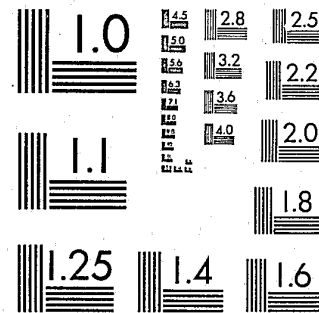


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COMPUTERIZED TRACKING OF STOLEN OFFICE EQUIPMENT

A NEW ENFORCEMENT OFFENSIVE IN THE MAKING

U.S. Department of Justice
National Institute of Justice

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A SPECIAL REPORT TO THE ADMINISTRATOR

MARCH 1979

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CRIMINAL CONSPIRACIES DIVISION
OFFICE OF CRIMINAL JUSTICE PROGRAMS
LAW ENFORCEMENT ASSISTANCE ADMINISTRATION
UNITED STATES DEPARTMENT OF JUSTICE
WASHINGTON, D.C. 20531

COMPUTERIZED TRACKING OF STOLEN OFFICE EQUIPMENT

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A SPECIAL REPORT TO THE ADMINISTRATOR

MARCH 1979

PREPARED BY

MARILYN E. WALSH, Ph. D.
BATTELLE LAW AND JUSTICE STUDY CENTER

CRIMINAL CONSPIRACIES DIVISION
OFFICE OF CRIMINAL JUSTICE PROGRAMS
LAW ENFORCEMENT ASSISTANCE ADMINISTRATION
UNITED STATES DEPARTMENT OF JUSTICE
WASHINGTON, D.C. 20531

Caution

Any media release of the enclosed information should delete references to the IBM Corporation and the word typewriters. Refer only to the general word/term "office equipment."

If there are any questions pertaining to this caution, please contact the Criminal Conspiracies Division, Office of Criminal Justice Programs on 202/376-3990.

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TO: Henry S. Dogin, Administrator
Law Enforcement Assistance Administration

THROUGH: J. Robert Grimes, Assistant Administrator
Office of Criminal Justice Programs

It is with enthusiasm that I transmit to you this Special Confidential Report on Computerized Tracking of Stolen Office Equipment. This report describes an effective new investigative technique, based on computerized matching of automated stolen property files with repair records of private industry, which makes possible the identification and recovery of stolen goods, and the investigation of illicit traffickers in such items. Documented for the first time in this report are national distribution patterns for stolen office equipment, with special emphasis on the marketplace for stolen typewriters in the State of California.

This project is worthy of special note because in sixteen months and with budgeted expenditures of less than \$60,000 it has resulted in the following:

- identification of the current location across the United States of approximately 10,000 pieces of stolen office equipment;
- initiation and documentation of approximately 2,500 field investigations into the redistribution of stolen office equipment in the State of California;
- recovery of approximately 2,100 typewriters stolen from residents of the State of California, valued at \$1.3 million; and
- enhancement of the recovery rate for stolen office equipment in California, 22.7% over a base period before project implementation.

All these accomplishments could not have been possible without the special commitment and painstaking efforts of the California Department of Justice, Organized Crime & Criminal Intelligence Branch, which developed the computer match technique described here; the support and cooperation of the IBM Corporation, whose excellent record-keeping systems made use of the technique especially successful; and the documentation and analysis provided by Dr. Marilyn Walsh, of the Battelle Law and Justice Study Center. Their combined efforts represent a unique public/private partnership in support of law enforcement objectives which is often sought, but rarely achieved. While the emphases of the project on the State of California and on stolen office equipment are derived from this partnership, it is clear that project benefits can be extended to all jurisdictions which maintain automated stolen property records, and to all serialized commodities where manufacturers maintain adequate sales and repair records.

The information provided by this project has never before in the history of law enforcement been available. Now it is possible for law enforcement agencies to develop the pattern and flow of stolen goods, and to document the activities of organized criminal fencing operations on a nationwide basis. In light of these singular benefits and of the accomplishments noted above, I transmit this report to you as a document with broad and promising proactive implications for the law enforcement community.


James O. Golden
Director
Criminal Conspiracies Division

EXECUTIVE SUMMARY

THIS REPORT SUMMARIZES THE INFORMATION GENERATED BY AND THE RESULTS OBTAINED THROUGH APPLICATION OF A NOVEL INVESTIGATIVE TECHNIQUE WHICH SHOWS GREAT PROMISE FOR INHIBITING THE MARKET FOR STOLEN GOODS, BY SURFACING AND TRACKING THE PATHS TAKEN BY STOLEN PROPERTY FROM THE POINT OF THE ORIGINAL THEFT TO THE FINAL CONSUMER. THE TECHNIQUE CONSISTS OF IDENTIFYING THE CURRENT LOCATIONS OF STOLEN GOODS BY MAKING MACHINE COMPARISONS BETWEEN AUTOMATED STOLEN PROPERTY FILES MAINTAINED BY LAW ENFORCEMENT AGENCIES, AND AUTOMATED REPAIR RECORDS OF PRIVATE INDUSTRY. BECAUSE THE TECHNIQUE UTILIZES EXISTING AUTOMATED RECORD-KEEPING SYSTEMS, IT REPRESENTS A PRACTICAL AND COST EFFECTIVE METHOD OF GENERATING LARGE NUMBERS OF QUALITY INVESTIGATIONS OF ILLICIT TRAFFICKERS IN STOLEN MERCHANDISE, AND OF IDENTIFYING AND RECOVERING STOLEN PROPERTY.

THE COMMODITY FOCUSED ON IN THIS REPORT IS STOLEN OFFICE EQUIPMENT, AND IN PARTICULAR STOLEN IBM TYPEWRITERS. THIS IS BECAUSE OF THE SUPPORT AND COOPERATION OF THE IBM CORPORATION IN THE PROJECT. IT IS CLEAR, HOWEVER, THAT THE TECHNIQUE APPLIED HERE HAS THE POTENTIAL FOR MUCH BROADER APPLICATION TO ALL CLASSES OF SERIALIZED GOODS, WHERE ADEQUATE RECORD-KEEPING SYSTEMS EXIST.

THE REPORT IS DIVIDED INTO TWO PARTS. PART I DESCRIBES THE NATIONAL DISTRIBUTION PATTERNS FOR STOLEN OFFICE EQUIPMENT REVEALED BY THE IDENTIFICATION OF THE CURRENT LOCATIONS ACROSS THE COUNTRY OF APPROXIMATELY 7,000 STOLEN TYPEWRITERS. THE MAJOR CHARACTERISTICS OF THESE DISTRIBUTION PATTERNS ARE:

- WESTERN U.S. JURISDICTIONS WHICH HAVE LARGE INTERNAL MARKETS FOR STOLEN OFFICE EQUIPMENT ARE SUPPLIED LARGELY BY IN-STATE THEFTS, AND SECONDARILY BY IMPORTS OF STOLEN ITEMS FROM OTHER STATES
- EASTERN U.S. JURISDICTIONS WHICH HAVE LARGE INTERNAL MARKETS FOR STOLEN OFFICE EQUIPMENT ARE SUPPLIED LARGELY BY IMPORTS OF STOLEN ITEMS FROM OTHER STATES, AND SECONDARILY BY IN-STATE THEFTS
- IN WESTERN U.S. JURISDICTIONS IMPORTS OF STOLEN TYPEWRITERS GENERALLY EXCEED EXPORTS OF SUCH ITEMS
- IN EASTERN U.S. JURISDICTIONS EXPORTS OF STOLEN TYPEWRITERS GENERALLY EXCEED IMPORTS OF SUCH ITEMS
- THE KEY ELEMENT OF THE STOLEN OFFICE EQUIPMENT MARKETPLACE IN WESTERN JURISDICTIONS IS A BOOMING LOCAL DEMAND FOR SUCH ITEMS WHICH KEEPS MANY IN STATE FOR RESALE
- THE KEY ELEMENT OF THE STOLEN OFFICE EQUIPMENT MARKETPLACE IN EASTERN JURISDICTIONS IS TRANSPORTATION SINCE LARGE AMOUNTS

OF SUCH ITEMS ARE MOVED IN AND OUT OF THESE STATES FOR RESALE AND REDISTRIBUTION

- FIVE STATES--CALIFORNIA, ILLINOIS, NEW YORK, OHIO, AND TEXAS--FORM A KEY GROUP OF JURISDICTIONS WHICH ARE MAJOR IMPORTERS OF STOLEN TYPEWRITERS FROM OTHER STATES AND MAJOR SUPPLIERS OF SUCH ITEMS TO OTHER STATES. THEY ARE ALSO PRIME TRADING PARTNERS WITH EACH OTHER IN THE ILLICIT REDISTRIBUTION OF STOLEN OFFICE EQUIPMENT.

PART II OF THE REPORT FOCUSES IN DETAIL ON THE STOLEN OFFICE EQUIPMENT MARKETPLACE WITHIN THE STATE OF CALIFORNIA. IT IS BASED ON THE RESULTS OF A SERIES OF DOCUMENTED FIELD INVESTIGATIONS OF ILLICIT TRANSACTIONS INVOLVING STOLEN TYPEWRITERS THAT WERE INITIATED BY THE CALIFORNIA DEPARTMENT OF JUSTICE AND CONDUCTED BY LOCAL LAW ENFORCEMENT AGENCIES. BASED UPON THIS PILOT EFFORT IN THE STATE OF CALIFORNIA, THE FOLLOWING RESULTS WERE ACHIEVED:

- THE IDENTIFICATION OF THE CURRENT LOCATIONS OF APPROXIMATELY 5,000 TYPEWRITERS ORIGINALLY STOLEN FROM CALIFORNIA RESIDENTS;
- THE INITIATION, DOCUMENTATION, AND PROCESSING OF APPROXIMATELY 2,500 FIELD INVESTIGATIONS OF STOLEN TYPEWRITER TRANSACTIONS IN THE STATE OF CALIFORNIA;
- THE RECOVERY OF 2,100 STOLEN TYPEWRITERS, VALUED AT \$1.3 MILLION;
- AN INCREASE OF 22.7% IN THE STATEWIDE RECOVERY RATE FOR STOLEN OFFICE EQUIPMENT, OVER A BASE PERIOD PRECEDING PROJECT IMPLEMENTATION.

IN ADDITION TO THESE ACHIEVEMENTS, THE DOCUMENTED FIELD INVESTIGATIONS CONDUCTED BY LAW ENFORCEMENT AGENCIES PROVIDED THE FOLLOWING INFORMATION ABOUT THE THEFT AND REDISTRIBUTION OF STOLEN TYPEWRITERS IN THE STATE OF CALIFORNIA:

- THE MOST FREQUENT VICTIMS OF TYPEWRITER THEFTS ARE THE BUSINESS AND PROFESSIONAL COMMUNITIES, AND GOVERNMENT AGENCIES AND INSTITUTIONS.
- TOTAL LOSSES IN THE TYPEWRITER THEFTS PROFILED HERE WERE \$2.3 MILLION, WITH AN AVERAGE LOSS PER VICTIM OF APPROXIMATELY \$2,500.
- TRADITIONAL ENFORCEMENT RESPONSES IN THE CASES PROFILED HERE YIELDED CLEARANCES BY ARREST IN LESS THAN 1% OF THE CASES, AND PARTIAL RECOVERIES OF PROPERTY STOLEN IN ONLY 3% OF THE CASES. THUS VICTIMS OF TYPEWRITER THEFTS ARE UNDER ORDINARY CIRCUMSTANCES GIVEN LITTLE HOPE OF EVER SEEING THEIR PROPERTY AGAIN OR OF HAVING THEIR THEFTS SOLVED BY THE CRIMINAL JUSTICE SYSTEM.

- MOST STOLEN TYPEWRITERS WERE LOCATED IN THE SAME TYPES OF COMMERCIAL AND PROFESSIONAL OFFICES, AND PUBLIC SECTOR AGENCIES AND INSTITUTIONS, FROM WHICH THEY HAD BEEN STOLEN.
- 58% OF THE IDENTIFIED FINAL CONSUMERS OF STOLEN TYPEWRITERS PURCHASED THEM FROM INDIVIDUALS, AND 42% FROM COMMERCIAL SUPPLIERS.
- THE MOST FREQUENT COMMERCIAL SUPPLIERS OF STOLEN TYPEWRITERS WERE OFFICE EQUIPMENT WHOLESALERS AND RETAILERS. INDIVIDUAL SELLERS MOST FREQUENTLY APPROACHED POTENTIAL BUYERS AT THEIR OFFICES OR JOB SITES.
- FINAL CONSUMERS OF STOLEN TYPEWRITERS PAID AN AVERAGE OF \$400 FOR THESE ITEMS, A PRICE ONE-HALF TO TWO-THIRDS OF THE LEGITIMATE RETAIL PRICE FOR THESE MACHINES.
- MOST FINAL CONSUMERS OF STOLEN TYPEWRITERS EITHER PAID CASH OR WROTE CHECKS TO CASH TO PAY FOR THE STOLEN ITEM.
- 69% OF THE TYPEWRITERS STOLEN AND REMAINING IN THE STATE OF CALIFORNIA FOR RESALE WERE REDISTRIBUTED TO NEW POSSESSORS IN THE SAME CITY OR COUNTY WHERE THEY HAD BEEN STOLEN.
- 90% OF THE TYPEWRITERS STOLEN AND REMAINING IN THE STATE OF CALIFORNIA WERE REDISTRIBUTED TO NEW POSSESSORS LOCATED WITHIN 100 MILES OF THE PLACE WHERE THE ORIGINAL THEFT OCCURRED.
- 21% OF THE TYPEWRITERS STOLEN AND REMAINING IN THE STATE OF CALIFORNIA WERE RESOLD TO NEW POSSESSORS WITHIN THREE DAYS AFTER THE THEFT OCCURRED; 52% WERE REDISTRIBUTED TO NEW POSSESSORS WITHIN ONE MONTH AFTER THE THEFT OCCURRED.

THE SEVERAL IMPLICATIONS FLOWING FROM THESE FINDINGS ARE THESE:

- THAT TYPEWRITER THEFTS REPRESENT A SERIOUS CRIME PROBLEM, RESULTING IN SUBSTANTIAL LOSSES TO VICTIMS, WHICH CANNOT BE EFFECTIVELY CONTROLLED BY TRADITIONAL ENFORCEMENT RESPONSES;
- THAT THE THEFT, REDISTRIBUTION, AND PURCHASE OF STOLEN OFFICE EQUIPMENT ARE IN MOST JURISDICTIONS HIGHLY PROFITABLE, LOW RISK ACTIVITIES, UNDERTAKEN BY THIEVES, FENCES, AND FINAL CONSUMERS OF SUCH ITEMS, TO THE DETRIMENT OF THE TYPEWRITER THEFT VICTIM;
- THAT PRESERVATION OF THE AUDIT TRAIL OF A PROPERTY CRIME IS A FRAGILE AND FLEETING ENDEAVOR, NOT POSSIBLE THROUGH THE USE OF TRADITIONAL LAW ENFORCEMENT MEASURES; AND
- THAT THE INVESTIGATIVE TECHNIQUE USED HERE PERMITS THE RE-ESTABLISHMENT OF THIS AUDIT TRAIL, ONCE BROKEN, AND RECONSTRUCTION OF THE PERSONS, PLACES AND EVENTS INVOLVED IN THE THEFT AND REDISTRIBUTION OF STOLEN GOODS.

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INTRODUCTION

Each year as property crimes continue to dominate the national crime picture--accounting for 90-95 percent of all reported crimes--it has become apparent that more effective enforcement techniques must be developed if this major crime problem is to be controlled. Since 1972 careful analyses of the theft problem^{*/} have demonstrated that traditional enforcement approaches focusing exclusively on the thief are at best short sighted and ineffectual, since they fail to take account of the market for stolen property to which the thief relates. As a result of these analyses, innovative strategies have been developed giving enforcement priority to the criminal receiver of stolen goods (the fence). These anti-fencing strategies have shown great promise in combatting property crimes because they address the profit motive of the stolen property marketplace. Indeed, arguments have been made that recent decreases in theft rates^{**/} are attributable to anti-fencing enforcement activities undertaken nationwide.

Despite great strides in innovative property theft enforcement since the early 1970's, knowledgeable observers must conclude that the goal of taking the profit out of property crimes is far from being realized. A firm

^{*/} See, for example, Walsh, Marilyn E. The Fence - A New Look at the World of Property Theft (Westport, Conn.: Greenwood, 1977); and Blakey, G. Robert and Michael Goldsmith. "Criminal Redistribution of Stolen Property: The Need for Law Reform," Michigan Law Review, August 1976, Vol. 74, No. 8, pp. 1511-1626.

^{**/} For the year 1977, for example, burglary decreased 1.2 percent from 1976 and larceny-theft decreased 5.8 percent; see Crime in the United States, Uniform Crime Reports, U.S. Department of Justice Federal Bureau of Investigation (Washington, D. C.: U.S. Government Printing Office, 1978).

commitment to anti-fencing enforcement, though showing great promise, is still the exception rather than the rule in most jurisdictions. Instead the traditional and self-defeating approaches to property theft centered on the thief continue to be pursued, allowing not only thieves, but also fences and final consumers of stolen property, to benefit at the expense of theft victims. While there have been individual situations in which the stolen property marketplace has been interrupted or totally disrupted in some jurisdictions, in most parts of the country trafficking in purchasing and possessing stolen property remain low-risk activities undertaken with impunity. The stolen property marketplace more often flourishes as a successful profit-making enterprise than it is successfully combatted.

The confidential report which follows is based upon information generated through the use of a novel investigative technique employed on a pilot basis by the California Department of Justice. The technique permits stolen property transactions to be traced and their criminal content to be audited. The substance of the technique is to make computer comparisons between automated stolen property files of law enforcement agencies and automated records of repair transactions of (in this case) the IBM Corporation. Whenever a match-up occurs, it then becomes possible to identify the current possessor of the repaired item. Once this identification is made and the

location of the stolen item determined, an investigation can be conducted which peels back the layers of transactions that occurred between the time of the original theft and the time the stolen item came into the custody of the current possessor. In the course of this investigation, it is possible not only to trace the movement of the stolen item, but also to identify all culpable parties who have benefitted from the sale or use of the stolen property to the detriment of the rightful owner, including the thief who originally stole it, the fence(s) who handled its redistribution, and the final consumer who bought the item knowing it to be stolen.

This technique, though simply stated, is truly remarkable both for its uniqueness and for the quality of the investigative information it generates. What makes the technique unique is that it provides the rare opportunity for law enforcement authorities to intervene and initiate an investigation at a point when a crime has already been successfully completed, i.e., where all culpable parties have succeeded in escaping traditional enforcement detection mechanisms. Thus, crimes that would have remained unsolved and offenders who would have escaped unscathed become fruitful investigative targets. Also remarkable is the quality of the investigative information developed by the technique. Each investigative lead, when followed up by a quality investigation,* permits a full audit of

*/ It must be stressed that the full potential of the technique cannot be realized unless the leads generated by it are competently field investigated. Where slipshod or poor investigation occurs, much of the benefit of the technique is lost.

the persons, places, and events involved in the theft and redistribution of stolen property and of the crime(s) committed in the process. At minimum, then, the technique provides for the recovery of stolen property. At its best, however, it makes possible the identification of culpable parties to transactions involving a single stolen item, but also the documentation of the overall distribution paths and patterns, and the major traffickers responsible, for the redistribution of stolen goods generally.

The project reported on here could not have taken place without the excellent record-keeping systems and cooperation and support of the IBM Corporation. Because of this support, the project and the analyses in this report focus on application of the matching technique to one class of stolen goods, i.e., stolen IBM typewriters. The report is divided into two parts. Part I provides an overview of national distribution paths for stolen typewriters as revealed by comparisons made between the National Crime Information Center (NCIC) stolen office equipment files and nationwide repair records of the IBM Corporation. While some caution must be taken in interpreting this information because it has not as yet been field verified,^{*/} it provides rare insights into the national trafficking patterns for a major class of stolen property, office equipment.^{**/}

^{*/} An application currently being prepared by the California Department of Justice proposes extension of field investigations and recoveries on a nationwide basis.

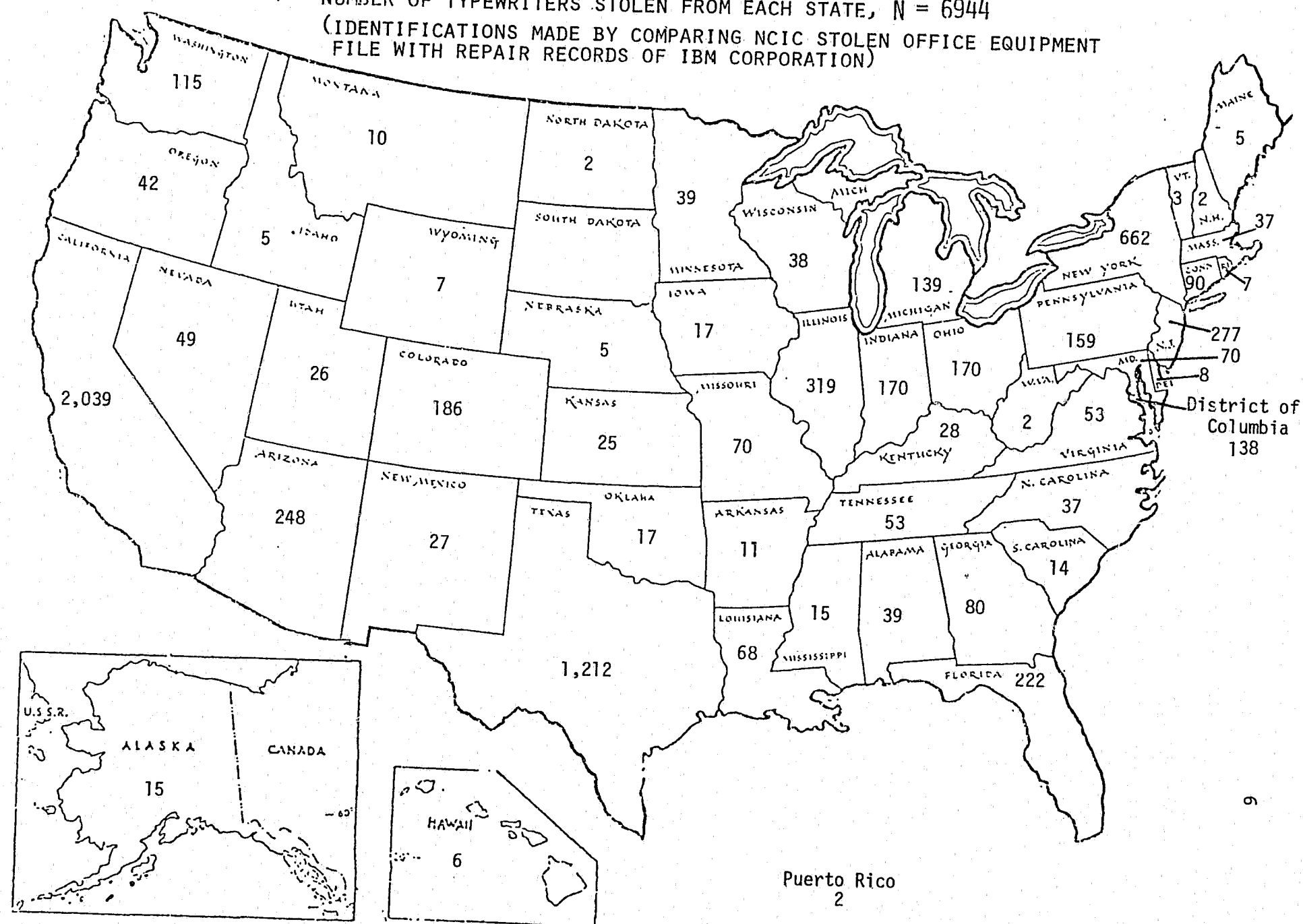
^{**/} The significance of thefts of this type of goods was highlighted in recent newspaper accounts. See Klein, Frederick C. "Urban Office Buildings Become Prime Locales for Thefts and Assaults," Wall Street Journal, December 5, 1978, p. 1 and p. 14.

Part II of the report focuses on the experience of the State of California which has used this technique on a pilot basis, attempting to structure and document follow-up investigations based upon the leads generated. In this portion of the report, information developed through field investigations in which individual property theft cases were audited provides a more detailed picture of the stolen office equipment marketplace existing in California. As both parts of the report amply demonstrate, the technique used here offers great potential to the law enforcement community, as yet another valuable component of an effective property theft enforcement program. This report, then, should be considered both as a tool for planning enforcement action, and as a basis for designing a battery of similar tools to deal with the challenge of property crimes.

PART I: DISTRIBUTION PATTERNS FOR STOLEN OFFICE MACHINES - THE NATIONAL SCENE

In order to gain a national perspective on the distribution patterns of stolen office equipment, repair records of the IBM Corporation were compared (using the technique described above) with the automated file of stolen office machines maintained by the National Crime Information Center (NCIC). The information in this latter file is supplied to NCIC by law enforcement agencies around the country and it contains some 50,000 items. The IBM records used for comparison totaled about 1.2 million records. Using these records, nearly 7,000 matches on stolen typewriters were generated. Figure 1 depicts the number of typewriters originally stolen from each jurisdiction (including the 50 states, the District

FIGURE 1: NUMBER OF TYPEWRITERS STOLEN FROM EACH STATE, N = 6944
 (IDENTIFICATIONS MADE BY COMPARING NCIC STOLEN OFFICE EQUIPMENT
 FILE WITH REPAIR RECORDS OF IBM CORPORATION)



of Columbia, and Puerto Rico) that were identified using the matching technique. Thus, of the 7,000 stolen machines identified, 2,039 were from thefts occurring in California; 1,212, from thefts occurring in Texas; 662, from thefts occurring in New York; and so forth.

Several cautionary notes are appropriate here. First, while the volume of stolen machines identified is quite large, it should be viewed as representing only a small proportion of those that would be possible with a file more complete than the one available from NCIC. The NCIC file with its 40,000 entries reflects at best only a small subset of the office machines stolen nationwide. The reason the NCIC file is incomplete is that rates of participation in entering items to the file varies greatly among the states and among law enforcement agencies within states. At the same time, many states have their own automated stolen property files that are used in lieu of entering items to the NCIC system. The State of California, for example, has its own Automated Property System in which some 18,000 stolen typewriters are entered--far more than were found in the NCIC file for California. In addition, practices with respect to the use of the NCIC system vary from jurisdiction to jurisdiction. Some agencies, for example, only enter items in NCIC when the loss in a theft exceeds a given dollar value; others only use NCIC in cases where the jurisdiction would be prepared to extradite for the crime.

Thus, the 7,000 identifications made here grossly underrepresents the number that would be possible with a more complete stolen property file.*/

Given the incompleteness of the NCIC file, care should be taken in interpreting the statistics found in Figure 1, and in particular in comparing the number of identifications of stolen items made for the various states. This is because the number of stolen machines identified for each state represents not only an index of the magnitude of the stolen typewriter problem in a jurisdiction, but also an indication of participation in the NCIC system. Thus, the States of California and Texas for which a far greater number of stolen items were identified than for any other states, both have a serious stolen office equipment problem. It would be inappropriate to conclude, however, that the magnitude of that problem is as much greater in California and Texas as the number of identifications seems to indicate. Rather, the number of identifications made can be linked to a high rate of participation in NCIC by law enforcement agencies in those two states. At the other end of the spectrum, it would be erroneous to conclude that

*/ This is the major reason for advising project monitors that, should they wish to pursue use of the technique at the national level, focus should be directed at obtaining access to automated property files maintained by individual states.

such populous states as Connecticut, Maryland, and Massachusetts, where relatively few identifications were made, do not have a stolen office equipment problem, when the number of identifications made undoubtedly has a great deal to do with the participation of these states in NCIC. In reviewing Figure 1, then, it should be noted that the picture it portrays, while generally accurate in that the states having the largest number of identifications are also likely to be those with the greatest number of office equipment thefts, may not accurately reflect the comparative magnitude of the problem among various states.

Two additional problems of interpretation relating both to Figure 1 and to the information to be presented subsequently should be noted. First, none of the nationwide matches discussed here have as yet been field verified and investigated. The verification feature used in the matching technique is a critically important one since different models of IBM machines in the lower range of serialization have duplicate serial numbers. Thus, if errors in identifying the model of a machine occurred either in IBM records or in the NCIC file, then the resulting matches would not be accurate. Until field verification, however, it is difficult to establish what portion of the matches recorded here are accurate ones.

A second similar source of error may occur when a customer fails to notify IBM that his/her machine has been stolen. In this case, the stolen item appears on the NCIC tape while the theft victim's original repair record remains on the IBM tape. Thus, what was an apparent match would actually identify the theft victim as the current possessor of the stolen item. Again, since verification procedures could not be undertaken on the national matches, it is impossible to estimate how many such matches may have occurred. It is possible, however, to describe the impact of such matches on the national figures discussed below. The effect of such matches would be to reduce the number of stolen machines recorded as staying within a state and hence would increase the proportion identified as moving interstate. Thus, it is quite possible that the interstate component of the national distribution patterns for stolen office equipment is actually more significant than the figures discussed below may indicate.

