TECHNICAL REPORT

THE USE OF COMPUTER-BASED MODUS OPERANDI DATA SYSTEMS (MODS)

By: Albert Zavala, Thomas H. Mullen, and James F. Moon

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State of New York - Executive Department
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CORNELL AERONAUTICAL LABORATORY, INC.
OF CORNELL UNIVERSITY, BUFFALO, N. Y. 14221

Title: The Use of Computer Based Modus Operandi Data Systems (MODS)

Subgrantee: Cornell Aeronautical Laboratory, Inc.

Sponsoring Agency: New York State Identification and Intelligence System, Albany, New York; the New York Office of Crime Control Planning, New York, New York; and the Law Enforcement Assistance Administration, Washington, D. C. 20530
Publication Date: October, 1970
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Note: 90p
Descriptors: Burglary, computer systems, modus operandi, robbery, sex crimes

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Analyses revealed: 1.) the frequency of using the same or similar M.O. by a particular individual repeating the same type crimes can be as low as two or as high as 44; 2.) M. O.s of some persons are sufficiently unique that successful identification (i.e., leading to apprehensions) resulted from searches of files as small as 150 crime cases and as large as 13,000; and 3.) the M. O., in some instances, can be similar across crime types but, in general, are unique to crime type. This latter finding resulted from the analyses of over 15,000 records from three separate police departments, which clearly shows that the number, frequency and combination of M. O. trademarks vary by crime type.

The study concludes that sex crimes and robbery are prime candidates for initiating an M. O. system whose success depends on the use of a computer, preferably including remote on-line terminals and rapid document retrieval.

Recommendations were made that NYSIIS develop a prototype M. O. system, to be tested in one or two police departments in New York State, that should: 1.) be freely automated; 2.) include provisions for evaluating the system (e.g., potential use of M.O. data to analyze crime patterns, subdivision of data, inclusions of additional crime types such as shoplifting and auto theft, and cost/effectiveness); and 3.) emphasize administrative and field support, training programs, and the dissemination of system benefits.

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February 5, 1971

Mr. Harry Bratt
National Institute of Law Enforcement
and Criminal Justice
Law Enforcement Assistance
Administration
U.S. Department of Justice
Washington, D.C. 20530

Dear. Mr. Bratt:

A mutual friend of ours, Miss Karen Clark, indicated that you would be interested in our recently published report entitled "The Use of Computer-Based Modus Operandi Data Systems (MODS)."

To facilitate your review of the enclosed report, permit me to highlight what I consider some of our more relevant findings:

1. The study has national implications in that it documents, analyzes and evaluates six large scale identification systems including the only three computerized Modus Operandi systems in the country. Proper application of the indicated strengths and limitations could well be used to design or improve comprehensive identification systems.

2. It represents a first of its kind computer data base analysis which tested the viability of the modus operandi concept. As indicated on Pages II-31-59, it measured the incidence and uniqueness of each M.O. and personal appearance descriptor for 16,000 live records. A more detailed continuance of this analysis could produce a roster of the most effective descriptors for any identification system.

3. It compiled an unprecedented data base analysis of 37,000 crime records which can be manipulated for more forward looking crime analysis. The records are currently available at NYSIIS.

4. It recommends a two pronged prototype for follow on efforts in the area of Modus Operandi. They are:

   a. Testing and implementing a prepackaged system similar to the computer systems in the Michigan State Police and the Detroit and Kansas City Police Departments.

   b. Developing innovative investigative techniques by applying M.O. to unsolved crimes and pattern analysis.

To elaborate on comment four, we have received good responses from operating agencies regarding the prepackaged system. As for comment 4b, this represents an untouched area and certainly within the bailiwick of your programs.

Needless to say, I am most interested in your reactions to this report. If you require further clarification or have any questions, please contact me at A.C. 518 - 457-6122.

Sincerely,

Thomas H. Mullen

Thomas H. Mullen
Associate Administrative
Analyst (CI & I)
Bureau of Systems Planning
and Research

THM/nmo
cc: Dr. Edward J DeFranco
Enclosure

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OCTOBER 1970

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STATE OF NEW YORK - EXECUTIVE DEPARTMENT
IDENTIFICATION AND INTELLIGENCE SYSTEM
EXECUTIVE PARK TOWER
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ALBANY, NEW YORK 12203

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APPROVED BY: *John H. Doolittle, Head, Avionics Department*

ABSTRACT

A study was conducted to evaluate the effectiveness of Modus Operandi (M.O.) as an identification tool. The objectives of this evaluation were to determine: 1) whether any individuals used the same or similar M.O. for several crimes of the same crime type; 2) whether one person's M.O. is distinguishable from someone else's in the same crime type; and, 3) whether the M.O. for one crime category is distinguishable from the M.O. of another crime category. The approach used in the study was to conduct a survey of systems and data of police departments having computerized M.O. systems, and to quantitatively examine M.O. data from some of these departments.

The results of the work provided positive answers to the three items above. Analyses revealed that the frequency with which a particular individual uses the same or similar M.O. for several crimes of the same type can be as low as two or as high as 44. The analyses also revealed that the M.O.s of some persons are sufficiently unique that successful identification (i.e., leading to apprehensions) resulted from searches of files as small as 150 crime cases and as large as 13,000. Moreover, the analyses revealed that the M.O. of one crime type is usually unique compared to the M.O.s of other crime types. This finding resulted from an analysis of over 15,000 records from three separate police departments, showing clearly that the number, frequency, and combination of M.O. trademarks vary by crime type. It was also found that in some instances the M.O. can be similar across crime types.

The M.O. systems surveyed were found to be combination systems, usually including personal appearance as well. However, the systems make only partial use of the traditional M.O. concept since little emphasis is given to: 1) establishing a link between a number of crimes and a person or group as yet unidentified; and, 2) ascertaining potential targets of crimes for information, warning and/or countermeasures deployment.

It was concluded that essential to the successful use of M.O. data is a computer-based system preferably including remote on-line terminals and rapid document retrieval. It was also concluded that sex crimes and robbery would be the most reasonable candidates of crime types with which to initiate an M.O. system. Design considerations were discussed including the feasibility of a state-wide system; support by management, supervisory and user personnel; adequate staff, space, and training; and, the need for effectiveness measures.

Recommendations were made that: 1) NYSIIS develop a prototype M.O. system to be tested in one or two police departments in New York State; 2) the prototype system should be fully automated; 3) the prototype system should include provisions for evaluating the system (e.g., potential use of M.O. data to analyze crime patterns, further subdivision of M.O. data items;

inclusions of additional crime categories into the system such as Shoplifting and Auto Theft; and cost/effectiveness assessments); and, 4) the prototype system should emphasize administrative and field support, training programs, and the dissemination of system benefits. These recommendations are aimed at establishing the feasibility of developing a state-wide computerized M. O. system.

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ACKNOWLEDGEMENTS

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Thanks are given also to members of the law enforcement agencies whose cooperation and assistance helped this program immeasurably. Those agencies include in alphabetic order, the Detroit Police Department, the Kansas City Police Department, the Michigan State Police, the New Orleans Police Department, the St. Louis Police Department, and the Washington, (D.C.) Metropolitan Police Department.

NOTICE

The work described in this report was conducted under the joint sponsorship of the New York State Identification and Intelligence System, Albany, New York; the New York State Office of Crime Control Planning, New York, New York; and the Law Enforcement Assistance Administration, Washington, D.C. under OCCP Grant No. 43A (Contract No. 41857). The conclusions expressed herein do not necessarily represent the opinions of the government of the State of New York, nor of the government of the United States of America.

SUMMARY AND RECOMMENDATIONS

Summary

A study was conducted to evaluate the effectiveness of Modus Operandi (M.O.) as an identification tool in the detection and apprehension of criminal offenders. Of paramount importance to such an evaluation was to determine: 1) whether any individuals used the same or similar M.O. for several crimes of the same crime type; 2) whether one person's M.O. is distinguishable from another person's in the same crime type; and, 3) whether the M.O. for one crime category is distinguishable from the M.O. of another crime category. The objectives of the study were met by surveying systems and data from the Detroit Police Department, the Michigan State Police, the New Orleans Police Department, the St. Louis Police Department, the Kansas City Police Department, and the Washington, (D.C.) Metropolitan Police Department. Also examined were quantitative M.O. data currently available in three of those departments.

The results of the quantitative data summarized in this report provided positive responses to the three questions identified above. Briefly:

1. An analysis of 108 cleared cases resulting from 61 hits documented by interoffice memoranda in the Detroit Police Department revealed that the frequency with which a particular individual uses the same or similar M.O. for subsequent crimes in the same crime category can be as low as two. It was also shown in one case that it can go as high as 44.

2. A data base analysis of 15,586 records on magnetic tape in Detroit, Kansas City, and the State of Michigan and the analysis of 61 hits documented by interoffice memoranda by Detroit revealed the uniqueness of one individual's M.O. compared with another individual's M.O. committing the same type of crime (see Tables 1 through 7). Three findings supported a positive response to this question. First, all three systems have had hits which have led to apprehensions. One occurred

when the department's file size had only 150 records, while another department obtained documented hits in a file of 13,000 records. Second, all systems regardless of their size, produced a manageable list of suspects seldom in excess of thirty suspects per search--indicating the selectivity and uniqueness of an individual's M.O. Third, an analysis of 61 documented hits in one Modus Operandi system indicated 15 hits directly attributable to M.O. and another 19 indirectly linked to M.O. in combination with other identification systems (see Table 10).

3. The present study showed the uniqueness of the M.O. for one crime category as compared to another in several ways. An operational review of most crime categories would clearly indicate that by the very nature of a crime the method of operation would be different in each category, because one cannot commit a rape in the same way that one commits a safe burglary. Also, a quantitative analysis of the taped records inthe three M.O. systems clearly indicated that the number, frequency, and combination of trademarks varied by crime (see Tables 1 through 7). The uniqueness of M.O. by crime type was again indicated by an analysis of the number of M.O. trademarks occurring by crime category for the Detroit System's Burglary, Robbery, and Sex Crime Files, which showed that the number of trademarks varied greatly by crime category (see Table 11). However, it must also be indicated that in the analysis of 61 hits there were also cases of multiple crimes (e.g., burglary and rape) encompassed in one crime episode. In this situation, the hits were based primarily or in part on M.O. thereby indicating that the M.O. can sometimes cross crime types.

In order to fully understand the methods of analysis used and the recommendations for further action forthcoming from this report, one must be aware of two major operational characteristics of existing computerized

M.O. systems. First, it is evident that Modus Operandi exists as an identification technique, but there is no known system anywhere which is based solely on M.O. All the M.O. systems surveyed were combination systems usually including personal appearance (P.A.) along with modus operandi data. This is clearly illustrated both by the Modus Operandi forms used by each department and by the data base analysis. That analysis and particularly the hit analysis (Tables 8 and 10) indicated that M.O. accounted for 15 hits and P.A. for 20 while a combination of M.O. and P.A. accounted for 56 hits. Minimally, these findings indicate that a combination of Modus Operandi and Personal Appearance provides the most effective identification system. Also, these results substantiate findings in NYSIIS' Preliminary Survey* of New York State (Needle & Mullen, 1969) that an integrated identification system is a commonly used method. Further, when M.O. and P.A. were combined with fingerprint identification, the total hits for this computerized Modus Operandi system rose to 61.

