1962

Clerical procedures in municipalities of the Commonwealth of Massachusetts

BOSTON UNIVERSITY

College of Business Administration

THESIS

Clerical Procedures in Municipalities of the Commonwealth of Massachusetts

by

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Submitted in partial fulfillment of the requirements

for the degree of

Master of Business Administration

1962

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TABLE OF CONTENTS

Chapter		Page
I.	INTRODUCTION	8
	Importance	8
	Method of Procedure	9
II.	REAL ESTATE TAXES	12
	Valuation List	13
	Commitment to Tax Collector	13
	Information on Commitment Sheet	14
	Preparation of Documents	15
	Machines Used	17
	Format of Tax Bills	18
	Duplicating Process	21
III.	POLL TAXES	23
	Information on Commitment Sheet	25
	Preparation of Documents	26
	Machines Used.	28
	Format of Tax Bills	29
	Duplicating Process	30
IV.	PERSONAL PROPERTY TAXES	32
	Information on Commitment Sheet	33
	Preparation of Documents	35
	Machines Used.	36
	Format of Tax Bills	38
	Duplicating Process	40
V.	MOTOR VEHICLE EXCISE	42
	Motor Vehicle Excise Revenue	42
	Source of Billing Information.	44
	Information on Commitment Sheet	46
	Preparation of Documents	46
	Machines Used	47
	Ideal Equipment	49
	Format of Tax Bills	51
	Duplicating Process	53
VI.	WATER BILLS.	54
	Method of Billing.	55
	Machines Used.	56
	Format of Bills	58
	Duplicating Process	59

VII. CASH RECEIVING PROCEDURE 60
Preparation of Cash Receipts Book. 62
Account Distributions. 62
Definition of Cash Book 65
Posting to Commitment Sheet 67
Deposit of Cash Receipts 68

VIII. ACCOUNTING APPLICATIONS. 71
Use of Warrants 71
Disbursing Process 73
Duplicating Process 75

IX. BUDGETARY APPLICATIONS 76
Budget Procedures. 76
Budgetary Processes 77

X. SUMMARIZED OBSERVATIONS. 79
Information on Commitment Sheet 79
Preparation of Documents 82
Format of Tax Bills 83
Types of Machines Used 86
Typewriter 86
Bookkeeping Machines 87
Punched-card Equipment 89
Duplicating Process 90

XI. CONCLUSIONS. 92
Punched Paper Tape 92
Minor Wastes 94
Poll Tax 95
Equipment. 95
Demand Copies. 96
Final Conclusion 96

LIST OF TABLES

TABLE		Page
I.	Municipalities Included in Survey.	11
II.	Property Valuation and Tax Levy for 1961	12
III.	Real Estate Tax - Information on Commitment Sheet.	13
IV.	Real Estate Tax - Preparation of Valuation Sheet, Commitment Sheet, and Tax Bill.	16
V.	Real Estate Tax - Machines Used	18
VI.	Real Estate Tax - Format of Tax Bill	19
VII.	Real Estate Tax - Duplicating Process.	21
VIII.	Town of Winchester - Clerical Cost of Processing Bills in 1961	24
IX.	Poll Tax - Information on Commitment Sheet	25
X.	Poll Tax - Preparation of Commitment Sheet, Valuation Sheet, and Tax Bill	26
XI.	Poll Tax - Machines Used	27
XII.	Poll Tax - Format of Tax Bill.	29
XIII.	Poll Tax - Duplicating Process	31
XIV.	Personal Property Tax - Information on Commitment Sheet	33
XV.	Personal Property Tax - Preparation of Valuation Sheet, Commitment Sheet, and Tax Bill	35
XVI.	Personal Property Tax - Machines Used.	36
XVII.	Personal Property Tax - Format of Tax Bill	38
XVIII.	Personal Property Tax - Duplicating Process	41
XIX.	Commonwealth of Massachusetts - Motor Vehicle and Trailer Excise	43
XX.	Motor Vehicle Excise - Information on Commitment Sheet	45
XXI.	Motor Vehicle Excise - Preparation of Valuation Sheet, Commitment Sheet, and Tax Bill	46

XXII.	Motor Vehicle Excise - Machines Used	49
XXIII.	Motor Vehicle Excise - Format of Tax Bills	51
XXIV.	Motor Vehicle Excise - Duplicating Process	53
XXV.	Water Bills - Method of Billing.	55
XXVI.	Water Bills - Machines Used.	56
XXVII.	Water Bills - Makes of Bookkeeping Machines Used . . .	57
XXVIII.	Water Bills - Format of Bills	58
XXIX.	Water Bills - Duplicating Process	59
XXX.	Preparation of Cash Receipts Book	62
XXXI.	Number of Account Distributions in Cash Receipts Book . .	63
XXXII.	Posting to Commitment Sheet.	67
XXXIII.	Typical Commitment Sheet	69
XXXIV.	Deposit of Cash Receipts	70
XXXV.	Disbursing Process	72
XXXVI.	Duplicating Process.	75
XXXVII.	Budgetary Processes.	77
XXXVIII.	Information on Commitment Sheet.	80
XXXIX.	Preparation of Valuation Sheet, Commitment Sheet, and Tax Bill	82
XL.	Format of Tax Bills.	84
XLI.	Analysis of Towns Not Consistent in Use of Forms . . .	85
XLII.	Types of Machines Used	86
XLIII.	Analysis of Punched-card Equipment	88
XLIV.	Duplicating Process.	90

LIST OF EXHIBITS

Exhibit		Page
I.	Questionnaire Covering Real Estate Tax	100
II.	Questionnaire Covering Poll Tax	101
III.	Questionnaire Covering Personal Property Tax	102
IV.	Questionnaire Covering Motor Vehicle Tax	103
V.	Questionnaire Covering Various Aspects	104
VI.	Valuation List	105
VII.	Commitment List	106
VIII.	One-part Tax Bill with Stub	107
IX.	Two-part Tax Bill - Carbonned Form	108
X.	Three-part Tax Bill - Carbonned Forms	109
XI.	Three-part Tax Bill - NCR Paper	110
XII.	Four-part Tax Bill - Carbonned Form	111
XIII.	Four-part Tax Bill - NCR Paper	112
XIV.	Five-part Tax Bill	113
XV.	Four-part Water Rate Bill	114
XVI.	Combined Check Register and Warrant	115

CHAPTER I

INTRODUCTION

The author, while doing municipal consulting work, had noted numerous inefficiencies in clerical methods and procedures, and had wondered how widespread these inefficiencies were among the towns and cities of the Commonwealth of Massachusetts. This research project, therefore, was undertaken to determine the relative efficiency or inefficiency of clerical procedures in the municipalities of the Commonwealth.

It was believed that such a project would be of value and that it would disclose certain areas in which clerical inefficiencies were especially evident. It was realized that some of these inefficiencies are perhaps inherent in municipalities because of voter failure to appropriate necessary funds; because of inadequate equipment; because of poorly paid and possibly poorly trained employees; and, to a large extent, because of a lack of a centralized control over clerical functions.

Importance of the Problem

In the aggregate, municipalities of the Commonwealth of Massachusetts constitute a business whose size is exceeded by very few commercial corporations. Tax revenues, derived from properties with valuations of nearly $12 billion, amounted to more than $887 million[1] in 1961. And tax revenue is but a portion, though a large one, of the total intake of municipalities. The tax revenue ranged in 1961 from $11,325 for the tiny (42 people) town of Mount Washington to $148 million for the City of Boston.[2]

This is big business and may be likened to a huge corporation with some 350 branches located around the state. The branches, though pretty much centralized and autonomous within themselves, are subject to overall restrictions and procedures prescribed by the General Laws of Massachusetts. As far as clerical procedures are concerned, the towns are subject to the administration of the Bureau of Accounts of the Department of Corporations and Taxation of Massachusetts.

With an ever-increasing population, the tax collecting problem becomes more acute each year. The increase means added burdens for the clerical employees of those municipalities which are sharing in the increased population. More employees are needed to handle the additional work and municipal budgets are growing; hence, the tax rates are also increasing.

If efficiencies and cost savings could be instituted, some of the additional work could be absorbed by the existing clerical force; in fact, it is conceivable that fewer employees could do more work through the use of proper equipment and clerical procedures.

Hence, the need for clerical cost savings in the municipalities of the Commonwealth of Massachusetts is acute. It is hoped that the broad and overall survey of this research project will be able to point to some of those areas of apparent inefficiencies. The cure, however, rests with each municipality which, in many instances, may have no inkling that it is using inefficient methods, and which might be exceedingly reluctant to take corrective action, if it did know.

Method of Procedure

Two basic decisions had to be made for the research project. The first was what functional areas of clerical work should be covered and the second was how many towns should be included in the sample.

In solving the first, it was decided to concentrate on those areas of municipal work which involved the most paper work. This was determined to be (1) the preparation and collection of taxes and water rates, and (2) the recording and handling of basic bookkeeping information.

In solving the second, it was decided that no purpose would be served in surveying the smaller towns, some of which, as a spokesman of the Massachusetts Bureau of Accounts said, somewhat facetiously, keep their records in a cigar box. It was, therefore, decided to concentrate on towns and cities with populations in excess of 10,000.

Mr. James J. Costello, the President of the Massachusetts Municipal Auditors and Accountants Association kindly offered the use of that society's membership list which comprises municipal accountants and auditors. This appeared an ideal method of getting the questionnaire distributed; accordingly, envelopes, provided by the author, were addressographed for the municipalities selected.

There are approximately 100 towns in Massachusetts with populations in excess of 10,000 persons; 103 questionnaires were mailed out as indicated in Table I. Of these, 56 were returned and analyzed. Four additional questionnaires were returned after the analysis work was completed; these were not included since their contents were similar to many others included. As a final result, nearly 60% of the municipalities completed and returned the questionnaire.

The actual questionnaire is included as Exhibits I through V of this report. Its content was designed by the author and reviewed by Mr. James Costello, Accountant of the Town of Winchester. An attempt was made to explore broad areas only and to simplify the questionnaire to the extent possible. A standard form was used for each tax area and checking boxes were provided wherever possible.

MUNICIPALITIES INCLUDED IN SURVEY

	Total	Questionnaires Number Mailed	Questionnaires Returned Number	Questionnaires Returned Per Cent
Cities	39	39	20	52%
Towns	312	64	36	56%
	351	103	56	54%

TABLE I Sources: Massachusetts Public Document No. 79
Questionnaire

CHAPTER II

REAL ESTATE TAXES

Despite the fact that real estate taxes account for nearly 85% of the total tax levy of municipalities in the Commonwealth of Massachusetts, the record-keeping function for this tax is no more exacting or important than that of poll taxes, personal property taxes, and motor vehicle excise taxes. The General Laws of the Commonwealth require that detailed and precise records be maintained for each. Hence, it would

COMMONWEALTH OF MASSACHUSETTS
PROPERTY VALUATION AND TAX LEVY FOR 1961

	Property Valuation	Tax Levy Amount	Tax Levy Per Cent
Real estate	$9,448,860,511	$740,535,636	83.5%
Motor vehicle	1,410,274,413	78,522,047	8.9
Personal property	918,693,201	65,438,283	7.3
Poll	-	2,902,094	.3
	$11,777,828,125	$887,398,060	100.0%

1960 figures; 1961 not fully committed.

TABLE II Source: Public Document #79[1]

appear that the clerical cost per dollar of real estate tax collected would be sharply lower than that of, as an example, poll taxes.

Although the General Laws require the assessors to prepare tax lists[3] and to commit them to the tax collectors on warrants,[4] they do not indicate the clerical methods by which this should be accomplished. Because of this, the methods used differ among the various municipalities.

Valuation Lists

With respect to real estate taxes the General Laws[3] require that the assessors maintain, for public scrutiny, a valuation list of all taxpayers, showing, for any one year, the name of the taxpayer, the description of the property being assessed, the valuation of the land, the valuation of the building (if any), and the tax assessed. The valuation list of the Town of Brookline is included as Exhibit VI, page 105, of this report.

REAL ESTATE TAX

Information on Commitment Sheet

Is information the same as on valuation sheet?

1. Yes	45
2. No	11

If the answer is No:

1. Is the commitment sheet prepared as a separate operation from the valuation sheet?

a. Yes	1
b. No	10

TABLE III — Source: Questionnaire

Commitment to Tax Collector

The law[5] requires that the tax list be committed on a warrant to the tax collector for collection. The tax collector, who cannot be the same person as the assessor, is responsible for computing any interest, charges or fees, and for applying abatements against the taxes levied by the assessors; therefore, the records maintained by the tax collector must show, as a minimum, the name of the taxpayer, the tax assessed, and the above information. See Exhibit VII, page 106, for a sample of the commitment list of the Town of

Brookline.

Information on Commitment Sheet

The survey indicated many inefficient clerical methods; however, all of the municipalities as shown on Table III, page 13, reported that they prepared the valuation sheet and the commitment sheet at the same time and in one operation. Clerically this means that the municipalities have recognized the savings inherent in the principal of integrated data processing. This principal is described as "the automatic copying or posting of business papers or records beginning with the creation of the original data medium and continuing through the preparation of the reports for management."[7]

It is interesting to note from Table VIII, page 24, that the survey indicated that 44 or nearly 80% of the municipalities used carbon paper to achieve this integration, thus indicating that 20% used other methods. This is further discussed on page 21 of this paper.

Of the 56 towns replying to the survey, eleven (20%) indicated that the information on the valuation list, as retained in the assessors' office, was different from that on the commitment list rendered to the tax collector.

In such instances, the valuation lists showed the name of the taxpayer, the location of the property being assessed, the valuation of the land and of the buildings (if any), and the amount of the tax levied. On the other hand, the commitment list denoted the taxpayer's name and the total tax levied, and also had provision for interest, charges, fees and abatements, and for posting the date and amount paid.*

It should be noted that it is more costly to design and print forms with different information on each form. It is, therefore, encouraging

*See Exhibits VI and VII, pages 105 and 106.

to note that 45 (80%) of the towns surveyed indicated that the information on the valuation and commitment lists was identical.

Even for those towns which had different information on the valuation list from that on the commitment list, certain information was common to both lists; to this extent, there was an integrated process.

A lone town (Rockland) reported that the valuation and the commitment lists were prepared as separate operations. The town's comment on the questionnaire was "valuation sheet is itemized account - commitment sheet is for money only".

Preparation of Documents

The tax collector is charged with the responsibility of collecting the real estate taxes committed to him by the assessors, and of paying over the taxes and interest collected to the city or town treasurer.[8] There is, however, no indication in the law concerning how the taxpayer is to be billed or who shall prepare the bill. It is possible, therefore, to utilize integrated data processing further and to prepare the bills at the same time as the valuation/commitment lists.

In such a case it must be pointed out that the tax collector must assure himself that the bills received from the assessors are actual duplicates of the detail on the commitment lists.

As indicated by Table IV, only eighteen municipalities (32%) of those reporting utilized a completely integrated system by preparing the valuation sheet, the commitment sheet, and the bill in one operation. In each instance, the integration was accomplished by utilizing one of several electric bookkeeping machines* which have the capability of typing both alphabetical and numerical information, and of totalling selected figures

*See page 17 for further discussion

(e.g., the tax levy on each property, or the total tax) in accumulating registers. Although the survey did not develop this point, a subsequent contact with one of these municipalities indicated that the data for this integrated operation were imprinted on the forms directly from master cards kept in the assessors' office for each taxable piece of property.

The majority (33) of the municipalities reporting indicated that the valuation sheets and commitment sheets were prepared in one operation

REAL ESTATE TAX

Preparation of Valuation Sheet, Commitment Sheet, and Tax Bill

Number of operations required:		
1. Three separate operations		5
2. Two operations		33
a. Valuation/commitment sheet as one operation and bill as separate operation	33	
b. Commitment sheet and bill as one operation and valuation sheet as separate operation	0	
3. One operation		18

TABLE IV — Source: Questionnaire

and that the bills were prepared separately; however, sixteen (50%) of these put basic data on the valuation/commitment sheet, and on the bill through the use of addressing equipment (Addressograph or Elliott). To a large extent these municipalities were utilizing integrated data processing; however, unlike those who did the entire committing and billing function in one operation, they were forced to handle and process basic documents twice (i.e., the commitment/valuation sheet, and the bill).

