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REPORT ON
A STUDY OF PROPERTY NUMBERING
IDENTIFICATION SYSTEMS USED
IN
"OPERATION IDENTIFICATION" - R

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A STUDY OF PROPERTY NUMBERING
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IN
"OPERATION IDENTIFICATION" - Report

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SUMMARY

This report is a result of an intensive week-long study of personal property identifier systems used in "Operation Identification" programs to determine relevant problems and limitations of such systems and make recommendations for a widely acceptable and effective coding system that can overcome the inherent problems of using drivers license numbers and social security numbers.

The methodology used in this study consisted of reviewing existent literature on the subject, contacting various agencies throughout the United States and various experts, and conducting an analysis of each personal coded identifier system.

The findings are that none of the existing personal coded identifier systems meet all the stated needs of an "Operation Identification" program, yet all have had the effect of deterring the theft of property and allowing for better identification of property.

A more detailed study is necessary to ascertain the magnitude of the problem of tracing the ownership of recovered property and how a standard personal coded identifier can solve this problem. In the interim, LEAA should continue to recommend the use of State Drivers License Numbers prefixed with the State two letter abbreviation.

"OPERATION IDENTIFICATION"

A STUDY OF PROPERTY NUMBERING IDENTIFICATION SYSTEMS

INTRODUCTION

A large number of communities have undertaken "Operation Identification". This crime prevention program usually involves the following sequence of events:

- A citizen is loaned an electric etching tool to engrave an identification number on the surface of his valued possessions,
- he prepares a personal property inventory list of the marked items or an identification card with his name, address, and identification number,
- he returns the tool and card or list to the police department,
- he is given decals to display in windows and doors identifying him as a participant in "Operation Identification" and that his personal items are traceable.

There are variations of the "Operation Identification" program but these are usually in techniques used to implement the program.

Generally "Operation Identification" programs are undertaken as part of a more comprehensive crime prevention effort. Police officials are firmly convinced that "Operation Identification" is an integral part of their crime prevention program and contributes to the reduction of their residential burglary rates.

Existing Programs

This crime prevention program received its present impetus in 1963, when Monterey Park, California Police Department developed

and initiated "Operation Identification". The history of property identification can be traced to motor vehicle registration numbers, which ultimately evolved into a standardized Vehicle Identification Number (VIN). Some twenty years ago police departments encouraged motorists to mark their hubcaps with their vehicle license number for ease of identification and possible deterrent effect.

Since 1963, a large number of communities have implemented the program. The extent that "Operation Identification" has been and/or is being carried on throughout the United States is difficult to ascertain without an extensive survey effort. Several states (e.g. Hawaii, Florida, Illinois, etc.) have implemented the programs state wide. The existing emphasis on crime specific planning and programs continues to expand the list of communities implementing personal property identification programs.

The majority of "Operation Identification" programs have adopted "the program" as it was developed in Monterey Park. These programs have not undergone intensive evaluation. Most evaluation has been directed at performance (e.g., number of premises involved) and the burglary experience of participating premises. No evaluation could be found on the success of tracing and recovering stolen property. There are a number of other aspects of "Operation Identification" that should be researched and evaluated.

At best, the programs's success is that cities report a reduction in the number of residential burglaries occurring to those homes which have been involved in the program. Most communities also report the major obstacle that they must overcome is public apathy -- the reluctance of citizens to avail themselves of the program.

Objectives

The major objectives of "Operation Identification" include:

• DETER BURGLARIES, SPECIFICALLY RESIDENTIAL BURGLARY.

This program is aimed at reducing the number of burglaries by making the object of attack unattractive to the would-be perpetrator. The purpose of displaying decals on doors and windows is to bring to the attention of the potential burglar the fact that the personal property items he will find are marked with a number that would identify the item as "hot" and traceable to the owner.

• ASSIST IN RETURNING RECOVERED PROPERTY ITEMS TO THEIR RIGHTFUL OWNER.

"Operation Identification" provides law enforcement agencies with a better means to positively identify the ownership of property they recover or are investigating.

THE PROPERTY IDENTIFICATION NUMBER PROBLEM

An indispensable activity of "Operation Identification" is the marking of personal items with an identifier, usually some number. This identifier is considered to perform the following functions:

- assist the owner in identifying his property,
- provide law enforcement officers with a means of tracing ownership,
- deter would-be perpetrator from taking the item because of its easy identification as "HOT" or "STOLEN" property,
- reduce the number of legitimate outlets for disposing of stolen items.

The question of whether the identifier does perform the above functions has not been truly evaluated or measured. This fact appears to be a more basic consideration to the successful solution of the identifier problem, than does the determination of which identifying system should be used and whether there should be a universal number required of all "Operation Identification" programs.