Second, current computerized M.O. systems make only partial use of the traditional M.O. concept. The M.O. data base is comprised of traits and characteristics of persons previously arrested for like crimes and the searches are based upon the perpetrator's traits or trademarks observed or left behind during the crime. Rarely is data relating to "open" (i.e., unsolved) crimes entered into the data base or is any attempt made to connect separate offenses or to link them to a common perpetrator. For example, four dividends are listed below which are usually attributed to an M.O. system:

A. Identifying possible suspects when the perpetrator(s) of a crime has not yet been apprehended.

B. Helping in clearing-up other crimes upon the apprehension of suspects.

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*Summarized on pages I-2 through I-5 of this report.

C. Establishing a link between a number of crimes and a person or group as yet unidentified.

D. Ascertaining potential targets of crimes for information, warning and/or countermeasure deployment by law enforcement agencies.

As documented in this report, current M.O. systems concentrate very heavily on Dividend A, to some degree on Dividend B, with only minimal use of Dividends C and D. Thus, current operational systems indicate areas which have not been explored or effectively evaluated because of traditional limitations, time, money, or manpower. The Uniform Crime Report (UCR) crime offenses (Table 9) clearly indicates the potentiality in this field for increased benefits that can arise from greater emphasis on Dividends C and D.

As to recommendations for development, answers were found to some questions posed in NYSIIS' earlier preliminary survey as well as other questions not yet defined. These are summarized as follows:

A survey of manual systems in New York State in 1969 and analysis of the discontinued manual system in Washington, D. C. and computerized systems in Detroit, Kansas City, St. Louis, and the State of Michigan indicated that computerization is essential to the successful utilization of Modus Operandi. This conclusion is predicated on the need: 1) to adequately handle large amounts of data; 2) for efficient file organization; 3) for rapid information access; 4) to resolve space limitations; 5) for file maintenance; and 6) for manageable output. This point is further quantitatively documented (Table 9) in at least two ways. First, the UCR figure indicates the exceedingly high number of inputs if M.O. were used to its fullest extent. Second, the number of inquiries and particularly the increasing number of hits and suspects as a system exceeds over 10,000 records both indicate that a computer is essential.

Along the same line, design plans for an optimal system should stress full automation including remote on-line terminals and a high speed document retrieval capability for obtaining mug shots. Two of the systems surveyed

were greatly handicapped by the fact that output was a list of serial numbers for which folders and photographs had to be obtained manually. In the case of suspect list of 25 to 50 individuals, this manual retrieval often took from several hours up to one or two days, thereby limiting the use of the system.

Operational experience as well as statistical analysis indicated that Sex Crimes may well be best category to begin an M.O. system. This is documented by the data presented (Table 11) and by the relative effectiveness of hits to file size (Table 12). However, the data base analysis also indicated that if a recommendation were based on the total number of hits obtained rather than hits to file size, then Robbery would be the best category to start with, followed by Sex Crimes then Burglary. Auto Theft, Forgery, Bomb Scares, and Shoplifting were also suggested by operating personnel as categories for an M.O. system. However, quantitative data to verify this reaction was unavailable.

The data base analysis revealed that the rank order of frequency of occurrence (or use) of items within the various data categories were similar between the departments for which M.O. data were obtained. This could result from the fact that the data input forms are very similar for each system. The analysis also indicated that the trademarks recorded for a particular crime category did not vary by geographic location. That is, sex crime trademarks collected on a state-wide basis in Michigan did not vary significantly from those in Detroit or Kansas City.

Data was also obtained indicating the feasibility of a state-wide system. The State of Michigan has the only operational state-wide system having the ability to search by county, multi-county, or the entire state. Its major assets implicit to this and other state systems is standardization of input and minimization of file duplication. Further, the creation of multijurisdictional, metropolitan, state, and interstate systems shows the dividends that can accrue from comprehensive systems. The existence of criminal mobility documented in earlier studies, such as the NYSIIS Development Plan (Smith, 1967) lists a 29.3 percent mobility factor for New York State jurisdictions and 24.5 percent for interstate jurisdictions, supports the notion of a state-wide system.

The data base analysis also pointed out areas needing further research and subsequent delineation before a system is designed. The 36,000 tape records collected from New Orleans, Kansas City, Detroit, and Michigan could be studied to aid system design. For instance, high frequency trademarks indicate areas where further data element definition is necessary if a manageable number of suspects is to be produced, particularly as the system increases in size. On the other hand, a review of infrequently used items is useful. Such items are often high information content items and can vastly reduce the number of alternative suspects in a search.

Another consideration is the necessary support of the M.O. system by management, supervisory, and user personnel. This support could be generated through legislative actions, regulatory demands, modification of routinely used investigation and arrest forms to obtain data needed for the system, persuasion, and giving the system credit for successes. This last point was mentioned in all the locations visited in that often persons in the field did not indicate whether the suspects provided by the M.O. system actually led to an apprehension. This is suggested by the finding that the use of the system increased every year while the number of hits remained constant (see Table 9). It may be that users in the field have recognized the value of the system and are using it more frequently but are not reporting back on all of its successes.

Other considerations for development include an adequate reporting system, space, adequate staffing, and training. As mentioned earlier, a complete reporting system is essential if the impact of the system is to be measured. Lack of space and adequate personnel can lead to the discontinuance of the system as occurred in one instance. Therefore, space and personnel are vital to system viability. Also vital is the training of new recruits and the training or retraining of veteran personnel on the operation and advantages of the system.

In evaluating the actual effectiveness of the three computerized systems, some difficulty was encountered. In one, the system was too new (less than six months old) to permit analysis. In others, performance data such as the number of inquiries, characteristics of the search, and results of leads was

not available. This circumstance revealed areas where data should be collected in subsequent design efforts.

Additionally, system utilization should be considered. The increased use of the system is evidenced by the continued file growth in all systems (see Table 9). However, there appears to be limited feedback from the field as to which M.O. system outputs have led to apprehensions. It is quite possible that in actual practice the field unit and the investigator are being credited with the arrest with no feedback or acknowledgement by them as to the contributions of the leads generated by the M.O. system. It therefore seems that at least a portion of this increased use can be attributed to the fact that useful information is being received for field use.

For the first time, a large amount of M.O. data from several cities has been analyzed, and system documentation has been obtained. Such information is readily applicable to New York State. However, it must be realized that additional data and analyses are warranted prior to designing a full scale system.

Recommendations

Increasing system utilization and 61 documented hits in one department are not sufficient, per se, to recommend the establishment of a full scale M.O. system. However, the viability of M.O. as an identification tool has been shown, and the results of the present work point to the desirability of further testing an M.O. system. This study also showed that M.O. data can be used effectively in combination with personal appearance information. Therefore, any subsequent M.O. development would profit by drawing and building upon NYSIIS' considerable experience in APPAD (Automatic Processing of Personal Appearance Data) studies. Such an approach would maximize worthwhile identification techniques, given that crime rates continue to rise while clearance rates fall. In view of the above, the following recommendations are presented:

1. That NYSIIS design, develop, and program a prototype Modus Operandi System for subsequent testing and implementation in New York State. This prototype would apply and maximize the techniques, programs, and experience obtained during this survey of M.O. systems.

2. That NYSIIS simultaneously solicit police departments to participate on the field operational level in adjoining counties such as Nassau and Suffolk Counties. This effort should emphasize the prior and continued commitment of administrative and field support at all levels and the necessity of effective training programs and the publication of system gains.

3. That the recommended prototype system make use of the B6500 at NYSIIS in order to adequately handle: 1) the large amounts of data; 2) the need for efficient file organization; 3) the need for rapid information access; 4) space limitations; 5) file maintenance; and, 6) the need for a manageable output. In conjunction with the prototype system, an automated document retrieval capability for mug shots with on-line remote control terminals should also be explored.

4. That the prototype system should collect, correlate, store, and disseminate operational as well as quantitative data in order to evaluate such areas as: 1) the potential dividends of M.O. in crime and pattern analysis; 2) subsequent data element definition (i.e., further subdivision of high frequency count items, retention of low frequency count items, disposal and/or combining of items with no frequency counts); 3) additional crime categories such as Shoplifting, Bomb Scares, or Auto Theft as part of a new system; and, 4) cost effectiveness assessments.

5. That the test and evaluation of the prototype consider the effectiveness of Modus Operandi as used in combination with personal appearance systems and possible interface alternatives with the APPAD system being developed by NYSIIS.

Based upon the results of the prototype system test, it will be possible to draw conclusions which will assist in making a decision on the proper role of Modus Operandi in comprehensive identification systems and, more importantly, whether or not to pursue the development of a state-wide computerized Modus Operandi System.

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I. INTRODUCTION

A. Purpose

The basic purpose of the present study was to evaluate the effectiveness of Modus Operandi (MO) as an identification tool in the detection and apprehension of criminal offenders. A major question arises in considering the effectiveness of a concept such as M. O., and it is necessary to focus on this question in order to meet the objective stated above. That question is: does M. O. exist as a substantive phenomenon? There are at least three ramifications of this question which collectively form the specific purposes of this study:

1. One must explore the frequency with which a particular individual uses the same or similar M. O. for several crimes within the same crime category (e. g., Burglary, Robbery or Sex Crimes).
2. One must examine the uniqueness of an individual's M. O. in comparison with another individual's M. O. committing the same type of crime; and,
3. One must study the uniqueness of the M. O. for one crime category in comparison with another crime category.

Discussions and answers to these questions are given in detail in Section II of this report.

B. Approach

The approach followed to achieve the purposes of the project consisted of four phases:

Phase I. During the first phase of this program, two tasks were completed. The first task consisted of preparing and developing questions and areas of importance to be covered specifically during information gathering visits. The second task consisted of making visit arrangements with the specific people in each law enforcement agency to be visited.

Phase II. The second phase consisted of performing the actual visits to the various law enforcement agencies for which arrangements were made during Phase I. The objective of these visits was to obtain whatever relevant data could be obtained from each agency. Another objective was to obtain information regarding advantages of each M.O. system and problems, if any.

Phase III. During this phase, information and data gathered from the visits were sorted, organized, and where possible, analyzed. The results of this work consisted of a tabulation of information that could be quantified and tabulated, while descriptive and analytic summaries were prepared for information which is qualitative in nature.

To the extent possible, all information both quantitative and qualitative was tabulated in such a manner as to permit the relative comparison of MO methods and approaches to be made between the several law enforcement agencies visited.

Phase IV. The objective of this phase was to extract inferences, conclusions and recommendations based on the work accomplished in the previous phase.

C. Previous Work Surveying M.O. Capabilities

Very little work has been found of surveys of current capabilities in the area of M.O. Once of the few was a Preliminary Survey of twenty-two law enforcement agencies by NYSIIS (Needle & Mullen, 1969). While the objectives of that study was to determine the current use and utility of M.O., findings revealed a high registration of interest, a mixed reaction of utility and a roster of problem areas. The computerized systems found were in the States of Michigan, Missouri, and Louisiana. That survey identified three general levels of development as discussed below.

1. Very Limited Personalized Modus Operandi Capability

This is the most rudimentary capability and is characterized by the absence of any formal or informal Modus Operandi method or system. Data with M.O. potential is used only as a result of the personalized methodology of the investigator concerned. Input data is periodic, indirect and discretionary, usually obtained as a by-product from the arrest process, and is maintained either in the form of personal files or as miscellaneous data on file cards or arrest reports. Modus Operandi data retrieval and utilization is a consequence of other file hits based on memory.

Consequently, it is not surprising that the value and utility of the M.O. technique at this level is the least recognized and most seriously questioned. Moreover, it is apparent that a real Modus Operandi method or system does not exist at this level.