Some inefficiency was indicated by the seventeen municipalities which prepared the commitment/valuation sheet as one operation and the bill as a separate operation, but which did not use addressing equipment. Without exception, these municipalities used typewriters for preparing the forms rather than bookkeeping machines or tabulating equipment.

By ignoring the advantages of integrated data processing, these municipalities add to their clerical costs in several ways:

(1) Each sheet must be totalled on an adding machine in order to prove the entire real estate commitment.

(2) The tax bills must be proofread against the valuation listing.

(3) The tax bills must be added separately to assure that the entire tax levy was being billed.

Five communities used three separate operations for preparing these forms; one (Agawam) indicated that two original lists (valuation and commitment) were desired. All five, however, used an Addressograph machine for basic data, although a typewriter was used for variable information. Surprisingly, one of the five was the City of Cambridge which indicated that there were three separate operations with Addressograph and typewriter being used. This would indicate that the size of the municipality was not the criterion with respect to efficient or inefficient operation.

Machines Used

An analysis of the machines used by the municipalities is shown on Table V. Of the 25 municipalities which used bookkeeping machines, twenty used either Burroughs (12) or National Cash Register (8) machines. Three used Remington Rands which have not been manufactured for about ten years. The other two used an Underwood-Sundstrand and an Elliott-Fisher, each old and not now manufactured.

Ten municipalities reported that they utilized punched-card equipment--five International Business Machines and three Remington Rand installations. At least one of these municipalities used an IBM service bureau to process its documents rather than to rent its own equipment.

Format of Tax Bills

The General Laws require that the Assessor commit the real estate tax to the tax collector who shall collect the tax and any interest; however, since there is no stipulation that the tax collector must physically

REAL ESTATE TAX

Machines Used

Typewriter	20
Bookkeeping machines	25
Punched-card machine	12
Addressograph	7

TABLE V Source: Questionnaire

prepare the bills, they were prepared by the assessor in many communities at the same time as the valuation/commitment sheet. In such instances, it was the practice of the collector to total, on an adding machine, the bills committed to him and to verify the total against the total tax committed on the warrant. This, with reliance on the method of preparation, assured that all dollars committed were billed to some taxpayer.

Once again the law is not definitive with respect to the type of bill to be prepared, nor with respect to the number of copies; hence, the type of bill and the number of copies prepared differs among communities.

Some standardization is evident, however, since the Commissioner of Accounts of the Commonwealth of Massachusetts must approve all forms of the municipalities.[10] Samples of tax bills used by certain municipalities are shown as Exhibits VIII through XIV on pages 107 and 113.

REAL ESTATE TAX

Format of Tax Bill

Two-part form		5
1. Demand copy prepared only as required and in a separate operation		
a. Yes	5	
b. No	0	
2. If answer is Yes, demand copy is:		
a. One-part form.	4	
b. Two-part form.	1	
Three-part form		12
1. Third part is used as demand copy		
a. Yes	12	
b. No	0	
Four-part form		38
1. Two parts are used as demand copies	31	
2. Two parts to taxpayer, one part is demand copy	7	
Five-part form		1

TABLE VI Source: Questionnaire

Real estate taxes remaining unpaid after November first of the year in which they are payable are subject to interest computed from October first at four per cent per annum.[11] In the case of unpaid bills, the taxpayer is notified by a "demand" notice which lists the tax due, interest charges, and fees.*

* See, for example, Exhibit VIII, page 107.

Because of the anticipated need for a demand copy, the great majority (50) of the reporting municipalities used either a three or a four-part bill. One part was commonly sent to the taxpayer, one part remaining in the assessors' office as a file copy to be removed when payment was made, and one or two copies being retained for demand purposes. In the case of the four-part bill, one of the demand copies was usually sent to the taxpayer when needed and the other was retained by the collector as a file copy.

Fourteen municipalities use a three-part bill, using the third part as a demand copy. This obviously provides a savings in form design and forms handling over those communities which use four-part forms.

Of the 36 towns which prepared four-part bills, six sent two parts to the taxpayer at the time of original billing. This, in effect, placed these towns in the same category as those which prepared three-part forms. The taxpayer returned one part with his payment and retained one for his personal records.

Five towns prepared only two copies of the bill, one going to the taxpayer and one remaining as a file copy. This would indicate that at the time of preparing the demand copy it was necessary to review the file of unpaid bills and to prepare original demands. In four of the five cases, the demand was a one-part form; in the fifth it was a two-part form.

The decision to prepare original demand copies can be made by surveying past years to determine the frequency of demands in relation to total bills rendered. Once surveyed, it is a matter of economics to determine whether it is less costly to prepare a minimum of demands or to provide the demand copy as one of the parts of the original bill. The former method would result in a savings of forms and the latter is a savings of clerical time.

As between three- and four-part forms, it is rather difficult to justify the four-part form where two parts were used as demand. It would seem reasonable that many more towns could use a three-part form quite as well as a four-part bill. On the far end of the spectrum is one town (Framingham) which used a five-part form, three parts becoming the demand copies.*

REAL ESTATE TAX

Duplicating Process

Carbonned forms used	45
NCR (No Carbon Required) paper used. . . .	10
Single copy with attached stub	1

TABLE VII Source: Questionnaire

Duplicating Process

NCR (No Carbon Required) paper is a patented process whereby, by means of specially treated paper, duplication from one document to another is accomplished without the use of carbon paper.[12] Typewriter or pen pressure on the original sheet of an NCR form releases microscopic globules of a chemical which turns a color when it strikes a clay-like substance on the duplicate sheet reproducing the impression on the original. Though the preparation of forms containing such paper commands a premium price of as much as 20% over a carbonned form, eleven municipalities (20%) used the paper for their real estate tax bills.

*See Exhibit XIV, page 113.

All other municipalities (44) except one, used carbonned forms, the majority with one-time, snap-out carbons which are inserted as a part of the bill set when manufactured. The one town (Easthampton) mentioned above used a single copy form with an attached stub. Since the town used a typewriter in preparing its real estate forms, the effect was the same as preparing the bill twice.

CHAPTER III

POLL TAXES

The poll tax has remained at the fixed amount of $2.00 since it was devised in 1780[13] by the Colonial legislature as a substantial source of revenue. In the first year the statute was enacted, the poll tax collections accounted for 14% of the entire revenue of the Commonwealth. In 1960, the revenues from poll taxes amounted to $3,000,000, a mere .3%* of the tax revenues of the municipalities and less than .1% of the overall Commonwealth revenues.

A review of Chapters 50-61 of the General Laws of Massachusetts[14] indicated 46 separate sections in which poll tax assessment, abatement, and collection was discussed.

Despite the fact that the revenue from poll taxes is so insignificant, the cost of processing the valuation and commitment lists, and the billing is basically the same as that of any other tax.

Table VIII, page 24, was prepared to illustrate that the cost of collecting poll taxes in today's society is beginning to approach the revenue derived from this source. The schedule depicts broad figures only and includes only those costs which seemed directly attributable to the effort to collect tax monies. A detailed study was not made to determine the exact applicability of these figures.

It is noted that the clerical cost of processing each bill in the town is nearly $1.00. Since the revenue from each poll tax is but $2, the impact is obvious. The impact is worsened considerably when it is realized that about 10% of the poll taxes are abated (veterans, over 65 years of age,

*See Table II, page 12.

poverty, absence, etc.),[15] and thus never result in revenues.

The laws dictating the processing of poll taxes are in every way as stringent as for any other tax or excise and the same clerical care must be exercised for poll taxes as for the other taxes.

TOWN OF WINCHESTER

Clerical Cost of Processing Bills in 1961

	Salaries and Expenses	Costs Directly Applicable to the Bill Processing Function	
		Per Cent**	Amount
Assessors	$14,200*	80%	$11,360
Collector	17,000	90%	15,300
General services	7,100	80%	5,680
Accounting	18,900	10%	1,890
Total	$57,200		$34,230

Bills processed in 1961:	
Motor vehicle excise	11,000
Water rates	10,500
Real estate taxes	6,300
Poll taxes	5,200
Miscellaneous	1,200
Personal property taxes	300
Total	34,500

*Does not include salaries of assessors
**Estimated

Cost per bill: $34,230 ÷ 34,500 = $0.99

TABLE VIII Source: Town of Winchester, James J. Costello, Town Accountant

Hence, despite the fact that poll taxes account for only .3% of the municipal revenues from taxes,* they require about 15% of the clerical cost of processing all documents.

* See Table II, page 12.

Because the cost of collecting poll taxes is very high in proportion to the revenues derived, it would appear especially necessary for each town to employ the most efficient methods possible. The survey, however, indicated that, in many instances, the opposite was true.

Once a clerical method or procedure is installed in any business, it is often difficult to change it for a more economical or efficient operation. There is a natural human tendency to resist change; in addition,

POLL TAX

Information on Commitment Sheet

Is it the same as on valuation sheet?	
1. Yes	52
2. No	4
If answer is No:	
1. Is commitment sheet prepared as a separate operation from valuation sheet?	
a. Yes	1
b. No	3

TABLE IX Source: Questionnaire

changes often require an initial outlay of money for equipment, etcetera. To get authorizations for such outlays is a serious and difficult task; in a municipality it is even worse. Hence, because of resistance to change or lack of funds, many municipalities may be using clerical methods that are decades old.

Information on Commitment Sheet

As indicated on Table IX, the overwhelming majority (99%) of the municipalities took advantage of the economies of integrated data processing by preparing the commitment/valuation lists at the same time. In three instances (Belmont, Chicopee, and Gardner) the commitment list showed no valuation. It is difficult to justify why this value was omitted; however, this would result in no loss of processing efficiency since the poll tax is at a flat rate of $2.00 per taxpayer.

A rather unusual approach was indicated by the Town of Danvers which stated that the commitment list was prepared as a separate operation from the valuation list but that the information was the same on each sheet. Such duplication of effort would appear to be highly inefficient; however,

POLL TAX

Preparation of Commitment Sheet, Valuation Sheet, and Tax Bill

Number of operations required:			
1.	Three separate operations		3
2.	Two operations		37
	a. Valuation/commitment sheet as one operation and bill as separate operation	37	
	b. Commitment sheet and bill as one operation and valuation sheet as separate operation .	9	
3.	One operation		16

TABLE X Source: Questionnaire

a further study of the questionnaire indicated that Danvers uses a punched-card operation (IBM). It would appear, therefore, that the cards were processed twice to obtain the commitment and the valuation sheets. A logical question could be raised concerning why a carbonned form was not used to produce the commitment/valuation sheet in one operation.

Preparation of Documents

In preparing the valuation sheet, commitment sheet, and bill, three municipalities (4%) required three operations; 37 (65%) required two;

and 16 (28%) required a single operation.

The three municipalities which indicated that they required three separate operations to generate their forms should be studied further. The Town of Agawam indicated that the commitment and valuation sheets were originals; therefore, the preparation of the bill would constitute the third operation. Some efficiency was present, however, since an Addressograph machine was used for each operation. The questionnaire did not disclose why a carbonned form was not used.

POLL TAX

Machines Used

Typewriter	22
Bookkeeping machine	14
Punched-card machine	9
Addressing machine	11

TABLE XI Source: Questionnaire

The City of Cambridge likewise indicated three operations and the use of an Addressograph machine. There was, however, an apparent contradiction (which was not resolved) in that the questionnaire stated that the commitment/valuation sheets were prepared as one operation.

The Town of Rockland indicated that the valuation sheet was an itemized account but that the commitment sheet was for money only. Three operations were required to produce the documents, and a typewriter was used. On the surface, this appeared to be by far the least efficient operation of the 56 reporting municipalities.

Machines Used

The following is an analysis of the machines used by the 37 municipalities which required two operations:

Typewriter	20
Addressograph machine.	9
Punch card machine	7
Bookkeeping machine	1
Total	37

The least efficient operation would appear to be the use of a typewriter. Each of the twenty communities, however, prepared the commitment sheet and valuation sheet as one operation, thereby effecting some economy. By using the typewriter on two operations, it would appear that there would be a necessity of proofreading the bills before mailing, and also the necessity of totalling the columns and the bills.

The use of Addressograph plates for preparing the forms is an ingenious and economical method, though probably not as fast an operation as would be provided through the use of punched-card equipment. An Addressograph plate is prepared for each taxpayer, showing name and address, and the $2.00 charge. The plates are embossed on the pre-carbonned commitment/valuation sheets; since most Addressograph machines have the ability to consecutively number, the numbers are also printed on the sheets. The bills, fed into the machine as a separate operation but using the same plates, are numbered in the same fashion and to correspond with the numbers on the sheets. Further to expedite the operation, the bills may be obtained from the printer in a continuous perforated roll. After imprinting, the individual bills are separated and mailed, preferably in window envelopes.

The bookkeeping machine used by one community (Revere) was a Remington Rand which hasn't been manufactured in nearly a decade. At best this was a relatively slow machine and had but one advantage - it had totalling registers. As a practical matter, it would appear that a typewriter would provide a faster operation for preparing poll taxes than would this particular bookkeeping machine.

POLL TAX

Format of Tax Bills

Two-part form		4
1. Demand copy prepared only as required and in a separate operation		
a. Yes	3	
b. No	1	
2. If answer is Yes, demand copy is		
a. One-part form.	3	
b. Two-part form.	0	
Three-part form		17
1. Third part is used as demand copy		
a. Yes	17	
b. No	0	
Four-part form		34
1. Two parts are used as demand copies		
a. Yes	31	
b. No	3	
Five-part form		1

TABLE XII Source: Questionnaire

Format of Tax Bills

In connection with the preparation of poll tax bills, several municipalities (Beverly, Brookline, Cambridge, and Winchester) were contacted by the author to determine how many demand copies were issued for poll tax collections. It was surprising to learn that it was necessary to send demand copies to ten to fifteen per cent of the taxpayers. Considering Winchester, a 10% demand would consist of over 500 forms, and a 15% demand nearly 800. At this point it would seem more practicable to incorporate the demand copies as part of the original bill. This was done by the great majority (52 or 80%) of those municipalities reporting on the survey. Of the 52, 17 used a three-part bill and 35 used a four-part bill.

In every instance, the third part of the three-part bill became the demand copy when needed. These towns apparently believed there was no necessity of retaining a copy of the demand for file purposes.

On the other hand, of the 35 municipalities using four-part bills, the majority used two of the parts for demand copies. Three of these communities indicated that the original of the four-part bill went to the taxpayer, that two parts were file copies, and that one part was used as a demand. The replies did not indicate why two copies were retained as file copies. It would appear on the surface that the extra copy would require more handling and with the additional forms cost, it would seem to make a more costly operation than using a three-part form.

One municipality (Pittsfield) indicated that a form with a perforated stub was prepared on a typewriter. Although this city indicated that it used two operations to prepare and bill poll taxes, the use of the stub would require double typing in and of itself.

Duplicating Process

In processing real estate taxes it was noted that 16% of the communities used NCR (No Carbon Required) paper; in the case of the poll taxes, 29% used NCR paper. This is an indication that the same duplicating process is not used consistently in the preparation of all taxes and excises.

Again, realizing the necessity of producing all possible economies, it is difficult to understand why fourteen municipalities would incur premium costs by using NCR paper.