A review of several "Operation Identification" programs reveals an inconsistency in the identifying systems used to mark personal items. Most police agencies suggest to the citizen that he use either his drivers license number or social security number. These suggestions are based on the premise that these identifiers are most readily available to the citizen and most readily available for the citizen to retrieve when asked what number he used to identify his property.

Need For A Number

Citizens rarely know the serial numbers or other identifying numbers of their personal property. Rarely does the citizen record the serial numbers of his personal property for reference purposes. Many property items do not even have a serial number or any other form of identifier. See Exhibit 1 for an illustration of the advantages of marked property.

STOLEN/MISSING PROPERTY Condition	RECOVERED PROPERTY Condition		
	Serial # Only	Marked # Only	Marked + Serial #
MARKED PROPERTY			
Serial # + Not Reported	TRACE	TRACE	TRACE
No Serial # + Not Reported	NO	TRACE	TRACE
Serial # + Reported	MATCH + TRACE*	MATCH + TRACE	MATCH + TRACE
No Serial # + Reported	NO	MATCH + TRACE	MATCH + TRACE
UNMARKED PROPERTY			
Serial # + Not Reported	NO	NO	NO
No Serial # + Not Reported	NO	NO	NO
Serial # + Reported	MATCH	NO	MATCH
No Serial # + Reported	NO	NO	NO

*Conditional. Depends if "Operation Identification" program has citizen file property serial numbers with Police Department.

Exhibit 1. THE EFFECT MARKED PROPERTY HAS ON HANDLING RECOVERED PROPERTY.

Better Description of Reported Stolen Property. Marking his property as required in "Operation Identification" allows the citizen to provide the police with an identifying number, along with a verbal description of the item, when his property is stolen or missing. This identifier aids the citizen in identifying his property, aids the police in matching recovered property with reported stolen property, and aids in the prosecution of the case.

Some programs require the citizen to file a copy of his personal property identifying inventory list with the sponsoring police agency, including the serial numbers of marked items. When reporting his property stolen, if the citizen cannot recall the serial number, the police can search their files to retrieve the appropriate serial number(s).

Better Chance to Match Recovered Items with Stolen Items. The personal coded identifier (the numbers marked by the citizen) allows for a positive identification to be made between items reported stolen and recovered. This is particularly important in those cases where property items do not have serial numbers. Difficulties arise when the law enforcement agency reporting the stolen property is different from the recovering agency. There are limitations on entering personal coded identifiers in the state and national stolen property computer files.

Possible Chance to Trace Recovered Property. The marking program provides policing agencies with a chance to trace recovered property that is not reported stolen. If the marking agency maintains an identification card with the name, address, and identification number, a search can reveal the owner. The success of this search depends upon these factors:

1. The personal coded identifier is known to the recovering agency.

2. The marking police agency maintains the identification card in a searchable manner and includes the name and address of the owner.
3. The owner still resides at the address.

Problems occur when the personal coded identifier is not known to the recovering agency. Numbers now in use - driver license number not prefixed with state initials and social security numbers - may not be readily identifiable. The other problem is whether or not the citizen still resides at the same address. Most "Operation Identification" programs have opted to use driver license numbers because states have a requirement that the citizen keep his residence address current and this file is available for searching by the recovering policing agency.

The Nucleus Of The Controversy

The fact that personal property is marked with any personal coded identifier appears, for the time being, to satisfy the objective of deterring criminals from stealing the marked items. If the personal coded identifier can be recalled by the owner at some time when reporting his property stolen or missing, then the second objective is satisfied and the police are able to match recovered property with stolen property. If the personal coded identifier can also allow for identification and tracing of the owner of the property, so it can be returned, then the identifier accomplishes all the objectives of "Operation Identification".

Since any numbering scheme can be used to satisfy the first two objectives, the crux of the problem rests with traceability.

One cannot postulate how departments selected the personal coded identifier they use. Most departments contacted indicated they copied some other existing "Operation Identification" program after determining the feasibility of adopting the numbering

scheme. The major element in this decision rested with the department wanting to use an identifier already commonly available, and there was a possibility that operating procedures and files provided the desired traceability.

States require vehicle operators to have a drivers permit, to keep their residence address current, and allow police agencies access to these files. Using drivers license numbers provides local police departments ready access to information needed to trace property. This relieves the local police agency from maintaining an active "Operation Identification" participant file.