2. Personal Appearance Based, Manual, or Semi-Automated Modus Operandi Capability

This is the most common level for a Modus Operandi capability. It is characterized by an identification file which can be accessed manually or semi-automatically by means of personal appearance descriptors, crime categories and sometimes M.O. trademarks. Input data is usually obtained at the time of perpetrator apprehension and is transcribed to personal appearance and/or crime category forms or cards. The M.O. data retrieval and utilization varies by department and by individual within a department, and is usually dependent on the reliability of the crime category and personal appearance files.

The basic application derived from this method or system is that it can be used to link persons apprehended to unknown crimes and sometimes to provide a list of suspects for a particular crime committed. This application limits the use of M.O. to dealing only within the parameters of a physical observation of the perpetrator. It is at this level the greatest variance in the acceptance, utilization, and apparent effectiveness of Modus Operandi is found, because the technique is only as good as the personal appearance system to which it is tied.

3. Computerized Modus Operandi Capability

This is the most sophisticated and most recent Modus Operandi capability. It is characterized by an automated descriptor/trademark file which can be randomly accessed by means of a formal search request on several personal appearance descriptors and M. O. trademarks simultaneously. Input data is initially obtained at the time of the perpetrator's apprehension and is entered on a Modus Operandi form for that particular crime, and is later keypunched for entry into the data base. The M. O. data retrieval and utilization is initiated by a multi-parameter formal search request using weighted descriptors and pertinent Modus Operandi trademarks to query the computer file.

The computerized M. O. capability is the most sophisticated system to date with its emphasis on multi-parameter searching, detailed trademark classifications, formal search method and procedures for data dissemination and data enrichment. It is in part because of the inherent limitations of the Manual and Semi-Automated New York State capabilities and the apparent sophistication of systems in Michigan, Missouri, and Louisiana that computerized M. O. systems were chosen for survey in this study.

Further, during the same Preliminary Survey, attempts were made to isolate and define problem areas needed for a complete study of Modus Operandi. They included:

1. Definition of the M. O. concept
2. The incidence and uniqueness of M. O. as an identification technique
3. The role of M. O. in combination with other identification systems
4. Acceptance
5. Identification of crime categories
6. The parameters for data collection
7. The most effective searching methods
8. Methods of data dissemination
9. Methods of data enrichment and purge

While the primary emphasis of this research and development study was to determine the incidence and uniqueness of M. O., some answers to the above problems were also obtained. The Summary and Recommendations section of this report and Section III discussing Design Considerations in Implementing a Prototype System include some recommendations regarding problems 1, 2, 3, 4, and 5.

One of the authors of the Preliminary Survey also summarized a previous document regarding M. O. correlation techniques. Excerpts from that summary are as follows:

1. Psychological factors are inherent in the consideration of Modus Operandi. Therefore, an M. O. analyst familiar with criminal behavior is essential to system design and operation.
2. A computer is essential to an M. O. system.
3. The use of crime oriented rather than criminal oriented M. O. is recommended. Two reasons for this are: 1) the intrinsic inaccuracy of personal description and 2) the fact that the pattern of a crime can be determined without witnesses.
4. The M. O. characteristics should vary by crime category.
5. A study must be made to determine the best M. O. characteristics for each crime category.
6. A weighting scheme is essential to establish both order and level of importance of each M. O. characteristic.
7. A simulation aimed at measuring the effectiveness of M. O. should be tried.

D. The Definition of Modus Operandi

The term Modus Operandi (M. O.) is derived from Latin meaning method of operation (Blum, 1964). Police have noted that some criminals have a tendency to perform criminal acts in their own idiosyncratic manner. These acts then form a pattern (or trademark) of behavior which may not vary a great deal, once developed. The use of M. O. in criminal investigations is based on the assumption that it is possible to predict the future behavior of a criminal if the pattern of his past behavior is known. Therefore, an M. O. data system (MODS) can be very useful.

The specific definition of M. O. to be used will strongly influence many features of a proposed MODS. Therefore, it is important to consider that distinction between M. O. and personal appearance (P. A.) because: 1) these two are frequently confused conceptually as well as operationally; and, 2) large scale crime information systems frequently include both types of data. Personal appearance can refer to clothing worn, gait, and characteristic manner of speech as well as facial and bodily features (Zavala, 1970).

In the discussion above, it can be noted that the emphasis in M. O. is on action, referring to what the criminal characteristically does in performing a crime. On the other hand, personal appearance (e. g., height, weight, hair color, etc.) focuses on what the criminal performing the crime looks like. However, it would be misleading to adhere rigidly to 'acts' versus 'looks' as the basis for distinguishing between M. O. and P. A. For example, suppose that a series of bank robberies are committed. One such robbery is described as being committed by a tall, white man wearing glasses. He does so by making an armed threat to the teller and demanding that all bills and no coins be placed in a brown paper bag, which he provides. He says, "This heah is a hold-up; know what ah mean? Put all the bills that y'all got in this heah bag; know what ah mean? Don't y'all put any coins in theah; just bills; know what ah mean?" As he walks out of the bank, it is noticed that he limps.

From the above, M. O. and P. A. characteristics might obviously be identified as follows:

M. O.	P. A.
Bank Robbery	Man
Armed	White
Makes threat in a Southern accent	Tall
Wants bills only	Wears glasses
Provides own bag (paper)	Limps

However, assume that the man wears glasses only to confuse the police. Assume also that he wears the same glasses on all of his bank robberies, but not at any other time. In addition, assume that his Southern accent is not one that is contrived for use only on bank robberies (i. e., the man always speaks with a Southern accent). In this example, the man's wearing glasses is a characteristic typical only of the bank robbery situation and is, therefore, more properly to be construed as an M. O. trademark rather than one having to do with his personal appearance. Conversely, his Southern accent is a personal characteristic of the man at all times (i. e., not unique to the bank robbery situation), and therefore would be more aptly construed as personal appearance rather than M. O.

The discussion above points out some dangers inherent in strict adherence to behavioral actions as the basis for M. O. A more clear-cut basis for distinction between M. O. and P. A. is to consider whether or not something observed about the criminal is descriptive of him only incident to the perpetration of the crime (i. e., situation specific).

One definition of M. O. discussed above, which was based on action versus looks, might be termed a classical definition. Another definition above, which was based on whether a feature was typical of a way of committing a crime rather than a person's characteristic, might be termed a situational definition.

Yet, another type of definition must be given consideration -- the practical operational definition or the one that is tacitly used as the basis for day-to-day police work. The survey indicated that current computerized M.O. systems make only partial use of the traditional M.O. concept. The M.O. data bases are comprised of traits and characteristics of persons previously arrested for like crimes. The searches are based upon the perpetrator's traits or trademarks observed or left behind during the commission of the crime. In no instance is data relating to "open crimes" (i.e., unsolved) entered into the data base or is any attempt made to connect separate offenses or to link them to a common perpetrator. The four dividends listed below are usually attributed to an M.O. system:

A. Identifying possible suspects when the perpetrator(s) of a crime have not yet been apprehended.

B. Helping in clearing-up other crimes upon the apprehension of suspects.

C. Establishing a link between a number of crimes and a person or group as yet unidentified.

D. Ascertaining potential targets of crimes for information, warning and/or countermeasure deployment by law enforcement agencies.

Current M.O. systems concentrate very heavily on Dividend A, to some degree on Dividend B, with only minimal use of Dividends C and D. Apparently, because of traditional limitations, time, money, or manpower some have not been explored or effectively evaluated in current operational systems.

Further, in reading the description of some M.O. systems in use today, it becomes apparent that the operational definitions of M.O. from one police department to another are somewhat consistent. In addition, the above discussion of M.O. and P.A. will serve to point out to the reader some of the tacit assumptions inherent in the operational definition of M.O. in each department. These tacit assumptions may well influence the structure,

information content, and effectiveness of their respective M. O. systems. Therefore, classical, situational, or operational definitions are not being studied here. The distinctions between them are made here for the reader to have a more thorough appreciation of some of the theoretical and practical problems of setting up and operating an M. O. system.

E. Preview

The sections of this report that follow will describe in qualitative and quantitative terms the results of visits made by project personnel to several police departments. Those descriptions will be followed by considerations which require attention in the implementation of an M. O. system. A summary of the results of the work performed on this project are then given, followed by recommendations based on the findings.

II. SURVEY

Several police departments were visited or contacted as part of this project. In alphabetic order, these included the police departments of: Detroit, Michigan; Kansas City, Missouri; the State of Michigan; New Orleans, Louisiana; St. Louis, Missouri; and, Washington, D.C. The basic purpose of these visits was to obtain information from those departments which had some experience with an M.O. data system. A number of topical areas of interest were outlined and prepared in the form of questions representing the information sought from each police department.

The remainder of this chapter of the report describes qualitative aspects of M.O. systems in the first section. The second section gives quantitative information. The third section considers success experience of some M.O. systems in terms of "hits," which will be defined in that section.

A. Qualitative Information

1. Detroit Police Department's M.O. System

In 1958 the Detroit Police Department's Robbery and B & E Bureau developed an M. O. Sheet for known holdup men and burglars. The M.O. Sheet consisted of some physical characteristics such as sex, race, complexion, color of eyes, etc. and trademarks which were written in a specific area then translated into a code by a coder. The old M.O. Sheet had room for only five distinguishing trademarks and only twenty-two trademarks for a physical description. This limited the person filling out the M.O. Sheet to what he considered as the most important trademarks.

The searching of a file was accomplished by wiring a control panel of a 101 Statistical Sorter to select certain trademarks from the M.O. card file. As this file grew larger, the time consumed in conducting a search

increased. Another difficulty was that only one search could be conducted at a time. If there was more than one search, the control panel had to be re-wired.

In 1964 the system was converted to a 1401 IBM computer, and by 1967 the system was again converted to an IBM 360 computer. Improvements and updating were accomplished at each conversion. Currently, there are about 14,000 M.O. records on magnetic tape. Figure 1 shows the cumulative growth of the M.O. record files from 1965 to 1969 for the three crime categories of Burglary, Robbery and Sex Crimes.

The Detroit Police Department now has a (128K) IBM 360 Model 40 Computer, with four (4) tape drives and four (4) disks. The Modus Operandi file is stored on a magnetic tape, in single records of 410 characters, fixed length. Each record can contain up to 110 trademarks. Each reel of tape can contain 35,000 records. The department searches three (3) types of crimes: robbery, burglary, and sex crimes. Currently, there are about 14,000 Modus Operandi records on tape. These records consist of all the physical characteristics which are identified by the Identification Number, also a description of the crime committed, which is identified by the Complaint Number.

When a search request is made (see Figure 2) the officer requesting the search circles the items in which he is interested on the proper search retrieval form. An IBM card is then punched with the following data: a request number with a control letter indicating the percentage of acceptable "hits," object of attack, what taken (2 items), weapon, sex, race, age, height, important trademarks (4 items), and 13 additional trademarks. The program which conducts the search is capable of conducting 100 different searches simultaneously.