POLL TAX

Duplicating Process

Carbonned forms used	40
NCR (No Carbon Required) paper used. . . .	14
Other:	
Stub form	1
Punch cards	1

TABLE XIII Source: Questionnaire

CHAPTER IV

PERSONAL PROPERTY

Tax laws generally provide that returns be made of personal property of every kind and character that is subject to taxation. In the early days of the general property tax, the assessment of personal property was based largely on the declarations of taxpayers, supplemented by such general knowledge of the property in his district as the assessor had or might acquire by a casual tour of inspection.[16]

Although the General Laws are clear concerning property taxable as personal estate, the discovery of such property is much more difficult than it is in the case of real property. The law states in general that the following are taxable: (1) goods, chattels, money and ships; (2) money at interest, and other debts; (3) real estate mortgage loans; and public and utility, etc., securities.[17]

In Massachusetts, persons subject to personal property taxation are required[18] to file with the assessors a list of items and values subject to taxation. Because of the lack of definiteness concerning exactly what personal property is, and who is subject to the tax, it is safe to say that much personal property probably escapes taxation.[19]

Personal property taxes provide 7.% of the revenue of municipalities. In 1961 this was about $65 million based on a valuation of nearly $919 million.*

Personal property assessed may be broken down into three broad categories: (1) utility (gas, electric, telephone) poles and wires; (2) stock in-trade of unincorporated businesses; and (3) personal property of

* See Table II, page 12.

taxpayers in excess of a $5,000 exemption. The first category (utilities) accounts for the majority of the personal property revenue. The discovery of and the valuation of the other two categories appears to be on a rather arbitrary basis with the assessors determining values which may appear equitable but which are, notwithstanding, probably arbitrary.[21]

PERSONAL PROPERTY TAX

Information on Commitment Sheet

Is it the same as on valuation sheet?	
1. Yes	25
2. No	31
If answer is No:	
1. Is commitment sheet prepared as a separate operation from valuation sheet?	
a. Yes	2
b. No	29

TABLE XIV Source: Questionnaire

Information on Commitment Sheet

The problems involved in preparing valuation and commitment sheets, and in billing personal property taxes are quite different from those of real estate and poll taxes. Although the revenue derived from personal property is much less than that of real estate, it is far more ($65 vs. $3 million)** than that of poll taxes. Nonetheless, there is an inverse relationship when it comes to a comparison of bills processed. Referring to the Town of Winchester, it is to be noted that a mere 300 personal property tax bills were processed in 1961 as compared with 5,200 poll taxes.*

With the relatively small number of documents processed, mass

* See Table II, page 12.
** See Table VIII, page 24.

production methods are not always advisable or the most economical. Hence, the survey indicates the use of somewhat more manual as opposed to machine methods. This, however, doesn't necessarily justify the use of the former, particularly when machines and integrated processes are available in other taxing areas.

Of the 56 towns (44%) reporting on the survey, 25 indicated that the information on the valuation sheet was the same as that on the commitment sheet, whereas 31 (56%) reported that it was not the same. This compares with a 45-11 indication for real estate and 52-4 for poll taxes.

Of the 31 reporting that different information was shown on the commitment sheet, 29 indicated that the latter contained only the tax committed and not the detail of the valuation. Since only nine of these municipalities did this same thing with respect to real estate taxes, it is difficult to reconcile why these municipalities should handle the forms differently with respect to personal property taxes.

That the towns again have recognized the savings inherent in integrated data processing is evident in the fact that only two communities prepared the valuation sheet separate from the commitment sheet. Even realizing that there are relatively few names on the personal property lists, it still requires duplicate effort to prepare separate valuation and commitment sheets.

Needless cost and waste in an operation like this are easy to regard as being minor in amount; however, if this added cost is repeated in another clerical operation, and if that waste is justified in the same manner, the total added cost or waste can often become major - to the extent of requiring an additional clerk.

Preparation of Documents

Of the three municipalities which required three separate operations to prepare the valuation sheet, the commitment sheet, and the bill, two used Addressograph machines whereas one (Rockland) utilized a typewriter. Again, it is rather difficult to visualize why these communities did not use carbon paper (or NCR paper) in the preparation of the valuation/commitment sheet. The town which performed all three separate operations on a typewriter certainly seemed to be the farthest away from the most efficient operation.

PERSONAL PROPERTY TAX

Preparation of Valuation Sheet, Commitment Sheet, and Tax Bill

Number of operations required:	
1. Three separate operations	3
2. Two operations	
a. Valuation/commitment sheet as one operation and bill as separate operation. .	34
3. One operation	19

TABLE XV — Source: Questionnaire

Thirty-four of the municipalities used two operations for preparing personal property tax bills. Of these, 28 used typewriters, three used punched-card equipment, and three used bookkeeping machines. Three of those using typewriters supplemented their equipment through the use of Addressograph machines. It is interesting to note that many of those towns with addressing machine equipment did not deem it advisable to utilize the equipment in this area of personal property taxes.

Of the nineteen towns which prepared the valuation sheet, commitment sheet, and bill in one operation, the following machines were used:

Bookkeeping machine	15
Typewriter	2
Punched card	2
	19

In analyzing the methods of processing personal property tax bills, it was apparent that, because of the small volume of documents ordinarily prepared, many towns used methods which were somewhat inefficient. Even though this can perhaps be rationalized on the basis of low volume, it would appear that more efficient equipment should be

PERSONAL PROPERTY TAX

Machines Used

Typewriter	29
Bookkeeping machine	18
Punched-card machine	6
Addressing machine	4

TABLE XVI Source: Questionnaire

utilized if available; it was in many instances. Again this tends to confirm the suspicion that in some instances, many municipalities have failed to provide the most efficient operation.

Machines Used

It is to be noted that 29 (52%) of the municipalities used typewriters in the processing of personal property bills and commitment sheets. This is a considerably larger concentration of typewriters than in any other of the tax areas surveyed. A part of the reason is perhaps that the volume of personal property transactions is small in relation to that of the other areas. Whatever the reason, this concentration of typewriters indicates a basically inefficient operation. First, the sheets and bills must be proofread against basic documents (this would not be necessary if an addressing machine were used). Second, the sheets, and bills, must be totalled on adding machines and reconciled to the total commitment (a bookkeeping machine or punched-card machine would do this automatically). Third, it was necessary to compute the tax manually or by reference to a chart. Punched-card equipment and many bookkeeping machines have the capability of multiplying the tax rate by the valuation thereby automatically determining the tax.

In eighteen instances municipalities used bookkeeping machines for processing personal property taxes; in fourteen of these instances, the municipalities prepared the valuation sheet, commitment sheet, and tax bill in the same operation. The result was, of course, a high degree of integration. The use of the machines in such a way, however, meant that all detail (e.g., name and address of taxpayer, property, valuation, etcetera) must be copied on the machine from the master cards. An additional degree of integration might be obtained if these basic data were embossed on Addressograph plates. This would then mean that the bookkeeping machines would be used for imprinting the basic data, including the valuation, and possibly for determining the amount of the tax.

If punched card equipment is available, as it was in fourteen of the municipalities surveyed, it would seem that the processing of the personal property tax could have been adapted to this equipment. Such was not the case, however, since only six of the fourteen had this application. Four of those which did not use their punched-card equipment for personal property taxes, used a bookkeeping machine (Remington Rand) which is slow and which is at least ten years old since the company discontinued manufacturing these machines at that time.

PERSONAL PROPERTY TAX

Format of Tax Bills

Two-part form			6
1. Demand copy prepared only as required and in a separate operation:			
	a. Yes	6	
	b. No	0	
2. If answer is Yes, demand copies:			
	a. One-part form.	4	
	b. Two-part form.	2	
Three-part form			15
1. Third part is used as demand copy			
	a. Yes	15	
	b. No	0	
Four-part form			34
1. Two parts are used as demand copies			
	a. Yes	28	
	b. No	6	
Five-part form			1

TABLE XVII Source: Questionnaire

Format of Tax Bills

The content of bills is governed by a statute[22] which requires that all forms relating to taxation be referred to the Commissioner of Accounts of the Commonwealth of Massachusetts for approval. To this extent there is some standardization among the various municipalities. The standardization, however, concerns the content of the bills, and not their physical shape or structure. Hence, the bills used vary from two-part forms up to, in one instance, a six-part form. Samples of various types of forms used may be found in Exhibits VIII through XV , pages 107-114.

Granted that the needs of the various towns and cities vary to some extent, it is interesting to note the wide variation in the physical size of the bills and in the number of copies prepared. It is obvious that some of the form designs provide for a greater degree of efficiency than do others.

Referring to Table XVII, it is noted that only six communities prepared personal property tax bills in two parts; each of these municipalities prepared a one-part form for use as a demand copy when such a form was needed. This would appear to be an economical and efficient approach to the billing problem. Using the Town of Winchester as an example,* of the 300 personal property bills rendered in 1961, only thirty (10%) required demands. It would appear more economical to prepare thirty original demands than to provide the demands in the original sets of bills, thereby requiring that some 270 copies be discarded as not needed as demands. This town, however, provide two demand copies in its four-part bill.

The six communities mentioned above, saw fit to prepare a two-part form of the bill with an apparent clerical and forms design savings. The question is naturally raised concerning the real necessity, other than tradition or lack of consideration of the facts, of the other fifty municipalities to prepare three-, four-, five-, or even six-part bills. Though the survey made no attempt to uncover the reasons behind the clerical methods of the various municipalities, it can reasonably be assumed that some lack

* See Table II, page 12.

of efficiency existed in this area.

Of the municipalities reporting, fifteen prepared three-part forms as indicated by Table XVII, page 38. In each instance one part was used as a demand copy. Again, studies made by these towns may have disclosed that it was more economical to provide a demand copy at the time of printing the bills than to type up demands only when needed; if so, the most economical plan would be, as these fifteen towns did, to print a single part as a demand copy.

As had been noted in the case of the real estate and poll taxes, the majority (60%) of the municipalities prepared four-part bills, most using two parts as demand. Unless there is some unusual local condition, it is difficult to understand the advantage of using two parts, particularly when so many communities use a single demand copy. Six of the towns which used four-part forms kept two parts as file copies and used one part for demand purposes.

A lone town (Framingham) prepared a five-part form. It is interesting to note that this town also used five-part forms for billing real estate and poll taxes, and motor vehicle excises. On the questionnaire, the town indicated that three parts were being used as demand copies. A sample of this form is included as Exhibit XIV, page 33.

<u>Duplicating Process</u>

As indicated by Table XVIII, the great majority (85%) of the cities and towns used carbonned forms in processing personal property taxes. Six used the more expensive, but, in some instances, more convenient, NCR paper. One town (Saugus) indicated that it used neither, giving as an explanation "separate copy". This cryptic reply would perhaps indicate that it prepared two original copies of the bill on the typewriter that it uses. If so, this appears to be a duplication of effort.

PERSONAL PROPERTY TAX

Duplicating Process

Carbonned forms used	48
NCR (No Carbon Required) paper used. . . .	6
Other	2

TABLE XVIII

Source: Questionnaire

CHAPTER V

MOTOR VEHICLE EXCISE

Concerning the motor vehicle excise, the General Laws[23] state, in part "......there shall be assessed and levied in each calendar year on every motor vehicle and trailer registered......an excise measured by the value thereof, as hereinafter defined and determined, at the average state rate for the calendar year......".

Motor Vehicle Excise Revenue

The revenues from the motor vehicle excise were nearly $79 million, about 9% of total revenues from taxation, for the year 1960, the latest fully committed excise year. This makes it second to real estate tax in dollars derived from taxes and excises. Table XIX is presented to emphasize the tremendous impact of this excise on the revenues of municipalities in the past fifteen years.

Before discussing the clerical processing of the motor vehicle excise, it is well to note how an excise differs from a tax such as imposed on real estate, polls, and personal property. Taxes are defined as "compulsory levies on private units for general governmental purposes. The term taxes does not include governmental receipts from borrowing, gifts, reparations or various direct charges for special services or benefits."[24] An excise, on the other hand, is a tax, or levy, on the purchase, production, and sale of commodities.[25] It is then, in effect, a specialized type of tax.

It is to be noted from table XIX that the number of vehicles taxed has increased 2½ times in fifteen years; that the total value has increased fourteen times, though the average value has gained only five times; and finally, and most important from a revenue viewpoint, that the total excise committed has increased a whopping 26 times (the average excise per vehicle has gone up about eleven times).

COMMONWEALTH OF MASSACHUSETTS

Motor Vehicle and Trailer Excise

Year	Total Number	Total Value	Average Value	Total Excise	Average Excise
1945	904,588	$ 107,456,017	$117.89	$ 3,145,980.43	$ 3.75
1946	1,073,627	197,104,291	183.59	5,053,905.02	4.71
1947	1,206,200	357,874,869	296.70	9,619,709.93	7.98
1948	1,300,860	469,816,669	361.16	13,899,388.21	10.68
1949	1,454,816	613,880,668	421.97	19,669,388.57	13.52
1950	1,605,024	752,779,680	469.01	25,604,052.95	15.95
1951	1,639,580	771,035,506	470.26	30,567,951.98	18.65
1952	1,622,556	754,250,517	464.85	30,789,283.90	18.97
1953	1,720,393	829,598,760	482.21	34,670,743.81	20.15
1954	1,813,730	905,931,517	501.60	39,115,571.07	21.66
1955	1,931,892	1,042,182,678	539.46	46,072,631.43	23.85
1956	1,878,983	1,097,748,386	584.22	50,583,004.73	26.92
1957	2,118,179	1,231,550,311	581.40	59,172,917.30	27.94
1958	2,094,793	1,168,080,315	557.61	60,177,039.80	28.73
1959	2,225,339	1,280,393,650	575.34	68,089,202.38	30.60
1960	2,354,100	1,410,274,413	599.07	78,522,046.86	33.36

TABLE XIX — Source: Bureau of Accounts, Commonwealth of Massachusetts

Along with the greatly increased revenues (about $6 million per year for fifteen years), the clerical problems have likewise risen greatly. The billing of the motor vehicle excise entails more individual bills than any other form of taxation.* By its very nature it is a difficult tax to process on a mass production basis. It is well at this point to discuss why this is so.

* For example, refer to Table VII, page 21.

Source of Billing Information

At the present time, the data for billing the motor vehicle excise come from a portion of the motor vehicle registration form filed with the Registry of Motor Vehicles by vehicle owners. The portion of the registration (about three inches square) applicable to the excise shows the owner, registration number, make of vehicle, year of manufacture, and other pertinent information. Depending on the make of the car, the year of manufacture, and its automatic equipment, a value is placed om the stub of the registration. This operation is performed by clerks in the State House of the Commonwealth. The stubs are sorted by municipalities and forwarded in batches, to the municipalities. This process of valuing the stubs and forwarding to the cities and towns takes place continuously over the year so that the various communities receive the stubs in batches at various times during the year.

Each vehicle registered for a full year is assessed at a standard Commonwealth rate (In 1961, $66.00 per thousand dollars of valuation). Further to complicate the situation, if a vehicle is registered for part of a year, the excise is prorated for that portion of the year for which it is registered.

At the present time there is no apparent control to assure that every car registered will have an excise billed against the owner. A stub removed from the files at the State House or in the municipality's assessors' office will never be billed. Since there is no control over cars registered, a billing will never be made if a stub is removed from the files, either intentionally or accidentally.

There is currently much suspicion that a great number of owners of vehicles are never billed for an excise. Taxing authorities of the Commonwealth are greatly concerned about this lack of positive control, and studies are being made to install a better system.

Since the registration stubs are received in batches by the municipalities at irregular times during the year, commitments are made by the assessors to the tax collector on much the same basis. Basically, the various batches are totalled and committed as they are received.

MOTOR VEHICLE EXCISE

Information on Commitment Sheet

Is it the same as on valuation sheet?	
1. Yes	31
2. No	25
If answer is No:	
1. Is commitment sheet prepared as separate operation from valuation sheet?	
a. Yes	0
b. No	25

TABLE XX Source: Questionnaire

When received by the municipalities, the valuation has already been placed on the stubs, but the excise has not been computed. Numerous cities and towns compute the tax manually by multiplying the value by the standard rate and, if for less than one year, prorating the excise. Some municipalities use charts for determining the tax. Still others program their machines (whether accounting or punched-cards) so that the computation is performed automatically when the motor vehicle excise bills are being prepared.