Some local agencies, viewing the mobility trend of our citizens and the difficulties associated with their particular state drivers license number (character length, annual change, etc.) adopted the social security number as the personal coded identifiers. The difficulty arose when some of the departments assumed the SSN could be traced through existing government files (the Social Security Administration) to ascertain name and address. Some departments, realizing this difficulty but accepting the universality of SSN, placed this number in their own department files for reference searches.

CURRENT PERSONAL CODED IDENTIFIER SYSTEMS

Police agencies use several different types of personal coded identifiers (numbers placed on personal property) systems. The systems now in operation include:

- DLN (Drivers License Numbers)
- SSN (Social Security Numbers)
- DPI (Departmental Personal Identifiers)
-a number assigned to an individual by
the local law enforcement agency

- SIN (State Identification Numbers)
-a number assigned to an individual by the local law enforcement agency and forwarded to the state for use in their article file.
- NCIC+ (National Crime Information Center Numbers plus five digits)
-the marking agency's originating agency identification number (ORI) plus an individual number such as a DPI.
- PNS (Private Numbering System)
-a commercial effort to provide private business and sometimes individuals with a number to place on all their property. Records are kept of the PNS and property marked for reference and recovery purposes.

Present Popularity

A review of the literature on "Operation Identification" programs indicates a definite trend to use state drivers license numbers as the personal coded identifier. The Monterey Park Police Department used the California drivers license number. A recent nationwide survey of "Operation Identification" programs, by the National Crime Prevention Institute (NCPI), reports that of 83 responses out of 193 inquiries, 80% used the DLN as the personal coded identifier. Since June of 1972, LEAA has been recommending the use of DLN's. The California Council on Criminal Justice recommends that "Until such time as a set of national identifying numbers become available, the recommended identifier is the California DLN". They further point out that the DLN "be preceded by the letters CA for state designation".

There are notable exceptions such as New York City, which uses the social security numbers. New York Police Department places the participating person's social security number in their own police files for reference searches; therefore, it can be considered a DPI system.

ANALYSIS OF PERSONAL CODED IDENTIFIERS SYSTEMS

Reviewing personal coded identifiers systems becomes difficult because one does not clearly make the distinction between a unique serialized numbering system such as a vehicle identification number and a coded identifier. Most numbering systems used in "Operation Identification" programs are coded identifiers. Coded identifiers are a single number used by one person to identify his personal items. This number appears on several items (e.g., TV, stereo, typewriters, jewelry, etc.).

A unique serialized identifier refers to a group of characters (numbers, letters or combinations) used once for any one item. A manufacturer's serial number could be considered a unique serial identifier if that number appeared on only one item and was never repeated. A person's DLN, SSN, etc., or a police agency's NCIC number can be considered a unique serialized identifier because it identifies one person or agency. However, when this number is placed on a number of items, the number is used as a personal coded identifier.

Evaluation Criteria

The following criteria were used to review, analyze and evaluate the various numbering systems identified earlier.

• UNIQUE SERIALIZED IDENTIFIER

No two people can have the same identifier.

• Permanence

The identifier must not change during a person's lifetime and must not be re-used after his death until all of his records have been retired.

• Ubiquity

An identifier must be available to anyone who wants one.

- Availability

The identifier must be readily obtainable at time of use and must be easily recalled.

- Indispensable

The identifier must be supported by incentives to require the individual to have the identifier.

- Brevity

The identifier must be as short as possible for each individual so that (1) he can easily remember it, (2) it can be placed on most personal items, and (3) it can be used in existing police files.

- Standardized

The identifier must have a standard length and character format so that it will be readily recognized by law enforcement personnel should they come upon any recovered property.

- Privacy

The identifier must not provide a means of infringing upon an individual's right to privacy. The only time an identifier concerns anyone other than the individual is during the process of trying to return recovered, stolen, or lost property. The identifier files should be limited to the person's name and current address.

- Traceability

The identifier must provide a ready means of determining the property item's ownership (e.g., name and address).

- Current Status

The identifier system must have a means of keeping current the data on file such as marked items and current address of the individual.

Analysis

Exhibit 2 compares each personal coded identifier system by using the evaluation criteria discussed previously. Each system was analyzed in terms of how well it met these requirements. More

detailed discussion and explanation follow. The responses reflect how the personal coded identifier system is supposed to operate rather than how it is functioning. In certain cases the response could not be "yes or no" because the systems varied from locality to locality.

