

1966

Review of Zip coding program

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Recommended Citation

Quarterly, Vol. 12, no. 4 (1966, December), p. 18-22

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The past two years have been hectic ones for users of direct mail, or business mail, as it is often called. A five-digit ZIP code is now required on all mail after January 1, 1967 so that it qualifies for Bulk Third-Class rates. With the exception of relatively few extensions granted in "hardship" cases, the alternative is paying the single piece third-class rate of 4 cents, a cent more than the current bulk rate. For businesses which mail millions of pieces of mail annually, this is enough of an additional expense to make uneconomical many mailings which now contribute to the mailer's profits.

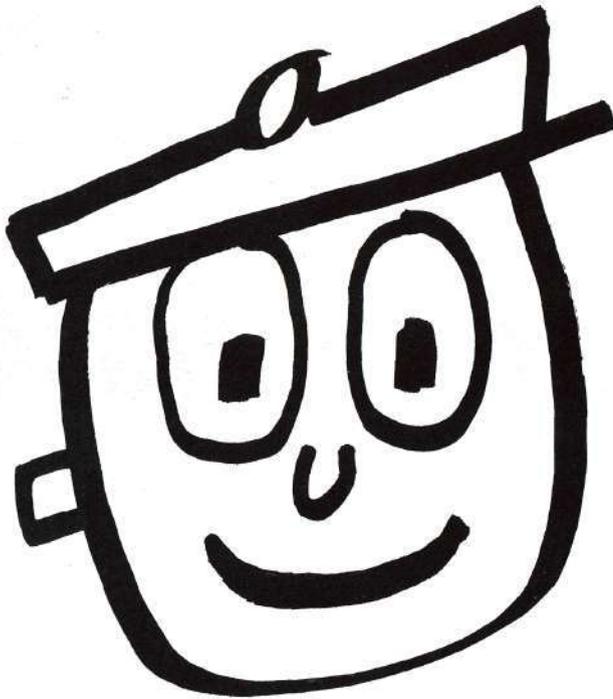
This article reviews the reasons for the introduction of ZIP coding, the format of the code, the current status of regulations, and the impact of these on business. It describes the two problems of principal concern to management services personnel. These are the addition of ZIP codes to a list of names and addresses and the changes in resulting operational requirements.

The Post Office Problem and the Proposed Solution

The Post Office Department handled 74 billion pieces of mail in 1965 and anticipates handling 84 billion pieces a year by 1970. The volume for 1964 was 72 billion pieces and this broke down into 40 billion pieces, or 55%, of first-class mail; 9 billion, or 13%, of second-class (magazines); 20 billion, or 28%, of third-class (circulars, advertising, merchandise weighing less than 15 ounces); and 3 billion, or 4%, of fourth-class (parcel post). Of the 40 billion pieces of first-class mail, it has been estimated that 55-65% is business mail of some sort. In recent years the Post Office has been carrying the mails at an annual deficit of about \$400,000.

To meet rising labor costs, the Post Office Department has instituted a program designed to reduce the number of times a piece of mail is handled and to increase the productivity of mail sorters by automating part of their work. The success of this program depends on the adoption of ZIP coding and its regulations by all second and third-class mail users.

As a program, ZIP code is remarkable for its size in terms, say, of the total conversion cost to business and to the Post Office Department, rather than for its originality. As a system, it is ante-dated by a four-digit code introduced successfully into West Germany in 1962. An idea of the size of the program can be obtained from the figures for mail volume quoted above. If in effect



Review of Zip Coding Program

by James C. Hammerton

today, the program would affect every one of the businesses and organizations to whom the 275,000 third-class bulk mail permits are issued annually.

ZIP Code—What It Is

The five-digit ZIP code is a logical extension of the city zone system. The first digit identifies a regional geographical area of the postal system and the second and third digits designate the transportation centers within the geographical area. The first three digits together designate what is known as a Sectional Center. A major objective of the system is to route mail directly to 552 Sectional Centers. The fourth and fifth digits designate points served by the Sectional Center. These may be local post offices or postal delivery stations associated with a large city post office. In the case of existing multi-zone cities, the fourth and fifth digit correspond to the existing zone number.

The code has been described as a three-digit prefix combined with a two-digit suffix.