Information on Commitment Sheet

As in the case of personal property taxes, and as indicated by Table XX, the information on the valuation sheet is often (25 instances) different from that on the commitment sheet. The difference in every instance was that the commitment sheet showed only the owner and the tax, whereas the valuatiom sheet showed additional informatiom such as make, year, etc. Once again, it is obvious that having different information on the two sheets is more costly than showing the same information. This is true because more intricate form design and carbon planning is required.

MOTOR VEHICLE EXCISE

Preparation of Valuation Sheet, Commitment Sheet, and Tax Bill

Number of Operations Required:	
1. Three separate operations	3
2. Two operations	28
a. Valuation/commitment sheet as one operation and bill as separate operation	
3. One operation	25

TABLE XXI Source: Questionnaire

If 31 of the municipalities which showed the same information on the commitment as on the valuation sheet, there is little doubt that the others (25) could do the same thing with resulting savings. Differences in handling may again be caused by tradition, lack of knowledge, or incorrect conceptions of the statutory requirements.

Preparation of Documents

From analysis of the questionnaires which are summarized on Table XXI, three municipalities (Cambridge, Leominster, and Rockland) required three separate operations for preparing motor vehicle excises. Considering that more excise bills were processed than any other tax (probably in excess of 30% of the total number of bills processed by any one community)* the separate preparation of the commitment sheet, valuation sheet, and bill appeared on the surface, to be gross inefficiency. This inefficiency was compounded in two of the municipalities in that they used typewriters. The third (Leominster) utilized an Addressograph machine. The use of this machine was unique among the 56 reporting towns and is further commented on in the section discussing the use of machines in processing motor vehicle excises.**

A slight majority (28 vs. 25) used two operations in preparing the documents as opposed to one operation. Four of the 28 used punched-card equipment, two used old bookkeeping machines and the balance (22) used typewriters.

Of the 25 which used but one operation, only two reported that typewriters were used whereas 21 indicated that some form of bookkeeping machine was used. The remaining two municipalities used punched-card equipment. This latter is somewhat surprising since these machines normally are not capable of such integration. It is believed that perhaps the statement on the questionnaire was misunderstood and that these replies should have been recorded as two rather than one operation.

Machines Used

Many towns and cities have found that addressing machines are extremely adaptable in imprinting basic data on tax documents. Through the use of such equipment it is possible to imprint the name and address

*For example, see Table VII, page 21.

of the taxpayer, the property being taxed, the valuation, and other data needed to identify the property. This leaves only the tax itself to be imprinted with other equipment. Addressing equipment can be used because each of the taxes is processed just once a year and at the same time of the year.

Unlike the other taxes, motor vehicle excises are not adaptable to addressing equipment. There are several reasons for this.

First, the stub notifications come from the Commonwealth in batches throughout the year, and often into the succeeding year. They are in no particular order and if an addressing plate had been prepared for each vehicle, or taxpayer, it would have to be removed by hand from the files and replaced by hand after use. This immediately tends to offset the basic savings of using addressing equipment.

Secondly, a great many motorists change vehicles during the year. If addressing plates were used, these changes would necessitate corresponding changes in the plates, or even new plates. The very volume of changes would tend to create a cumbersome process.

Thirdly, many taxpayers own two or more cars which would cause a problem of identifying the proper plate for each vehicle.

It was, therefore suprising to note on Table XXII that one town (Leominster) used an Addressograph machine. This town applied the plates to the commitment sheet, to the valuation sheet, and to the tax bills in three separate operations and applied the tax with a typewriter. Unfortunately the questionnaire received from Leominster did not reveal the mechanics of specifically how the equipment was used; however, it would appear that the use of Addressograph equipment could easily slow down the entire billing operation.

Ideal Equipment

An analysis would indicate that the ideal equipment would probably be punched-card machines with a card being punched for each stub received from the Commonwealth, showing the name and address of the taxpayer, the make of vehicle, etcetera, and the valuation. The machine could be programmed to multiply the valuation by the tax rate and to print out the resulting

MOTOR VEHICLE EXCISE

Machines Used

Typewriter	19
Bookkeeping machine	29
Punched-card machine	7
Addressing machine and typewriter. . . .	1
Total	56

TABLE XXII Source: Questionnaire

excise. Once the basic cards have been punched, future processing and preparation of the valuation sheet, commitment sheet, and tax bills is a simple matter of moving the cards from machine to machine for the various operations.

Seven of the 56 municipalities reporting utilized this type of equipment. On the other hand, seven additional communities which had this type of equipment available, did not use it in this area.

Since it appears that it is not practicable to utilize addressing equipment for processing motor vehicle documents, it is evident that the basic data must be created with some typing device (e.g., the key punch mentioned above). It would also appear that an economical processing would be one in which the three documents (valuation sheet, commitment sheet, and tax bill) are created at the same time in an integrated operation. This, coupled with the ability to add the various figures being processed would create a system which could be as economical, or more economical in some instances, than the use of punched cards.

Such an integrated system is available through the use of bookkeeping machines. Of the 29 municipalities indicated by Table XXII as using such equipment, 27 used one operation. The following machines were utilized:

Burroughs	10
National Cash Registers	9
Remington Rand	8
Total	27

Not all of these machines are necessarily equally efficient. The survey made no attempt to determine the specific models of machines used. However, it can safely be stated that some of these machines have the ability automatically to multiply the valuation by the rate to determine the excise. This ability, while a slow operation on bookkeeping machines (it is a series of additions) is generally faster and probably more accurate than manual calculation.

Attention is directed to the eight towns which utilized the Remington Rand bookkeeping machine. It is again pointed out that this company discontinued the manufacture of this machine at least ten years ago. At best, by present-day machine standards, this is a slow, cumbersome machine; neither does it have the ability to multiply.

Format of Tax Bills

Referring to Table XXIII, it is noted that, as in the case of the real estate, poll, and personal property taxes, few (four) municipalities utilized two-part forms as tax bills. Here again, the demand copies

MOTOR VEHICLE EXCISE

Format of Tax Bills

Two-part form		4
1. Demand copy prepared only as required and in a separate operation:		
a. Yes	4	
b. No	0	
2. If answer is Yes, demand copy is:		
a. One-part form.	4	
b. Two-part form.	0	
Three-part form		16
1. Third part is used as demand copy		
a. Yes	16	
b. No	0	
Four-part form		33
1. Two parts are used as demand copy		
a. Yes	29	
b. No	4	
Five-part form		2
Six-part form		1

TABLE XXIII Source: Questionnaire

were prepared only when required and, when prepared, were one-part forms. One of the four (Springfield) had a punched-card operation, making the use of a two-part bill a natural. Of the others, however, two (Andover and Easthampton) used typewriters and one (Holyoke) used an NCR bookkeeping machine to process the tax bills.

Sixteen municipalities prepared three-part bills using one of the parts (usually the third) as a demand copy. From the frequency (16 vs. 4) of three-part forms as opposed to two-part forms, it must be assumed that most municipalities have decided that it is more economical to provide a demand copy at the time of printing the original set of bills than preparing them as a separate operation.

This assumption is further confirmed when it is noted that some 33 mumicipalities prepare four-part bills, the majority using two of the parts as demand copies. The overwhelming majority (52 or 93%) of the reporting municipalities provide demand copies when printing the original sets of bills. The assumption is that this is more economical than preparing the demands when needed. Even agreeing that this assumption is true, it is not possible to reconcile why 16 towns used a three-part form whereas 33 used a four-part form; on the other hand, four of these 33 provide two file copies which in effect places them in the same category as a three-part community.

On the opposite end of the spectrum was a town (Framingham) which prepared a five-part form, and a city (Boston) which used a six-part form. The latter, using a Remington Rand punched-card operation, indicated in its reply to the survey that the six-part form was distributed as follows:

(1) Bill
(2) Demand
(3) Warrant notice
(4) Notice of release
(5) Duplicate bill
(6) Collecting division warrant to distrain or commit

Duplicating Process

Once again, the majority (45 or 80%) of the municipalities used carbonned forms for producing their documents. Table XXIV indicated that ten used NCR paper and a single town (Easthampton) used a form with a stub, thereby foregoing the necessity of using carbons or NCR paper for its bills. It was necessary, however, for this town to duplicate its operation since

MOTOR VEHICLE EXCISE

Duplicating Process

Carbonned forms used	45
NCR (No Carbon Required) paper used. . . .	10
Stub form	1

TABLE XXIV — Source: Questionnaire

it used a typewriter to create its document. Some bookkeeping machines have the capability of creating two original documents with one indexing of information; however, a typewriter does not have this capability.

CHAPTER VI

WATER BILLS

The questionnaire sent to the municipalities included a survey of the clerical procedures used by the water departments in billing water rates. Attention is directed to Exhibit V, page 104. The reasons for including this department were twofold: (1) it was a billing operation with probably the heaviest volume of any department; (2) it involved a cash-receiving operation of large volume, paperwise, though the money values were not substantial.

Here, then, was an operation which somewhat paralleled that of the poll tax what with heavy volume of paper but reasonably small amounts of money.

It was interesting to note that all of the towns reporting had water departments with the exception of four which stated that water charges were not billed by the towns involved.

Cycle billing is a method of billing utilized by many commercial businesses, particularly those with large volumes of customers (e.g., retail stores, banks, and utilities). The purpose of cycle billing is to spread the work of billing over the month, thereby avoiding a peak load at the end of the month. As an example, customers whose last names begin with the letters A through D might be billed during the first three working days; those beginning with the letters E through H might be billed during the second three working days; etcetera. It has the very important clerical advantage of making a much more even work load.[26]

Method of Billing

The survey indicated, as shown on Table XXV, that 35 municipalities took advantage of the savings inherent in cycle billing. This does not necessarily mean, as possibly inferred in the preceding paragraph, that every person using water was billed monthly. On the contrary, it is common practice to bill water rates twice a year. The use of cycle billing simply means that all persons using water are not billed on the same day; rather,

WATER BILLS

Method of Billing

Cycle billing used:	
1. Yes	35
2. No	17
Forms which have no water department . . .	4

TABLE XXV Source: Questionnaire

each person would receive two bills per year but not necessarily at the same time as his neighbor.

Even for the seventeen municipalities which did not utilize cycle billing, the chances are good that each person using water was billed twice during the year. Using Winchester as an example,* the town would process about 21,000 bills per year (10,500 individuals, twice each year).

The function involved in water-rate billing involves two processes: (1) reading the meter, and (2) billing the customer. The meter readers are usually furnished with a card for each customer. The latest reading is recorded directly under (or over) the previous reading. The billing operation

*See Table VIII, page 24.

consists of imprinting the name and address of the customer on the bill; of typing on the bill the present and previous meter readings; of determining the water usage (the difference between the meter readings); of applying the water rate against this usage; and of recording the water rate on the bill. Exhibit XV illustrates a sample of a water-rate bill.

Because of the steps involved it is well to consider the machines used by the various municipalities. This is summarized by Table XXVI..

WATER BILLS

Machines Used

Typewriter	10
Bookkeeping machines	34
Punched-card	2
Addressograph.	13

TABLE XXVI Source: Questionnaire

Machines Used

Although some fourteen municipalities indicated that they used punched-card machines on some phase of their billing operations, only two (Fitchburg and Pittsfield) used this equipment for billing water rates. It is rather significant that Fitchburg did not use this equipment on any other application than this one.

The following (Table XXVII) is a tabulation of the types of bookkeeping machines used by 34 of the municipalities for billing water rates.

The use of bookkeeping machines has two advantages in this area: (1) the machines permit the accumulation of the individual water rates billed in order to determine the total billed, and (2) they may permit the automatic computation of the amount to be billed. Some machines are able, through a succession of additions, to multiply. Though the operation is relatively slow, machine-wise, it is probably faster, and is certainly more accurate than a manual computation.

Some of the machines listed on Table XXVII do not have the capability of multiplying. Specifically, the Remington Rand bookkeeping machines

WATER BILLS

Makes of Bookkeeping Machines Used

Burroughs	19
National Cash Register	6
Monroe	3
Underwood-Olivetti	3
Remington Rand	2
Olivetti.	1
Total	34

TABLE XXVII Source: Questionnaire

have no provisions which permit multiplication. In the instance where the machines lack the ability to multiply, the only advantage of using such machines is to obtain their totalling ability.

In the instances in which a bookkeeping machine cannot multiply, or when a typewriter is used, it is necessary that the extension of the water usage by the rate be done manually. Charts are also available showing the proper amount of billing for specific cubic feet of water usage. Such charts are a definite savings over a purely manual calculation.

Table XXVI, page 56, indicates that some thirteen towns use addressograph machines. Since these machines do not have the capability of imprinting dollar amounts, they must be used in conjunction with some other machine. Of the thirteen instances in which municipalities used an Addressograph machine, five used typewriters as the additional machine, three used bookkeeping machines, and the remainder (five) put in the amounts by hand. The latter method might actually be faster than using a typewriter since it would not be necessary to feed each form into the machine.

WATER BILLS

Format of Bills

One-part	17
Two-part	17
Three-part	11
Four-part	7

TABLE XXVIII Source: Questionnaire

Format of Bills

The seventeen municipalities indicated by Table XXVII as using one-part bills would retain no duplicate to use as a cash receiving document when the water bill was paid. It would be necessary for the tax collector, who also collects water bills, to post payments directly against the commitment sheet to determine open accounts. Some of the seventeen towns used a stub in conjunction with its one-part bill, thereby permitting the water user to include the stub with his payment. Exhibit VIII, page 107, illustrates a one-part bill with a stub. While not a water-rate bill, the principal is the same.

Duplicating Process

The municipalities using no duplicating process were those seventeen which indicated that they used one-part forms. This is another saving inherent in using such a form. Of course, if a stub is provided on the one-part form, some duplication of effort will result because of the necessity of imprinting the data on both the bill and on the stub.

WATER BILLS

Duplicating Process

Carbon paper	25
NCR (No Carbon Required) paper . . .	10
None	17

TABLE XXIX — Source: Questionnaire

Of the 35 towns and cities which used carbon (25) or NCR paper (10), a surprisingly large percentage (30%) used NCR, the premium process. In all instances in which towns used carbon paper, the carbon was a one-use paper which came as part of the printed form and which was destroyed after use. Exhibits IX, X, XII, XIV, and XV illustrate this type of throw-away, one-time carbon.

CHAPTER VII

CASH RECEIVING PROCEDURES

As in the operation of any business, it is essential that municipalities keep adequate and accurate records of all money received. The statutes of the Commonwealth of Massachusetts directly indicate that such records must be maintained. In fact, Chapter 60 of the General Laws, comprised of 105 sections, specifically covers the area of the collection of local taxes.

The recording of cash receipts poses more technical problems than any other area of tax commitment and collection. Before discussing the clerical methods used in recording cash receipts, some of the directly applicable laws should be examined since many of the methods hinge directly on what these laws say.

For example, with respect to the commitment of taxes, the law says:

> Every collector of taxes, constable sheriff or deputy sheriff, receiving a tax list and warrant from the assessors, shall collect the taxes therein set forth, with interest, and pay over said taxes and interest to the city or town treasurer according to the warrant, and shall make written return thereof with his tax list and of his doings thereon at such times as the assessors shall in writing require. He shall also give to the treasurer an account of all charges and fees collected by him. He shall, once in each week or oftener, pay over to the treasurer all money received by him during the preceding week or lesser period on account of taxes and interest, including any sums received as interest on money received by him on account of taxes and interest received and deposited in any bank.[27]

One problem, which will be discussed later in this paper, concerns the fact that numerous cities and towns have a joint tax collector/treasurer, thus giving use to the question of exactly what procedure should be followed:

An additional section of the law states:

> The collector shall make and keep in the book containing the tax list committed to him, against the name of every person assessed for a tax, entries showing the disposition thereof, whether reassessed, abated or paid, and the date of such disposition.[28]

It is the practice of most of the municipalities to bind the tax lists committed to them in post binders and to post against these lists the payments made by the taxpayer, or other disposition such as reassessment or abatement. Exhibits VI and VII, pages 105 and 106 demonstrate the type of sheet which is filed in post binders. Provision is usually made in the commitment forms at the time of printing for such postings. This posting process, through misinterpretation of this section (#6) of the law, can create minor inefficiencies, as will be pointed out.