IDENTIFIER SYSTEMS	UNIQUE SERIALIZED IDENTIFIER	PERMANENCE	UBIQUITY	AVAILABILITY	INDISPENSABLE	BREVITY	STANDARDIZED	PRIVACY	TRACEABILITY	CURRENT STATUS
DLN	YES	VAR	NO	VAR	VAR	VAR	NO	YES	YES	YES
SSH	YES	YES	YES	YES	YES	NO	YES	NO	NO	NO
DPI	YES	YES	YES	YES	NO	VAR	NO	YES	YES	VAR
SIN	YES	YES	YES	YES	NO	VAR	NO	YES	YES	VAR
NCIC+	YES	YES	YES	YES	NO	NO	NO	YES	YES	VAR
PNS	YES	YES	NO	YES	NO	VAR	NO	YES	YES	VAR

Exhibit 2. COMPARISON OF PERSONAL CODED IDENTIFIER SYSTEMS.

DRIVERS LICENSE NUMBER OR IDENTIFIER (DLN)

UNIQUE SERIALIZED IDENTIFIER: The DLN is unique because a drivers license number is issued to only one person. However, a person can get two different DLN's even though it may be illegal to do so. There have been occasions where two persons have been issued the same drivers license number.

Permanence: The DLN varies from state to state in its permanence. All states allow the individual to move from place to place within the state without changing his number. The length of time a person keeps this number varies. In thirty (30) states a new DLN is issued each year on a sequential basis and therefore everyone gets a new number. Other states issue a new number whenever a person changes his or her name. Some states give a new DLN when a person returns to the state after being absent for several years, usually through the renewal period.

- If a person moves from one state to another, he has to apply for a new drivers license. This means that he will have to etch the new DLN on all of his property. That brings up another problem - if the owner can mark out his old DLN number, what is to stop a criminal from slightly altering the DLN so that it can't be traced to the real owner, drawing a diagonal line from the top right to the bottom left, through the old DLN (as suggested by CCCJ) and putting his own (or his fence's) DLN on the item?

Ubiquity: Generally speaking, not everyone has a DLN for various reasons, such as not knowing how to drive, being under age, physically or mentally incapable, etc.

Availability: A drivers license is available to anyone who qualifies for one.

Indispensable: A drivers license is needed to legally drive a vehicle, and is the most common basis of personal identification.

Brevity: The DLN is not of a common length from state to state. There are several states where the DLN is lengthy, such as in Vermont, where the DLN is nineteen (19) characters long. See Exhibit 3.

Standardized: DLN's are not standardized. The DLN format ranges in length, use of alpha and numerical characters and use of spaces and dashes.

Privacy: The state's DLN file is available to all authorized law enforcement agencies. The file is limited to vehicle operating data and identification.

- Nine states use the SSN as the DLN. Indiana DMV states that they use the 9 digit SSN prefixed by a letter. However, the SSN file data on jobs, wages, etc., is kept completely separate from the DMV computerized files related to DLN information. In fact, a citizen in Indiana can ask that his SSN not be used as a DLN and the state will issue him a "people number" with the same number of characters (letter prefix, 9 digits).

Traceability: Each state can retrieve the name and most current recorded address of a given DLN. Many citizens who have engraved DLN's on their property failed to use the state two letter prefix, making it extremely difficult to trace property that has been recovered in a different state.

Current Status: A DLN address is normally kept current because it is required by law if one wants to operate a vehicle on the road.

SOCIAL SECURITY NUMBERS OR IDENTIFIER (SSN)

UNIQUE SERIALIZED IDENTIFIER: A SSN is unique to only one person. Each individual is supposed to have only one SSN. However, more than 2.4 million Americans have at least two (or more) different social security numbers. There are occasions, accidentally, for