Despite these noted cautions and problems, the information presented here is believed to reflect a generally accurate overview of the structure of nationwide trafficking patterns for stolen office equipment. It should be remembered that this is the first opportunity ever available to observe the movements of stolen goods on a nationwide basis, not tied to a specific set of investigations or prosecutions. As such, the information provided here is both unique and extraordinarily valuable in suggesting appropriate law enforcement responses to organized

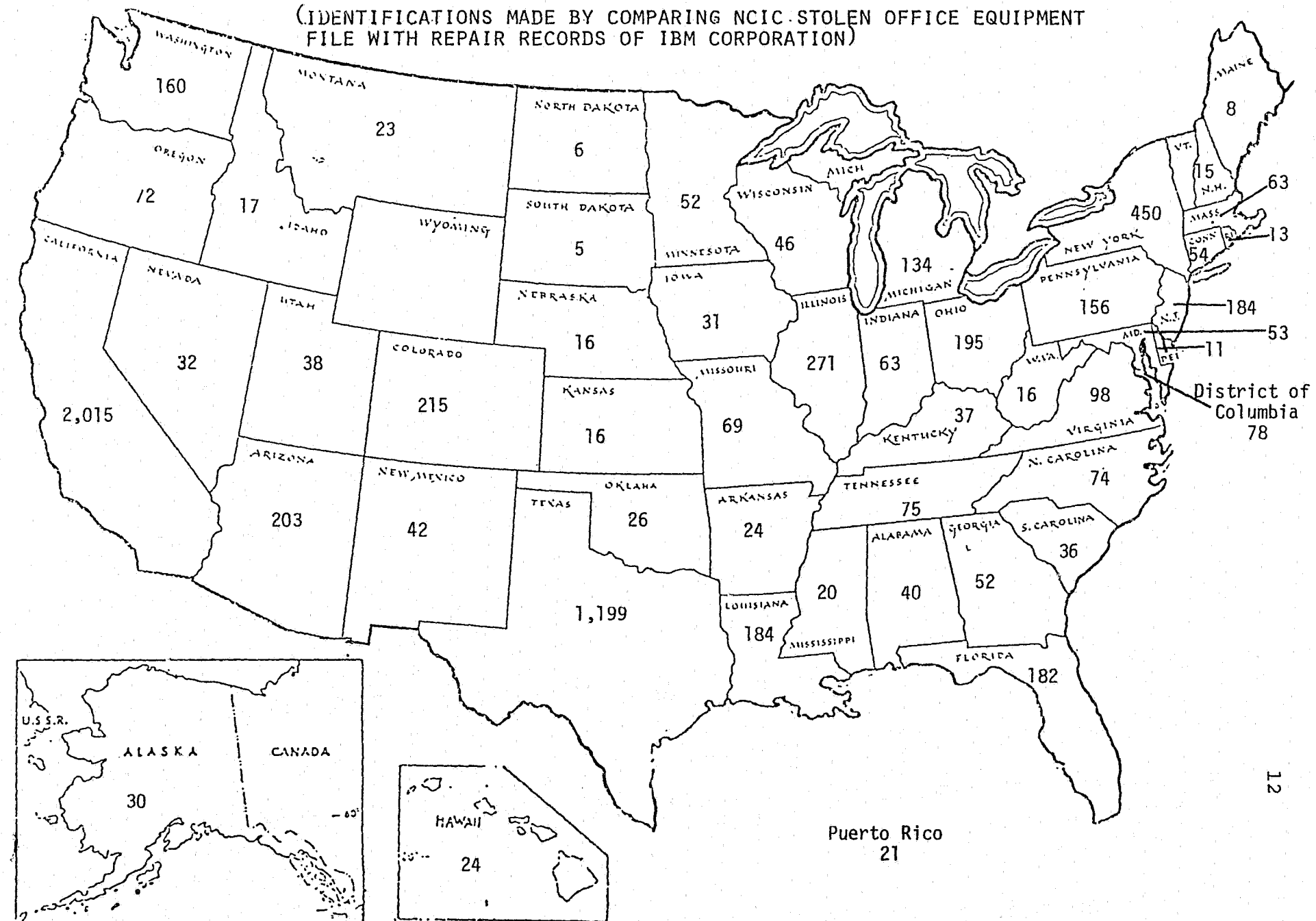
stolen property transactions, even though the precise magnitudes of the problem as described below may be modified if and when field verifications and investigations are undertaken.

A. Current Locations of Identified Stolen Typewriters

Figure 1 (presented earlier) depicted the originating jurisdictions, i.e., original place of theft, for the nearly 7,000 stolen typewriters located using the NCIC-IBM matching procedure. Figure 2 (below) indicates the identified, current locations of these 7,000 typewriters. As can be seen in Figure 2, the jurisdictions for which the largest number of stolen typewriters were identified tended also to be those in which the greatest number of stolen typewriters were located. The State of California, for example, which had more of its stolen typewriters identified (2,039) than any other jurisdiction, also led all jurisdictions in having the greatest number of stolen typewriters (2,015) found within its borders. Texas, which had 1,212 of its stolen typewriters identified, was found to have 1,199 stolen machines within its boundaries.

At the other end of the spectrum, there were some states which had relatively few of their own stolen typewriters identified, but which nevertheless were found to be "home" to a significant number of stolen machines. The State of Louisiana, for example, might

FIGURE 2: NUMBER OF STOLEN TYPEWRITERS LOCATED IN EACH STATE, N = 6,944
 (IDENTIFICATIONS MADE BY COMPARING NCIC STOLEN OFFICE EQUIPMENT
 FILE WITH REPAIR RECORDS OF IBM CORPORATION)



be placed in this category; whereas only 68 of Louisiana's stolen typewriters were identified using the matching technique, 184 stolen machines were identified as being within her borders. A similar pattern occurs in the state of Virginia where 98 stolen machines were located, but which had only 53 of its own machines identified. North Carolina and Massachusetts which both had only 37 of their own stolen machines located, were shown to be "home" respectively to 74 and 63 stolen typewriters.

The number of stolen typewriters located in each state is generally comprised of two components: (1) machines stolen in the state and remaining there (representing a domestic or intrastate marketplace); and (2) machines stolen in other states and migrating there (representing an import or interstate marketplace). Depending upon which of these components is focused on, one can observe different patterns of significance for the nationwide distribution of stolen office equipment among the various states. Thus, some states which represent an important market for stolen office equipment, as evidenced by the number of stolen typewriters located there, exhibit a marketplace dominated by a domestic traffic in such goods. Other states portray a marketplace dominated by an import traffic in stolen typewriters.

These contrasting marketplace patterns are depicted in Table 1 (below) where all jurisdictions in which 75

TABLE 1

JURISDICTIONS WHERE 75 OR MORE STOLEN TYPEWRITERS
WERE LOCATED, BROKEN DOWN BY THE DOMESTIC
AND IMPORT COMPONENTS OF THE MARKETPLACE
N = 16

Jurisdiction	Total # of Typewriters Located in Jurisdiction	Domestic Type- writers in Jurisdiction		Import Type- writers in Jurisdiction	
		Number	% of Total	Number	% of Total
Arizona	203	160	79%	43	21%
California	2,015	1,518	75%	497	25%
Colorado	215	135	63%	80	37%
District of Columbia	78	32	41%	46	59%
Florida	182	75	41%	107	59%
Illinois	271	113	42%	158	58%
Louisiana	184	54	29%	130	71%
Michigan	134	41	31%	93	69%
New Jersey	184	80	43%	104	57%
New York	450	215	48%	235	52%
Ohio	195	47	24%	148	76%
Pennsylvania	156	49	31%	107	69%
Tennessee	75	26	35%	49	65%
Texas	1,199	924	77%	275	23%
Virginia	98	19	19%	79	81%
Washington	160	75	47%	85	53%

or more stolen typewriters were located are listed. For each jurisdiction listed, the total number of stolen machines located there is given, followed by the number and proportion of those representing the domestic marketplace and the number and proportion of those representing the import marketplace for that jurisdiction.

Two separate patterns emerge in Table 1 that appear to be based at least in part on geography. Thus all of the jurisdictions displayed in the table located in the western United States are dominated by a domestic market for stolen office equipment.*/ The largest number of stolen typewriters identified, for example, were located in California and Texas, but three fourths of these had been originally stolen in those jurisdictions. Similarly in Arizona where 203 stolen machines were located, 79 percent had been stolen and remained in that state.

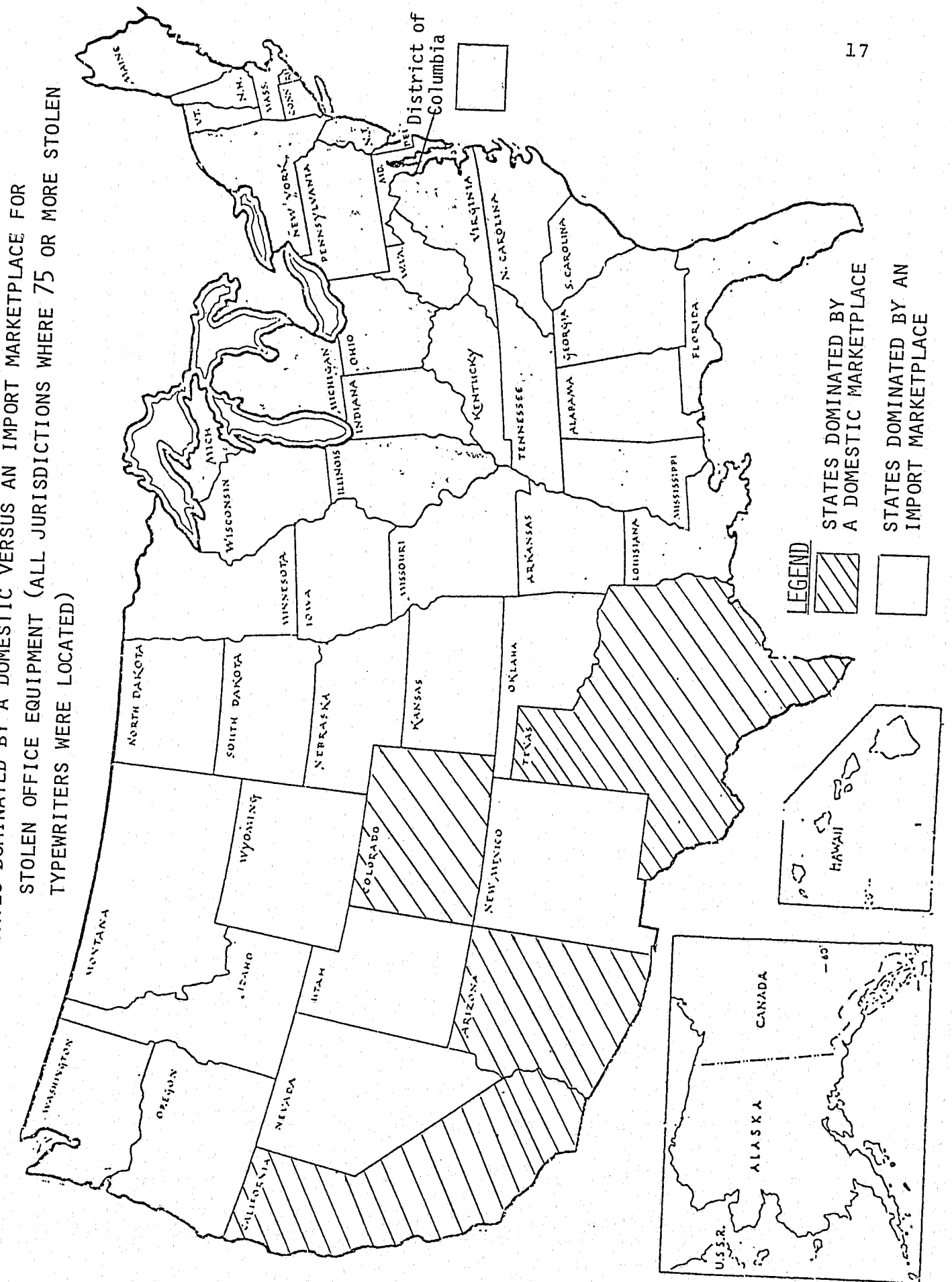
A somewhat different marketplace pattern emerges as one moves eastward across the country, however. Thus, of the 450 stolen machines located in New York, more than half had been stolen elsewhere and imported into the state. Similarly 58 percent of the typewriters found in Illinois and 76 percent of those located in Ohio had been stolen in other states. Because there is some reason to speculate that factors other than mere geographic location

*/ This is with the exception of the state of Washington where the domestic and import components are roughly equivalent.

may affect the marketplace patterns found in various jurisdictions, each group of states is discussed in more detail below. The divergent marketplace patterns among states described in Table 1 are displayed pictorially in Figure 3.

1. Jurisdictions dominated by a domestic market for stolen office machines. Apart from their geographic placement within the United States, the jurisdictions in Table 1 with a stolen office equipment marketplace dominated by a domestic component (California, Texas, Colorado, and Arizona) share another characteristic in common. They are all states characterized by rapid growth, spurred by commercial and industrial expansion. The industrial boom and accompanying growth in California has been of longer duration than that presently occurring in Texas, Colorado, and Arizona, but all four states represent areas of the country experiencing rapid expansion. This shared characteristic is of more than passing significance since the marketplace discussed here involves a commodity, office equipment, closely linked to commercial and industrial development. Thus one would expect to find a large and growing demand for office equipment to exist in these states--a demand that can be met by illegitimate as well as legitimate suppliers. Because of the rapid and concentrated growth in the states, it is not surprising to find that many typewriters stolen

FIGURE 3: STATES DOMINATED BY A DOMESTIC VERSUS AN IMPORT MARKETPLACE FOR STOLEN OFFICE EQUIPMENT (ALL JURISDICTIONS WHERE 75 OR MORE STOLEN TYPEWRITERS WERE LOCATED)



there never leave the jurisdiction, but remain there to satisfy a lively local demand for such items. For the illicit trafficker in office equipment, there is no point in arranging for interstate transport of such items when a viable market for them is "right around the corner." The marketplace pattern observed for these states, then, with its large domestic component, is quite consistent with the larger economic portrait one might paint of these jurisdictions. It is also not surprising to find that a listing of states in which more than 60 percent (60%) of the office equipment stolen from the state remained there for resale is dominated by jurisdictions in the western part of the United States. This listing is provided in Table 2.

While the stolen office equipment marketplace in California, Texas, Colorado, and Arizona is dominated by the domestic component, the import side of the market for stolen typewriters is also of interest. Figures 4 through 7 depict the original jurisdictions from which stolen typewriters made their way to each of these four states. What is clear from these figures is that California and Texas not only have large internal markets for stolen typewriters but also represent major supply sources of such items to meet the demand in other states.^{*/} Also in Figures 4-7 Illinois and New York, known to be major importing states, are shown to be prominent as well in supplying stolen times to other states.

^{*/} Thus California was a major out-of-state supplier of stolen typewriters in Texas, Colorado, and Arizona; and Texas, a major supplier to the other three states.

FIGURE 4: STATES OF ORIGIN FOR STOLEN TYPEWRITERS NOW LOCATED IN CALIFORNIA
N = 2,015 (TOP FIVE STATES ARE COLOR-SHADED)

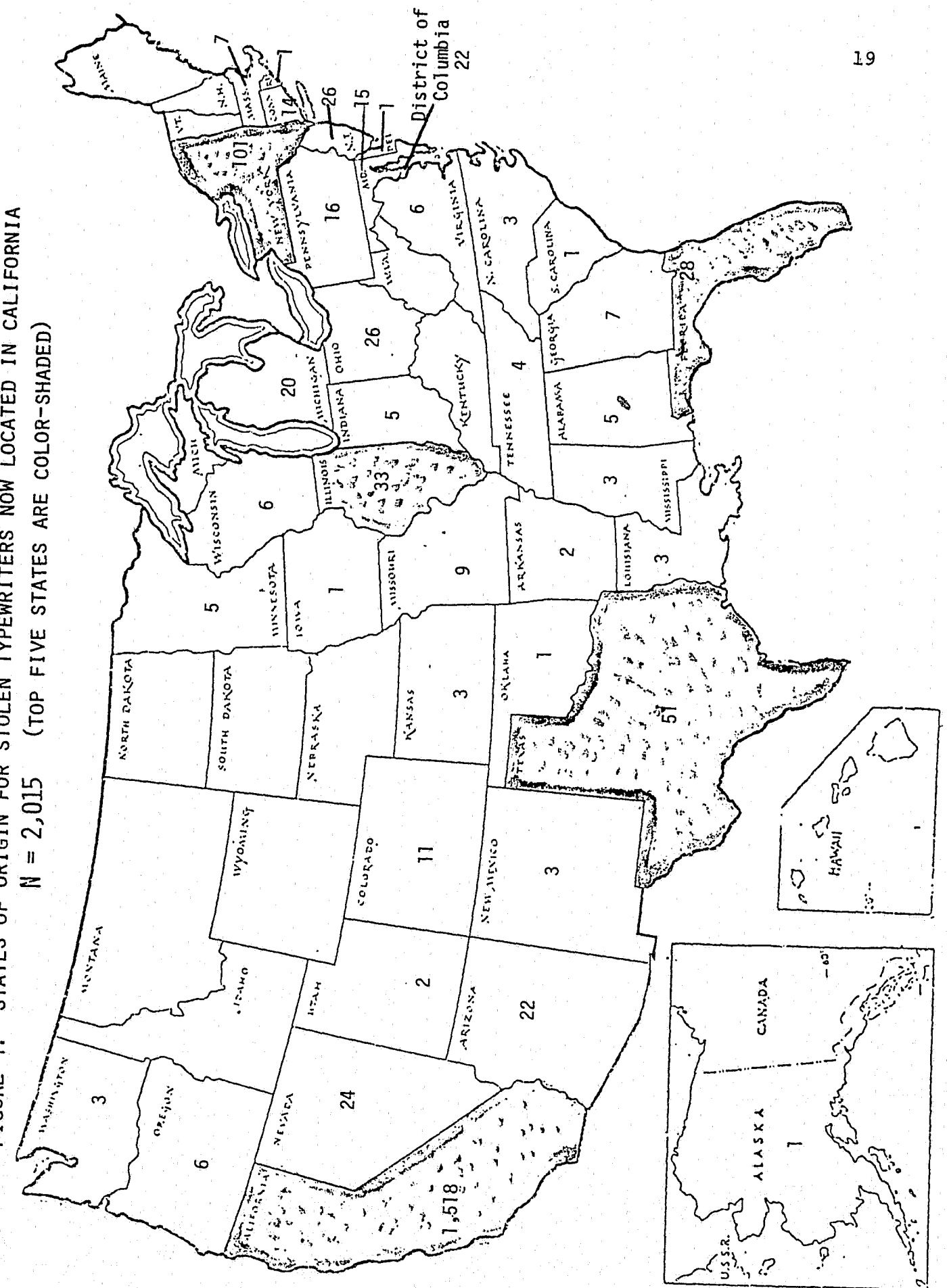


FIGURE 5: STATES OF ORIGIN FOR STOLEN TYPEWRITERS NOW LOCATED IN TEXAS
 N = 1,199 (TOP FIVE STATES ARE COLOR-SHADED)

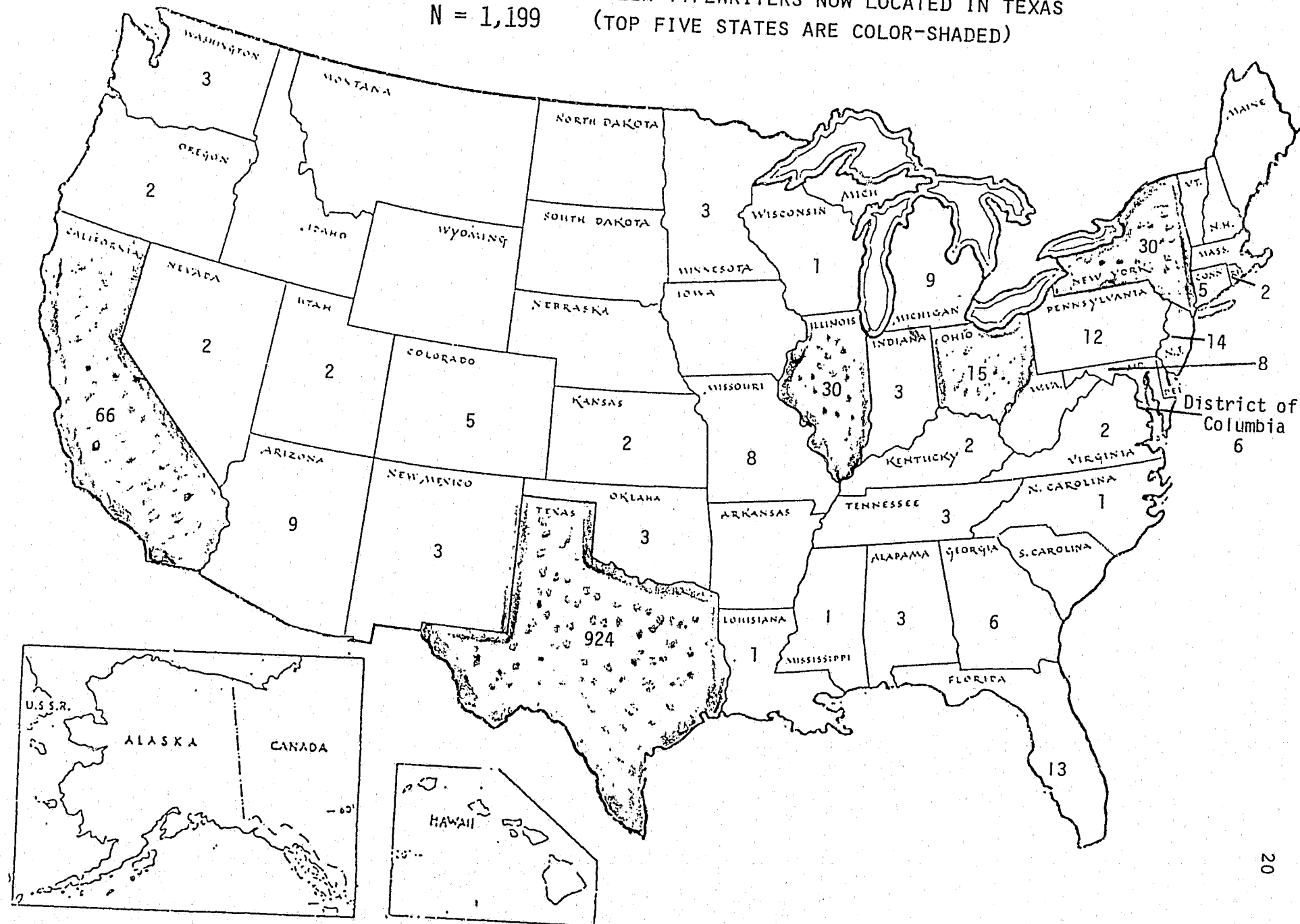


FIGURE 6: STATES OF ORIGIN FOR STOLEN TYPEWRITERS NOW LOCATED IN COLORADO
N = 215 (TOP FIVE STATES ARE COLOR-SHADED)

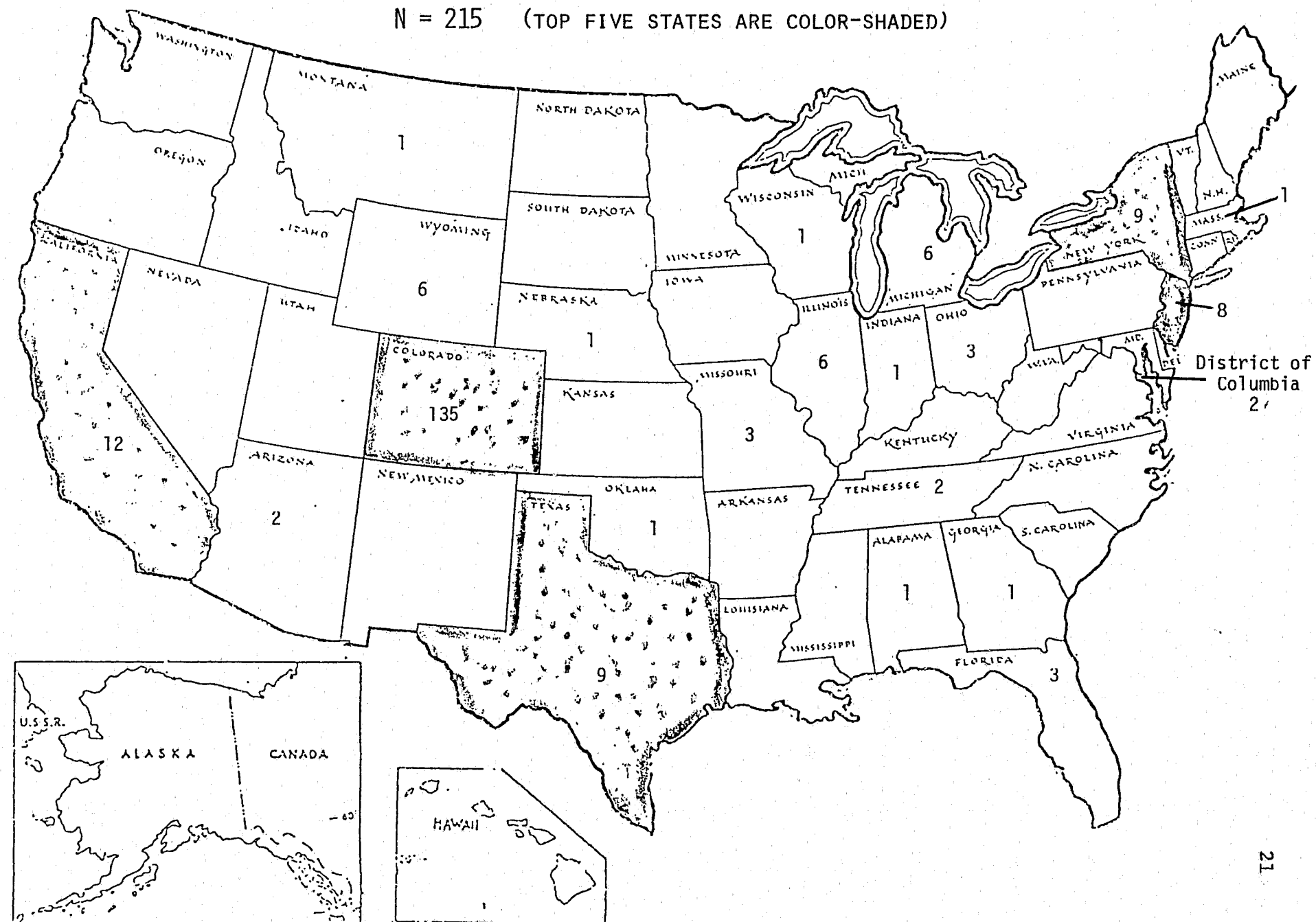


FIGURE 7: STATES OF ORIGIN FOR TYPEWRITERS NOW LOCATED IN ARIZONA, N = 203

(TOP FIVE STATES ARE COLOR-SHADED)

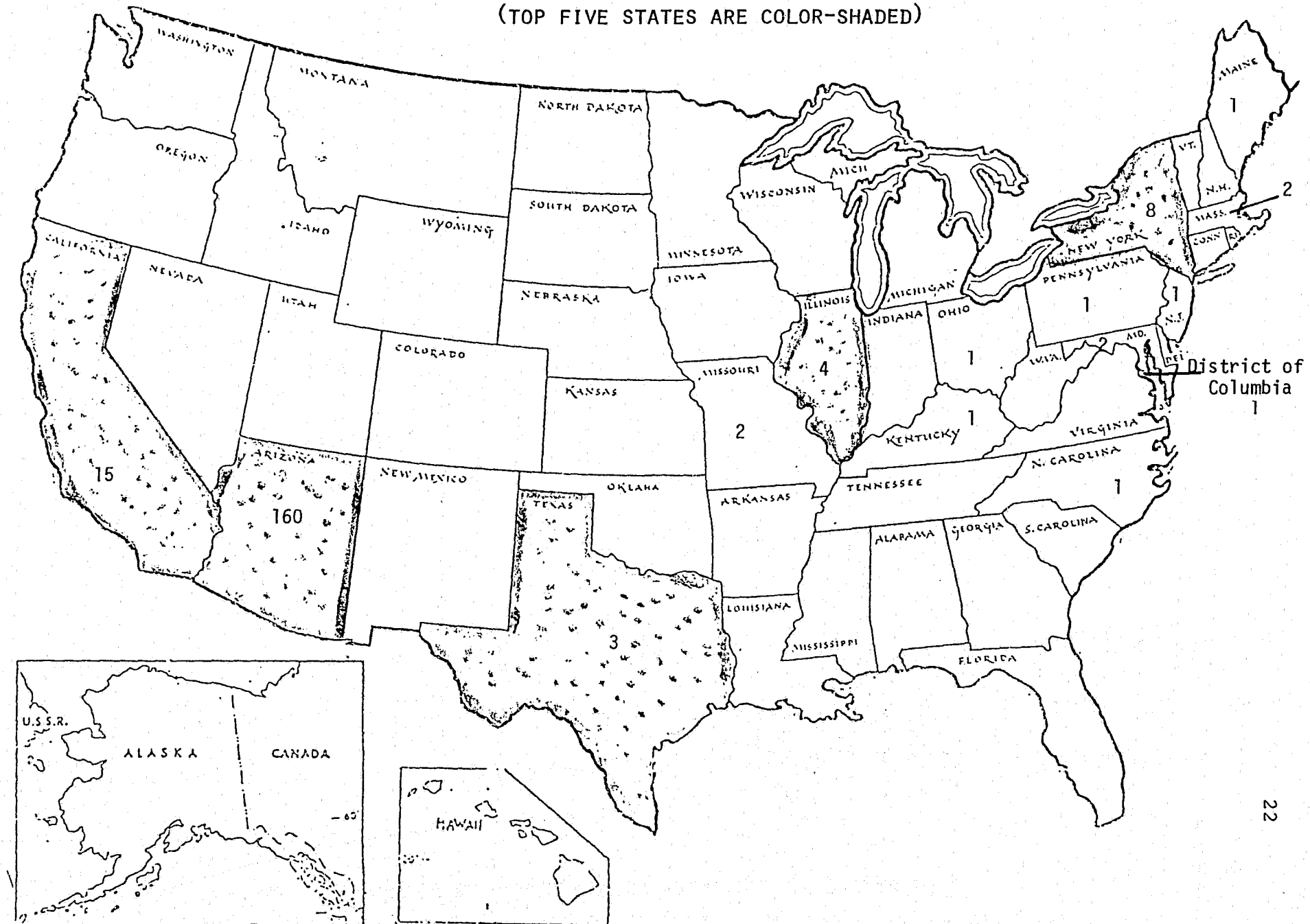


TABLE 2

STATES WHERE MORE THAN 60% OF THE
STOLEN TYPEWRITERS REMAINED IN THE JURISDICTION
N = 8

State	Total # of State's Stolen Typewriters Identified	# of Stolen Typewriters Remaining in State	% of Stolen Typewriters Remaining in State
Alaska	15	11	73%
Arizona	247	160	64%
California	2,039	1,518	74%
Colorado	186	135	72%
Hawaii	6	5	83%
Louisiana	68	54	79%
Texas	1,212	924	76%
Washington	115	75	65%

Thus in Figure 4 where the sources supplying the California stolen office equipment marketplace are depicted, New York is shown to be the major supply source after the state of California itself. In Figure 5 where Texas' sources of supply are noted, California is the major out-of-state supplier. For Colorado and Arizona (Figures 6 and 7 respectively), California is once again the major supply source. Clearly states like California and Texas with large typewriter theft problems can manage both to meet a large domestic demand for such goods and to be important sources of supply for such demand in other jurisdictions.

