	7,256	-	-	-	186	-	-	-	-	-	7,442
Tennessee	51,625 ⁷	293	849	-	2,401	-	-	-	-	489	55,657
Texas	118,729	-	-	514	784	-	-	-	-	8,723	128,760
Utah	315,584	-	-	-	-	-	13,500	-	-	2,324	331,408
Vermont	2,844	-	-	-	479	-	-	-	-	-	3,323
Virginia	21,619	-	-	-	-	-	-	-	-	331	21,950
Washington	86,933 ⁷	1,025	-	-	-	13,000	-	-	-	79,671	180,629
West Virginia	5,144	-	4,172	-	-	-	-	-	-	-	9,316
Wisconsin	42,852 ⁷	-	2,272	24,404	250	6,206 ⁷	-	-	751	3,787	80,522
Wyoming	368	-	-	-	-	-	-	-	-	-	368
Alaska	1,567	-	-	-	-	-	-	-	-	-	1,567
Total	\$3,659,829	\$206,700	\$109,804	\$87,180	\$52,999	\$16,074	\$59,480	\$9,680	\$4,450	\$252,458	\$4,468,654 ⁷
Percentage of total amount of fines	81.9	4.6	2.5	2.0	1.4	0.4	1.3	0.2	0.1	5.6	100.0

¹ Either calendar year or fiscal year

² Curb and off-street parking meter fines were not reported separately by a number of places. See Table 38 for disposition of such fines by population groups and Table 39 for disposition by states

³ Includes expenditures for street lighting and cleaning, street and highway maintenance, street widening, and other street improvements

⁴ Included in this category are those items which were to be combined with other parking meter revenues and expended for the same purposes for which other revenues were to be expended.

⁵ Includes such purposes as police enforcement fund, police salaries, and police uniforms, among other things

⁶ Includes such purposes as bond retirement, library board, recreation fund, charity fund, and undesignated items.

⁷ Fines collected for violation of both parking meter and other traffic regulations in the following amounts are included in the expenditures for the purposes noted in the specified states: \$8,956, general fund, California; \$60,613, general fund, Florida; \$42,002, miscellaneous expenditures, Mississippi; \$76,930, general fund, Missouri; \$2,504, general fund, New York; \$35,000, general fund, Ohio; \$107,338, general fund, Oklahoma; \$24,000, general fund, Tennessee; \$4,097, general fund, Washington; and \$4,977, general fund and \$1,659, police pension fund, Wisconsin, total, \$370,074, all purposes, all states

per meter and the estimated number of meters in operation in the respective population groups, an estimated total amount of fines for all curb meters was derived, amounting to \$16,282,982. This formidable sum is a significant addition to the

meters and average fines per meter, numbers of places and the aggregate curbparking-meter fines were employed. The resulting estimated total amount of fines was \$16,592,108, a total only 1.9 percent greater than the total derived using

TABLE 36

Amount and disposition of fines collected in 1951¹ for violation of off-street parking meter regulations in places reporting, by population groups²
(United States)

Population group	Amount of fines and purposes for which expended						Total amount of fines
	General fund	Parking meter fund	Police department	Traffic safety and control	Off-street parking fund	Miscellaneous	
Under 2,500	-	-	-	-	-	\$10	\$ 10
2,500-5,000	-	\$ 22	-	-	\$23	-	45
10,000-25,000	\$2,223	-	\$929	\$1,100	-	-	4,252
25,000-50,000	6,044	100	-	-	-	-	6,144
50,000-100,000	2,910	-	-	-	-	-	2,910
Total	\$11,177	\$122	\$929	\$1,100	\$23	\$10	\$13,361
Percentage of total amount of fines	83.7	0.9	6.9	8.2	0.2	0.1	100.0

¹ Either calendar year or fiscal year.

² Curb and off-street parking meter fines were not reported separately by a number of places. See table 38 for disposition of such fines by population groups and table 39 for disposition by states.

TABLE 37

Amount and disposition of fines collected in 1951¹ for violation of off-street parking meter regulations in places reporting, by states²

State	Amount of fines and purposes for which expended						Total amount of fines
	General fund	Parking meter fund	Police department	Traffic safety and control	Off-street parking fund	Miscellaneous	
California	\$ 1,200	-	-	\$1,100	-	-	\$2,300
Florida	1,263	\$ 22	-	-	\$23	\$10	1,318
Illinois	-	100	\$500	-	-	-	600
Maryland	2,200	-	429	-	-	-	2,629
Michigan	2,190	-	-	-	-	-	2,190
New York	200	-	-	-	-	-	200
North Carolina	1,720	-	-	-	-	-	1,720
Ohio	100	-	-	-	-	-	100
Oregon	760	-	-	-	-	-	760
Virginia	1,544	-	-	-	-	-	1,544
Total	\$11,177	\$122	\$929	\$1,100	\$23	\$10	\$13,361
Percentage of total amount of fines	83.7	0.9	6.9	8.2	0.2	0.1	100.0

¹ Either calendar year or fiscal year.

² Curb and off-street parking meter fines were not reported separately by a number of places. See table 38 for disposition of such fines by population groups and table 39 for disposition by states.

numbers of meters. It is believed that the smaller amount, obtained by use of number of meters, is probably the better estimate.

Disposition of Fines

Thus, a reasonable insight has been provided concerning the amount of fines collected from violations of parking meter regulations, largely at the curb. Now what is done with the moneys so obtained?

Reference to Table 32 reveals the an-

swers, in summary fashion. The lion's share of the more-than-\$5-million aggregate was assigned to the general fund. Approximately 4.2 percent of the total was merged with street or highway funds. Only relatively small amounts were assigned directly to the alleviation of parking difficulties.

The foregoing applies to all fines. But if the aggregate amounts are separated into their component parts (curb-parking-meter fines, off-street-parking-meter fines, curb- and off-street-parking-meter fines

not separately reported), it is found that approximately the same relative percentages obtain with respect to manner of disposition.

Thus far, only summary figures have been cited. What about the details by pop-

New York	139,171
Oklahoma	131,039
Texas	128,760
Missouri	100,374

Table 36 presents the amount and disposition of fines collected for violation of

TABLE 38

Amount and disposition of unsegregated fines collected in 1951¹ for violation of curb and off-street parking meter regulations in places reporting, by population groups²
(United States)

Population group	Amount of fines and purposes for which expended							Total amount of fines
	General fund	Street or highway fund	Parking meter fund	Police or municipal court	Police pension fund	Off-street parking fund	Miscellaneous ³	
2,500-5,000	\$ 3,349	-	-	-	-	-	-	\$ 3,349
5,000-10,000	2,750	-	-	-	-	-	-	2,750
10,000-25,000	39,463	-	-	\$565	\$2,246	\$3,875	\$10,694	56,843
25,000-50,000	40,301 ⁴	\$12,154	-	-	-	-	3,200	55,655 ⁴
50,000-100,000	178,021 ⁵	-	\$5,438	-	604	5,699	-	189,762 ⁵
100,000-250,000	82,934	-	-	-	-	-	-	82,934
250,000-500,000	271,786 ⁶	-	-	-	-	-	-	271,786 ⁶
Total	\$618,604 ⁷	\$12,154	\$5,438	\$565	\$2,850	\$9,574	\$13,894	\$663,079 ⁷
Percentage of total amount of fines	93.3	1.8	0.8	0.1	0.4	1.5	2.1	100.0

¹ Either calendar year or fiscal year.

² The amounts shown were collected for both curb and off-street parking meter violations and were not reported separately.

³ Disposition of items in amounts shown was not designated.

⁴ \$14,363 of amount shown represents fines collected for violation of both parking meter and other traffic regulations.

⁵ \$34,779 of amount shown represents fines collected for violation of both parking meter and other traffic regulations.

⁶ Amount shown includes both curb parking meter fines and parking meter fines from Love Field, Dallas, Texas.

⁷ A total of \$49,142 of amount shown represents fines collected for violation of both parking meter and other traffic regulations.

ulation group and by state? In order to present these data properly, curb-parking-meter fines, the off-street-meter fines, and the unsegregated fines have been treated separately.

The amount and disposition of fines collected for violation of curb-meter regulations only, by population groups, are shown in Table 34. The same information is furnished by states in Table 35. The following states reported the largest fines:

California	\$1,054,393
Oregon	390,367
Utah	331,408
Ohio	316,138
Pennsylvania	287,063
Michigan	243,093
Washington	180,629
New Jersey	139,391

off-street-parking-meter regulations by population groups. Because of the small amounts involved, and the paucity of the data, no extraordinary significance is to be attached thereto. The same information by states is given in Table 37. It is interesting to note from the table which states with off-street meters are involved.

Comparable information, by population groups and by states, for unsegregated fines are given in Tables 38 and 39, respectively. The most substantial amounts are centered in the 50,000-100,000- and the 250,000-500,000-population groups. Texas, New York, Michigan, and Illinois are the states with the most-substantial incomes from this source.

Practices Avoiding Fines

The parking meter is an ingenious de-

TABLE 39

Amount and disposition of unsegregated fines collected in 1951¹ for violation of curb and off-street parking meter regulations in places reporting, by states²

State	Amount of fines and purposes for which expended							Total amount of fines
	General fund	Street improvement	Parking meter fund	Police or municipal court	Police pension fund	Off-street parking fund	Miscellaneous ³	
California	\$15,212	\$12,154	-	-	-	\$5,699	-	\$33,065
Idaho	2,006	-	-	-	-	-	-	2,006
Illinois	52,178	-	\$5,438	-	\$1,034	-	-	58,650
Iowa	17,457	-	-	-	-	-	-	17,457
Kansas	26,526	-	-	-	-	-	-	26,526
Maine	-	-	-	-	-	3,875	-	3,875
Maryland	-	-	-	-	-	-	\$1,400	1,400
Massachusetts	3,759	-	-	-	-	-	-	3,759
Michigan	66,647	-	-	\$565	-	-	-	67,212
New Jersey	1,058	-	-	-	-	-	-	1,058
New York	88,514 ⁴	-	-	-	-	-	-	88,514 ⁴
North Carolina	17,213	-	-	-	-	-	-	17,213
Ohio	8,500	-	-	-	-	-	-	8,500
Oregon	3,349	-	-	-	-	-	-	3,349
Pennsylvania	27,818	-	-	-	-	-	12,494	40,312
Texas	275,378 ⁵	-	-	-	-	-	-	275,378 ⁵
Virginia	3,000	-	-	-	-	-	-	3,000
Wisconsin	9,989	-	-	-	1,816	-	-	11,805
Total	618,604 ⁴	\$12,154	\$5,438	\$565	\$2,850	\$9,574	\$13,894	\$663,079 ⁴
Percentage of total amount of fines	93.3	1.8	0.8	0.1	0.4	1.5	2.1	100.0

¹ Either calendar year or fiscal year.

² The amounts shown were collected for both curb and off-street parking meter violations and were not reported separately.

³ Disposition of items in amounts shown was not specified.

⁴ \$49,142 of amount shown represents fines collected for violation of both parking meter and other traffic regulations.

⁵ Amount shown includes both curb parking meter fines and parking meter fines from Love Field, Dallas, Texas.

vice, to say the least. But human ingenuity can never be exceeded by a mechanism. In some places, practices have developed that effectively avoid overtime parking and parking fines, as far as they go.

In New Rochelle (New York) and Saginaw (Michigan) for example, many motorist-parkers were discovered to have inserted two coins, instead of one, in the manual-type meter, turning the handle that actuates the time only once; the assumption was that the police officer would turn the handle a second time before writing a ticket for overtime parking, thinking that perhaps a coin had been inserted legitimately, but that the handle had not been properly turned. But the police quickly caught on to the practice, and officers were instructed not to turn the handle.²³

It is reported that in Atlantic City, approximately 250 merchants, seeking to gain the favor of motorists, checked over-

time parkers in front of their establishments, deposited nickels where necessary, and left a note on the windshield reading: "Your time was up---the flag showed red. It was our privilege to save you a parking fine by putting a nickel in the meter." In Minneapolis, some building tenants who wanted additional parking time, hired boys to deposit extra nickels every hour in the meters; thus, low-cost curb parking was obtained, sometimes for all day. In Akron, Ohio, two local competing commercial concerns had employees insert nickels when the time had expired for parkers, leaving a stamped post card asking the motorist to send in their names and addresses, to be added to the firms' mailing lists; the police quickly discouraged the practice. A similar experience took place in Passaic, New Jersey, involving a local garage.

Even the police themselves sometimes assist a fine-avoidance scheme. In West Plains, Missouri, the enforcing officer, when he finds a car overparked, will insert

²³ "Enforcing Parking Regulations Where Meters are Used," PUBLIC MANAGEMENT, November 1947, pages 329-332.

a nickel that is provided by local merchants; he also leaves a small envelope requesting that the motorist-parker put a nickel in the envelope and drop it into a courtesy box, several of which can be found attached to meters in the area.

DISPOSITION OF PARKING METER REVENUES

Increasing interest has been evinced, in recent years, in the disposition of meter revenues. For the need for parking accommodations of all sorts looms so large that any diversion or dispersion of parking-meter revenues to nonparking purposes is beginning to be looked upon as undesirable in the public interest, as well as possibly contravening the legal justification for the parking meter.

Disposition in the Aggregate

Information concerning disposition of revenues was available for 1,152 places in all population groups, (see Table 27). In the aggregate, costs of administration of the program, excluding amortization of the meters, absorbed 15.6 percent of the gross revenues (see Table 40 for the absolute amounts and Table 41 for the corresponding percentages). These costs included police enforcement, meter repair and maintenance, collection of meter revenues, and other miscellaneous expenses incident to the meter program.

Amortization of the meters accounted for another 7.5 percent of the total gross revenues. This item should be used cautiously, however, since it was apparent from some of the questionnaire returns that uniformity in treatment of this particular item was notoriously lacking, that different bases were obviously used in some places, and that the so-called annual-cost-amortization formula was not uniformly adhered to.

It is presumed from an examination of the character of the data that the amounts allocated for the designated purposes out of parking-meter funds, directly or indirectly, are essentially the costs of these items in the places reporting, so far as they relate directly to the parking-meter program.

Modest allocations were made to other programs involving the alleviation of parking difficulties. Approximately 3.2 per-

cent was placed in meter funds. An additional 8.6 percent, in excess of \$3 million, was used for off-street-parking facilities.

If one totals these individual items, all relating to some phase of the parking program, it can be concluded that in 1951 approximately 35 percent of gross meter revenues was spent for curb and off-street parking accommodations and their necessary administration and upkeep. It is noteworthy that such a substantial amount was spent for the basic purposes for which the parking meter was originally intended and legally warranted.

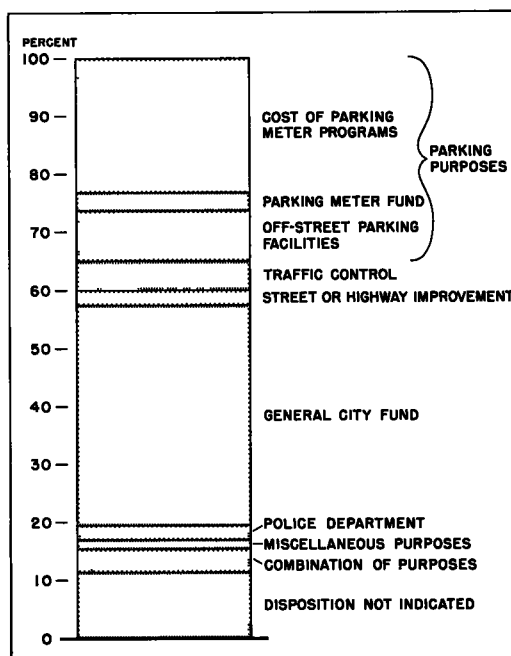


Figure 28. Percentage of gross parking meter revenues allocated for stated purposes in places reporting, January 1, 1952.

Yet from another point of view, much progress in this area remains to be achieved. For approximately 50 percent of the total take was diverted to nonparking purposes in 1951. Over 38 percent of gross revenues went into the general fund and was accordingly merged with other moneys, to be used for general municipal governmental purposes. Such purposes are indeed worthwhile in themselves, but the question might well be posed as to why the incidence for their support should be placed upon a small and restricted class of municipal citizens, namely, the motorist-parker who seeks to park his humble

TABLE 40
Disposition of gross curb parking meter revenues for 1951¹ in places reporting, by population groups

Purposes for which revenues were allocated	Gross revenue for each indicated population group										Los Angeles County - no population group	Total
	Under 2,500	2,500 to 5,000	5,000 to 10,000	10,000 to 25,000	25,000 to 50,000	50,000 to 100,000	100,000 to 250,000	250,000 to 500,000	500,000 to 1,000,000	1,000,000 or more		
Gross revenues for year ¹	\$413,215	\$1,784,503	\$4,370,989	\$8,145,185	\$5,694,593	\$4,708,018	\$4,096,727	\$3,338,319	\$3,053,636	\$819,125	\$105,392	\$36,529,702 ¹
Number of places reporting gross revenues	85	214	296	309	127	59	36	13	8	4	1	1,152
Cost of parking meter program.												
1 Amortization of curb parking meters ²	\$ 86,103	\$ 311,410	\$ 584,195	\$ 540,172	\$ 279,027	\$ 241,032	\$ 224,873	\$ 7,769	\$ 200,140	\$202,458	\$ 47,297	\$ 2,724,478
2 Police enforcement	41,048	161,161	346,838	572,456	323,528	315,026	231,344	45,068	182,309	80,000	-	2,278,678
3 Meter repair and maintenance	8,001	48,511	109,014	291,526	158,386	165,714	210,978	157,898	199,002	61,705	7,882	1,418,617
4 Collection of meter revenue ³	3,837	15,100	40,475	106,988	81,548	103,193	89,866	53,449	157,981	53,507	7,189	713,133
5 Combination of two or more of purposes in items 2, 3, and 4	6,391	53,926	174,283	315,791	191,825	218,740	69,322	39,045	-	-	-	1,069,323
6 Miscellaneous expenses connected with parking meter program ⁴	72	2,612	13,406	41,841	15,488	26,092	30,869	8,933	21,748	43,810	14,474	219,375
Total, parking meter program	145,452	592,720	1,268,211	1,868,774	1,049,802	1,069,797	857,282	312,162	761,080	421,480	76,842	8,423,602
Parking meter fund ⁵	4,415	51,635	71,570	216,509	47,364	182,670	3,912	227,891	320,311	58,169	-	1,184,446
Off-street parking facilities ⁶	1,300	58,267	150,479	650,757	736,525	643,146	408,478	-	192,931	283,364	-	3,125,247
Related purposes												
1 Traffic control ⁷	3,042	54,767	149,530	268,923	240,735	343,562	219,412	432,828	157,821	-	-	1,870,620
2 Street or highway improvement ⁸	25,899	104,132	195,342	269,506	67,732	104,817	74,234	-	51,200	-	-	892,862
General city purposes												
1 General fund	123,663	542,397	1,522,313	2,731,780	2,174,616	1,663,646	2,002,009	1,750,884	1,350,504	56,112	-	13,917,924
2 Police department	14,095	61,055	223,221	336,501	137,250	-	7,628	106,674	-	-	-	886,424
3 Miscellaneous purposes ⁹	4,747	36,701	70,087	148,086	48,368	64,805	-	-	219,789	-	28,550	621,133
Total, general city purposes	142,505	640,153	1,815,621	3,216,367	2,360,234	1,728,451	2,009,637	1,857,558	1,570,293	56,112	28,550	15,425,481
Combination of any two or more of above purposes	6,750	35,597	119,066	423,180	358,727	239,352	219,824	-	-	-	-	1,402,496
Disposition not indicated	83,852	247,232	601,170	1,231,169	833,474	396,223	303,948	507,880	-	-	-	4,204,948

¹Either calendar year or fiscal year. Figures represent actual collections, including revenues from meters installed for less than one year and those operated seasonally.

²In addition to original cost of meters, allocations include purchase of new meter heads, re-habilitation of meters, and capital improvement fund.

³Includes sorting, counting, wrapping, and sealing coins, in addition to collecting revenue.

⁴Includes, among other expenses, purchase of motorcycles, automobiles, collection carts, coin boxes, and coin wrappers and counters, removing and relocating meters, reserves for repair, maintenance, and collecting, publication of ordinances, auditing, advertising, collecting fines, automobile and motorcycle expenses, uniforms, salaries of parking meter superintendent, inspector, and clerks, office supplies, equipment, snow removal in metered areas, and painting parking spaces.

⁵In addition to expenditures connected with parking meter program and depreciation reserve for meters, allocations include amounts which could not be separately identified for such purposes as street improvement and lighting, traffic control, construction of bridge and public buildings, motor vehicle parking fund, purchase and improvement of parking lots, and reserves for future purchase of off-street facilities.

⁶Includes reserves for off-street parking facilities and revenues pledged or used to purchase off-street parking facilities and to retire parking bond issues. Some allocations for off-street parking, not separately reported, are included in parking meter fund and in allotments for general miscellaneous purposes.

⁷Includes traffic signals and signs, in addition to other traffic control expenses.

⁸Includes, among other things, purchase of street flusher and gravel truck, street lighting and traffic lights, and street and budget fund.

⁹Includes amounts for such items as automotive expenses, ladder, truck, and hose for fire department, truck and other equipment for street department, service car, police car, police equipment, street sweeping, marking, and oiling, snow removal, painting parking lanes and signs, street signs, fund for off-street parking or recreation facilities not separately allocated, parks and recreation, permanent improvement fund, equipment fund, public safety fund, health department, school fund, fund for new city hall, building reserve, salary of corporation counsel, clerk hire, general supplies, principal and interest on bonds, improvement of river front for boat docking and parking, comfort station on parking lot not separately identified, traffic fines bureau, employees retirement fund, jail expenses, salary of school band instructor, and payment on bonds issued to build shoe factory.

vehicle in metered curb areas of the central business district.

In excess of 2 percent of revenues went to the police department, 5 percent for traffic control, 2.5 percent for street improvements, and about 2 percent for miscellaneous nonparking projects.

For municipalities representing approximately 15 percent of the gross-revenue, disposition data either was not given at all or more than one purpose were grouped together, making impossible segregation in the terms of the above specific purposes.

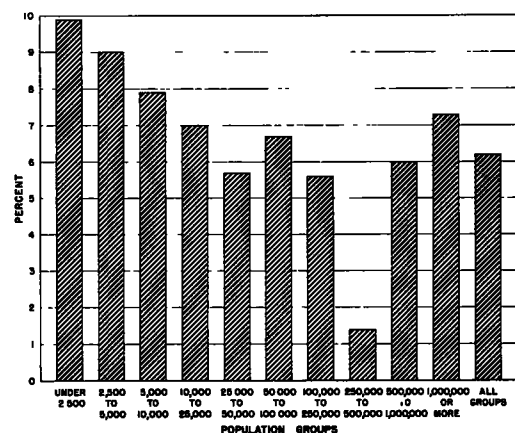


Figure 29. Percentage of total parking meter revenues spent for police enforcement of meter program in places reporting, by population groups, January 1, 1952.

Analysis by Population Groups

Disposition of gross revenues by population groups involves some striking similarities and some variations. The following array of portions of the total take spent for administration of the parking meter program so indicates:

Population Group	Percentage of total revenues spent for administration (exclusive of amortization)
Under 2,500	14.3
2,500 to 5,000	15.7
5,000 to 10,000	15.6
10,000 to 25,000	16.3
25,000 to 50,000	13.5
50,000 to 100,000	17.6
100,000 to 250,000	15.4
250,000 to 500,000	9.2
500,000 to 1,000,000	18.4
1,000,000 and over	26.8
All population groups	15.6

Assuming municipalities in the respective population groups have reported their administrative costs with the same degree of accuracy and on the same bases, such costs range from approximately 14 to 18 percent of the gross revenues in all but two population groups, with no significant relationship between such costs and size of munici-

TABLE 41
Disposition of gross curb parking meter revenues for 1951¹ in places reporting, expressed as a percentage of the total, by population groups

Purposes for which revenues were allocated ¹	Percentage of gross revenues for each population group											Los Angeles County, California - no population group	Total
	Under 2,500	2,500- 5,000	5,000- 10,000	10,000- 25,000	25,000- 50,000	50,000- 100,000	100,000- 250,000	250,000- 500,000	500,000- 1,000,000	1,000,000 or more			
Gross revenue for year	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	
Cost of parking meter program													
1 Amortization of curb parking meters	20.9	17.5	13.4	8.6	4.9	5.1	5.5	0.2	6.5	24.7	66.9	7.5	
2 Police enforcement	9.9	9.0	7.9	7.0	5.7	4.7	5.6	1.4	6.0	7.3	-	4.2	
3 Meter repair and maintenance	1.9	2.7	2.5	3.8	2.6	3.5	5.1	4.7	6.5	7.6	7.6	2.9	
4 Collection of meter revenues	0.9	0.9	0.9	1.3	1.4	2.2	2.2	1.6	5.2	6.5	6.5	2.6	
5 Combination of two or more of pur- poses in items 2, 3, and 4	1.6	3.0	4.0	3.9	3.3	4.6	1.7	1.2	-	-	-	2.9	
6 Miscellaneous expenses connected with parking meter program	-	0.1	6.3	0.5	0.3	0.6	0.8	0.3	0.7	5.4	13.7	6.6	
Total, parking meter program	26.2	22.2	26.0	22.9	18.4	22.7	20.9	9.4	24.9	51.5	72.0	22.1	
Parking meter fund	1.1	2.9	1.6	2.7	0.8	3.9	0.1	6.8	18.5	7.1	-	3.2	
On-street parking facilities	6.2	3.2	3.5	8.0	12.9	12.7	10.0	-	6.3	24.6	-	8.6	
Related purposes													
1 Traffic control	6.7	3.1	3.4	3.3	4.3	7.3	5.3	12.0	6.2	-	-	6.1	
2 Street or highway improvement	6.3	5.6	4.5	3.3	1.2	2.2	1.6	-	1.7	-	-	2.5	
General city purposes:													
1 General fund	28.9	30.4	34.8	33.6	34.2	35.3	48.9	62.4	44.2	6.6	-	28.1	
2 Police department	3.4	3.4	5.1	4.1	3.4	-	0.2	3.2	-	-	-	2.4	
3 Miscellaneous purposes	1.2	2.1	1.6	1.8	0.9	1.4	-	-	7.2	-	27.1	1.7	
Total, general city purposes	34.5	35.9	41.5	39.5	41.5	36.7	49.1	65.6	51.4	6.6	27.1	32.2	
Combination of any two or more of above purposes	1.6	2.0	2.7	5.2	6.3	5.1	5.4	-	-	-	-	3.6	
Disposition not indicated	20.3	13.9	13.8	15.1	14.7	8.4	7.4	15.2	-	-	-	11.5	

¹See Table 40 for explanatory footnotes.

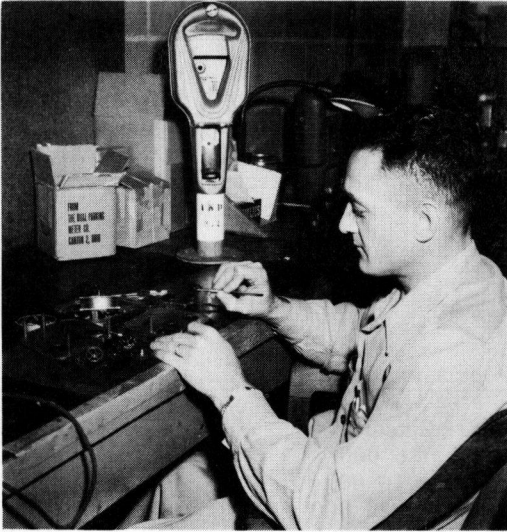


Figure 30. Parking meters, being mechanical devices, go haywire once in a while. Here, one of four full time repairmen is engaged in such repair operations--a function of the District of Columbia Highway Department.

pality. In the 250,000-to-500,000-population group, however, the costs are only slightly in excess of 9 percent; all other things being equal, therefore, this might indicate that the parking-meter programs, such as they may be, are more efficiently managed in these places than in any others. On the other hand, comparable administrative costs in the largest places surveyed account for almost 27 percent of the total gross revenues for these places. Whether this differential may be accounted for by

differences in reporting methods, accounting procedures, inefficiencies of operation, or other unknown factors is difficult to surmise.

Some of the constituent elements of the costs of administration involve significant relationship with size of municipality. For example, though with some variation, the relative costs for police enforcement in connection with the meter program seem to vary inversely with size of place; but the largest places seem to be somewhat out of line:

Population Group	Percentage that police enforcement costs are of total parking meter revenues
Under 2,500	9.9
2,500 to 5,000	9.0
5,000 to 10,000	7.9
10,000 to 25,000	7.0
25,000 to 50,000	5.7
50,000 to 100,000	6.7
100,000 to 250,000	5.6
250,000 to 500,000	1.4
500,000 to 1,000,000	6.0
1,000,000 or more	7.3
All population groups	6.2

Even enforcement data should not be relied upon too heavily. For there is reason to believe that some municipalities may not have reported these costs too accurately in terms of the actual police expense that is directly attributable to the parking-meter



Figure 31. Sometimes minor adjustments of the parking meter mechanism will put it back into smooth operation.



Figure 32. Parking meter parts are kept in glass containers in a systematic way in the repair shops of the Operations Section, Electrical Division, of the Highway Department of the District of Columbia. The meter mechanisms on the lower shelves have been fully repaired and are awaiting installation as the need arises.

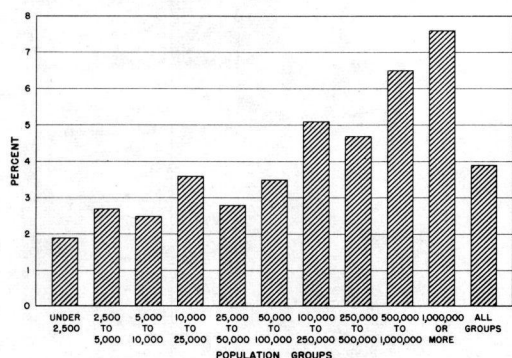


Figure 33. Percentage of total parking meter revenues spent for repair and maintenance of meters in places reporting, by population groups, January 1, 1952.

program. But perhaps rough approximations are all that are needed in this area of the problem.

The extent of the repair and maintenance item is closely correlated with size of place. The smaller the municipality the smaller this item is likely to be; conversely, the larger the place the greater the

cost. The following data support this conclusion:

Population group	Percentage that repairs and maintenance costs are of total parking meter revenues
Under 2,500	1.9
2,500 to 5,000	2.7
5,000 to 10,000	2.5
10,000 to 25,000	3.6
25,000 to 50,000	2.8
50,000 to 100,000	3.5
100,000 to 250,000	5.1
250,000 to 500,000	4.7
500,000 to 1,000,000	6.5
1,000,000 or more	7.6
All population groups	3.9

The reasons for this apparent condition are not the easiest to discern. Perhaps, the greater intensity of use of parking meters in the larger municipalities results in greater wear and tear on the mechanism. The costs themselves, in

terms of their dollar amounts, may be greater for comparable services in the larger places than in the smaller ones. Perhaps there are other reasons too.