STATE	ABR	DLN*	LENGTH	STATE	ABR	DLN*	LENGTH
Alabama	AL	1234567	(7)	Missouri	MO	A123-4567-8901-2345	(19)
Alaska	AK	123456	(6)	Montana	MT	A123456	(7)
Arizona	AZ	AB1234567	(9)	Nebraska	NB	A12-123 +	(?)
Arkansas	AR	A1234567	(8)	Nevada	NV	AB123456	(8)
California	CA	A1234567	(8)	New Hampshire	NH	12 ABC 3456	(11)
Colorado	CO	AB123456	(8)	New Jersey	NJ	A 1234 56789 01234	(18)
Connecticut	CT	123456789	(9)	New Mexico	NM	1234567	(7)
Delaware	DE	123456	(6)	New York	NY	Uses Special Dept. Code	(?)
District of Columbia	DC	123456	(6)	North Carolina	NC	1234567	(7)
Florida	FL	C12345678901234	(15)	North Dakota	ND	A012-3456-7890-1234	(19)
Georgia	GA	A123456	(7)	Ohio	OH	AB123456	(8)
Hawaii	HI	SSN	(11)	Oklahoma	OK	SSN	(9)
Idaho	ID	SSN	(11)	Oregon	OR	123456	(6)
Illinois	IL	A123 4567 89012	(15)	Pennsylvania	PA	12 345 678	(10)
Indiana	IN	SSN	(11)	Rhode Island	RI	1234567	(7)
Iowa	IA	SSN	(11)	South Carolina	SC	1234567	(7)
Kansas	KS	ALB2C4	(6)	South Dakota	SD	123456-A	(8)
Kentucky	KY	123-456-789	(11)	Tennessee	TN	1234567	(7)
Louisiana	LA	1234567	(7)	Texas	TX	1234567	(7)
Maine	ME	12345678	(8)	Utah	UT	SSN (Old #)	(11)
Maryland	MD	A-123-456-789-000	(17)	Vermont	VT	A123456 (Recent)	(7)
Massachusetts	MA	SSN	(9)	Virginia	VA	A123456789012345678	(19)
Michigan	MI	A123 456 789 0123	(17)			SSN (Now Used)	(11)
Minnesota	MN	A-123-456-789-012	(17)			A12345678901234567890 (Old#)	(21)
Mississippi	MS	SSN	(11)	Washington	WA	AB-CD-EF-G12345	(15)
				West Virginia	WV	A123456 or 1234567	(7)
				Wisconsin	WE	123-4567-8901-23	(16)
				Wyoming	WY	123456	(6)

*MAXIMUM LENGTH OF DLN

1973 United States Drivers License Guide,
 Driver License Guide Co., Redwood City, CA.

more than one person to have the same SSN.

Permanence: A SSN is permanent for an individual's lifetime.

Ubiquity: SSN is available to any American.

Availability: SSN is usually readily available for most adult Americans but much less so for those of high school age and below. The process to get a SSN number takes weeks.

Indispensable: The incentives and requirements to report one's SSN correctly are growing and it is indispensable in calculating past wages for social security benefits at the retirement age.

Brevity: The SSN has nine (9) digits and, to be identifiable as a SSN, two additional characters are needed. Nine numbers are three more than the use of an alpha-numeric combination capable of numbering 500 million people.

Standardized: The SSN is of standard length in all cases: 123-45-6789, or eleven (11) characters in length. One state that uses the SSN as its DLN compresses the character length to nine spaces by leaving out the dashes: 123456789.

Privacy: The use of SSN provides the possibility of an identifier that can be used to obtain information which would violate an individual's privacy. This would be particularly apropos if the SSN files of the Social Security Administration were used as a means to obtain identification information. The use of SSN has been opposed by many groups and agencies.

Traceability: The SSN number cannot be used to trace the ownership of recovered property to its owner via information from the Social Security Administration. If the SSN is used in a local or DLN file, then it is traceable similar to a DLN or DPI system.

Current Status: The SSN is often not kept up to date. There is no requirement for a person to inform the Social Security Administration as to residence changes.

DEPARTMENTAL PERSONAL IDENTIFIER (DPI)

UNIQUE SERIALIZED IDENTIFIER: The DPI can be considered a unique serialized identifier with proper controls exercised by the department. There isn't any advantage for a person to get two DPI's. However, the lack of appropriate controls could result in duplicate numbers being issued.

Permanence: The DPI is generally considered to be permanently assigned to one individual until the department purges the file which would vary depending on a number of factors (e.g., space, information, utility, etc.).

Ubiquity: A DPI is available to anyone who wants one.

Availability: The DPI is available only to a person in that particular jurisdiction.

Indispensable: The DPI is not indispensable since a person can get along without such a number.

Brevity: The length of a DPI varies between jurisdictions. It has the potential of being short, staying within seven (7) characters, if it were only limited to identifying persons within their jurisdiction.

Standardized: A DPI is not considered standardized. Issuing agencies use different character lengths and formats.

Privacy: There is no intrusion of privacy with DPI since the search is limited to department files, usually containing the

person's name and address.

Traceability: The DPI is very limited in tracing ownership since the identifier is usually known only to that agency.

Current Status: Very few DPI systems have any method or procedure to keep the file up to date. The numbers are sequential and maintained until purged. There is no incentive to update address of owner.

STATE IDENTIFICATION NUMBERS (SIN)

Generally the same analysis and evaluation occurs with State Identification Numbers as did with Department Personal Identifier systems. The variability depends on the individual state's handling of the numbering system. Two evaluation criteria bear further discussion.

Availability: The SIN is generally as available as the DPI, however, it depends if the local agency can issue the SIN or whether it must send and receive the number from the state.

Traceability: The SIN is more traceable than the DPI since the system covers the entire state and not limited to a particular jurisdiction. It is assumed that most policing agencies would be familiar with the SIN.