When a match occurs on a trademark, other than the four basic trademarks, the program will keep an account of the number of matches made. The number of trademarks listed on the search card (of the 13 additional trademarks) is also counted. This trademark count is used, along with the

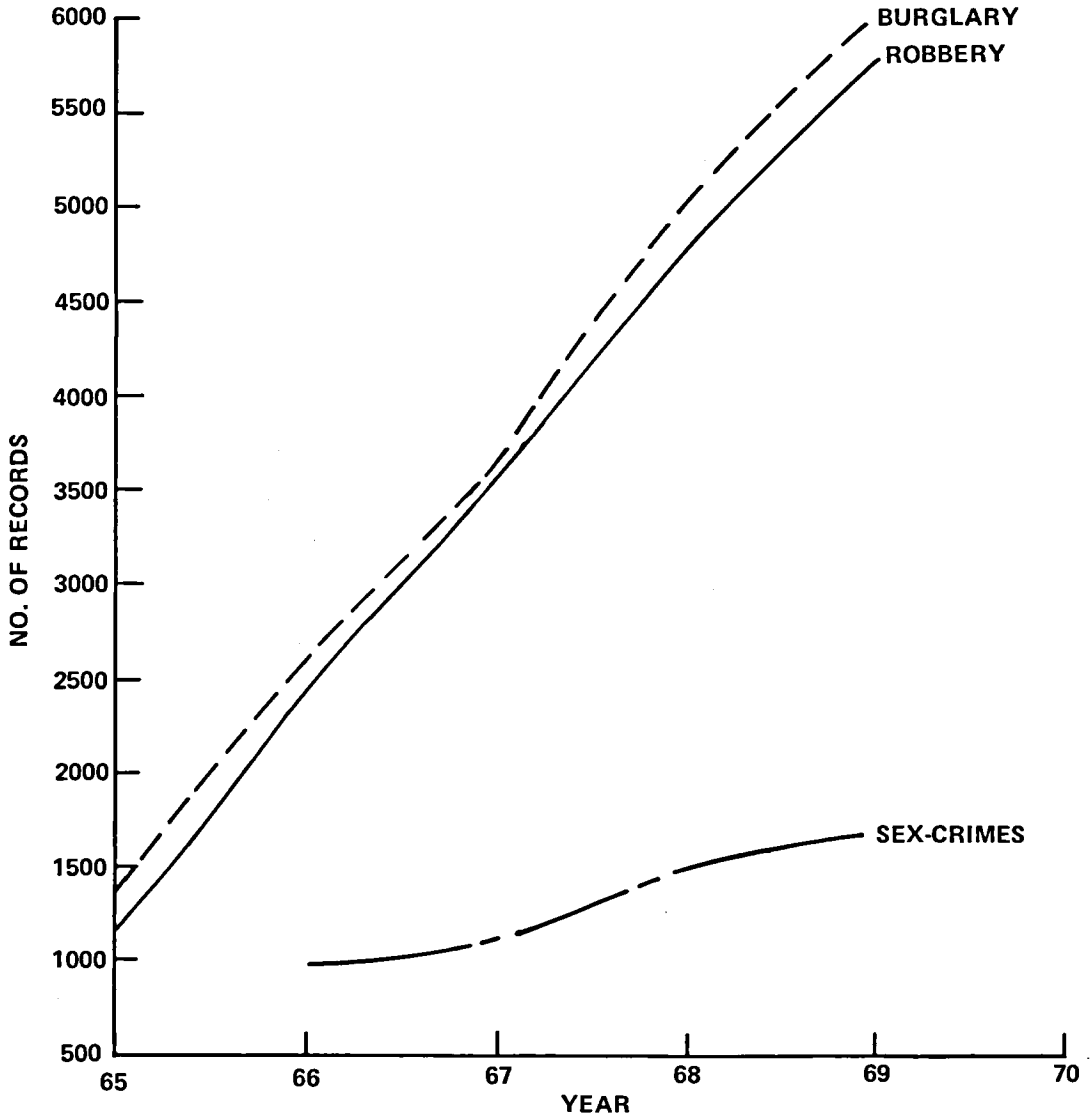

Figure 1 CUMULATIVE GROWTH OF DETROIT'S M.O. RECORDS FILE

M. O. SEARCH REQUEST

T. T. #_____

Req. No.	Offense	Obj. of Attack	Take 1	Take 2	Weapon

PHYSICAL DESCRIPTION

Sex	Race	Age	Hgt.

IMPORTANT TRADE MARKS

#1	#2	#3	#4

OTHER TRADE MARKS

1	2	3	4	5	6	7	8	9	10	11	12	13

By:_____ Pct._____ Date_____ Time_____

Figure 2 DETROIT POLICE DEPARTMENT'S M.O. SEARCH REQUEST FORM

matches, to determine the percentage of hits made. The control character on the search card determines at what percentage level the I. D. number on file is to be printed. The percentage range is from 50-100 in increments of 5 percent. The printed report consists of the person's I. D. number, the search card data, with an asterisk (*) along side of the items that matched his record, and the computed percentage of hits.

When an important or unusual trademark is given, the program will ignore the percentage factor and print all I. D. numbers of those persons that meet the four basic requirements that have the trademark(s) on their record.

An example of the code system used by Detroit is shown in Figures 3 and 4. Figure 3 presents the front side of the code sheet for robberies, and Figure 4 shows the reverse side. It can be seen that the front side (i. e., Figure 3) deals primarily with physical description codes, while the reverse side deals with code categories specific to acts involved in the robbery itself. It is apparent, then, that the information represented in Figure 3 is treated operationally as P. A. data, while the information shown in Figure 4 is treated operationally as M. O. data.

Burglary and sex crime cases are reported in the same manner as described above for robbery. In fact, the front part of the burglary and the front part of the sex crime code sheets are identical to (except for the title at the top) that for robbery (see Figure 3). Figures 5 and 6 show the reverse side of the code sheets for burglary and sex crimes, respectively.

The Detroit system can be considered successful (see below) although some limitations could be observed. For example, the output of a search may contain from 25 to 50 suspect identification numbers which are then used to extract mug shots for each suspect. However, the mug shots are extracted manually from hard copy files. If a copy of a mug shot is missing, reprints must be requested from the photo lab. In such cases, delays from several hours to three days can occur, depending on the workload at the photo lab. An automatic retrieval system using positive transparencies would help speed up the manual process. In such a system, the identification numbers would be keyed into a console (or relayed directly from the computer) to actuate a random access mechanism. The transparency then could be projected on a

Detroit Police Department
ROBBERY MODUS OPERANDI

Date of Offense _____ Day of Week _____ Time of Offense _____

Name _____ Birth Date _____ Ident. Y. B. # _____

Offense _____ Complaint No. _____

Address _____ Census Tract _____
(If on street, etc., indicate front, rear, etc. of specific address)

Object of Attack _____
(Indicate Type Business - Residence - Person - If Person, Record Sex)

What Taken 1. _____

2. _____

Weapon (describe fully) _____

Make of Vehicle _____ Body Style _____

Vehicle color (top) _____ (bottom) _____

SEX
500 Female
501 Male

COLOR
502 Indian
503 Mexican
504 Negro
505 Oriental
506 White
507 Other _____

CLOSEST ESTIMATED

AGE _____

COMPLEXION
514 Dark, swarthy
515 Light, fair
516 Medium
517 Negro, lt. brown
518 Negro, med. brown
519 Negro, dk. brown
520 Ruddy
521 Sallow

EYE COLOR
522 Black
523 Blue
524 Brown
525 Gray
526 Hazel
527 Green

EYE DEFECTS
528 Bulging
529 Cast, left eye
530 Cast, right eye
531 Cataracts
532 Crossed
533 Different colors
534 Eye missing
535 Squints or blinks
536 Slanted

HAIR COLOR
537 Black
538 Blonde
539 Brown
540 Brown, light
541 Dyed
542 Gray
543 Gray, partially
544 Red
545 White
546 Auburn

HAIR TYPE
547 Bald
548 Bald, partially
549 Bushy
550 Crew cut, very short
551 Curly
552 Fad, Quo-vadis, etc.
553 Kinky
554 Processed
555 Straight
556 Thin or receding
557 Wavy
558 Long

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TEETH
559 False
560 Gaps
561 Gold
562 Good
563 Irregular
564 Missing, lower
565 Missing, upper
566 Protruding
567 Stained, decayed
568 Chipped

SPEECH (During Crime)
569 Foreign/broken
570 Lisps
571 Mexican or Spanish
572 Mumbles or impediment
573 Rapid
574 Refined
575 Soft or low
576 Southern
577 Stutters
578 Vulgar or profane

MOUSTACHE, BEARD, ETC.
579 Beard
580 Eyebrows, heavy/bushy
581 Goatee
582 Moustache, heavy
583 Moustache, medium
584 Moustache, thin or light
585 Moustache, Chinese
586 Sideburns
587 Unshaven

FACIAL SCARS
588 Cheek, left
589 Cheek, right
590 Chin
591 Ear, left
592 Ear, right
593 Eyebrow, or left eye area
594 Eyebrow, or right eye area
595 Forehead
596 Hare-lip
597 Lip, lower
598 Lip, upper
599 Nose
600 Pierced earlobes

FACIAL ODDITIES
601 Birthmark/s
602 Chin, protruding
603 Chin, receding
604 Freckles
605 Lips, thick
606 Lips, thin
607 Moles
608 Pimples
609 Pockmarks
610 Hollow cheeked

NOSE
611 Broken, crooked
612 Broad
613 Flat
614 Hooked
615 Large
616 Long
617 Small
618 Thin
619 Upturned

HEIGHT
620 Very short — Under 5/2
621 Short — 5/2 - 5/6
622 Medium — 5/7 - 5/9
623 Tall — 5/10 - 6/1
624 Very tall — 6/2 - Over

CLOSEST ESTIMATED

HEIGHT _____

BUILD
625 Thin
626 Very thin
627 Medium
628 Muscular
629 Heavy, stocky
630 Very heavy

BODY SCARS
631 Arm, left
632 Arm, right
633 Chest
634 Hand, left
635 Hand, right
636 Neck
637 Wrist, left
638 Wrist, right

AMPUTATIONS
639 Arm, left
640 Arm, right
641 Ear/s
642 Finger/s, left hand
643 Finger/s, right hand
644 Foot, left
645 Foot, right
646 Hand, left
647 Hand, right
648 Leg, left
649 Leg, right

DEFORMITIES
650 Bow-legged
651 Cauliflower ears
652 Crippled arm, left
653 Crippled arm, right
654 Crippled finger/s
655 Crippled hand/s
656 Crippled leg, left, limps
657 Crippled leg, right, limps

TATOOS
658 Arm, left
659 Arm, right
660 Chest or neck
661 Fingers, left
662 Fingers, right
663 Hand, left
664 Hand, right
665 Pachuco

TYPE OF TATTOO
666 Initials
667 Names
668 Words/Phrases
669 Pictures
670 Designs

EARS (Shape)
671 Protruding
672 Large
673 Small
674 Close to head

FACE (Shape)
676 Thin
677 Round
678 Long
679 High cheek bones
680 Broad
681 Caucasian features

MISCELLANEOUS
Add any additional physical characteristic in this space

_____
_____
_____
_____
_____

Figure 3 DETROIT POLICE DEPARTMENT'S ROBBERY M.O. FORM (FRONT)

ENTRY

700 Door, front
701 Door, side or rear
702 Forces entry
703 Milk chute
704 Transom
705 Window
706 Rings door bell or knocks
707 Locks door after entry
708 Hides in building

EXIT

715 Front door
716 Rear door
717 Side door
718 Window

WEARS

725 Cap, baseball, ski, etc.
726 Coveralls
727 Earrings
728 Facial bandages
729 Facial make-up
730 False nose
731 Female attire
732 Gloves
733 Hankie or cloth over face
734 Head cloth or rag
735 Held hand over face
736 Held something over face
737 Hood
738 Male attire
739 Paper bag over head
740 Silk stocking over face
741 Sun glasses
742 Regular glasses
743 Work uniform
744 Halloween mask
745 Wig
746 If disguise used—circle
747 Flashy clothing
748 Sloppy, unkempt clothing