The costs of collection of the meter revenue seem to be likewise closely related to the size of the place involved, varying directly with it, in the following manner:

Population group	Percentage that collection costs are of total parking meter revenues
Under 2,500	0.9
2,500 to 5,000	0.9
5,000 to 10,000	0.9
10,000 to 25,000	1.3
25,000 to 50,000	1.4
50,000 to 100,000	2.2
100,000 to 250,000	2.2
250,000 to 500,000	1.6
500,000 to 1,000,000	5.2
1,000,000 or more	6.5
All population groups	2.0

The same direct correlation of the miscellaneous expenses with size of place is evident from Tables 40 and 41. They range from 0.1 percent of the total meter revenues for places in the 2,500-to-5,000 group, to 5.4 for the largest municipalities.

Relative amounts spent for off-street facilities are especially significant. Perhaps reflecting the urgency of the need for

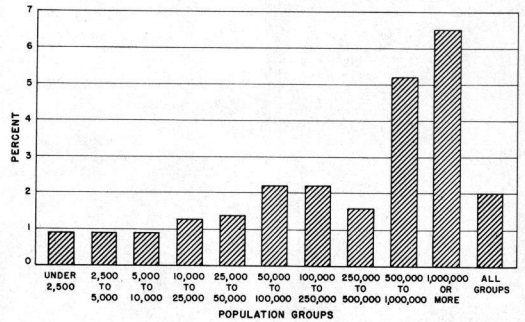


Figure 34. Percentage of total parking meter revenues spent for collection of meter revenues in places reporting, by population groups, January 1, 1952.



Figure 35. The first point of contact which the Collector of Taxes of the District of Columbia has with parking meter collections is here illustrated. The coin boxes from individual meters are packed in the cases shown and are held in place by appropriate clamps.

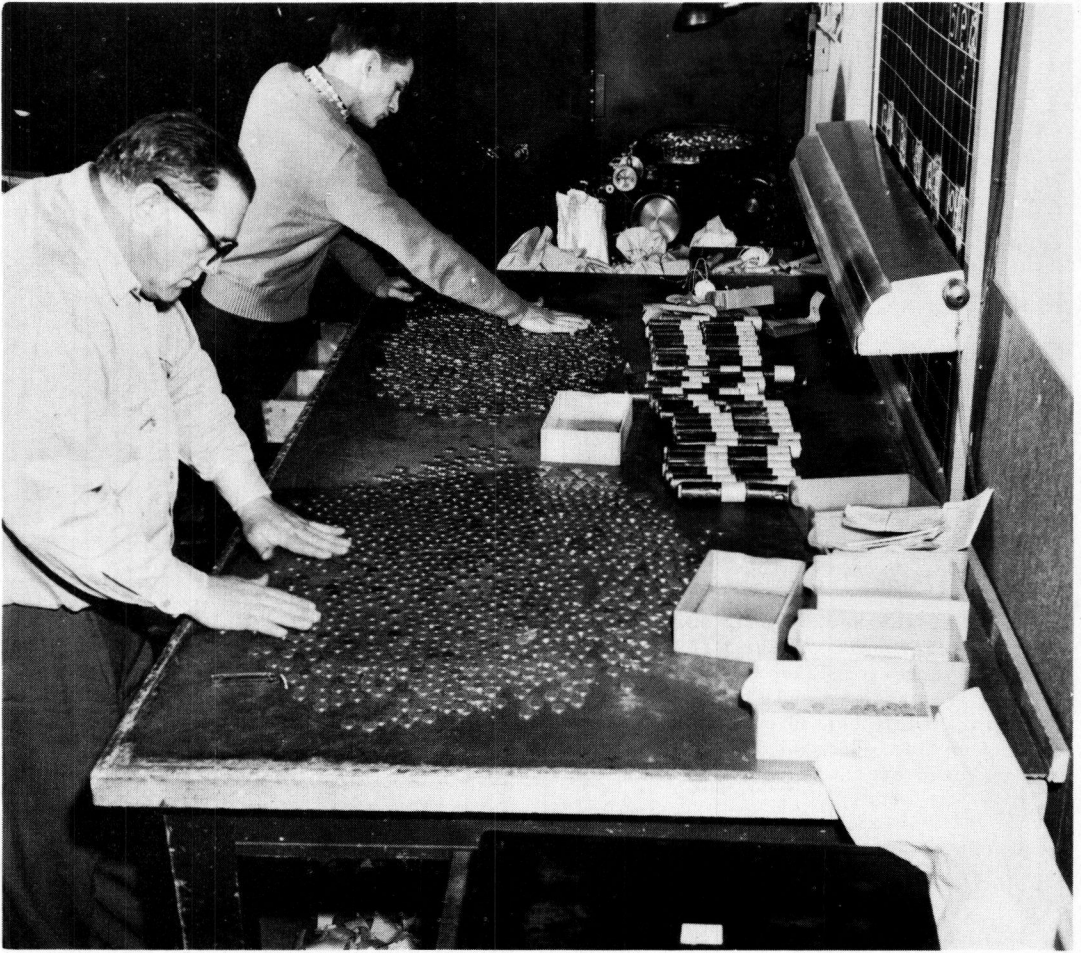


Figure 36. Step No. 2, where the coins are inspected, after having been emptied out of the parking meter coin boxes. Note the containers on the table still awaiting to be emptied with their seals still unbroken.

parking accommodations in the larger places, a greater portion of the gross revenues were spent for this purpose in the larger municipalities than in the smaller ones. The following is an array by population groups:

<u>Population group</u>	<u>Percentage that off-street parking facility allocations are of total parking meter revenues</u>
Under 2,500	0.3
2,500 to 5,000	3.2
5,000 to 10,000	3.5
10,000 to 25,000	8.0
25,000 to 50,000	12.9
50,000 to 100,000	13.7
100,000 to 250,000	10.0

250,000 to 500,000	-
500,000 to 1,000,000	6.3
1,000,000 and over	34.6
All population groups	8.6

Thus far we have considered the costs of the parking-meter program itself, and expenditures for off-street-parking facilities, and have noted that, generally speaking, there seems to be some kind of correlation, sometimes direct, sometimes inverse, between the relative magnitude of such elements and size of municipalities. But approximately 50 percent of the gross curbside-parking-meter revenues are diverted to nonparking purposes. How is this substantial amount split up among the respective population groups?



Figure 37. Another typical scene in the parking meter unit of the Office of the D. C. Collector of Taxes. After the containers are unpacked and the seals broken, the coins are deposited on this table top so that mutilated coins and slugs can be separated from the coins.

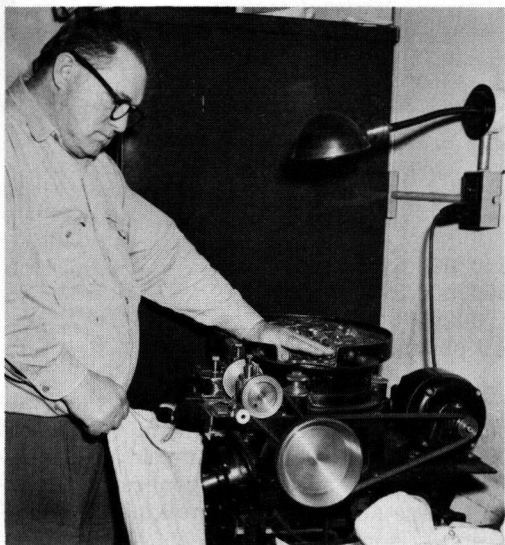


Figure 38. The next step in the procedure now being used by the District of Columbia in its parking meter operations involves the counting of the coins and their deposit in appropriate coin bags. This automatic machine deposits \$400 worth of coins in each bag.



Figure 39. Once the parking meter coin containers have been emptied, they are resealed as here indicated.



Figure 40. Parking meter coin box re-sealing operations, involving a different type of parking meter than is involved in the preceding illustration.

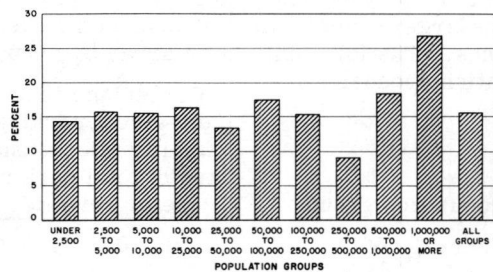


Figure 41. Percentage of total parking meter revenues spent for administration of meter program in places reporting, by population groups, January 1, 1952.

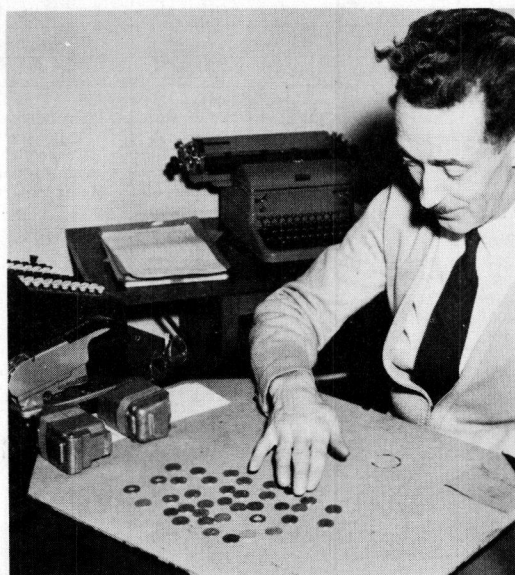


Figure 42. The supervisor of the parking meter unit of the office of the D. C. Collector of Taxes examines 37 slugs which were found in parking meter coin collections over a period of 4 days. Approximately 35,000 coins are collected daily. Some municipalities find a greater percentage of slugs than this.

The use of meter revenues for purposes not related to parking seems to be greater, relatively speaking, in the larger municipalities than in the smaller ones. The range is from 41.5 percent in places under 2,500 population to 68.6 percent in the 250,000-to-500,000 group. It is noteworthy that only 6.8 percent of gross revenues were so diverted in cities of a million or more; it is here that the most urgent need for parking accommodations exists, and there is the least inclination to divert

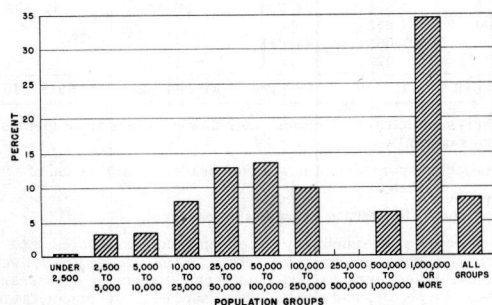


Figure 43. Percentage of total parking meter revenues allocated to off-street parking facilities in places reporting, by population groups, January 1, 1952.

legitimate parking-meter revenues for other purposes. The data by population groups for the aggregate amount diverted are as follows:

Population groups	Percentage that nonparking allocations are of total parking-meter revenues
Under 2,500	41.5
2,500 to 5,000	44.8
5,000 to 10,000	49.4
10,000 to 25,000	46.1
25,000 to 50,000	46.9
50,000 to 100,000	46.2
100,000 to 250,000	56.2
250,000 to 500,000	68.6
500,000 to 1,000,000	58.3
1,000,000 or more	6.8
All population groups	49.8

Allocations to the general fund seem to constitute the largest relative amounts, of all nonparking purposes among all the population groups. And generally speaking, the amount thereof seems to increase, though with some exceptions, with the size of municipality, as follows:

Population group	Percentage that general fund allocations are of total parking-meter revenues
Under 2,500	29.9
2,500 to 5,000	30.4
5,000 to 10,000	34.8
10,000 to 25,000	33.6
25,000 to 50,000	38.2
50,000 to 100,000	35.3
100,000 to 250,000	48.9
250,000 to 500,000	52.4
500,000 to 1,000,000	44.2
1,000,000 or more	6.8
All population groups	38.1

There seems to be nothing especially significant about the allocations to the police department for nonparking purposes, as between the various population groups, except that such an item exists to a modest extent. The same is true of the amounts allocated for traffic control, except that a substantial amount, 13.0 percent, is so involved in the 250,000-to-500,000 group.

Amounts spent for street and highway improvement from meter revenues appear

Disposition of Gross Curb Parking Meter Revenues by State

State	Gross Revenues For Year ¹	Cost of Parking Meter Program						Amount of Gross Parking Meter Fund ²
		Amortization of Curb Parking Meters ³	Police Enforcement	Meter Repair and Maintenance	Collection of Meter Revenue ⁴	Combination of Two or More of Purposes in Columns 3 to 5, inclusive, not Separately Allocated	Miscellaneous Expenses Connected with Parking Meter Program ⁵	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Alabama	\$516,681	\$59,916	\$22,284	\$24,260	\$7,202	\$9,418	-	\$2,315
Arizona	329,153	29,514	39,950	15,659	20,748	6,514	-	-
Arkansas	574,472	64,705	17,418	4,722	3,000	5,360	-	27,680
California	4,655,757	328,143	280,400	304,668	151,621	117,071	\$55,915	95,193
Colorado	505,971	14,379	22,504	14,773	7,676	24,232	986	-
Connecticut	126,113	6,333	-	578	670	12,006	-	-
Delaware	13,669	-	1,950	700	52	-	-	-
Florida	852,988	59,992	15,066	7,652	6,305	54,307	-	-
Georgia	396,841	7,038	6,040	1,212	275	-	-	-
Idaho	181,503	13,064	2,700	1,035	3,300	6,860	-	-
Illinois	1,527,027	111,736	126,400	54,066	30,092	60,745	2,419	85,236
Indiana	779,911	40,984	75,114	76,052	10,165	6,380	12,797	-
Iowa	987,009	64,475	73,532	30,009	985	105,449	2,755	19,358
Kansas	711,920	49,732	46,013	38,209	10,061	2,820	1,054	24,777
Kentucky	268,041	13,659	7,480	8,033	1,200	7,820	-	8,342
Louisiana	109,082	13,361	6,300	325	-	3,000	-	-
Maine	132,499	13,268	11,495	1,988	1,061	11,684	-	4,191
Maryland	158,217	9,348	11,120	4,232	659	-	-	-
Massachusetts	1,454,786	116,470	67,744	43,520	18,676	68,664	25,276	116,353
Michigan	1,806,835	98,067	89,869	89,412	45,833	86,993	35,494	3,498
Minnesota	1,165,464	56,386	54,537	67,490	41,366	33,447	7,494	27,837
Mississippi	430,999	54,152	13,920	1,314	1,500	13,185	266	-
Missouri	516,095	49,892	45,068	23,078	4,563	20,626	165	6,672
Montana	285,890	36,087	30,824	1,764	-	30,833	-	6,484
Nebraska	192,001	31,428	10,235	2,989	-	4,487	-	5,741
Nevada	65,739	-	-	4,042	-	-	-	-
New Hampshire	127,046	10,564	16,506	6,682	2,138	2,645	813	4,354
New Jersey	1,095,682	8,330	46,224	32,887	10,435	30,966	615	1,385
New Mexico	18,230	9,115	-	-	-	-	-	-
New York	1,827,457	281,628	45,284	65,685	36,069	57,567	9,033	18,215
North Carolina	811,900	8,672	74,628	26,388	17,370	26,696	-	-
North Dakota	70,411	11,518	6,673	3,375	3,080	1,000	-	-
Ohio	1,555,035	39,358	338,453	52,494	58,066	32,282	8,727	31,908
Oklahoma	696,130	67,161	24,586	2,230	1,568	14,072	-	-
Oregon	1,597,221	46,814	106,917	66,887	49,179	16,556	695	71,726
Pennsylvania	2,331,103	177,729	228,046	104,578	48,443	33,186	14,085	8,961
Rhode Island	157,384	12,500	3,000	2,500	3,000	-	-	-
South Carolina	467,884	20,201	23,746	14,270	6,603	5,200	-	2,781
South Dakota	92,732	11,861	2,580	616	-	-	-	6,000
Tennessee	1,037,373	108,948	45,731	31,205	150	23,994	14,404	177,381
Texas	1,840,942	203,000	103,441	55,890	16,785	9,267	6,368	29,525
Utah	369,611	17,714	24,284	10,134	11,700	17,811	-	-
Vermont	94,436	3,132	23,577	1,068	1,000	3,500	-	-
Virginia	642,600	12,097	10,080	9,373	936	17,520	-	-
Washington	1,141,976	34,604	43,058	33,626	20,239	46,657	7,020	-
West Virginia	148,335	4,911	4,048	2,255	240	5,268	-	924
Wisconsin	1,213,349	285,881	46,573	33,653	14,706	28,435	12,994	77,318
Wyoming	36,990	5,230	3,300	813	-	-	-	-
District of Columbia	404,790	-	-	40,063	44,416	-	-	320,311
Alaska	6,402	1,379	-	223	-	4,800	-	-
Total	\$36,529,702	\$2,724,476	\$2,278,678	\$1,418,617	\$713,133	\$1,069,323	\$219,375	\$1,184,446

¹Either calendar year or fiscal year. Figures represent actual collections, including revenues from meters installed for less than one year and those operated seasonally.

²In addition to original cost of meters, allocations include purchase of new meter heads, rehabilitation of meters, and capital improvement fund.

³Includes sorting, counting, wrapping, and sealing coins, in addition to collecting revenue.

⁴Includes, among other expenses, purchase of motorcycles, automobiles, collection carts, coin boxes, and coin wrappers and counters, removing and relocating meters, reserves for repair, maintenance, and collecting, publication of ordinances, auditing, advertising, collecting fines, automobile and motorcycle expenses, uniforms, salaries of parking meter superintendent, inspector, and clerks, office supplies, equipment, snow removal in metered areas, and painting parking spaces.

⁵In addition to expenditures connected with parking meter program and depreciation reserve for meters, allocations include amounts which could not be separately identified for such purposes as street improvement and lighting, traffic control, construction of bridge and public buildings, motor vehicle parking fund, purchase and improvement of parking lots, and reserves for future purchase of off-street facilities.

1951¹ in Places Reporting, By States

Revenues Allocated for Indicated Purposes

Off-Street Parking Facilities ^a	Related Purposes		General City Purposes			Combination of Any Two or more of Foregoing Purposes	Disposition not Indicated
	Traffic Control ^b	Street or Highway Improvement ^c	General Fund	Police Department	Miscellaneous Purposes ^d		
(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
-	\$3,205	\$4,645	\$343,750	\$2,340	\$1,032	\$11,098	\$25,236
-	500	3,582	207,186	-	-	5,500	-
-	-	57,859	154,752	-	2,800	40,446	195,750
\$762,126	100,127	173,189	1,316,056	86,336	59,982	177,175	667,755
-	-	7,617	398,585	-	12,125	-	3,094
34,212	-	-	62,017	-	-	5,906	4,391
-	-	4,969	-	-	5,998	-	-
24,433	101,419	-	422,836	-	52,142	89,357	19,479
-	52,510	-	180,479	1,503	-	23,704	124,080
-	-	7,355	141,055	-	-	-	6,134
64,290	30,584	28,172	412,267	43,168	63,183	99,566	315,163
16,004	33,017	152,226	53,500	1,200	18,805	-	283,667
506,701	48,754	17,126	23,228	-	3,955	-	90,682
173,610	81,463	6,895	235,141	11,102	-	-	31,043
-	2,500	5,653	176,159	-	-	24,695	12,500
-	-	-	60,628	-	-	-	25,468
20,164	2,648	45,972	14,679	4,879	470	-	-
200	-	-	59,561	7,762	312	-	65,023
115,318	55,806	4,546	617,312	7,628	9,036	-	188,437
719,768	5,411	26,594	285,833	20,740	20,133	51,609	227,581
26,638	63,087	64,416	369,589	11,717	216,689	15,808	108,983
-	-	-	197,774	-	-	39,195	109,693
23,458	1,524	8,492	247,362	-	27,879	-	57,316
10,964	4,100	53,000	38,308	-	3,213	-	70,313
4,067	26,439	1,069	-	33,370	-	-	72,176
-	24,025	-	-	37,672	-	-	-
24,455	1,806	20,165	3,094	25,907	-	-	7,917
33,625	-	-	627,404	12,153	-	-	291,658
-	-	-	9,115	-	-	-	-
72,372	3,967	7,896	1,123,427	18,000	-	-	88,314
5,100	275,691	1,000	260,133	24,220	31,956	26,922	33,124
2,517	23,154	1,975	11,747	-	-	-	5,372
29,222	209,206	53,512	335,067	75,616	18,725	44,000	228,399
-	3,135	12,539	495,318	-	-	46,000	29,521
37,645	535,649	2,875	333,605	255,818	1,289	-	71,566
7,267	22,426	9,005	1,261,231	115,667	4,339	88,286	207,854
-	-	-	132,384	-	-	-	4,000
-	8,949	-	246,578	28,500	-	100,306	10,750
-	-	2,400	-	-	-	-	69,275
-	-	3,160	500,950	18,432	20,861	47,921	44,236
-	65,200	54,162	1,092,213	17,884	11,980	125,066	50,161
-	67,158	-	184,929	-	29,930	-	5,951
500	1,400	5,811	24,207	5,310	3,799	-	21,132
21,818	3,145	13,456	449,061	-	-	-	105,114
-	12,615	31,529	551,375	19,500	-	316,838	24,915
-	-	-	75,689	-	-	-	55,000
388,773	-	-	173,985	-	500	23,098	127,433
-	-	-	8,355	-	-	-	19,292
-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-
\$3,125,247	\$1,870,620	\$892,862	\$13,917,924	\$886,424	\$621,133	\$1,402,496	\$4,204,948

^aIncludes reserves for off-street facilities and revenues pledged or used to purchase off-street parking facilities and to retire parking bond issues. Some allocations for off-street parking, not separately reported, are included in parking meter fund and in allotments for general miscellaneous purposes.

^bIncludes traffic signals and signs, in addition to other traffic control expenses.

^cIncludes, among other things, purchase of street flusher and gravel truck, street lighting and traffic lights, and street and budget fund.

^dIncludes such items as automotive expenses, ladder, truck, and hose for fire department, truck and other equipment for street department, service car, police car, police equipment, street sweeping, marking and oiling, snow removal, painting parking lanes and signs, street signs, fund for off-street parking or recreation facilities not separately allocated, parks and recreation, permanent improvement fund, equipment fund, public safety fund, health department, school fund, fund for new city hall, building reserve, salary of corporation counsel, clerk hire, general supplies, principal and interest on bonds, improvement of river front for boat docking and parking, comfort station on parking lot not separately identified, traffic fines bureau, employees retirement fund, jail expenses, salary of school band instructor, and payment on bonds issued to build shoe factory.

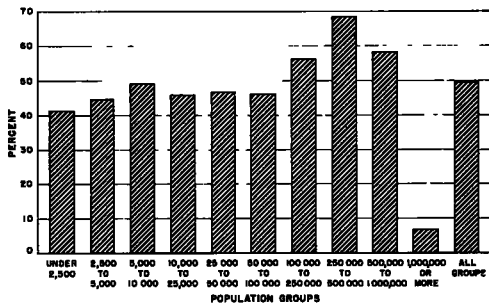


Figure 44. Percentage of total parking meter revenues spent for nonparking purposes in places reporting, by population groups, January 1, 1952.

to vary with size of city, being the greatest, relatively speaking, in the smallest places, and smallest in the largest places. The range is from 6.3 percent in municipalities under 2,500 population to 1.7 percent in the 500,000-to-1,000,000-population group.

Disposition of Meter Revenues by States

The allocations of curb meter revenues to the various purposes heretofore discussed, by states, are indicated in Table 42.

The largest gross amounts spent for off-street-parking facilities are found in California, Iowa, Kansas, Massachusetts, Michigan, and Wisconsin.

COST OF CURB PARKING METERS

The cost of curb parking meters is, perforce, of significant proportion in the municipal parking program. Its magnitude, therefore, is of more than passing interest.

How has the cost of meters varied through the years? Do these variations correspond with changes in the price levels of similar commodities? What has been the average cost by years? Answers to these and other inquiries may be found in the following paragraphs.

Cost data are available for 416,151 meters by year of purchase, (see Table 43). There has been a progressive increase in the number of meters purchased through the years, ranging from 505 in 1935 to 46,535 in 1951, the survey year. Relatively speaking, the greatest activity in the field has taken place since World War II, beginning in 1946 and continuing to the present. During that period, approximately 68 percent of the total meters surveyed were purchased. The high points, rela-

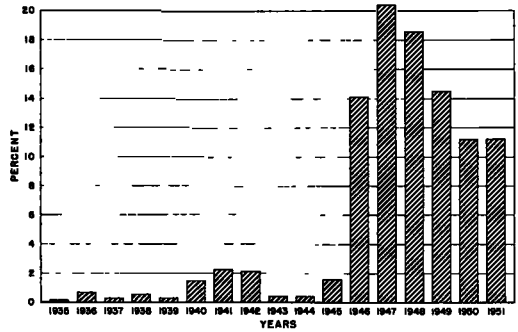


Figure 45. Percentage distribution by year of purchase of parking meters for which data are available.

tively, were the years 1947 and 1948, when 15.5 percent and 14.1 percent, respectively, of the total, were purchased. Cost data were not submitted for approximately a quarter of the number of meters surveyed.

The weighted average cost per meter for the various years is indicated as follows:

1951	\$61.08	1945	\$68.85	1939	\$57.81
1950	62.25	1944	60.25	1938	62.20
1949	64.79	1943	65.68	1937	59.97
1948	64.71	1942	62.40	1936	61.49
1947	65.32	1941	59.54	1935	52.50
1946	66.06	1940	54.61		

It is noteworthy from this array that since the end of World War II, the average price of the parking meter has actually come down, from approximately \$69 in 1945 to \$61 in 1951, the survey year. This, during a period when the price of just about everything else has gone up.

Several explanations are plausible: Mass production and increasing sales of the parking meter have probably served as depressants on price. Though technological improvements have been made in the meter, improving its quality through the years, they apparently have not exerted much upward influence on price. Brisk competition in the field has also served to keep the price low.

The apparent drop in the average price of the parking meter since the end of the war is further accentuated by reference to comparable commodities, the price tags of which have risen substantially during this period. Experts in the field of commodities price indices²⁴ have indicated that the subgroup dealing with office and store machines and equipment is probably the closest to the

²⁴ Prices and Cost-of-Living Division, Bureau of Labor Statistics, United States Department of Labor, Washington, D. C.

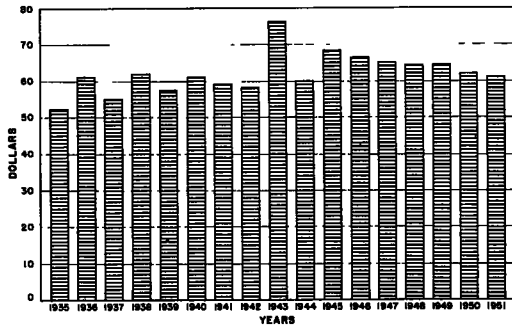


Figure 46. Weighted average cost per meter, by years.

the wholesale price index for all commodities other than farm products and foods. As the following data indicate, the same general movement in prices during a comparable period is apparent:

Year	Index (1947-1949=100)
1945	71.3
1946	78.3
1947	95.3
1948	103.4
1949	101.3

TABLE 43
Cost per meter of curb parking meters in places reporting, by year of purchase

Cost per meter	Year of purchase																	Year not indicated	Total no of meters	Percent- age	Cumula- tive percentage
	1951	1950	1949	1948	1947	1946	1945	1944	1943	1942	1941	1940	1939	1938	1937	1936	1935				
(Dollars)	(Number of meters purchased)																				
40 and under	1,499	600	80	-	-	-	-	-	-	-	-	442	477	254	-	-	-	2,179	0.4	0.4	
40 01-45 00	723	730	532	-	-	-	-	-	-	-	-	452	3,006	-	-	-	-	3,743	0.7	1.1	
45 01-50 00	4,992	1,222	1,361	51	594	3,006	-	-	-	-	-	452	-	-	-	-	-	14,414	2.6	3.7	
50 01-55 00	6,148	6,321	4,418	6,754	8,504	2,457	500	325	-	-	850	1,342	-	-	-	-	-	40,598	7.4	11.1	
55 01-60 00	6,891	9,274	5,485	6,975	12,712	11,272	416	192	518	2,175	3,952	56	478	112	-	504	-	81,012	11.1	22.2	
60 01-65 00	6,441	14,187	18,705	23,521	18,052	6,330	180	1,042	-	2,359	1,691	1,822	344	1,780	200	1,997	-	101,311	16.5	40.7	
65 01-70 00	6,552	3,914	10,322	12,595	9,797	6,533	1,368	-	-	795	745	595	250	-	-	-	-	54,546	10.0	50.7	
70 01-75 00	4,007	2,728	7,712	12,709	21,311	11,640	3,301	-	102	1,465	1,257	-	-	-	250	-	-	67,883	12.4	63.1	
75 01-80 00	5,550	899	5,325	5,543	7,352	3,697	230	-	-	-	-	-	-	-	-	-	-	22,990	4.1	67.2	
80 01-85 00	924*	3,197	1,879*	844*	-	2,976	-	-	-	-	-	-	-	-	-	-	-	8,490	1.6	68.8	
85 01-90 00	325	1,040	694*	357	235	1,656	-	-	-	-	-	-	-	-	-	-	-	4,317	0.8	69.6	
90 01 and over	-	516*	598*	-	-	294	-	-	-	-	-	-	-	-	-	-	-	2,392	0.4	70.0	
Cost not indicated	1,823	2,385*	6,125	5,997	6,499	7,739	75	-	882	1,350	618	184	25	355	146	217	-	126,538*	164,496	30.0	100.0
Total	46,525	46,437	60,115	77,045	85,066	58,475	6,570	1,469	1,802	8,994	9,497	6,225	1,351	2,247	1,110	2,706	505	131,760	547,911**	100.0	
Percentage of total	8.5	8.5	11.0	14.1	15.6	10.7	1.2	0.3	0.3	1.6	1.7	1.1	0.2	0.4	0.2	0.6	0.1	24.1	100.0		

* Includes 56 parking meter spaces controlled by 43 twin-head meters

* The entire 994 spaces are controlled by 462 twin-head meters

* Includes 1,010 parking meter spaces controlled by 505 twin-head meters

* Includes 318 parking meter spaces controlled by 158 twin-head meters

* Includes 690 parking meter spaces controlled by 296 twin-head meters

* Includes 316 parking meter spaces controlled by 158 twin-head meters

* Includes 324 parking meter spaces controlled by 152 twin-head meters

* Includes 926 parking meter spaces controlled by 468 twin-head meters

* Includes 130 parking meter spaces controlled by 65 twin-head meters

* Includes 4,154 parking meter spaces controlled by 2,082 twin-head meters

** Includes a total of 8,802 parking meter spaces controlled by 4,401 twin-head meters

parking meter in their material and labor components.²⁵ Since the end of the war, the wholesale price index for this subgroup has gone up approximately 13.5 percent, as the following tabulation reveals:

Year	Index (1947-1949=100)
1947	98.1
1948	100.9
1949	101.0
1950	102.4
1951	108.9
1952	108.7
1953 (Sept.)	111.6

1950	105.0
1951	115.9
1952	113.2
1953 (Sept.)	114.8

Leaving indices and price movements through the years, for the moment, let us examine the character of the distribution of parking meters among the price groups within particular years. Referring again to Table 43, and its percentage complement, Table 44, it will be noted that the bulk of the meters (over 62 percent of the total) in 1951 ranged in price from \$50 to \$70, with over 20 percent of the total in the \$60-to-\$65 group. In 1950, over 72 percent of the total were in the \$50-to-\$70 price range, with almost 31 percent of the total in the \$60-to-\$65 group. In 1949, over 61 percent were found having price tags of \$60 to \$75, with 31 percent in the \$60-to-\$65 class. The same general trend obtains in other postwar years, with minor variations.