NATIONAL CRIME INFORMATION CENTER IDENTIFIER PLUS (NCIC+)

There is one police agency known (Sacramento P.D., Calif) that has suggested the use of combining the NCIC-ORI identifier with a local identifier. Businessmen wanted to mark their property and none of the existing identification systems could accommodate this situation. Programs on the State and Federal levels which do assign specific identifiers to businesses are unable to reveal

them as they are considered to be privileged information.

UNIQUE SERIALIZED IDENTIFIER: A NCIC+ system may be considered a USI as long as no errors occur in the system and where no two businesses would have the same identifier. The biggest difficulty would be limiting a business to a single identifier.

Permanence: The NCIC+ is considered permanent.

Ubiquity: A NCIC+ identifier would be available for each business that desires one.

Availability: A NCIC+ identifier is not yet available and it would be limited initially to single agencies. But under the analysis criteria factors, it can be considered available to any business in a local jurisdiction that will be using this system.

Indispensable: The NCIC+ identifier is not indispensable since there is not any reason for the business to have a number.

Brevity: A NCIC+ identifier as suggested is not brief.

Standardized: Such a system could not be considered standard at this time.

Privacy: If the additional identifier is not the State or Federal business identifier, then there appears to be no problem with privacy.

Traceability: The use of the NCIC+ agency identification number allows any agency knowing the number to identify the jurisdiction where the property was marked. If the local agency kept a file of the additional identifier code, then the ownership could be traced.

Current Status: This would depend upon the cooperation of the business to keep its address and phone number up-to-date.

PRIVATE NUMBERING SYSTEMS (PNS)

There are essentially three different types of private numbering systems: (1) a system that uses 11 characters, (2) a system that uses a variation of the postal zip code, and (3) a system that the National Electrical Contractors Association recommends for use in identifying company property. All three systems are orientated towards businesses. The NECA describes its system as:

SERIAL NUMBERS PUT ON BY THE OWNER. If there is no manufacturer's serial number, and if the item is valuable enough to merit the expense, the firm should give serious consideration to affixing a serial number of its own to the item. Again, to enable use of the number in NCIC, it must be a unique number.

Serial numbers can be generated by the firm in a wide variety of ways. In doing so, the firm may want to tie the numbers into a general inventory system, such as by using a part of each serial number to categorize types of tools, equipment or materials. One further consideration should involve whether or not the firm will be generating numbers by itself, or will be participating in a cooperative venture with other contractors in the area.

A cooperative venture can add an additional benefit to the use of serial numbers. If a number of contractors can agree upon an initial prefix coding system which will be used by each firm, provision can be made for recognition of each other's property in the event that an attempt is made to sell it to a participating firm.

For example, if a group of contractors are all using serial numbers which begin with a "Z" followed by a two or three letter code which designates the individual firm, followed by additional numbers or letters of each firm's choosing, any participating firms (and local police authorities who are informed of the system) who see the Z plus the 2 or 3 letter prefix can recognize that the property belongs to one of the firms in the system, and can easily identify the specific firm by reference to a code directory. Hypothetically, a purchasing agent who was offered a tool bearing the serial number "ZAB19934" could tell that it belonged (or at one time belonged) to Acme Electric, which marked all valuable items with a serial number beginning in ZAB.

A two-letter code of this nature (such as "XY") provides 650 different combinations, while a three-letter code (such as "XYZ") provides 15,600 combinations (less if easily altered letters such as "F" are eliminated). Since the prefix is unique, it is immaterial (for the purposes of identification) what numbers or letters are added by the individual firm after the code prefix. These additional numbers could be added in order, or an internal inventory code could be used to categorize items. The one rule that should be followed is that the overall number should be long enough (at least 5 or 6 characters in length) so that it will be easily recognizable as a serial number, rather than just a code number.

If a firm is generating serial numbers on its own, rather than participating in a cooperative program, it can use a wide variety of methods. It too should keep in mind the need for enough length to make the number easily recognizable as a serial number.

For example, the firm's system could be as simple as using two letters followed by three numbers, perhaps with different letters being used on different types of tools, equipment, materials and jobs. Thus, XX001 through XX124 might be drills, YZ001 through YZ004 might be corers, and numbers AD001 through AD196 might be used to mark expensive on-site material items at a particular job-site.

One caution is in order here, however. Avoid the temptation to assign a code which is very close to the actual name of the items to be serialized. Using DR001 through DR009 for drills, for example, might well result in duplication with another contractor's drill numbers.

UNIQUE SERIALIZED IDENTIFIER: A PNS can be considered unique if there is some coordination between systems. It is possible, however, that a PNS may be used by more than one company when consolidated, merged, etc.