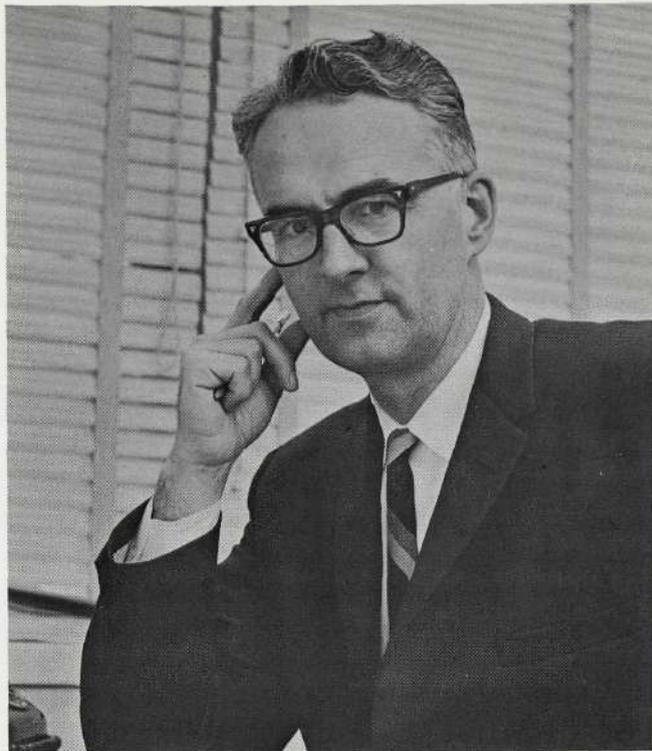
It is important to recognize that ZIP codes are not static. They are subject to change and to seeming illogicalities. New addresses come into being every day; post offices are opened and closed; transportation routes and centers change. Keeping a cross-referenced list of ZIP codes current in the face of these changes is a substantial task.

Also, a single city does not necessarily have a single three-digit prefix. Thus, Boston has two assigned prefixes (021 and 022) and Chesapeake, Virginia is a community where the residents can be served from Chesapeake (233), Norfolk (235) or Portsmouth (237). (The Boston problem arises because there are 78 communities in the Greater Boston area. Among them are similar or identical street names with similar or identical numbers.)

Status of the Program

The heart of the challenge of putting ZIP in business mail is getting mailing pieces grouped by sectional ZIP center as early as possible in the mailing process, preferably on address lists at the point of origin. To this end, the law requires that second and third-class mailers must comply with the bundling and bagging regulations by January 1, 1967. Non-compliance means that the mail will be sent and charged at single-piece rates which for third-class mail is 4 cents.

The January 1967 deadline was set after an original deadline of January 1966 brought all the Washington



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representatives of second and third-class mailers off the bench. This original deadline was announced as July 1, 1965 with a six-month grace period to facilitate compliance.

In announcing revision of the deadline on March 22, 1965, Mr. Gronouski, the then Postmaster General, stated, "I am completely and unalterably committed to the January 1, 1967 date . . ." A similar commitment has been made by Lawrence O'Brien, the present Postmaster General.

The savings to be realized by the Post Office Department from the use of the ZIP code for second and

third-class mail are quoted in the range of \$20-30 million. They result from a reduction in mail handling by employees.

The status of first-class business mail is not affected by any legislation currently proposed by the Post Office Department. The department is busy absorbing the continuing and strenuous reaction of second and third-class mailers. The inclusion of first-class mailers in a mandatory ZIP program is regarded as a relatively more sensitive issue. However, the Post Office Department estimates that the ZIP code regulations applied to first-class mail will result in savings at least as great as those anticipated from second and third-class mail. Consequently, it seems advisable to anticipate later attempts to induce first-class mailers to comply with the regulations and to think positively about the speedier delivery which results from use of the ZIP code.

Impact of Regulations

The ZIP code regulations affect a client's mailing operations in the following areas:

1. The bundling and bagging of mail
2. The addition of ZIP codes to name and address lists
3. The re-sequencing of the name and address file

In the action generated by the Post Office Department's deadline, the first two of these caused most concern. The bundling and bagging regulations will not be discussed here. They are an extension of existing regulations.

Addition of ZIP Codes

The addition of ZIP codes to name and address lists is principally a sizeable conversion problem. The initial difficulties revolve around obtaining an authoritative source of ZIP codes, which is kept up to date. The Post Office Department now supplies separate state directories and a unified National Directory. However, these cannot be fed into a machine directly, and an adequate updating service has yet to be evolved. In mid-1965 the Mail Advertising Corporation of America announced a ZIP Code Finder Service which consists of a National Directory on magnetic tape and a monthly updating service in punched cards. As originally announced, the Directory was split into three tapes: (1) tape A (one reel) containing 44,000 post offices, branches, and stations; (2) tape B (two reels) containing 95,000 places, names of small towns and communities that do not have postal service in their own names; and (3) tape C (8 reels) containing 650,000 street names in multi-ZIP coded cities.