If one is dissatisfied with the above index, resort can be made to another that has considerable validity for purposes of comparison with the price of parking meters, viz.,

²⁵This group includes such items as accounting and adding machines, calculators, typewriters, beverage-dispensing machines, cigarette-vending machines, coin-operated phonographs, computing and hanging scales, safes, dictating machines, check-endorsing machines, duplicators, and time-recording machines.

TABLE 44

Percentage of total number of curb parking meters purchased each year in places reporting and indicated cost per meter¹

Cost per meter (Dollars)	Percentage of meters purchased each year																		Year not indicated
	1951	1950	1949	1948	1947	1946	1945	1944	1943	1942	1941	1940	1939	1938	1937	1936	1935		
40 and under	3.2	1.3	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
40.01 - 45.00	1.5	1.6	0.9	-	-	1.0	-	-	-	-	4.7	7.6	18.8	-	-	-	-	-	
45.01 - 50.00	9.9	2.7	2.3	0.1	0.8	5.1	-	-	-	-	5.1	48.3	-	-	-	-	-	-	
50.01 - 55.00	13.3	13.5	7.7	11.4	10.0	4.2	7.6	16.0	-	9.5	13.1	-	-	-	45.4	-	100.0	-	
55.01 - 60.00	14.8	20.0	9.1	9.0	14.9	19.3	6.3	13.1	28.7	24.2	31.1	0.9	35.4	5.0	-	18.6	-	0.8	
60.01 - 65.00	20.3	30.6	31.1	30.9	18.9	10.8	2.7	70.9	-	26.2	17.8	26.1	25.5	79.2	18.0	73.4	-	1.2	
65.01 - 70.00	14.1	8.4	17.2	17.6	10.3	11.4	20.8	-	-	8.8	7.7	9.6	18.5	-	-	-	-	0.7	
70.01 - 75.00	8.7	5.9	12.8	16.5	25.1	19.9	57.9	-	5.7	16.3	14.0	-	-	-	23.4	-	-	0.6	
75.01 - 80.00	7.6	1.9	3.9	5.1	8.5	6.6	3.5	-	16.6	-	-	4.5	-	-	-	-	-	-	
80.01 - 85.00	2.0	4.6	2.7	1.1	-	5.2	-	-	-	-	-	-	-	-	-	-	-	-	
85.01 - 90.00	0.7	2.2	1.1	0.5	0.3	2.8	-	-	-	-	-	-	-	-	-	-	-	-	
90.01 and over	-	1.1	0.9	-	-	0.5	-	-	-	-	-	-	-	-	-	-	-	0.7	
Cost not in- dicated	3.9	6.2	10.2	7.8	11.2	13.2	1.2	-	49.0	15.0	6.5	3.0	1.8	15.8	13.2	8.0	-	96.0	
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	

¹ See Table 43 for explanatory footnotes.

Of what particular significance are these findings that are related to price?

First, one can presume, based upon the past price history as here revealed, that the price of the parking meter will probably remain relatively stable, all other things being equal. The fact that parking meter manufacture has now passed from the development stage into the mass production stage, may mean that meter prices will probably follow normal trends hereafter. Also, municipal officials and others concerned with the parking program can use the average costs indicated with some assurance of accuracy, for budget, financing and planning purposes. And finally, the averages provided can be used as a rough yardstick for those municipalities that may be seeking to install meters for the first time, or to expand their use of these devices. But individual technical differences between the various brands should be taken into account in appraising price differentials between them.²⁶

THE PARKING METER AND THE SYSTEM CONCEPT

Up until recently, the two basic objectives of the parking meter have been to facilitate turnover at the curb and to assist in the enforcement of parking restrictions. A third significant purpose is now emerging: To serve as a full-fledged member of a legal, functional, and financial partnership of curb and off-street parking facilities. This is being currently identified as the "system concept."²⁷

²⁶ Very obviously, for example, one would expect that a so-called twin-headed meter, which controls two spaces, would cost considerably more than a meter that controls only a single space — and it does.

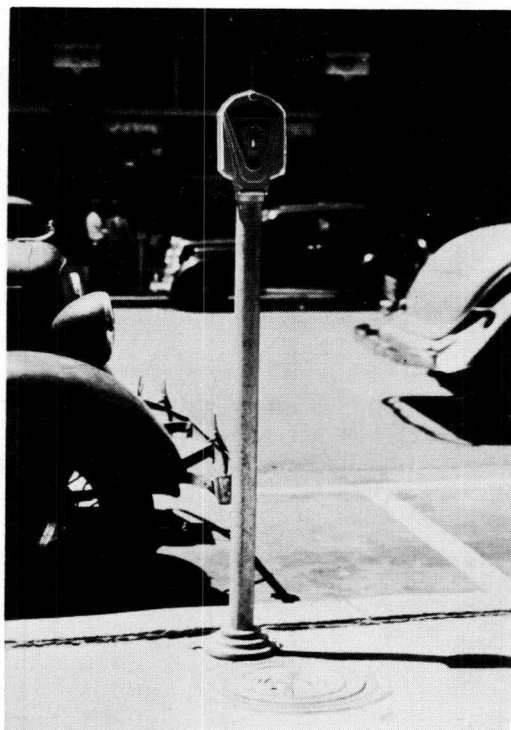


Figure 47. One of the earliest parking meters in the place of its origin, Oklahoma City, Oklahoma, in the vicinity of First and Harvey Streets, June 1936.

ties. This is being currently identified as the "system concept."²⁷

Examination of the survey data of this investigation reveals that more and more

²⁷ For a discussion of this development in its many ramifications, see "Coordinating All Parking Facilities Under the Unified 'System Concept'," *TRAFFIC QUARTERLY*, July 1952, page 294 et seq.

TABLE 45

Integration of curb and off-street parking facilities, by individual places reporting, as of January 1, 1952

State and place	Use of curb parking meter revenue to provide off-street parking facilities				Plans for integration of curb and off-street parking
	Number of off-street facilities already provided		Portion of gross curb meter revenue for year allocated for off-street parking	Revenue pledged to payment of bonds issued for off-street parking or otherwise expended	
	Spaces	Lots			
ALABAMA Jasper	75				
ARIZONA Phoenix	43	2			
CALIFORNIA Alhambra				Net parking meter revenues placed in general fund to repay funds advanced for off-street parking	It is planned to issue bonds for off-street parking payable from curb meter revenues in near future
Anaheim	300	3	\$900, or 4 4%		
Auburn	195	1			
Burbank					
Calistoga					
Chico					
Colton			\$2,738, or 19 3%		
El Monte	184	2, and land for 3rd lot acquired	All net revenue (Gross curb and off-street meter revenues for year, \$95,589)		
Glendale			\$6,129, or 31 8%		
Hanford	164		Net revenues reserved for off-street parking and purchase of additional meters if needed (Gross revenue, 1951, \$69,107)		
Inglewood			All net revenue (Gross revenue, 1951, \$28,122)		
Lodi	86		All net revenue (Gross revenue, 1951, \$94,682)		
Los Angeles					
Los Angeles County		2 purchased 3 leased		Net meter revenues from each area in county are reserved for off-street parking or for recreational facilities in respective areas	
Martinez			\$7,987, or 30%		
Mill Valley				All net parking meter revenue, approximately \$7,000 per year, is now being realized for off-street parking	
Modesto	135		\$33,435, or 50% of curb meter revenue and \$2,991, or 100% of off-street meter revenue.		
Montebello				Net revenues are earmarked for purchase of off-street parking facilities	Integrated program is gradually evolving
Montarey	81 rented lot 52 lot in escrow			75% of meter revenue is required by ordinance to be reserved for off-street facilities.	
Newport Beach	503	1	\$11,322, all net revenue		
Orange		3	\$9,914, or 31%		
Orange	105		\$61,648, or 75%		
Palo Alto					
Redwood City	50	1	\$36,660, or 75%		
Riverside	576 110 additional spaces now being provided	7	\$40,000, or 41 5% of gross curb and off-street revenues.		
Sacramento				35% or \$50,000 of meter revenue, whichever is greater, is pledged annually to off-street revenue bond issue	
San Fernando		1 site	\$24,019, or 85%		
San Leandro					It is planned to purchase some off-street facilities with meter revenue
San Luis Obispo	123	2	\$24,916, or 71 5%		
Santa Monica			\$61,322, or 86 5%, allocated to parking authority for off-street facilities. Additionally \$1,105 was allocated for improvement of parking areas.		
South San Francisco	80			All parking meter revenue pledged to development of off-street parking lots on pay-as-you-go basis	
Tulare		3	\$13,282, or 80%		
Turlock	96		\$3,000, or 10%		Plans being developed for provision of off-street facilities with meter revenues
Visalia	360		\$2,300 or 6%, was allocated for rental of parking lot and an unspecified amount for purchase of off-street lots		
Whittier	294	5	\$34,880, or 75% of curb meter revenue and \$4,005, or 100%, of off-street meter revenue		
Woodland					
CONNECTICUT Meriden	71	2 rented		All net receipts are earmarked for purchase of off-street facilities	
ILLINOIS Barrington			\$1,000, or 7.7%		

TABLE 45 (Continued)

Integration of curb and off-street parking facilities, by individual places reporting, as of January 1, 1952

State and place	Use of curb parking meter revenue to provide off-street parking facilities		Portion of gross curb meter revenue for year allocated for off-street parking ¹	Revenue pledged to payment of bonds issued for off-street parking or otherwise expended	Plans for integration of curb and off-street parking
	Number of off-street facilities already provided				
	Spaces	Lots			
ILLINOIS (Cont'd)					
Belleville	125	2		Parking meter revenues are pledged to payment of \$75,000 off-street parking bond issue 5-year obligation	
Cairo		3			
Danville	239	5			
Des Plaines		1	\$1,015, or 3 6%		Anticipate \$125,000 bond issue for off-street facilities in near future Curb meter revenues will be pledged
Elgin					All parking facilities included in parking system 1952 revenues and those collected subsequently will be pledged for bonds for off-street parking
Elmhurst			\$22,660, or 65%	Parking meter revenues pledged to retire \$5,000 per year of \$90,000 off-street bond issue, with interest at 3 1/2%	
Galena	16			Surplus revenues are earmarked for purchase of off-street parking facilities	
Glencoe			\$4,738, or 50%	Policy is to set aside a portion of parking meter revenues for off-street lot development	
Harvey	60	1			
Hinsdale		2	\$7,471, or 50%		
Joliet		7			
Mattoon				4% of gross meter revenue is set aside for future provision of off-street facilities (Gross revenue, fiscal year ending April 30, 1952, \$38,872)	
Moline		3	\$25,383, or 41 2% of gross curb and off-street meter revenue		
Oak Park	38				
Park Ridge	300				
Sterling	32	1			
INDIANA					
Decatur		7 (60,000 sq ft.)	\$300, or 5%		
Delphi	35		\$15,704, or 63%	Major portion of revenue each year is used to acquire sites for off-street parking	
Goshen					
Peru		1			
IOWA					
Ames	350	2	\$15,753, or 75%	\$12,000 of meter revenue is set aside each year for bond retirement and interest on \$100,000 off-street parking bond issue	
Boone	68		\$12,500, or 51 6%		
Carroll		2			
Cedar Rapids		3	\$41,300, or 39%		
Centerville	60 (14,000 sq ft)				
Clarinda	87		\$3,154, or 20%		
Clinton		2	\$28,500, or 75%		
Davenport		2		75% of gross meter revenue is required by State law to be used for off-street parking facilities and purchase of new meters	
Decorah	20		\$791, or 10%		
Denison			\$92,081, or 75%		
Des Moines	780	2 garages		75% of gross revenue is used for amortization of bonds issued for two new off-street parking garages and for amortization of meters	
Eagle Grove	60				
Eldora		1			
Fort Madison	210		\$474, or 35%		
Iowa City		3	\$33,541, or 48 9%		
Maquoketa		1			
Mason City		4		75% of parking meter revenue is earmarked for off-street parking facilities	
Muscatine	500				
New Hampton		1	\$6,266, or 78 7%		
Oelwein	1,000			75% of gross parking meter revenue is allocated for off-street parking \$50,000 parking bond issue retired at \$10,000 per year plus interest	
Ottumwa				Parking meter revenues are pledged for payment of bond issue of \$21,000 for parking lot.	
Spencer		1	\$9,000, or 53 3%, payment on \$30,000 parking lot.	75% of gross parking meter revenue is allocated for off-street parking facilities	
Waterloo	255	4		Net parking meter revenue is allocated for off-street parking facilities	
Webster City					
Winterset			\$2,535, or 21 8%, allocated for street widening to provide more parking spaces		It is planned to use net meter revenues in a further street widening program to provide more parking space
KANSAS					
Coffeyville					An expenditure of \$27,000 for off-street parking was planned for 1953

TABLE 46 (Continued)
Integration of curb and off-street parking facilities, by individual places reporting, as of January 1, 1952

State and place	Use of curb parking meter revenue to provide off-street parking facilities		Portion of gross curb meter revenue for year allocated for off-street parking ¹	Revenue pledged to payment of bonds issued for off-street parking or otherwise expended	Plans for integration of curb and off-street parking
	Number of off-street facilities already provided				
	Spaces	Lots			
KANSAS (Cont'd)					
El Dorado	30	1	\$13,542, or 51 6%, deposited in off-street reserve fund.		
Hutchinson	90	1	\$29,100, or 61 2% First off-street location just purchased for \$66,103		
Lawrence				\$150,000 bond issue for off-street facilities, to be retired from meter revenues, has been approved. \$45,000 in fund for this purpose	
Manhattan					If approved by electorate, one-half of meter revenues to be used for off-street parking. It is planned to use meter revenue to buy additional off-street space later.
Marysville				Parking meter revenue is used to maintain two municipal parking lots	
Ottawa		1		Parking site provided at cost of \$3,500 of meter revenue	
Pittsburg Pratt	120 25 (curb)			The 25 parking spaces were provided on street by widening street with parking meter funds.	
Salina Wichita			\$10,250, or 25% \$110,493, or 75%		
MAINE					
Augusta		11 purchased or leased		All net meter revenues are disbursed by Parking District for additional parking spaces and lots. Bond issue not warranted since amounts up to \$38,000 can be borrowed on short term notes	
Houlton Saco		2	\$1,111, or 60.6% \$700, or 9 3%		
MARYLAND					
Eagerstown				Part of gross meter revenue is allocated to a special fund for off-street parking	
MASSACHUSETTS					
Beverly	250	1	\$78,000, or 11 8%		
Boston		2			
Brockton	50	1	\$4,000, or 21 4%		
Fitchburg	50			Parking meter revenues are pledged to payment of \$100,000 off-street parking bond issue	
Gloucester					
Leominster		1	\$2,084, or 9 4%		
Melrose		1	\$1,474, or 10 9%		
Milford		2	\$8,000, or 49 6%		
North Adams				Surplus parking meter revenues are placed in reserve for off-street parking facilities	
Wellesley Worcester	95	1	\$2,034, or 8 9% \$7,100, or 6 2%		
MICHIGAN					
Adrian	142				Parking is controlled by automobile Parking System Board.
Albion	30		\$110, or 0 7% \$7,858, or 50%		
Allegan				Propose to issue bonds for off-street parking in near future to be paid out of meter revenues. All revenues are pledged for outstanding revenue bonds until they are paid for.	
Ann Arbor			\$40,000, or 56%, for debt retirement	\$25,000 of gross meter revenue each year, or 50% or more, is deposited in fund for development of off-street parking facilities	
Benton Harbor					
Berkley			\$4,998, or 59 5%		
Cadillac	50	2	Unspecified amount	River frontage has been improved for free public parking by use of parking meter revenue	
Caro			Unspecified amount	All meter revenue in excess of \$7,200 annually is set aside for off-street parking lots and traffic control	
Cheboygan				Proposed revenue bond ordinance will pledge net meter revenues in addition to income of proposed facilities to pay off bonds	
Coldwater					
Detroit	300		All net revenues	Proposed revenue bond ordinance will pledge net meter revenues in addition to income of proposed facilities to pay off bonds	Proposed revenue bond ordinance will combine parking meters and off-street lots into one system.
East Lansing	64	1	\$14,232, or 90%		
Ferndale	559				
Grand Haven	300			Bulk of meter revenues has been reserved to provide off-street parking.	Parking system under study by Planning Commission.
Grand Rapids				Parking meter revenues are pledged to payment of revenue bonds issued for construction of 320-car municipal ramp, now in operation.	
Highland Park	288	1		Parking meter revenues from off-street lot and certain curb meters are pledged to payment of \$325,000 in bonds issued for the parking lot	
Holland			\$18,248, or 58 6%		
Ionia		1			
Jackson	145				
Kalamazoo	470		\$76,750, or 89 8% -----	(All meter revenues are pledged for off-street parking	
Ledington		2			
Mount Pleasant	100				
Muskegon Heights	137		\$9,285, or 50%		

TABLE 45 (Continued)

Integration of curb and off-street parking facilities, by individual places reporting, as of January 1, 1952

State and place	Use of curb parking meter revenue to provide off-street parking facilities		Portion of gross curb meter revenue for year allocated for off-street parking ¹	Revenue pledged to payment of bonds issued for off-street parking or otherwise expended	Plans for integration of curb and off-street parking
	Number of off-street facilities already provided				
	Spaces	Lots			
MICHIGAN (Cont'd)					
Petoskey	22		\$6,000, or 42%		
Royal Oak	396	2		Revenues from both curb and off-street meters pledged to retirement of \$325,000 parking system bonds issued March 6, 1950	
Sault Ste. Marie		3	\$4,200, or 29 2%		
Traverse City		1			
Wayne	301			All revenues pledged for retirement of \$97,000 bond issue and for operation of meters	
Ypsilanti	184	2		No bond issue required up to present. Money used as accumulated for off-street property	
	150 under construction	1			
MINNESOTA					
Albert Lea		2	\$1,050, or 2 8%, for maintenance of off-street parking lots and taxes on same		
Detroit Lakes		2			
Fergus Falls		2			
Montevideo			\$2,822, or 13%, for maintenance of four parking lots	\$10,000 per year of parking meter revenues placed in fund for establishment of off-street parking facilities (\$20,000 in fund)	
New Ulm				Fund established for off-street parking facilities, \$10,000 per year \$20,000 in fund.	
Owatonna	86			Approximately 30% of annual revenues accumulating for purchase of off-street facilities	
Red Wing					
Rochester		2	\$2,755, or 4 4%, for maintenance of parking lots		
Waseca	40 leased		\$600, or 5 9%		
Winona		2			
Worthington		3	\$1,146, or 5 4%		
MISSISSIPPI					
Gulfport	250	1			
MISSOURI					
Independence	57	1			
Carthage	185			General fund to be repaid from parking meter fund for advances on parking lot. \$10,000 owed	
Lee's Summit		1 leased	\$138, or 1 4%, rental on parking lot.		
St. Joseph	73	1 leased			
MONTANA					
Billings	156	3			
Bosman	395	8	\$10,964, or 48 7% for purchase and rental of parking lots		
			Rentals will pay full purchase price if continued for 15 years		
NEW HAMPSHIRE					
Concord		12	\$21,896, or 52 2%		
Leconia	220		\$1,972, or 7.6%		Planning Board is working to integrate curb and off-street parking
Milford	60		\$908, or 22%		
NEW YORK					
Gloversville	234		\$1,480, or 6%		
Mount Vernon					It is expected that special fund in which net parking meter revenue is deposited will be used for purchase of off-street lots and other traffic improvements
Port Chester		1	\$14,750, or 45 7%, used to pay principal and interest on bonds for off-street parking		
Rochester	481	8		\$12,000 of parking meter revenue expended on off-street lot	
Sidney	35				
White Plains	1,115	11	\$63,552, or 90%		
NORTH CAROLINA					
Burlington	480 (Site cost not included in meter expenditures)		\$5,000, or 13 2%		
Fayetteville		1			
Greensboro	253	4	\$34,498, or 51 5%		Program provides for purchase of off-street lots as rapidly as funds will permit.
High Point	56	1			
Madison		1	\$100, or 4 8%		
Rocky Mount	189	2			
Winston-Salem	113	1			
NORTH DAKOTA					
Grand Forks			\$2,517, or 10%, allocated for off-street parking facilities		
OHIO					
Findlay	225			\$70,000 of meter revenues expended for off-street parking facilities	
Orrville	80		\$4,000, or 45 3% (Paying for a \$20,000 parking lot)		
Wooster	240		\$18,926, or 50%		
OREGON					
Albany	85	1		Lot purchased from meter reserves	
Bend	130			Proceeds from curb meters finance construction of off-street facilities	
Coos Bay			\$6,273, or 25%		

TABLE 45 (Continued)

Integration of curb and off-street parking facilities, by individual places reporting, as of January 1, 1952

State and place	Use of curb parking meter revenue to provide off-street parking facilities		Portion of gross curb meter revenue for year allocated for off-street parking ¹	Revenue pledged to payment of bonds issued for off-street parking or otherwise expended	Plans for integration of curb and off-street parking
	Number of off-street facilities already provided				
	Spaces	Lots			
OREGON (Cont'd)					
Cottage Grove		1			
Forest Grove			\$1,109, or 11 5%		
Hillsboro	50		\$657, or 3 8%		
Seaside	200		\$2,308, or 20%		
PENNSYLVANIA					
Chambersburg	139		\$2,700, or 15%		
Greenville				\$118, 053 of meter revenue used for off-street parking.	
Lower Merion Township	187	2			
Millersburg		1			
Shippensburg			\$4,874, or 55 2%	\$4,450 of meter revenue paid on off-street parking lot purchased in 1950	
West Chester	78	2		\$11,000 is pledged for off-street lot	
SOUTH CAROLINA					
Florence	318				
SOUTH DAKOTA					
Lead		2			
TENNESSEE					
Carthage		3			
Clarksville	63	1			
Cockeville	150				
Lebanon	100				
TEXAS					
Colorado City		2			
VERMONT					
Bennington				Sinking fund set up from parking meter revenue for purchase of a parking lot.	
VIRGINIA					
Newport News				All meter receipts put in fund to establish off-street parking facilities	
South Boston				At referendum held April 29, 1952, people voted to issue \$90,000 in revenue bonds for metered off-street parking, bonds to be paid from meter revenues	
WISCONSIN					
Antigo	200				
Beaver Dam	200			Parking meter revenues are pledged to payment of parking area revenue bonds	
Eagle River			\$1,000, or 25%		
Edgerton	49		Existing lots maintained with meter funds		
Fond du Lac			\$420, or 2.2% for rental of parking lot.		
Fort Atkinson	25	1			
Janesville		2		Net meter revenues to be used for off-street parking	
La Crosse		15	\$30,396, or 35.9%, for purchase and improvement of parking lots		
Madison	732			25% of gross revenue pledged for bonds issued for off-street parking facilities	
Manitowoc		1	\$10,000, or 25.8%, repayment to general fund for advance to purchase \$15,000 parking lot.		
Marinette		1	Ordinance requires provision of 275 off-street parking spaces after which funds can be applied to street improvement and traffic control. (Gross collections, 1951, \$20,663)		
Menomonie		1	50% of gross revenue, less maintenance, allocated to off-street parking.		
Milwaukee	35	1			
Monroe		3			
Portage		6	Net meter revenue allocated to off-street parking		
Racine	100		Net meter revenue allocated to off-street parking.		
Rice Lake	75			Over period of 5 years, \$23,623 of gross meter revenue has been allocated to off-street parking	
Stevens Point		3			
Watertown		1	Net meter revenues allocated to off-street parking		
Waukesha	210		Net meter revenue allocated to off-street parking.		
West Allis			97 5% of gross revenue from paid up meters and 47 5% from non-paid up meters allocated for off-street parking		
West Bend		1			

¹ Fiscal year or calendar year for which gross curb parking meter revenues were reported. Some amounts reported were only for a portion of a year

municipalities are adopting the system concept. At least 212 places in 30 states are integrating their curb and off-street facilities effectively in practice, indicated in the following tabulation summarized from Table 45:

	Number of Places
Alabama	1
Arizona	1
California	33
Connecticut	1
Illinois	16
Indiana	4
Iowa	25
Kansas	9
Maine	3
Maryland	1
Massachusetts	11
Michigan	29
Minnesota	9
Mississippi	1
Missouri	3
Montana	2
New Hampshire	3
New York	5
North Carolina	7
North Dakota	1
Ohio	3
Oregon	7
Pennsylvania	5
South Carolina	1
South Dakota	1
Tennessee	4
Texas	1
Vermont	1
Virginia	2
Wisconsin	22

The greatest amount of activity, when judged in terms of the number of places involved, apparently took place in California, Illinois, Iowa, Massachusetts, Michigan, and Wisconsin.

In addition to these many municipalities where some actual accomplishment has already been achieved toward system integration, six other places were making plans as of 1951 in this direction: Chico, San Leandro, and Woodland, in California; Elgin, Illinois; and Coffeyville and Manhattan in Kansas.

An impressive quantity of off-street parking accommodations has already been provided from parking-meter funds. At least 20,315 spaces and 165 lots were reported to have been so provided by 1951, in 167 places in 26 states. (There is no

overlap between the spaces and lots indicated.)

Substantial sums of meter revenues were reported in 1951 to have been allocated to an off-street-parking program. At least \$1,389,601 was used for this purpose by the 89 municipalities reporting this information. A number of additional places reported that designated percentages of their gross meter revenues or that net revenues were spent for this purpose, but did not specify definite amounts; estimates of these amounts, based on other questionnaire information, account for an additional \$1,736,751 spent for off-street facilities, making a total of \$3,125,247 for this purpose in 1951 (see Table 40).

A frequency distribution of the percentages of total curb parking meter take that were allocated to off-street facilities in 1951 is quite revealing:

Percentage of gross parking-meter revenues reported spent for off- street facilities	Places Number	Percent- age
0.0-9.9	20	20.0
10.0-19.9	10	10.0
20.0-29.9	10	10.0
30.0-39.9	6	6.0
40.0-49.9	8	8.0
50.0-59.9	17	17.0
60.0-69.9	5	5.0
70.0-79.9	9	9.0
80.0-89.9	2	2.0
90.0-99.9	3	3.0
100 percent of net	10	10.0
Total	100	100.0

In 20 of the 100 places reporting the information, or 20.0 percent, up to 9.9 percent of the meter revenues were spent for off-street facilities. In 17 places, or 17.0 percent, between 50 and 59.9 percent was spent for this purpose. In ten municipalities, or 10 percent, all net parking-meter revenues were used for an off-street program.

Frequently, parking-meter revenues are pledged in connection with bonds issued to finance accommodations for off-street parking. This practice was reported by 19 municipalities in 8 states. Sometimes, all such revenues are so pledged, while sometimes, only designated percentages are so involved (see Table 45 for the detail in particular cases). Additionally, all or

only portions of annual net revenues are reserved or pledged for off-street facilities, reported by 41 municipal governments in 19 states.

of parking facilities are the following:

Phoenix, Arizona
 Los Angeles, California
 Los Angeles County, California
 Sacramento, California
 Ames, Iowa
 Des Moines, Iowa
 Iowa City, Iowa
 Wichita, Kansas
 Augusta, Maine
 Hagerstown, Maryland
 Boston, Massachusetts
 Ann Arbor, Michigan
 Detroit, Michigan
 Grand Rapids, Michigan
 Kalamazoo, Michigan
 Rochester, Minnesota
 Billings, Montana
 Concord, New Hampshire
 Rochester, New York
 White Plains, New York
 Greensboro, North Carolina
 Madison, Wisconsin
 Milwaukee, Wisconsin
 Racine, Wisconsin

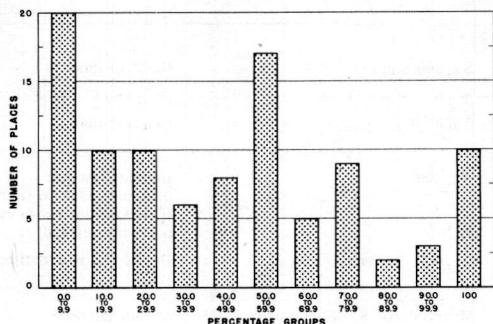


Figure 48. Number of places that reported the indicated percentage of their parking meter revenues spent for off-street parking facilities, January 1, 1952. (Percentages in all groups through 90.0-99.9 refer to gross revenues; the 100 percent item refers to net revenues).



Figure 49. Curb parking facilities, appropriately regulated by means of parking meters, and off-street parking accommodations are both essential ingredients of an adequate parking program in many municipalities. Note the curb meters and the Lazarus three-level parking garage in Columbus, Ohio.