2. Jurisdictions dominated by an import market for stolen office equipment. As noted in Table 1 above, most of the states with a stolen office equipment marketplace dominated by the import component are located in the eastern half of the country. The 12 jurisdictions noted in Table 1 as displaying this marketplace pattern are: New York, Illinois, Ohio, Louisiana, New Jersey, Florida, Pennsylvania, Michigan, Virginia, Tennessee, the District of Columbia, and Washington (the only western U.S. representative in the group). Apart from their geographic placement within the country, most of these states share the characteristic of being heavily industrialized with industry concentrated in densely populated urban and suburban areas. Another characteristic shared by at least two thirds of these states is that they are commonly regarded as major centers of organized crime activity within the nation.

Because of the extent of commercial activity in these jurisdictions, they have, as expected, a substantial domestic demand for office equipment. Curiously enough, however, this demand appears less likely to be satisfied in the illicit marketplace by office machines stolen internally than it is by stolen items being imported from outside the jurisdiction. The other side of this picture, of course, is that domestically stolen office equipment appears more likely to be exported to other jurisdictions than to be resold intrastate. For illicit traffickers of stolen office equipment in these states the presence of a large domestic demand for such items is clearly less significant in determining their distribution patterns than are other factors.

In speculating about what these other factors might be, some consideration should be given to the key element of transportation. Obviously when an illegitimate marketplace is dominated by the movement of stolen items into and out of a jurisdiction, it must be facilitated by ready access to reliable transportation mechanisms. In this regard, the shorter distances between major markets in the eastern United States can be expected to be of some benefit to the illicit transporter of stolen office equipment. Also of importance--and at least as worthy of speculation--to the efficient movement of stolen goods may be the existence in many of these states of well-established, illicit relationships that while typically associated with more

traditional organized criminal activities, may be of general benefit to other criminal endeavors.

There is some reason to suspect that even in this energy conscious era in which we live the latter point may be of greater significance than the relatively short distances between eastern U.S. markets. For when the originating jurisdictions from which stolen typewriters were imported by these 12 states are plotted (as is done in Figures 8-19), it is clear that extensive distance does not deter the illicit importer of stolen office equipment. Indeed in Figure 8 where the states of origin for stolen typewriters located in New York are shown, the States of California, Illinois, and Texas appear as more frequent sources of supply than do states closer, or immediately adjacent to New York. This same pattern is evident in Figure 9 where the States of California, Texas, New York, and New Jersey are shown to be more likely sources of stolen typewriters for Illinois than are her immediate neighbors. A similar situation is observed in Figures 10-16 where the supply sources for stolen typewriters found respectively in the District of Columbia, Florida, Louisiana, Michigan, Tennessee, Virginia, and Washington are depicted. In only three of the 12 importing states (New Jersey, shown in Figure 17; Ohio, in Figure 18; and Pennsylvania, in Figure 19), do geographically proximate jurisdictions play a role as supply sources equal to or more important than more distant jurisdictions. Even with

FIGURE 8: STATES OF ORIGIN FOR STOLEN TYPEWRITERS NOW LOCATED IN NEW YORK,
N = 450 (TOP FIVE STATES ARE COLOR-SHADED)

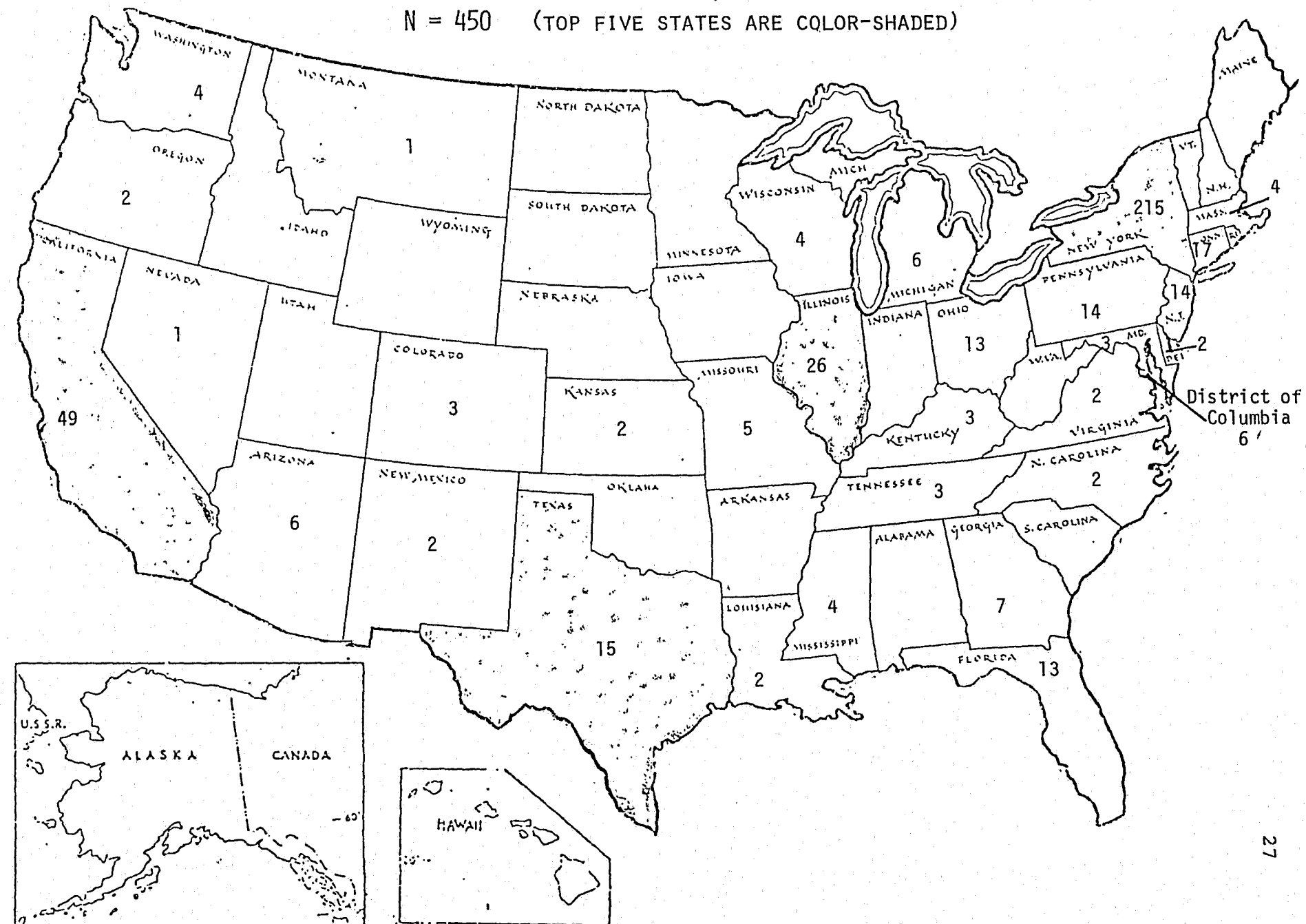


FIGURE 9: STATES OF ORIGIN FOR STOLEN TYPEWRITERS NOW LOCATED IN ILLINOIS,
 N = 271 (TOP FIVE STATES ARE COLOR-SHADED)

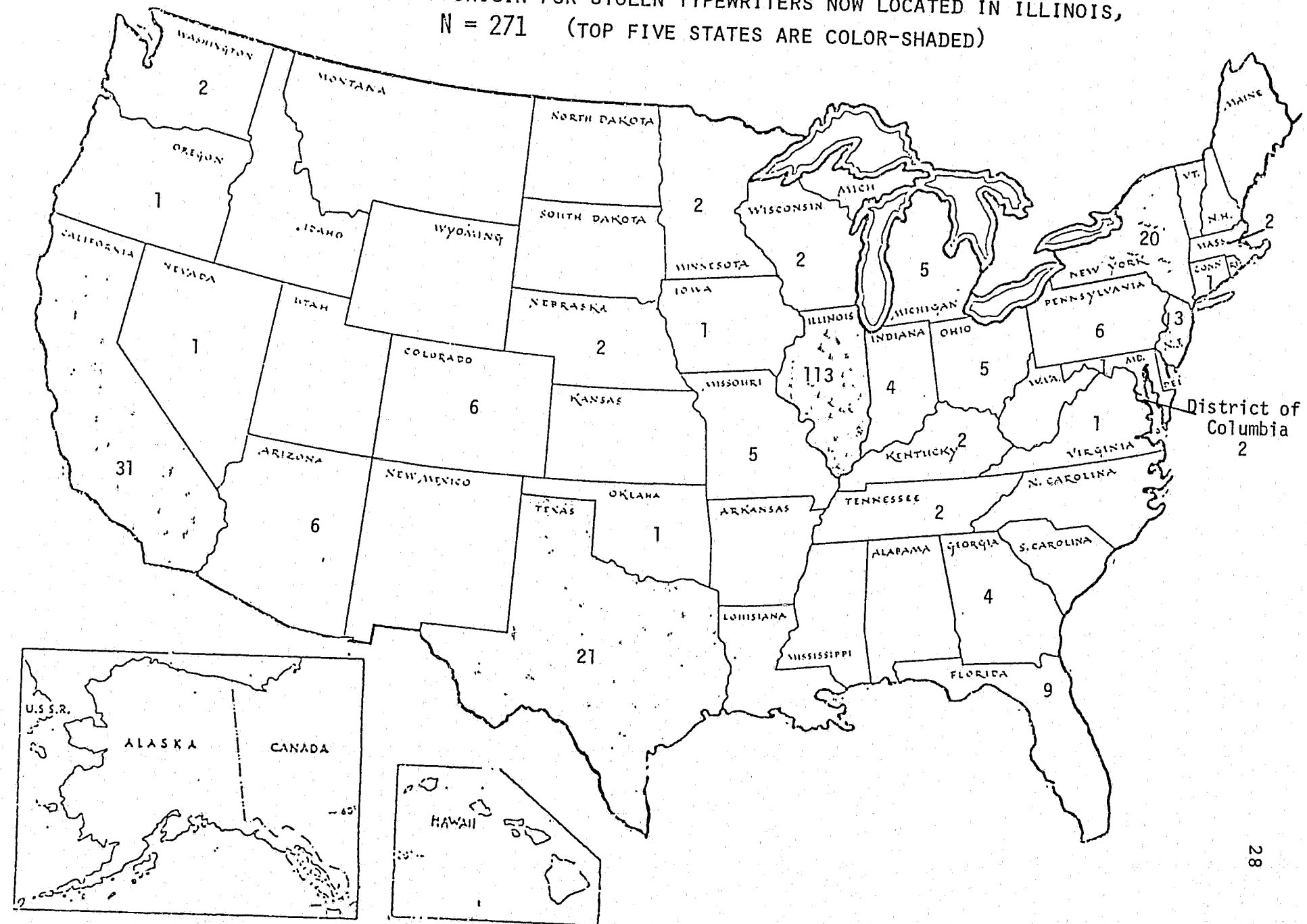


FIGURE 10: STATES OF ORIGIN FOR STOLEN TYPEWRITERS NOW LOCATED IN THE DISTRICT OF COLUMBIA, N = 78 (TOP 5 STATES ARE COLOR-SHADED)

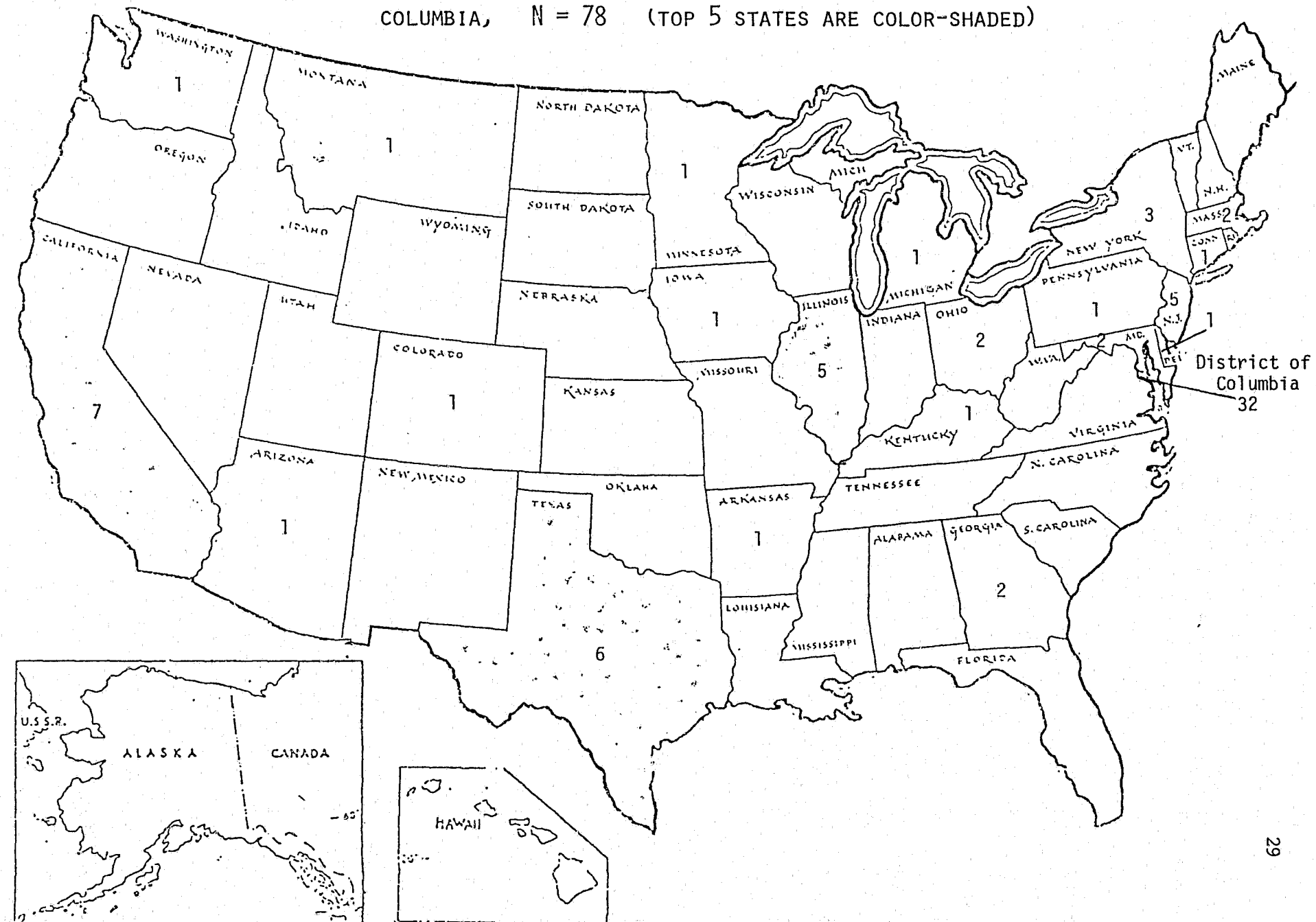


FIGURE 11: STATES OF ORIGIN FOR STOLEN TYPEWRITERS NOW LOCATED IN FLORIDA
 N = 182 (TOP FIVE STATES ARE COLOR-SHADED)

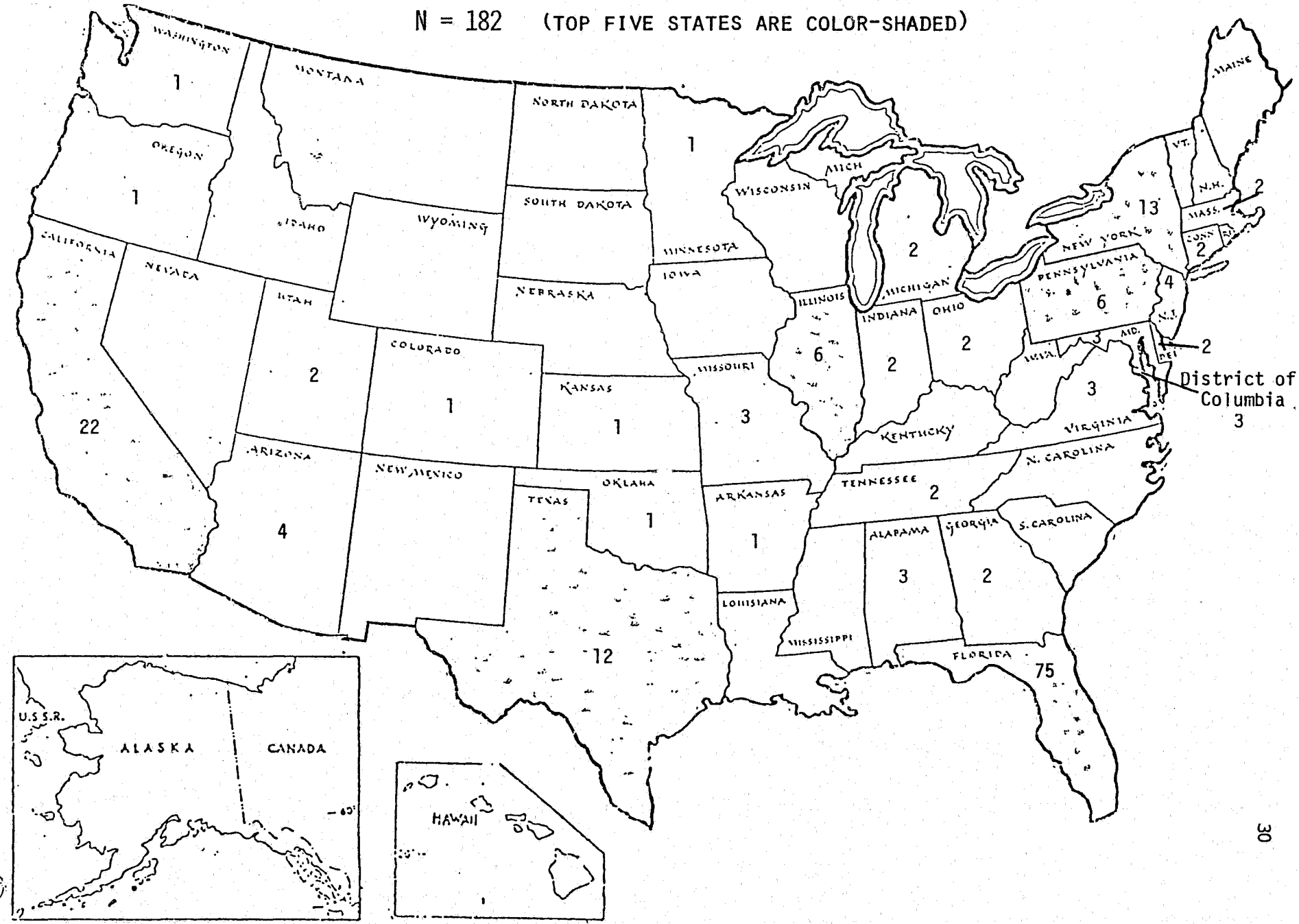


FIGURE 12: STATES OF ORIGIN FOR STOLEN TYPEWRITERS NOW LOCATED IN LOUISIANA
 N = 184 (TOP FIVE ARE COLOR-SHADED)

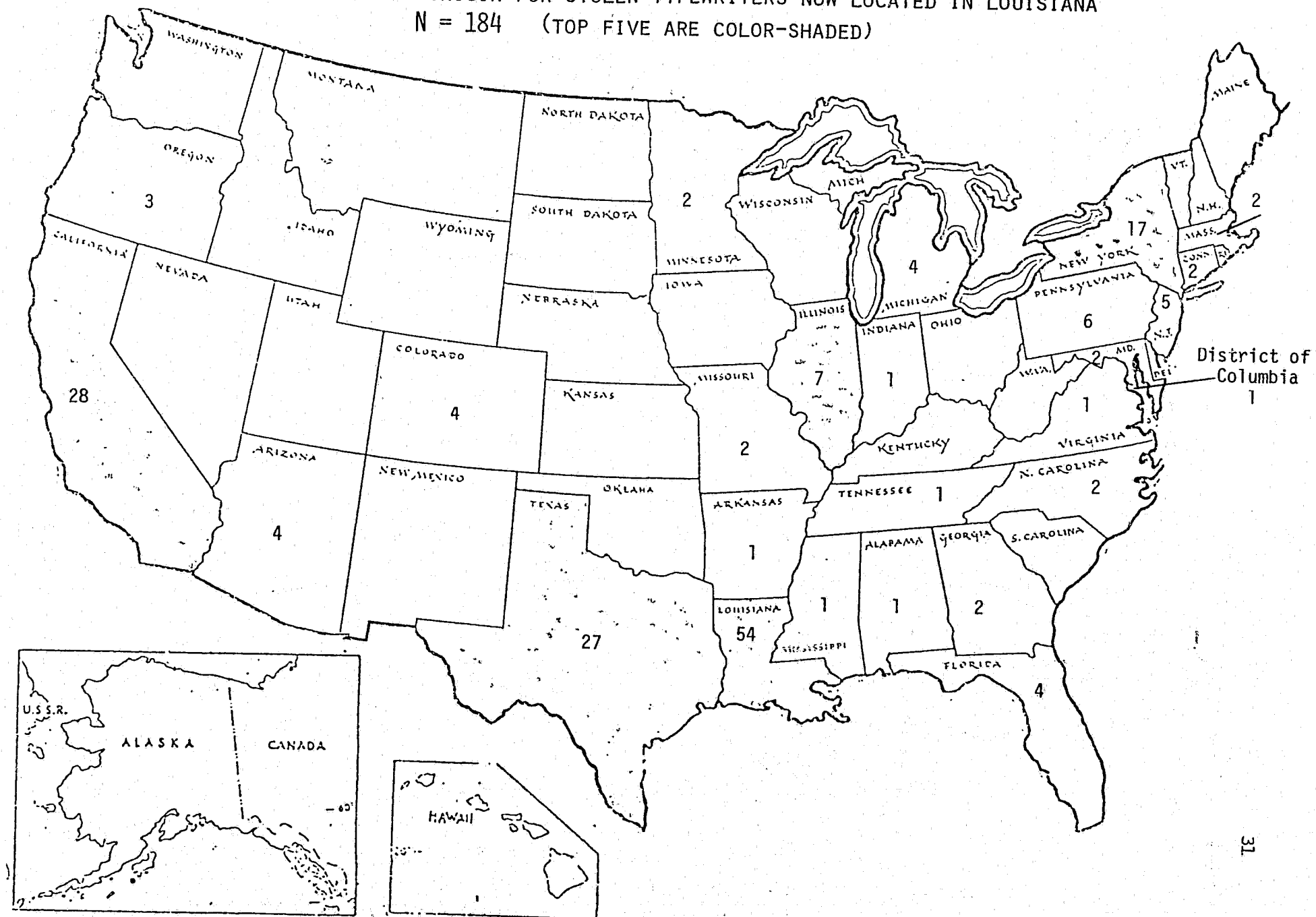


FIGURE 13: STATES OF ORIGIN FOR STOLEN TYPEWRITERS NOW LOCATED IN MICHIGAN
 N = 134 (TOP FIVE STATES ARE COLOR-CODED)