Permanence: The PNS identifier used or assigned by a company is considered permanent as long as the firm using or controlling the systems are in business. Companies selling this service going out of business can disrupt the permanence of the system.

Ubiquity: A PNS system is not universally available.

Availability: The PNS type of system is available to any company that wants to develop their own system or pay to have it developed for them.

Indispensable: A PNS system is not indispensable.

Brevity: It is possible that a PNS's character length will vary from system to system.

Standardized: The PNS system is not standardized since each system takes a different approach.

Privacy: There is no conflict with invasion of privacy problems except that identifier systems used in businesses may be kept confidential.

Traceability: A PNS is limited to recognition of the number as belonging to a particular system, and the system still has the record on file.

Current Status: The PNS is kept up to date only as long as the business remains with the PNS.

MANUFACTURER'S SERIAL NUMBER (MSN)

No "Operation Identification" program uses the manufacturer's serial numbers as the personal coded identifier. Serial numbers can meet the objectives of better identifying personal property with reported stolen property, but there are some distinct problems associated with tracing items using manufacturer's serial numbers.

- Some manufacturers do not put serial numbers on their products, others only use model numbers where a number of items are marked with the same number. Model numbers are easily confused with serial numbers.

- Serial numbers are not necessarily permanently or indelibly affixed. Some are located on metal plates or on pieces of tape that can be easily removed.
- Manufacturers are using serial numbers less.
- Serial numbers, in addition to a personal coded identifier number on a single piece of property, may confuse the decision of which number to use in entering the stolen property (NCIC+, state and local computer files) and which numbers to search when dealing with recovered property.

ADOPTION OF A STANDARD UNIVERSAL NUMBER

Based on the previous statements, it appears the best alternative available to "Operation Identification" is the adoption of a standard universal number. This number would meet the criteria and could be useful for the following reasons:

- easier and more accurate updating, merging, and linking of records about individuals
- duplication and error in record keeping would be reduced
- no need to carry many different identifying numbers: SUI would supplant credit cards, checking account and drivers license numbers

However, there are distinct disadvantages to using an SUI, these include:

- would require a cumbersome bureaucratic apparatus necessary to assign and administer the system
- loss or theft of the SUI would cause serious inconvenience
- SUI implies a national population registration that brings visions of a national dossier system
- SUI would make it much easier for an individual to be traced, particularly if he was required to report any changes in his status (e.g., residence address) but it infringes on his right to privacy.

Limitations of Social Security Number

The present philosophy regarding the use of the social security number as an identifier has come under constant attack. The Advisory Committee on Automated Personal Data Systems for the Secretary of HEW summarized the position that if use of the SSN as an identifier continues to expand, the incentive to link records and to broaden access to them is likely to increase. The committee recommended the use of the social security number be limited:

1. Use of SSN should be limited to those necessary for carrying out requirements of the federal government.
2. Federal agencies and departments should not require use of SSN except for uses specifically mandated by Congress.
3. Congress should be sparing in this mandate.
4. SSN should not be used for other than government mandated purposes without the individuals consent, nor should he be coerced into giving it.
5. An individual should be fully informed of his rights re: SSN.

HR 9968

A bill drafted by Congressman Goldwater, sent to the Ways and Means Committee, calls for specific restrictions on the use of SSN. It prohibits, under the Social Security Act, the disclosure of an individual's social security number or related records for any purpose without his consent unless specifically required by law. It provides that, unless so required, no individual may be compelled to disclose or furnish his social security number for any purpose not directly related to the operation of the old-age, survivor's, and disability insurance program.

CONCLUSIONS AND RECOMMENDATIONS

Based on the intensive study of existing "Operation Identification" programs and the analysis of the various personal coded identifiers systems the following conclusions can be drawn:

- All of the existing personal coded identifiers can meet the objectives of making personal possessions more identifiable and usually can assist in matching recovered property with reported stolen property.
- Existing personal coded identifiers function most effectively in the jurisdiction where the property was marked and the "Operation Identification" program is of interest to the citizen and the police agency.
- No existing personal coded identifier system meets the criteria necessary for an optimum and self sustaining "Operation Identification" program.
- Only the drivers license number system offers any sustaining motivation to cause a person to keep his record current (i.e., change his residence address).
- No existing "Operation Identification" program adequately handles the problem of what to do with the personal coded identifier when a piece of property changes ownership.
- The development, implementation, and administration of a national standard universal identifier system is horrendous and politically not feasible.