The statute stipulating that the collector shall keep a cash book is very broad in scope but it is on occasion interpreted rather strictly as to the exact form of the record. This section of the statute follows:

> He shall also keep a cash book, in which he shall enter all sums paid to him, as received, specifying the total amount of tax, abatements allowed, all interest charged, the total amount received and the date of receipt, the date and amount of every payment and disbursement made by him, and to whom paid, with such other matters as the town requires.[29]

That the tax collector of a Massachusetts municipality is reluctant to make changes in his collecting methods, even though they might result in more efficient methods, is not surprising in view of the following statute:

> A collector who neglects or refuses to exhibit accounts or to produce receipts, as required under section ninety-four, shall forfeit to the town two and one half per cent of the sums committed to him for collection.[30]

Preparation of Cash Receipts Book

The following is an analysis of the returns of the questionnaire submitted to the selected municipalities with relation to the cash receiving area.

PREPARATION OF CASH RECEIPTS BOOK

Handwritten	42
Typewriter	11
Bookkeeping machine	2
Punched-card machine	4

TABLE XXX Source: Questionnaire

It is interesting to note that 53 (94%) of the communities reported that the cash receipts book was kept manually or, at best, through the use of a typewriter. Only two indicated the use of bookkeeping machines and four the use of punched-card machines. The reason for this seemingly outdated method of recording cash receipts stems from two sources: (1) the number of accounting distributions a municipality is forced to make, and (2) a strict interpretation of Section 7* of chapter 60 of the General Laws concerning what a cash book is. The former is illustrated by Table XXXI.

Account Distributions

One half of the 56 reporting towns indicated that their accounting systems required thirty or more accounting distributions. Since most bookkeeping machines have, at best, no more than thirty registers for recording

*See page 61.

totals, such machines are, generally speaking, not adaptable to the municipal cash receiving function.

A bookkeeping machine is simply a glorified adding machine. The latter is equipped with a single register which records, on a cumulative basis, figuresfed into the machine. At any time, the cumulative total can be printed out on the adding machine tape. A bookkeeping machine is equipped with a number of these adding registers and may have as many as 25; few have more than this number. It is these registers which permit the accumulation of various accounting classifications.

NUMBER OF ACCOUNT DISTRIBUTIONS IN CASH RECEIPTS BOOK

1-20	19
21-30	9
31-40	7
41-50	7
More than 50	14

TABLE XXXI — Source: Questionnaire

To illustrate the problem faced by the municipalities the following is illustrative of the cash receipts books (four in all) which are maintained by hand by the Town of Winchester. Each item represents an accounting classification and hence a column in a book.

1. Motor Vehicle Excise:
   - This year's excise
   - Last year's excise
   - Prior year's excise
   - Interest
   - Charges and fees

2. Added to tax bill:
   - Water lien
   - Assessments:
     - Sewer
     - Sidewalks
     - Street
   - Committed interest on assessments
   - Interest on tax
   - Charges and fees

3. Taxes:
   - Poll
   - Personal
   - Real estate
   - Interest
   - Charges and fees

4. Miscellaneous:
   - Town hall
   - Police
   - Spraying
   - Health
   - Sewer repairs
   - Highways and bridges
   - Public welfare:
     - Temporary aid
     - Old age assistance
   - School:
     - Tuition
     - Rental
   - Cemetary general care
   - Water:
     - Repairs
     - Rates
     - Costs

Every payment received by the town must be entered individually in one or the other of the four cash receipt books. The Town of Winchester processes about 35,000 bills * annually. Since water rates are billed twice a year, the total increases by another 11,000.

Assuming 240 working days per year (20 days per month), this means that about 190 bills are processed per day (46,000 ÷ 240 days) or about 24 per hour (190 ÷ 8 hours). This is at a steady rate of about two bills per

*Table VIII, page 24.

minute. It is easily seen why one clerk spends her full time in Winchester recording cash receipts.

That the other towns haven't solved the problem is obvious in the fact that 93% record cash receipts by hand or through the use of typewriters.

Definition of Cash Book

Chapter 60 Section 7 of the General Laws states that the collector shall "....keep a cash book, in which he shall enter all sums paid to him, as received, specifying the total amount of tax, abatements allowed, all interest charged, the total amount received and the date of receipt....". The Commissioner of Accounts of the Commonwealth must, by statute,[31] approve all forms used in the collection of taxes. Though Section 7 of Chapter 60 simply says that a cash book shall be kept, the Commissioner has interpreted the section to mean that each individual payment must be entered in the cash book and has not accepted the practice of many commercial businesses of entering in the cash book only the summary of the cash received during the day.

The commercial practice would be accomplished in municipalities by accumulating and sorting into the proper accounting classification the duplicates of the documents paid during the day. The total, by accounting distribution, would be entered in the cash receipts book which would then become a line book with a single line entry for each day's business. The duplicate slips would be saved as a basic part of the record and as support of the line entry. Since it is the practice of most municipalities to save the duplicate documents of all payments for several years, the suggested method would appear to work no additional hardship.

The Commissioner, however, believes that this method would not constitute a "cash book" as required by the statute. And yet, the cash book as mentioned in the statute envisions both cash receipts and cash disbursements in the same book; it is doubtful if there is a single municipality in Massachusetts which does not utilize separate books for cash receipts and for cash disbursements.

As shown on Table XXX page 62, the use of a bookkeeping machine (Remington Rand) by two towns (Melrose, and Newton) was rather surprising, particularly because each of these towns indicated that they had more than 50 accounting classifications. This machine has a larger number of registers than most machines but not nearly 50. To clarify this matter, a call was made to the City Hall of Newton and the matter discussed with the City Treasurer (Mr. A. B. Whitman).

The Treasurer stated that the machine was used as a subsidiary register to analyze the accounting distributions of each kind of tax. The totals, at the close of each day were entered in the cash receipt book which was, in effect, the line book referred to before. The duplicate slips are retained by Newton for a period of seven years.

The use of punched-card machines by four of the municipalities would appear to be a natural for those municipalities with such installations, and yet only four of the fourteen with such installations used the equipment for the cash receiving function. Once a card is created in a billing function, it can, with the exception of partial payments, be used equally as well to serve as the cash receipt, thus avoiding the typing of the same information twice. Of the four municipalities using punched cards, only two (Boston and Springfield) used the equipment for billing all four taxes and for the cash receiving function.

Posting to Commitment Sheet

A conversation with a representative of the Bureau of Accounts of the Commonwealth of Massachusetts indicated that the preferable method of preparing the cash receipts book and of posting the payment to the commitment

POSTING TO COMMITMENT SHEET

Posting made from:	
1. Copy of bill	17
2. Cash receipts book	39
In posting to commitment sheet:	
1. Date paid and amount paid are posted	49
2. Date paid only is posted	7

TABLE XXXII Source: Questionnaire

lists would be to prepare the cash receipts book from the duplicate of the document being paid and post payments to the commitment list from the entry in the cash receipts book. The survey indicated, as shown on Table XXXII, page 67, that the majority (39 or 70%) were doing it in this way; however, a substantial minority (17) were also posting the payments to the commitment list from the duplicate copy of the bill. From an efficiency viewpoint, it would appear that the latter method was the easier. Winchester, one of the towns in this minority group, had one clerk whose full-time job was the posting of these payments to the commitment lists and to reconciling the open balances at the close of accounting and taxing periods. Hence, the town had two full-time clerks entering and posting cash receipts.

The General Laws[32] require that "The collector shall make and keep in the book containing the tax list committed to him, against the name of every person assessed for a tax, entries showing the disposition thereof, whether reassessed, abated or paid, and the date of such disposition." Table XXXII, page 67, indicates that, when posting payments against the commitment list, 49 towns posted the date paid <u>and</u> the amount paid; seven brave towns posted only the date paid. One of these (Wellesley) posted only the date against poll taxes but posted the date and the amount for the other taxes.

From an efficiency standpoint it is difficult to justify the necessity of posting the date paid and the amount paid with the possible exception of partial payments. In this case, the amount paid must be posted. In the others, however, the date paid should be sufficient to identify the payment.

To illustrate this point, Table XXXIII is presented. It shows the portion of a typical commitment sheet with some illustrative entries recorded. In the Table, the payments of November 1, December 9 and November 8 were full payments; that of November 11 was a partial payment of $300.

As already stated, seven municipalities presently record only the date when posting payments to the commitment sheet.

<u>Deposit of Cash Receipts</u>

Chapter 60 Section 2* of the General Laws of Massachusetts indicates that the collector shall pay over to the treasurer once each week or oftener, all money received during the preceding week or lesser period. The inference

*See page 60.

that might be gathered from this section is that the collector should maintain a separate bank account and draw checks against this account in order to transfer the money to the treasurer.

As indicated by Table XXXIV, page 70, of the 56 towns reporting on the survey, 23 (40%) agreed with this interpretation and did just that - the collectors had bank accounts of their own (as collector of the municipality, of course) into which all money collected was deposited. Checks

TYPICAL COMMITMENT SHEET

Owner and Location	Total Tax	Interest	Charges and Fees	Tax Title	Abatement	Paid Amount	Paid Date
John Jones	468.22						Nov.1,1962
J. Joseph Blough	534.16	3.54	1.00				Dec.9,1962
Peter Smith	249.25						Nov.8,1962
James White	459.22					300.00	Nov.11,1962

TABLE XXXIII Source: Author

were drawn on this account to transfer the money to the treasurer.

On the other hand, the collector of majority of the towns (33) simply made daily deposits into an account in the name of the treasurer, thereby dispensing with a collector's bank account. This obviously simplified the record-keeping procedure and probably made the money available to the treasurer much quicker.

Of the 33 towns which deposited directly into the treasurer's bank account, six indicated that the collector/treasurer was a combined office with a single person serving in both capacities. On the other hand, at least one town (Winchester) had a combined office but still made deposits in a collector's account, later transferring the cash to the treasurer.

A question might be raised at this point concerning the accounting necessary when there is a combined collector/treasurer. The statutes of the Commonwealth still apply even though there be a single collector/treasurer, and it is necessary for the collector clearly to

DEPOSIT OF CASH RECEIPTS

Deposits made to account of tax collector; later transferred to account of treasurer .	23
Deposits made directly to account of treasurer.	33

TABLE XXXIV Source: Questionnaire

discharge his duties as collector before assuming the role of treasurer. There still must be a clear line of demarcation between the two offices and the collector must report all money collected by him in detail to the treasurer exactly as if there were separate individuals in each office.

CHAPTER VIII

ACCOUNTING APPLICATIONS

The questionnaire submitted to the municipalities probed broadly into the clerical procedures of the accounting departments; however, in the interest of keeping the questionnaire as simple as possible, it did not make an exhaustive study of all phases of this department.

The ultimate in efficiency and cost savings results through a maximum application of the principal of integrated data processing.* The preparation of checks, and of check or payroll registers as one operation is an example of the principal. This is not always as easy to achieve on a typewriter as it is when a bookkeeping machine is used. Nevertheless, much integration can be obtained from typewriters since at least one make can be fitted with a form-feeding device which makes such integration possible.

Use of Warrants

A major problem in the payment of invoices and payrolls is that cash may be disbursed only on a warrant drawn by the accountant on the treasurer. The implications will be discussed after the statute is quoted, in part:

> The selectmen and all boards, committees, heads of departments, and officers authorized to expend money shall approve and transmit to the town accountant as often as once each month,

*See page 16.

all bills, drafts, orders, and payrolls chargeable to the respective appropriations of which they have the appropriation. Such approval shall be given only after an examination to determine that the charges are correct and that the goods, materials or services charged for were ordered and that such goods and materials were delivered and that the services were actually rendered to or for the town as the case may be. The town accountant shall examine all such bills, drafts, orders and payrolls, and, if found correct and approved as herein provided, shall draw a warrant upon the treasury for the payment of the same, and the treasurer shall pay no money from the treasury except upon such warrant approved by the selectmen.[33]

DISBURSING PROCESS

Payments of Invoices and Payrolls:	
With respect to invoices:	
1. Are checks and check register prepared at the same time?	
a. Yes	35
b. No	21
With respect to payrolls:	
1. Are checks and payroll register prepared at the same time?	
a. Yes	36
b. No	20
2. In addition, are earnings records posted at the same time as check register is prepared?	
a. Yes	37
b. No	19
Machines Used:	
Typewriter	33
Bookkeeping machine	27
Punched card	3

TABLE XXXV Source: Questionnaire

The usual method of disbursement is by means of a "voucher warrant check" prepared by the accountant and given to the treasurer. It contains a statement of the payee's account, becomes an order or warrant on the treasurer when signed by the accountant, and is an order or check on the bank when signed by the treasurer.[34]

Because of this requirement that the accountant give to the treasurer a warrant to authorize disbursements for invoices and payrolls, there may be a tendency for some municipalities to prepare an extra and duplicate document. This area will be explored later in this paper* under "Budgetary Applications."

Disbursing Process

Table XXXV indicates that the majority of the municipalities prepared checks and registers (both invoice and payroll) at the same time, thus integrating two operations. In addition, about the same number of towns (37) also saved a further operation by posting the employees' earnings records at the same time the check register was prepared.

In order better to evaluate the degree of integration of the checks and registers, it would be helpful to note the type of machine used. Of the 21 who indicated on Table XXXV that, with respect to invoices, the checks and check register were not prepared in the same operation, it was not surprising to note that some fifteen used typewriters; however, three used bookkeeping machines and three others used a punched-card operation. The latter is understandable, but it is unusual not to prepare the check and check register in one operation when bookkeeping machines are used.

*See page 76.

The three towns (Medford, Needham, and Shrewsbury) used NCR (2) and Burroughs (1) machines which have a capability of printing the check as an original operation from the printing on the check register. Because of this, the towns may have misinterpreted the question. In actuality, such machines are performing but one basic operation even though there are two printing operations. If this be so, then the only towns which do not integrate this operation would be those using typewriters; this conclusion would be logical.

With respect to payrolls, twenty indicated that the checks were <u>not</u> prepared at the same time as the check register. Of these, 15 used typewriters, two used punched cards and three, bookkeeping machines. It is interesting to note that the three using bookkeeping machines were the same as those using them for invoice preparation.

One town (Billerica) indicated that all invoice and payroll processing was a handwritten operation.

Showing some consistency, 37 municipalities reported that the earnings records were posted at the same time that the checks and payroll check registers were prepared. Of the nineteen who stated that the earnings records were not posted at the same time, seventeen indicated that the posting to the employees' earnings record was a hand operation. Two performed the task by using punched cards.

Again it is interesting to note that although thirteen towns had punched-card equipment, only three utilized it in the accounting area. This would indicate either that the applications had not been increased to encompass this department or that there was a lack of communication among departments.

Duplicating Process

A larger proportion of the municipalities used NCR paper in the accounting department than in any other area surveyed. Those towns using NCR paper appeared quite enthusiastic about it; in fact, several of the questionnaires indicated that the towns were planning to change to NCR paper during 1962.

ACCOUNTING DEPARTMENT

Duplicating Process

Carbon paper	35
NCR (No Carbon Required)	21

TABLE XXXVI Source: Questionnaire

CHAPTER IX

BUDGETARY APPLICATIONS

Because of interpretation of Chapter 41, Section 56* of the General Laws, there may be a tendency for some municipalities to prepare an extra and duplicate document.

This statement is borne out by the fact that in 45 of the 56 reporting towns (as shown on Table XXXVII),the treasury warrant is prepared through separate operation. This requires a duplication of effort which is avoided by the eleven more progressive municipalities which utilize a copy of the check register as the warrant. A sample of this form is shown as Exhibit XVI, page 36. Provision is usually made on such an integrated copy for the signatures of the selectmen or other approving officers, and for that of the town accountant who is presenting the warrant to the treasurer for payment.