Municipalities of all sizes and complexions have embraced the system concept, in whole or in part. Among the larger cities that are active in integration

The essential elements that comprise the conception of a system of parking facilities for a particular municipality can be summarized as follows:

TABLE 46

Commercial advertising on parking meters in places reporting, as of January 1, 1952

Places permitting advertising		Rates charged advertisers	Amount of revenue derived by city	Disposition of revenue
State and place	Population group			
ALABAMA Jasper	5,000-10,000	Middle man handles	\$2,000 (approx.)	General fund
ARIZONA Phoenix	100,000-250,000	Commission basis in connection with bus advertising	\$320	General fund
ARKANSAS Magnolia	5,000-10,000	50¢ per meter per month	\$2,808	Recent contract - probably general fund (Contract let but devices not yet installed) Parks and recreation
Parigould	5,000-10,000		33 1/3 %	
Texarkana	10,000-25,000	50¢ per meter per year	\$3,600 (approx.)	
CALIFORNIA Oxnard	10,000-25,000	Various	Minimum of \$5.00 per year per meter	Swimming pool
FLORIDA Arcadia	2,500-5,000	50¢ per meter per month	\$900 (approx.)	(Ordered, not yet installed)
Belle Glade	5,000-10,000	50¢ per meter per month		(Contract let, not yet installed)
Fort Walton	Under 2,500	50¢ per meter per month		General fund (not yet installed)
IDAHO Rigby	Under 2,500	\$1.00 per meter per year	33 1/3 % of advertising	
Twin Falls	10,000-25,000	50¢ per meter per month	\$3,150	General fund
ILLINOIS Clinton	10,000-25,000		20% of gross receipts	General fund
Decatur	50,000-100,000		20% of gross receipts (approx. \$50 per month)	General fund
Des Plaines	10,000-25,000	\$1.00 per meter per month	Anticipated minimum of \$200 per month	Repairing streets
Galena	2,500-5,000	50¢ per meter per month	Anticipate \$750 per year	Off-street parking facilities
Moline	25,000-50,000	25 signs, \$10.25 per year, 50 signs, \$19.00 per year; 100 signs, \$35.00 per year, 200 signs, \$64.00 per year	Contract just let	Parking meter fund
Nokomis	2,500-5,000		20% - \$200	General fund
Pana	5,000-10,000	No advertising on at present	20% of gross - \$548.45 in 1951	Parking meter fund
Pekin	10,000-25,000		20% of gross receipts	General fund
Sterling	10,000-25,000	60¢ per meter per month (Signs not yet installed)	\$4,356 per year (when installed)	General fund
West Frankfort	10,000-25,000	50¢ per meter per month		Parking meter fund and general fund
INDIANA Salem	10,000-25,000	Unknown	\$1,224 per year	General fund
IOWA Red Oak	5,000-10,000	\$150 per month for 320 meters	Contract let, but not yet installed	Any city function, but probably to purchase off-street parking
KENTUCKY Corbin	5,000-10,000	50¢ per meter per month		General fund
Paducah	50,000-100,000	\$20 per year	\$39 per year	General fund

TABLE 46 (continued)

Commercial advertising on parking meters in places reporting, as of January 1, 1952

Places permitting advertising		Rates charged advertisers	Amount of revenue derived by city	Disposition of revenue
State and place	Population group			
MASSACHUSETTS Lowell	50,000- 100,000	\$1.00 per meter	\$3,600 per year (approx.)	General fund
MISSISSIPPI Tupelo	10,000- 25,000		\$10 per meter per year guaranteed	General fund
MISSOURI Joplin	25,000- 50,000		20% - approx. \$6,000 per year	General fund
NEW JERSEY Seaside Park	Under 2,500	50¢ per meter per month	No revenue as yet	General fund
NEW YORK Kingston	25,000- 50,000		\$1,800 per year	General fund
NORTH DAKOTA Bismarck	10,000- 25,000		20% of gross	General fund
Dickinson	5,000- 10,000	\$1.50 per panel per month	\$63 for 2 months	Parking meter fund, for traffic control
Minot	10,000- 25,000	\$300 per month or 30% commission	\$1,666.60	Parking meter fund, for traffic control and administration of meters
OREGON Hermiston	2,500- 5,000		50¢ per meter per month	General fund
PENNSYLVANIA Carlisle	10,000- 25,000		20% of receipts - \$41.91 for March 1952	General fund
Jeannette	10,000- 25,000	Handled by contractor	50¢ per meter per month	Recreation
Masontown (borough)	2,500- 5,000	\$4.00 per month each	50¢ per month each	General fund
Middletown	5,000- 10,000	Just installed		General fund
Sayre	5,000- 10,000	Just installed	\$1,100	General fund
Wellsboro	2,500- 5,000		10% of total revenue	General fund
Wilmerding	5,000- 10,000		\$100 per month	General fund
SOUTH CAROLINA Hartsville	5,000- 10,000	\$1.50 per meter per year	\$19.85 per month (\$238.20 per year)	General fund
TENNESSEE Clarksville	10,000- 25,000	Lions Club - 25% basis	\$267.20	General fund
Winchester	2,500- 5,000	Contract given, but not yet started	20% gross receipts	
Tullahoma	5,000- 10,000	Just started	20% of revenue	General fund
Union City	5,000- 10,000	\$1.00 per month per face	20% of gross	
TEXAS Paris	10,000- 25,000		20% of gross receipts - \$340.51	General fund
WISCONSIN Spooner	2,500- 5,000	50¢ per meter per month	\$600	General fund
WYOMING Sheridan	10,000- 25,000	75¢ per advertisement per month for 1 year 87¢ per advertisement per month for 6 months \$1.00 per advertisement per month for 3 months	\$1,114.15	General fund

1. A parking problem must exist. The system device is a solution to a condition of difficulty. It can be of assistance only if there is a deficiency of parking accommodations properly located and appropriately priced in their user costs.

2. The system mechanism must be authorized in its principal parts in state enabling legislation and in local executing ordinances. It need not necessarily be called the system idea, as long as its important characteristics are spelled out.

3. All parking facilities under public control must be pooled, i. e., curb spaces and parking meters, off-street lots and garages, and all other auxiliary structures and facilities. The integration must be physical and functional.

4. All financing and revenue operations must be pooled. All revenues from both curb and off-street accommodations must be put into a common fund which can be used to support revenue bonds or other obligations covering any part or the whole of the system.

5. The system as a whole should be conceived and planned as self-liquidating in character, considering all contributions to be made from any source and all financial demands that could be made upon the resources of the system.

6. Management of the establishment, acquisition, construction, operation and maintenance of the system must be lodged in a responsible public body specially qualified for the purpose.

7. Finally, the public needs for parking facilities must be so urgent, the authorizing legislation so soundly conceived, the physical and operational plan so reasonable, and the financing proposals so equitable, that the judiciary will approve of the whole scheme as legal and constitutional.

In this role, the parking meter can play a part perhaps overshadowing in importance its two regulatory functions. It may yet provide, through the golden flow of the pennies and nickels and dimes it facilitates, the "open sesame" for the solution of the parking difficulties confronting cities in the United States.

COMMERCIAL ADVERTISING ON PARKING METERS

Initiated several years ago, a movement seems to be gaining impetus in the metered municipalities of the United States

to place private advertising matter on parking meters, with the municipality involved sharing in the profits in some agreed proportion.

At least 49 localities in 23 states reported that they either already had advertising or had contracted for advertising on their parking meters in 1951. Table 46 indicates what these places are, the rates charged advertisers, the amount of revenue derived by the municipality and the disposition of the revenue. Among them are three cities in North Dakota, which since then has outlawed parking meters for the second time by referendum.

Phoenix, Arizona, with a population in 1950 of 106,818, is the largest city that has permitted private advertising on meters. Three cities--Decatur, Illinois; Paducah, Kentucky; and Lowell, Massachusetts--are in the 50,000-to-100,000-population group. All the other places are relatively small, where, presumably, the revenue associated with this activity may seem significant.

As the tabulation indicates, the rates vary widely, from 50 cents per meter per year to \$20 per meter per year.

The amount of revenue derived from this source is not very great as yet, probably because the activity has only recently been initiated. In some places, the municipality gets a stated percentage of the gross revenues derived from this source; Parigould, Arkansas, and Rigby, Idaho, for example, get 33½ percent. In more cities, it is only 20 percent of the take, as in Clinton, Decatur, Nokomis, Pana, and Pekin in Illinois; Joplin, Missouri; and Bismarck, North Dakota. Of specific amounts reported, the lowest amount was \$200 and the highest approximately \$6,000. In most instances, the funds so derived by the municipality were placed in the general fund.

In addition to the 49 places that now permit advertising on parking meters, 18 other localities in 10 states are considering proposals or have concluded contracts for the installation of advertising devices (see Table 47). In four places, advertising has been tried but was discontinued, because it was found unprofitable, or for other reasons.

These, then, are the facts concerning the prevalence of advertising on parking meters in the places reporting on this activity. The legality of the practice and its wisdom from the standpoint of public policy are

TABLE 47

Proposals to place commercial advertising on parking meters and advertising removals
in places reporting, as of January 1, 1962

Places permitting advertising		Rates charged advertisers	Amount of revenue derived by city	Disposition of revenue
State and place	Population group			
ALABAMA Moulton	Under 2,500	Advertising authorized		
ARKANSAS Hot Springs	25,000- 50,000	Tried, but not profitable to company installing and were eliminated		
ILLINOIS Rockford	50,000- 100,000	Agreement just adopted between city and advertising company		
INDIANA Frankfort	10,000- 25,000	Approved but not yet installed	20% of gross receipts when operation begins	
KENTUCKY Lawrenceburg	Under 2,500	To be installed		
MISSISSIPPI Baldwyn	Under 2,500	Negotiating on contract	50¢ per meter per month	Street fund
Vicksburg	25,000- 50,000	City has recently entered into a contract and program is just getting underway		
MISSOURI Sikeston	10,000- 25,000		50¢ per meter, by contract (Company has not yet installed any advertising)	General fund
OREGON Independence	Under 2,500	\$6 per year per meter with Meter Advertising Corp (Council voted to enter into contract for advertising - not yet installed)	\$990	Traffic control
Forest Grove	2,500- 5,000	Had advertising one year - discontinued		
PENNSYLVANIA California	2,500- 5,000	To be installed		
Barnesboro	2,500- 5,000	To be installed		
Carnegie (borough)	10,000- 25,000	No advertising at present		
Salisbury	Under 2,500	Arrangements now being made with Meter Advertising Corp	50¢ per meter	General fund
York	2,500- 5,000	Permitted - none installed at present		
TENNESSEE Lebanon	5,000- 10,000	Not yet in operation	50¢ per meter per month	
McMinnville	5,000- 10,000	Not yet installed	50¢ per meter per month	General fund
Ripley	2,500- 5,000	Frames installed, but apparently no advertising Company requested to remove frames, but did not comply Used for "March of Dimes", blood donations, safety advertising, etc		
Portland	Under 2,500	Contract made but not yet installed	50¢ per meter per month	General fund
TEXAS Eastland	2,500- 5,000	Contract signed but not yet installed - Rate 50¢ per meter per month		Sewer extensions
Hamlin	2,500- 5,000	Not yet installed - Rate, 50¢ per meter per month		
Taylor	5,000- 10,000	Tried it one year, but unsuccessful	Signs removed at city's expense	

two issues which have yet to be determined in the vast majority of cases. The outcome of these two issues may determine whether or not this practice will be fostered or discarded. However, several important aspects of this matter have already been resolved.

Private advertising on parking meters placed within the rights-of-way of urban extensions of the federal-aid system is illegal. The opposition of the Bureau of Public Roads to the attachment of signs on parking meters on federal-aid routes is a matter of policy, regulation, and law.

The federal government, in its participation with the states in the construction of the several federal-aid systems, has provided that the rights-of-way for such highways shall be held inviolate for highway purposes, and no commercial signs, posters, billboards or other private installations shall be permitted within the right-

of-way limits.²⁸ The Federal-Aid Highway Act of 1944²⁹ provides that the form and character of signs and markers shall be subject to the approval of the state highway departments with the concurrence of the Bureau of Public Roads; and the bureau is directed to concur only in such installations as will promote the safe and efficient utilization of the highways.

Permission to attach advertising signs to parking-meter posts would probably be followed by pressure for similar authorization to place commercial advertising on traffic signals and installations, on light posts, and other safety and traffic devices. Moreover, parking meters, traffic lights, directional signs and signals of all kinds and other traffic control devices are all

²⁸ Section 1 17 of the Regulations for Carrying Into Effect the Provisions of the Federal-Aid Highway Act

²⁹ Section 12, Federal-Aid Highway Act of 1944.

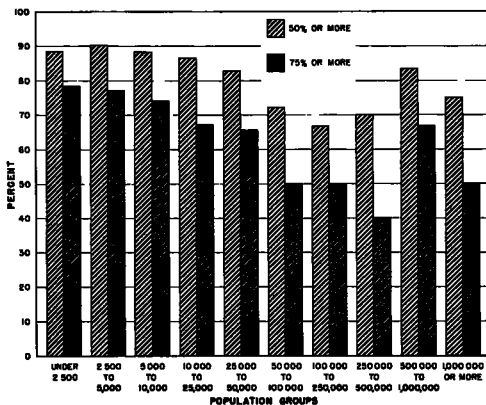


Figure 50. Percentage of places reporting stated reductions in overtime parking, by population groups, January 1, 1952.

designed for the safety and regulation of traffic on the public streets and highways. All such facilities are public installations made pursuant to a legal responsibility placed upon the governing authority to provide for the safe and convenient movement of traffic. Any private use of such facilities for displaying advertising matter or for any other private purpose which might defeat or impair or be inconsistent with the fulfillment of such public purpose would be contrary to the public interest and the general welfare, and therefore, unlawful. For these reasons, the placement of commercial advertising on parking meters within the rights-of-way of federal-aid highways has been deemed to be unlawful. Aside from the situation on highways financed with Federal funds, there are cogent legal reasons that would seem to militate against the placement of advertising on meters generally.

The preponderance of judicial opinion sustains the validity of the parking meter on the ground that it is a reasonable regulatory device.³⁰ In most jurisdictions, the production of revenue is deemed to be incidental to the principal regulatory objectives. For a municipality to authorize the use of the meter for commercial advertising purposes seems inconsistent with the basic regulatory functions of the meter. Because the only justification, from the standpoint of the municipality, is the production of revenue, this development might easily upset the present legal acceptance of the parking meter as a valid exercise of the

police power rather than the power to tax.

Legal analogies aplenty are available which cast a dark shadow upon the legality of this use of the parking meter. The erection and maintenance of structures in city streets for private advertising purposes generally have been held to be beyond the powers of a municipality to authorize. In a recent Kansas case, for example, a municipality was denied the right to permit the maintenance of traffic-control signals containing private advertising.³¹ In an Illinois case³² it was held that a municipality cannot by ordinance enter into an agreement to permit a private individual to place advertising matter upon the sides of public wastepaper boxes to be placed upon the streets. City attorneys in Columbus, Ohio; San Francisco and Los Angeles, California; Aberdeen, Washington, and Houston, Texas, have ruled the proposed placement of advertising on parking meters to be unlawful. State attorneys general in Minnesota and Washington have also indicated that municipalities in their respective states have no authority to rent advertising space on parking meters.

Developments Since 1951 Survey

Since this survey was undertaken for the year 1951, other developments concerning parking-meter advertising have taken place that should be noted. It is reported that Philadelphia has awarded a franchise to authorize advertising devices on 10,000 meters in that city; it is, accordingly, the first major city in the United States to permit meter advertising.³³ But difficulties are coming to the surface in

³¹ The court asserted that the advertising had no relation to the public interest, that it is maintained by a private corporation for its own private, pecuniary profit, that it is designed to divert attention of motorists, and that it is without any relation to public safety, convenience, or welfare. The court further asserted that such advertising matter invades the public interest in two ways. By encroachment and by obstruction to traffic. It was finally indicated that the city has no authority to purchase its traffic signals by farming out the streets to private uses in a manner which obstructs free use for traffic purposes. *State ex rel. Veck v. Hutchinson* (1936) 144 Kansas 700, 62 Pac. (2d) 865; 156 A. L. R. 581 (1945).

³² *People ex rel. Healy v. Clean Street Company*, 225 Ill. 470, 9 L. R. A. (N. S.) 455 (1907).

³³ The Traffic Engineering Department of Philadelphia reveals that half of the city's population, or 1,104,436 pedestrians daily pass along the sidewalks of the metered areas from 7 a. m. to 7 p. m. on an average day. And that 45,000 vehicles, with an average of 2.4 riders, parked daily at the meters. "Ads on Parking Meters," NEW YORK TIMES, March 26, 1953.

³⁰ For a comprehensive discussion of this subject, see *USE OF PARKING METER REVENUES, 1951*, Bulletin No. 33, Highway Research Board.

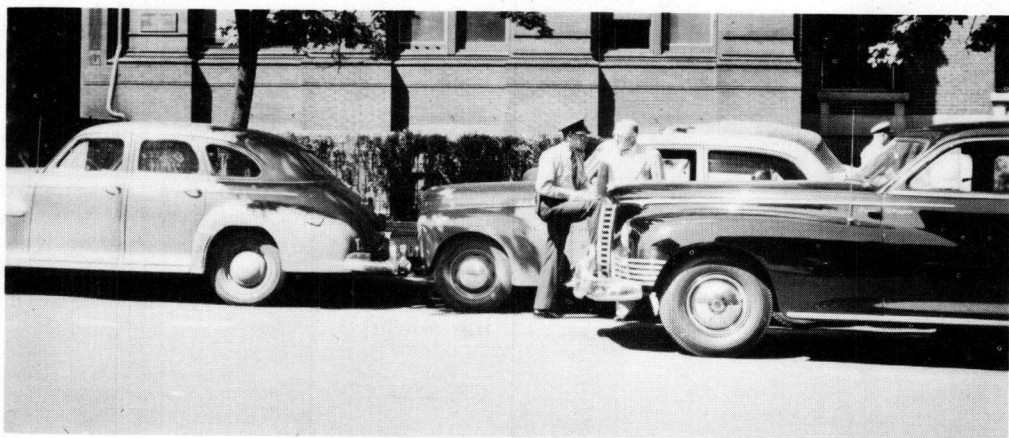


Figure 51. The appropriation of curb parking space by all-day parkers frequently results in double parking and other types of illegal parking, as here illustrated on H Street, between 13th and 14th streets, N. W., Washington, D. C. 1946. Parking meters are helpful in situations of this kind.

this program: Both federal and state authorities have informed the city that it could not profit from advertising on highways built with federal or state funds. Then, some merchants are complaining that the meters right in front of their establishments are advertising the products of a competitor.³⁴ To make matters worse, a suit has been instituted by taxpayers and owners of abutting property to enjoin the meter advertising. It was alleged by those seeking the injunction that, among other things, the advertising constitutes a non-street additional servitude which may not lawfully be imposed without making compensation to the owners of abutting property.³⁵

Judge Hagan of Common Pleas Court No. 1 in Philadelphia has just handed down a decision* which prohibits the attachment of commercial advertising signs to parking meters. In this leading and well-supported case on this controversial matter, Judge Hagan upheld the following:

1. Plaintiffs, as the owners of premises abutting upon Germantown Avenue and Highland Avenue, have title to the fee of the sidewalks of those highways upon which

³⁴ BUSINESS WEEK, June 1, 1953, p. 65.

³⁵ "More Anent Advertising on Parking Meters," MUNICIPAL LAW SERVICE LETTER, June 1953, p. 2.

* Chestnut Hill and Mt. Airy Business Men's Association et al v. The City of Philadelphia et al, decision filed January 5, 1954, reported in THE LEGAL INTELLIGENCE, January 13, 1954, Philadelphia, Pennsylvania.

defendants propose to erect advertising devices, and their title to the fee is subject only to the public easement in the sidewalk.

2. The city, in the exercise of its police power, has the right to regulate and control the said sidewalks for public uses and purposes only, and that, per contra, has no right to use or permit the use of said sidewalks for private purposes; and that therefore, the private use which the city and the intervening defendant propose to make of the said sidewalks would constitute a trespass thereon, and would result in taking of property of plaintiffs without due process of law.

It is suggested that those who are contemplating an authorization for commercial advertising matter on parking meters read this decision in full.

At least five states are known to have adopted legislation approving the placing of advertising on meters, as follows: Florida (Laws of Florida, Extraordinary Session of 1949, Chapter 26437, No. 119); Illinois (Section 52.1-1(c) of the Cities and Villages Act of Illinois, as amended 1953 regular session); Kentucky (Acts of 1950, Chapter 35); Mississippi (Laws, Regular Session, 1952, House Bill No. 137); and New Hampshire (Laws of 1951, Chapter 172).

An official of Minneapolis, Minnesota, has reported a Minnesota general highway law which prohibits any advertisement within the limits of a public highway or on any object within the limits of a public high-

way.³⁶ Two other states by statute have forbidden the placement of advertising on meters: Massachusetts, by Chapter 592, Acts of 1952; and Vermont, by House Bill 284, Laws of 1953.

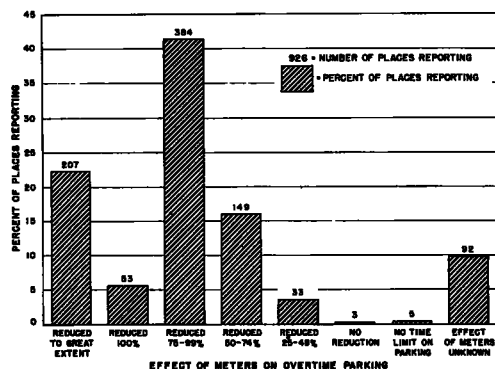


Figure 52. Percentage and number of places reporting stated effects of parking meters on overtime parking, January 1, 1952.

OVERTIME PARKING AND PARKING METERS

One of the basic purposes of parking meter regulation is to assist in the enforcement of curb parking restrictions. An objective of this comprehensive investigation of parking meters in the United States was to measure, if possible, the degree to which the parking meter was being helpful in reducing overtime parking.

The findings of this survey document this characteristic of the parking meter to an overwhelming degree. Data contained in Table 48 indicate that overtime parking in the 926 municipalities for which information was available was reduced 75 percent or more in 47.2 percent of the places; and "to a great extent" in an additional 22.4 percent of the total. These two categories account for approximately 70 percent of the places reporting.

If to this total is added the 16.1 percent where overtime parking was reduced from 50 to 74 percent — a substantial number of places — approximately 86 percent of the total is accounted for. In another 3.6 percent of the places, overtime parking was reduced from 25 to 49 percent, by use of the parking meter. In the aggregate, this roughly accounts for 90 percent of places reporting.

Without regard to whatever other advantages the parking meter may possess, it does effectively and substantially reduce overtime parking at the curb.

Though the differences are not great, there seems to be some variation in the reduction of overtime parking among the population groups. Apparently, the parking meter is slightly more effective in reducing overtime parking in the smaller places than in the larger ones. Here is the range:

Population group	Percentage of places reporting overtime parking where overtime parking has been reduced:	
	50 % or more	75% or more
Under 2,500	88.5	78.5
2,500 to 5,000	90.3	77.2
5,000 to 10,000	88.3	74.1
10,000 to 25,000	86.5	67.2
25,000 to 50,000	82.8	65.6
50,000 to 100,000	72.2	50.0
100,000 to 250,000	66.7	50.0
250,000 to 500,000	70.0	40.0
500,000 to 1,000,000	83.3	66.7
1,000,000 or more	75.0	50.0

It will be noted that the relative differences between population groups are generally greater where overtime parking has been reduced 75 percent or more than where such parking has been reduced 50 percent or more (reduced "to great extent" has been interpreted to indicate 50 percent or more). The relative differences between population groups is even greater in some of the individual overtime categories indicated in Table 48. The extent to which overtime parking has been reduced by parking meters, by states, is reported in Table 49.

CURB-PARKING TURNOVER

In addition to assisting in the enforcement of parking restrictions, the parking meter facilitates parking turnover at the curb. This constitutes its second principal regulatory objective.

The results of this survey reveal that municipalities in overwhelming numbers have found that turnover is augmented greatly by use of the parking meter. Approximately 24 percent of the places indicated an increase in turnover of 100 percent or more; an additional 21 percent an increase in turnover of 75 to 99 percent; another 18 percent, 50 to 74 percent; and 26 percent, "to a great extent." These alone total approximately 89 percent of the total of 806 municipal-

³⁶ Minnesota Statutes, Chapter 160, Section 160.34 (3), Laws of 1923, Chapter 439, Section 11, as last amended, Laws of 1949, Chapter 586

ities that supplied answers to this question. More detail is given in Table 50.

Examination of turnover data by popula-

crease in turnover achieved is substantial.

Comparable turnover data by states is reported in Table 51.

CURB-PARKING-METER FEE SCHEDULES

Without specific information on the subject, one might presume that curb rates are relatively uniform throughout the United States. This survey reveals that quite the contrary is true. At least 50 different combinations of cost and time periods were found to exist. These range from 4 min. for 1 cent to 12 hours for 60 cents, proceeding from the lowest to the highest time and cost magnitudes; and from 5 min. for 5 cents to 10 hours for 5 cents proceeding from the highest to the lowest rates.

The prevalence of one rate schedule or another was ascertained by the number of meters which are subject to them. Table 52 summarizes the use characteristics of meters in terms of the respective meter rates. It was necessary to refine a tabulation of meter rates in terms of the lower limit of time and payment, as well as their

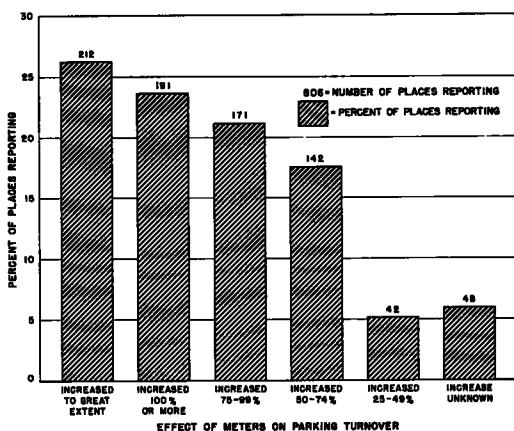


Figure 53. Percentage and number of places reporting indicated increase in curb parking turnover as a result of parking meter usage, January 1, 1952.

tion groups discloses no particular pattern of turnover increases that vary with size of municipality. In most instances, the in-

TABLE 48
Extent to which overtime parking is estimated to have been reduced by parking meters in places reporting, by population groups, as of January 1, 1953

Number of places in each population group with indicated effect of parking meters on overtime parking																	Total	
Population group	Overtime parking reduced to great extent		Overtime parking reduced 25 to 49 percent		Overtime parking reduced 50 to 74 percent		Overtime parking reduced 75 to 99 percent		Overtime parking reduced 100 percent		Overtime parking not reduced (in some places increased)		No time limit on parking (in some places meters are fed as long as cars are parked)		Effect of meters on overtime parking unknown		Number of places reporting	Percentage of places reporting
	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage		
Under 3,000	22	31.4	2	2.9	7	10.0	29	41.4	4	5.7	-	-	-	-	8	8.6	70	100.0
3,000-5,000	39	22.3	2	1.1	23	13.1	94	48.0	12	6.9	-	-	-	-	15	8.6	175	100.0
5,000-10,000	47	19.7	8	3.3	34	14.2	112	46.9	13	7.5	-	-	1	0.4	19	8.0	239	100.0
10,000-15,000	50	21.0	9	3.8	48	19.3	99	41.6	11	4.6	1	0.4	2	0.9	20	8.4	238	100.0
15,000-20,000	23	32.7	1	1.1	16	17.2	33	35.5	6	6.4	-	-	-	-	12	12.8	93	100.0
20,000-25,000	12	32.3	6	11.1	12	22.2	15	27.8	-	-	-	-	-	-	3	16.7	54	100.0
25,000-30,000	10	27.3	3	8.3	6	16.7	6	16.7	2	5.5	1	2.8	-	-	8	22.2	35	100.0
30,000-35,000	3	30.0	1	10.0	3	30.0	1	10.0	-	-	-	-	-	-	2	20.0	10	100.0
35,000-40,000	1	18.7	1	18.7	1	18.7	3	50.0	-	-	-	-	-	-	-	-	6	100.0
40,000-45,000	-	-	-	-	1	25.0	2	50.0	-	-	-	-	-	-	-	-	3	100.0
45,000-50,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	100.0
50,000-55,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	100.0
55,000-60,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	100.0
60,000-65,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	100.0
65,000-70,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	100.0
70,000-75,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	100.0
75,000-80,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	100.0
80,000-85,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	100.0
85,000-90,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	100.0
90,000-95,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	100.0
95,000-100,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	100.0
1,000,000 or more	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	100.0
Los Angeles County, California - no population group	1	100.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	100.0
Total number and percentage of places reporting	207	22.4	33	3.6	149	16.1	394	41.5	53	5.7	3	0.3	5	0.5	92	9.9	926	100.0

Space means nothing to this pest.
Once he's put his car to rest.
He keeps adding coins to meter—
Shoppers call him parking-cheater.

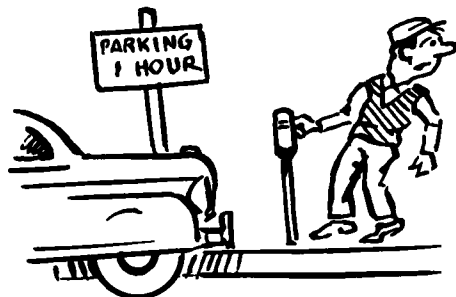


Figure 54. In a humorous vein, this cartoon illustrates an important principle. Though the parking meter facilitates turnover at the curb, proper enforcement is indispensable if the curb regulation is to be most effective.

TABLE 49
Extent to which overtime parking is estimated to have been reduced by parking meters in
places reporting, by states, as of January 1, 1952

State	Number of places in each State with indicated effect of parking meters on overtime parking									
	Overtime parking reduced					Overtime parking not reduced (in some places increased)	No time limit on parking (in some places meters are fed as long as cars are parked)	Effect of meters on overtime parking unknown	Total	
	To great extent	25 to 49 percent	50 to 74 percent	75 to 99 percent	100 percent				Number of places reporting	Percentage of places reporting
Alabama	3	1	3	5	-	-	-	4	16	1.7
Arizona	1	-	1	2	-	-	-	2	17	0.7
Arkansas	2	1	3	9	1	-	-	13	66	1.8
California	13	2	13	19	6	-	-	13	66	7.1
Colorado	3	-	1	4	2	1	-	-	11	1.2
Connecticut	-	-	1	2	-	-	-	1	4	0.4
Delaware	7	-	-	1	1	-	-	-	2	0.2
Florida	3	-	6	2	1	-	-	2	22	2.4
Georgia	-	-	2	2	5	-	-	2	11	1.2
Idaho	-	-	3	2	1	-	-	-	7	0.8
Illinois	11	3	6	18	2	-	-	6	46	5.0
Indiana	1	1	6	11	-	1	-	3	23	2.5
Iowa	7	-	7	11	1	-	2	3	31	3.3
Kansas	2	-	1	8	2	-	-	3	16	1.7
Kentucky	2	1	2	2	1	-	-	2	10	1.1
Louisiana	2	-	-	-	-	-	-	1	3	0.3
Maine	3	-	-	6	-	-	-	-	9	1.0
Maryland	3	-	-	5	1	-	-	1	10	1.1
Massachusetts	6	2	1	13	2	-	1	1	26	2.8
Michigan	13	-	8	12	1	-	-	3	39	4.2
Minnesota	7	4	5	8	1	-	-	3	28	3.0
Mississippi	3	-	2	12	-	-	-	1	18	1.9
Missouri	5	-	2	6	4	-	-	3	20	2.2
Montana	1	-	3	3	-	-	-	1	8	0.9
Nebraska	1	-	1	3	-	-	-	-	5	0.5
Nevada	1	-	-	3	-	-	-	-	1	0.1
New Hampshire	3	-	-	-	-	-	-	-	6	0.7
New Jersey	3	-	1	12	3	1	-	3	23	2.5
New Mexico	-	-	-	-	-	-	-	-	-	-
New York	7	-	8	20	4	-	-	3	42	4.5
North Carolina	5	-	8	7	-	-	-	-	20	2.2
North Dakota	-	1	2	1	-	-	-	-	4	0.4
Ohio	6	-	3	13	1	-	-	3	27	2.9
Oklahoma	-	-	3	5	-	-	-	-	8	0.9
Oregon	5	2	1	18	-	-	-	4	30	3.2
Pennsylvania	21	3	10	46	9	-	1	3	92	10.0
Rhode Island	1	-	1	-	-	-	-	-	2	0.2
South Carolina	4	1	1	5	1	-	-	1	13	1.4
South Dakota	1	-	1	1	-	-	-	-	3	0.3
Tennessee	10	2	10	27	3	-	-	4	56	6.1
Texas	11	-	8	23	3	-	-	2	47	5.1
Utah	-	1	1	3	1	-	-	1	6	0.7
Vermont	-	-	-	7	1	-	-	-	6	0.7
Virginia	9	3	-	4	1	-	-	2	22	2.4
Washington	8	1	4	4	1	-	-	1	19	2.1
West Virginia	1	-	4	1	-	-	-	1	7	0.8
Wisconsin	10	3	4	9	-	-	1	6	33	3.4
Wyoming	-	-	-	2	-	-	-	-	2	0.2
District of Columbia	-	1	-	-	-	-	-	-	1	0.1
Alaska	1	-	-	-	-	-	-	-	1	0.1
Total number of places reporting	207	33	149	384	53	3	5	92	926	100.0
Percentage of places reporting	22.4	3.6	16.1	41.5	5.7	0.3	0.5	9.9	100.0	

upper limits of time and payment. In these terms, by far the most-prevalent rate is 5 cents an hour, which governs at least 475,709 meters, or 86.8 percent of the total of 547,911 surveyed. Of these, 149,156

meters (or 27.2 percent of the total) had an upper and lower limit of 5 cents an hour; over 4,000 meters were posed with both upper and lower limits of 12 min. for 1 cent; at the other extreme, 55 meters

TABLE 50

Extent to which curb parking turnover is estimated to have been increased by parking meters in places reporting, by population groups, as of January 1, 1952

Population group	Number of places with each indicated increase in turnover													
	Parking turnover increased										Increase in parking turnover			
	To greatest extent		35 to 49 percent		50 to 74 percent		75 to 99 percent		100 percent and over		parking turnover unknown		Total	
	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage	Number of places reporting	Percentage of places reporting
Under 2,500	12	25 0	2	4 2	4	8 3	14	29 2	16	33 3	-	-	48	100 0
2,500 - 5,000	38	26 4	5	3 4	31	27 1	27	18 1	26	18 1	5	3 5	144	100 0
5,000 - 10,000	58	28 4	9	4 4	34	16 7	53	26 0	42	20 6	8	3 9	204	100 0
10,000 - 25,000	64	27 5	13	5 6	47	20 2	35	15 0	59	25 3	15	6 4	233	100 0
25,000 - 50,000	19	24 7	3	3 9	13	16 9	12	15 5	23	29 9	7	9 1	77	100 0
50,000 - 100,000	6	16 7	6	12 5	8	16 7	12	25 0	9	18 7	5	10 4	48	100 0
100,000 - 250,000	3	16 8	3	9 4	1	3 1	5	15 6	12	37 5	1	11 1	32	100 0
250,000 - 500,000	4	44 5	1	11 1	1	11 1	-	-	2	25 2	-	-	6	100 0
500,000 - 1,000,000	3	50 0	-	-	1	16 7	1	16 7	-	1	16 6	-	6	100 0
1,000,000 or more	-	-	-	-	2	50 0	-	-	1	25 0	1	25 0	4	100 0
Los Angeles County, California, no population group	-	-	-	-	-	-	-	-	-	-	1	100 0	1	100 0
Total number and percentage of places reporting	212	26 3	42	5 2	142	17 6	171	21 2	191	23 7	48	6 0	806	100 0

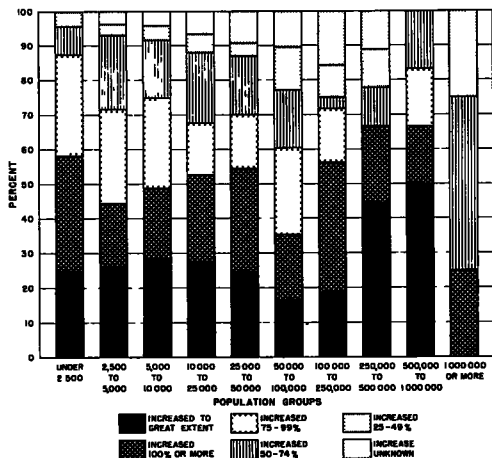


Figure 55. Percentage distribution within each population group of indicated increases in curb parking turnover as a result of parking meter usage, January 1, 1952.

were tagged with a lower limit of 1 hour for 5 cents, and an upper limit of 12 hours for 60 cents. There are interesting variations in between, of course.