RECOMMENDATIONS

- Conduct a more in-depth study to evaluate the overall and specific results of existing "Operation Identification" programs and to better place the need for a standard personal identifier system in the proper perspective of priority.

Specifically, study to what extent are local agencies confronted with the inability of returning recovered property and to what extent has been the effect of the various "Operation Identification" programs and the various personal coded identifier systems on this problem.

0 Conduct a study directed at answering various ancillary problems listed below and in the appendix.

- o Evaluate if "Operation Identification" programs deter would-be perpetrators and where does it function the best.
- o Can the program sustain its effectiveness or will the burglars adjust to the inconvenience.
- o Does the results or lack of results keep police agencies interested in the program to maintain up-to-date files and expand to new areas (e.g., geographic, commercial, etc.).
- o How does one overcome the public's apathy to participate in "Operation Identification" programs and how does one sustain this interest to update status of property and location.
- o What is the best method or technique to plan and execute an "Operation Identification" program to assure desired results.

0 Continue to recommend to all agencies planning and/or executing "Operation Identification" programs to use the DLN as the personal coded identifier, prefixed by the State's two letter abbreviation. Persons not having a DLN should be given a State Identification Number, also prefixed by the State's two letter abbreviation.



APPENDIX

APPENDIX

"OPERATION IDENTIFICATION"

GENERAL IDEAS

I. What are the various components for any identification system.

- ① Standardized location of marking items.
 - ease of applying number
 - ease of locating and inspecting number
- ① Permanent mounting of ID number.
 - difficult to remove or alter
- ① Unique but standardized number system.
 - able to trace item back to owner
 - easy for person to obtain
 - permanency of number
- ① Record system.
 - description of property and ID number of reference checks
 - update ownership of personal item

II. General description and elements of program.

- ① Loan of electric etching tools.
 - Problems
 - not all personal items can be etched
 - person needs instruction on its use
 - requires administrative procedures to identify and control issuance of tools
 - large number of tools needed
- ① Engrave personal identification number on personal items of value.
 - Problems
 - which ID number should be used
 - where should item be marked
 - what happens if item is marked with error

- ① Prepare a complete and detailed list of marked items for filing with police.

Problems

- what items should be marked and cataloged
- should citizen be required to report (turn in) the list (security and privacy)
- how long shall police keep list
- what filing procedure should the police use for list

- ① Display decal stating person was involved in marking program.

Problems

- how many decals do you give to citizen
- where should the decals be placed
- should anyone, even those who didn't mark items, have access to decals
- what happens if citizen moves, should decal be removed, transferred

- ① Conduct publicity campaign.

Problems

- is publicity required because citizens are apathetic
- must you carry out "Operation Identification" as part of a more extensive crime prevention program
- how do you sustain publicity or have citizens become aware of program
- how does new citizen become aware of program

- ① Evaluation.

Problems

- what aspect should you evaluate
- what techniques are valid for evaluating each aspect
- what data base should be prepared
- how do you measure success
- how long do you maintain evaluation

III. Assumptions.

- ① A substantial amount of recovered property cannot be returned to rightful owner due to lack of unique identification. If unique numbers were available ownership easier to identify.

- ① Would-be perpetrator is deterred from taking easily identified property, if given a choice and the fact that property is so marked.
- ① Marked property would aid in field investigation, e.g., provide reasonable cause to check out property.
- ① Manufacturer's serial numbers are ineffectual in personal property identification.

IV. Identification and evaluation of objectives.

- ① Deter residential burglary.

Problems

- ① are evaluations correctly undertaken
 - before and after campaign
 - matched experimental and control area campaign
 - length of time of evaluation
- ① what is the proper data base
- ① what effect is attributed to other crime prevention programs if carried on simultaneously with other identification
- ① what aspect of "Operation Identification" deters the burglar
 - how is he aware of this factor

- ① Assist in returning recovered property to rightful owner.

Problems

- ① what measurements do you use for evaluation
 - before and after measurements
 - percentage of recovery and returned items marked versus unmarked
- ① what aided in locating the owner
 - serial number
 - description card on file with police
 - how long is this effective -- does time (sale of items, moving, etc.) effect ownership ID
- ① is the department more interested in returned marked property than unmarked property
 - changes in procedures
 - more emphasis to show program works

- Assist in field investigations.

Problems

- what aspect does ID number's help and to what extent
 - how does one measure
 - more field arrests - how does one measure
 - can one identify stolen property easier
 - can one recover more stolen property
 - do normal channels on recovered property dry up - e.g., pawn shops, second hand dealers - because items are too hot to handle.



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see also:

H.R. 9968, introduced by Mr. Goldwater (Calif.) 8/3/73, sent to Ways and Means Committee.

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