In a multi-ZIP coded city, finding a ZIP code depends on knowing the street name and possibly also the house number, which greatly complicates the conversion problem. In most cases, the ZIP codes alter in an orderly fashion as the street numbers increase; however, in some cases the street numbering does not permit an orderly demarcation between ZIP codes.

Conversion Through Data Processing

Assuming this cross reference list on magnetic tape and punched cards, or some equivalent service, is available, and accepting some small percentage of rejects, how much of the conversion problem is solved? For organizations with IBM or IBM-compatible, tape-oriented data processing installations, a large part of the problem is solved, or at least the way out is clear. For the smaller organizations with addressograph plates or speedamat plates, the tape is, of course, irrelevant.

Firms with computerized lists can sort their name and address records by running the cross reference list against current records in "matching" operations which identify the required ZIP code numbers, and insert them into the records of the name and address tapes. The success (or failure) of these operations depends on the degree of compatibility of the information on the two tape files. Special editing rules, e.g., to make abbreviations compatible, assist in reducing the number of rejects that have to be processed clerically.

Manual Conversion

The organizations with "plate" operations are faced with a conversion task which is essentially manual. The only favorable factor is that the name and address file of the plate user is smaller than that of the computer user. The procedure recommended by the Addressograph-Multigraph Corporation is to use the plates for preparing a list of addresses on 3" x 5" cards, to look up the ZIP codes in the National Directory, and then to add the ZIP codes to the plates by normal techniques. Problems arise because of the layout of the plates. The Post Office Department's regulations require that the ZIP code shall be the last item of information in an address. It may appear either by itself on the last line or after the state's abbreviation and separated from it by a specified minimum distance. Some plate users have difficulties either because their current format does not leave space for the ZIP code to be added as required or because, as with some magazines, the plate includes identifying information on the bottom line.

*The Little Old Lady Who Was Zipped Out
of Her Magazine*

ZIP code assignments can cause strange and humorous human problems as well as economic ones.

Take the case of the little old lady who lived in the vicinity of Buffalo. For years she had subscribed to a favorite weekly magazine. Suddenly she stopped getting it and wrote an angry letter to the publisher.

A subscription clerk, unaware of the change brought about by ZIP code assignments, tried to explain by telephone, "Look, ma'am, you made a big mistake. You moved into Buffalo and when you gave us your new address you accidentally repeated your old address, your old street address. We pulled your address plate. That's why the magazine's late. We didn't know where you were."

She replied, "See here, young man. I didn't move. The Post Office moved me. I've been in this house for twenty-five years."

Some statistics help to underline the extent of the conversion problem. A count of the circulations of 304 publications listed in the Literary Market Place—Directory of American Book Publishing—shows a total subscription list of 170 million distributed as follows:

List Size	Publications		Circulation	
	Number	%	Millions	%
Over 800,000	54	18	137	80
400,000—800,000	79	26	14	9
20,000—400,000	171	56	19	11

Since this count does not include the majority of trade publications, it seems likely that the total may run as high as 250-300 million names and addresses. Each name and address is part of a subscription list stored on magnetic tape, addressograph plates, hand-written lists, or punched cards. Each requires a ZIP code.

The total size of the third-class mailers' lists is more difficult to estimate. The size has been placed as high as 45 billion names. A more conservative estimate of 6 billion names is based on an average list size of 60-80,000 and the existence of 80,000 lists.

The extent of the conversion problem is mitigated by some factors. Foremost among these is the incentive to investigate or re-examine the economies of a computer-based installation. In a change over to a computer system, ZIP codes can be introduced as part of the overall conversion process. For equipment in the class of an IBM 1401, justification of a computer installation re-

quires a list of approximately 400,000 subscribers. Assuming that the new generation of computers can give the same performance for less cost, the breakeven number could be smaller than 400,000.

Many mailing and fulfillment services encourage the use of computers. For example, the service which processes one magazine's subscription list also usually processes lists for a number of other magazines. Hence, difficulties of access to, and control of, the subscription list can be overcome. The procedure prepared for one magazine can be used on others and the economies can be shared. Under these circumstances the break-even list size can be quite small. One opinion, stated by an authority in direct mail advertising, is that within five years lists as small as 30-40,000 will be kept on magnetic tape.

Conversion Costs

The range of costs of conversion quoted during 1965 was large; the low costs represented high volume operations or hopeful estimates from organizations providing a ZIP coding service; the high costs represented the estimates of embattled mail advertisers trying to modify and postpone the Post Office Department's deadline.