All the rates other than five cents an hour are relatively insignificant when judged by the number of meters subject to them. Of course, the lowest rate was $\frac{1}{2}$ cent an hour, characterizing 100 meters; the highest was 60 cents an hour, which was reported as applicable only to a single meter. It is obvious, of course, that in some instances (Table 52) the indicated rates per hour are calculated rates, the fee schedules (in terms of permissible time and cost) requiring the use of convenient coins.

A study of Tables 52 and 53 reveals some odd rates. Among them will be found some that are 5 min. for 1 cent; 6 min. for 1 cent; 15 min. for 1 cent; 30 min. for 3 cents; 12 min. for 5 cents; 36 min. for 5 cents; and $1\frac{1}{2}$ hours for 5 cents.

It cannot be assumed that all rate schedules are designed to foster short-time parking. Over 1,100 meters had a top rate of 4 hours for 20 cents; over 1,600 had one of 5 hours for 25 cents; there were also some at 6 hours for 20 cents; and some at 8 hours for 20 cents. There were even some at 10 hours for 25 cents and all day for 25 cents. The highest parking charge, although not the highest rate, was that of 60 cents for 12 hours.

Some relationships can be observed from an array of rates by population groups (see Tables 53 and 54). The bulk of the three largest (in terms of number of meters) classes of rates, i.e., 12 min. for 1 cent, 1 hour for 5 cents, and 24 min. for 2 cents, is centered in the 10,000-to-25,000-population group. The next largest groups of meters having these three rates are found in the 5,000-to-10,000 class. The third largest numbers of meters are common to the 25,000-to-50,000-population group.

The distribution of the fee schedules (by numbers of meters) among the population groups (as shown in Table 54) in the 12-min.-for-1-cent, 24-min.-for-2-cents, and 1-hour-for-5-cents group, is approximately the same, as one might expect, since the same rate is involved. But the distribution among population groups is quite different for some of the other prevalent rates. For example, the 1-hour-for-10-cents meters are not found at all in the smallest places, and only insignificant percentages of the total of these meters are found in the other municipalities under 50,000 population; the bulk of them are in places of 250,000 and over.

Some significant observations can be made with respect to some of the other fee schedules, even though they may not be among the most prevalent in terms of numbers of meters. For example, as in-

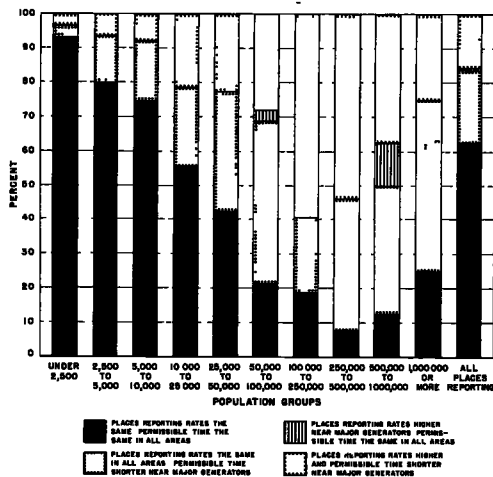


Figure 56. Percentage distribution of places reporting stated rate schedules as related to major generators of parking demand, by population groups, January 1, 1952.

TABLE 51

Extent to which curb parking turnover is estimated to have been increased by parking meters in places reporting, by states, as of January 1, 1952

State	Number of places with each indicated increase in turnover							
	Parking turnover increased					Increase in parking turnover unknown	Total	
	To great extent	25 to 49 percent	50 to 74 percent	75 to 99 percent	100 percent and over		Number of places reporting	Percentage of places reporting
Alabama	5	1	4	3	1	1	15	1.9
Arizona	2	-	1	1	-	1	5	0.6
Arkansas	2	-	4	4	4	1	15	1.9
California	11	6	12	10	15	11	65	8.1
Colorado	3	-	2	1	4	1	11	1.4
Connecticut	-	-	-	-	3	1	4	0.5
Delaware	-	-	-	1	-	-	1	0.1
Florida	3	-	3	3	6	3	18	2.2
Georgia	1	-	2	1	1	1	6	0.7
Idaho	2	1	2	1	-	-	6	0.7
Illinois	13	1	8	9	7	3	41	5.1
Indiana	2	-	5	5	6	1	19	2.4
Iowa	9	1	3	6	8	1	28	3.5
Kansas	2	-	2	2	10	3	19	2.4
Kentucky	3	-	5	2	1	-	11	1.4
Louisiana	2	-	-	1	-	-	3	0.4
Maine	-	-	-	5	2	1	8	1.0
Maryland	-	1	-	1	5	-	7	0.9
Massachusetts	7	3	1	7	7	-	25	3.1
Michigan	14	3	4	3	10	4	38	4.7
Minnesota	9	3	6	2	4	1	25	3.1
Mississippi	3	3	1	5	3	1	16	2.0
Missouri	2	-	3	3	4	2	14	1.7
Montana	3	1	2	2	-	-	8	1.0
Nebraska	-	-	-	4	1	1	6	0.7
Nevada	-	-	-	-	-	1	1	0.1
New Hampshire	3	-	2	-	1	-	6	0.7
New Jersey	4	1	-	5	5	1	16	2.0
New Mexico	-	-	-	1	-	-	1	0.1
New York	10	1	5	9	11	1	37	4.6
North Carolina	3	3	6	4	2	2	20	2.5
North Dakota	-	-	2	-	1	-	3	0.4
Ohio	9	1	5	4	4	-	23	2.9
Oklahoma	1	-	4	3	1	-	9	1.1
Oregon	7	3	5	9	1	-	25	3.1
Pennsylvania	28	1	12	17	14	2	74	9.2
Rhode Island	1	-	-	1	-	-	2	0.2
South Carolina	4	3	-	1	2	1	11	1.4
South Dakota	-	-	1	-	1	-	2	0.2
Tennessee	9	1	10	9	12	1	42	5.2
Texas	10	1	5	11	14	-	41	5.1
Utah	3	-	2	1	-	-	6	0.7
Vermont	-	-	3	2	1	-	6	0.7
Virginia	5	1	1	4	6	-	17	2.1
Washington	4	-	1	1	7	1	14	1.7
West Virginia	-	-	3	1	1	-	5	0.6
Wisconsin	10	2	5	6	4	-	27	3.4
Wyoming	1	-	-	-	1	-	2	0.3
District of Columbia	1	-	-	-	-	-	1	0.1
Alaska	1	-	-	-	-	-	1	0.1
Total number and percentage of places reporting	212 26.3	42 5.2	142 17.6	171 21.2	191 23.7	48 6.0	806 100.0	100.0

indicated in Table 53, approximately 38 percent of the meters in the 15-min.-for-1-cent rate are found in the 250,000-to-500,000-population group; it might be observed, parenthetically, that these 15-min. meters are generally designated for bank and post-office errands and missions of similar duration. The need for such short-time spaces is probably greater in the larger cities than in the smaller ones. Approximately 21 percent of the meters in this fee-schedule class are found in the 10,000-to-25,000-population group. But it should be noted that the numbers of meters in these two population groups are substantially different, 37,230 meters in the former, and 125,931 in the latter. The 15-min.-for-1-cent meters constitute 0.4 percent of the total number of meters in the 10,000-to-25,000-population group; these same-fee meters constitute 2.3

percent of the total number of meters in the 250,000-to-500,000-population group. In short, in terms of relative frequency of these 15-min. meters in the respective population groups, the 15-min. meters are approximately six times as frequent in the larger cities as in the smaller ones.

This same kind of comparison can be made, with profit, with respect to the other fee schedules contained in Table 53; but comparative number of parking meters must always be taken into account.

Some other significant observations can be made concerning the data in Table 54. Twenty-four minutes of parking time for a cent would normally be considered a bargain in most places having parking meters. The data reveal that these bargains in parking-meter rates are found most frequently in places having a population ranging from 5,000 to 25,000 persons,

where approximately 72 percent of meters having this fee schedule are found.

By like token, the higher rate schedules, such as 30-min. for 5 cents, are found most often in the larger places. For example, 42.4 percent of the total number of meters in this group are found in the

250,000-to-500,000-population class. But because of the fewer (in the aggregate) numbers of meters in this class, the relative frequency of occurrence of these higher price tags among the total is substantially smaller than the above-mentioned percentage indicates.

Curb parking-meter-fee schedules by states is indicated in Table B in the appendix. Among other things, the following states are noteworthy, where long-time parking at the curb is permitted: California, Florida, Georgia, Illinois, Maine, Missouri, Montana, New Jersey, New Mexico, New York, Pennsylvania, Virginia, and Wisconsin.

Sometimes, special types of vehicles are exempted from paying the regular curb parking meter fee, but are subject to an alternative method of contributing financially. A new ordinance in Santa Cruz, California, authorizes construction, service, repair, and maintenance vehicles which frequently have occasion to occupy metered zones in the principal business districts to obtain parking stickers for their windshields, in lieu of using a hood over the meter. Vehicles that regularly service fishing craft at the municipal wharf are also authorized to purchase parking stickers. The sticker is issued only after approval by the chief of police and the payment of an annual fee of \$25. Such permits for additional vehicles, after the first one, can be obtained at the rate of \$10 each. Monthly stickers are issued for \$2.50.³⁷

Some thought is being given presently to the desirability of permitting cities to erase unused parking-meter time. The experimental installation in Denver of a device for such purpose has been reported.³⁸ It was also tried in Salt Lake City in January, 1953. City officials there say that if the device is practicable, it will be put into general use.³⁹

³⁷ "Santa Cruz Provides Parking Stickers," WESTERN CITY, February 1953, p. 56

³⁸ It consists of a bar set into the pavement about midway in the parking space that is parallel with the curb. The bar makes contact electrically with the meter when a vehicle leaves the parking space, pulling down the red flag and resetting the meter. This prevents subsequent parkers from utilizing unused time on the meters. "No Free Parking in Denver," KANSAS GOVERNMENTAL JOURNAL, January 1952, p. 34.

³⁹ "That's a 'Meter Eraser'," WESTERN CITY, February 1953, p. 29

TABLE 52

Analysis of reported fee schedules for curb parking meters, as of January 1, 1952
(United States and Alaska)

Rate per hour		Use characteristics			
Amount in cents	Number of meters	Number of meters	Lower limit. Time and payment	Upper limit. Time and payment	
1/4	100	100	10 hours for 5¢	10 hours for 5¢	
1	130	130	1 hour for 1¢	1 hour for 1¢	
1-1/2	245	245	12 minutes for 1¢	All day (24 hours) for 25¢	
1-3/4	272	52	36 minutes for 1¢	36 minutes for 1¢	
		76	3 hours for 5¢	3 hours for 5¢	
		144	3 " " 5¢	6 " " 10¢	
2	13	13	30 min. for 1¢	30 minutes for 1¢	
2-1/2	37,351	717	24 minutes for 1¢	24 minutes for 1¢	
		6,053	24 " " 1¢	2 hours for 5¢	
		28,843	2 hours for 5¢	2 " " 5¢	
		915	2 " " 5¢	4 " " 10¢	
		637	2 " " 5¢	8 " " 20¢	
		186	2 " " 5¢	10 " " 25¢	
3	26	26	20 minutes for 1¢	20 minutes for 1¢	
3-1/2	1,002	134	18 minutes for 1¢	3 hours for 10¢	
		500	1-1/2 hours for 5¢	1-1/2 hours for 5¢	
		196	1-1/2 " " 5¢	3 " " 10¢	
		22	1-1/2 " " 5¢	6 " " 20¢	
		150	1-1/2 " " 5¢	9 " " 30¢	
4	2,248	745	15 minutes for 1¢	15 minutes for 1¢	
		1,503	15 " " 1¢	30 " " 2¢	
5	475,709	4,020	12 minutes for 1¢	12 minutes for 1¢	
		1,187	12 " " 1¢	34 " " 2¢	
		1,077	12 " " 1¢	36 " " 3¢	
		114,732	12 " " 1¢	1 hour for 5¢	
		125,235	12 " " 1¢	2 hours for 10¢	
		1,430	12 " " 1¢	3 " " 15¢	
		245	12 " " 1¢	5 " " 25¢	
		149,158	1 hour for 5¢	1 hour for 5¢	
		73,287	1 " " 5¢	2 hours for 10¢	
		2,373	1 " " 5¢	3 " " 15¢	
		1,166	1 " " 5¢	4 " " 20¢	
		1,689	1 " " 5¢	5 " " 25¢	
		143	1 " " 5¢	9 " " 45¢	
		15	1 " " 5¢	10 " " 50¢	
		58	1 " " 5¢	12 " " 60¢	
6	2,247	1,361	10 minutes for 1¢	10 minutes for 1¢	
		140	10 " " 1¢	30 " " 3¢	
		536	10 " " 1¢	1 hour for 5¢	
		210	10 " " 1¢	2 " " 12¢	
6-1/2	1,110	77	45 minutes for 5¢	45 minutes for 5¢	
		1,033	1-1/2 hours for 10¢	1-1/2 hours for 10¢	
7-1/2	1,375	1,375	40 minutes for 5¢	40 minutes for 5¢	
8-1/2	40	40	36 minutes for 5¢	36 minutes for 5¢	
10	13,981	5	6 minutes for 1¢	6 minutes for 1¢	
		8	6 " " 1¢	30 " " 5¢	
		4,360	30 " " 5¢	30 " " 5¢	
		2,886	30 " " 5¢	1 hour for 10¢	
		2,224	30 " " 5¢	2 hours for 20¢	
		4,308	1 hour for 10¢	1 hour for 10¢	
		290	1 hour for 10¢	2 hours for 30¢	
12	2	2	5 minutes for 1¢	5 minutes for 1¢	
15	351	3	4 minutes for 1¢	4 minutes for 1¢	
		348	20 minutes for 5¢	20 minutes for 5¢	
20	461	461	15 minutes for 5¢	15 minutes for 5¢	
25	15	15	12 minutes for 5¢	12 minutes for 5¢	
50	1	1	5 minutes for 5¢	5 minutes for 5¢	
Rates not reported	13,295				
Total	648,974				
Less	2,063 meters duplicated because of two different fee schedules (see footnotes 1, 2, 3, and 4)				
	547,911 Total number of meters				

¹ Rates for 245 meters are reported as 12 minutes for 1¢, 1 hour for 5¢, 2 hours for 10¢, and all day for 25¢

² Two hundred and forty of the meters shown have a summer rate of 1 hour for 5¢, and a winter rate of 2 hours for 5¢.

³ Rates for 1,503 meters are reported as 15 minutes for 1¢, 30 minutes for 2¢, and 1 hour for 5¢

⁴ Rates for 75 meters are reported as 30 minutes for 3¢ or one nickel

TABLE 53

Curb parking fee schedule in places reporting, by population groups, as of January 1, 1952

Fee schedule	Number of meters in each population group ¹										Los Angeles County, California (no population group)	Total
	Under 2,500	2,500-5,000	5,000-10,000	10,000-25,000	25,000-50,000	50,000-100,000	100,000-250,000	250,000-500,000	500,000-1,000,000	1,000,000 or more		
Total number of parking meters	10,730	40,219	83,531	125,931	78,494	82,649	53,271	37,230	39,823	13,571	2,482	547,911
4 minutes for 1¢	-	-	-	-	-	-	3	-	-	-	-	3
5 minutes for 1¢	-	-	2	-	-	-	-	-	-	-	-	2
6 minutes for 1¢	-	-	5	8	-	-	-	-	-	-	-	13
10 minutes for 1¢	-	100	331	504	31	-	81	-	1,200	-	-	2,247
12 minutes for 1¢	8,170	30,969	60,769	74,911	33,018	18,396	12,957	9,186	-	1,276	28	247,680
15 minutes for 1¢	-	5	-	480	363	266	75	864	195	-	-	2,248
18 minutes for 1¢	-	-	-	134	-	-	-	-	-	-	-	134
20 minutes for 1¢	-	-	8	-	-	18	-	-	-	-	-	26
24 minutes for 1¢	150	651	2,038	2,866	223	766	76	-	-	-	-	6,770
30 minutes for 1¢	-	-	-	-	-	52	13	-	-	-	-	13
36 minutes for 1¢	-	-	-	-	-	-	-	-	-	-	-	40
1 hour for 1¢	-	-	130	-	-	-	-	-	-	-	-	130
24 minutes for 2¢	8,104	30,802	60,274	74,021	32,178	15,621	12,265	9,110	-	1,276	-	243,651
30 minutes for 2¢	-	-	-	400	239	-	-	864	-	-	-	1,503
30 minutes for 3¢	-	-	326	75	-	-	65	-	-	-	-	466
36 minutes for 3¢	8,099	30,802	60,251	73,870	31,946	15,144	11,964	9,062	-	1,276	-	242,464
48 minutes for 4¢	8,099	30,802	60,241	73,843	31,902	15,032	11,410	8,782	-	1,276	-	241,397
5 minutes for 5¢	-	-	-	1	-	-	-	-	-	-	-	1
12 minutes for 5¢	-	-	-	-	15	-	-	-	-	-	-	15
15 minutes for 5¢	-	-	-	-	-	-	121	100	200	40	-	461
20 minutes for 5¢	-	-	-	-	-	104	15	79	150	-	-	548
30 minutes for 5¢	-	208	-	269	331	994	949	4,017	2,400	310	-	9,478
36 minutes for 5¢	-	-	-	-	40	-	-	-	-	-	-	40
40 minutes for 5¢	-	-	-	-	-	-	-	238	1,137	-	-	1,375
46 minutes for 5¢	-	-	-	-	-	-	77	-	-	-	-	77
1 hour for 5¢	10,301	37,411	77,026	107,490	71,390	50,352	41,820	26,238	33,449	11,496	2,434	469,416
1½ hours for 5¢	-	32	30	202	134	172	209	223	-	-	-	1,002
2 hours for 5¢	358	1,517	3,833	10,122	3,973	6,706	5,482	3,713	750	280	-	36,694
3 hours for 5¢	-	-	76	-	-	144	-	-	-	-	-	230
10 hours for 5¢	-	-	-	-	-	-	-	100	-	-	-	100
1 hour for 6¢	-	-	328	420	-	-	-	-	-	-	-	746
1 hour for 10¢	-	-	108	458	130	2,014	-	2,710	2,742	1,446	-	9,608
1½ hours for 10¢	-	-	-	-	-	-	1,033	-	-	-	-	1,033
2 hours for 10¢	7,294	24,348	48,713	51,008	21,823	16,543	10,559	7,928	10,878	5,483	951	205,538
3 hours for 10¢	-	32	30	134	134	172	-	-	-	-	-	502
4 hours for 10¢	-	29	-	474	661	-	574	-	-	-	-	1,738
6 hours for 10¢	-	-	-	-	-	144	-	-	-	-	-	144
2 hours for 12¢	-	-	-	-	-	-	-	-	-	-	-	210
3 hours for 15¢	776	1,198	681	1,546	743	1,283	-	789	-	-	-	7,016
2 hours for 20¢	-	-	-	-	-	-	-	2,224	-	290	-	2,514
4 hours for 20¢	280	645	4	312	275	1,028	-	789	-	-	-	3,313
6 hours for 20¢	-	-	-	-	-	172	-	-	-	-	-	172
8 hours for 20¢	-	29	-	715	79	-	-	-	-	-	-	823
5 hours for 25¢	-	345	4	612	15	1,028	-	143	-	-	-	2,147
10 hours for 25¢	-	39	-	78	79	-	-	-	-	-	-	186
All day for 25¢	-	245	-	-	-	-	-	-	-	-	-	245
9 hours for 30¢	-	-	-	-	-	150	-	-	-	-	-	150
9 hours for 45¢	-	-	-	66	15	-	-	143	-	-	-	213
10 hours for 50¢	-	-	-	55	15	-	-	-	-	-	-	70
12 hours for 60¢	-	-	-	55	-	-	-	-	-	-	-	55
Rates of fees not reported	-	770	1,374	5,897	1,323	63	1,760	2,118	-	-	-	13,895

¹Figures for the number of meters in the various fee schedules for each population group are nonadditive since many meters have been adjusted to accommodate more than one rate and the total number of meters taking each rate has been included in the numbers shown

²Seventy-five meters are reported as having a rate of 30 minutes for 3¢ or 1 nickel

³Rates for 245 meters are reported as 12 minutes for 1¢, 1 hour for 5¢, 2 hours for 10¢, and all day for 25¢

⁴One place reported that 10 minutes of free parking time is allowed in connection with its 300 meters, i.e., 22 minutes for 1¢ and 70 minutes for 5¢

⁵Rates for 400 meters are reported as 15 minutes for 1¢ and 1 hour for 5¢

⁶Rates for 239 meters are reported as 15 minutes for 1¢ and 1 hour for 5¢

⁷Rates for 864 meters are reported as 15 minutes for 1¢ and 1 hour for 5¢

⁸Two hundred and forty of the meters shown have a summer rate of 1 hour for 5¢ and a winter rate of 2 hours for 5¢

OFF-STREET PARKING METER FEE SCHEDULES

The opinion is prevalent in some quarters that metered off-street-parking facilities generally have higher price tags and

cater to the long-term rather than the short-term parker. The evidence assembled in this survey indicates that both of these presumptions are incorrect, in terms of relative numbers of meters involved. The most-prevalent fee for off-street

TABLE 54

Number of curb parking meters in each population group in places reporting having each of ten most prevalent fee schedules, expressed as a percentage of total, as of January 1, 1952¹

Fee schedule	Percentage of total number of meters with indicated fee schedule in each population group										Los Angeles County, California (no population group)	Total
	Under 2,500	2,500-5,000	5,000-10,000	10,000-25,000	25,000-50,000	50,000-100,000	100,000-250,000	250,000-500,000	500,000-1,000,000	1,000,000 or more		
Total number of meters	2.0	7.3	15.2	23.0	14.3	11.4	9.7	6.8	7.3	2.5	0.5	100.0
12 minutes for 1¢	3.3	12.5	24.6	30.3	13.3	6.6	5.2	3.7	-	0.5	-	100.0
24 minutes for 1¢	2.2	9.7	30.1	42.3	3.3	11.3	1.1	-	-	-	-	100.0
24 minutes for 2¢	3.3	12.7	24.7	30.4	13.2	6.4	5.0	3.8	-	0.5	-	100.0
36 minutes for 3¢	3.3	12.7	24.9	30.5	13.2	6.2	4.9	3.8	-	0.5	-	100.0
30 minutes for 5¢	-	2.2	-	2.8	3.5	10.5	10.0	42.4	25.3	3.3	-	100.0
1 hour for 5¢	2.2	8.0	16.4	22.9	15.2	10.7	8.9	5.6	7.1	2.5	0.5	100.0
2 hours for 5¢	1.0	4.1	10.5	27.6	10.6	18.3	15.0	10.1	2.0	0.8	-	100.0
1 hour for 10¢	-	-	1.1	4.8	1.4	21.0	-	28.2	28.5	15.0	-	100.0
2 hours for 10¢	3.5	11.8	23.7	24.8	10.6	8.1	5.1	3.9	5.3	2.7	0.5	100.0
3 hours for 15¢	11.1	17.1	9.7	22.0	10.6	18.3	-	11.2	-	-	-	100.0

¹See Table 53 for applicable explanatory footnotes

²Percentages for meters having the rate of 48 minutes for 4¢ are approximately the same as for those having the rate of 36 minutes for 3¢.

RESTRICTED PARKING AREAS--FEBRUARY 1948

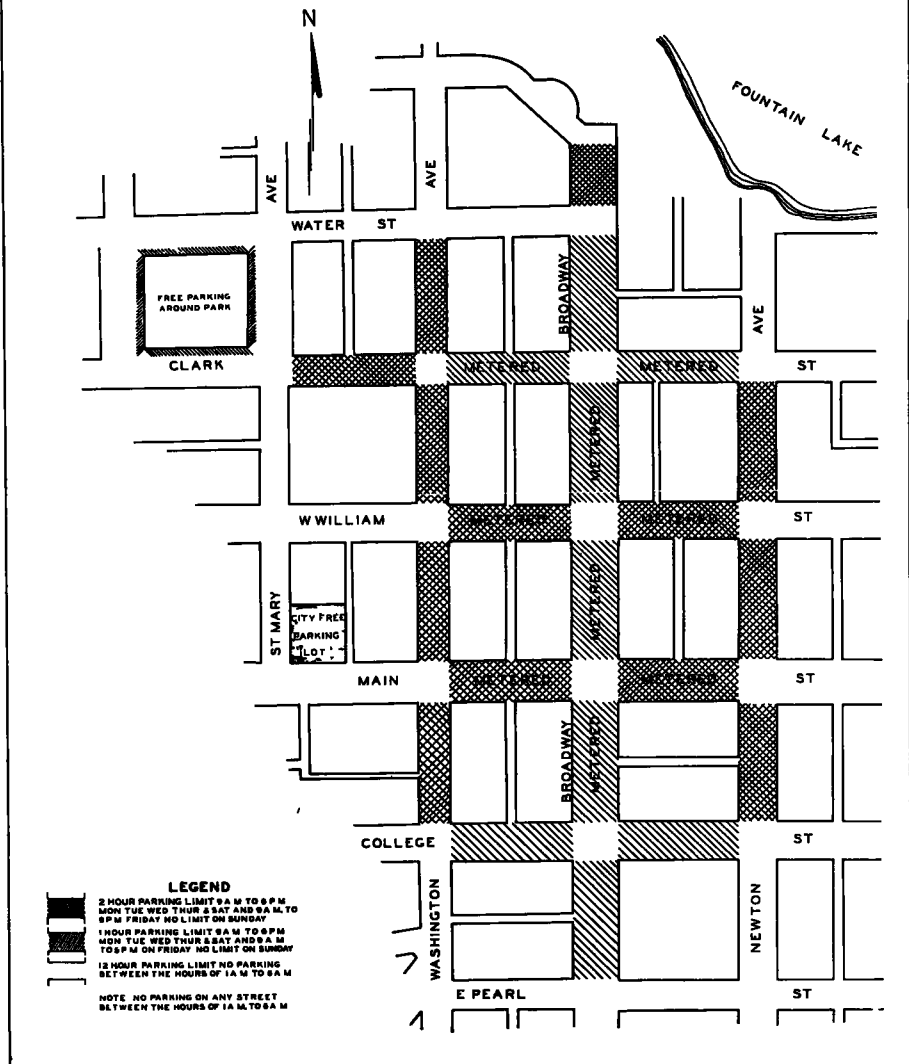


Figure 57. This is a portion of a four-page leaflet giving information concerning the use of parking meters in Albert Lea, Minnesota. It was distributed by city officials to all taxpayers, along with their water bills and the city manager's report. A practice of this kind makes sense and ought to be encouraged.

meters is 1 hour for 5 cents, applicable to 47.2 percent of the total of 18,626 off-street meters. The next fee schedule, at the same rate, is 2 hr. for 10 cents, involving 41.3 percent of the off-street total. The third-most-prevalent schedule — a bargain rate — is 2 hours for 5 cents, applicable to 29.7 percent of the total. The fourth, in terms of magnitude, is 3-hours for 15 cents, involved in 25.4 percent of the cases (see Table 55).

In short, eliminating the overlapping of meters with fee schedules of the same rate, more than three quarters of the total of metered off-street spaces have relatively low rates and serve the short-time parker. And, even where a fee schedule permits long-time parking, the rates are relatively low, exceeding 5 cents an hour in only a single instance.⁴⁰ It seems, therefore, that

⁴⁰ The fee schedule is 3 hours for 25 cents and involved only 96 meters, accounting for $\frac{1}{4}$ percent of the total number of off-street meters.