PRETENDS TO BE

750 Blind, deaf, crippled
751 Delivery man (misc.)
752 Drunk
753 Injured, hurt, dead
754 Police officer, FBI, etc.
755 Repairman
756 Salesman
757 Seeking employment
758 Seeking friend, relative
759 Seeking house/apt., room (to rent)
760 Seeking street address
761 Seeking loan
762 Shopping
763 Utility man
764 Seeking directions
765 Customer
766 Western Union messenger

ASKS FOR

775 Beer, wine
Brand_____
776 Whiskey
Brand_____
777 Change
778 Cigarettes (to purchase)
779 Clothing (cleaners/laundry)
780 Food, meats, etc.
781 Gas, oil, air, etc.
782 Gum, candy
783 Information
784 Light, match, cigarette
785 Medicine, medical supplies
786 Money order to be prepared
787 Narcotics
788 Person by title/name
789 Service, miscellaneous
790 Tools, use of tools
791 Use of phone
792 Use of toilet
793 Money owed
794 Soft drinks
795 Hardware items
796 Coffee
797 Jewelry
798 Water

WEAPON

809 Held in right hand
810 Held in left hand
811 Covered with newspaper/coat
812 From bag/box
813 From belt
814 From holster
815 Keeps in pocket/belt
816 Keeps hand in pocket
817 Racks or cocks weapon
818 Shown to victim
819 Shotgun or rifle under clothing
820 Wrapped in hankie/bag
821 Lays weapon on counter
822 Points weapon at victim
823 Multiple weapons

VEHICLE INVOLVED

829 Abandons getaway vehicle
830 Attack while victim parking or putting auto in garage
831 Covers license plate
832 Disables victim's auto
833 Drives off in victim's auto
834 Escapes in auto
835 Escapes in taxi/bus
836 Follows victim's auto
837 Forces victim to lie or sit on floor of auto
838 Forces victim to drive
839 Hides in victim's auto
840 Hitch-hikes, thug
841 Jumps from auto
842 Jumps into victim's auto
843 Locks victim in trunk or attempts
844 Uses stolen auto
845 Uses stolen plates
846 Forces victim to accompany in vehicle

SEX

860 Commits oral perversion
861 Commits sodomy
862 Forces victim to commit oral perversion
863 Kisses, fondles, caresses victim
864 Lifts/raises women's clothing
865 Rapes
869 Attempts (also circle specific act above)

DEFENDANT

870 Narcotic user
871 Homosexual
872 Left handed
873 Says he is ex-convict
874 Is parolee
875 Prostitute
876 Had been drinking
877 Was lookout
878 Incessant talker
879 Handsome, good-looking

EVIDENCE

895 Fingerprints, identifiable
896 Note recovered
897 Spent slug or shell

ACCOMPLICE/S

900 Accomplice
901 Accomplices (two)
902 Accomplices (three)
903 Accomplices (four or more)
904 Accomplice/s (different race)
905 Accomplice/s (female)
906 Accomplice/s (implied)
907 Accomplice/s (in vehicle)

TRADEMARKS

910 Approach on foot
911 Assailant shoots promiscuously
912 Assaults victim/s bodily
913 Assaults with weapon
914 Attacks from behind
915 Beckons or motions
916 Calls victim by some name
917 Carries brief case
918 Carries shopping bag, bundle or clothing
919 Cuts, rips, pulls telephone
920 Cuts, rips, pulls mike (taxi)
921 Demands paper money only
922 Demands company money only
923 Demands money put in bag
924 Demands money from safe
925 Discards clothing
926 Does not talk, motions
927 Follows victim
928 Forces victim/s to lie down
929 Forces victim/s to kneel
930 Forces victim/s to rear
931 Forces victim/s to walk away
932 Forces victim/s into basement
933 Forces victim/s into toilet
934 Forces victim/s to lie on bed
935 Forces victim/s into cooler or refrigerator
936 Forces victim/s to tie another
937 Forces victim/s to disrobe
938 Forces victim/s to place heads or hands on bar or counter
939 Jumps over bar, counter
940 Jumps from concealment
941 Loiters inside
942 Loiters outside
943 Offers to procure women/liquor
944 Pulls blinds or curtains
945 Puts weapons to head/throat
946 Ransacks premises
947 Removes footwear
948 Returns wallet or purse
949 Sits beside or near
950 Stands in doorway/hallway
951 Starts idle conversation
952 Takes hostage or kidnaps
953 Telephones victim
954 Threatens to kill
955 Uses note
956 Thug removes money from cash register, box, drawers
957 Victim/s tortured
958 Victim/s blindfolded
959 Victim/s drunk
960 Victim/s gagged
961 Victim/s handcuffed
962 Victim/s homosexual
963 Victim/s lured to ambush
964 Victim/s searched
965 Victim/s shot
966 Victim/s shot at
967 Victim/s stabbed
968 Victim/s taped
969 Victim/s tied (rope-cord)
970 Victim/s tied (wire)
971 Victim/s tied (other)
972 Victim/s told not to call police
973 Victim/s opening-closing store
974 Victim/s made to face wall
975 Brings own bag (paper, cloth, etc.)
976 Victim/s forced to lock doors
977 Uses spray can as weapon
978 Uses newspaper as informational source
979 Thug takes glasses/bottles to avoid print check
980 Pulls victim's coat over head
981 Victim dragged between or into buildings

MISCELLANEOUS

Add any additional data in this space:

_____
_____
_____
_____

Submitted by_____
NAME PCT./BUR.

Checked by_____
NAME PCT./BUR.

Date Prepared_____

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Figure 4 DETROIT POLICE DEPARTMENT'S ROBBERY M.O. FORM (REVERSE)

TIME OF ATTACK

700 Sunrise-Sunset (daylight)
701 Sunset-Midnight (evening)
702 Midnight-Sunrise (Early A.M.)
703 Unknown

ENTRY

710 Adjacent building
711 Adjacent room
712 Attic or ceiling
713 Coal chute
714 Concealment
715 Door, front
716 Door, rear
717 Door, side
718 Floor
719 Grating
720 Laundry chute
721 Mail chute or night deposit
722 Milk chute
723 Roof
724 Skylight
725 Stairwell
726 Through wall, from outside
727 Transom
728 Ventilator or cooler
729 Window, display
730 Window, front
731 Window, rear
732 Window, side
733 Unknown
734 Basement window

HOW ATTACKED

740 Bores holes
741 Cuts or saws
742 Glass, broke
743 Glass, broke—specific point
744 Glass, broke—reaches in
745 Glass, cut
746 Glass, removed
747 Glass, putty removed
748 Glass, uses flypaper or tape
749 Hinges, pried or jimmied
750 Hinges, removed
751 Lock, broken
752 Lock, cut
753 Lock, pried or jimmied
754 Lock, cylinder removed
755 Moulding, attacked
756 Panels, door-attacked
757 Pass key used
758 Pick or sliplock used
759 Rips or tears
760 Screen, cut
761 Screen, hook pulled
762 Screen, removed
763 Screen, ripped or torn
764 Unlocked
765 Pried

MEANS

775 Axe, hatchet
776 Bodily force
777 Bolt cutter
778 Brace-bit
779 Celluloid or card
780 Dart gun, fish pole, hook
781 Drill
782 Drill, core
783 Garden implements
784 Glass cutter
785 Hammer or sledge
786 Ice pick
787 Jimmy bar/crowbar
788 Key
789 Knife or sharp instrument
790 Ladder or fire escape
791 Lock pick
792 Missile, rock, brick, etc.
793 Pipe wrench
794 Rope or hose
795 Pliers, vice grip, etc.
796 Saw
797 Screwdriver
798 Tools from premises
799 Tools brought
800 Tin snips
801 Tire iron

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TRADEMARKS

809 Used newspaper as informational source
810 Abandons own tools
811 Accomplice or accomplices
812 Alarm conscious, disconnects or bypasses
813 Ate or drank on premises
814 Barefoot, stocking feet
815 Blinds, curtains drawn
816 Cat burglar, occupied residence
817 Changes; discards clothing
818 Defecates
819 Determines if victim home, phones, etc.
820 Disables lights, fuses
821 Exit forced
822 Exit prepared
823 Fetish burglar
824 Fingerprints removed
825 Funeral burglar
826 Gloves, socks used
827 Illumination—candles, matches, etc.
828 Left note or wrote message
829 Malicious damage
830 Mattress, looks in or conceals
831 Messy burglar
832 Neat burglar
833 Noise or sound conscious
834 Party burglar
835 Pre-entry or cases
836 Prospective tenant
837 Pillow or suit case used
838 Ransacks
839 Reaches into from outside
840 Receives stolen property
841 Rents adjoining room, building
842 Starts fire
843 Selective burglar
844 Suspect injured, wounded
845 Sex acts, attempted or committed
846 Tapes glass, flypaper, etc.
847 Telephone attacked
848 Vehicle taken or used
849 Vending machines attacked
850 Victim/s in yard
851 Victim/s bus. owner/merchant
852 Victim/s on premises
853 Victim/s assaulted
854 Victim/s blindfolded
855 Victim/s female
856 Victim/s gagged
857 Victim/s handcuffed
858 Victim/s shot
859 Victim/s shot at
860 Victim/s taped
861 Victim/s tied (rope, cord)
862 Victim/s tied (wire)
863 Victim/s tied (other)
864 Walkie talkie used
865 Wedding burglar
866 Vacation burglar
867 Weekend burglar
868 Uses cab to transport loot
869 Repaints pry marks to conceal entry

DEFENDANT

870 Narcotic user
871 Homosexual
872 Left handed
873 Says he is ex-convict
874 Is parolee
875 Prostitute
876 Had been drinking
877 Was lookout
878 Wears face mask (misc. types)

EVIDENCE

890 Fingerprints, identifiable
891 Footprints
892 Note
893 Tools
894 Broken tools
895 Palm prints

COUNT

THIS SECTION FOR SAFE BURGLARIES

900 Safe burglary, attempt
901 Safe burglary
902 Daylock or open safe

TYPE

903 Burglar resistant, rd. door
904 Burglar resistant, sq. door
905 Double safe, over and under
906 File cabinet with combination
907 Fire protective box
908 Money chest within safe
909 Walk-in vault

MEANS SAFE ATTACKED

910 Axe, hatchet
911 Carborundum blades
912 Drill
913 Drill, core
914 Hammer or sledge
915 Pry bar
916 Punch or drift pin
917 Torch
918 Tools from premises
919 Tools brought

COMBINATION ATTACKED

920 Chiseled off
921 Knocked off
922 Pulled off
923 Spindle punched
924 Burns
925 Drills:
926 Above combination
927 Around combination
928 Below combination
929 Between combination and handle

HOW SAFE ATTACKED

930 Burns
931 Cuts
932 Drills
933 Explosives
934 Pounds or chops
935 Rips, pry or peel:
936 Bottom left center of door
937 Bottom right center of door
938 Top left center of door
939 Top right center of door
940 Through back
941 Through bottom
942 Through side
943 Through top

TRADEMARKS

944 Attacks handle
945 Attacks hinges
946 Fills with water
947 Fishes through hole
948 Obstruction to hide
949 Removes safe (carry-out)
950 Safe into ice box/cooler
951 Safe removed to rear
952 Safe moved from original position

MISCELLANEOUS

Add any additional data in this space:

_____
_____
_____
_____

Submitted by_____
NAME PCT./BUR.

Checked by_____
NAME PCT./BUR.