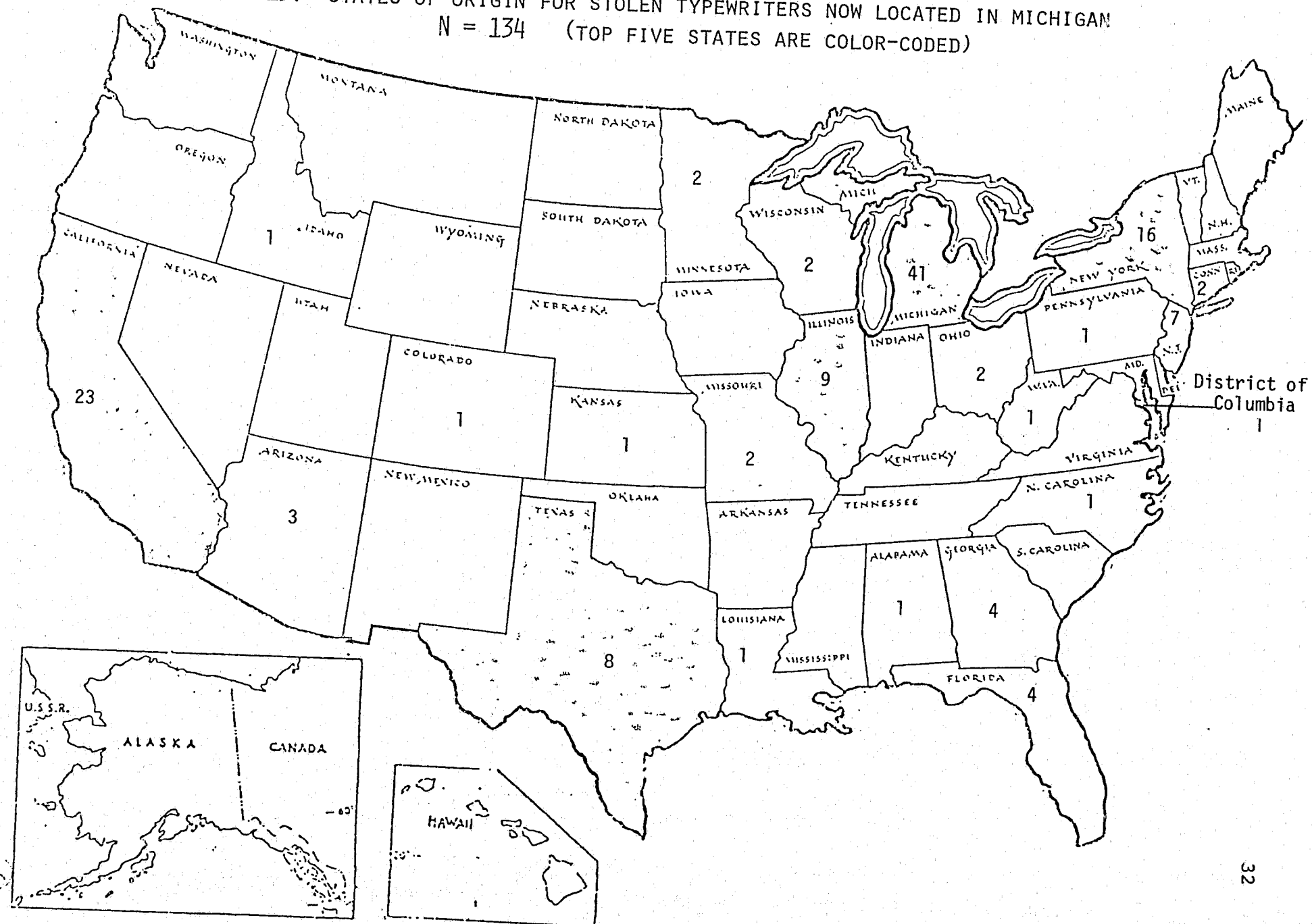
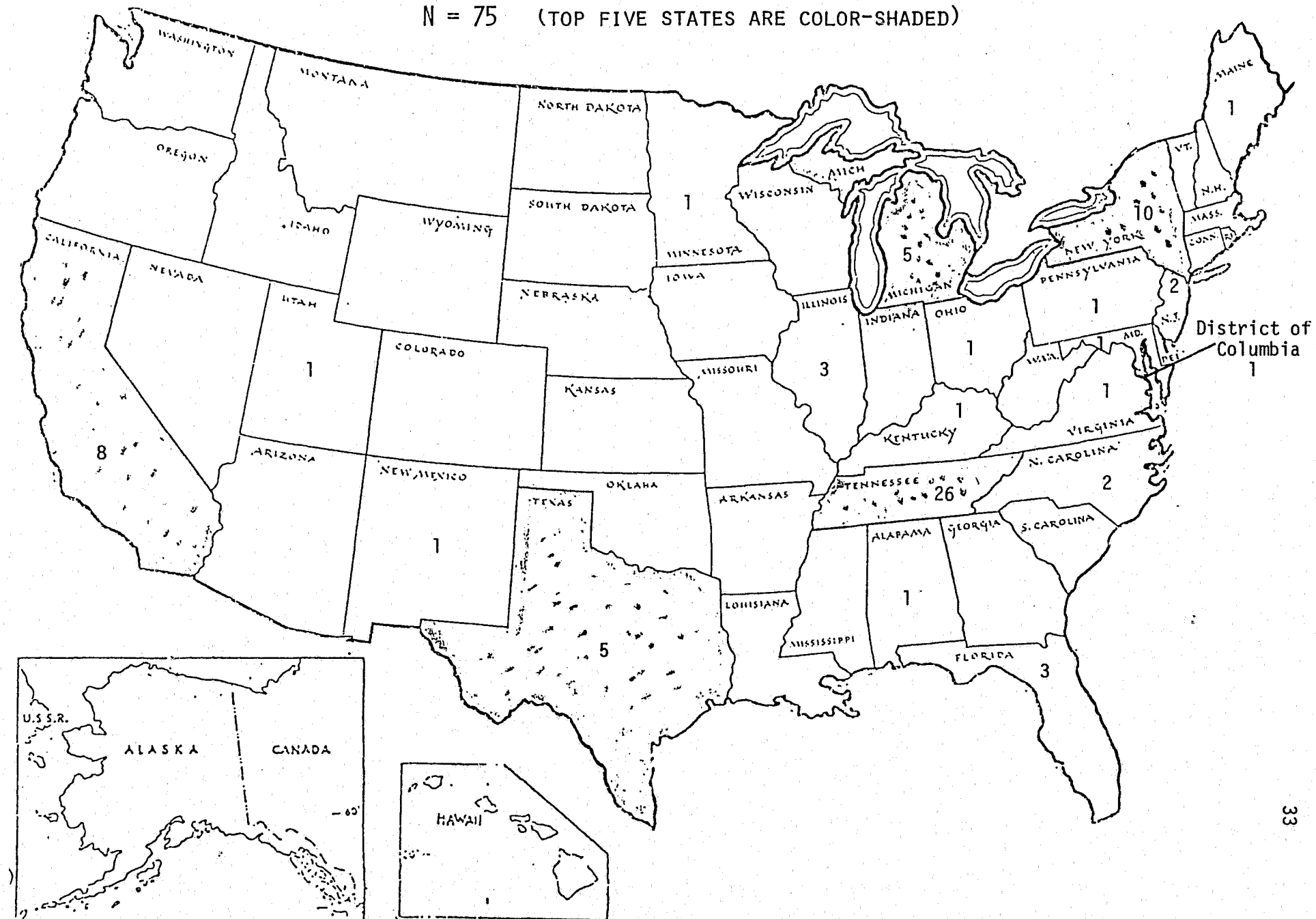


FIGURE 14: STATES OF ORIGIN FOR STOLEN TYPEWRITERS NOW LOCATED IN TENNESSEE
N = 75 (TOP FIVE STATES ARE COLOR-SHADED)



Map of the United States showing the number of stolen typewriters found in each state. The total is $N = 98$. The top five states are color-shaded: California (11), New York (13), Pennsylvania (7), Virginia (19), and Texas (4). Other states with counts include Washington, Oregon, Idaho, Wyoming, Montana, North Dakota, South Dakota, Nebraska, Kansas, Oklahoma, Arkansas, Louisiana, Mississippi, Alabama, Georgia, South Carolina, North Carolina, Tennessee, Kentucky, Indiana, Ohio, Michigan, Wisconsin, Illinois, Missouri, Minnesota, Iowa, Wisconsin, Michigan, Indiana, Ohio, Pennsylvania, New York, New Jersey, Connecticut, Massachusetts, Vermont, New Hampshire, Maine, Rhode Island, Delaware, Maryland, District of Columbia (11), Alaska, and Hawaii.

FIGURE 16: STATES OF ORIGIN FOR STOLEN TYPEWRITERS NOW LOCATED IN WASHINGTON
 N = 160 (TOP FIVE STATES ARE COLOR-SHADED)

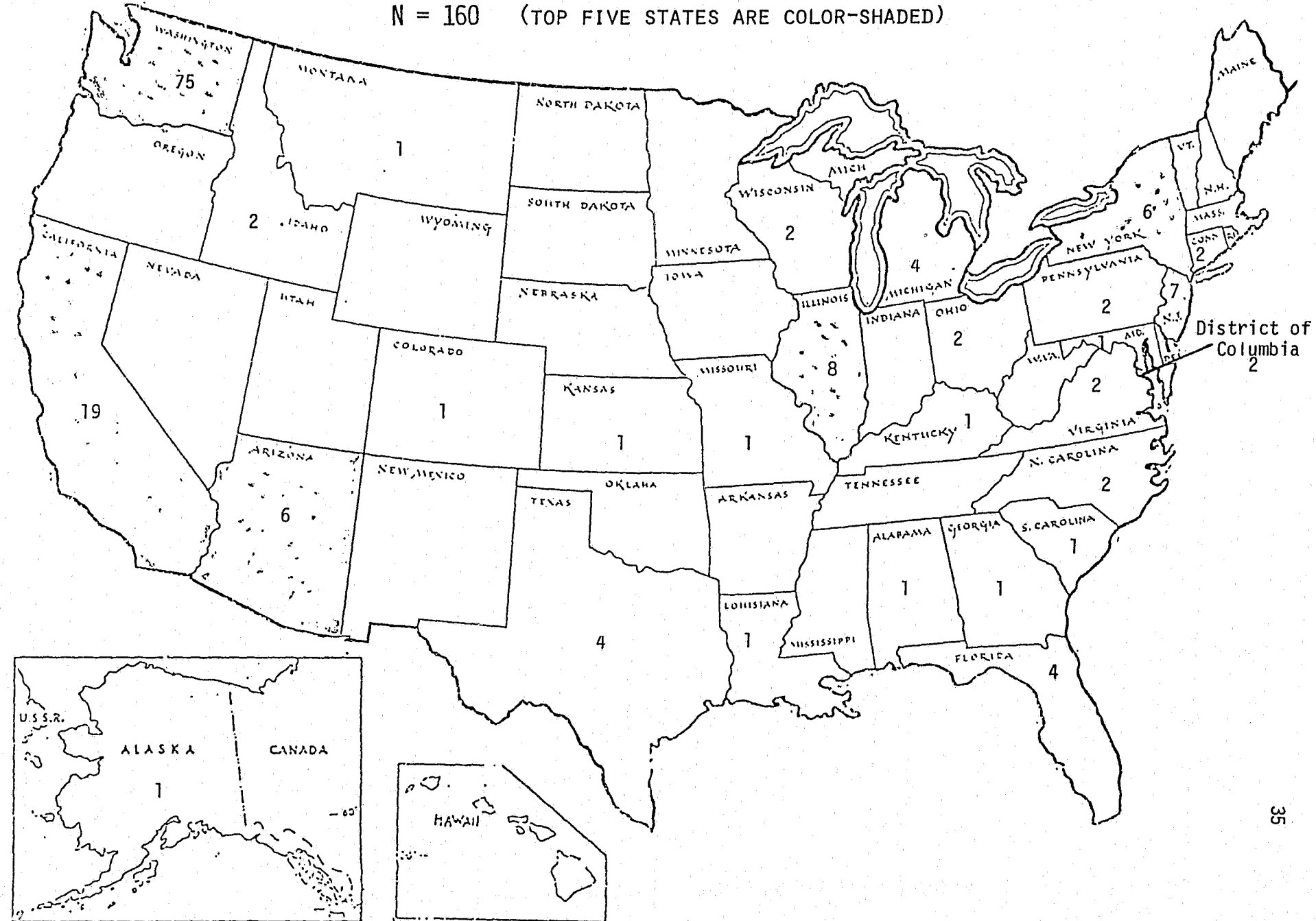


FIGURE 17: STATES OF ORIGIN FOR STOLEN TYPEWRITERS NOW LOCATED IN NEW JERSEY
 N = 184 (TOP FIVE STATES ALL COLOR-SHADED)

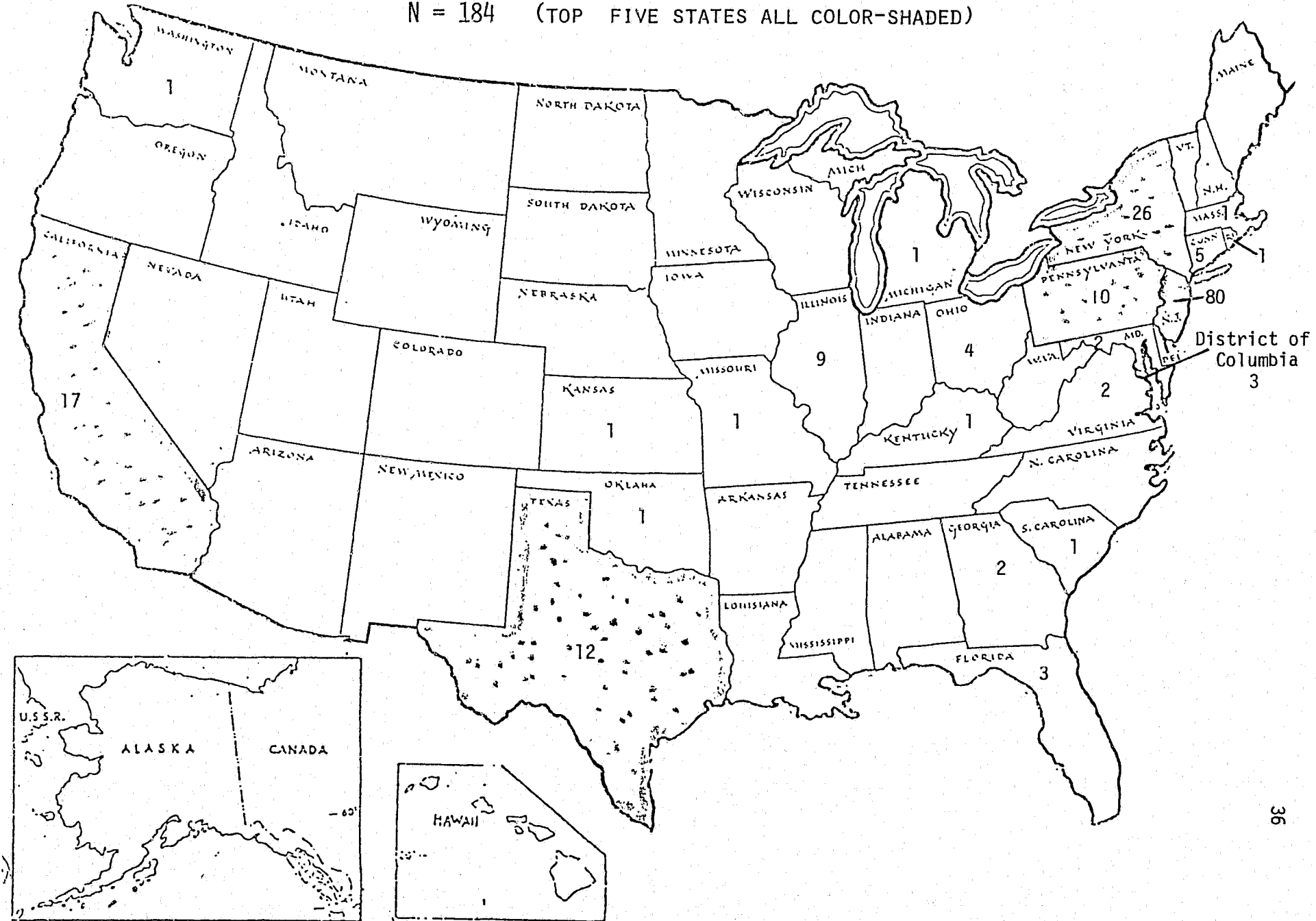
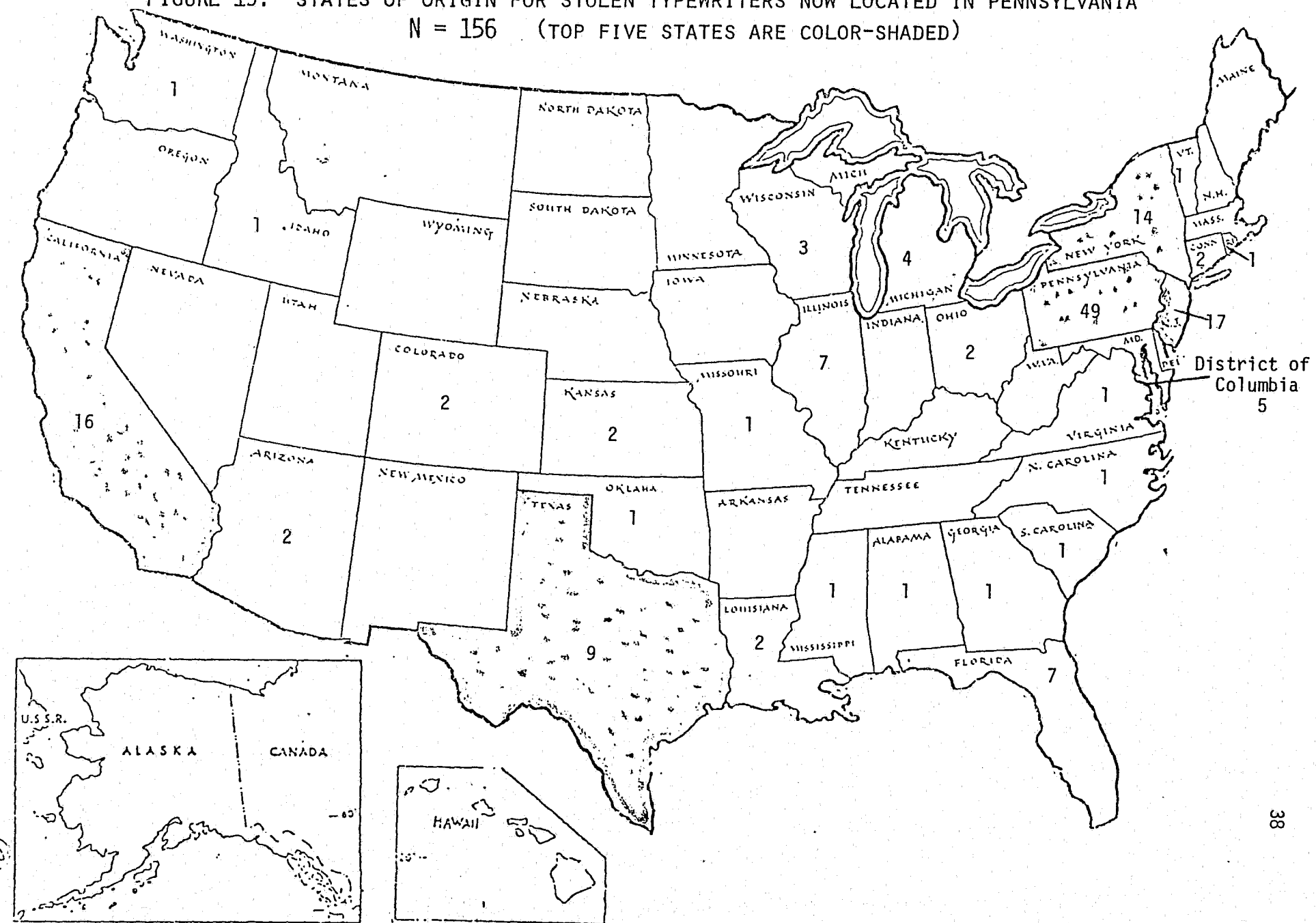


FIGURE 18: STATES OF ORIGIN FOR STOLEN TYPEWRITERS NOW LOCATED IN OHIO
N = 195 (TOP FIVE STATES ARE COLOR-SHADED)

FIGURE 19: STATES OF ORIGIN FOR STOLEN TYPEWRITERS NOW LOCATED IN PENNSYLVANIA
 N = 156 (TOP FIVE STATES ARE COLOR-SHADED)



respect to these three states, however, the states of California and Texas remain important supply sources.

B. Patterns of Movement for Stolen Typewriters for Selected Jurisdictions

Having looked in some detail at the originating jurisdictions for stolen typewriters currently located in various states and having described the varied marketplace patterns thereby revealed, we now turn attention to the other side of the picture, i.e., the distribution paths taken by office machines as they move within and are exported from the jurisdiction from which they were originally stolen. Figure 1 presented earlier provided a rough index^{*/} of the magnitude of the office equipment theft problem in each state as reflected in the number of stolen machines identified for each using the matching technique. Considered below are the intra- and interstate movement patterns for stolen office equipment for all jurisdictions which had 50 or more identifications made on items stolen from their residents. With the data bases used in this project, 20 such jurisdictions, which can be viewed as having the more serious typewriter theft problems, are available for analysis. These 20 jurisdictions--together with the number of identifications made for each, the number and percentage of stolen machines remaining in state, and the number and percentage being exported to other states--are listed in Table 3.

^{*/}The cautions earlier stated at pp. 7-10 should be noted here.

TABLE 3

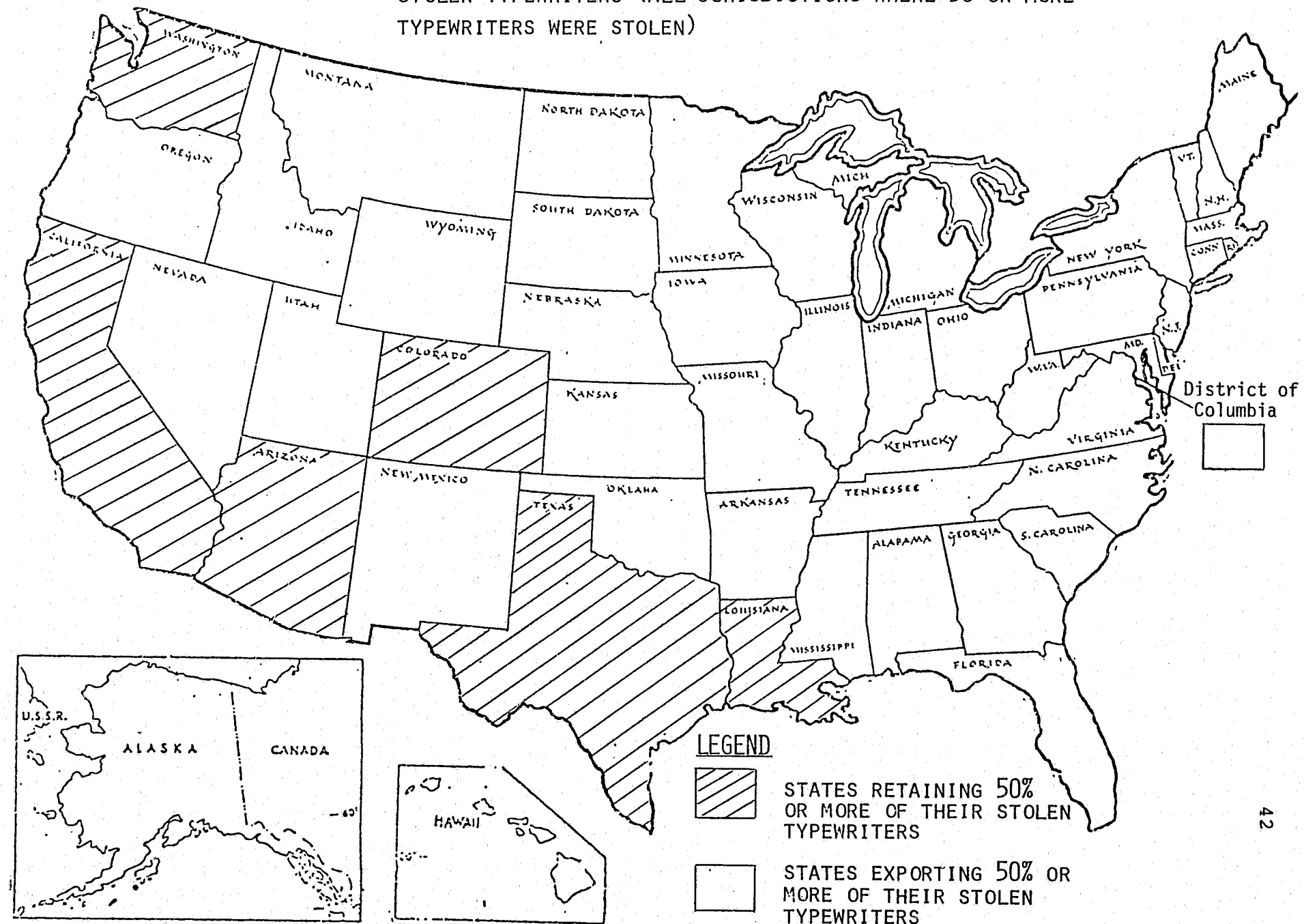
ALL JURISDICTIONS WITH 50 OR MORE
IDENTIFICATIONS OF STOLEN TYPEWRITERS,
INCLUDING TOTAL NUMBER OF IDENTIFICATIONS
MADE, NUMBER AND PERCENTAGE REMAINING
IN STATE, AND NUMBER AND PERCENTAGE
BEING EXPORTED FROM JURISDICTION, N = 20

Jurisdiction	# of Identifications Made	Machines Remaining in State		Machines Exported	
		Number	%	Number	%
Arizona	247	160	65%	87	35%
California	2,039	1,518	75	521	25
Colorado	186	135	73	51	27
Connecticut	90	15	17	75	83
Florida	222	75	34	147	66
Georgia	80	21	26	59	74
Illinois	319	113	35	206	65
Louisiana	68	54	79	14	21
Maryland	70	16	23	54	77
Michigan	139	41	29	98	71
Missouri	70	13	19	57	81
New Jersey	277	80	29	197	71
New York	662	215	32	447	68
Ohio	170	47	28	123	72
Pennsylvania	159	49	31	110	69
Tennessee	53	26	49	27	51
Texas	1,212	924	76	288	24
Virginia	53	19	36	34	64
Washington	115	75	65	40	35
District of Columbia	138	32	23	106	77

As before when the domestic and import market components of typewriters located in each state were described, two divergent patterns of stolen property movements, based roughly on whether a jurisdiction is located in the eastern or western half of the United States, emerge in Table 3 when the paths taken by machines stolen from each state are described. Thus, typewriters stolen in eastern states are far more likely to be exported than to remain in state for resale. The reverse is true with respect to Western states. These divergent patterns of movement, discussed separately below, are pictorially represented in Figure 20.

1. Jurisdictions where stolen office equipment is more likely to remain in state. Six states represented in Table 3 display distribution patterns in which office machines stolen in the jurisdiction are most likely to remain in state for resale. Of these six states--Arizona, California, Colorado, Louisiana, Texas and Washington--only one, Louisiana, is not in the western half of the United States. For all these states, the ratio of in-state redistribution is quite high when compared with the proportion of stolen typewriters exported for resale. Thus, 65 percent of the typewriters stolen in Arizona and Washington remain in state with only 35 percent available for resale elsewhere. California and Colorado retain 75 percent and 73 percent of the typewriters stolen internally for resale in the domestic marketplace, exporting only 25 percent and 27 percent respectively to other jurisdictions for resale.

FIGURE 20: STATES RETAINING STOLEN TYPEWRITERS IN-STATE VERSUS STATES EXPORTING STOLEN TYPEWRITERS (ALL JURISDICTIONS WHERE 50 OR MORE TYPEWRITERS WERE STOLEN)



Texas and Louisiana exhibit the same pattern of movement with 76 percent and 79 percent (respectively) of the domestically stolen office machines remaining in state, and only 24 percent and 21 percent being exported.

It is likely that the speculation made earlier about the rapidly growing domestic markets in Western states is equally valid here in explaining the dominance of intra-state redistribution of stolen typewriters in these jurisdictions. Indeed a comparison of the number of stolen typewriters exported from these states with the number imported by them (this comparison is shown in Table 4 below) reveals that imports typically exceed exports. For three of these states, i.e., Colorado, Louisiana, and Washington, imports substantially exceed exports. For California and Texas the number of stolen typewriters imported and exported are roughly even. It is only with respect to the state of Arizona that exports clearly and substantially exceed imports.