Off-street parking meter fee schedules in places reported

Fee schedule	Number of meters in					
	Under : 2,500	2,500- : 5,000	5,000- : 10,000	10,000- : 25,000	25,000- : 50,000	50,000 : 100,000
Total number of parking meters	177	87	643	3,713	7,301	3,807
12 minutes for 1¢	-	30	321	124	165	-
15 minutes for 1¢	-	-	-	-	-	-
24 minutes for 1¢	-	-	60	-	545	-
30 minutes for 2¢	-	-	-	-	-	-
36 minutes for 3¢	-	-	-	18	-	-
80 minutes for 5¢	-	-	-	-	-	-
1 hour for 5¢	177	57	321	966	4,017	1,873
1½ hours for 5¢	-	-	-	364	495	505
2 hours for 5¢	-	30	276	2,021 ^{2/}	2,028	1,014
2½ hours for 5¢	-	-	-	-	71	-
4 hours for 5¢	-	-	20	-	-	-
2 hours for 10¢	177	-	212	997	3,579	1,708
3 hours for 10¢ ^{1/}	-	-	-	382 ^{2/}	495	562
4 hours for 10¢	-	30	192	1,247	801	768
6 hours for 10¢	-	-	-	-	-	281
3 hours for 15¢	177	-	-	657	2,251	863
4 hours for 15¢	-	-	-	-	-	-
6 hours for 15¢	-	-	192	1,205	590	333
9 hours for 15¢	-	-	-	-	-	156
4 hours for 20¢	177	-	-	387	1,589	613
8 hours for 20¢	-	-	192	1,205	590	768
10 hours for 20¢	-	-	-	-	-	-
16 hours for 20¢	-	-	20	-	-	-
3 hours for 25¢	-	-	-	-	-	-
5 hours for 25¢	177	-	-	448	1,510	358
10 hours for 25¢	-	-	-	841	674	768
12 hours for 25¢	-	-	-	-	318	-
All day for 25¢	-	-	-	135	495	466
6 hours for 30¢	-	-	-	186	678	113
9 hours for 30¢	-	-	-	281	495	210
12 hours for 30¢	-	-	-	-	278	-
10 hours for 50¢	177	-	-	186	676	137
All week for 50¢	-	-	16	-	-	-
12 hours for 60¢	177	-	-	-	-	113
24 hours for \$1.20	-	-	-	-	-	-
Rates of fees not reported	-	-	10	141	258	40

- ^{1/} Figures for the number of meters having the various fee schedules in each place to accommodate more than one rate and the total number of meters taking each rate.
- ^{2/} Includes 82 meters in Ypsilanti, Michigan, having rate of 5¢ for first 2 hours.

TABLE 56

Number of off-street parking meters in places reporting having each of 10 most prevalent fee schedules, expressed as a percentage of total, by population groups, as of January 1, 1952¹

Population group	Percentage of total number of meters having each indicated fee schedule										
	Total number of off-street meters	1 hour for 5¢	2 hours for 5¢	2 hours for 10¢	4 hours for 10¢	3 hours for 15¢	6 hours for 15¢	4 hours for 20¢	8 hours for 20¢	5 hours for 25¢	10 hours for 25¢
Under 2,500	0.9	2.0	-	2.3	-	3.7	-	5.0	-	5.5	-
2,500-5,000	0.5	0.6	0.5	-	0.9	-	-	-	-	-	-
5,000-10,000	3.5	3.7	5.0	2.8	6.0	-	7.7	-	6.6	-	-
10,000-25,000	19.9	11.0	36.5	13.0	39.0	14.0	48.5	11.0	41.3	13.8	34.4
25,000-50,000	39.2	45.7	36.8	46.5	25.0	47.6	23.8	45.2	20.2	46.6	27.6
50,000-100,000	20.4	21.3	18.3	22.2	24.0	18.2	13.4	17.4	26.3	11.0	31.4
100,000-250,000	8.4	5.5	-	2.5	-	-	-	-	-	-	-
250,000-500,000	5.1	5.7	2.9	6.4	5.1	10.3	6.6	14.0	5.6	15.1	6.6
500,000-1,000,000	1.9	4.0	-	3.8	-	6.2	-	7.4	-	8.0	-
1,000,000 or more	-	-	-	-	-	-	-	-	-	-	-
Los Angeles County, California (no population group)	0.2	0.5	-	0.5	-	-	-	-	-	-	-
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

¹ See table 55 for explanatory notes.

the objective in metering off-street areas — where it has been done to date — is largely to expand the supply of low-cost, short-time parking facilities.

At least 35 different combinations of time and cost were found to exist among the nearly 18,700 off-street meters. Aside from those already mentioned, some odd schedules are noteworthy. Almost 1,100 meters were marked "All day for 25 cents." Sixteen meters went this group one better by authorizing parking "All week for 50 cents." The time and price are perhaps not as unusual in these instances as is the fact that the parking meter is used to measure both elements.

The ten-most-prevalent rate schedules, in terms of numbers of meters involved, are summarized by population groups, on a percentage basis, in Table 56. The

total number of off-street meters distributed by population groups is also indicated. Thirty-nine percent of the total number of off-street meters are found in the 25,000-to-50,000-population group; an additional 20 percent in each of the 10,000-to-25,000 and 50,000-to-100,000 groups. In short, approximately 80 percent of the off-street meters are found in municipalities that range in population from 10,000 to 100,000; relatively few are found either in the smallest or the largest places.

The same tendency to cluster around the 25,000-to-50,000-population group is apparent in almost all of the ten-most-prevalent off-street-meter rates. Similar tendencies are evident for the vast bulk of all meters found in the 10,000-to-100,000-population groups.

Off-street parking-meter fees are tabu-

TABLE 57

Comparison of rate schedules and permissible parking time for meters close to major parking generators and those farther away in places reporting, by population groups, as of January 1, 1952

Population group	Number of places with indicated rate schedule and parking time										Special areas	
	Places reporting rates the same, permissible time the same in all areas		Places reporting rates the same in all areas, permissible time shorter near major generators		Places reporting rates higher near major generators, permissible time the same in all areas		Places reporting rates higher and permissible time shorter near major generators		Total places reporting		Places reporting permissible time shorter at post offices, banks, drug stores, or utility offices (sometimes with higher and sometimes with lower rates)	Places reporting permissible time longer in theater areas
	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage
Under 2,500	80	93.0	3	3.5	-	-	3	3.5	86	100.0	15	17.4
2,500-5,000	172	80.0	29	13.5	-	-	14	6.5	215	100.0	38	17.7
5,000-10,000	222	74.7	52	17.5	-	-	23	7.8	297	100.0	64	21.5
10,000-25,000	173	55.8	71	22.9	-	-	66	21.3	310	100.0	108	34.8
25,000-50,000	94	42.2	45	35.2	-	-	29	22.6	128	100.0	37	44.5
50,000-100,000	13	21.3	29	47.5	2	3.3	17	27.9	61	100.0	46	75.4
100,000-250,000	7	15.9	8	21.6	-	-	22	59.5	37	100.0	36	70.3
250,000-500,000	1	7.7	5	38.5	-	-	7	53.8	13	100.0	12	92.3
500,000-1,000,000	1	12.5	3	37.5	1	12.5	3	37.5	8	100.0	5	62.5
1,000,000 and over	1	25.0	2	50.0	-	-	1	25.0	4	100.0	2	50.0
Los Angeles County, California, no population group	-	-	1	100.0	-	-	-	-	1	100.0	-	-
Total number and percentage of places reporting	724	62.4	248	21.4	3	0.3	185	15.9	1,160	100.0	373	32.2

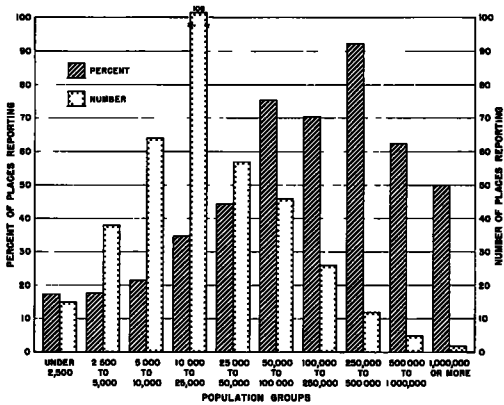


Figure 58. Percentage and number of places reporting permissible parking meter time shorter at post offices, banks, drug stores, or utility offices, by population groups, January 1, 1952.

lated in Table C in the appendix. It is interesting to note from this table that the largest and most-urbanized states have the most off-street meters; these include New York, California, Michigan, Illinois, and Pennsylvania.

RATE SCHEDULES IN RELATION TO MAJOR GENERATORS

There seems to be a developing tendency among municipalities to graduate their parking-meter fee schedules so that higher rates or shorter permissible time, or both, are placed on parking spaces that are closer to the major generators of parking demand than on those farther away. This is but good sense, since the more-valuable space should command the higher price, all other things being equal.

This investigation has sought to measure the magnitude of this tendency. The results are worth close study by municipalities seeking to improve their present practice and to better the parking muddle (see Table 57). Of the 1,160 places that furnished information on this matter, 62.4 percent indicated that both parking-meter rates and the permissible parking time were the same in all areas, regardless of their proximity to major generators. But 21.4 percent said that the rates were the same in all areas but that the permissible parking time was shorter near the major generators than it was farther away. Approximately 16 percent of those replying indicated that the meter rates

were higher and the permissible parking time was shorter near the major generators.

Generally, there is a steady decrease in the number of places, from 93.0 percent in the smallest places to 7.7 percent in the larger places, where parking-meter rates and permissible parking time are uniform throughout all areas. The smaller the place, the more likely it is that proximity to the major generators is immaterial, in terms of the price tags or time periods associated with metered parking. By like token, the data reveal that the greatest degree of rate and time variation with respect to the major generators is found in the largest places, and the larger the place, the greater the number of such places that have the variation indicated. The range for rates that are the same in all areas but the permissible time short close to the major generators is from 3½ percent in places under 2,500 population to 50 percent in places a million and over. The same is true of a combination of higher rates and shorter permissible time periods near the major generators of parking demand. The variation here is from 3½ percent for the under-2,500-population group to almost 60 percent for the 100,000-to-250,000 class. Only a negligible percentage of the larger places have a combination of higher rates and the same permissible parking time periods.

There are also several special areas that merit comment, in the places reporting, in terms of their special meter pricing or time periods. For example, a relatively large such class consists of permissible parking time that is shorter at post offices, banks, drug stores, or utility offices, sometimes with higher and sometimes with lower metered rates. Approximately 32 percent of the total number of places reporting indicated special metered areas of this kind. Such areas are more frequent than any of the other already indicated, but the relative frequency appears to follow the same pattern: The smaller the place, the less likely it is to designate the indicated areas with shorter permissible time periods or variable rates. The range was from 17.4 percent in the places under 2,500 population, to 92.3 percent in municipalities having a population of 250,000 to 500,000 persons.

Two places reported that the permissible

TABLE 58

Comparison of rates and permissible parking time for meters close to major parking generators and those farther away
in places reporting, by states, as of January 1, 1952

State	Number of places with indicated rates and parking time									Special areas	
	Places reporting rates the same, permissible time the same in all areas		Places reporting rates the same in all areas, permissible time shorter near major generators		Places reporting rates higher near major generators, permissible time the same in all areas		Places reporting rates higher and permissible time shorter near major generators		Total number of places reporting	Number of places reporting permissible time shorter at post offices, banks, drug stores, or utility offices (sometimes with higher and sometimes with lower rates)	Number of places reporting permissible time longer in theater area
	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage			
Alabama	8	47.1	6	35.3	-	-	3	17.0	17	6	1
Arizona	4	50.0	3	37.5	-	-	1	12.5	8	3	-
Arkansas	12	46.2	12	46.1	-	-	2	7.7	26	9	-
California	35	45.4	28	36.4	1	1.3	13	16.9	77	37	-
Colorado	9	60.0	4	26.7	-	-	2	13.3	15	6	-
Connecticut	4	66.7	-	-	-	-	2	33.3	6	3	-
Delaware	2	100.0	-	-	-	-	-	-	2	-	-
Florida	12	48.0	7	28.0	-	-	6	24.0	25	11	-
Georgia	10	71.4	2	14.3	-	-	2	14.3	14	3	-
Idaho	5	62.5	1	12.5	-	-	2	25.0	8	1	-
Illinois	38	67.9	11	19.6	-	-	7	12.5	56	14	-
Indiana	25	83.3	2	6.7	-	-	3	10.0	30	5	-
Iowa	27	65.9	1	2.4	-	-	13	31.7	41	17	-
Kansas	16	64.0	5	20.0	1	4.0	3	12.0	25	8	-
Kentucky	9	75.0	2	16.7	-	-	1	8.3	12	4	-
Louisiana	6	100.0	-	-	-	-	-	-	6	2	-
Maine	5	50.0	2	20.0	-	-	3	30.0	10	3	-
Maryland	11	78.6	1	7.1	-	-	2	14.3	14	3	-
Massachusetts	17	96.6	8	26.7	-	-	5	16.7	30	7	-
Michigan	21	45.7	14	30.4	-	-	11	23.9	46	22	-
Minnesota	21	65.6	8	25.0	-	-	3	9.4	32	7	-
Mississippi	15	75.0	5	25.0	-	-	-	-	20	8	-
Missouri	12	58.2	5	21.7	-	-	6	26.1	23	8	-
Montana	4	44.5	3	33.3	-	-	2	22.2	9	5	-
Nebraska	7	100.0	-	-	-	-	-	-	7	2	-
Nevada	-	-	1	100.0	-	-	-	-	1	1	-
New Hampshire	5	83.3	1	16.7	-	-	-	-	6	-	-
New Jersey	10	32.3	9	29.0	-	-	12	36.7	31	12	-
New Mexico	-	-	2	100.0	-	-	-	-	2	-	-
New York	32	62.7	14	27.5	-	-	5	9.8	51	8	-
North Carolina	12	48.0	6	24.0	-	-	7	28.0	25	8	-
North Dakota	2	33.3	4	66.7	-	-	-	-	6	1	-
Ohio	22	61.1	9	25.0	-	-	5	13.9	36	15	-
Oklahoma	8	72.7	-	-	-	-	3	27.3	11	8	-
Oregon	23	57.5	11	27.5	-	-	6	15.0	40	21	-
Pennsylvania	95	74.8	19	15.0	-	-	13	10.2	127	17	1
Rhode Island	-	-	-	-	-	-	2	100.0	2	-	-
South Carolina	10	66.7	3	20.0	-	-	2	13.3	15	6	-
South Dakota	2	40.0	2	40.0	-	-	1	20.0	5	3	-
Tennessee	52	83.9	4	6.4	-	-	6	9.7	62	12	-
Texas	38	66.7	5	8.7	-	-	14	24.6	57	22	-
Utah	4	66.7	1	16.7	-	-	1	16.6	6	3	-
Vermont	6	83.7	-	-	-	-	1	14.3	7	2	-
Virginia	20	66.7	7	23.3	-	-	3	10.0	30	7	-
Washington	18	66.7	6	22.2	-	-	3	11.1	27	16	-
West Virginia	6	60.0	3	30.0	-	-	1	10.0	10	1	-
Wisconsin	20	50.0	11	27.5	1	2.5	8	20.0	40	13	-
Wyoming	2	100.0	-	-	-	-	-	-	2	1	-
District of Columbia	1	100.0	-	-	-	-	-	-	1	1	-
Alaska	1	100.0	-	-	-	-	-	-	1	1	-
Total number and percentage of places reporting	724	62.4	248	21.4	3	0.3	185	15.9	1,160	373	2

time periods are longer in the theater area than in other places.

The same data, arranged by state instead of by population group, is contained in Table 58. The larger percentages of metered places having higher rates and shorter time periods close to the major generators are found in: Connecticut, Florida, Idaho, Iowa, Maine, Michigan, Missouri, Montana, New Jersey, North Carolina, Oklahoma, Rhode Island, South Dakota, Texas, and Wisconsin. In a far-greater number of states, substantial numbers of municipalities have designated rates that are the same but with permissible time shorter near the major generators.

In the following states, a substantial number of places have designated shorter permissible time at metered places near post offices, banks, drug stores, or utility offices, sometimes with higher and sometimes with lower rates: California, Florida, Illinois, Iowa, Michigan, New Jersey, Ohio, Oregon, Pennsylvania, Tennessee, Texas, Washington, and Wisconsin.

OPINIONS ON GRADUATED FEES ACCORDING TO LOCATION

Sentiment seems to be developing among students of the parking problem and among municipalities which are desperately trying to alleviate parking difficulties that fee schedules ought to be graduated according to location. This can be achieved by variations either in the price tag or time limit or a combination of both.

The theory seems to be that the most-valuable curb space ought to be priced accordingly and that the interaction of supply and demand will make it economically feasible. It seems reasonable to presume that the closer a motorist-parker can get to his destination, the more he will be willing to pay for that privilege, within certain limitations, of course. Parking meters at the choice locations, therefore, close to the principal generators of parking demand, it is asserted, ought to have higher price tags for a given unit of time than that of the less-desirable locations.

Moreover, flexibility in fee schedules in terms of location will tend to diminish the disparity in their user costs between choice parking space at the curb and off-street.

In order to ascertain the present thinking of municipalities in this area, appropriate questions were included in the questionnaire. Here are the results:

A total of 899 places answered this particular inquiry. The distribution of this aggregate by population groups is shown in Table 59. Of the total submitting data, approximately 60 percent indicated that the adoption of graduated fee schedules for parking-meter locations was not desirable; an additional 10 percent thought that such a graduated schedule was not necessary for a city of their particular size. Approximately 30 percent of those answering the inquiry considered a graduated schedule desirable.⁴¹

All of these are the percentages of the aggregates. An analysis of the distribution of the replies by population groups is most revealing and present a totally different pattern of attitudes on this important matter. For example, only 5.1 percent of the smallest places approved of the idea, but 85.7 percent of municipalities in the 500,000-to-1,000,000-population group thought the practice a desirable one. The progression in between these two extremes of population was uniformly related to size. A majority of the places ranging in size from 50,000 population to 1,000,000 approved of the idea. The same data are tabulated by states in Table 60.

HOURS OF OPERATION OF CURB METERS

The hours of operation of curb meters constitute another area of potential surprise to the casual student of the parking problem. This is so because of the great variation that exists with respect to the combination of effective hours of operation of the meters and the days of the week involved. There are 50 combinations in the 243 places reporting this data (see Table 61).

Incidentally, the information was gleaned from the ordinances that were submitted with the questionnaire returns. Accordingly, these periods exist as a matter of law in the places to which the ordinances are applicable and are not just a matter

⁴¹ In early September 1953, the city council of Dallas boosted the fee for metered parking on downtown streets from 5 cents to 10 cents, to discourage "nickel feeders." BUSINESS WEEK, September 19, 1953, "No More Parking," page 156

TABLE 59

Attitudes toward adopting graduated fee schedules according to location in places reporting, by population groups, as of January 1, 1952

Population group	Number of places in each population group with indicated attitude toward graduated fee schedule											
	Not desirable		Not necessary for city of this size		Not desirable under present conditions		Desirable if meters properly patrolled		Considered desirable		Total	
	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage
Under 2,500	36	61.0	20	33.9	-	-	-	-	3	5.1	59	100.0
2,500-5,000	129	78.2	20	12.1	-	-	1	0.6	15	9.1	165	100.0
5,000-10,000	154	70.0	28	12.7	2	0.9	-	-	36	16.4	220	100.0
10,000-25,000	129	52.0	17	6.9	3	1.2	-	-	99	39.9	248	100.0
25,000-50,000	53	50.9	1	1.0	1	1.0	-	-	49	47.1	104	100.0
50,000-100,000	22	44.9	-	-	-	-	-	-	27	55.1	49	100.0
100,000-250,000	9	28.1	-	-	-	-	-	-	23	71.9	32	100.0
250,000-500,000	3	27.3	-	-	-	-	-	-	8	72.7	11	100.0
500,000-1,000,000	1	14.3	-	-	-	-	-	-	6	85.7	7	100.0
1,000,000 or more	2	66.7	-	-	-	-	-	-	1	33.3	3	100.0
Los Angeles County, California - no population group	-	-	-	-	-	-	-	-	1	100.0	1	100.0
Total number and percentage of places reporting	538	59.8	86	9.6	6	0.7	1	0.1	268	29.8	899	100.0

of administrative or executive determination.

There are, of course, a number of factors accounting for this wide variation. Frequently, different cities, located in radically different regions and subjected to unique influences, logically might be expected to find that different effective hours of operation of their parking meters are natural. Variations in shopping habits might account for some. Evening shopping opportunities, provided by some of the major generators of parking demand in the more-congested areas of the city, might mean that the effective hours of parking meters might be extended in that city to include designated evenings. The practice with respect to Saturdays is indeed variegated too.⁴²

First, let us examine some of the more-common hours of operation of parking meters: The most prevalent one extends from 8 a. m. (or 7:59 a. m.) to 6 p. m. on weekdays; it is found to exist in 65 of the 243 places reporting, constituting 27 percent of that total. Concerning its distribution by population groups, it seems that a substantially greater percentage of the smaller municipalities make use of these hours of operation than do the larger ones.

In terms of its frequency of use, the next-most-important period of operation of

meters is 9 a. m. to 6 p. m. on weekdays. This was found to occur in 45 places, or in 19 percent of the total. These hours are not authorized at all in any place above 250,000 population, of those reporting. Percentagewise, they appear most frequently used in municipalities of 10,000 to 50,000 persons.

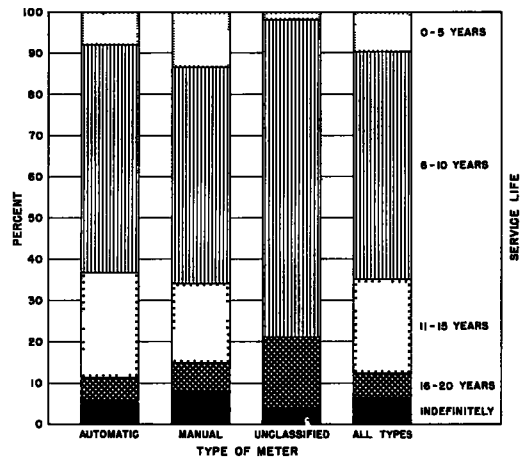


Figure 59. Percentage distribution of meters of each type according to estimated service life in places reporting, January 1, 1952.

Other less-frequently used hours are 8 a. m. to 6 p. m. (or 5:59 p. m.) on weekdays, except Saturdays when the hours are 8 a. m. to 9 p. m.; this occurred in 8 percent of the places reporting. Another was 9 a. m. to 6 p. m. on weekdays, except Saturdays when the hours were 9 a. m. to 9 p. m.; this was found to exist in 7 percent of the total. A third common period was 8 a. m. to 6 p. m. (or 5:59 p. m.) on weekdays, except Fridays when the hours

⁴² In a recent case in the District of Columbia, defendant was convicted of parking on Saturday afternoon in a metered space having a sign, "Excepting Sundays and holidays," the traffic regulations of the District defined Saturday as not being a holiday, but the general code did include Saturdays among them. It was held that the defendant was properly convicted. *Doig v. District of Columbia*, 87 Atl. (2d) 396 (D.C. Mun. App. July 7, 1949).

TABLE 80

Attitudes toward adopting graduated fee schedules according to location in places reporting,
by states, as of January 1, 1952

State	Number of places in each State with indicated attitude toward graduated fee schedule						
	Not desirable	Not necessary for city of this size	Not desirable under present conditions	Desirable if meters properly patrolled	Considered desirable	Total	
						Number of of places reporting	Percentage of places reporting
Alabama	9	4	1	-	1	15	1.7
Arizona	5	1	-	-	2	8	0.9
Arkansas	13	2	-	-	-	15	1.7
California	32	6	1	1	24	64	7.1
Colorado	8	2	-	-	1	11	1.2
Connecticut	3	-	-	-	-	3	0.3
Delaware	-	1	-	-	1	2	0.2
Florida	11	5	-	-	6	22	2.5
Georgia	7	1	-	-	2	10	1.1
Idaho	3	1	-	-	3	7	0.8
Illinois	27	4	-	-	10	41	4.6
Indiana	20	2	-	-	4	26	2.9
Iowa	20	5	-	-	10	35	3.9
Kansas	10	2	-	-	7	19	2.1
Kentucky	7	2	1	-	1	11	1.2
Louisiana	5	-	-	-	-	5	0.6
Maine	6	-	-	-	2	8	0.9
Maryland	7	1	-	-	3	11	1.2
Massachusetts	14	-	-	-	10	24	2.7
Michigan	12	7	-	-	20	39	4.3
Minnesota	17	2	-	-	5	24	2.7
Mississippi	12	1	1	-	3	17	1.9
Missouri	8	2	1	-	6	17	1.9
Montana	3	1	-	-	2	6	0.7
Nebraska	4	-	-	-	1	5	0.6
Nevada	1	-	-	-	-	1	0.1
New Hampshire	2	1	-	-	2	5	0.6
New Jersey	13	1	-	-	11	25	2.8
New Mexico	1	-	-	-	-	1	0.1
New York	23	1	1	-	13	38	4.2
North Carolina	10	1	-	-	10	21	2.3
North Dakota	1	1	-	-	2	4	0.4
Ohio	22	1	-	-	7	30	3.3
Oklahoma	6	-	-	-	4	10	1.1
Oregon	15	7	-	-	6	28	3.1
Pennsylvania	66	7	-	-	20	93	10.3
Rhode Island	-	-	-	-	2	2	0.2
South Carolina	7	1	-	-	5	13	1.4
South Dakota	2	-	-	-	1	3	0.3
Tennessee	33	3	-	-	9	45	5.0
Texas	20	3	-	-	19	42	4.7
Utah	2	-	-	-	1	3	0.3
Vermont	3	1	-	-	2	6	0.7
Virginia	12	3	-	-	5	20	2.2
Washington	16	2	-	-	5	23	2.6
West Virginia	3	-	-	-	2	5	0.6
Wisconsin	15	1	-	-	16	32	3.6
Wyoming	1	-	-	-	1	2	0.2
District of Columbia	-	-	-	-	1	1	0.1
Alaska	1	-	-	-	-	1	0.1
Total number of places reporting	538	86	6	1	268	899	100.0
Percentage of places reporting	59.8	9.6	0.7	0.1	29.8	100.0	

TABLE 61
Hours of operation of curb parking meters in places reporting, by population groups, as of January 1, 1952

Hours of operation 1/		Number of places with each designated period of operation in each population group											Total number of places reporting 2/
		Population group											
		Under 2,500	2,500-5,000	5,000-10,000	10,000-25,000	25,000-50,000	50,000-100,000	100,000-250,000	250,000-500,000	500,000-1,000,000	1,000,000 or more		
Every day	6 a.m. to 10 p.m.	-	-	-	-	1	-	-	-	-	-	1	
Week days	7 a.m. to 6 p.m.	1	-	-	-	-	-	-	-	1	-	2	
Week days except Saturdays	7 a.m. to 6 p.m.)	1	-	-	-	-	-	-	-	-	-	1	
Saturdays	7 a.m. to 9 p.m.)	-	-	-	-	-	-	-	-	-	-	-	
Week days	7 a.m. to 10 p.m.	-	-	1	-	-	-	-	-	-	-	1	
Week days	8 a.m. to 5 p.m.	-	-	1	-	1	-	-	-	-	-	2	
Week days except Saturdays	8 a.m. to 5 p.m.)	-	-	1	-	-	-	-	-	-	-	1	
Saturdays	8 a.m. to 8 p.m.)	-	-	-	-	-	-	-	-	-	-	-	
Every day	8 a.m. to 6 p.m.	-	-	-	-	1	-	-	-	-	-	1	
Week days	8 a.m. (or 7:59 a.m.) to 6 p.m.	3	9	13	23	5	5	3	2	1	1	65	
Week days 8 a.m. to 6 p.m. (or 5:59 p.m.) with the following exceptions													
Saturdays	8 a.m. to 12 noon	-	-	-	2	-	-	-	-	-	-	2	
Saturdays	8 a.m. to 8 p.m.	1	3	4	-	-	-	-	-	-	-	8	
Saturdays	8 a.m. to 9 p.m.	3	5	4	4	2	-	1	-	-	-	19	
Saturdays	8 a.m. to 10 p.m.	-	2	1	-	-	-	-	-	-	-	3	
Monday and Thursdays	8 a.m. to 9 p.m.	-	-	-	-	1	-	-	-	-	-	1	
Monday and Thursdays	8 a.m. to 9 p.m.	-	-	1	-	1	-	-	-	-	-	2	
Thursdays	8 a.m. to 9 p.m.	-	-	-	-	-	1	-	-	-	-	1	
Fridays	8 a.m. to 9 p.m.	-	1	1	4	4	-	-	-	-	-	10	
Fridays and Saturdays	8 a.m. to 9 p.m.	-	-	-	1	-	-	-	-	-	-	1	
Fridays	8 a.m. to 10 p.m.	-	-	-	1	-	-	-	-	-	-	1	
Days prior to holidays	8 a.m. to 10 p.m.	-	-	-	-	-	1	-	-	-	-	1	
Wednesdays	8 a.m. to 12 noon	-	-	1	-	-	-	-	-	-	-	1	
Week days	8 a.m. to 7 p.m.	1	1	1	-	-	1	-	-	-	-	4	
Week days except Saturdays	8 a.m. to 7 p.m.)	-	-	1	-	-	-	-	-	-	-	1	
Saturdays	8 a.m. to 9 p.m.)	-	-	-	-	-	-	-	-	-	-	-	
Week days except Saturdays	8 a.m. to 7 p.m.)	-	-	-	1	-	-	-	-	-	-	1	
Saturdays	8 a.m. to 10 p.m.	-	-	-	-	-	-	-	-	-	-	-	
Week days	8 a.m. to 8 p.m.	-	-	1	1	-	-	-	-	-	-	2	
Week days except Saturdays	8 a.m. to 8 p.m.)	-	-	-	1	-	-	-	-	-	-	1	
Saturdays	8 a.m. to 9 p.m.)	-	-	-	-	-	-	-	-	-	-	-	
Every day, including Sundays and holidays	8 a.m. to 9 p.m.	-	-	1	-	-	-	-	-	-	-	1	
Week days	8 a.m. to 9 p.m.	-	-	-	2	-	-	-	-	-	-	2	
Every day, including Sundays and holidays	8 a.m. to 12 midnight	-	-	1	-	-	-	-	-	-	-	1	
Week days except Fridays	8:30 a.m. to 5:30 p.m.)	-	-	-	1	-	-	-	-	-	-	1	
Fridays	8:30 a.m. to 8:30 p.m.)	-	-	-	-	-	-	-	-	-	-	-	
Week days except Saturdays	8:30 a.m. to 5:30 p.m.)	-	-	-	1	-	-	-	-	-	-	1	
Saturdays	8:30 a.m. to 9 p.m.)	-	-	-	-	-	-	-	-	-	-	-	
Week days	8:30 a.m. to 6 p.m.	-	1	-	-	-	-	-	-	-	-	1	
Week days except Saturdays	8:30 a.m. to 6 p.m.)	-	-	-	-	1	-	-	-	-	-	1	
Saturdays	8:30 a.m. to 9 p.m.)	-	-	-	-	-	-	-	-	-	-	-	
Week days	9 a.m. to 5 p.m.	-	2	1	-	-	-	-	-	-	-	3	
Week days	9 a.m. to 5 p.m.)	-	-	-	-	-	-	-	-	-	-	-	
Certain day to be designated by council	9 a.m. to 8 p.m.)	-	-	1	-	-	-	-	-	-	-	1	

	15	16	50	68	31	13	5	2	2	1	202/
Week days except Fridays 9 a.m. to 5 p.m.	-	-	-	-	1	-	-	-	-	-	1
Fridays	-	-	-	-	-	-	-	-	-	-	1
Week days except Fridays 9 a.m. to 5 p.m.	-	-	1	-	-	-	-	-	-	-	1
Fridays	-	-	-	-	-	-	-	-	-	-	1
Week days except Saturdays 9 a.m. to 5 p.m.	1	-	-	-	-	-	-	-	-	-	1
Saturdays	-	-	-	-	-	-	-	-	-	-	1
Week days 9 a.m. to 5:30 p.m.	-	-	-	-	1	-	-	-	-	-	1
Week days except Saturdays 9 a.m. to 5:30 p.m.	-	-	-	1	-	-	-	-	-	-	1
Saturdays	-	-	-	-	-	-	-	-	-	-	3
Every day 9 a.m. to 6 p.m.	-	-	1	-	19	10	2	-	-	-	45
Week days 9 a.m. to 6 p.m.	2	6	5	-	-	-	-	-	-	-	1
Week days except Saturdays 9 a.m. to 6 p.m.	-	1	-	-	-	-	-	-	-	-	1
Saturdays	-	-	-	-	-	-	-	-	-	-	1
Week days 9 a.m. to 6 p.m.	-	1	-	-	-	-	-	-	-	-	1
Week days except Saturdays 9 a.m. to 6 p.m.	-	-	1	-	-	-	-	-	-	-	2
Saturdays	-	-	-	-	-	-	-	-	-	-	1
Week days except Mondays 9 a.m. to 6 p.m.	-	-	-	-	1	-	-	-	-	-	1
Week days except Fridays 9 a.m. to 6 p.m.	-	1	1	2	-	1	-	-	-	-	5
Fridays	-	-	-	-	-	-	-	-	-	-	16
Week days except Saturdays 9 a.m. to 6 p.m.	1	4	3	6	2	-	-	-	-	-	4
Saturdays	-	-	-	-	-	-	-	-	-	-	1
Week days except Fridays and Saturdays 9 a.m. to 6 p.m.	-	1	1	-	-	1	-	-	-	-	1
Fridays and Saturdays	-	-	-	-	-	-	-	-	-	-	1
Week days except Thursdays and Saturdays 9 a.m. to 6 p.m.	-	-	-	1	-	-	-	-	-	-	1
Thursdays and Saturdays	-	-	-	-	-	-	-	-	-	-	1
Week days except Saturdays and days prior to holidays 9 a.m. to 6 p.m.	-	-	-	-	-	-	-	-	-	-	1
Fridays	-	1	-	-	-	-	-	-	-	-	4
Week days except Fridays 9 a.m. to 6 p.m.	-	-	-	-	-	-	-	-	-	-	1
Saturdays	-	1	-	-	-	-	-	-	-	-	2
Week days 9 a.m. to 6:30 p.m.	-	-	-	-	-	-	-	-	-	-	1
Week days 9 a.m. to 7 p.m.	-	-	1	-	-	-	-	-	-	-	1
Week days 9 a.m. to 8 p.m.	-	-	-	-	-	1	-	-	-	-	1
Week days 9 a.m. to 9 p.m.	-	-	-	-	3	1	-	-	-	-	4
Week days 9:30 a.m. to 6 p.m.	1	-	-	-	-	-	-	-	-	-	1
Week days except Saturdays 10 a.m. to 5:30 p.m.	-	1	-	-	-	-	-	-	-	-	1
Saturdays	-	-	-	-	-	-	-	-	-	-	2
Week days 10 a.m. to 6 p.m.	-	-	-	-	-	-	-	-	-	-	1
Week days except Saturdays 10 a.m. to 6 p.m.	-	-	2	-	-	-	-	-	-	-	2
Saturdays	-	1	1	-	-	-	-	-	-	-	2
Week days 10 a.m. to 10 p.m.	-	-	-	-	1	-	-	-	-	-	1
Total 2/											

1/ Week days do not include Sundays or holidays.
 2/ Figures are nonadditive since some places reported periods of operation for meters in different zones and one place a different period of operation for a certain month of the year. The totals shown represent the actual number of places reporting.

were 8 a. m. to 9 p. m. ; 4 percent of the places had these hours. A fourth was 8 a. m. to 6 p. m. (or 5:59 p. m.) on weekdays, except Saturdays when 8 a. m. to 8 p. m. was the period; this was authorized in 3 percent of the municipalities.