Budget Procedure

Municipal accounting hinges basically on the budget approved by the municipality. Detailed appropriation accounts are set up for the amount budgeted for each detailed proposed type of expenditure. Actual expenditures incurred are charged against their proper account, showing, at all times, the amount appropriated (budgeted) but not yet expended.

* See page 71.

Budgetary Processes

In order to determine the practice of the municipalities, the questionnaire asked (see Table XXXVII), "are budgetary control (appropriation) accounts charged at the same time that the warrant is prepared?" Twenty towns and cities indicated that they were, whereas 36 indicated that they were not charging the control accounts. Again, the twenty

BUDGETARY PROCESSES

A.	The treasury warrant is a separate document	45
B.	The treasury warrant is a copy of the check register	11
C.	Are budgetary control (appropriation) accounts charged at the same time that the warrant is prepared?	
	1. Yes	20
	2. No	36
D.	Is budgetary detail (classification) performed as a by-product of C above?	
	1. Yes	27
	2. No.	29
	1. If answer is No, is control and classification procedure performed at the same time, as a separate operation?	
	(a) Yes	16
	(b) No	13

TABLE XXXVII Source: Questionnaire

towns were performing two operations at the same time, thereby utilizing an excellently integrated operation. Surprisingly, seven of the eleven municipalities which prepared the check register and warrant at the same time, did not charge the appropriation accounts in this operation. That such integration is possible is borne out by the four towns which integrate the three operations.

Behind each control account (an account controlling a broad category of expenses) are subsidiary accounts, one for each of the detailed classifications. Although municipalities did not take advantage of the integration features inherent in the check register/warrant, and in posting the control accounts in this operation, it was perfectly possible to post the detailed account at the same time that the control account was being posted, and as a by-product of preparing the warrant. In fact, 27 (not quite a majority) of the towns did this whereas 29 indicated the detailed account posting was not such a by-product. Fifteen of these 29 towns utilized typewriters in their operations; the balance (14) used bookkeeping machine (either Burroughs or NCR).

As indicated by Table XXXVII, page 77, 29 towns did not post the budgetary detail as a by-product of preparing the warrant; however, sixteen of the 29 posted both the detailed and the control accounts in one posting operation. Fourteen of the sixteen towns indicated that bookkeeping machines were utilized in this operation.

CHAPTER X

SUMMARIZED OBSERVATIONS

This paper has thus far discussed the results of the survey as it affected each functional area. Specifically, these areas were:

Real estate tax
Poll tax
Personal property tax
Motor vehicle excise
Water rates
Cash receiving procedure
Accounting applications
Budgetary applications

Each functional area indicated interesting results which pointed out certain of inconsistencies existing among the municipalities in these areas. Each also tended to indicate those towns which appeared to have the more efficient clerical operations.

In order to show the relationships of the various functional areas, one to the other, the same information was summarized in comparative tables. These tables, the first of which (XXXVIII) appears on the next page, summarizes the information that was shown on the commitment sheet.

As a result of summarizing the data in these broader and more over-all categories, comparisons appear which were not possible through analyzing the questionnaires on a functional basis.

Information on Commitment Sheet

The municipalities were quite consistent as between the real estate and the poll taxes, 47 indicating that in both areas the information on the commitment sheet was the same as it was on the valuation sheet.

Here, however, the similarity stopped. Only twenty cities and towns (36%) handled all four taxes in the same manner. In nineteen instances the information appearing on the valuation/commitment sheet was the same in all four areas; on the other hand, in one instance only

INFORMATION ON COMMITMENT SHEET

	Real Estate	Poll	Personal Property	Motor Vehicle
Is it the same as on valuation sheet?				
Yes	45	52	25	31
No	11	4	31	25
If answer is No:				
1. Is commitment sheet prepared as a separate operation from valuation sheet?				
Yes	1	1	2	0
No	10	3	29	25

TABLE XXXVIII Source: Summary of Questionnaire

(Gardner) was the information on the two forms consistently not the same.

It would appear then, that the towns basically have no objection to having the same information on both the commitment and valuation sheets. (84% did) in the case of real estate and poll taxes. For some reason, however, the reverse was true in the case of personal property. Here, 57% of the towns which had the same information on both sheets for the real estate and poll taxes, did not have the same data on both sheets for the personal property tax and one wonders about the reasoning for this difference.

This, summarized, indicates that for 47 towns, the information appearing on the commitment sheet was the same as that on the valuation sheet for real estate and poll taxes; however, for twenty of these same towns, some of the information appearing on the valuation sheet did not appear on the commitment sheet in the case of personal property and motor vehicle excises. It is not easy to reconcile this different approach.

To show different information on one sheet as opposed to its presumed duplicate is more costly than to have the same data on both forms. Many towns show the same data on both the commitment and valuation sheets for all four taxes.

Despite this apparent contradiction, the overwhelming majority of the municipalities prepared the valuation/commitment sheet in a single operation. An interesting observation may be seen in noting on Table XXXVIII, page 80, those towns which answered Yes to the question, "Is the commitment sheet prepared as a separate operation from the valuation sheet?" The following responded Yes:

Area	Town
Real estate	Rockland
Poll	Danvers
Personal property	Concord
" "	Marlboro

Again, it should be noted that there is no consistency since no town answered Yes in more than one area.

Preparation of Documents

With respect to the number of operations required to prepare the valuation sheet, commitment sheet, and tax bill (Table XXXIX), there appeared to be considerable consistency shown by the reporting towns. 38 (70%) reported that they used the same number of operations in all four tax areas. Of the remaining towns (18), ten reported that they performed the operations in three areas with the same number of operation,

PREPARATION OF VALUATION SHEET, COMMITMENT SHEET, AND TAX BILL

	Real Estate	Poll	Personal Property	Motor Vehicle
Number of operations required:				
1. Three separate operations	5	3	3	3
2. Two operations				
a. Valuation/commitment sheet as one operation and bill as separate operation . . .	33	37	34	28
3. One operation . . .	18	16	19	25

TABLE XXXIX Source: Summary of Questionnaire

but used a second method in the fourth area.

An unusual indication was that of Plymouth which reported that it, for real estate, personal property, and motor vehicle excise, required but one operation to prepare the valuation sheet, commitment sheet, and tax bill, but that it required two operations for the poll tax. This is somewhat unusual because the poll tax, being a constant amount would appear to be the one most suitable for a single operation.

Only two municipalities (Cambridge and Rockland) used three separate operations in preparing the valuation sheet, the commitment sheet, and the tax bill. As mentioned earlier in this report*, Cambridge used an Addressograph machine for imprinting the basic data on the forms whereas Rockland used a typewriter for each operation. At least, Rockland was consistent in its apparent inefficiency.

It also should be pointed out that, for some reason, a greater number of towns used one operation for billing the motor vehicle excise than in any of the other three areas. An interesting facet of this observation is that each one of the 25 municipalities which utilized a single operation in billing the excise, used bookkeeping machines. This type of equipment is certainly the most adaptable to a single, integrated operation. Again, however, the question is raised as to why some other tax areas could not be integrated in the same manner.

Format of Tax Bills

A cursory examination of Table XL would indicate that there is a great deal of consistency among the towns and within the individual towns with respect to the number of copies of each tax bill prepared. Such, however, is not the case, as will be developed.

Of the 56 reporting towns, 32 reported that they used the same number of copies for the tax bills in each of the four areas. The following analyzes the number of parts used by each:

*Page 46.

Number of Parts in Bill	Number of Towns Using
5	1
4	23
3	6
2	2
Total	32

FORMAT OF TAX BILLS

	Real Estate	Poll	Personal Property	Motor Vehicle
Two-part form	5	4	6	4
1. Demand copy prepared only as required and in a separate operation.				
a. Yes	5	3	6	4
b. No	0	1	0	0
2. If answer is Yes, demand copy is				
a. One-part form . .	4	3	4	4
b. Two-part form . .	1	0	2	0
Three-part form	12	17	15	16
1. One part is used as demand copy				
a. Yes	12	17	15	16
b. No	0	0	0	0
Four-part form	38	34	34	33
1. Two parts are used as demand copies:				
a. Yes	31	31	28	29
b. No	7	3	6	4
Five-part form	1	1	1	2
Six-part form	0	0	0	1

TABLE XL Source: Summary of Questionnaire

This means that the remaining 24 towns (43%) used bills with a different number of parts for billing different taxes.

Three towns (Grafton, Plymouth, and Stoughton) indicated that four-part bills were used for real estate and personal property taxes

ANALYSIS OF TOWNS NOT CONSISTENT IN USE OF FORMS

Town	Number of Parts of Tax Bill Used in Consistent Area	Area in Which not Consistent	Number of Parts Used in this Area
Andover	2	Poll	4
Boston	3	M/V	6
Concord	4	P/P	2
Hingham	2	M/V	4
Holyoke	4	M/V	2
Leominster	3	R/E	4
Medford	4	R/E	2
Middleboro	4	M/V	3
Milton	3	R/E	4
Needham	4	P/P	3
Newton	4	M/V	5
Northbridge	4	R/E	3
Reading	4	Poll	3
Rockland	4	Poll	3
Saugus	4	Poll	3
Shrewsbury	4	Poll	2
South Hadley	2	Poll	4
Stoughton	2	M/V	3
Webster	3	R/E	4
Wellesley	3	Poll	4
Weymouth	3	Poll	4

Glossary of terms:
M/V = Motor vehicle
P/P = Personal property
R/E = Real estate

TABLE XLI Source: Questionnaire

whereas three-part bills were used for poll taxes and motor vehicle excises.

The remaining 21 towns used the same number of parts in three of the areas but were inconsistent in a fourth area. And not too many of the towns were consistent within themselves as shown in Table XLII.

Types of Machines Used

Table XLII was prepared to show a comparison among the towns of the different types of machines used in the various areas. Included in this Table are the machines used for billing water rates, in recording cash receipts, and in the accounting department.

TYPES OF MACHINES USED

	Typewriter	Bookkeeping Machine	Punched-card Machine	Addressograph
Real estate taxes	20	25	12	7*
Poll taxes	22	14	9	11
Personal property taxes	29	18	6	4*
Motor vehicle excise	20	29	7	1*
Water rates	10	34	2	13
Cash receipts**	11	2	4	-
Accounting	33	27	3	-

*Some used in conjunction with another machine
**42 towns prepared handwritten cash book

TABLE XLII Source: Summary of Questionnaire

It was believed that the inclusion of these three areas would provide a broader and more comprehensive picture of the actual use of machines. Because of its comprehensiveness, each of the machines, excluding the addressing equipment, will be discussed separately.

Typewriter

Table XLII indicates that the typewriter is apparently the most commonly used machine for preparing tax forms, and that it was most commonly used in the accounting area (33) with personal property taxes close behind with 29 municipalities.

A further analysis indicated that eight towns used typewriters in each of the four tax areas. One reaction to this analysis would be that, clerically speaking, these probably have the least degree of integration and are, therefore, perhaps the least efficient. These towns were: Agawam, Barnstable, Easthampton, Grafton, New Bedford, Northbridge, South Hadley, and Somerset. With the exception of New Bedford, these are among the smaller towns surveyed; in fact, excluding New Bedford, these towns have an average size of about 11,000 inhabitants.

It is quite surprising to note that a city the size of New Bedford (about 106,000 population) indicated no equipment beyond a typewriter. It should be emphasized, however, that before a decision could be made on the relative efficiency or inefficiency of a particular municipality or operation, it would be necessary to make considerable further studies. This is true whether the municipality be a relatively large community such as New Bedford, or a relatively small town such as Somerset (10,600). Based on the questionnaires submitted by the 56 cities and towns, however, and assuming that these are representative, the municipalities which process all documents by typewriter are, to say the least, in the minority.

Bookkeeping Machines

The use of bookkeeping machines appears, in the aggregate, reasonable. Table XLII, page 86, indicates that the area in which the fewest (14) are used is in the billing of poll taxes. Since this is a constant $2.00 amount, a typewriter may be nearly as efficient as a bookkeeping machine; further, probably a static Addressograph is the most efficient of all.

ANALYSIS OF PUNCHED-CARD EQUIPMENT

Town	Real Estate	Poll	Personal Property	Motor Vehicle	Cash Receipts
Beverly	IBM	IBM	Type	IBM	IBM
Boston	RR	RR	RR	RR	RR
Danvers	IBM *	IBM *	Book	Book	Type
Gardner	RR	Type	Type	Book	RR
Greenfield	FF	RR	RR	RR	Hand
Medford	IBM	IBM	Book	Book	Hand
Melrose	IBM	Book	Book	Book	Book
Methuen	IBM	IBM	Type	Type	Hand
Pittsfield	IBM	IBM	IBM	IBM	Hand
Saugus	IBM	Type	Type	Type	Hand
Springfield	IBM	IBM	IBM	IBM	IBM
Swampscott	IBM	Type	Type	Type	Hand
Wellesley	Book	RR	RR	RR	Hand
West Springfield	IBM	IBM	IBM	IBM	Type

Glossary of terms:
Book = Bookkeeping machine
Hand = Handwritten
IBM = International Business Machines
RR = Remington Rand
Type = Typewriter
* = Service bureau

TABLE XLIII Source: Summary of Questionnaire

The largest number of bookkeeping machines are utilized in the area of water rates (34). This also seems reasonable since this area requires considerable multiplication (usage times the rate) which many of these machines can perform.

Punched-card Equipment

Fourteen (25%) of the municipalities surveyed used punched-card equipment in at least one of the areas studied. Because of the growing importance of this type of equipment, a somewhat more detailed study was made in this area. The result of the analysis is listed in Table XLIII, page 88.

Of the fourteen towns utilizing the punched-card equipment, ten used IBM and four, Remington Rand units. In two cities (Boston and Springfield), the equipment was used in all five areas surveyed (and in the accounting area also). Four used it in four areas; one in three areas; four in two areas; and three municipalities (Melrose, Saugus, and Swampscott) used it in one area (real estate) only.

An interesting point is noted in that only four communities used the equipment for cash receipts; of the others, seven handwrite the cash receipts book, two type it, and one uses a bookkeeping machine (Remington Rand). In this present day it is not easy to picture ten towns, which have punched-card equipment available, handwriting the cash receipts books. It is again pointed out that this may be caused possibly (1) by a temporary failure to include this function as a punched-card application, or (2) by a lack of communications between the various departments of the municipalities. Because of the unusual organizational set-ups of many communities, each department (e.g., assessor, tax collector, accountant, water) tends to be autonomous within itself and sometimes it is difficult to break down departmental barriers.

One encouraging highlight shines from an analysis of the usage of punched-card equipment in the municipalities of Massachusetts. The officials of twenty-five percent of the cities and towns have been progressive and aggressive enough to install, in at least one phase of their operations, this equipment which, when properly controlled and used, tends to give highly satisfactory, accurate, and reasonably low-cost results.

DUPLICATING PROCESS

	Carbonned Forms	NCR Paper	Single Form	Punched Card
Real estate tax	45	10	1	0
Poll tax	40	14	1	1
Personal property tax	48	6	2	0
Motor vehicle excise	45	10	1	0
Water rates	25	10	17	0
Accounting	35	21	0	0

TABLE XLIV Source: Summary of Questionnaire

Duplicating Process

In the aggregate, nearly 30% of the municipalities using a duplicating process use NCR (No Carbon Required) paper. This ranges from 11% on personal property taxes to about 38% on the accounting applications.

Although NCR paper sells at a premium above carbon paper (nearly 20% according to the Standard Register Company*), there appears to be a definite trend towards the use of this paper among municipalities. This trend is somewhat confirmed by the fact that five of those now using carbonned forms indicated in their questionnaire that they were planning

*Courtesy Mr. Lawrence Stahbenfeldt, Zone Manager, Providence, R.I.

to adopt NCR paper for the 1962 forms. Forms used by municipalities for tax billing must be ordered each year, thus permitting a change in the basic reproduction process on a yearly basis. Most commercial companies must commit themselves to a specific process for a much longer period.