Despite the dominance of the internal redistribution of stolen office equipment in these six states, the external movement patterns for their stolen items are also of interest. Figures 21-26 present these movement patterns for each state separately with the most frequent export destinations for their stolen typewriters color-shaded in each figure. While individual variations in export patterns are apparent for each state, four states--California, Texas, Illinois,

FIGURE 21: IDENTIFIED LOCATIONS OF TYPEWRITERS ORIGINALLY STOLEN IN ARIZONA
 N = 247 (TOP FIVE EXPORT LOCATIONS ARE COLOR-SHADED)

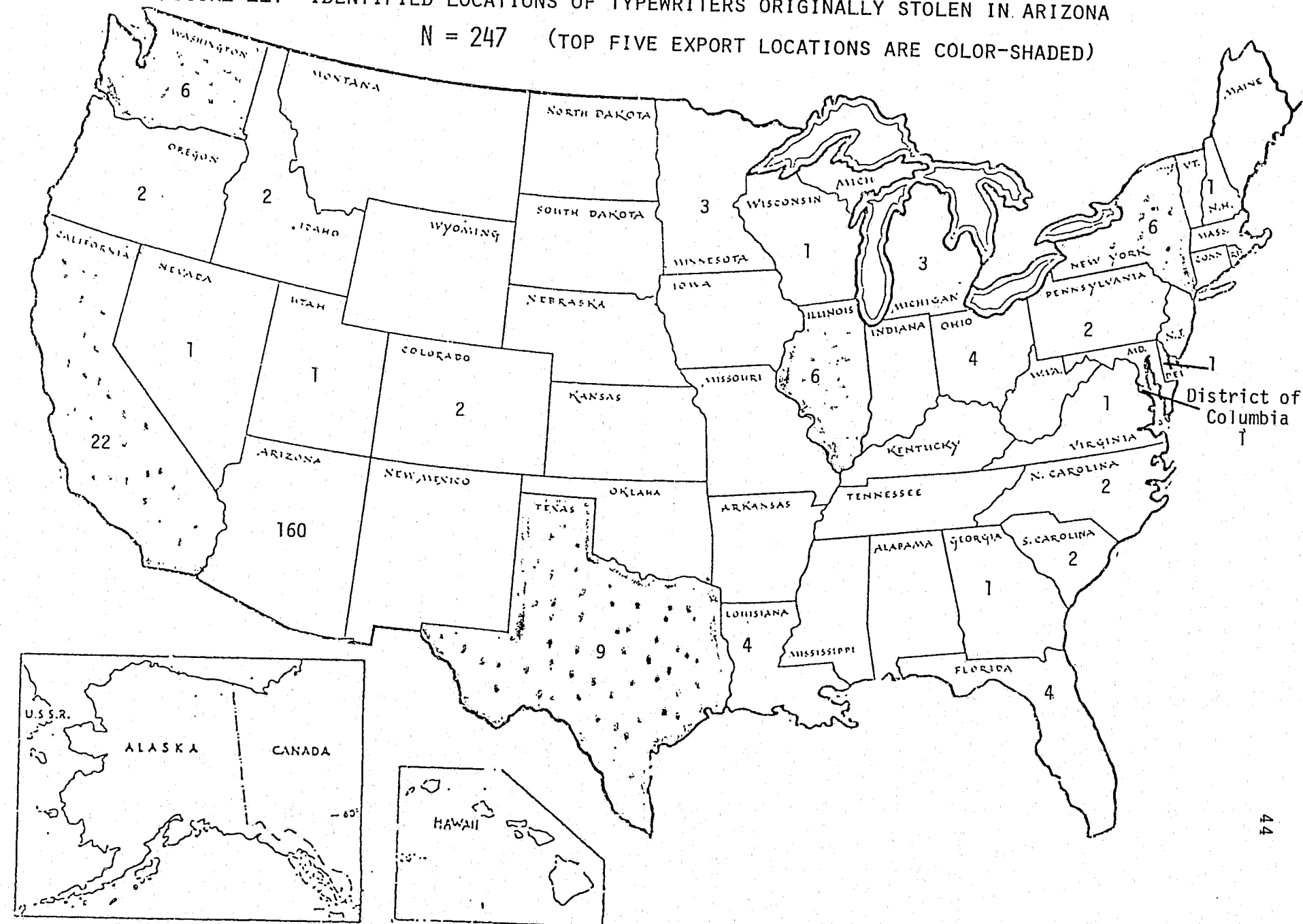


FIGURE 22: IDENTIFIED LOCATIONS OF TYPEWRITERS ORIGINALLY STOLEN IN CALIFORNIA
 N = 2,039 (TOP FIVE EXPORT LOCATIONS ARE COLOR-SHADED)

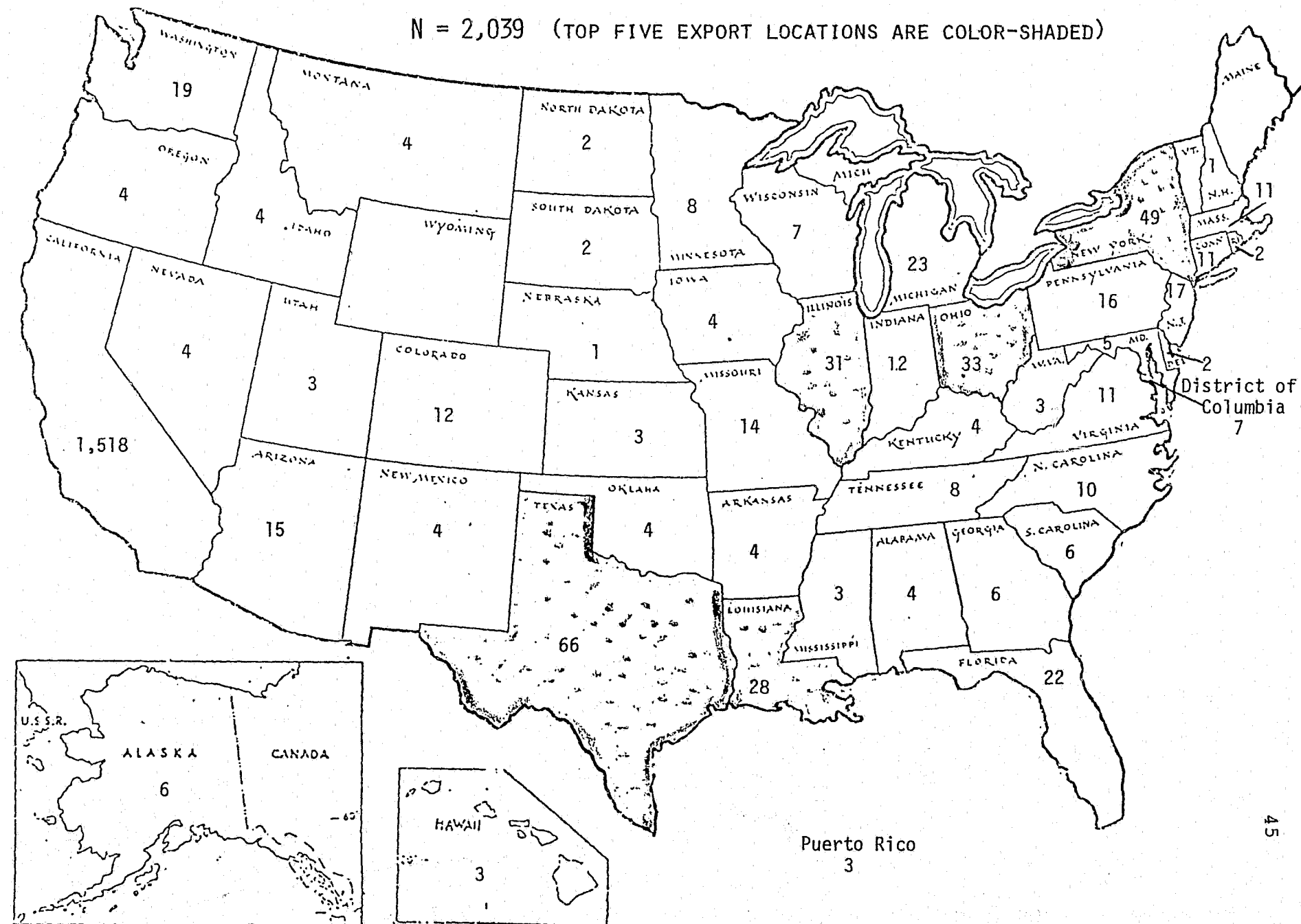


FIGURE 23: IDENTIFIED LOCATIONS OF TYPEWRITERS ORIGINALLY STOLEN IN COLORADO
N = 186 (TOP FIVE EXPORT LOCATIONS ARE COLOR-SHADED)

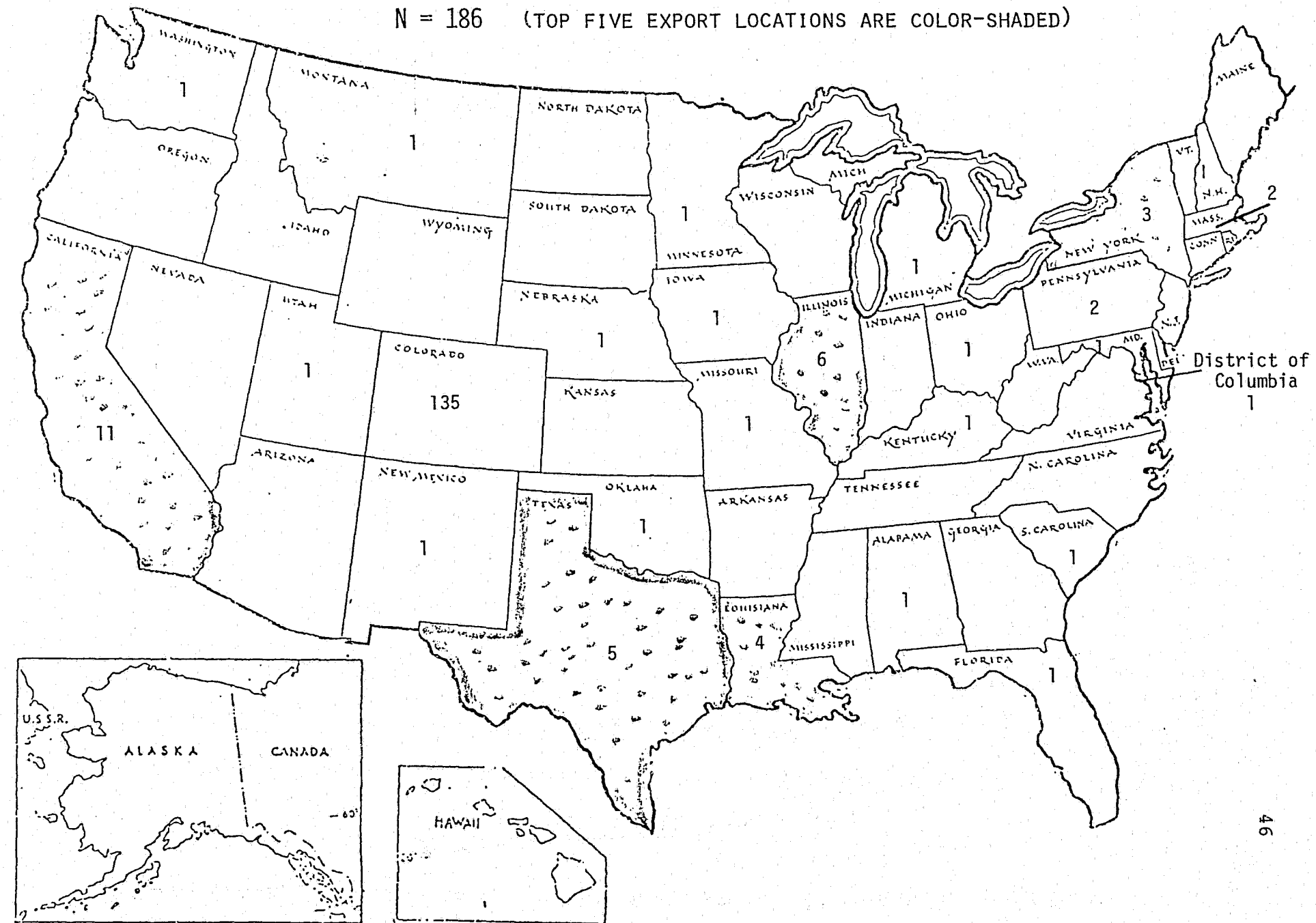


FIGURE 24: IDENTIFIED LOCATIONS OF TYPEWRITERS ORIGINALLY STOLEN IN LOUISIANA
 N = 68 (TOP THREE EXPORT LOCATIONS ARE COLOR-SHADED)

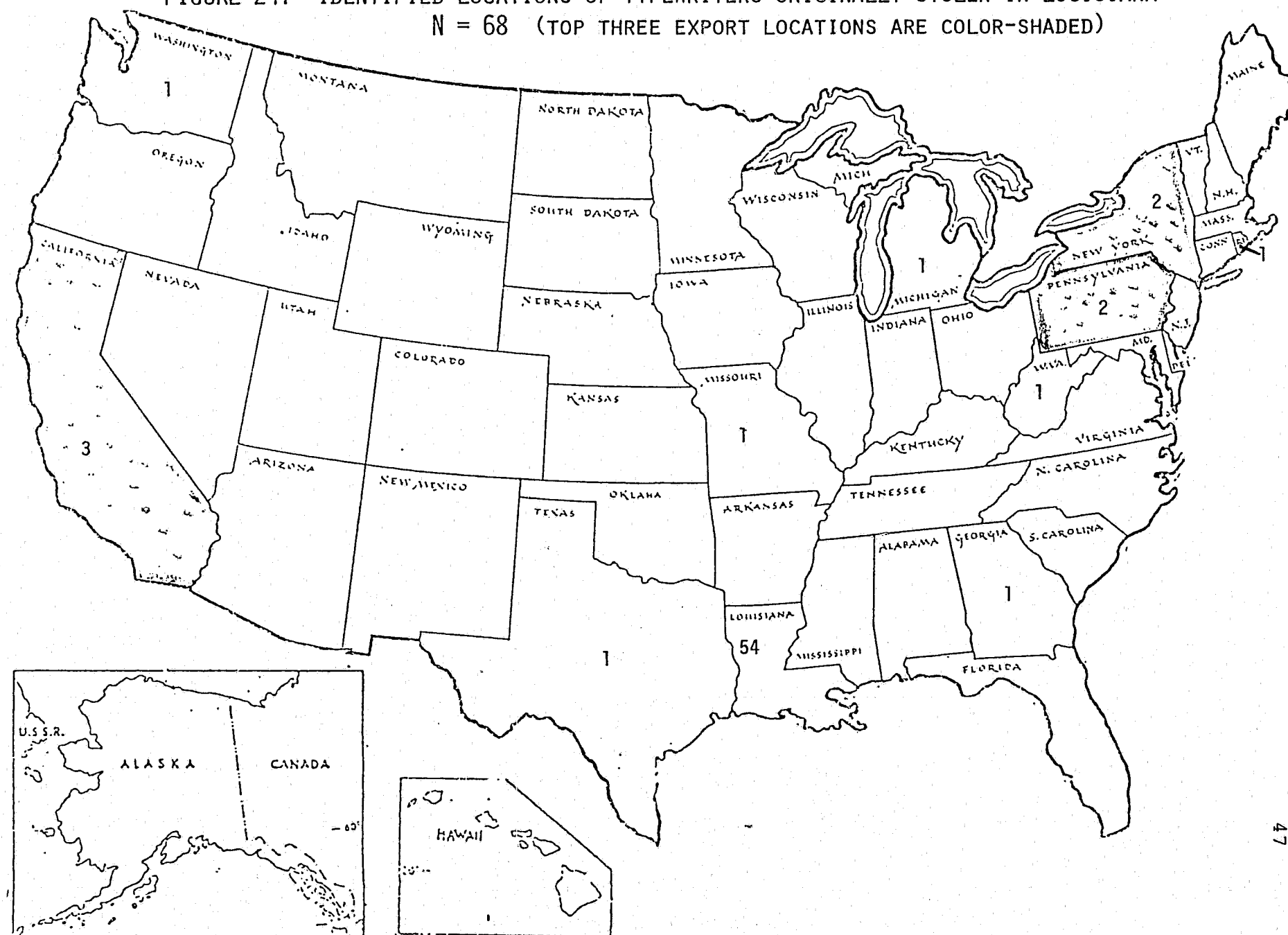


FIGURE 25: IDENTIFIED LOCATIONS OF TYPEWRITERS ORIGINALLY STOLEN IN TEXAS
 N = 1,214 (TOP SIX EXPORT LOCATIONS ARE COLOR-SHADED)

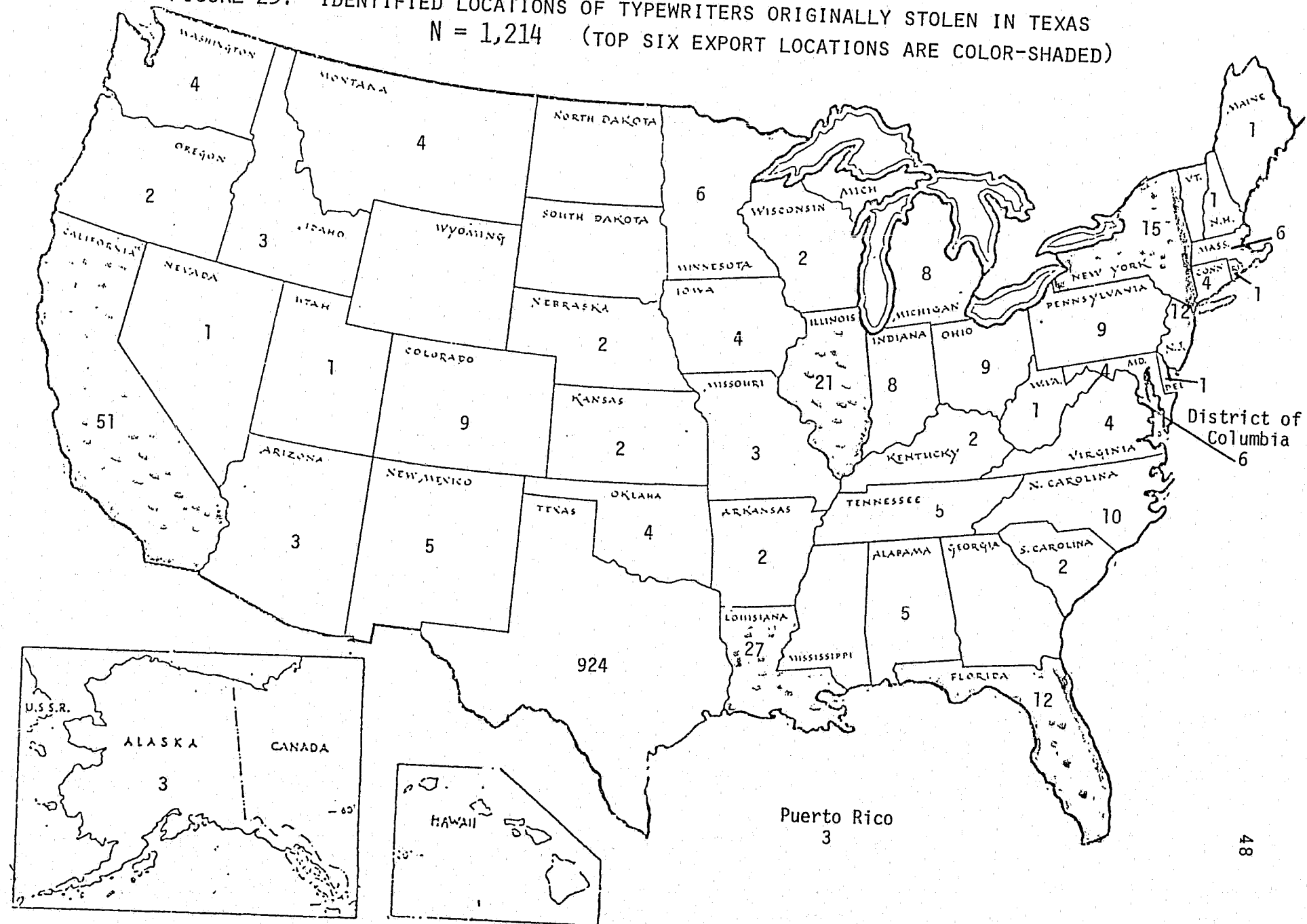
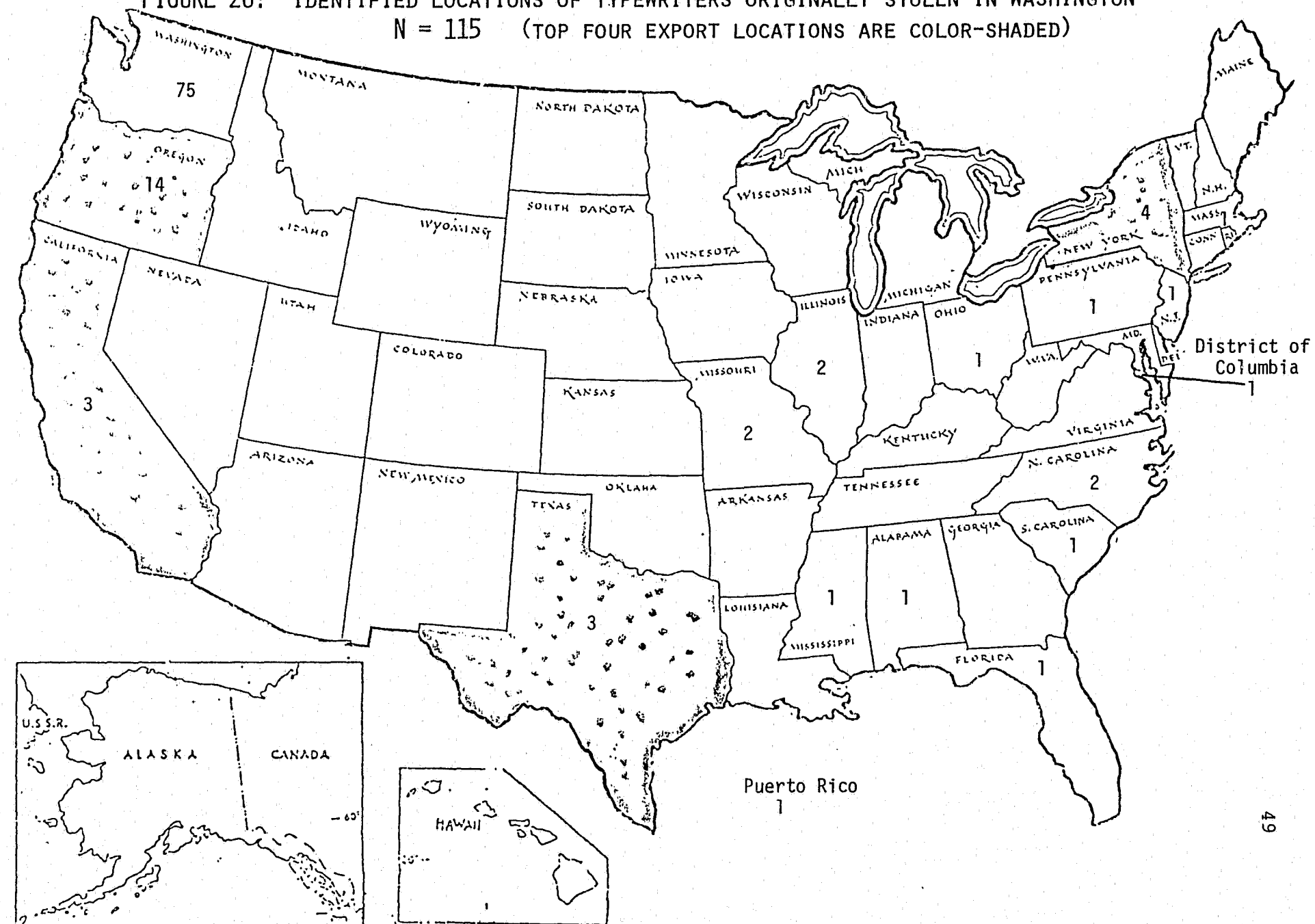


FIGURE 26: IDENTIFIED LOCATIONS OF TYPEWRITERS ORIGINALLY STOLEN IN WASHINGTON
 N = 115 (TOP FOUR EXPORT LOCATIONS ARE COLOR-SHADED)



CONTINUED

1 OF 2

TABLE 4

NUMBER OF STOLEN TYPEWRITERS IMPORTED BY AND
EXPORTED FROM THE STATES OF ARIZONA, CALIFORNIA,
COLORADO, LOUISIANA, TEXAS, AND WASHINGTON
(STATES WITH 50 OR MORE IDENTIFICATIONS OF STOLEN TYPEWRITERS)

Jurisdiction	# of Stolen Type- writers Imported	# of Stolen Type- writers Exported
Arizona	43	87
California	497	521
Colorado	80	51
Louisiana	130	14
Texas	275	288
Washington	85	40
TOTAL IMPORTS = 1,110		TOTAL EXPORTS = 1,001

and New York--emerge as important export markets for typewriters stolen in these six states. Indeed, of the 1,001 stolen typewriters exported from these six states, 315 or nearly one third are found in the four states noted above.

2. Jurisdictions where stolen office equipment is more likely to be exported to other states. Fourteen jurisdictions listed in Table 3 demonstrated distribution patterns in which stolen office equipment was more likely to be exported to other states for resale than to be resold in state. These 14 jurisdictions, which include Connecticut, Florida, Georgia, Illinois, Maryland, Michigan, Missouri, New Jersey, New York, Ohio, Pennsylvania, Tennessee, Virginia, and the District of Columbia, are all in the eastern half of the United States. The rates at which internally stolen office equipment is exported from these states is remarkably high, ranging from a minimum rate of export of 51 percent for Tennessee to a maximum of 83 percent for Connecticut.*

*/Table 3 at p. 40 can be consulted for a listing of the export rates for all these jurisdictions.

These rates are particularly intriguing when one considers that the densely-populated and commercially-important urban/suburban centers in most of these jurisdictions constitute a substantial market for office equipment. But when one remembers the extent to which many of these same states were also found to be major importers of stolen typewriters, then the earlier-noted comments about the key element of transportation in their distribution systems for stolen office equipment become once again relevant here. Indeed, inspection of Table 5 below, where the number of stolen typewriters imported by and exported from these 14 jurisdictions are summarized, demonstrates the degree to which movement of stolen items in and out of these states is a hallmark of their stolen property distribution and marketing systems. What is clear from Table 5 is just how different the patterns of movement for typewriters stolen in Eastern states are when compared with those of Western states. To begin with, substantially more stolen typewriters were exported by the 14 Eastern jurisdictions listed in Table 5 than were imported by them. In addition, in only three of these jurisdictions--Ohio, Tennessee and Virginia--did imports exceed exports. Rather in most of these states exports substantially exceed imports, with the import-export traffic being roughly equivalent in but three jurisdictions, i.e., Michigan, Missouri, and Pennsylvania.

TABLE 5

NUMBER OF STOLEN TYPEWRITERS IMPORTED BY AND EXPORTED FROM
THE STATES OF CONNECTICUT, FLORIDA, GEORGIA, ILLINOIS, MARYLAND,
MICHIGAN, MISSOURI, NEW JERSEY, NEW YORK, OHIO, PENNSYLVANIA,
TENNESSEE, VIRGINIA, AND DISTRICT OF COLUMBIA
(STATES WITH 50 OR MORE IDENTIFICATIONS OF
STOLEN TYPEWRITERS)

Jurisdiction	# of Stolen Type- writers Imported	# of Stolen Type- writers Exported
Connecticut	39	75
Florida	107	147
Georgia	31	59
Illinois	158	206
Maryland	37	54
Michigan	93	98
Missouri	56	57
New Jersey	104	197
New York	235	447
Ohio	148	123
Pennsylvania	107	110
Tennessee	49	27
Virginia	79	34
District of Columbia	46	106

Total Imports = 1,289 Total Exports = 1,740

Because of the dominance of out-of-state movement of typewriters stolen in these jurisdictions, the specific export destinations of their stolen items are of special interest. Figures 27-40 present the current locations of the typewriters stolen from each of these states, with the most prominent export destinations color-shaded in each figure. Once again, while individual variations in movement patterns are apparent for each jurisdiction, a small group of five states--California, Texas, Illinois, Ohio, and New York--represent the major export markets for typewriters stolen in all of these jurisdictions. Forty-five percent (777 out of 1,740) of the stolen typewriters exported by the 14 jurisdictions represented in Figures 27-40 are to be found in these five states alone. When it is remembered that four of the five, i.e., California, Texas, Illinois and New York, were also important export markets for typewriters stolen in Western jurisdictions, then the prominence of these four states for the nationwide distribution of stolen office equipment becomes apparent.