At the low end the largest Catholic publishers, Ligonian Publications, claimed to have ZIP coded 500,000 speedaumat plates at a cost of \$575.00 through use of its existing staff and spreading the job over six months. This is approximately \$1 per thousand.

The Reader's Digest with a subscription list of some 15 million names costed its ZIP coding operation at 200 hours of computer-time and 1000 hours of programming. Figuring computers at \$100 per hour and programmers at \$10 per hour gives a conversion figure of \$2 per thousand.

A service bureau, presumably anxious to obtain permanent business, offers to keypunch, proofread, and ZIP code existing lists at 4¢ per name or \$40 per thousand.

Estimates quoted to House Sub-Committee were \$4.75 per thousand for address lists on punched cards, \$5.92 per thousand for lists on magnetic tape, and \$50-80 per thousand for lists on plates.

The under-pinnings of these estimates are of some interest. A straight clerical look-up in a directory can be done at the rate of 100 look-ups per hour. Using a wage of \$80 a week for a 40-hour week with a 100% loading factor gives a cost of 4¢ per look-up or \$40 per thousand.

Operating Requirements

Thus far, we have confined our discussion to the problems created for the businessman by the bundling and bagging regulations and the addition of ZIP codes to existing files. The third problem identified earlier in this article is connected with the grouping of names on a list. In general, the labels, or imprints, produced from the list are applied to mailing pieces — magazines or mail advertising — in the order in which they are produced. If the mailing pieces are to be bundled and bagged in accordance with new post office regulations, they must be grouped by ZIP code; hence, the labels must be grouped by ZIP code. It is possible to sort labels produced from records stored on magnetic tape, but this is not economical for lists containing more than 30-50,000 names. Therefore, the economics of complying with the regulations dictate that large lists be kept in ZIP code order.

Grouping in this way is not revolutionary. Previous postal regulations required lists to be ordered in geographical sequence. The "geo" part of this sequence is some combination of region, state, and city which is readily identifiable from the address. However, replacing this by a number (ZIP code) has the effect of making an individual name and address record inaccessible in the list unless the number is known. This means that an inquiry from a magazine subscriber cannot be processed until his ZIP code is known.

This can be a sizeable headache, as indicated by the following estimates: a subscriber list of, say, 600,000 names is likely to generate 100,000 non-ZIP coded transactions annually.

Direct mail advertisers have this problem to a much smaller degree. However, a "substitute" problem arises from the fact that many of the source books used in compiling lists are not ZIP coded and probably will not be. For example, the Yellow Pages are used extensively in compiling lists of, say, 100,000 plumbers or 20,000 automobile dealers. For names taken from directories for multi-ZIP cities the compiler must have a way of cross referencing the street address with the ZIP code. This problem is as pertinent to updating the list as it is to the original compilation. A conscientious list owner checks his lists against new source books to eliminate businesses that have moved or been liquidated and to add new businesses. All additions and changes of address must be ZIP coded.

Clerical Procedures

Since the inclusion of the current ZIP code in a transaction is a prerequisite for successful processing of the transaction, the clerical procedures for handling the transactions must include the addition of missing ZIP codes and a method of coping with incorrect ZIP codes.

The most thorough procedure is to look up every ZIP code regardless of whether one is quoted or not. Alternatively, at the expense of delays in processing the rejects caused by incorrectly quoted codes, only the missing ZIP codes can be referenced. A further reduction in clerical work can be achieved by using a "post office tape" in the system to supply the ZIP codes of single-zone cities. Clerical work, except for rejects, can be eliminated by using a full ZIP code directory tape and by using the address to reference the ZIP code. This is a sizeable operation (8 tapes) which may require an editing operation on the address information, and is presumably uneconomical if the number of unknown ZIP codes is less than some "breakeven" quantity.

In general, the elimination of rejects is desirable because of the delay in processing and because of the added problem of keeping the source document on hand so that it can be associated with the "reject slip." However, the latter problem also occurs in processing an inquiry such as "how long does my subscription to your magazine have to run?", and is, therefore, an existing problem rather than a new problem.

Summary

Insofar as business firms are concerned, the postal regulations due to go into effect on January 1, 1967 do not affect regular first-class mail; the postal regulations are part of a program to handle second and third-class mail more efficiently and economically.

If a firm's customer list is used for the bulk mailing or promotional material, then minimum third-class bulk mail rates can only be secured by adherence to the new regulations for bundling and bagging according to Sectional Center unless a specific "hardship" extension has been granted.

Following these regulations requires that names on a list be grouped by ZIP codes and sequenced in ZIP code order. Provision must also be made for adding ZIP codes where they do not exist and for periodic updating to accommodate deletions and changes.