Although the paper sells at a premium, a recent newspaper article[35] stated that the total sales of such paper in 1961 reached $17.8 million, nearly triple the $6.2 million total for 1956.

Whether or not the trend toward NCR paper is justified is another matter. Factors to be considered in deciding whether to adopt the paper would be applicability in a particular operation; added efficiency acquired in the operation; comparative cost with relation to other methods; and an overall interest in keeping clerical cost at a minimum and yet keeping the operation at its most efficient best.

CHAPTER XI

CONCLUSIONS

The survey conducted as the basis of this research project indicated that many municipalities had installed up-to-date and efficient clerical methods and procedures. Many others, however, are processing heavy volumes of paperwork with equipment and methods which are, at best, somewhat antiquated.

The survey also pointed out rather strongly that efficient or inefficient operations are not the monopolies of either the large city or of the smaller towns. Inefficient operations were apparent in the clerical operations of some of the larger cities, and efficient operations were quite apparent in the operations of some of the smaller municipalities.

The cash receiving function of the tax collector appeared to be the area where the most generally inefficient operations were apparent. It is again pointed out, however, that this is a direct result of an unusual situation caused by a large number of accounting distributions. Present-day bookkeeping machines simply do not have the capacity to handle the condition.

Punched Paper Tape

Despite the fact that the usual bookkeeping machine does not have the capability of handling these distributions, there are other machines available which few municipalities have explored. For example, there is one type of accessory, which has appeared on the market in very recent years, which is capable of handling such a condition and which is not expensive. To recommend it to a municipality, however, would be rather radical since its use would require an entirely new concept of procedure and even of thinking. This accessory is punched paper tape.

This medium is a paper strip in which are punched round holes representing codes. These coded punched holes may be read by machines at laterpoints in a processing cycle by means of mechanical reading fingers or pins, electrical brushes, or photoelectric processes.

Punched tapes are seldom the primary result of machine writing; rather, they are by-products. Thus, the tape may be created by a typewriter, adding machine, or bookkeeping machine, at the same time that the operator is preparing a document (e.g., a sales order, purchase order, tax bill, cash receipt, etcetera). All of or part of the information being typed can be captured, in code, in the paper tape.[36]

The great advantage of paper tape as a processing medium is that it can be used later to create other mediums (e.g., punched cards) or to activate other machines (e.g., typewriters, punched-card machines, electronic computers, etc.).

Considering the area of cash receipts, with the use of a simple adding machine equipped with a paper tape punching device, it would be possible to create in the tape all of the data necessary to identify the taxpayer, and to show the amount paid and the account distribution. From the tapes, punched cards could be created, and from these, detailed printed reports.

Even if a municipality did not have its own punched-card equipment, the tapes could be sent to service bureaus for the processing discussed above. The cost of such a service is a few cents per card processed.

That such a system is practicable is demonstrated by the City of Somerville which has had a similar one in operation for about three years.

As pointed out earlier, such a system would be a radical departure from existing manual systems and would require a considerable degree of selling and education. Also as pointed out earlier, humans are reluctant to change and to suggest that present methods are inefficient and that they should be replaced is just short of blasphemy, particularly when the existing system was also performed by the present operator's grandfather. The famous cry is usually that the present system is working well, and, while somewhat slow and cumbersome, it does produce the necessary end result. That the same end result might be obtained faster, more efficiently, and usually cheaper, is rarely considered.

Minor Wastes

Generally speaking, a savings results from changing from an inefficient to a more efficient operation. Often, the savings are not major in amount*, and though the change saves some clerical effort, it is not possible to eliminate the clerk. Because of this, the change may not be instituted on the theory that it will accomplish no actual savings.

If, however, there are a number of areas where more efficient operations can be installed with some savings, the aggregate of all the savings is often sufficient to justify the replacement of a clerk. It is, therefore necessary to look at the overall picture rather than at one segment only. In the case of the replaced clerk, it is often possible

*For example, see page 71.

to transfer such a person to another position because of attrition, death, etcetera.

In analyzing the results of the questionnaire, there was a feeling that in any one municipality there were areas of inefficient operation with reasonably minor savings in each possible through a more efficient method. On the other hand, there were strong indications in some cases that a reasonably large amount of money could be saved with more efficient methods and equipment.

Unfortunately, such savings are sometimes on a reasonably long basis and often require some capital outlay for new equipment. Ever ready to question such outlays are the Finance Committees and the voter himself.

Poll Tax

Since there is strong indications that this tax may easily be costing the municipalities money to collect, it would appear that some corrective action should be taken. This action, of course, cannot be taken by the municipalities themselves; it must come from the Legislature of the Commonwealth of Massachusetts. Any action must result in a revision or repeal of the General Laws.

In the opinion of the author, two alternatives are possible: (1) to raise the tax to an amount which would make it a more profitable operation, or (2) to repeal the entire tax.

Equipment

The survey showed, beyond a question, that much of the equipment used by the municipalities is old and slow, and that some of it is used in areas in which other equipment would be more adaptable.

The choice of more adequate equipment, however, would of course hinge on the results of surveys to determine the immediate and long range savings inherent in the proposed equipment.

Perhaps the best way of justifying the cost of new equipment would be to show the possibility of immediate savings. This usually can be done most effectively by indicating a corresponding savings in clerical help even if it does not at once result in the elimination of a complete clerk.

Demand Copies

The survey indicated that one of the most inconsistent areas among (and even within) the towns was in the method of creating demand copies. Though each method had its group of supporters, there was enough inconsistency to cause some speculation concerning the possibility of cost savings if the inconsistencies were removed.

It would appear that many municipalities should consider conducting surveys to determine the need for demand copies in any particular taxing area. From such surveys it would be possible to determine whether it would be more economical to provide a demand copy as part of the original bill when printed, or to prepare the demand only as required.

Further, studies should be made to determine the real need for providing two demand copies. Certainly, many municipalities seem to function effectively with a single copy.

Final Conclusion

Taking an overall look at the questionnaires submitted by the

56 cities and towns, it would appear that, broadly speaking, many municipalities have not faced up to the necessity of streamlining their clerical procedures, and to the crying need of bringing them up to date.

Voters have long been reluctant to spend more than a minimum on governmental administration; however, those citizens who are interested in the potentials and who are familiar with clerical procedures should, as has been done in some communities, form committees to investigate the clerical routines and to recommend changes.

Until some such group of interested, and even aroused, citizens take a deep interest in this problem, it is firmly believed that many of the municipalities will continue to bungle along as best they can and, at least to the clerks, in old familiar ways.

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EXHIBIT I

QUESTIONNAIRE COVERING REAL ESTATE TAX

ipality ______________________

REAL ESTATE TAX

Information on commitment sheet:
A. Is it the same as on valuation sheet? Yes ☐ No ☐
B. If answer is No:
   1. Is commitment sheet prepared as a separate operation from valuation sheet? Yes ☐ No ☐
   2. How does information on valuation sheet differ from that on commitment sheet? ______________________

____

____

(If more space is needed to answer questions, please use reverse side of forms.)

Preparation of valuation sheet, commitment sheet, and tax bills:
A. Number of operations required ☐
   1. Three separate operations ☐
   2. Two operations ☐
      a. Valuation/commitment sheet as one operation and bill as separate operation ☐
      b. Commitment sheet and bill as one operation and valuation sheet as separate operation ☐
   3. One operation ☐
B. Type of machine(s) used:
   1. Typewriter ☐
   2. Bookkeeping machine ☐ (Please name) ______________________
   3. IBM ☐ or Rem. Rand ☐
   4. Other ☐ (Please designate) ______________________

____

C. Tax bill:
   1. Two-part form
      a. Demand copy prepared only as required and in a separate operation Yes ☐ No ☐
      b. If answer is Yes, demand copy is
         (1) One-part form ☐
         (2) Two-part form ☐
   2. Three-part form ☐
      a. If three-part form, third part is used as demand copy. Yes ☐ No ☐
         (1) If answer is No, what is it used for? ______________________

____

   3. Four-part form ☐
      a. If four-part form, third and fourth parts are used as demand copies. Yes ☐ No ☐
         (1) If answer is No, what are they used for? ______________________

____

   4. Carbonned forms used. Yes ☐ No ☐
   5. NCR (No Carbon Required) paper used. Yes ☐ No ☐
   6. If answers to both 4 and 5 are No, what is used? ______________________

____

QUESTIONNAIRE COVERING POLL TAX

ipality ______________________

POLL TAX

Information on commitment sheet:

A. Is it the same as on valuation sheet? Yes ☐ No ☐

B. If answer is No:

1. Is commitment sheet prepared as a separate operation from valuation sheet? Yes ☐ No ☐
2. How does information on valuation sheet differ from that on commitment sheet? ______________________

____

____

(If more space is needed to answer questions, please use reverse side of forms.)

Preparation of valuation sheet, commitment sheet, and tax bills:

A. Number of operations required

1. Three separate operations ☐
2. Two operations ☐
   a. Valuation/commitment sheet as one operation and bill as separate operation ☐
   b. Commitment sheet and bill as one operation and valuation sheet as separate operation ☐
3. One operation ☐

B. Type of machine(s) used:

1. Typewriter ☐
2. Bookkeeping machine ☐ (Please name) ______________________
3. IBM ☐ or Rem. Rand ☐
4. Other ☐ (Please designate) ______________________

____

C. Tax bill:

1. Two-part form
   a. Demand copy prepared only as required and in a separate operation Yes ☐ No ☐
   b. If answer is Yes, demand copy is
      (1) One-part form ☐
      (2) Two-part form ☐
2. Three-part form ☐
   a. If three-part form, third part is used as demand copy. Yes ☐ No ☐
      (1) If answer is No, what is it used for? ______________________

      ____
3. Four-part form ☐
   a. If four-part form, third and fourth parts are used as demand copies. Yes ☐ No ☐
      (1) If answer is No, what are they used for? ______________________

      ____
4. Carbonned forms used. Yes ☐ No ☐
5. NCR (No Carbon Required) paper used. Yes ☐ No ☐
6. If answers to both 4 and 5 are No, what is used? ______________________

____

EXHIBIT III

QUESTIONNAIRE COVERING PERSONAL PROPERTY TAX

ipality ____________________

PERSONAL PROPERTY TAX

Information on commitment sheet:

A. Is it the same as on valuation sheet? Yes ☐ No ☐

B. If answer is No:

1. Is commitment sheet prepared as a separate operation from valuation sheet? Yes ☐ No ☐
2. How does information on valuation sheet differ from that on commitment sheet? ____________________

(If more space is needed to answer questions, please use reverse side of forms.)

Preparation of valuation sheet, commitment sheet, and tax bills:

A. Number of operations required

1. Three separate operations ☐
2. Two operations ☐
   a. Valuation/commitment sheet as one operation and bill as separate operation ☐
   b. Commitment sheet and bill as one operation and valuation sheet as separate operation ☐
3. One operation ☐

B. Type of machine(s) used:

1. Typewriter ☐
2. Bookkeeping machine ☐ (Please name) ____________________
3. IBM ☐ or Rem. Rand ☐
4. Other ☐ (Please designate) ____________________

C. Tax bill:

1. Two-part form
   a. Demand copy prepared only as required and in a separate operation Yes ☐ No ☐
   b. If answer is Yes, demand copy is
      (1) One-part form ☐
      (2) Two-part form ☐
2. Three-part form ☐
   a. If three-part form, third part is used as demand copy. Yes ☐ No ☐
      (1) If answer is No, what is it used for? ____________________
3. Four-part form ☐
   a. If four-part form, third and fourth parts are used as demand copies. Yes ☐ No ☐
      (1) If answer is No, what are they used for? ____________________
4. Carbonned forms used. Yes ☐ No ☐
5. NCR (No Carbon Required) paper used. Yes ☐ No ☐
6. If answers to both 4 and 5 are No, what is used? ____________________

EXHIBIT IV

QUESTIONNAIRE COVERING MOTOR VEHICLE EXCISE

ality ____________________

MOTOR VEHICLE EXCISE

nformation on commitment sheet:
. Is it the same as on valuation sheet? Yes ☐ No ☐
3. If answer is No:
   1. Is commitment sheet prepared as a separate operation from valuation sheet? Yes ☐ No ☐
   2. How does information on valuation sheet differ from that on commitment sheet? ____________________

If more space is needed to answer questions, please use reverse side of forms.)

reparation of valuation sheet, commitment sheet, and tax bills:
. Number of operations required ☐
   1. Three separate operations ☐
   2. Two operations ☐
      a. Valuation/commitment sheet as one operation and bill as separate operation ☐
      b. Commitment sheet and bill as one operation and valuation sheet as separate operation ☐
   3. One operation ☐
. Type of machine(s) used:
   1. Typewriter ☐
   2. Bookkeeping machine ☐ (Please name) ____________________
   3. IBM ☐ or Rem. Rand ☐
   4. Other ☐ (Please designate) ____________________

. Tax bill:
   1. Two-part form
      a. Demand copy prepared only as required and in a separate operation Yes ☐ No ☐
      b. If answer is Yes, demand copy is
         (1) One-part form ☐
         (2) Two-part form ☐
   2. Three-part form ☐
      a. If three-part form, third part is used as demand copy. Yes ☐ No ☐
         (1) If answer is No, what is it used for? ____________________
   3. Four-part form ☐
      a. If four-part form, third and fourth parts are used as demand copies. Yes ☐ No ☐
         (1) If answer is No, what are they used for? ____________________
   4. Carbonned forms used. Yes ☐ No ☐
   5. NCR (No Carbon Required) paper used. Yes ☐ No ☐
   6. If answers to both 4 and 5 are No, what is used? ____________________

EXHIBIT V

QUESTIONNAIRE COVERING VARIOUS ASPECTS
TAX COLLECTOR

CASH RECEIVING PROCEDURE

Collection of bills:

A. Cash receipts book
   1. Handwritten ☐ or typewriter used ☐
   2. Bookkeeping machine used ☐ (Please name)________________
   3. IBM ☐ or Rem. Rand ☐
   4. Other (Please designate)________________

____

B. Approximate number of credit distributions in Cash Receipts book:
   1. 1-20 ☐, 21-30 ☐, 31-40 ☐, 41-50 ☐, more than 50 ☐.

C. Posting is made to commitment sheet from:
   1. Copy of bill ☐
   2. Cash receipts book ☐

D. When posting payments against commitment sheet, tax collector posts:
   1. Date paid and amount paid ☐
   2. Date paid only ☐

E. Cash received by tax collector is deposited in an account in the name of:
   1. The tax collector; later, a check is drawn on this account to transfer to treasurer ☐
   2. The treasurer ☐

ACCOUNTING DEPARTMENT

Payment of invoices and payrolls:

A. Method of preparation:
   1. Typewriter ☐
   2. Bookkeeping machine ☐ (Please name)________________
   3. IBM ☐ or Rem. Rand ☐
   4. Other (Please designate)________________

____

B. With respect to invoices:
   1. Are checks and check register prepared at same time? Yes ☐ No ☐

C. With respect to payrolls:
   1. Are checks and payroll register prepared at same time? Yes ☐ No ☐
   2. In addition, are earnings records posted at the same time as check/register? Yes ☐ No ☐
      a. If answer is No, how are earnings records maintained?________________

____

Exhibit VI

valuation sheet

THE COMMONWEALTH OF MASSACHUSETTS

TOWN OF BROOKLINE

1961 REAL ESTATE TAX COMMITMENT WITH ASSESSMENTS AND CHARGES

FORM 38

THIS FORM APPROVED BY THE COMMISSIONER OF CORPORATIONS AND TAXATION

NAME AND ADDRESS OF PERSON ASSESSED	LOCATION DESCRIPTION OF EACH PARCEL OF LAND OWNED BY EACH PERSON. NUMBER AND STREET	BUILDINGS OF ALL KINDS DESCRIBED BY NAMING THE USE OF EACH	VALUE OF BUILDINGS	NO. SQUARE FEET IN EACH LOT OF LAND	VALUE OF LAND	TOT. VALUE EACH PARCEL OF REAL ESTATE	TAX	SPECIAL ASSESSM LIST COMMITTED INTEREST UNDER TO WHICH IT APPLI MOTH	SEWER	STREE

EXHIBIT VII

COMMITMENT SHEET

THE COMMONWEALTH OF MASSACHUSETTS

TOWN OF BROOKLINE

PAGE

1961 REAL ESTATE TAX COMMITMENT WITH ASSESSMENTS AND CHARG

FORM 38

THIS FORM APPROVED BY THE COMMISSIONER OF CORPORATIONS AND TAXATION

	CHARGES AND FEES	INTEREST	TAX TITLE	ABATEMENT	AMOUNT PAID	DATE				
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										

EXHIBIT VIII

ONE-PART TAX BILL WITH STUB

Original Bill

THE COMMONWEALTH OF MASSACHUSETTS
CITY OF BEVERLY
OFFICE OF THE COLLECTOR OF TAXES

009653

Date of Issue

Tax Year

You are hereby notified that your POLL TAX is →

POLL TAX	$2	00
Demand		
Charges and Fees		
Interest		
Total		

POLL TAX not paid when due is subject to penalties of Interest, 35 cents for demand charges and fees.