C. The Distribution of Stolen Office Equipment at the National Level: Some Implications for Law Enforcement

This preliminary overview of the nationwide distribution patterns for stolen office equipment has presented information of a kind that until now has not been available to the law enforcement community. Such unavailability did not occur

FIGURE 27: IDENTIFIED LOCATIONS OF TYPEWRITERS ORIGINALLY STOLEN IN CONNECTICUT
 N = 90 (TOP FOUR EXPORT LOCATIONS ARE COLOR-SHADED)

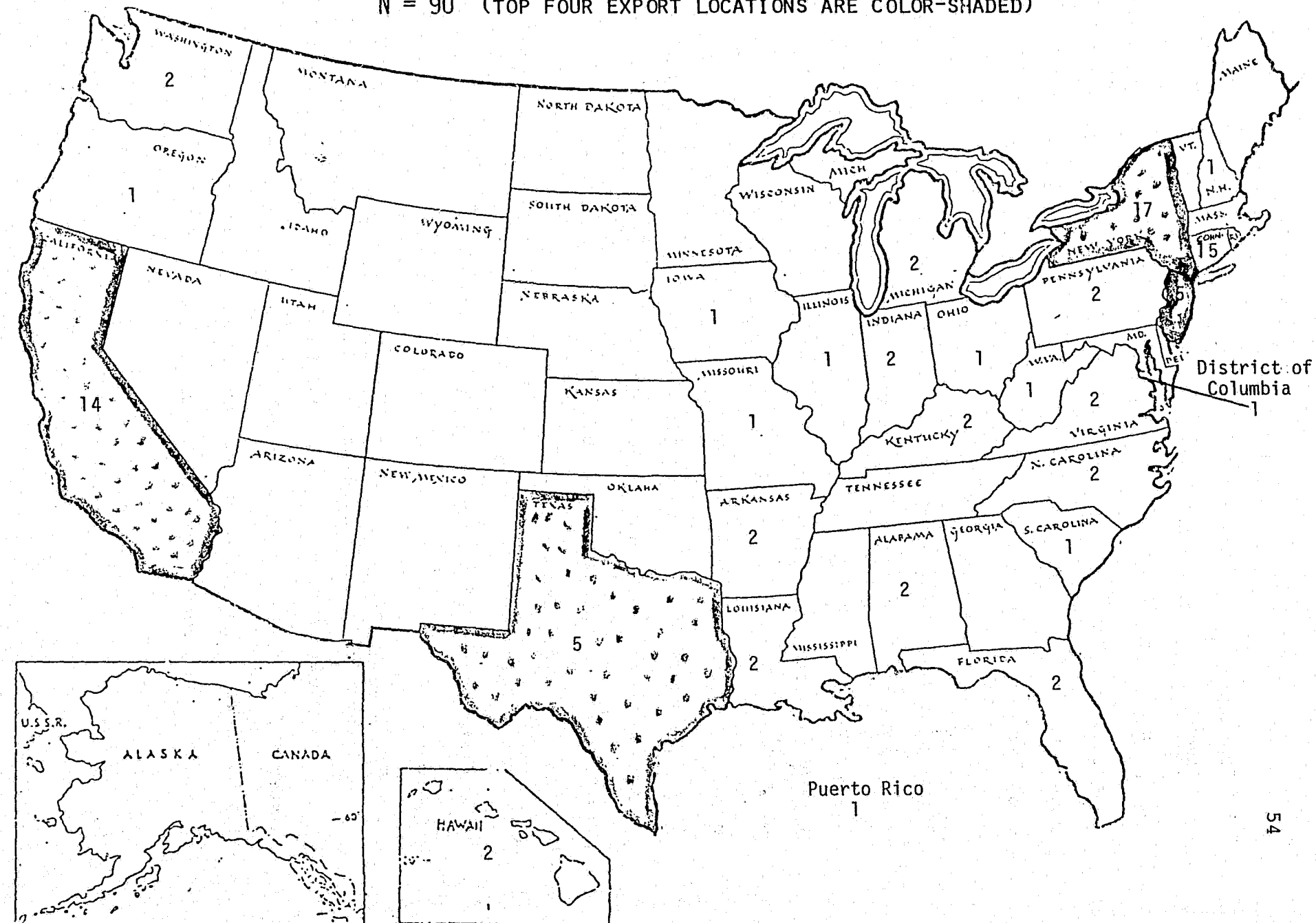


FIGURE 28: IDENTIFIED LOCATIONS OF TYPEWRITERS ORIGINALLY STOLEN IN FLORIDA
 N = 222 (TOP SIX EXPORT LOCATIONS ARE COLOR-SHADED)

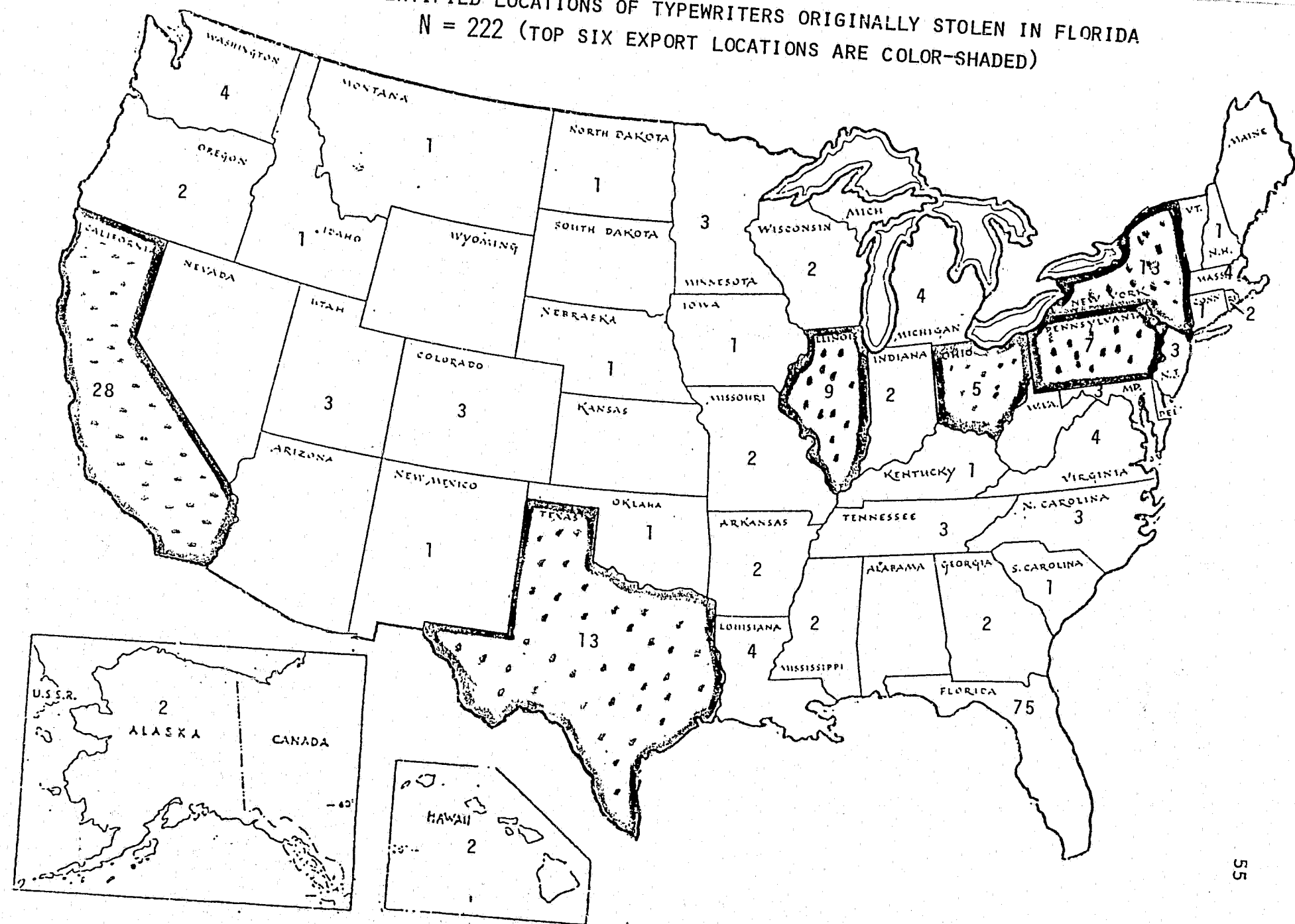


FIGURE 29: IDENTIFIED LOCATIONS OF TYPEWRITERS ORIGINALLY STOLEN IN GEORGIA
 N = 80 (TOP SIX EXPORT LOCATIONS ARE COLOR-SHADED)

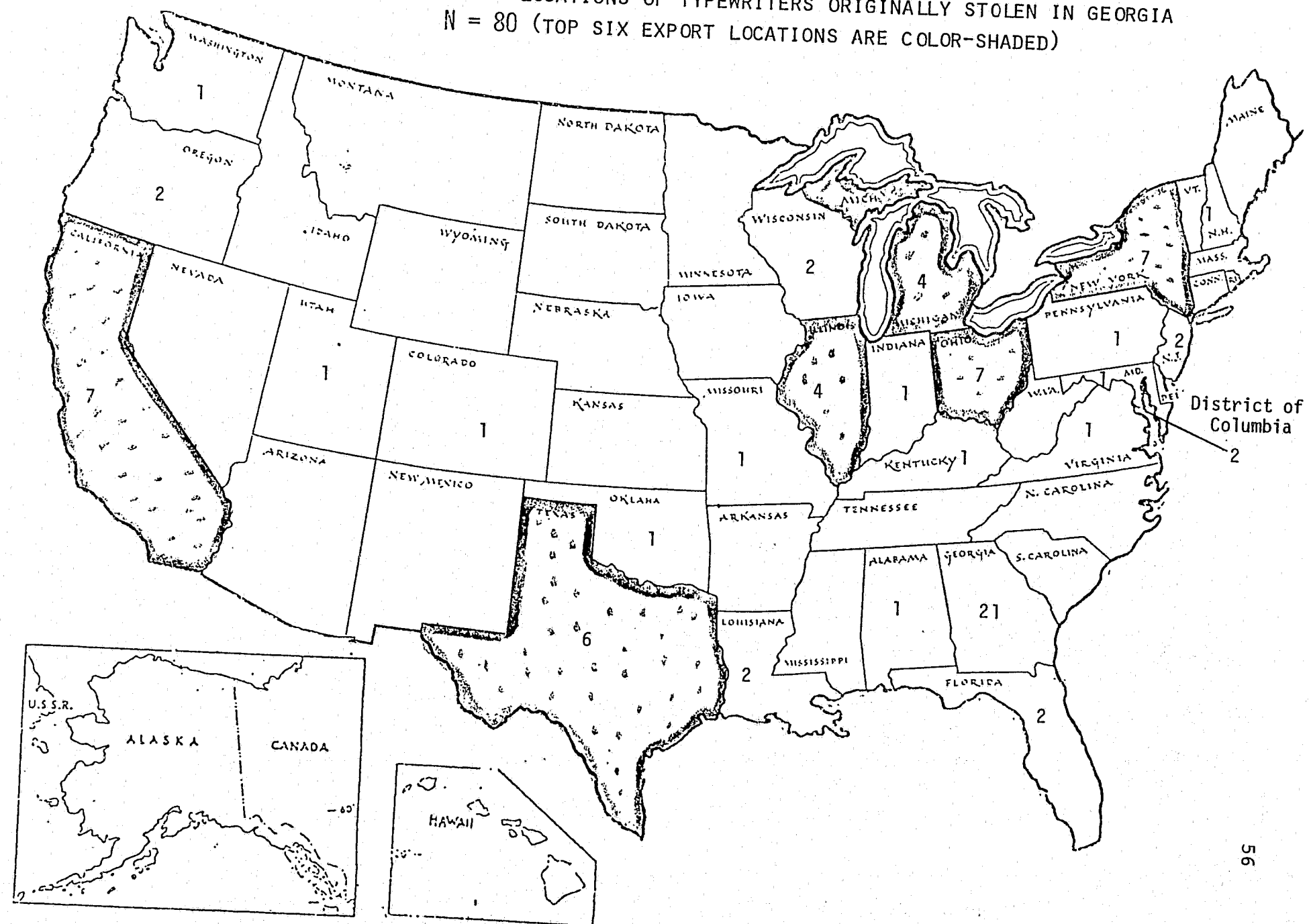
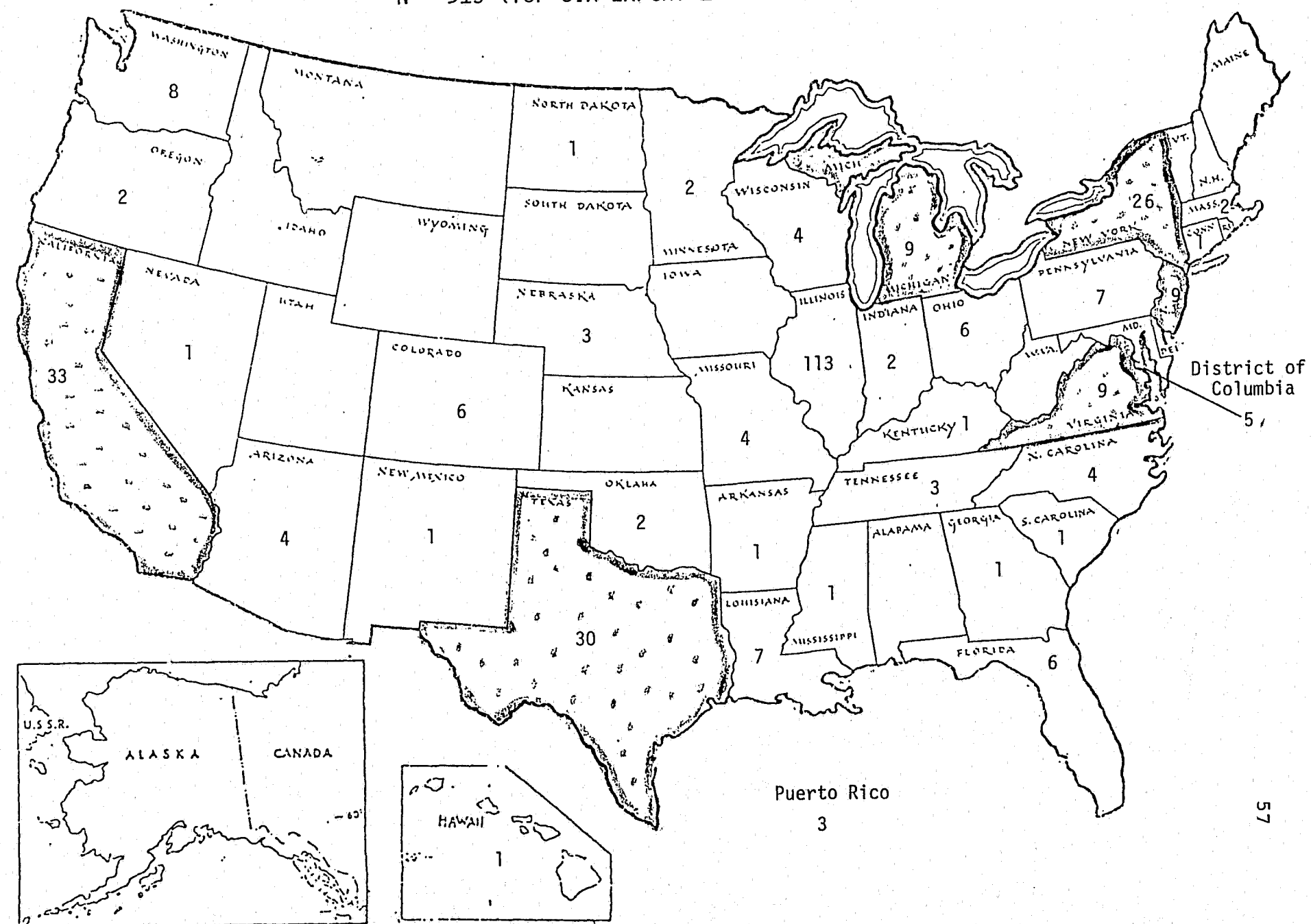


FIGURE 30: IDENTIFIED LOCATIONS OF TYPEWRITERS ORIGINALLY STOLEN IN ILLINOIS
 N = 319 (TOP SIX EXPORT LOCATIONS ARE COLOR-SHADED)



[illegible]

FIGURE 32: IDENTIFIED LOCATIONS OF TYPEWRITERS ORIGINALLY STOLEN IN MICHIGAN
N = 139 (TOP SIX EXPORT LOCATIONS ARE COLOR-SHADED)

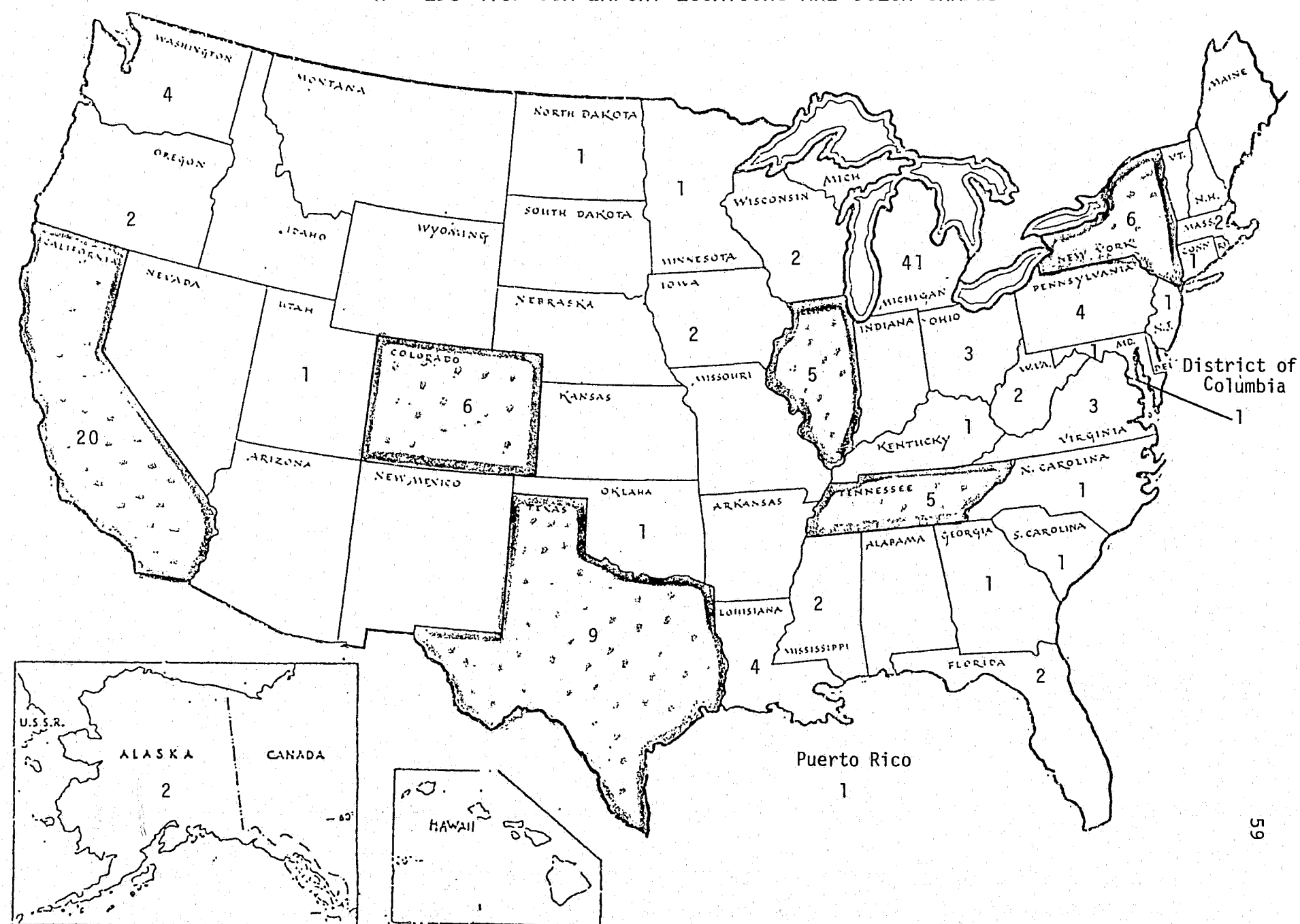


FIGURE 33: IDENTIFIED LOCATIONS OF TYPEWRITERS ORIGINALLY STOLEN IN MISSOURI
 N = 70 (TOP FOUR EXPORT LOCATIONS ARE COLOR-SHADED)

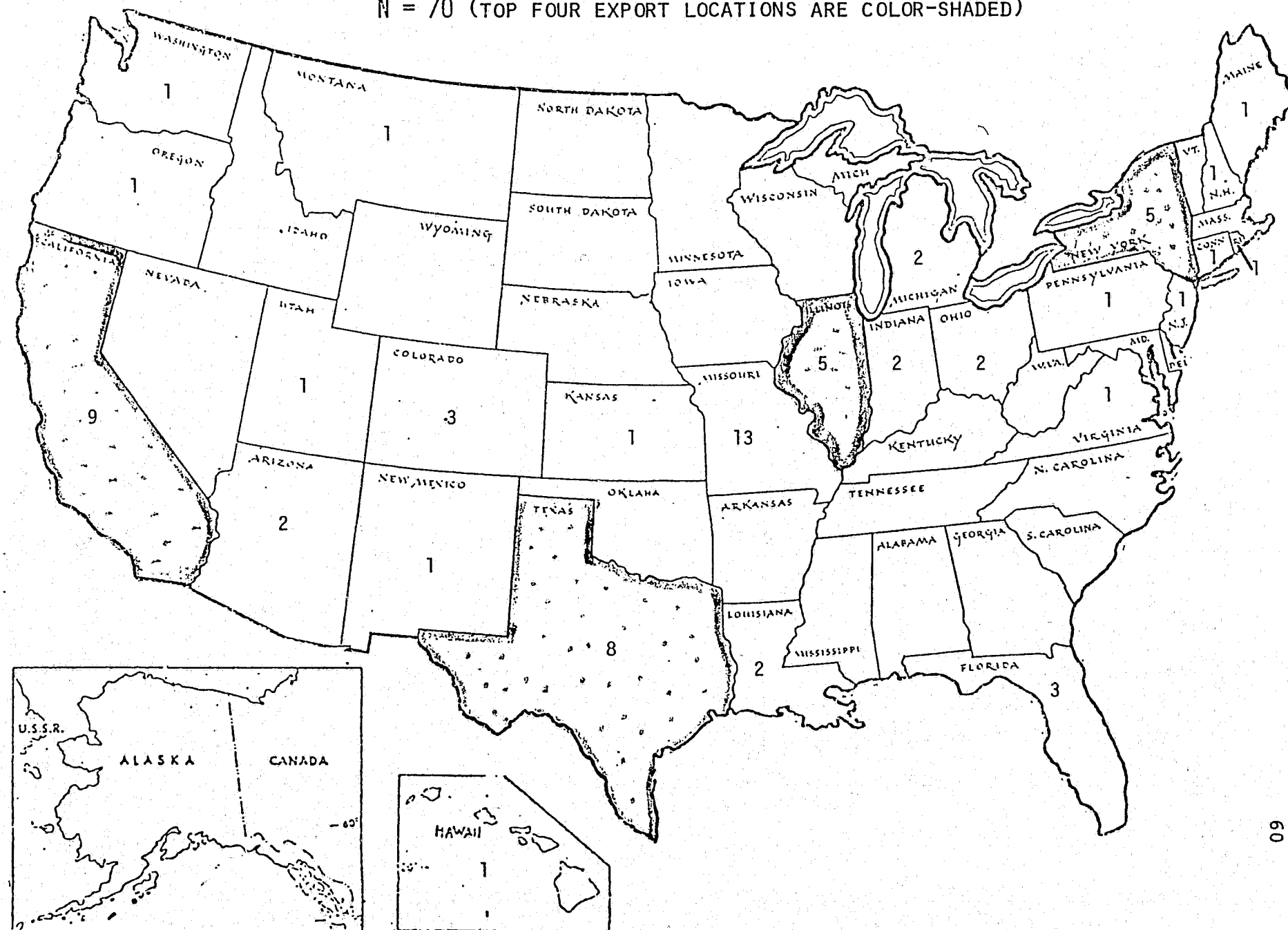


FIGURE 34: IDENTIFIED LOCATIONS OF TYPEWRITERS ORIGINALLY STOLEN IN NEW JERSEY
N = 277 (TOP SIX EXPORT LOCATIONS ARE COLOR-SHADED)

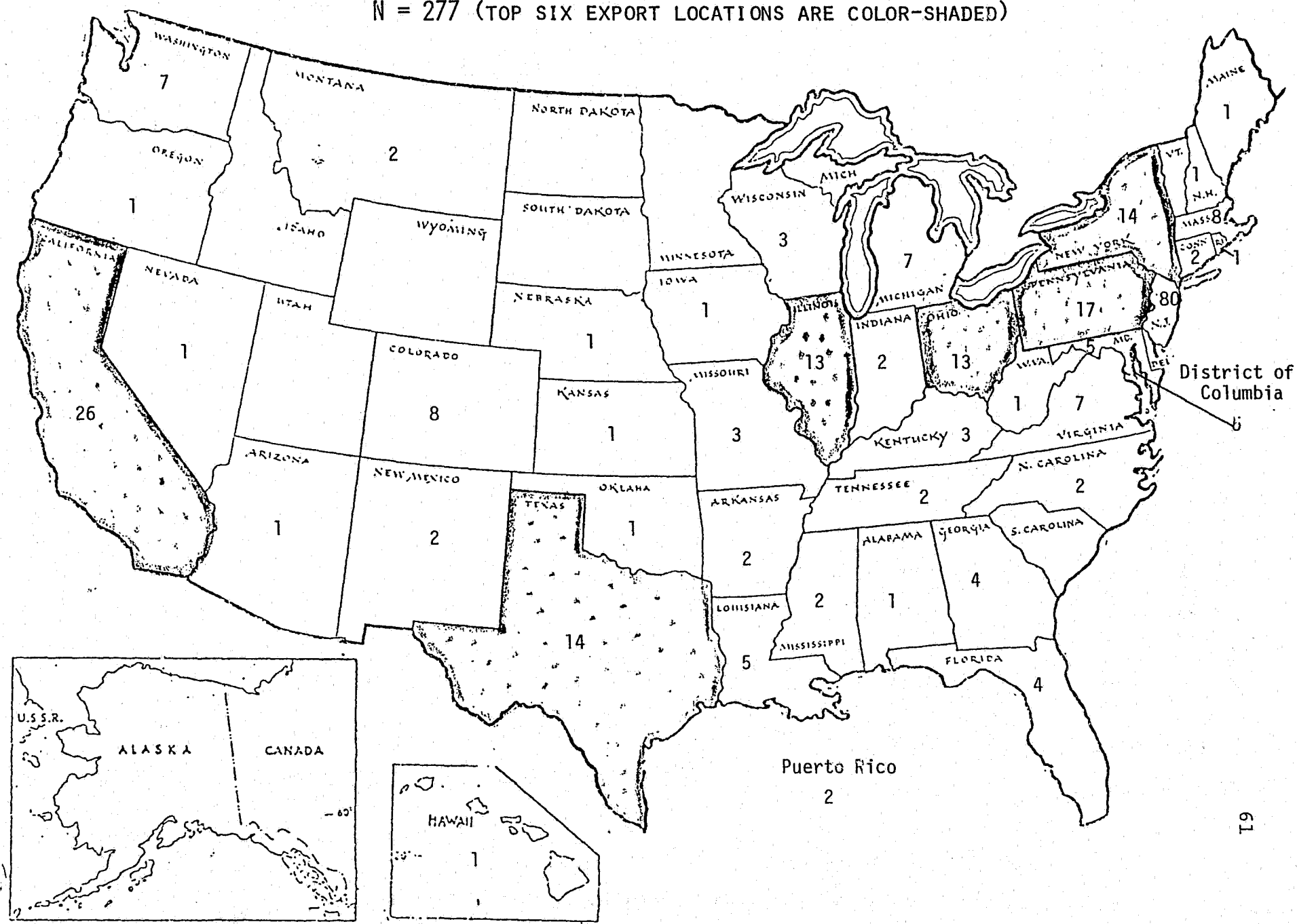


FIGURE 35: IDENTIFIED LOCATIONS OF TYPEWRITERS ORIGINALLY STOLEN IN NEW YORK
 N = 622 (TOP FIVE EXPORT LOCATIONS ARE COLOR-SHADED)

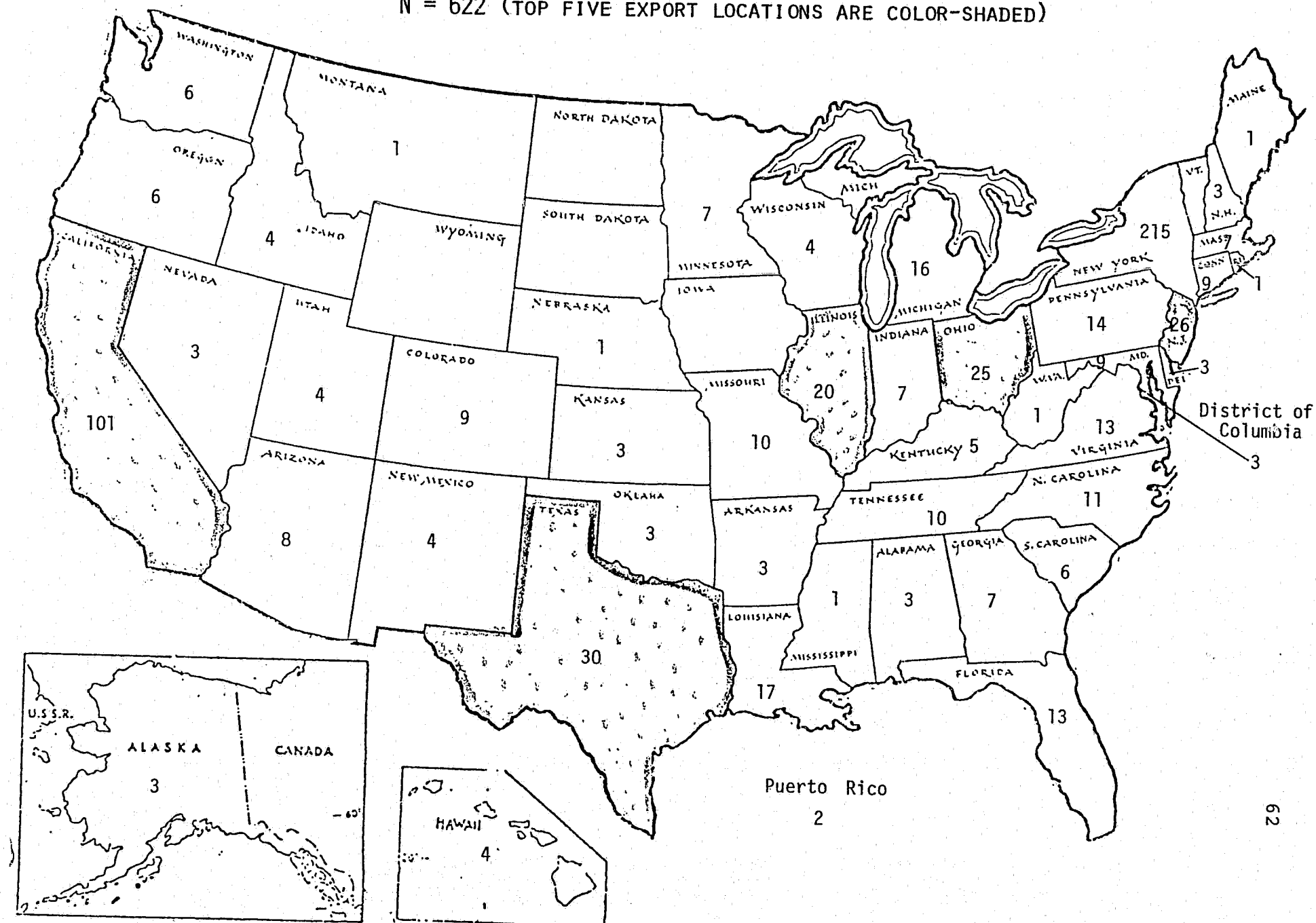


FIGURE 36: IDENTIFIED LOCATIONS OF TYPEWRITERS ORIGINALLY STOLEN IN OHIO
N = 170 (TOP THREE EXPORT LOCATIONS ARE COLOR-SHADED)