Most of the other and remaining combinations were authorized in a relatively small portion of the total.

Thus far, whatever variation may have existed in a particular place revolved around the days of the week, Saturdays, Sundays, and holidays. There are a few places, however, where differences concern zones within a particular municipality, or the season of the year, in addition to variations involving particular days. The following are some typical illustrations:

Santa Monica, California (50,000 - 100,000)

Every day 9 a. m. to 6 p. m. Zone A

Every day except Sundays and holidays, 9 a. m. to 6 p. m. Zone B

Ft. Madison, Iowa (10,000 - 25,000)

Weekdays 9 a. m. to 6 p. m. except Saturdays, 9 a. m. to 9 p. m.

Except on west side of specified section of 9th Street, 8 a. m. to 9 p. m. weekdays

Mt. Rainier, Maryland (10,000 - 25,000)

Weekdays 8 a. m. to 6 p. m. except on 34th Street and Varnum Street, 8 a. m. to 9 p. m.

Summit, New Jersey (10,000 - 25,000)

Weekdays 8 a. m. to 6 p. m. Zone D

Weekdays 8 a. m. to 6 p. m. except Fridays, 8 a. m. to 9 p. m., Zones A, B, and C

Saratoga Springs, New York (10,000 - 25,000)

Weekdays 9 a. m. to 6 p. m. except Saturdays, 9 a. m. to 9 p. m.

During August, weekdays 9 a. m. to 9 p. m.

Homestead, Pennsylvania (10,000 - 25,000)

Weekdays 9 a. m. to 6 p. m. Zone A

Weekdays 9 a. m. to 6 p. m. except Saturdays, 9 a. m. to 8 p. m. Zone B

Pine Lawn, Missouri (5,000 - 10,000)

Weekdays 8 a. m. to 8 p. m. Zone 1

Weekdays 8 a. m. to 6 p. m. Zone 2

Some specified street sections are involved as in:

Bremerton, Washington (25,000 - 50,000)

Hours of parking shall be 8 a. m. to 6 p. m. except on specified section of Burwell Street, 6 a. m. to 10 p. m.

Specific generators of parking demand merit special treatment:

Ft. Atkinson, Wisconsin (5,000 - 10,000)

Weekdays 9 a. m. to 6 p. m. except Fridays, 9 a. m. to 9 p. m.

2 meters in front of post office 8 a. m. to 12 p. m. every day including Sundays and holidays

It is obvious that in a particular city, the hours designated should be roughly inclusive of the most-congested and peak period of parking demand, when a maximum parking turnover and a minimum of overtime parking is sought; periods possessing these characteristics, incidentally, will be productive of the greatest amount of gross revenue. There seems to be little practical justification for extending the hours beyond these limits if effective operation of the meter program is the objective.

SERVICE LIFE OF METERS

It was some 18 years ago that the first parking meter was put into operation in an American city. Though from some points of view, this is a rather limited period of time, it is sufficient perhaps to have enabled some municipalities to make reasonable estimates of the average service life of their parking meters.

Average service lives were estimated for places having 326,202 meters by the municipal officials in charge of the administration of the parking-meter program. The results are summarized in Table 62, for specified numbers of years by meter types and by population groups. A comparable tabulation on a percentage basis is Table 63. These data do not include the service life experience of each individual meter, but rather estimates submitted for each place, representing the life experience of all the meters in a particular place.

Without regard to type, the bulk of the meters for which service lives were estimated — 77.9 percent — reported a service life between 6 and 15 years. By 5-year classes, the following percentages were found to exist:

Average service life (years)	Percentage of total number of meters for which data were submitted
0 - 5	9.7
6 - 10	55.2
11 - 15	22.7
16 - 20	6.0
will last indefinitely	6.4
	100.0

Presumably, the municipalities that indicated an indefinite service life contemplated that adequate maintenance and re-

TABLE 62

Distribution of numbers of parking meters according to estimated average service life in places reporting such estimates as of January 1, 1952, by meter types and by population groups
(United States and Alaska)

Type of meter and class interval of service life in years	Population group										All places reporting		
	Under 2,500	2,500 to 5,000	5,000 to 10,000	10,000 to 25,000	25,000 to 50,000	50,000 to 100,000	100,000 to 250,000	250,000 to 500,000	500,000 to 1,000,000	1,000,000 or more	Number of meters	Percentage of total number of meters for which service life was estimated	Percentage of total number of meters
Automatic													
0-5	125	1,837	3,144	3,035	2,240	2,766	1,540	-	-	-	14,887	8 0	4 9
6-10	715	4,148	9,709	21,643	10,754	10,580	11,145	8,426	20,355	5,649	103,124	55 3	34 1
11-15	494	1,227	3,641	8,063	10,134	5,086	2,556	4,972	11,268	-	47,441	25 4	15 7
16-20	168	932	2,144	2,620	2,101	1,719	-	1,006	-	-	10,692	5 7	3 5
Will last indefinitely	-	417	1,683	3,899	-	2,072	31	2,422	-	-	10,524	5 6	3 5
Total	1,502	8,561	20,321	39,260	25,229	22,223	15,272	16,828	31,623	5,649	186,468	100 0	61 7
Manual													
0-5	100	1,396	3,138	5,594	5,198	1,357	-	-	-	-	16,781	13 3	8 0
6-10	1,633	3,585	8,487	14,395	10,682	3,866	8,244	7,054	8,200	-	66,146	52 6	31 4
11-15	330	930	3,393	5,031	1,606	3,286	8,955	697	-	-	24,228	19 3	11 5
16-20	322	672	368	1,653	880	3,724	589	-	-	-	8,408	6 7	4 0
Will last indefinitely	-	886	1,433	2,000	2,405	2,572	917	-	-	-	10,213	8 1	4 8
Total	2,385	7,669	16,819	28,673	20,769	14,805	18,705	7,751	8,200	-	125,776	100 0	59 7
Type not specified													
0-5	-	-	272	-	-	-	-	-	-	-	272	1 9	0 8
6-10	255	596	759	2,050	647	1,131	-	5,301	-	-	10,739	76 9	30 6
11-15	-	-	475	436	-	-	1,512	-	-	-	2,423	17 4	6 9
16-20	198	326	-	-	-	-	-	-	-	-	524	3 8	1 5
Will last indefinitely	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	453	922	1,506	2,486	647	1,131	1,512	5,301	-	-	13,958	100 0	39 8
All types													
0-5	225	3,233	6,554	8,629	7,436	4,123	1,540	-	-	-	31,740	9 7	5 8
6-10	2,603	8,329	18,955	38,088	22,083	15,577	19,389	20,781	28,555	5,649	180,009	55 2	32 9
11-15	824	2,157	7,509	13,530	11,740	8,372	13,023	5,669	11,268	-	74,092	22 7	13 5
16-20	888	2,130	2,512	4,273	2,881	5,443	589	1,008	-	-	19,624	6 0	3 6
Will last indefinitely	-	1,303	3,116	5,899	2,405	4,644	948	2,422	-	-	20,737	6 4	3 8
Total	4,340	17,152	38,646	70,419	46,645	38,159	35,489	29,880	39,823	5,649	326,202	100 0	59 6

TABLE 63

Percentage distribution of numbers of parking meters according to estimated average service life in places reporting such estimates as of January 1, 1952, by meter types and by population groups (United States and Alaska)

Type of meter and class interval of service life in years	Population group										All places reporting
	Under 2,500	2,500 to 5,000	5,000 to 10,000	10,000 to 25,000	25,000 to 50,000	50,000 to 100,000	100,000 to 250,000	250,000 to 500,000	500,000 to 1,000,000	1,000,000 or more	
Automatic											
0-5	8.3	21.4	15.5	77 3	8.9	12.5	10 1	-	-	-	8.0
6-10	47.6	4.8	47.8	0 5	42.6	47 6	73.0	50 1	64 4	100.0	55 3
11-15	32.9	14.3	17 9	20 5	40.2	22.9	16.7	29.5	35.6	-	25.4
16-20	11.2	10.8	10 5	0 7	8.3	7.7	-	6.0	-	-	5 7
Will last indefinitely	-	48.7	8 3	1 0	-	9.3	0.2	14 4	-	-	5 6
Total	100.0	100 0	100.0	100.0	100.0	100 0	100.0	100 0	100.0	100 0	100.0
Manual											
0-5	4.2	18.2	18.6	19 5	25.0	9.2	-	-	-	-	13.3
6-10	68 5	46.7	50.5	50.2	51.4	26.1	44.1	91 0	100.0	-	52.6
11-15	13 8	12.1	20 2	17 5	7.7	22.2	47 9	9.0	-	-	19.3
16-20	13.5	11.4	2.2	5.8	4.2	25.1	3.1	-	-	-	6 7
Will last indefinitely	-	11.6	8.5	7.0	11 7	17.4	4.9	-	-	-	8 1
Total	100 0	100.0	100.0	100 0	100 0	100.0	100 0	100.0	100.0	-	100.0
Not Specified:											
0-5	-	-	18 1	-	-	-	-	-	-	-	1.9
6-10	56.3	64.6	50.4	82.5	100.0	100.0	-	100.0	-	-	76 9
11-15	-	-	31.5	17.5	-	-	100.0	-	-	-	17.4
16-20	43.7	35.4	-	-	-	-	-	-	-	-	3 8
Will last indefinitely	-	-	-	-	-	-	-	-	-	-	-
Total	100.0	100 0	100.0	100.0	100 0	100 0	100.0	100 0	-	-	100.0
All Types:											
0-5	5.2	18.8	17.0	12 2	15.9	10.8	4.3	-	-	-	9 7
6-10	60.0	48.6	49.0	54 1	47.3	40.8	54.6	69.5	71 7	100 0	55.2
11-15	19.0	12 6	19 4	19.2	25.2	21.9	36.7	19.0	28 3	-	22.7
16-20	15.8	12.4	6.5	6.1	6.4	14 3	1.7	3.4	-	-	6.0
Will last indefinitely	-	7 6	8.1	8.4	5.2	12.2	2.7	8.1	-	-	6 4
Total	100 0	100.0	100 0	100.0	100.0	100.0	100.0	100 0	100.0	100.0	100.0

TABLE 64

Distribution of numbers of parking meters according to estimated average serv

State	Type of meter and class interval of										
	Automatic						Manual				
	0 - 5	6 - 10	11 - 15	16 - 20	Will last indefinitely	Total	0 - 5	6 - 10	11 - 15	16 - 20	Will last indefinitely
Alabama	-	425	204	570	2,422	3,621	-	-	230	-	200
Arizona	-	2,157	-	-	-	2,157	-	415	519	-	-
Arkansas	820	941	-	320	468	2,549	-	400	-	178	-
California	1,520	15,169	3,106	2,636	1,069	23,500	2,112	8,440	5,162	4,433	4,806
Colorado	270	2,527	1,799	-	-	4,596	-	590	-	-	-
Connecticut	-	29	-	-	-	29	-	2,317	-	-	-
Delaware	-	-	-	-	-	-	-	-	-	-	-
Florida	482	1,345	770	-	-	2,597	946	3,748	-	-	-
Georgia	345	997	-	-	-	1,342	-	-	-	-	-
Idaho	-	-	600	-	-	600	-	827	168	-	-
Illinois	521	2,771	520	1,626	-	5,438	-	2,976	607	175	522
Indiana	236	1,109	412	-	-	1,757	671	-	300	-	-
Iowa	216	1,833	462	-	1,152	3,663	-	2,288	218	65	216
Kansas	1,752	364	290	-	-	2,406	676	68	484	-	1,309
Kentucky	-	24	535	-	290	849	-	657	-	-	-
Louisiana	-	-	-	-	-	-	-	-	-	-	-
Maine	-	426	-	-	-	426	311	-	-	-	-
Maryland	287	-	-	-	-	287	-	440	-	77	-
Massachusetts	1,486	1,364	914	1,171	-	4,935	390	9,847	540	-	-
Michigan	19	10,654	3,617	884	650	15,824	608	292	175	-	-
Minnesota	495	4,911	3,005	276	-	8,687	-	1,735	243	-	-
Mississippi	530	2,274	-	-	-	2,807	160	340	-	368	-
Missouri	500	146	-	-	1,058	1,704	1,127	1,338	-	-	-
Montana	-	-	-	-	-	-	-	1,015	-	-	873
Nebraska	-	930	-	-	-	930	-	-	-	-	-
Nevada	-	-	-	-	-	-	-	-	-	-	-
New Hampshire	-	1,014	170	-	-	1,184	-	-	464	-	-
New Jersey	-	1,926	782	-	-	2,708	276	3,178	1,406	-	-
New Mexico	-	-	-	-	-	-	-	-	-	-	-
New York	-	11,327	2,007	260	393	13,987	270	5,042	2,729	-	462
North Carolina	-	2,295	-	-	-	2,295	1,931	1,231	1,127	-	-
North Dakota	-	-	-	-	-	-	502	488	463	-	-
Ohio	-	4,807	8,606	96	-	13,509	729	565	1,204	-	-
Oklahoma	650	5,396	-	-	228	6,274	-	-	-	-	-
Oregon	793	6,095	97	358	700	8,043	50	3,138	-	-	243
Pennsylvania	376	877	2,104	440	205	4,002	4,350	4,470	1,903	451	-
Rhode Island	-	300	1,325	-	-	1,625	-	-	-	-	-
South Carolina	-	1,980	-	-	-	1,980	123	597	-	1,397	-
South Dakota	-	-	-	-	-	-	-	-	-	-	-
Tennessee	2,198	1,677	1,310	305	-	5,490	330	2,274	-	939	627
Texas	408	6,091	7,546	419	878	15,342	-	814	-	325	-
Utah	-	-	-	-	-	-	-	-	4,769	-	269
Vermont	230	296	-	-	-	526	-	-	-	-	-
Virginia	278	1,197	770	-	91	2,336	251	1,546	-	-	-
Washington	275	942	1,083	-	-	2,300	700	3,611	1,100	-	371
West Virginia	-	475	30	-	-	505	268	178	139	-	-
Wisconsin	-	1,490	5,377	1,331	920	9,118	-	837	278	-	315
Wyoming	-	-	-	-	-	-	-	444	-	-	-
District of Columbia	-	4,543	-	-	-	4,543	-	-	-	-	-
Alaska	-	-	-	-	-	-	-	-	-	-	-
Total	14,687	103,124	47,441	10,692	10,524	186,468	16,781	66,146	24,228	8,408	10,213
Percentage of total number of meters for which service life was estimated	8.0	55.3	25.4	5.7	5.6	100.0	13.3	52.6	19.3	6.7	8.1
Percentage of total number of meters	4.9	34.1	15.7	3.5	3.5	61.7	8.0	31.4	11.5	4.0	4.8

life in places reporting as of January 1, 1952, by meter types and by states

service life in years

Total	Type not specified						Total					
	0 - 5	6 - 10	11 - 15	16 - 20	Will last indefinitely	Total	0 - 5	6 - 10	11 - 15	16 - 20	Will last indefinitely	Total
430	-	-	-	-	-	-	-	425	434	570	2,622	4,051
934	-	-	-	-	-	-	-	2,572	519	-	-	3,091
578	-	-	-	-	-	-	820	1,341	-	498	468	3,127
24,953	-	5,301	-	326	-	5,627	3,632	28,910	8,268	7,395	5,875	54,080
590	-	-	-	-	-	-	270	3,117	1,799	-	-	5,186
2,317	-	-	-	-	-	-	-	2,346	-	-	-	2,346
4,894	-	614	-	-	-	614	1,428	5,707	770	-	-	7,905
995	-	-	-	-	-	-	345	997	-	-	-	1,342
4,280	-	-	-	-	-	-	-	827	768	-	-	1,595
971	-	278	-	-	-	278	521	5,747	1,127	1,801	522	9,718
2,787	-	-	-	-	-	-	907	1,387	712	-	-	3,006
2,537	-	-	436	-	-	436	216	4,121	680	65	1,368	6,450
657	-	-	-	-	-	-	2,428	432	1,210	-	1,309	5,379
-	-	-	-	-	-	-	-	681	535	-	290	1,506
311	-	-	-	-	-	-	-	-	-	-	-	-
517	-	-	-	-	-	-	311	426	-	-	-	737
10,777	-	-	-	-	-	-	287	440	-	77	-	804
1,075	-	-	-	-	-	-	1,876	11,211	1,454	1,171	-	15,712
1,978	-	-	-	-	-	-	627	10,946	3,972	884	650	16,899
868	-	-	-	-	-	-	495	6,646	3,248	276	-	10,665
2,465	-	-	-	-	-	-	690	2,614	-	368	-	3,672
1,888	-	-	-	-	-	-	1,627	1,484	-	-	1,058	4,169
-	-	-	-	-	-	-	-	1,015	-	-	873	1,888
-	-	-	-	-	-	-	-	930	-	-	-	930
464	-	-	-	-	-	-	-	-	-	-	-	-
4,860	-	481	-	-	-	481	-	1,014	634	-	-	1,648
8,503	-	-	-	-	-	-	276	5,585	2,188	-	-	8,049
4,289	-	1,131	-	41	-	1,172	270	16,369	4,736	260	855	22,490
1,453	-	-	-	-	-	-	1,931	4,657	1,127	41	-	7,756
2,498	272	477	-	-	-	749	502	488	463	-	-	1,453
3,431	-	396	-	-	-	396	1,001	5,849	9,810	96	-	16,756
11,174	-	244	-	157	-	401	650	5,792	-	-	228	6,670
2,117	-	-	-	-	-	-	843	9,233	97	358	943	11,474
4,170	-	583	-	-	-	583	4,726	5,591	4,007	1,048	205	15,577
1,139	-	1,040	1,987	-	-	3,027	-	300	1,325	-	-	1,625
5,038	-	-	-	-	-	-	123	2,577	-	1,397	-	4,097
1,797	-	-	-	-	-	-	-	-	-	-	-	-
5,782	-	-	-	-	-	-	2,528	4,534	1,310	1,244	627	10,243
585	-	-	-	-	-	-	408	7,945	9,533	744	878	19,508
1,430	-	-	-	-	-	-	-	-	4,769	-	269	5,038
444	-	194	-	-	-	194	230	296	-	-	-	526
-	-	-	-	-	-	-	529	2,743	770	-	91	4,133
-	-	-	-	-	-	-	975	4,553	2,183	-	371	8,082
-	-	-	-	-	-	-	268	653	169	-	-	1,090
-	-	-	-	-	-	-	-	2,327	5,655	1,331	1,235	10,548
-	-	-	-	-	-	-	-	638	-	-	-	638
-	-	-	-	-	-	-	-	4,543	-	-	-	4,543
25,776	272	10,739	2,423	524	-	13,958	31,740	180,009	74,092	19,624	20,737	326,202
100.0	1.9	76.9	17.4	3.8	-	100.0	9.7	55.2	22.7	6.0	6.4	100.0
59.7	0.8	30.6	6.9	1.5	-	39.8	5.8	32.9	13.5	3.6	3.8	59.6

pair would make such a result possible.

Estimated service lives are tabulated by types. The percentages for the automatic meter are the following:

Average service life (Years)	Percentage	Cumulative Percentage
0 - 5	8.0	100.0
6 - 10	55.3	92.0
11 - 15	25.4	36.7
16 - 20	5.7	11.3
Indefinitely	5.6	5.6
	100.0	

Comparable data for the manual type are these:

Average service life (Years)	Percentage	Cumulative Percentage
0 - 5	13.3	100.0
6 - 10	52.6	86.7
11 - 15	19.3	34.1
16 - 20	6.7	14.8
Indefinitely	8.1	8.1
	100.0	

The apparent differences between the automatic and manual type meters, as indicated by the above summaries, appear slight — negligible for all practical purposes. Moreover, whatever differences do exist may well be accounted for by factors extraneous to the type of meter that is involved. Average service-life data, by states, types, and service-life groups, are contained in Table 64.

Service Life and Size of Municipality ⁴³

The inquiry logically may be made: Is there any relationship between the reported service lives of parking meters and the sizes of municipalities involved? Such a relationship might be suspected for a number of reasons: (1) Meters may be used more intensively in the larger places. (2) Maintenance and replacement practices may differ among municipalities of various sizes. (3) Different types of meters may be more prevalent in places of one size than in places of another size.

A comparison of the percentage distributions listed in Table 63 reveals no pronounced tendency for values of esti-

⁴³This section was developed by Nathan Lieder, Statistician, Taxation & Economic Studies Section, Financial & Administrative Research Branch, Bureau of Public Roads.

mated average service life to vary as a function of size of place. In the summary distributions under the heading "all types," the modal class interval is the same (6 to 10 years) for all population groups; and there seems to be no systematic variation of the values in other class intervals as size of place varies.

Table 65, which gives the number of places in each population group reporting estimated average values of service life within each class interval, affords an opportunity to determine by statistical methods whether or not there is a significant variation of average service life of parking meters with size of place. If there is no such relationship one consequence may be logically deduced: The proportion of places in a given population group to all places reporting some one value of average service life should be no different (except by random chance) from the corresponding proportion of places reporting any other value of average service life. If this proportionality were perfect throughout, the entries in the body of Table 65 could be reproduced from the totals of the columns and rows, by proportional calculations. Thus, the theoretical entry in the 1st column, second row, would be calculated as $90/576 \times 89 = 14$ (it is actually 19); and the theoretical entry in the third column, fourth row, would be calculated as $166/576 \times 109 = 31$ (it is actually 30). The question at issue is whether these deviations and all others that occur may reasonably be attributed to chance; or whether the hypothesis of "no relationship" must be abandoned in favor of the hypothesis that there is a functional variation of estimated average service life of parking meters with size of place.

The statistical technique known as the Chi Square⁴⁴ test may be used to test the hypothesis of no relationship between service life and size of place. It is recommended that this test not be applied to tables with cells containing small frequencies. No hard and fast rules have been set up on the minimum acceptable size of cell frequency in all situations. Probably none should contain fewer than five or possibly ten observations. Accordingly, before applying this technique, the municipalities of less than 5,000 population were combined into one group. Likewise,

⁴⁴INTRODUCTION TO MATHEMATICAL STATISTICS, Paul G. Hall, 1947, Chapter X.

TABLE 65

Number of places estimating service life of parking meters,
by population groups, as of January 1, 1952

Population group	Number of places that reported meters with each indicated service period					Total
	0-5 years	6-10 years	11-15 years	16-20 years	Will last indefinitely	
Under 2,500	2	20	6	5	-	33
2,500-5,000	19	44	11	9	7	90
5,000-10,000	24	65	22	9	8	128
10,000-25,000	23	88	30	10	15	166
25,000-50,000	16	37	17	5	3	78
50,000-100,000	4	16	10	4	3	37
100,000-250,000	1	15	7	1	1	25
250,000-500,000	-	5	3	1	1	10
500,000-1,000,000	-	5	3	-	-	8
1,000,000 or more	-	1	-	-	-	1
Total	89	296	109	44	38	576

places of 50,000 or more population were combined into a single group.

With the marginal totals (totals of columns and rows) held constant, theoretical cell frequencies were computed which would result in constant proportions of reporting municipalities. Chi Square was then determined, using the formula

$$\chi^2 = \sum \frac{(X_o - X_T)^2}{X_T}$$

Where X_o = the observed frequency and
 X_T = the theoretical frequency

The resulting value was 19.716. An appropriate table on Chi Square values indicates that there is approximately one chance in four of getting a value of Chi Square of 19.716 or larger, on the hypothesis that no relationship exists between size of municipality and service life. The probability of obtaining such a value is too great to reject the hypothesis on the basis of this sample.

The presumption is, therefore, that there is no significant relationship between size of municipality and service life of parking meters involved in this investigation.

PARKING METERS AT AIRPORTS

An increasing trend seems to be e-

merging to install parking meters at airports, in order to more equitably distribute a limited area among motorists who desire to park and transact business related to the airport. Four places reported meters at airports, with a total of 313 meters, as follows:

Place	Number of meters	Gross revenues
Boston	82	\$16,259.46
Rochester, N. Y.	24	1,661.63
Memphis	91	4,200.00
Dallas	116	3,700.00
Total	313	\$25,821.09

Most of these are of the automatic variety, and capable of receiving coins of more than one variety. One place reported plans for expansion of the number of meters at the airport.

The gross revenues for 1951 for these few meters exceeded \$25,000, as indicated, even though many of the meters were not in operation for a full year. Even so, this amounts to \$82.50 per meter, substantially in excess of the national average for curb meters. Obviously the greater intensity of use over a longer period of time during the day and night probably accounts for this difference. Dallas reported a range of its airport meters of from \$1 to \$90 per meter; Rochester, from \$15.75 to \$93.60 per meter. Three of the four

places reporting indicated that the revenues went into the general fund.

Parking-meter rate schedules are not radically dissimilar in the four places surveyed. Of the 313 meters involved in all places, the following schedules obtained:

$\frac{1}{2}$ -hour for 5 cents	} 106 meters
1-hour for 10 cents	
$\frac{1}{2}$ -hour for 5 cents	29 meters
2-hours for 5 cents	62 meters

1-hour for 5 cents	} 116 meters
2-hours for 10 cents	

Two of the places reported that their meters were purchased outright, for cash.

Boston reported an interesting fine practice in connection with its airport meters, as follows: First violation, police warning; second violation, court warning; third violation, \$1 fine; fourth violation, \$2 fine; and fifth violation, \$3 fine.

Appendix A

HISTORY OF THE PROJECT

This project was initiated in the Committee on Highway Taxation and Finance of the Highway Research Board by an official of the American Municipal Association. It was undertaken as a joint venture of the American Municipal Association, the Highway Research Board, and the Bureau of Public Roads.

Each participant has played a significant part in this undertaking. The Bureau of Public Roads designed the questionnaire, with the counsel and advice of the other two organizations. A copy of the questionnaire follows this page. The Highway Research Board furnished the paper for and duplicated approximately 7,500 copies of the questionnaire. The American Municipal Association then sent out the material over its own letterhead, to reach approximately 3,000 cities that were known to have parking meters. A list of these cities was compiled from lists submitted by parking meter companies as furnished to the American Municipal Association. The association made use of its many and effective state municipal leagues, and contacted municipalities directly in some states. The Bureau of Public Roads then analyzed approximately 1,200 questionnaires that were returned amounting to a 41.6 percent sample of the known universe; it submitted a progress report on the analysis of this vast amount of material at the 1953 annual meeting of the Highway Research Board and is herewith making its final report.

Parking Meter Project

**Sponsored by
AMERICAN MUNICIPAL ASSOCIATION
HIGHWAY RESEARCH BOARD**

Questionnaire on Parking Meters

A comprehensive, factual survey of parking meters and their usage in cities in the United States has never been made. This study will attempt, for the first time, to assemble the essential facts concerning the numbers and types of parking meters, curb and off-street, their financing, revenues, the disposition of the revenues, local attitudes toward meters, legal and administrative aspects, and other related matters.