POLL TAX remaining unpaid for more than 30 days after the date of this notice is subject to 4% interest from date due.

ANY APPLICATION for abatement or exemption must be filed in writing ON AN APPROVED FORM with the Board of Assessors on or before October 1, of tax year.

HIS IS YOUR COPY DETACH AND RETAIN
Office Hours: 8:30 A. M. to 5.00 P. M. Mondays through Fridays.
This form approved by Commissioner of Corporations and Taxation.

Walter J. Barnes
Collector of Taxes

009653

COLLECTORS'S COPY DETACH RETURN WITH PAYMENT

POLL TAX	$2	00
Demand		
Charges and Fees		
Interest		
Total		

← DETACH HERE →

MAKE CHECKS OR ORDERS PAYABLE TO THE CITY OF BEVERLY. MAIL TO COLLECTOR OF TAXES. FOR RECEIPT, enclose a stamped addressed envelope with entire bill.

Demand Copy

THE COMMONWEALTH OF MASSACHUSETTS
CITY OF BEVERLY
OFFICE OF THE COLLECTOR OF TAXES

050017

Date of Issue

Tax Year

In compliance with the law, I hereby DEMAND of you payment of your Poll Tax for the year above. You are hereby notified that unless said TAX together with interest and THIRTY-FIVE CENTS for this DEMAND is paid within FOURTEEN DAYS from the date of this notice, collection will be ENFORCED ACCORDING TO LAW. CHARGES, FEES and INTEREST as accrued, will be added to and collected as a part of this tax.

POLL TAX	$2	00
Demand		35
Charges and Fees		
Interest		01
Total	$2	36

HIS IS YOUR COPY DETACH AND RETAIN
Office Hours: 8:30 A. M. to 5.00 P. M. Mondays through Fridays.
This form approved by Commissioner of Corporations and Taxation.

Walter J. Barnes
Collector of Taxes

050017

COLLECTORS'S COPY DETACH RETURN WITH PAYMENT

POLL TAX	$2	00
Demand		35
Charges and Fees		
Interest		01
Total	$2	36

← DETACH HERE →

MAKE CHECKS OR ORDERS PAYABLE TO THE CITY OF BEVERLY. MAIL TO COLLECTOR OF TAXES. FOR RECEIPT, enclose a stamped addressed envelope with entire bill.

EXHIBIT IX

TWO-PART TAX BILL

Original and Demand - Carbonned

THE COMMONWEALTH OF MASSACHUSETTS
TOWN OF BROOKLINE
OFFICE OF THE COLLECTOR OF TAXES

NOTICE OF
REAL ESTATE TAX
January 1, 1961

You are hereby notified that your 1961 REAL ESTATE TAX upon the following described parcel of land is as follows:

TAX	MOTH	Sewer	Betterment	Comm. Int.	Water Lien		Total Tax
$							$

All payments must be to the Town of Brookline. Office Hours: 8:30 a.m. to 4 p.m. except Saturdays.
TAX PAYABLE at the Collector's Office, Town Hall, (329 Washington Street)
Form 208 This form approved by Commissioner of Corporations and Taxation.

Page Line

Demand
Charges
and Fees

Interest

Total $

Location Buildings Value Buildings

1961 TAX RATE
Per $1000

School Rate $

General Rate $

Land Area Value Land Tot. Valuation

Total Rate $

MATTHEW S. McNEILLY
Collector of Taxes

SMITH BUSINESS FORMS, WINTHROP, MASS. D24730

EXHIBIT X

THREE-PART TAX BILL

One Demand Copy - Carbonned

1960 TAX RATE
Per $1000

School Rate	$	19.77
General Rate	$	33.23
Total Rate	$	53.00

THE COMMONWEALTH OF MASSACHUSETTS

Town of Belmont

OFFICE OF THE COLLECTOR OF TAXES

NOTICE OF
REAL ESTATE TAX
JANUARY 1, 1960

You are hereby notified that your 1960 REAL ESTATE TAX. upon the following described parcel of land is as follows:

Form 208
A. W. L. & Co.

	LOCATION	LAND EXCLUSIVE OF BUILDINGS		BUILDINGS EXCLUSIVE OF LAND		TOTAL VALUE
		AREA	VALUE	DESCRIPTION	VALUE	
	LOT					

PAGE AND LINE	NAME AND ADDRESS	TAX	SEWER	STREET	TOTAL COMMITTED INTEREST	WATER LIENS	TOTAL TAX AND ASSESSMENTS

Due and payable in full on July 1, 1960. THIS TAX MUST BE PAID IN FULL.
Taxes not paid when due are subject to penalties at $1.00 for demand and charges and fees.
Taxes remaining unpaid after November 1 are subject to 4% interest from October 1.
FOR RECEIPT, ENCLOSE ADDRESSED ENVELOPE WITH ENTIRE BILL. FOR INFORMATION REGARDING THE TAX ASSESSED, INQUIRE OF THE BOARD OF ASSESSORS. Any application for abatement or exemption must be filed in writing ON AN APPROVED FORM, with the Board of Assessors on or before Oct. 1, 1960. (See Chapter 444 of the Acts of 1954).

All payments must be to the Town of Belmont. Mail to Collector's Office.
TAXES PAYABLE at the Collector's Office, Town Hall, 9 a.m. to 5 p.m. Daily excepting Saturday.
This form approved by Commissioner of Corporations and Taxation.

FRANCIS J. LALLY
Collector of Taxes

DEMAND	
CHARGES AND FEES	
INTEREST	
TOTAL	

EXHIBIT XI

THREE-PART TAX BILL

One Demand Copy - NCR Paper

FORM 208

School Rate $33.70
General Rate $26.30
Total Rate $60.00

TAX RATE
$60.00
per M

THE COMMONWEALTH OF MASSACHUSETTS

TOWN OF WELLESLEY

OFFICE OF COLLECTOR OF TAXES, TAYLOR BLOCK

1961

NOTICE OF
REAL ESTATE TAX
January 1, 1961

You are hereby notified that your 1961 Real Estate Tax is as follows:

DESCRIPTION OF BUILDING	VALUE OF BUILDING	LOCATION	AREA	VALUE OF LAND	TOTAL VALUATION

TAX	SEWER	INTEREST	SEWER HOUSE CONN.	INTEREST	STREET	INTEREST	TOTAL

This tax due and payable in full JULY 1, 1961

WELLESLEY, MASS.

Any application for abatement or exemption must be filed in writing ON AN APPROVED FORM with the Board of Assessors on or before October 1, 1961.

Demand	
Charges & Fees	
Interest	
Total	

All payments must be to, or to the order of, the TOWN OF WELLESLEY.

For receipt, enclose a stamped addressed envelope with bill. Mail to Collector of Taxes.

For information regarding this notice, inquire of the Board of Assessors.

Taxes not paid when due are subject to penalties of $1.00 for demand, and charges and fees.
Taxes remaining unpaid after November 1 are subject to 4% interest from October 1.
This form approved by Commissioner of Corporations and Taxation.

Office Hours:
Mon. to Fri.
8:00 A.M. to
4:00 P.M.

ARTHUR K. WELLS,
Collector of Taxes

SMITH BUSINESS FORMS "Carbo-Snap" WINTHROP 52, MASSACHUSETTS

EXHIBIT XII

FOUR-PART TAX BILL

Two Demand Copies - Carbonned

1961 Tax Rate per $1000
School Rate $18.05
General Rate $40.35
Total Rate $58.40

THE COMMONWEALTH OF MASSACHUSETTS

CITY OF EVERETT

OFFICE OF THE COLLECTOR OF TAXES

Notice of
REAL ESTATE TAX
January 1, 1961

You are hereby notified that the 1961 REAL ESTATE TAX upon the following-described parcel of land is as follows:

Location:	Land Area	Value Land	Des. of Bldgs.	Value Bldgs.	Total Valuation
		$		$	$
					TAX
					$

Tax due and payable July 1, 1961. THIS TAX MUST BE PAID IN FULL.
Taxes not paid when due are subject to penalties of $1.00 for demand, charges and fees.
For receipt, enclose addressed envelope with entire bill. **For information regarding this notice, inquire of the Board of Assessors.** Any application for abatement or exemption must be filed in writing ON AN APPROVED FORM with the Board of Assessors on or before October 1, 1961. See Chapter 444 of the Acts of 1954. Taxes unpaid after November 1 are subject to 4% interest from October 1.

Demand ______
Charges and Fees ______
Interest ______
Total $______

Page Line

NOTE: TO BE DETACHED BY COLLECTOR

EVERETT 49, MASS.

Frederic J. Kelley
Collector of Taxes

All payments must be to the CITY of EVERETT. OFFICE HOURS: 8 A.M. to 4 P.M.
Closed Saturdays. Monday Evenings 7 P.M. to 9 P.M. when City Council is in session.
Form 208 This form approved by Commissioner of Corporations and Taxation.

FOUR PART TAX BILL

Two Demand Copies - NCR Paper

DO NOT DETACH

1961 TAX RATE $79.00 ON $1,000

SCHOOL RATE $33.70
GENERAL RATE $45.30
TOTAL RATE $79.00

THE COMMONWEALTH OF MASSACHUSETTS

Town of Stoneham

OFFICE OF THE COLLECTOR OF TAXES

1961

NOTICE OF
REAL ESTATE TAX
January 1, 1961

YOU ARE HEREBY NOTIFIED THAT YOUR 1961 REAL ESTATE TAX UPON THE FOLLOWING DESCRIBED PARCEL OF LAND IS AS FOLLOWS:

PAY THIS AMOUNT

BILL NO.	NAME AND ADDRESS	LOCATION OF PROPERTY IF DIFFERENT	LAND			BUILDINGS			TOTAL VALUE	TAX	SPECIAL ASSESSMENTS					WATER LIEN	TOTAL TAX AND ASSESSMENTS
			AREA ACRES	AREA SQ. FT.	VALUE	HOUSE	GARAGE	OTHER BLDGS.			SEWER	STREET	SIDEWALK	WATER MAIN	COM. INTEREST		
	STONEHAM 80, MASS.																

Taxes due and payable in full on July 1, 1961. All payments must be to the Town of Stoneham. For receipt, enclose an addressed envelope with entire bill. Taxes not paid when due are subject to penalties of $1.00 for demand, charges and fees. **Taxes remaining unpaid after November 1st are subject to 4% interest from October 1st.** For information regarding this Notice, inquire of the Board of Assessors. Any application for abatement or exemption must be filed in writing ON AN APPROVED FORM with the Board of Assessors on or before October 1, 1961. See Chapter 444 of the Acts of 1954.

THIS TAX MUST BE PAID IN FULL. MAIL TO COLLECTOR OF TAXES.

Tax PAYABLE at the Collector's Office, Town Hall.
Office Hours: 8:30 A.M. to 4:30 P.M. Closed Saturday.
Tuesday evening 7:00 P.M. to 8:00 P.M. except June, July and August.

FORM 208 This form approved by Commissioner of Corporations and Taxation.

GEORGE H. HOLDEN
Collector of Taxes

DEMAND	
CHARGES & FEES	
INTEREST	
TOTAL	

EXHIBIT XIV

FIVE-PART TAX BILL

Three Demand Copies - Carbonned

THE COMMONWEALTH OF MASSACHUSETTS
TOWN OF FRAMINGHAM
OFFICE OF THE COLLECTOR OF TAXES

Notice of
REAL ESTATE TAX
January 1, 1961

You are hereby notified that your 1961 TAX upon the following described parcel of REAL ESTATE is as follows:

TAX			WATER LIEN			TOTAL

Tax due and payable July 1, 1961. THIS TAX MUST BE PAID IN FULL.
Taxes not paid when due are subject to penalties of ONE DOLLAR for demand, charges and fees.
For receipt, enclose a stamped addressed envelope with entire bill. FOR INFORMATION REGARDING THIS NOTICE, INQUIRE OF THE BOARD OF ASSESSORS. Any application for abatement or exemption must be filed in writing on an APPROVED FORM with the Board of Assessors on or before October 1, 1961. See Chapter 444 of the Acts of 1954. Taxes unpaid after November 1 are subject to 4% interest from October 1.

Demand ______
Charges and Fees ______
Interest ______
Total $ ______

LOCATION AND DESCRIPTION　　LAND AREA

1961 Tax Rate per $1000
School Rate $32.75
General Rate $33.75
Total Rate $66.50

VALUE LAND　　VALUE BLDG.　　TOTAL VALUE

BILL NO.

All payments must be to the Town of Framingham. TAX PAYABLE at the Collector's Office, Memorial Building, Framingham. OFFICE HOURS: 8:30 A.M. to 5 P.M. Closed Saturdays.

Form 208 This form approved by Commissioner of Corporations and Taxation.

Albert E. Cole
Collector of Taxes

EXHIBIT XV

FOUR-PART WATER RATE BILL

Two Demand Copies - Carbonned Form

Levy No. 7

CITY OF EVERETT
WATER DEPARTMENT

July 31, 1961
EVERETT, MASS.

Water Rates Due and Payable at Office of City Collector within TWENTY DAYS from Date

Period Ending	METER READINGS IN 100 CUBIC FEET			CURRENT CHARGES
	PRESENT	PREVIOUS	CONSUMPTION	
July 1,				$

MINIMUM RATE IN ADVANCE

For information regarding this bill inquire at the Office of the Water Registrar.

METER LOCATION

DEMAND

TOTAL

DO NOT DETACH

Checks, drafts, or money orders must be made payable to the CITY OF EVERETT. If receipt is desired, enclose an addressed stamped envelope with entire bill. When paying in cash, please present both bill and stub. If paying by check, send stub only with your check.
OFFICE HOURS: 8 A.M. to 4 P.M. Closed Saturdays. Monday Evenings 7 P.M. to 9 P.M. when City Council is in session.

COMBINED CHECK REGISTER AND WARRANT

TOWN OF WINCHESTER

TREASURY WARRANT NO.______________

INVOICE			CHARGED TO ACCOUNT		TOTAL AMOUNT	REMARKS	NAME AND ADDRESS OF VENDOR
TE	NUMBER	AMOUNT	NUMBER	AMOUNT			

SELECTMEN

TO THE TREASURER OF THE TOWN OF WINCHESTER:

PAY TO EACH OF THE PERSONS NAMED IN THE ABOVE WARRANT THE SUMS SET AGAINST THE RESPECTIVE NAMES, AMOUNTING IN THE AGGREGATE TO $ ______________ AND CHARGE THE SAME TO THE ACCOUNTS INDICATED.