Date Prepared_____

Figure 5 DETROIT POLICE DEPARTMENT'S BURGLARY M.O. FORM (REVERSE)

TIME OF ASSAULT

700 Sunrise-Sunset (Daylight)
701 Sunset—Midnight (Evening)
702 Midnight—Sunrise (Early A.M.)
703 Unknown

WEARS

710 Cloth, hankie over face
711 Earrings
712 Faddish, flashy clothes
713 Glasses, regular
714 Glasses, sun
715 Gloves
716 Hood
717 Head cloth or rag
718 Hand held over face
719 Mask
720 No shoes
721 Rings
722 Silk stocking over face
723 Sloppy dressed
724 Well dressed
725 Work uniform
726 If any disguise used, circle

APPROACH

740 Asks victim to help find dog, books, etc.
741 Admitted to victim's home as salesman, etc.
742 Answers ads
743 Asks for information, directions, etc.
744 B & E
745 Claims to be Police Officer, etc.
746 Claims to be sent by parents
747 Enters victim's home after knocking
748 Follows victim into lobby, elevator
749 Follows—sneaks up from behind
750 From concealment—bushes, etc.
751 Loiters in area
752 Meets victim at party, bar
753 Offers job
754 Offers gifts/or money
755 Offers assistance
756 Pretext medical treatment
757 Pretext utility, tradesman, etc.
758 Ringing bell
759 Requests assistance
760 Sits near (bus, theater)
761 Victim lured to thug's home, business, concealment
762 Window peeping
763 Robbery
764 Asks for cigarette, light
765 Pretext of looking for work

VEHICLE INVOLVED

780 After victim puts car in garage or parking
781 Demands transportation after crime
782 Forces victim into car
783 Forces victim to lie (sit) floor/seat of car
784 Forces victim to accompany in vehicle
785 Follows victim's car
786 Hides in victim's car
787 Hitch-hikes (thug)
788 Jumps into victim's car
789 Lures victim into car (offers ride, etc.)
790 Parks car and follows on foot
791 Throws victim's car keys away

CHARACTERISTICS OF ASSAILANT

800 Abnormal genitals
801 Female attire, wears, possession
802 Grins, stares, leers—makes no comment
803 Hands, long slender
804 Hands, short broad
805 Hands, stained, greasy
806 Fingers, long nails
807 Fingers, nails bitten close
808 Handsome
809 Has accomplice
810 Jostles women
811 Left handed
812 Laughs at victim
813 Mentally disturbed or retarded
814 Narcotic user
815 Obscene pictures, shows, possession
816 Removes all clothing (own)
817 Ransack house
818 Rips/cuts/disconnects telephone
819 Smells (body odor, greasy, etc.)
820 Voice deep
821 Voice high pitched
822 Voice raspy
823 Removes or drops pants
824 Is exposed (during approach)
825 Uses weapon and/or objects found at scene, i.e., knife, rope, etc.
826 Fingerprint conscious

CONVERSATION OF ASSAILANT

840 Apologizes
841 Asks victim to meet again
842 Abusive language to victim
843 Demands money
844 Demands jewelry
845 Has been in prison
846 Has raped, murdered, etc. before
847 Obscene language during crime
848 Polite
849 Reveals racial hostility
850 States will return/returns
851 Talkative
852 Threatens to harm victim's children, etc.
853 Silent—makes no comment

TREATMENT OF VICTIM

875 A & B Breast
876 A & B Buttocks
877 A & B Sex
878 Cuts clothing of victim
879 Covers victim's head with blanket, etc.
880 Forces victim into concealment
881 Grabs with hand over mouth
882 Grabs/drags to other area
883 Rips, tears clothing of victim
884 Removes all of victim's clothes
885 Sadist—beats victim after subdued
886 Tortures—any form
887 Victim/s beaten with fists
888 Victim/s beaten with weapon
889 Victim/s blindfolded
890 Victim/s choked
891 Victim/s gagged
892 Victim/s shot
893 Victim/s tied/bound
894 Victim/s grabbed around neck
895 Victim/s thrown to ground/or floor
896 Victim/s kidnapped
897 Victim/s stabbed
898 Victim/s taped

SEX ACTS (ALSO ATTEMPTS)

920 Bites
921 Bestiality
922 Forces victim to masturbate thug
923 Forces victim to sterobe thug
924 Fondles, sucks breast
925
926 Intercourse—canine position
927 Inserts finger in vagina
928 Inserts object in vagina
929 Inserts foreign objects into rectum
930 Kisses
931 Lifts or raises women's clothing
932 Licks victim
933 Masturbates
934 Oral perversion on victim
935 Places victim on lap
936 Plays with victim's privates
937 Places privates between victim's legs
938 Rapes
939 Rubs privates against victim
940 Requests help to accomplish sex act
941 Shows—uses contraceptive
942 Sodomy
943 Uses lubricant on victim
944 Victim forced to commit oral perversion
945 Unable achieve erection
946 Cries during offense
947 Lies on top of victim

VICTIM

970 White
971 Negro
972 Male — under 10
973 Female

AGE

974 Infant
975 Immature
976 Mature
977 Elderly

MISCELLANEOUS

Additional Data:

_____
_____
_____
_____
_____
_____

D.P.D. 202
Form C of D—1-OP-E (8-66)

Submitted by_____
NAME PCT./BUR.

Keypunched by_____

Checked by_____
NAME PCT./BUR.

Verified by_____

Date _____

Figure 6 DETROIT POLICE DEPARTMENT'S SEX CRIME M.O. FORM (REVERSE)

screen, from which a Polaroid copy could be made automatically. Such a retrieval system would be relatively inexpensive and would speed up the ultimate output of mug shots.

Several factors contributed to the success of Detroit's system. One factor was that the system was based on the thorough knowledge of detectives on the robbery squad, and their motivation to go through the trouble of providing entry information for the file. Once the file had a sufficient number of resident suspects, retrievals were made. Frequently retrievals were initiated voluntarily by members of the M. O. data system group in advance of such a request by the detective on the case. The voluntary retrieval service on the part of the M. O. data system's staff aided in overcoming potential reluctance on the part of detectives to use the system.

Another factor leading to the success of this system was the fact that due credit for working towards solving cases was given to detectives on those solved cases. In this manner, successful identifications were made which generated favorable attitudes for the system.

Perhaps the most important factor contributing to the success of the system was that of support. Support in this instance refers to the support by department officials in favor of the system. In particular, the support of the commanding officer, who was responsible for the development of the system, was a strong factor for the system's success because of his knowledge of the system and because of his confidence in its utility.

2. Kansas City Police Department's M. O. System

The M. O. system used by Kansas City is an adaptation of the system used by Detroit. Therefore, most of the description of the Detroit system applies also to that of Kansas City. The M. O. entry sheets are filled out by the detective. These sheets are then edited manually and delivered to the data control section where the entries on the M. O. Sheet are converted to a computer code for card punching. The coded and punched cards are re-checked and entered by computer into the magnetic tape file. The entry sheets go into the suspect's permanent file jacket. Figure 7 is a flow diagram of file entry procedures.

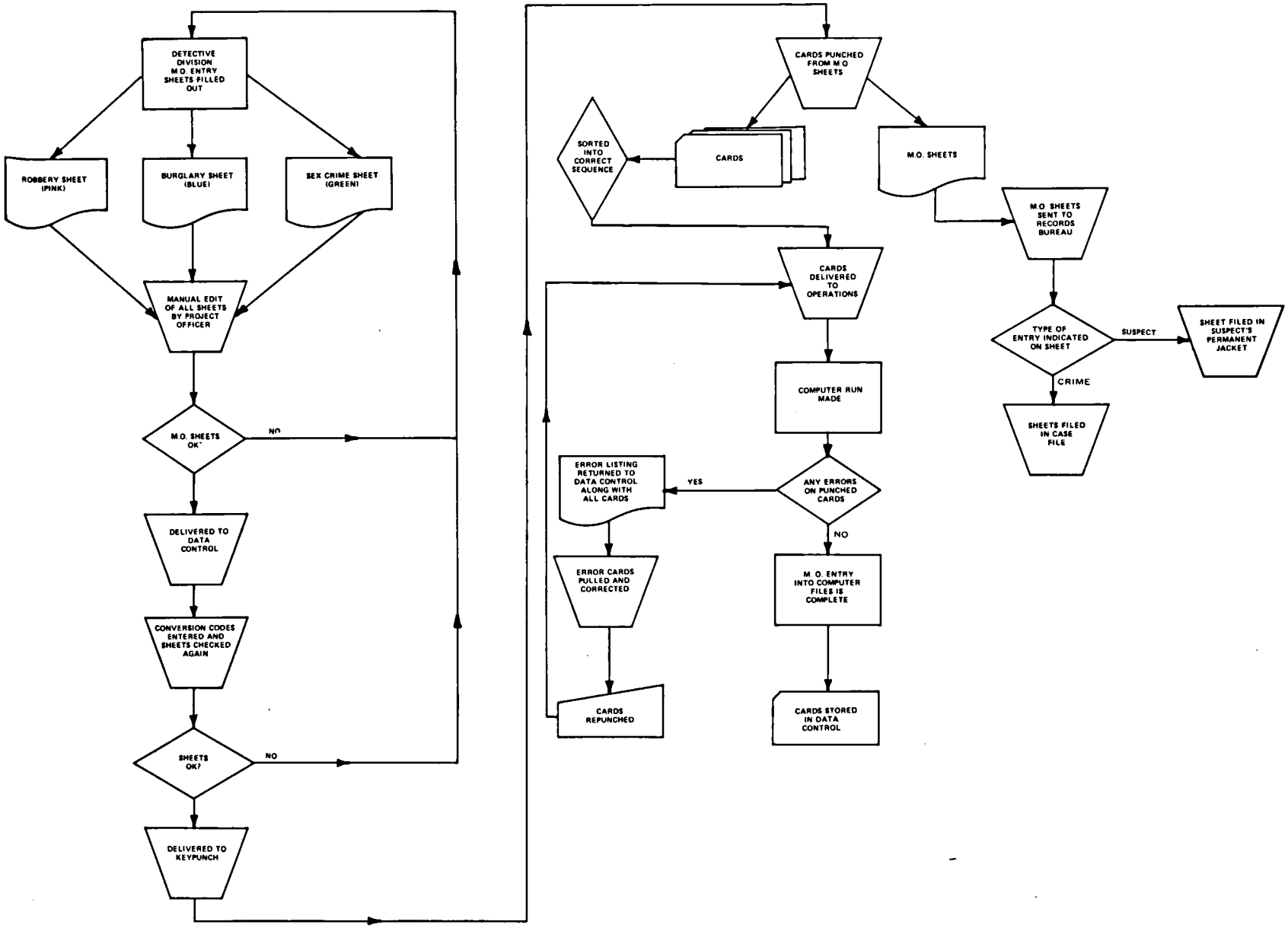

Figure 7 KANSAS CITY POLICE DEPARTMENT'S M.O. DATA SYSTEM FLOW

As with M. O. entry procedures, retrievals are initiated by the detective bureau and taken to the data control section. There a search request sheet (see Figure 8) is filled out from the information on the M. O. Sheet. The search request information is then punched onto cards and the computer inquiry run is made. Then the computer output listing is delivered to the detective making the request. This procedural sequence is shown in the flow diagram in Figure 9. Figures 10, 11, 12, and 13 show the Kansas City Police Department's forms for input for retrieval of Robbery, Burglary, and Sex Crimes, respectively. A comparison of these forms with those of Detroit's reveals their similarity and at the same time shows an example of some of the changes introduced by departments which adapted Detroit's system to their own use.