You are urged to complete the following questionnaire as quickly and as completely as you possibly can. In so doing, you will be performing a public service of great importance. The data you supply will be tabulated, along with the replies from hundreds of other cities all over the United States, for the benefit ultimately of all municipalities that are interested in the parking problem.

Your assistance in this common endeavor will be very much appreciated.

Name of Locality _____ State _____ Date _____

Please Return Completed Questionnaire To:

American Municipal Association
522 Transportation Building
Washington 6, D. C.

Questionnaire on Parking Meters

(NOTE: Please attach additional sheets if space provided is insufficient.)

I. Extent of Parking Meter Usage

(A) How many meters were in operation on January 1, 1952?

curb _____ off-street _____

(B) How many are automatic _____ manual _____ dual _____ single _____

(C) When were they installed new? _____

(If various dates are involved, give dates and numbers of each.)

(D) Proposals for additional meters (Indicate numbers involved and plans)

curb _____

off-street _____

(E) What is the estimated service life of your meters? (By types, if necessary)

(F) Where are meters located? commercial _____ industrial _____

residential _____ or other areas _____

(G) Have any meters been removed? If so, how many and why? _____

II. Parking Meter Revenues, for Calendar Year 1951*

(A) Total meter gross revenues, curb _____ off-street _____

(B) Range in gross revenues per meter, curb \$ _____ to \$ _____

off-street \$ _____ to \$ _____

*If calendar year figures are not available, indicate fiscal year figures and dates.

(C) Disposition of gross revenues (Indicate amounts or percentages separately for curb and off-street installations.)

(1) Amortization of meters, curb _____ off-street _____

(2) General fund, curb _____ off-street _____

(3) Off-street facilities, curb _____ off-street _____

How many off-street spaces have already been provided from curb parking meter revenues? _____

(4) Police enforcement, curb _____ off-street _____

(5) Meter repairs and maintenance, curb _____
off-street _____

(6) Traffic control, curb _____ off-street _____

(7) Highway improvement, curb _____ off-street _____

(8) Other (specify) _____
curb _____ off-street _____

Is the disposition indicated in items (1) through (8) required by law or the result of administrative determination?

(D) Are any revenues pledged for bonds issued for off-street parking facilities? If so, give details.

(E) What was the total amount of fines resulting from violations of the parking meter ordinances during year?

curb _____ off-street _____

Disposition of fines _____

-3-

III. Parking Meter Rates Charged

- (A) What is the rate schedule for parking meters, as related to periods of time, i. e. , complete the following schedule:

Number of Meters		Time	Rates
Curb	Off-Street		
		10 Minutes	1 Cent
		12 Minutes	1 Cent
		20 Minutes	1 Cent
		24 Minutes	1 Cent
		1/2 Hour	5 Cents
		1 Hour	5 Cents
		3/4 Hour	5 Cents
		2 Hours	5 Cents
		1 Hour	10 Cents
		2 Hours	10 Cents
		3 Hours	15 Cents

If other variations of fees and time exist, please indicate same in blank spaces.

- (B) Are the rates higher or the periods of permissible time shorter for meters closer to the major generators of parking demand than for others farther away? If so, give details concerning both curb and off-street meters.

- (C) Is it desirable to adopt a graduated fee schedule, according to location?

Discuss

-5-

VI. Parking Meters as Enforcement Devices at the Curb

- (A) What was the attitude of the community toward parking meters, before their installation?

Discuss _____

Afterwards? _____

- (B) To what extent has the parking meter reduced overtime parking?
(Percentage and discussion)

- (C) To what extent has it increased parking turnover? _____

- (D) What is the fine for violations? _____

- (E) Number of policemen devoting full or part time to meter enforcement.
Explain

VII. Legal

- (A) Attach copies of, or give legal citations to, laws or ordinances authorizing establishment of meters.

- (B) Attach copies of, or give legal citations to, any court decisions or city attorney opinions concerning use of meters.

- (C) How was the authority to regulate curb parking by meter authorized?

by ordinance _____

referendum _____

administrative action _____

VIII. Parking Problem Generally

- (A) Is an integrated approach taken with respect to parking meters at the curb and off-street parking facilities? That is, are they inter-related? on a system basis?

Give details _____

IX. Meters in Off-Street Parking Facilities

- (A) Number and description of off-street parking facilities with parking meters

- (B) Why were meters installed in such off-street facilities?

X. Advertising on Parking Meters

- (A) Is advertising permitted on parking meters? curb _____
 off-street _____

- (B) Legislation authorizing or prohibiting such activity: State law (cite law)

Local ordinance (furnish copy if possible) _____

- (C) Court decisions or attorney opinions in regard to such activity (furnish copy if possible)

-7-

(D) If advertising is permitted, indicate rates charged to advertisers

Amount of revenue derived by city _____

What disposition is made of the revenue? _____

(E) Describe the design features of the advertising device

XI. General Information, as of Latest Date Possible: Date _____

(A) Number of vehicles entering downtown areas on typical day _____

How was this information obtained? _____

(B) Have any unique municipal problems or situations developed as a result of meter installation?

Person preparing form:

Signature _____

Title _____

Address _____

Please Return Completed Questionnaire To.

American Municipal Association
522 Transportation Building
Washington 6, D. C.

Appendix B

MISCELLANEOUS TABLES

TABLE A

Estimated total amount of fines collected for curb parking meter violations, based on the estimated number of places having curb parking meters, by population groups, as of January 1, 1952 (United States)

Population group	Number of places that have curb parking meters ¹	Number of places that reported amount of curb parking meter fines	Percentage that number of places reporting fines is of total number of places having curb parking meters	Amount of curb parking meter fines for places reporting such fines separately ²	Estimated total amount of curb parking meter fines in all places having curb parking meters
Under 2,500	385	67	17.4	\$ 21,350	\$ 122,701
2,500 - 5,000	616	170	27.6	96,213	348,598
5,000 - 10,000	707	240	33.9	273,019	805,366
10,000 - 25,000	639	235	36.8	666,979	1,812,443
25,000 - 50,000	236	76	32.2	538,804	1,673,304
50,000 - 100,000	120	31	25.8	493,672	1,913,457
100,000 - 250,000	61	15	24.6	877,132	3,565,577
250,000 - 500,000	22	3	13.6	464,031	3,411,993
500,000 - 1,000,000	12	2	16.7	423,165	2,533,922
1,000,000 or more	5	3	60.0	242,848	404,747
Total	¹ 2,803	842	30.0	² \$4,097,213	³ \$16,592,108

¹ See Table 1.

² Curb parking meter fines were reported together with off-street parking fines or with other traffic fines by a number of places. Such fines, amounting to \$370,074, and curb fines for Juneau, Alaska, amounting to \$1,567, are not included in totals shown.

³ The total estimated amount of fines shown is the sum of the separate items for each population group. The computed total based on the totals for all population groups is \$13,657,377.

TABLE B
Curb parking meter fee schedules in places

State	Total number of parking meters	Number of meters in each state											
		4 minutes for 1 ¢	5 minutes for 1 ¢	6 minutes for 1 ¢	10 minutes for 1 ¢	12 minutes for 1 ¢	15 minutes for 1 ¢	18 minutes for 1 ¢	20 minutes for 1 ¢	24 minutes for 1 ¢	30 minutes for 1 ¢	36 minutes for 1 ¢	1 hour for 1 ¢
Alabama	8,609	-	-	-	326	4,354	11	-	-	285	-	-	-
Arizona	5,310	-	-	-	-	2,268	-	-	-	217	-	-	-
Arkansas	10,832	-	-	-	420	5,568	-	-	-	35	-	-	-
California	69,446	-	-	-	-	23,134	11	-	-	182	-	-	-
Colorado	7,258	-	-	-	-	2,324	27	-	-	227	-	-	-
Connecticut	2,643	-	-	-	-	1,105	29	-	8	-	-	-	130
Delaware	220	-	-	-	-	220	-	-	-	-	-	-	-
Florida	14,520	-	-	-	-	6,095	9	-	-	-	-	-	-
Georgia	6,506	-	-	-	-	2,979	-	-	-	81	-	-	-
Idaho	3,395	-	-	-	19	2,217	-	-	-	185	-	-	-
Illinois	22,522	-	-	-	18	12,702	65	-	-	-	-	-	-
Indiana	11,835	-	-	-	-	7,884	-	-	-	-	-	-	-
Iowa	15,421	-	2	-	-	5,176	-	-	-	1,212	-	-	-
Kansas	11,543	-	-	-	-	6,258	-	-	18	132	-	-	-
Kentucky	3,489	-	-	-	-	1,627	30	-	-	-	-	-	-
Louisiana	2,046	-	-	-	-	1,436	5	-	-	-	-	-	-
Maine	2,050	-	-	-	-	1,578	-	-	-	95	-	-	-
Maryland	2,451	-	-	-	-	1,948	8	-	-	-	-	-	-
Massachusetts	20,925	-	-	-	1,200	9,100	-	-	-	80	-	-	-
Michigan	23,833	3	-	-	-	5,446	63	-	-	178	-	-	-
Minnesota	14,256	-	-	-	-	5,731	-	-	-	-	-	-	-
Mississippi	6,719	-	-	-	-	3,880	-	-	-	-	-	-	-
Missouri	8,066	-	-	-	-	5,141	81	-	-	-	-	-	-
Montana	4,911	-	-	-	-	3,749	-	-	-	-	-	-	-
Nebraska	3,146	-	-	-	-	948	-	-	-	-	-	-	-
Nevada	760	-	-	-	-	760	-	-	-	-	-	-	-
New Hampshire	1,955	-	-	-	-	480	-	-	-	-	-	-	-
New Jersey	16,551	-	-	-	75	4,107	-	-	-	-	-	-	-
New Mexico	545	-	-	-	-	545	-	-	-	-	-	-	-
New York	29,801	-	-	-	-	18,307	870	-	-	-	13	-	-
North Carolina	10,868	-	-	-	-	4,329	-	-	-	342	-	-	-
North Dakota	1,991	-	-	-	-	1,286	-	-	-	-	-	-	-
Ohio	22,645	-	-	-	-	7,259	212	-	-	200	-	-	-
Oklahoma	9,742	-	-	-	-	3,555	64	-	-	77	-	-	-
Oregon	19,687	-	-	2	-	6,494	-	-	-	5	-	-	-
Pennsylvania	37,293	-	-	-	105	21,474	-	134	-	145	-	-	-
Rhode Island	1,625	-	-	-	-	300	-	-	-	-	-	-	-
South Carolina	6,447	-	-	-	-	2,971	-	-	-	28	-	-	-
South Dakota	1,524	-	-	-	3	429	-	-	-	-	-	-	-
Tennessee	16,418	-	-	-	-	11,808	10	-	-	105	-	-	-
Texas	28,932	-	-	-	-	14,971	68	-	-	2,520	-	-	-
Utah	6,071	-	-	-	-	3,362	-	-	-	-	-	-	-
Vermont	1,511	-	-	-	-	1,134	-	-	-	-	-	-	-
Virginia	7,997	-	-	-	81	2,717	25	-	-	-	-	-	-
Washington	16,206	-	-	-	-	7,098	647	-	-	7	-	-	-
West Virginia	1,884	-	-	-	-	1,082	-	-	-	-	-	-	-
Wisconsin	18,165	-	-	11	-	9,546	13	-	-	432	-	52	-
Wyoming	638	-	-	-	-	638	-	-	-	-	-	-	-
Dist. of Columbia	4,543	-	-	-	-	-	-	-	-	-	-	-	-
Alaska	160	-	-	-	-	160	-	-	-	-	-	-	-
Total	547,911	3	2	13	42,247	247,680	2,248	134	26	6,770	13	52	130

Reporting, by states, as of January 1, 1952

with indicated fee schedule¹

24 minutes for 2¢	30 minutes for 2¢	30 minutes for 3¢	36 minutes for 3¢	48 minutes for 4¢	5 minutes for 5¢	12 minutes for 5¢	15 minutes for 5¢	20 minutes for 5¢	30 minutes for 5¢	36 minutes for 5¢	40 minutes for 5¢	45 minutes for 5¢
4,270	-	326	4,252	4,252	-	-	-	-	-	-	-	-
2,211	-	-	2,211	2,211	-	-	-	-	-	-	-	-
5,512	-	-	5,512	5,512	-	-	-	-	-	-	-	-
22,807	-	-	22,130	21,878	-	-	-	-	20	-	1,137	-
2,268	-	-	2,248	2,248	-	-	-	-	-	-	-	-
1,105	-	-	1,105	1,105	-	-	-	-	-	-	-	-
220	-	-	220	220	-	-	-	-	-	-	-	-
5,908	-	-	5,901	5,901	1	-	-	-	135	-	-	-
2,958	-	-	2,958	2,958	-	-	-	-	-	-	-	-
2,217	-	-	2,217	2,217	-	-	-	-	160	-	-	-
12,547	-	-	12,547	12,547	-	-	-	-	-	-	-	-
7,884	-	-	7,884	7,535	-	-	-	-	-	-	-	-
4,739	-	-	4,739	4,729	-	-	-	-	-	-	-	-
6,005	-	-	5,917	5,917	-	-	-	-	-	-	-	-
1,602	-	-	1,602	1,602	-	-	-	-	-	-	-	-
1,436	-	-	1,436	1,436	-	-	-	-	-	-	-	-
1,569	-	-	1,569	1,569	-	-	-	-	-	-	-	-
1,937	-	-	1,937	1,937	-	-	-	-	-	-	-	-
² 9,100	-	-	² 9,100	² 9,061	-	-	-	-	-	-	-	-
5,109	-	-	5,109	5,109	-	-	40	-	520	-	-	-
5,693	-	-	5,693	5,693	-	-	-	-	2,894	-	-	-
3,773	-	-	3,768	3,768	-	-	-	-	-	-	-	-
5,028	-	-	5,028	4,968	-	-	-	-	6	-	-	-
3,650	-	-	3,650	3,650	-	-	-	-	-	40	-	-
930	-	-	930	930	-	-	-	-	-	-	-	-
760	-	-	760	760	-	-	-	-	-	-	-	-
477	-	-	477	477	-	-	-	-	-	-	-	-
4,063	-	⁴ 75	4,063	4,063	-	-	39	-	⁴ 99	-	-	-
⁵ 545	-	-	⁵ 545	⁵ 545	-	-	-	-	-	-	-	-
18,194	⁶ 864	-	18,190	18,178	-	-	-	-	80	-	-	-
4,198	-	-	4,113	3,872	-	-	-	-	130	-	-	-
1,286	-	-	1,286	1,286	-	-	-	-	-	-	-	-
7,176	-	-	7,148	7,148	-	-	348	-	719	-	-	-
3,510	-	-	3,506	3,506	-	-	34	-	368	-	-	77
6,327	-	-	6,158	6,126	-	-	-	-	2,760	-	-	-
21,182	-	-	21,175	21,175	-	-	-	-	812	-	-	-
300	-	-	300	300	-	-	-	-	86	-	-	-
2,933	-	-	2,919	2,919	-	-	-	-	-	-	-	-
407	-	-	404	404	-	-	-	-	-	-	-	-
11,699	-	-	11,699	11,699	-	-	-	-	-	-	-	-
14,850	-	-	14,850	14,838	-	15	-	198	144	-	238	-
3,232	-	-	3,212	3,212	-	-	-	-	-	-	-	-
1,130	-	-	1,130	1,130	-	-	-	-	-	-	-	-
2,698	-	65	2,698	2,648	-	-	-	-	25	-	-	-
6,947	⁷ 639	-	6,909	6,909	-	-	-	-	254	-	-	-
1,082	-	-	1,082	1,082	-	-	-	-	50	-	-	-
9,429	-	-	9,429	9,409	-	-	-	-	216	-	-	-
638	-	-	638	638	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	150	-	-	-	-
110	-	-	110	110	-	-	-	-	-	-	-	-
¹ 243,651	¹ 1,503	⁴ 466	^{2,5} 242,464	^{2,5} 241,387	1	15	461	348	⁶ 9,478	40	1,375	77

TABLE B (continued)

Curb parking meter fee schedules in places

State	1 hour for 5¢	1½ hours for 5¢	2 hours for 5¢	3 hours for 5¢	10 hours for 5¢	1 hour for 6¢	1 hour for 10¢	1½ hours for 10¢	2 hours for 10¢	3 hours for 10¢	4 hours for 10¢	6 hours for 10¢	2 hours for 12¢
Alabama	7,743	-	427	-	-	326	-	-	4,676	-	-	-	-
Arizona	4,708	-	493	-	-	-	-	-	1,688	-	-	-	-
Arkansas	9,801	-	205	-	-	420	-	-	5,897	-	-	-	21
California	57,396	-	7,978	-	-	-	1,414	-	18,586	-	637	-	-
Colorado	5,580	-	252	-	-	-	-	-	3,255	-	-	-	-
Connecticut	2,281	-	195	-	-	-	-	-	-	-	-	-	-
Delaware	220	-	-	-	-	-	-	-	140	-	-	-	-
Florida	12,559	23	977	-	-	-	-	-	2,857	-	-	-	-
Georgia	4,584	150	1,670	-	-	-	-	-	1,902	150	-	-	-
Idaho	2,673	-	318	-	-	-	-	-	1,375	-	-	-	-
Illinois	21,677	33	549	-	-	-	-	-	11,002	22	29	-	-
Indiana	10,106	-	631	-	-	-	-	-	4,911	-	200	-	-
Iowa	11,804	132	2,968	-	-	-	-	-	5,958	132	-	-	-
Kansas	9,372	-	1,186	-	-	-	600	-	6,530	-	-	-	-
Kentucky	3,325	-	69	-	-	-	-	-	2,197	-	-	-	-
Louisiana	2,036	-	-	-	-	-	-	-	916	-	-	-	-
Maine	1,931	-	110	-	-	-	-	-	428	-	15	-	-
Maryland	2,229	-	201	-	-	-	-	-	868	-	-	-	-
Massachusetts ^{2,3}	19,458	-	³ 468	-	-	-	-	-	11,337	-	-	-	-
Michigan	21,853	-	917	-	-	-	-	-	3,073	-	-	-	-
Minnesota	10,325	-	937	-	-	-	2,886	-	4,357	-	-	-	-
Mississippi	6,377	-	230	-	-	-	-	-	3,205	-	-	-	-
Missouri	6,779	-	897	-	-	-	130	-	2,070	-	-	-	-
Montana	4,266	15	491	-	-	-	-	-	1,894	-	-	-	-
Nebraska	3,128	-	-	-	-	-	-	-	3,128	-	-	-	-
Nevada	760	-	-	-	-	-	-	-	201	-	-	-	-
New Hampshire	1,952	-	-	-	-	-	-	-	943	-	-	-	-
New Jersey	12,521	-	456	76	-	-	-	1,033	4,202	-	63	-	-
New Mexico	⁵ 545	-	-	-	-	-	-	-	⁵ 545	-	-	-	-
New York	⁶ 26,540	-	622	-	-	-	1,446	-	6,022	-	-	-	-
North Carolina	8,839	209	1,193	-	-	-	-	-	2,360	-	-	-	-
North Dakota	1,991	-	-	-	-	-	-	-	1,440	-	-	-	-
Ohio	18,788	200	944	-	-	-	-	-	8,692	-	-	-	-
Oklahoma	8,253	-	897	-	-	-	-	-	5,274	-	-	-	-
Oregon	14,563	-	962	-	-	-	2,332	-	9,256	-	-	-	-
Pennsylvania	32,938	198	2,621	144	-	-	-	-	22,871	198	365	144	-
Rhode Island	1,222	-	-	-	-	-	-	-	-	-	-	-	-
South Carolina	5,456	-	787	-	-	-	-	-	3,087	-	-	-	-
South Dakota	1,493	-	3	-	-	-	-	-	1,126	-	-	-	-
Tennessee	14,897	42	1,127	-	100	-	-	-	10,517	-	-	-	-
Texas	24,395	-	3,016	-	-	-	-	-	10,351	-	-	-	-
Utah	5,547	-	374	-	-	-	-	-	2,870	-	374	-	-
Vermont	1,497	-	10	-	-	-	-	-	515	-	-	-	-
Virginia	7,556	-	230	-	-	-	-	-	2,036	-	-	-	-
Washington	⁷ 13,912	-	578	-	-	-	458	-	4,468	-	-	-	-
West Virginia	1,834	-	-	-	-	-	-	-	698	-	-	-	-
Wisconsin	16,565	-	645	-	-	-	342	-	5,366	-	55	-	-
Wyoming	638	-	-	-	-	-	-	-	638	-	-	-	-
District of Columbia	4,393	-	-	-	-	-	-	-	-	-	-	-	-
Alaska	110	-	-	-	-	-	-	-	-	-	-	-	-
Total	469,416	1,002	³ 36,634	220	100	746	9,308	1,033	⁴ 205,528	502	1,738	144	21

¹Figures for the number of meters in the various fee schedules for each State are nonadditive since many meters have been adjusted to accommodate more than one rate and the total number of meters taking each rate has been included in the numbers shown.

²One place reported that 10 minutes of free parking time is allowed in connection with its 300 meters, i.e., 22 minutes for 1¢ and 70 minutes for 5¢.

³Two hundred and forty of the meters shown have a summer rate of 1 hour for 5¢ and a winter rate of 2 hours for 5¢.

reporting, by states, as of January 1, 1952

3 hours for 15¢	2 hours for 20¢	4 hours for 20¢	6 hours for 20¢	8 hours for 20¢	5 hours for 25¢	10 hours for 25¢	All day for 25¢	9 hours for 30¢	9 hours for 45¢	10 hours for 50¢	12 hours for 60¢	Rates of fees not reported
-	-	-	-	-	-	-	-	-	-	-	-	-
125	-	-	-	-	-	-	-	-	-	-	-	-
580	-	580	-	637	580	-	-	-	-	-	-	315
307	-	-	-	-	-	-	-	-	-	-	-	52
-	-	-	-	-	-	-	-	-	-	-	-	1,323
-	-	-	-	-	-	-	-	-	-	-	-	-
820	-	820	-	-	174	-	-	-	-	-	-	-
-	-	-	150	-	-	-	-	150	174	31	31	622
-	-	-	-	-	-	-	-	-	-	-	-	-
826	-	75	22	29	75	29	-	-	-	-	-	225
96	-	-	-	-	-	-	-	-	-	-	-	25
157	-	-	-	-	-	-	-	-	-	-	-	749
-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	15	-	15	-	-	-	-	-	40
-	-	-	-	-	-	-	-	-	-	-	-	5
-	-	-	-	-	-	-	-	-	-	-	-	2
-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	100
-	-	-	-	-	-	-	-	-	-	-	-	62
4	-	4	-	-	4	-	-	-	-	-	-	-
260	-	260	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-
690	-	690	-	63	430	63	-	-	15	15	-	2,283
^a 245	-	^a 245	-	-	^a 245	-	^a 245	-	-	-	-	-
56	290	56	-	-	56	-	-	-	-	-	-	965
-	-	-	-	-	-	-	-	-	-	-	-	40
-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	1,317
343	2,224	-	-	-	-	-	-	-	-	-	-	-
1,958	-	150	-	24	150	24	-	-	24	24	24	919
90	-	-	-	-	-	-	-	-	-	-	-	176
-	-	-	-	-	-	-	-	-	-	-	-	317
-	-	-	-	-	-	-	-	-	-	-	-	124
26	-	-	-	-	-	-	-	-	-	-	-	2,133
-	-	-	-	-	-	-	-	-	-	-	-	690
133	-	133	-	-	133	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	11
-	-	-	-	-	-	-	-	-	-	-	-	800
300	-	300	-	55	300	55	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-
^a 7,016	2,514	^a 3,313	172	823	^a 2,147	186	^a 245	150	213	70	55	13,295

^aSeventy-five meters are reported as having a rate of 30 minutes for 3¢ or 1 nickel.^aRates for 245 meters are reported as 12 minutes for 1¢, 1 hour for 5¢, 2 hours for 10¢, and all day for 25¢.^aRates for 864 meters are reported as 15 minutes for 1¢, 30 minutes for 2¢, and 1 hour for 5¢.^aRates for 639 meters are reported as 15 minutes for 1¢ and 1 hour for 5¢.

TABLE C

Off-street parking meter fee schedules in places

Fee schedule													Number
	Arizona	California	Connecticut	Florida	Idaho	Illinois	Indiana	Iowa	Kansas	Maine	Maryland	Massachusetts	Michigan
Total number of parking meters	43	2,739	133	881	80	1,120	212	776	7	12	324	704	2,324
12 minutes for 1d	-	23	-	-	-	-	-	20	-	-	-	30	274
15 minutes for 1d	-	-	-	-	-	-	-	-	-	-	-	-	-
24 minutes for 1d	-	-	-	-	-	-	-	-	-	-	-	-	498
30 minutes for 2d	-	-	-	-	-	-	-	-	-	-	-	-	-
36 minutes for 3d	-	18	-	-	-	-	-	-	-	-	-	-	-
50 minutes for 5d	-	-	-	-	-	-	-	-	-	-	-	-	-
1 hour for 5d	43	951	62	596	-	208	85	275	7	-	25	608	885
1 1/2 hours for 5d	-	-	-	237	-	210	127	295	-	-	-	-	-
2 hours for 5d	-	1,444	-	48	80	462	-	206	-	12	158	-	1,439 2/
2 1/2 hours for 5d	-	-	71	-	-	-	-	-	-	-	-	-	-
4 hours for 5d	-	-	-	-	-	-	-	-	-	-	-	-	-
2 hours for 10d	43	1,174	62	537	-	39	36	275	7	-	578	-	611
3 hours for 10d	-	-	-	237	-	267	-	295	-	-	-	-	822 1/
4 hours for 10d	-	1,240	-	30	80	204	-	52	-	-	-	-	782
6 hours for 10d	-	156	-	-	-	-	-	-	-	-	-	-	-
3 hours for 15d	-	374	62	537	-	240	36	255	-	-	-	-	68
4 hours for 15d	-	-	-	-	-	-	-	-	-	-	-	-	-
6 hours for 15d	-	805	-	30	80	204	-	52	-	-	-	-	571
9 hours for 15d	-	156	-	-	-	-	-	-	-	-	-	-	-
4 hours for 20d	-	506	62	487	-	-	36	255	-	-	-	-	182
8 hours for 20d	-	1,240	-	30	80	204	-	52	-	-	-	-	571
10 hours for 20d	-	-	-	-	-	-	-	-	-	-	-	-	-
16 hours for 20d	-	-	-	-	-	-	-	-	-	-	-	-	-
3 hours for 25d	-	-	-	-	-	-	-	-	-	-	-	96	-
5 hours for 25d	-	518	62	487	-	-	36	-	-	-	-	-	152
10 hours for 25d	-	914	-	30	-	204	-	52	-	-	-	-	379
12 hours for 25d	-	-	-	-	-	-	-	-	-	-	-	-	-
All day for 25d	-	570	-	-	-	-	-	-	-	-	-	-	-
6 hours for 30d	-	181	-	310	-	-	-	-	-	-	-	-	-
9 hours for 30d	-	44	-	237	-	210	-	-	-	-	-	-	-
12 hours for 30d	-	-	-	-	-	-	-	-	-	-	-	-	-
10 hours for 50d	-	205	-	487	-	-	-	-	-	-	-	-	-
All week for 50d	-	-	-	-	-	-	-	-	-	-	-	-	-
12 hours for 60d	-	-	-	177	-	-	-	-	-	-	-	-	-
24 hours for \$1.20	-	-	-	-	-	-	-	-	-	-	-	-	-
Rates of fees not reported	-	-	-	-	-	183	-	-	-	-	141	-	-

1/ Figures for the number of meters having the various fee schedules in each State are nonadditive since many meter been included in the numbers shown.

2/ Includes 82 meters in Ypsilanti, Michigan, having rate of 5d for first 2 hours and 5d for third hour, or 3 hour

reporting, by states, as of January 1, 1952

of meters in each State^{1/}

Minnesota	Mississippi	Montana	New Jersey	New York	North Carolina	Ohio	Oregon	Pennsylvania	Rhode Island	South Carolina	Tennessee	Texas	Virginia	Wisconsin	District of Columbia	Total number of off-street meters
405	100	156	744	3,075	763	203	149	983	316	40	647	414	549	670	57	18,626
-	-	-	-	-	-	-	-	192	-	-	-	-	-	101	-	640
-	-	-	-	10	-	-	-	-	-	-	-	-	-	-	-	10
-	-	-	-	-	-	-	-	107	-	-	-	-	-	-	-	605
-	-	-	-	10	-	-	-	-	-	-	-	-	-	-	-	10
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18
-	-	-	-	100	-	-	-	-	-	-	-	-	-	-	-	100
292	-	156	128	1,652	565	172	119	542	-	-	299	136	549	384	57	8,796
-	-	-	495	-	-	-	-	-	-	-	-	-	-	-	-	1,364
38	100	-	121	362	198	-	30	270	-	40	-	278	-	246	-	5,532/
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	71
-	-	-	-	-	-	-	-	20	-	-	-	-	-	-	-	20
260	-	156	128	1,614	492	172	119	512	-	-	-	136	549	192	-	7,692
-	-	-	495	-	-	-	-	-	-	-	63	-	-	-	-	1,4392/
-	-	-	51	322	198	-	30	85	-	-	-	-	-	127	-	3,201
-	-	-	-	-	-	-	-	125	-	-	-	-	-	-	-	281
260	-	156	128	1,362	383	110	119	-	-	-	-	136	471	35	-	4,732
-	-	-	-	100	-	-	-	-	-	-	-	-	-	-	-	100
-	-	-	51	322	198	-	-	43	-	-	-	-	-	127	-	2,483
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	156
260	-	156	128	308	383	110	85	-	-	-	-	136	421	-	-	3,515
-	-	-	51	322	198	-	-	43	-	-	-	-	-	127	-	2,918
-	-	-	-	210	-	-	-	-	-	-	-	-	-	-	-	210
-	-	-	-	-	-	-	-	20	-	-	-	-	-	-	-	20
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	96
260	-	156	128	308	383	110	85	-	-	-	-	136	421	-	-	3,242
-	-	-	51	406	198	-	-	85	-	-	-	-	-	127	-	2,446
-	-	-	-	318	-	-	-	-	-	-	-	-	-	-	-	318
-	-	-	495	-	-	31	-	-	-	-	-	-	-	-	-	1,096
260	-	156	-	-	113	76	85	-	-	-	-	136	101	-	-	1,418
-	-	-	495	-	-	-	-	-	-	-	-	-	-	-	-	986
-	-	-	-	-	-	-	-	-	-	-	-	278	-	-	-	278
-	-	156	-	308	187	-	85	-	-	-	-	136	101	-	-	1,665
-	-	-	-	-	-	-	-	16	-	-	-	-	-	-	-	16
260	-	-	-	-	113	-	-	-	-	-	-	-	-	-	-	550
260	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	260
75	-	-	-	349	-	-	-	10	316	-	285	-	-	40	-	1,399

have been adjusted to accommodate more than one rate and the total number of meters taking each rate has for 10¢.

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