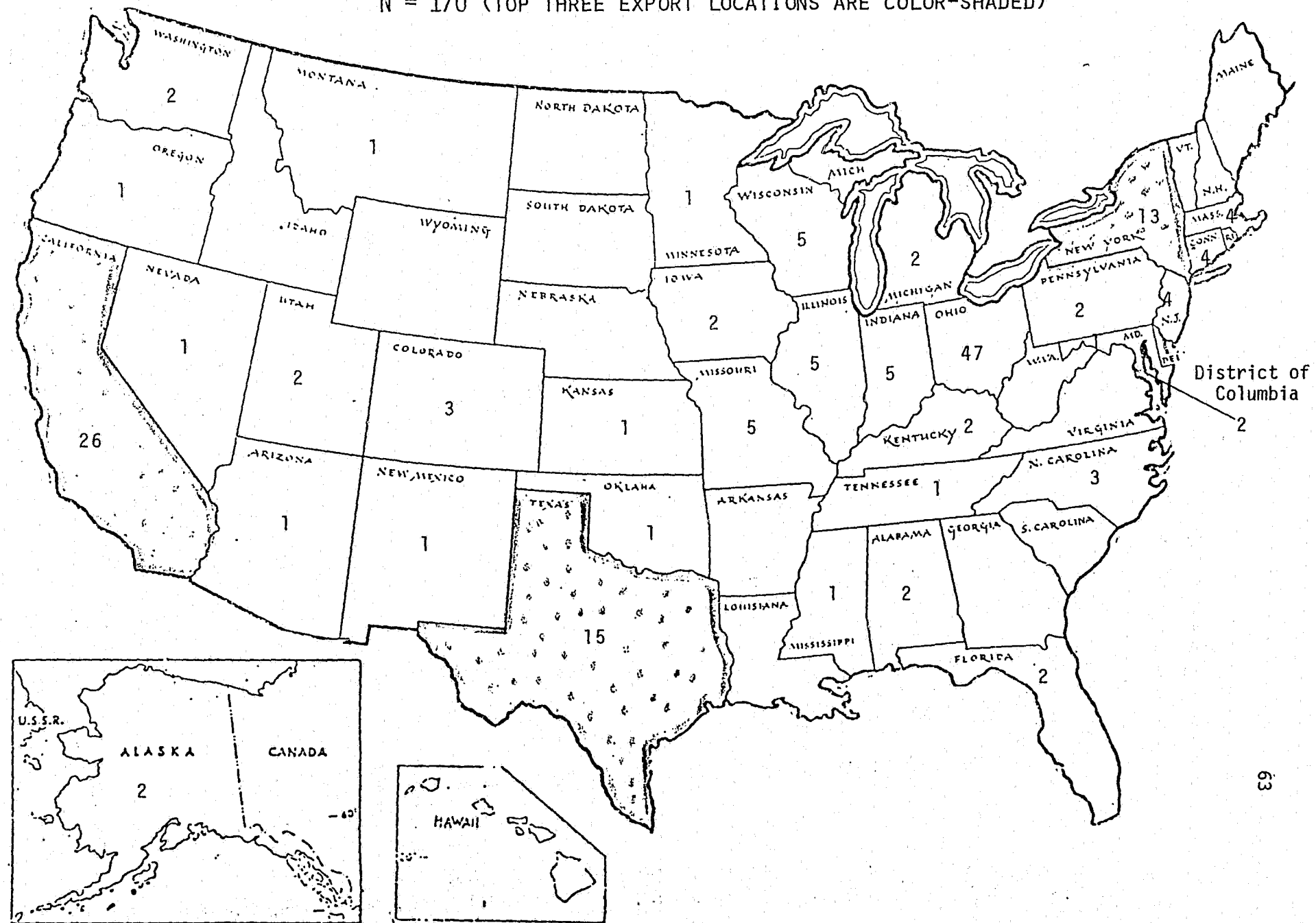


FIGURE 37: IDENTIFIED LOCATIONS OF TYPEWRITERS ORIGINALLY STOLEN IN PENNSYLVANIA
N = 159 (TOP FIVE EXPORT LOCATIONS ARE COLOR-SHADED)

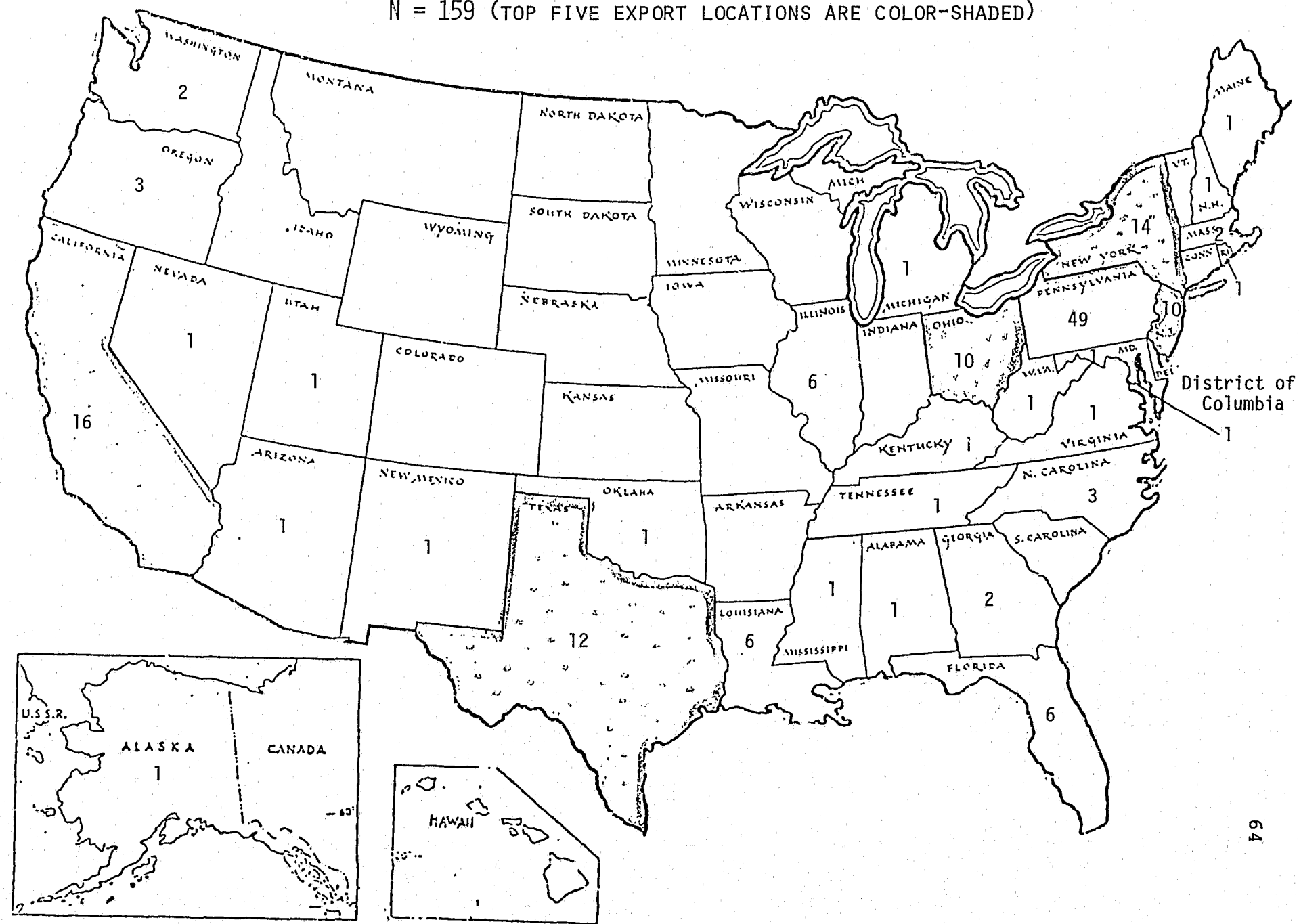


FIGURE 38: IDENTIFIED LOCATIONS OF TYPEWRITERS ORIGINALLY STOLEN IN TENNESSEE
N = 53 (TOP FOUR EXPORT LOCATIONS ARE COLOR-SHADED)

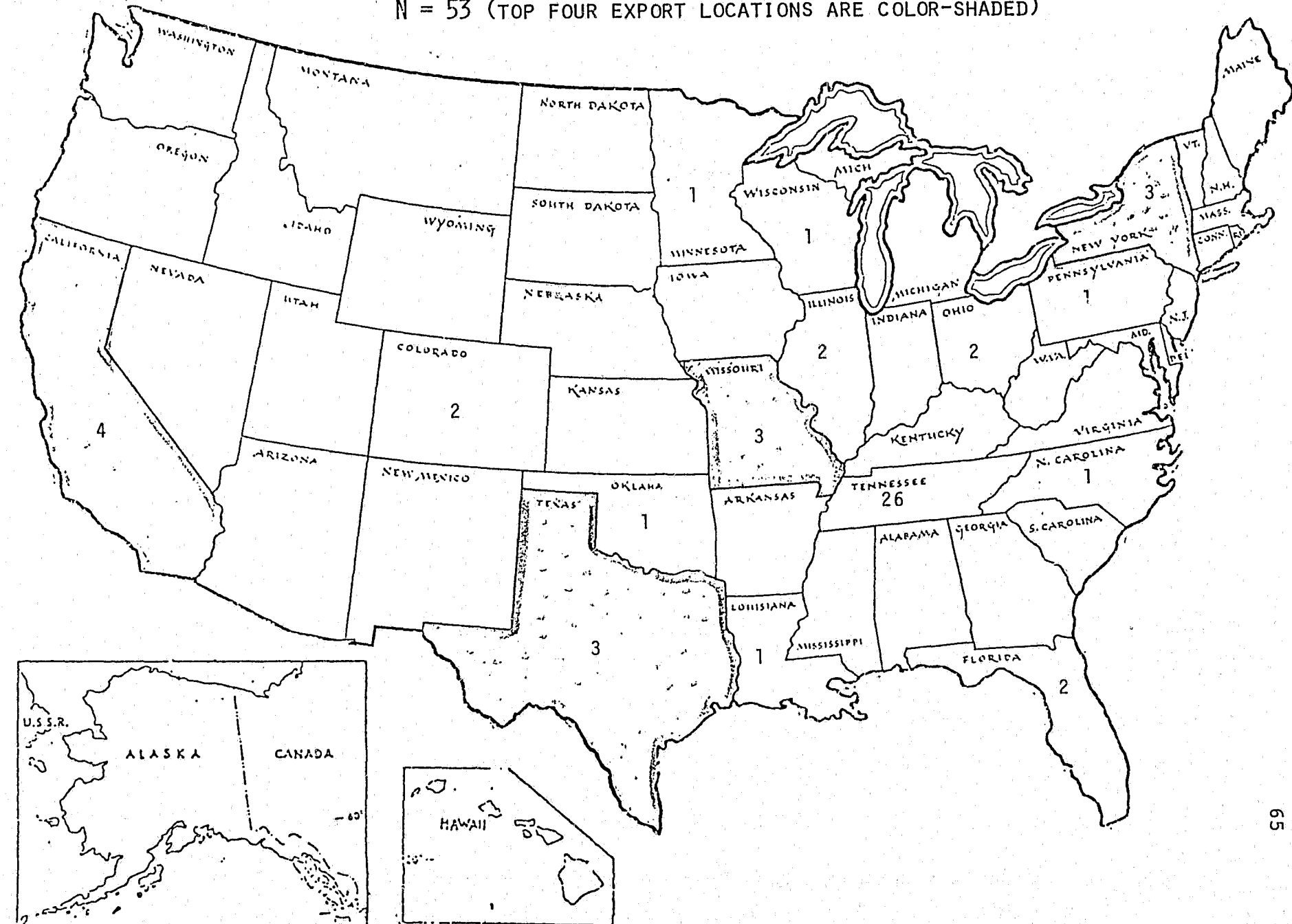


FIGURE 39: IDENTIFIED LOCATIONS OF TYPEWRITERS ORIGINALLY STOLEN IN VIRGINIA
 N = 53 (TOP THREE EXPORT LOCATIONS ARE COLOR-SHADED)

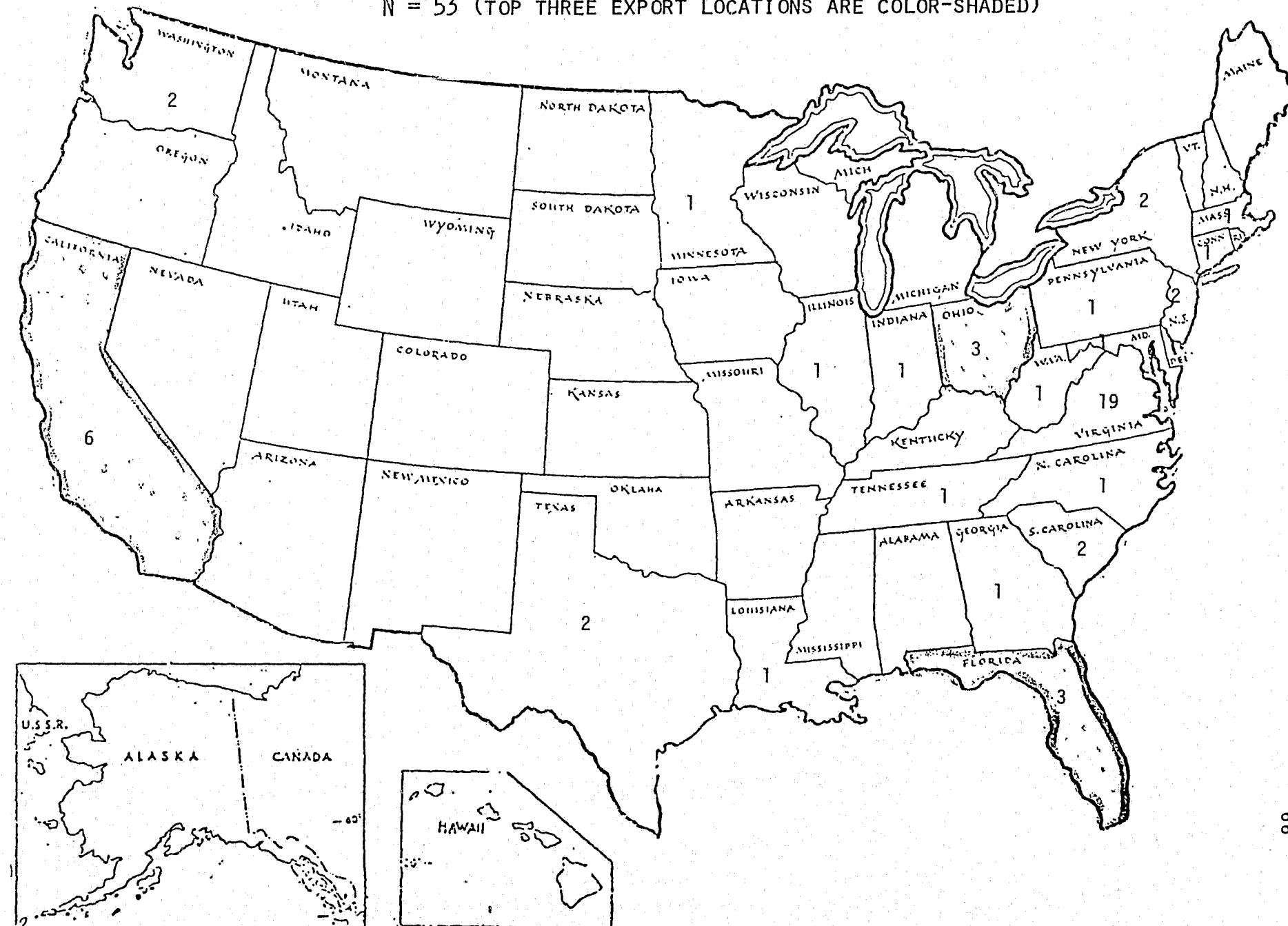
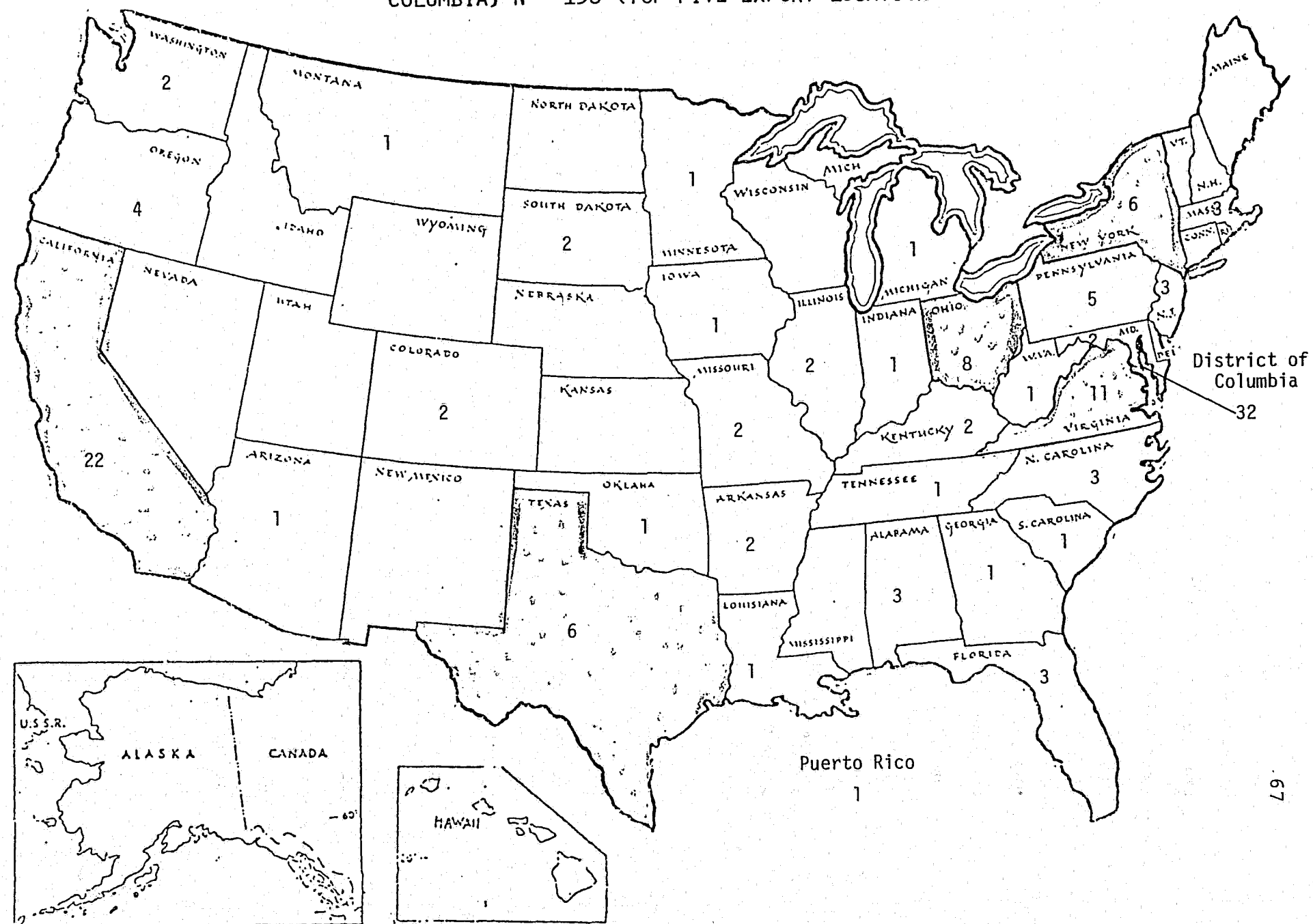


FIGURE 40: IDENTIFIED LOCATIONS OF TYPEWRITERS ORIGINALLY STOLEN IN DISTRICT OF COLUMBIA, N = 138 (TOP FIVE EXPORT LOCATIONS ARE COLOR-SHADED)



because it would have been previously impossible to generate this information. Rather, it stemmed from the fact that the innovative thinking that went into the development of the matching technique used here did not take place previously. Because of the novelty and uniqueness of this information, one is hard pressed to spell out the full extent of its implications for and value to law enforcement agencies. Nevertheless it is possible to identify at least three implications at the present time.

First, it is clear that the innovative use of automated identification and record-keeping systems is capable of yielding information that not only is of great value to investigative agencies, but also would be unavailable otherwise. Much of the information presented above could not have been developed except through the matching technique used here; and yet, this technique is but one example of the investigative payoffs possible through more creative uses of existing identification and record-keeping resources. The law enforcement community undoubtedly possesses the skill and creativity needed to realize such investigative potential. What has not been forthcoming, however, is the kind of sustained commitment to property theft enforcement necessary to ensure that available skills and creativity are applied to this important crime area. Instead, property theft enforcement has been allowed to drift, using investigative techniques and

approaches that have long ago been shown to be ineffective. The incompleteness of the NCIC file used here points up the extent to which agencies are not making optimal use of resources that currently exist. The matching technique applied in this project, then, by demonstrating the kind of valuable information that is available to law enforcement, demonstrates as well just how dissatisfied we should be with traditional enforcement approaches and how impatient we should be for law enforcement to begin to successfully inhibit the trafficking in stolen goods.

A second implication is related to the substance of the nationwide distribution patterns for stolen office equipment described above. It was clear from the information generated by the matching technique that very distinctive patterns of distribution could be discerned among the various jurisdictions and particularly for eastern versus western states. As these distinctive patterns were presented and described, some speculations were offered to account for them. Regardless of whether the particular speculations suggested are accurate or not, it is clear that one factor that does not appear to shape or determine stolen property distribution patterns is the criminal justice system. Instead, traffickers in stolen merchandise appear to establish distribution systems based upon economic conditions in their own or neighboring states or in the same region, or upon other factors such as the availability of transportation services. The

criminal justice system is quite irrelevant to all of this, since trafficking in stolen goods is basically a high-profit, low-risk activity, poorly monitored and controlled by law enforcement. With so little law enforcement activity in this crime area, it is small wonder that fences and their customers can easily disregard the criminal justice system, as a factor not worth being concerned about.

This is, of course, just the point. For when one sees with what apparent ease expensive and readily identifiable office equipment is stolen and resold within jurisdictions, and then moved about from coast to coast, one gets the impression of an illicit marketplace operating with an impunity that is rarely disturbed. Undoubtedly, most of the nearly 7,000 stolen typewriters identified in this project have already been written off as "unrecovered theft losses" by investigating agencies, leaving fences and their customers as undisputed beneficiaries. Continuation of traditional enforcement approaches to property theft will only assure that this situation will remain unchanged, that the criminal justice system will continue to be irrelevant, and that the stolen property marketplace will persist virtually unchallenged.

Finally, it is clear that the matching technique applied here is useful not only in generating valuable investigative information but also in providing an agenda

for action. Because it is possible using the technique to distinguish various marketplace and distribution patterns for individual jurisdictions, it is possible also to set enforcement priorities and make decisions among alternative enforcement strategies. Thus, a state dominated by a domestic marketplace, with a stable import component, but very few exports, might decide to devote virtually all its resources to the investigation of internal traffickers in stolen goods, adopting strategies tailored to fit these operations. Another state with a considerably large import/export trade might alternatively decide to contact outside jurisdictions known to be associated with this trade and attempt to launch coordinated investigations of interstate traffickers in stolen goods. In this case, effective control of the stolen property marketplace would require the assistance and cooperation of those in other jurisdictions.

Setting enforcement priorities and choosing among alternative strategies is not quite as simply done as stated above. For many states, however, a clear choice between focusing resources internally or on an interstate basis is implicit in the marketplace patterns observed. For others, in particular New York, Illinois, California, and Texas, the choice is not nearly so clear. Thus, while California and Texas both have dominant domestic markets, neither one of them can be sanguine about the import/export

trade it generates. This is because both are major exporters of stolen office equipment as well as prominent import markets for such items stolen elsewhere. New York and Illinois with marketplaces characterized by significant import/export trafficking, also have large domestically supplied markets that cannot be safely ignored. For all these states the interaction between the domestic and the import/export components of their marketplaces, would have great significance for determining an effective enforcement program.

Until the information provided here has been field verified and investigated, it is impossible to specify with certainty the enforcement steps that would make most sense for individual jurisdictions. It is important to note, however, that the matching technique providing this information does more than point up current law enforcement failures and shortcomings. It also provides clear direction as to how law enforcement agencies can begin to cope more effectively and ultimately inhibit the stolen property marketplace.

PART II: THE THEFT AND DISTRIBUTION OF STOLEN OFFICE MACHINES--THE CALIFORNIA SCENE

As noted earlier, it is the California Department of Justice which developed the matching technique described here, and it was the application of this technique within the State of California that formed the basis of this project. The development and use of the technique in California was possible under recently enacted provisions of the state's Business and Professions Code^{*/} which require businesses taking items for repair to conform to reporting requirements similar to those imposed upon pawnbrokers and other secondhand goods dealers. To our knowledge, California is the only state with such a statute, or alternatively, which treats repair outlets in a class with secondhand merchandisers.

On the basis of this statute, the California Department of Justice (hereafter DOJ) established a cooperative relationship with the IBM Corporation to ensure receipt of its automated records of repair transactions for comparison with the state's Automated Property System, a statewide file of property stolen. For the purpose of this project, DOJ agreed to apply the matching technique to the above records on a pilot basis, documenting the information obtained through the use of a structured

^{*/}The relevant section of this code is Article IV, Section 21628.5 which was enacted in 1977.

reporting form^{*/} and providing access to this information by the project director. It was the firm hope that this pilot effort not only would provide considerable information about the trafficking of stolen office equipment, but also would form the basis for an assessment of the investigative potential of the new Business and Professions Code provisions. This part of the report summarizes the investigative activity of law enforcement agencies within the State of California stimulated by this project, and the information obtained as a result of this activity.

Several points should be noted at the outset. First, implementation of the pilot effort reported on here involved not only the use of new reporting forms by local law enforcement agencies in California, but also the transmission of an entirely new type of investigative lead to agencies for follow up. Despite the novelty of the effort and attempts by the project to provide guidance through written materials, it is clear that many agencies did not fully understand the value of the information provided them or what was being asked of them in the nature of an investigative follow up. In hindsight, it is believed that the project could have benefitted immeasurably had regional orientation meetings for investigators been held throughout the state of California,^{**/} which could have explained the effort in detail and fielded questions or problems. Instead, such

^{*/} This form, with its accompanying investigative guidelines, has been earlier transmitted to project monitors.

^{**/} An application being prepared by the State of California for the extension of this technique on a nationwide basis provides for such an orientation component.

orientation occurred on an ad hoc basis with representatives of DOJ traveling to individual agencies to provide assistance, when lack of response to leads indicated that there was a problem.

A second issue affecting field response to the project was an apparent lack of appreciation on the part of many investigators for the ultimate value of the leads they were given or for the settings in which investigations were to be conducted. Thus many investigators who were quite willing to conduct field visits for the purpose of verifying and recovering stolen items, were substantially unprepared to use those visits as a starting off point for a deeper probe into the transaction(s) that had given rise to an individual's possession of a stolen item. Similarly, experienced investigators known to be adept at debriefing street offenders found in possession of stolen or contraband items, were often unaccountably inhibited when confronted with the prospect of debriefing managers of business establishments or members of the professions, two groups frequently found to be in possession of stolen items. In a large number of cases, then, recovery of the stolen item was undertaken as an end in itself, such that little or no follow-up investigation occurred. This prevented enforcement exploitation of the full potential of the information for establishing the layers of the stolen office equipment marketplace.

Finally, the responses of some agencies were not received in a manner timely enough to be included in the analyses reported below. Part of the problem here is that at the same time support to DOJ was terminated under the current project, the Department was experiencing personnel cuts which limited its ability to enter information already on hand into the system. Thus in addition to leads outstanding, DOJ estimates that it has a backlog of some 300-400 cases not included in this report.

Each of these factors--lack of orientation, reluctance to pursue follow-up investigations and timeliness of response--affected the extent of information available for analysis. As it turned out, while most agencies responded positively to the reporting form itself, overall compliance in returning materials for documentation purposes is estimated to have been at a 60-70 percent rate. This leaves 30-40 percent of the leads transmitted which either received no field response or where the response was too late for inclusion in the analysis here. But even within the 60-70 percent group from which some response was received, many of the forms were only partially filled out. Exactly which factor(s) was most responsible for a lack of compliance with the reporting system is not known. In only a few instances did there appear to be an outright refusal to comply. Rather, in most cases, lack of responsiveness seemed to result from a misunderstanding of

what was expected and/or a reluctance to press for answers from "respectable" possessors of stolen items. Whatever the reason, lack of compliance did result in a considerable loss of information, which accounts for the widely varying sizes of the samples on which aspects of the following analysis are based.

The report which follows focuses in some detail on the domestic marketplace for stolen office equipment in the State of California. This is of particular interest since as was noted above when national distribution patterns were discussed, California is one of those states with a prominent domestic component to its market for stolen office machines. Understanding what happens to typewriters stolen and redistributed in California, then, may be of value to other states with significant domestic markets.

The discussion is divided into five sections: first, an analysis of the nature of the thefts in which typewriters were taken (including the types of persons/institutions victimized); second, a description of the characteristics of those persons found to be in possession of stolen typewriters; third, a description of the reported circumstances by which possession of stolen machines was obtained; fourth, a section reporting on some special studies conducted of the movement of stolen typewriters within the state, and of the timing of that movement, and, finally, a section summarizing project results and implications.

A. Nature of the Thefts in Which Typewriters Were Stolen

As might be expected, most of the thefts in which typewriters were stolen occurred on commercial as opposed to residential premises. Table 6 below presents the relative prominence of the different types of victims represented in the sample.