The Kansas City Police Department made some modification of the Detroit system. One change was based on a frequency count of the various items that appeared in open-ended categories (i. e. items marked "miscellaneous" or "other"). Where a given item appeared frequently, new category codes were added. Another modification was to change the computer program so that the printed output of a search request identified the names of possible suspects. A third modification was to change the retrieval request sheet from one to two punched cards. This change is shown in Figure 8, where it can be seen that the change now allows up to 25 characteristics over and above the important trademarks to be searched.

Among the problems encountered in the implementation of a system is user participation. Entries were slow, particularly at first, and retrieval requests were few. The Kansas City Police Department's approach to overcome this problem was to consolidate detective investigation reports with other reports that recorded information for the M. O. system. The detective investigation reports were an accepted procedure by men in the field. Therefore, the changeover to a revised form was made rather smoothly, with the revised form now including needed input information for the system.

Currently the Kansas City Police Department has an M. O. file of about 500. The first retrieval inquiry was made when there were about 150 residents in the file.

K. C. P. D. MODUS OPERANDI SEARCH REQUEST

CARD ONE

	Seq.#	Type	Req. No.	Offense	Obj. of Att.	Take I	Take 2	Weapon
	1	A B						
Card Cols.	1	2	3-5	6-7	8-10	11-13	14-16	17-19

PHYSICAL DESCRIPTION

	Sex	Race	Age	Hgt.
Card Cols.	20-22	23-25	26-28	29-31

IMPORTANT TRADE MARKS

	1	2	3	4
Card Cols.	32-34	35-37	38-40	41-43

CARD TWO - OTHER TRADE MARKS

	Seq.#	Type	Req. No.	1	2	3	4	5	6	7
	2	A B								
Card Cols.	1	2	3-5	6-8	9-11	12-14	15-17	18-20	21-23	24-26

	8	9	10	11	12	13	14	15	16
Card Cols.	27-29	30-32	33-35	36-38	39-41	42-44	45-47	48-50	51-53

	17	18	19	20	21	22	23	24	25
Card Cols.	54-56	57-59	60-62	63-65	66-68	69-71	72-74	75-77	78-80

By: _____ Unit: _____ Date: _____ Time: _____

Keypunched By: _____

Figure 8 KANSAS CITY POLICE DEPARTMENT'S M.O. SEARCH REQUEST FORM

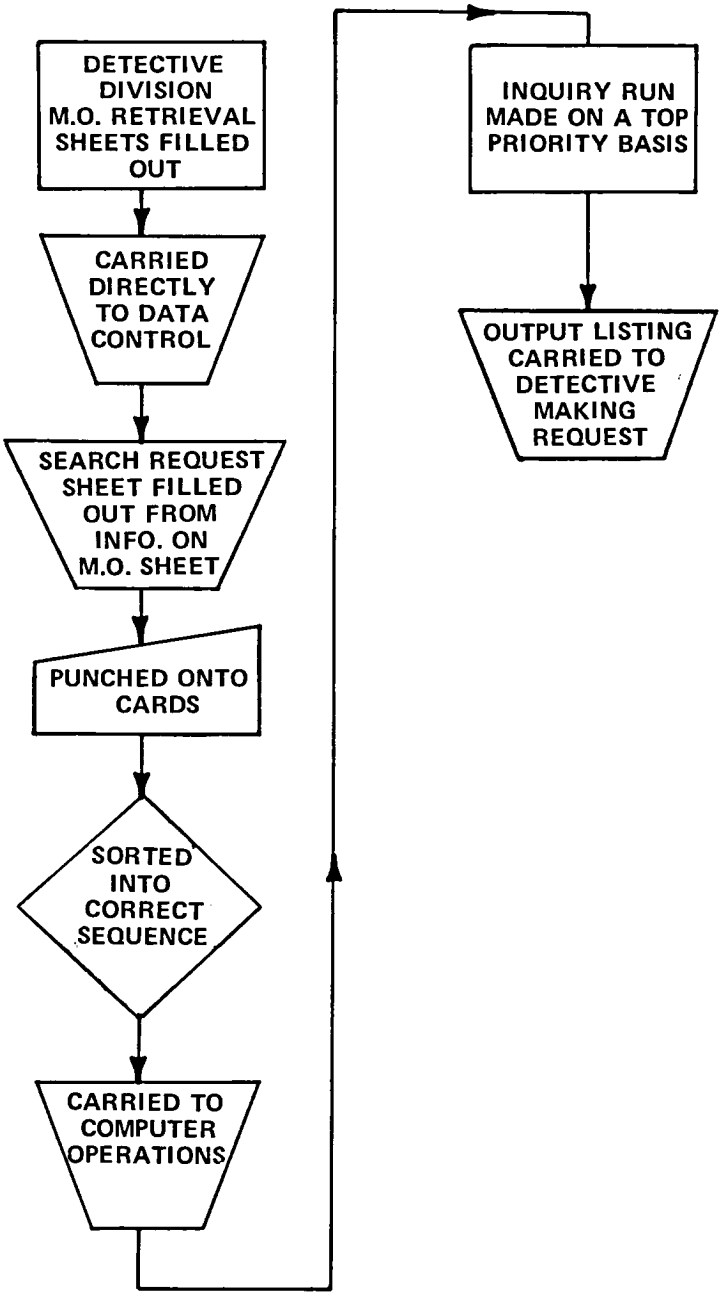

Figure 9 KANSAS CITY POLICE DEPARTMENT'S M.O. DATA RETRIEVAL SYSTEM FLOW

KANSAS CITY MISSOURI POLICE DEPARTMENT

ROBBERY MODUS OPERANDI

☐ Interrogation Only

☐ Interrogation and Computer Entry

(1) Circle type of action — 1. Suspect entry 2. Crime entry 3. Suspect retrieval 4. Crime retrieval

(2-7) Date of offense _____ (8) Day of week _____ ☐ (9-10) Time of offense _____ ☐

Suspect info. only

(63-79) Last name _____ (80) First _____ Middle _____ (11-12) D.O.B. _____ ☐

Alias _____ Nickname _____ Soc. Sec. # _____ (13-18) Jac. # _____

Address _____ Children _____ School _____

Wife maiden name _____ Address _____

Employer _____ Address _____ Phone _____

Trade _____ Military rec. _____ Serial # _____

Associates _____

(19-20) Offense _____ ☐ (21-26) Complaint # _____ (27-33) Agency Id. # _____

Address _____ (34-36) Obj. of att. / type place _____ ☐
if on street etc. indicate front, rear etc.

(37-39) What taken 1. _____ ☐ (40-42) 2. _____ ☐ (43-45) 3. _____ ☐

(46-48) Weapon _____ ☐ (49-51) Make of vehicle _____ ☐

(52-54) Body style _____ ☐ (55-57) Color (top) _____ ☐ (58-60) Color (bottom) _____ ☐

Lic. # _____ State _____ Yr. _____

SEX
500 Female
501 Male

COLOR
502 Indian
503 Mexican
504 Negro
505 Oriental
506 White
507 Other _____

CLOSEST ESTIMATED AGE _____

COMPLEXION
514 Dark, swarthy
515 Light, fair
516 Medium
517 Negro, lt. brown
518 Negro, med. brown
519 Negro, dk. brown
520 Ruddy
521 Sallow

EYE COLOR
522 Black
523 Blue
524 Brown
525 Gray
526 Hazel
527 Green

EYE DEFECTS
528 Bulging
529 Cast, left eye
530 Cast, right eye
531 Cataracts
532 Crossed
533 Different colors
534 Eye missing
535 Squints or blinks
536 Blasted

HAIR COLOR
537 Black
538 Blonde
539 Brown
540 Brown, light
541 Dyed
542 Gray
543 Gray, partially
544 Red
545 White
546 Auburn

HAIR TYPE
547 Bald
548 Bald, partially
549 Bushy
550 Crew cut, very short
551 Curly
552 Fad, Que-vadis, etc.
553 Kinky
554 Processed
555 Straight
556 Thin or receding
557 Wavy
558 Long

TEETH
559 False
560 Gaps
561 Gold
562 Good
563 Irregular
564 Missing, lower
565 Missing, upper
566 Protruding
567 Stained, decayed
568 Chipped

SPEECH (During Crime)
569 Foreign/broken
570 Lisps
571 Mexican or Spanish
572 Mumbles or impediment
573 Rapid
574 Refined
575 Soft or low
576 Southern
577 Stutters
578 Vulgar or profane

MOUSTACHE, BEARD, ETC.
579 Beard
580 Eyebrows, heavy/bushy
581 Goatee
582 Moustache, heavy
583 Moustache, medium
584 Moustache, thin or light
585 Moustache, Chinese
586 Sideburns
587 Unshaven

FACIAL SCARS
588 Cheek, left
589 Cheek, right
590 Chin
591 Ear, left
592 Ear, right
593 Eyebrow, or left eye area
594 Eyebrow, or right eye area
595 Forehead
596 Hare-lip
597 Lip, lower
598 Lip, upper
599 Nose
600 Pierced earlobes

FACIAL ODDITIES
601 Birthmark/s
602 Chin, protruding
603 Chin, receding
604 Freckles
605 Lips, thick
606 Lips, thin
607 Moles
608 Pimples
609 Pockmarks
610 Hollow cheeked

NOSE
611 Broken, crooked
612 Broad
613 Flat
614 Hooked
615 Large
616 Long
617 Small
618 Thin
619 Upturned

HEIGHT
620 Very short — Under 5/2
621 Short — 5/2 - 5/6
622 Medium — 5/7 - 5/9
623 Tall — 5/10 - 6/1
624 Very tall — 6/2 - Over

CLOSEST ESTIMATED HEIGHT _____

BUILD
625 Thin
626 Very thin
627 Medium
628 Muscular
629 Heavy, stocky
630 Very heavy

BODY SCARS
631 Arm, left
632 Arm, right
633 Chest
634 Hand, left
635 Hand, right
636 Neck
637 Wrist, left
638 Wrist, right

AMPUTATIONS
639 Arm, left
640 Arm, right
641 Ear/s
642 Finger/s, left hand
643 Finger/s, right hand
644 Foot, left
645 Foot, right
646 Hand, left
647 Hand, right
648 Leg, left
649 Leg, right

DEFORMITIES
650 Bow-legged
651 Cauliflower ears
652 Crippled arm, left
653 Crippled arm, right
654 Crippled finger/s
655 Crippled hand/s
656 Crippled leg, left, limps
657 Crippled leg, right, limps

TATOOS
658 Arm, left
659 Arm, right
660 Chest or neck
661 Fingers, left
662 Fingers, right
663 Hand, left
664 Hand, right
665 Pachuco

TYPE OF TATTOO
666 Initials
667 Names
668 Words/Phrases
669 Pictures
670 Designs

EARS (Shape)
671 Protruding
672 Large
673 Small
674 Close to head

FACE (Shape)
676 Thin
677 Round
678 Long
679 High cheek bones
680 Broad
681 Caucasian features

MISCELLANEOUS
Add any additional physical characteristic in this space
_____
_____
_____
_____

Figure 10 KANSAS CITY POLICE DEPARTMENT'S ROBBERY M.O. FORM (FRONT)

ENTRY

700 Door, front
701 Door, side or rear
702 Forces entry
703 Milk chute
704 Transom
705 Window
706 Rings door bell or knocks
707 Locks door after entry
708 Hides in building