TABLE 6
TYPES OF THEFT VICTIMS, N = 890

Type of Victim	Number in Sample	Percentage of Sample
Individual	26	3%
Professional Office/Firm	78	9%
Business Establishment	542	61%
Government Agency/Institution	137	15%
Local	(94)	(11%)
State	(30)	(3%)
Federal	(13)	(1%)
Private Organization	85	10%
Charitable	(46)	(5%)
Professional	(39)	(4%)
Other	22	2%
TOTALS	890	100%

As can be seen, business establishments far outnumber all other types of victims (comprising 61 percent of the sample), followed at a distant second by government agencies/institutions (15 percent). Private organizations were next and about equal in prominence to professional offices/firms, representing 10 percent and 9 percent of the sample, respectively. Thefts from individuals in their residences comprised only 3 percent of the crimes recorded in the project.

Not only did most of the thefts involved in the project share a similarity of setting, they also were similar in the selectivity shown by the thief. Analysts in the DOJ Burglary and Fencing Unit who coded most of the crime reports transmitted by local agencies remarked at the deliberateness with which thieves would sweep through an office building, taking only IBM typewriters and often leaving the machines of other manufacturers, other types of office equipment, or office stereo systems intact. Clearly, IBM typewriters were a specific target for which no substitute would be taken for many of the thieves whose crimes were recorded in the project. Office equipment is, of course, a class of relatively high value, easily portable goods which would make it attractive to thieves but the definite brand and product preference shown here was apparently quite striking.

The relative value of electric typewriters is revealed in loss figures associated with cases included in the sample. Based upon 959 cases entered into the project's record-keeping system, theft losses totalled over \$2.3 million. These ranged from a high of a \$130,000 loss in a theft from an office equipment dealer, to a low of \$35 involved in the theft of a much-used IBM typebar machine from a residence. The average computed loss per theft based on 959 cases was just under \$2,500 (actual figure is \$2,461). The distribution of actual losses for a smaller sample of 595 cases was calculated and is provided in Table 7.

TABLE 7

DOLLAR VALUES OF THEFT LOSSES, N = 595

Dollar Loss Categories	Number of Thefts in Category	Percentage of Thefts in Category
\$500 or less	95	16%
\$501 - \$1,000	179	30%
\$1,001 - \$1,500	69	12%
\$1,501 - \$2,000	69	12%
\$2,001 - \$3,000	69	12%
\$3,001 - \$5,000	62	10%
\$5,001 - \$10,000	37	6%
\$10,000 - \$20,000	9	2%
Over \$20,000	6	1%

While the largest proportion of theft losses were in the \$500-\$1,000 range, nearly 10 percent involved losses of \$5,000 or more.

Despite the high average value of office equipment thefts, they do not appear to experience a rate of solution that is any better than the average burglary. Before leads had been transmitted to them, local agencies were asked to indicate the status of the original theft case in which a typewriter had been stolen. The results of this query appear in Table 8. By far the vast majority of cases (97.2 percent) were listed as "inactive," meaning that they neither were being worked nor had any arrests occurred. In less than 1 percent of the cases in the sample had an arrest been made and theft convictions had been obtained in only one half of the percent of the cases. Such was the sorry record that had been logged by traditional responses to these thefts. Clearly very little had happened or was likely to happen with respect to the solution of most of

TABLE 8

STATUS OF THEFT CASES PRIOR TO
PROPERTY RECOVERY INVESTIGATION, N = 894

Case Status	Number of Cases in Category	Percentage of Cases in Category
Active	2	.2%
Inactive	869	97.2%
Exceptional Clearance	3	.3%
Clearance by Arrest	3	.3%
Arrest/Conviction for Burglary	4	.4%
Arrest/Conviction for Larceny-Theft	1	.1%
Other	3	.3%

these crimes--not to mention the recovery of the property stolen. Indeed, when asked about the recovery of stolen goods in these cases, local agencies reported that partial recoveries had been made in only three percent of them. The story told in this sample of cases is borne out in the general experience of local agencies in California which continue to use traditional approaches to property theft enforcement. Thus for 1976 the average clearance rate on burglaries and larcenies in California was 15.8 percent, with the recovery rate for serialized goods hovering at about nine percent. For most of the businesses and other victims in the sample who had lost office equipment to thieves, the criminal justice system offered little hope of seeing their property again or of a solution to the crime they had suffered.

B. Characteristics of the Settings Where Stolen Typewriters Were Found

An earlier project report summarized the settings in which stolen typewriters were located for a group of cases that formed a backlog at the time the project began.

Table 8 below provides this early listing of stolen typewriter locations. At that time, the largest number of

TABLE 9

MOST FREQUENT SETTINGS WHERE STOLEN
TYPEWRITERS WERE LOCATED, N = 1,550

Business/Occupational Settings	# of Typewriters Identified in Each Setting	Percentage of Typewriters in Each Setting
Bail bond firms	35	2%
Associated legal services	91	6%
Pharmacies/drug stores	120	8%
Private law firms/attorneys' offices	316	20%
Private medical firms/physicians' offices	320	21%
Small service-oriented businesses	668	43%

typewriters (43 percent) were located in small service-oriented business establishments. These included real estate offices, management services firms, secretarial services, small construction firms, and office supply firms. It was noted then that this category would be disaggregated in the new data collection effort so that the relative proportions of different types of firms could be presented. Of particular interest here, however, was the extent to which the offices of professionals, primarily attorneys and physicians, were frequent settings in which stolen items were located.

Table 10 below provides a more detailed listing of the types of settings in which stolen typewriters were located. This listing is developed from the new information gathering system implemented by the project. Unfortunately, out of a

total of 959 cases in the record-keeping system, information about the settings for stolen items was available for only 538 cases.

As can be seen in Table 10, business establishments remain the most frequent settings for stolen typewriters. Of these, wholesalers and retailers led the list with 11 percent of the stolen typewriters found in such businesses, followed next by financial institutions (10 percent), light manufacturing firms (8 percent), and heavy industrial firms (7 percent). A particularly interesting group of firms are the service businesses in which 5 percent of the stolen typewriters from the sample were located. One might speculate that these firms come into possession of such items by stealing from their business clients for whom they provide services.

After business establishments, the next most frequent setting in which stolen typewriters were located was public institutions, accounting for 13 percent of the sample. If government agencies are added to these, then nearly one fifth of the typewriters in the sample were to be found in public settings. These represent a curious setting for stolen items since one would expect most government agencies and public institutions to purchase equipment and supplies through a centralized procurement mechanism. Several issues are raised by this finding. First, one may question the extent to which many supplier-contractors for

TABLE 10

SETTINGS WHERE STOLEN TYPEWRITERS WERE LOCATED

N = 538

SETTINGS FOR STOLEN TYPEWRITERS	NUMBER OF TYPEWRITERS FOUND IN SETTING	PERCENTAGE OF TYPEWRITERS FOUND IN SETTING
BUSINESS ESTABLISHMENTS	340	63%
Wholesalers/Retailers	(58)	(11%)
Financial Institutions (banks, mortgage and insurance companies)	(53)	(10%)
Light Manufacturing Firms	(40)	(8%)
Heavy Industrial Firms	(40)	(7%)
Management Consultant/Investment Firms	(29)	(5%)
Service Business (temporary/secretarial services, janitorial, security firms)	(29)	(5%)
Laboratories/Research Organizations	(17)	(3%)
Realtors	(16)	(3%)
Publishers/Print and Electronic Media	(16)	(3%)
Transportation Firms	(16)	(3%)
Travel and Tourism Firms	(12)	(2%)
Construction Firms	(10)	(2%)
PUBLIC INSTITUTIONS	69	13%
Elementary/Secondary Schools	(26)	(5%)
Hospitals/Clinics	(20)	(4%)
Colleges/Universities	(14)	(3%)
Churches	(9)	(2%)
PROFESSIONAL OFFICES/FIRMS	54	10%
Law Firms	(28)	(5%)
Physicians' Offices	(20)	(4%)
Other Professionals	(6)	(1%)
PRIVATE RESIDENCES	29	5%
GOVERNMENT AGENCIES	26	5%
PRIVATE ORGANIZATIONS/ASSOCIATIONS	20	4%

government and public institutions are fences of stolen goods who are dealing off such merchandise to these institutions. A further issue is the degree to which government and public institutions may be victims of procurement frauds through their purchasing agents who may have "special" buying arrangements with illicit suppliers. At minimum, however, one must question the degree of looseness in the procurement practices of government agencies and public institutions which allows them to become frequent outlets for stolen goods. In view of the special attention which is currently being given to the issue of procurement fraud at all levels of government, these findings should be of significance to a broad constituency. Inspectors-general are now being appointed and taking hold throughout the federal government under new federal legislation, and are particularly charged with protecting the integrity of the procurement process. State and local government agencies are being urged to emulate this approach. The new American Bar Association Model Procurement Code is about to be pilot tested in a number of jurisdictions, with the support of the Law Enforcement Assistance Administration. There is a national association of state and local procurement officials who should be alerted to their potential (inadvertent) involvement in providing avenues for the marketing of stolen property. Case histories--taken from

the California experience--make it clear that the range of subversions of the procurement process must be expanded to comprehend the danger of such involvement.

The next most prominent setting in which stolen typewriters were located were professional offices and firms, with 10 percent of the stolen machines in the sample found in these settings. The relative prominence of this type of setting is much less significant than was true of the earlier listing found in Table 9. Whether this represents a true difference in the frequency of these settings or an artifact of the reporting practices of local law enforcement agencies is not known. Finally, about 5 percent and 3 percent of the stolen typewriters in the sample were located respectively in private residences and in the offices of private organizations or associations.

One question that was asked in the analysis of these settings was the extent to which different settings are supplied by thefts from different types of victims. That is, did the stolen typewriters found in business establishments originate from thefts of other business establishments,

or from other kinds of theft victims? Table 11 below presents the relationship between the settings where typewriters were located and the victims from which they were stolen for 270 cases where this was known. As can be seen, businesses and professional offices were the most frequent settings for typewriters regardless of the type of victim experiencing the theft. Residences are also prominent, particularly as settings for typewriters stolen from businesses or the offices of government or public institutions. And not infrequently the machines stolen from private professional or charitable organizations end up in the offices of similar organizations.

What is not demonstrated in Table 11, however, are distinctly different distribution paths for office equipment stolen from different types of victims. Instead, the major markets for such equipment, and in particular business establishments, appear to draw to themselves a supply of typewriters stolen from all types of victims.

This look at the identified final consumers of stolen office equipment has confirmed the view that such items do not end up being hawked on street corners to the first passerby, nor in the possession of a small group of shady entrepreneurs. Instead, most stolen typewriters re-emerge in the same commercial, industrial, and public milieus from which they were stolen. More important, they do so with little risk to the traffickers in stolen

TABLE 11

RELATIONSHIP BETWEEN SETTINGS WHERE TYPEWRITERS WERE LOCATED
AND TYPES OF VICTIMS FROM WHICH THEY WERE STOLEN, N = 270

TYPES OF VICTIMS FROM WHICH TYPEWRITERS WERE STOLEN	NUMBER OF TYPEWRITERS IDENTIFIED IN EACH TYPE OF SETTING					TOTALS FOR TYPES OF VICTIMS
	Business Establish- ments	Profes- sional Offices	Residences	Gov't/Public Agencies and Institutions	Private Organizations/ Associations	
Individuals	4	2	-	2	-	8
Professionals	8	3	3	-	-	14
Business Establishments	120	36	18	3	11	188
Gov't/Public Agencies and Institutions	13	7	7	6	1	34
Private Organi- zations/Ass'ns	11	5	1	1	8	26
TOTALS FOR TYPES OF SETTINGS	156	53	29	12	20	270

goods who handle the resale transaction or to the consumers who make the purchase. This is because traditional approaches to property theft enforcement provide neither the impetus nor the efficient method for tracing and monitoring such transactions that is available through the matching technique applied here. Just how and where such transactions typically take place is the subject to which we next turn.

C. Circumstances Surrounding the Purchase of Stolen Typewriters

If there was one area in which field investigators were particularly remiss in gathering information, it was in debriefing final possessors on the circumstances surrounding their purchase of stolen typewriters. Many final possessors, as might be expected, were stricken with sudden lapses of memory when asked to reconstruct the events surrounding their acquisition of a stolen typewriter. Others gave explanations the credibility of which should have been, but never was, questioned by investigators. Far too often, then, information about the purchase transactions for stolen typewriters was either unavailable or of such questionable validity that it could not be used. This was despite the facts that (1) the most frequent possessors of such items, businesses, must maintain purchase records for tax purposes; and (2) field investigators had a legal right to seize not

only the stolen machine but also the records that would document its purchase.

The substantial loss of information in this portion of the project was particularly disappointing since one of the most attractive aspects of the matching technique used here is its capacity to permit law enforcement to trace backwards from the point of final consumption to the theft and fencing networks supporting office equipment thievery. In spite of the frequent loss of information, however, some useful insights into how stolen typewriters are redistributed was revealed in the project and these findings are summarized here.

Inquiry into the circumstances surrounding purchase transactions centered on four elements: the type of seller (whether an individual or a business) from whom the machine(s) had been purchased; where/how the purchase was made; how much was paid for the item(s); and how payment was made.

Information about the type of seller was available for 175 cases. From these cases the majority of final consumers (58 percent) reported having purchased stolen typewriters from individuals, with 42 percent reporting businesses as having been the sellers of such items. While business and professional firms, as might be expected, frequently reported purchasing typewriters through businesses, a sizeable number reported making typewriter purchases from

individuals. In fact, of the 100 business possessors of stolen typewriters, 54 percent reported buying those machines from individual sellers rather than business entities. Information about the type of seller was available for 40 professional firms, 60 percent of which reported purchasing the typewriter in question from an individual, while only 40 percent had done so through a commercial entity.

Inquiry was also made to determine where/how the purchase had taken place. Here information was available for 101 cases. Of these, the purchase of a stolen typewriter was most often reported to have taken place through an office equipment wholesaler or retailer (39 percent of the cases). The next most frequent setting for purchase transactions was at the purchaser's office or job site, with 28 percent of the final consumers reporting the purchase of the typewriter in question from an individual who came to their offices selling such items. "Through a friend" was the third most frequent method by which stolen typewriters were reportedly purchased, indicated in 17 percent of the cases. Not surprisingly the name of this "friend" and/or his or her current whereabouts were generally "not known" by possessors of stolen typewriters. In eight percent (8 percent) of the cases, possessors of stolen typewriters reportedly purchased them by responding to advertisements in newspapers. Especially important

here were the booklet-type newsletters devoted solely to advertisements of goods wanted and goods for sale. Finally, in about six percent (6 percent) of the cases purchases of stolen typewriters were made through second-hand stores, outlets much less prominent as sellers of such items than conventional wisdom often suggests.

Table 12 below disaggregates the settings in which purchases of stolen typewriters were made according to the type of setting in which the typewriter was located. As can be seen, while professional and business firms were more likely to have purchased stolen typewriters through office equipment wholesalers/retailers than from any other single source, approaches by individuals at business or professional offices or by "friends" were also frequent sources of supply.

The project was also interested in determining how much possessors of stolen typewriters had paid for these items. Information on amount paid was available in 124 cases. The average amount paid for a stolen typewriter was \$409. When it is realized that IBM typewriter models average in cost anywhere from \$500-\$1,000, with the current selectric model the most popular at \$800, then current possessors were purchasing stolen machines for about one half to two thirds the legitimate retail price. While it is impossible to infer culpability on the part of current possessors on the sole basis of the price paid, this

TABLE 12

TYPE OF SETTING WHERE PURCHASE WAS
MADE, BY TYPE OF SETTING WHERE
STOLEN TYPEWRITER WAS LOCATED, N = 101

TYPE OF SETTING WHERE TYPEWRITER LOCATED	# OF TYPEWRITERS PURCHASED IN EACH TYPE OF SETTING						
	Office Equipment Wholesaler/ Retailer	At Office or Jobsite	Through a Friend	Through a Media Advert.	Second- hand Dealer	Pawn- shop	At a Bar
Residence	2	5	4	3	2	-	-
Professional Office/Firm	14	4	7	1	-	-	1
Business Establishment	20	18	6	3	3	2	-
Government Agency/Institu- tion	2	1	-	-	-	-	-
Private Organi- zation/Associa- tion	1	-	-	-	1	-	-
Other	-	-	-	1	-	-	-
TOTALS FOR PURCHASE SETTINGS	39 (35%)	28 (28%)	17 (17%)	8 (8%)	6 (6%)	2 (2%)	1 (1%)

information does lead one to question whether the possessors were adequately suspicious of the "bargain" prices they were quoted for the typewriters purchased.

In 95 cases, information was also available on how payment for the typewriter was made. In 62 percent of these cases payment was made by check, with cash transactions occurring in 35 percent of the cases, and purchases made in installments in three percent (3 percent) of the cases. The level of transactions by check may seem surprising and mitigate somewhat the inference of culpability on the part of most purchasers. However, a fairly common practice reported by current possessors was to be asked to write a check for cash in payment for the typewriter, a practice which most said they did not think "suspicious" and with which they willingly obliged.

Investigation of the circumstances surrounding the purchase of stolen typewriters reveals a marketplace dominated by two types of sellers: (1) commercial office equipment firms; and (2) individual sellers who approach potential buyers as "friends" or at their offices or job sites. What is also revealed is a failure on the part of buyers of stolen typewriters to question such transactions even when the price quoted represents a significant mark-down from the legitimate price or when asked to make payment in cash or by writing a check to cash.

D. Special Inquiries into the Movement of Stolen Typewriters within the State of California

Because of field verification efforts undertaken by the project in the State of California, it was possible to chart the movement patterns of stolen typewriters in California's domestic marketplace in greater detail than could be done for other jurisdictions in the national analysis provided in Part I of this report. Based upon a sample of 714 cases, both the geographic mobility of stolen typewriters within the state and the mileage logged by them were calculated. Separate calculations were made for typewriters stolen from northern as opposed to southern California jurisdictions since there was some suspicion that distinctive movement patterns might be revealed.

Table 13 below depicts the geographic mobility of stolen typewriters for all jurisdictions in California. Of particular interest is the finding that most stolen typewriters remain very close to home for resale and redistribution. Indeed, a full third of the typewriters in the sample were resold in the same jurisdiction where they were stolen, and more than two thirds remained within the same county! This finding tends to confirm the speculation made earlier that a booming market "around the corner" obviates the need and/or the inclination for traffickers of stolen goods to transport items any great

TABLE 13

THE GEOGRAPHIC MOBILITY OF TYPEWRITERS
STOLEN IN CALIFORNIA AND REMAINING IN STATE
N = 714

MOBILITY PATTERN	NUMBER OF TYPEWRITERS EXHIBITING MOBILITY PATTERN	% OF SAMPLE EXHIBITING MOBILITY PATTERN
Typewriter remain- ed in same town/ city where theft occurred	237	33%
Typewriter re- mained in same county where theft occurred	258	36%
Typewriter was located in a county adja- cent to one where theft occurred	108	15%
Typewriter moved further away than to an adjacent county	111	16%

distance. Thus, only 16 percent of the stolen type-
writers in the sample had moved further away from the
scene of the original theft than the same or an adjacent
county.

Table 14 presented here disaggregates the figures
shown in Table 13 above, comparing the geographic
mobility of typewriters stolen from northern versus
southern California jurisdictions. Here slightly differ-
ent patterns of mobility can be observed for goods stolen
in each region of the state. Thus, typewriters stolen
from northern California were twice as likely as their
southern California counterparts to be moved for resale
to a location further away than an adjacent county.
Similarly, while 60 percent of the typewriters stolen in
northern California are resold in the same town or county
where the theft occurred, a full 75 percent of the type-
writers stolen in southern California exhibit this pattern.
Overall, however, the general finding remains that most
stolen typewriters have limited geographic mobility
within the state.

Given this limited geographic mobility, it should not
be surprising to find in Table 15 below that the mileage
logged by most stolen typewriters was not very substantial. Indeed, fo
Indeed, for all jurisdictions a full 90 percent of stolen
typewriters remained within 100 miles of the place where the
theft occurred, with southern California typewriters being
slightly more likely than their northern counterparts (91 per-
cent versus 87 percent) to do so. Also apparent in Table 13

TABLE 14

THE GEOGRAPHIC MOBILITY OF TYPEWRITERS
STOLEN FROM NORTHERN VERSUS SOUTHERN
CALIFORNIA JURISDICTIONS, N = 714

MOBILITY PATTERN	NORTHERN CALIFORNIA JURISDICTIONS		SOUTHERN CALIFORNIA JURISDICTIONS	
	# in Subset Exhibiting Pattern	% of Subset Exhibiting Pattern	# in Subset Exhibiting Pattern	% in Subset Exhibiting Pattern
Typewriter remained in same town/city where theft occurred	106	41%	131	29%
Typewriter remain- ed in same county where theft occurred	49	19%	209	46%
Typewriter was loca- ted in a county adjacent to one where theft occurred	43	17%	65	14%
Typewriter moved further away than to an adjacent county	59	23%	52	11%
TOTALS FOR SUBSETS	257	100%	457	100%

TABLE 15

DISTANCES LOGGED BY TYPEWRITERS STOLEN AND REMAINING IN CALIFORNIA,
INCLUDING ALL JURISDICTIONS AND THE NORTHERN AND SOUTHERN CALIFORNIA
SUBGROUPS, N = 714

DISTANCE LOGGED IN MILES	ALL CALIFORNIA JURISDICTIONS		NORTHERN CALIFORNIA JURISDICTIONS		SOUTHERN CALIFORNIA JURISDICTIONS	
	# of Machines at Distance	% Machines at Distance	# in Subset at Distance	% of Subset at Distance	# in Subset at Distance	% of Subset at Distance
Typewriter traveled 100 miles or less	640	90%	225	87%	415	91%
Typewriter traveled 101-250 miles	30	4%	7	3%	23	5%
Typewriter traveled 251-500 miles	34	5%	17	7%	17	4%
Typewriter traveled 501-1,000 miles	10	1%	8	3%	2	0.4%
JURISDICTION TOTALS	714	100%	257	100%	457	100+%

is the point noted earlier that northern California typewriters show a slightly greater tendency to move further away from the location of the original theft than is the case with those stolen in southern California. Thus, 10 percent of the northern California typewriters were located at a distance greater than 250 miles from the point of the original theft, a characteristic true of just over 4 percent of southern California machines.

Perhaps because of the short distances traveled by most stolen typewriters, the elapsed time between the original theft and the purchase of a stolen machine by a final consumer was not on the average very long. It should be noted that this finding is based on very little information since the date of purchase was another area in which possessors of stolen typewriters had faulty memories that remained unchallenged by investigators. Nevertheless, it is of some interest to review the time between the date of the theft and the date of purchase found in Table 16 below. As can be seen, 21 percent of the sample typewriters had been resold to new owners within the first three days after the theft took place; and a total of 52 percent were redistributed within a month of the theft. On the other hand, a sizeable number of machines (27 percent) took as long as six months to be resold. Still nearly all machines (92 percent) had

TABLE 16

ELAPSED TIME BETWEEN THE DATE OF THEFT AND PURCHASE
OF STOLEN TYPEWRITERS BY NEW OWNERS, N = 75

ELAPSED TIME	# OF TYPEWRITERS PURCHASED WITHIN ELAPSED TIME	% OF TYPEWRITERS PURCHASED WITHIN ELAPSED TIME
Within 3 days of theft	16	21%
Between 3 and 7 days of theft	11	15%
Between one week and one month after theft	12	16%
Between one and six months after theft	20	27%
Between six months and one year after theft	10	13%
More than one year after theft	6	8%

reached final consumers within a year of the theft. This is an important point since it means that most leads generated using the matching technique will be active, viable cases when sent to the field for investigation.

E. Project Results and Implications

As the foregoing sections make clear, the intensive field investigation efforts undertaken in the state of California permit a more detailed analysis of the distribution patterns for stolen office equipment in that jurisdiction than was possible at the national level where no field verification or investigation had occurred. On the basis of the information available, a comprehensive picture could be drawn of the persons, places and events involved in the theft, redistribution and consumption of stolen office equipment. Below the major elements of this picture discovered through the project are restated and their implications discussed. It is worth noting here, however, the accomplishments of the project and what these have meant for the citizens of California.

From the time the California Department of Justice began comparing IBM repair records with the statewide Automated Property System file of stolen office equipment (a time which partially predates the project), a total of 5,000 leads on stolen typewriters have been transmitted

to the field for investigation. Of these, some form of field response has been received and processed by DOJ on approximately 2,500 leads. Another 400 leads have been followed up and await processing, and the remainder (many of which involve interstate investigations) are still being worked in the field.

On the basis of the leads already investigated and processed, law enforcement agencies have recovered a total of 2,100 stolen typewriters, valued at approximately \$1,260,000. From the point of view of the people of California, it should be recognized that in the absence of this special effort it is unlikely that any of these stolen typewriters would have been recovered. Thus, California citizens have received a net gain of over one million dollars worth of recovered stolen goods. Or, looked at another way, traffickers and purchasers of stolen office equipment have lost the benefit and use of \$1.25 million worth of stolen merchandise!

Further testimony to the impact of the project is the fact that in the period since its inception the theft rate for office equipment has increased 1.8 percent over the preceding base period.^{*/} The recovery rate for stolen office equipment, however, has in this same period increased a whopping 22.7 percent! Thus, while incentives to steal office equipment have risen very slowly, the

^{*/}The year 1976 is used as the base period.

disincentives in the marketplace for stolen typewriters have increased substantially. Table 17 below summarizes and highlights these project accomplishments.

TABLE 17

SUMMARY OF ACCOMPLISHMENTS:
CALIFORNIA TYPEWRITER RECOVERY PROJECT

Total number of leads on typewriters stolen in California developed by the project	5,000
Total number of Field Investigations initiated and processed by the California Department of Justice	2,500
Total number of stolen typewriters recovered from leads already processed	2,100
Value of stolen typewriters already recovered	\$1.26 million
Percentage change in Theft Rate for stolen office equipment since project inception, over base period	+1.8%
Percentage change in Recovery Rate for stolen office equipment since project inception, over base period	+22.7%

But beyond the specific accomplishments of the project noted here, perhaps even more important to the people of California is the greater understanding the law enforcement community has gained of how, where, and by whom stolen office equipment is stolen, fenced and consumed in the state. This enhanced understanding, the details of which are noted below, will enable California law enforcement authorities to better deploy their resources in order to further inhibit the marketplace for stolen typewriters.

The analysis of typewriter thefts conducted by the project made clear how serious a crime problem such thefts are for many California citizens, and in particular for the business and professional communities, and for public sector agencies and institutions. These groups are most directly impacted by this type of theft because they are its most frequent victims. The total losses sustained by victims of typewriter theft exceeded \$2.3 million, with an average per victim at \$2,461. Further enhancing the seriousness of this form of theft is the fact few such crimes appear to be solved through traditional enforcement responses. Thus, of the cases reviewed by the project, only 1 percent had been cleared by arrest; and recoveries of the property stolen had been made in only 3 percent of the cases. *Analysis of typewriter thefts reveals, then, a serious crime problem, which results in substantial losses sustained by victims, but which cannot be effectively controlled through traditional enforcement measures.*

The description of the settings in which stolen typewriters were located revealed by the project confirmed the view that such items are not redistributed on street corners or through a small number of shady entrepreneurs. Rather, most stolen typewriters re-emerged in the same types of commercial, professional and public settings from which they had been stolen. Thus, the market for stolen office equipment is comprised of the same segments of the society

which are the most frequent victims of office equipment thefts. *What is abundantly clear is that so long as business and professional firms, and public agencies and institutions, continue to serve as willing purchasers and/or convenient outlets for stolen office equipment, they will continue as well to sow the seeds of their own victimization.*

Analysis of the circumstances surrounding the purchase of stolen typewriters revealed that the majority of final consumers of such items identified the seller as an individual rather than a business. They further reported that they were most frequently approached by such individuals at their offices or job sites. Of the 42 percent of the final consumers studied who reported purchasing stolen typewriters from a business, the most frequent business sellers noted were office equipment wholesalers and retailers. Two disturbing aspects of the marketplace are revealed in these findings. First, traffickers of stolen typewriters demonstrated little reluctance to personally visit legitimate business and professional establishments for the purpose of selling stolen goods. This suggests perhaps a certain amorality to the purchase practices of such firms. Second, the involvement of office equipment firms in the illicit trafficking in stolen typewriters suggests a large "quasi-legitimate" component to this marketplace which represents a serious law enforcement challenge. Finally, while the culpability

of most final consumers of stolen typewriters cannot properly be established from the data system records, the fact that many had paid on the average one half to two thirds of the legitimate market price for the typewriters they bought suggests more guilty knowledge on their part than they might ever be willing to admit. *Once again, there is little doubt that until such potential victims of typewriter thefts stop supplying a market for such items, they will continue to enhance their chances of becoming actual victims.*

A review of timing and movement patterns for stolen office equipment in the state of California demonstrates just how fleeting are the transactions in the stolen property marketplace starting with the original theft and leading up to the resale of stolen goods to a final consumer. It also shows how fragile is the audit trail of a property crime, and how difficult--if not futile--it may be to attempt to preserve this trail using traditional enforcement approaches. The matching technique used here permits re-establishment of this audit trail, once broken, and reconstruction of the persons, places, and events involved in the theft and redistribution of stolen goods. Without such a technique, the enforcement activities of this project could not have taken place, nor would it have been possible to paint as clear a picture of the market for stolen office equipment presented here.

END