EXIT

715 Front door
716 Rear door
717 Side door
718 Window

WEARS

725 Cap, baseball, ski, etc.
726 Coveralls
727 Earrings
728 Facial bandages
729 Facial make-up
730 False nose
731 Female attire
732 Gloves
733 Hankie or cloth over face
734 Head cloth or rag
735 Held hand over face
736 Held something over face
737 Hood
738 Male attire
739 Paper bag over head
740 Silk stocking over face
741 Sun glasses
742 Regular glasses
743 Work uniform
744 Halloween mask
745 Wig
746 If disguise used—circle
747 Flashy clothing
748 Sloppy, unkempt clothing

PRETENDS TO BE

750 Blind, deaf, crippled
751 Delivery man (misc.)
752 Drunk
753 Injured, hurt, dead
754 Police officer, FBI, etc.
755 Repairman
756 Salesman
757 Seeking employment
758 Seeking friend, relative
759 Seeking house/apt., room (to rent)
760 Seeking street address
761 Seeking loan
762 Shopping
763 Utility man
764 Seeking directions
765 Customer
766 Western Union messenger

ASKS FOR

775 Beer, wine
Brand_____
776 Whiskey
Brand_____
777 Change
778 Cigarettes (to purchase)
779 Clothing (cleaners/laundry)
780 Food, meats, etc.
781 Gas, oil, air, etc.
782 Gum, candy
783 Information
784 Light, match, cigarette
785 Medicine, medical supplies
786 Money order to be prepared
787 Narcotics
788 Person by title/name
789 Service, miscellaneous
790 Tools, use of tools
791 Use of phone
792 Use of toilet
793 Money owed
794 Soft drinks
795 Hardware items
796 Coffee
797 Jewelry
798 Water

FORM 320 REV (4-70)

WEAPON

809 Held in right hand
810 Held in left hand
811 Covered with newspaper/coat
812 From bag/box
813 From belt
814 From holster
815 Keeps in pocket/belt
816 Keeps hand in pocket
817 Racks or cocks weapon
818 Shown to victim
819 Shotgun or rifle under clothing
820 Wrapped in hankie/bag
821 Lays weapon on counter
822 Points weapon at victim
823 Multiple weapons

VEHICLE INVOLVED

829 Abandons getaway vehicle
830 Attack while victim parking or putting auto in garage
831 Covers license plate
832 Disables victim's auto
833 Drives off in victim's auto
834 Escapes in auto
835 Escapes in taxi/bus
836 Follows victim's auto
837 Forces victim to lie or sit on floor of auto
838 Forces victim to drive
839 Hides in victim's auto
840 Hitch-hikes, thug
841 Jumps from auto
842 Jumps into victim's auto
843 Locks victim in trunk or attempts
844 Uses stolen auto
845 Uses stolen plates
846 Forces victim to accompany in vehicle

SEX

860 Commits oral perversion
861 Commits sodomy
862 Forces victim to commit oral perversion
863 Kisses, fondles, caresses victim
864 Lifts/raises women's clothing
865 Rapes
869 Attempts (also circle specific act above)

DEFENDANT

870 Narcotic user
871 Homosexual
872 Left handed
873 Says he is ex-convict
874 Is parolee
875 Prostitute
876 Had been drinking
877 Was lookout
878 Incessant talker
879 Handsome, good-looking

EVIDENCE

895 Fingerprints, identifiable
896 Note recovered
897 Spent slug or shell

ACCOMPLICE/S

900 Accomplice
901 Accomplices (two)
902 Accomplices (three)
903 Accomplices (four or more)
904 Accomplice/s (different race)
905 Accomplice/s (female)
906 Accomplice/s (implied)
907 Accomplice/s (in vehicle)

TRADEMARKS

910 Approach on foot
911 Assailant shoots promiscuously
912 Assaults victim/s bodily
913 Assaults with weapon
914 Attacks from behind
915 Beckons or motions
916 Calls victim by some name
917 Carries brief case
918 Carries shopping bag, bundle or clothing
919 Cuts, rips, pulls telephone
920 Cuts, rips, pulls mike (taxi)
921 Demands paper money only
922 Demands company money only
923 Demands money put in bag
924 Demands money from safe
925 Discards clothing
926 Does not talk, motions
927 Follows victim
928 Forces victim/s to lie down
929 Forces victim/s to kneel
930 Forces victim/s to rear
931 Forces victim/s to walk away
932 Forces victim/s into basement
933 Forces victim/s into toilet
934 Forces victim/s to lie on bed
935 Forces victim/s into cooler or refrigerator
936 Forces victim/s to tie another
937 Forces victim/s to disrobe
938 Forces victim/s to place heads or hands on bar or counter
939 Jumps over bar, counter
940 Jumps from concealment
941 Loiters inside
942 Loiters outside
943 Offers to procure women/liquor
944 Pulls blinds or curtains
945 Puts weapons to head/throat
946 Ransacks premises
947 Removes footwear
948 Returns wallet or purse
949 Sits beside or near
950 Stands in doorway/hallway
951 Starts idle conversation
952 Takes hostage or kidnaps
953 Telephones victim
954 Threatens to kill
955 Uses note
956 Thug removes money from cash register, box, drawers
957 Victim/s tortured
958 Victim/s blindfolded
959 Victim/s drunk
960 Victim/s gagged
961 Victim/s handcuffed
962 Victim/s homosexual
963 Victim/s lured to ambush
964 Victim/s searched
965 Victim/s shot
966 Victim/s shot at
967 Victim/s stabbed
968 Victim/s taped
969 Victim/s tied (rope-cord)
970 Victim/s tied (wire)
971 Victim/s tied (other)
972 Victim/s told not to call police
973 Victim/s opening-closing store
974 Victim/s made to face wall
975 Brings own bag (paper, cloth, etc.)
976 Victim/s forced to lock doors
977 Uses spray can as weapon
978 Uses newspaper as informational source
979 Thug takes glasses/bottles to avoid print check
980 Pulls victim's coat over head
981 Victim dragged between or into buildings

MISCELLANEOUS

Add any additional data in this space:

_____
_____
_____
_____

Submitted by_____
Name Div./Unit

Checked by_____
Name Div./Unit

Date Prepared_____

Figure 11 KANSAS CITY POLICE DEPARTMENT'S ROBBERY M.O. FORM (REVERSE)

TIME OF ATTACK

700 Sunrise-Sunset (daylight)
701 Sunset-Midnight (evening)
702 Midnight-Sunrise (Early A.M.)'
703 Unknown

ENTRY

710 Adjacent building
711 Adjacent room
712 Attic or ceiling
713 Coal chute
714 Concealment
715 Door, front
716 Door, rear
717 Door, side
718 Floor
719 Grating
720 Laundry chute
721 Mail chute or night deposit
722 Milk chute
723 Roof
724 Skylight
725 Stairwell
726 Through wall, from outside
727 Transom
728 Ventilator or cooler
729 Window, display
730 Window, front
731 Window, rear
732 Window, side
733 Unknown
734 Basement window

HOW ATTACKED

740 Bores holes
741 Cuts or saws
742 Glass, broke
743 Glass, broke—specific point
744 Glass, broke—reaches in
745 Glass, cut
746 Glass, removed
747 Glass, putty removed
748 Glass, uses flypaper or tape
749 Hinges, pried or jimmied
750 Hinges, removed
751 Lock, broken
752 Lock, cut
753 Lock, pried or jimmied
754 Lock, cylinder removed
755 Moulding, attacked
756 Panels, door-attacked
757 Pass key used
758 Pick or skiplock used
759 Rips or tears
760 Screen, cut
761 Screen, hook pulled
762 Screen, removed
763 Screen, ripped or torn
764 Unlocked
765 Pried

MEANS

775 Axe, hatchet
776 Bodily force
777 Bolt cutter
778 Brace-bit
779 Celluloid or cord
780 Dart gun, fish pole, hook
781 Drill
782 Drill, core
783 Garden implements
784 Glass cutter
785 Hammer or sledge
786 Ice pick
787 Jimmy bar/crowbar
788 Key
789 Knife or sharp instrument
790 Ladder or fire escape
791 Lock pick
792 Missile, rock, brick, etc.
793 Pipe wrench
794 Rope or hose
795 Pliers, vise grip, etc.
796 Saw
797 Screwdriver
798 Tools from premises
799 Tools brought
800 Tin snips
801 Tire iron

TRADEMARKS

809 Used newspaper as informational source
810 Abandons own tools
811 Accomplice or accomplices
812 Alarm conscious, disconnects or bypasses
813 Ate or drank on premises
814 Barefoot, stocking foot
815 Blinds, curtains drawn
816 Cat burglar, occupied residence
817 Changes; discards clothing
818 Defecates
819 Determines if victim home, phones, etc.
820 Disables lights, fuses
821 Exit forced
822 Exit prepared
823 Fetish burglar
824 Fingerprints removed
825 Funeral burglar
826 Gloves, socks used
827 Illumination—candles, matches, etc.
828 Left note or wrote message
829 Malicious damage
830 Mattress, looks in or conceals
831 Messy burglar
832 Neat burglar
833 Noise or sound conscious
834 Party burglar
835 Pre-entry or cases
836 Prospective tenant
837 Pillow or suit case used
838 Ransacks
839 Reaches into from outside
840 Receives stolen property
841 Rents adjoining room, building
842 Starts fire
843 Selective burglar
844 Suspect injured, wounded
845 Sex acts, attempted or committed
846 Tapes glass, flypaper, etc.
847 Telephone attacked
848 Vehicle taken or used
849 Vending machines attacked
850 Victim/s in yard
851 Victim/s bus. owner/merchant
852 Victim/s on premises
853 Victim/s assaulted
854 Victim/s blindfolded
855 Victim/s female
856 Victim/s gagged
857 Victim/s handcuffed
858 Victim/s shot
859 Victim/s shot at
860 Victim/s taped
861 Victim/s tied (rope, cord)
862 Victim/s tied (wire)
863 Victim/s tied (other)
864 Walkie talkie used
865 Wedding burglar
866 Vacation burglar
867 Weekend burglar
868 Uses cab to transport loot
869 Repaints pry marks to conceal entry

DEFENDANT

870 Narcotic user
871 Homosexual
872 Left handed
873 Says he is ex-convict
874 Is parolee
875 Prostitute
876 Had been drinking
877 Was lookout
878 Wears face mask (misc. types)

EVIDENCE

890 Fingerprints, identifiable
891 Footprints
892 Note
893 Tools
894 Broken tools
895 Palm prints

THIS SECTION FOR SAFE BURGLARIES

900 Safe burglary, attempt
901 Safe burglary
902 Daylock or open safe

TYPE

903 Burglar resistant, rd. door
904 Burglar resistant, sq. door
905 Double safe, over and under
906 File cabinet with combination
907 Fire protective box
908 Money chest within safe
909 Walk-in vault

MEANS SAFE ATTACKED

910 Axe, hatchet
911 Carborundum blades
912 Drill
913 Drill, core
914 Hammer or sledge
915 Pry bar
916 Punch or drift pin
917 Torch
918 Tools from premises
919 Tools brought

COMBINATION ATTACKED

920 Chiseled off
921 Knocked off
922 Pulled off
923 Spindle punched
924 Burns
925 Drills:
926 Above combination
927 Around combination
928 Below combination
929 Between combination and handle

HOW SAFE ATTACKED

930 Burns
931 Cuts
932 Drills
933 Explosives
934 Pounds or chops
935 Rips, pry or peel:
936 Bottom left center of door
937 Bottom right center of door
938 Top left center of door
939 Top right center of door
940 Through back
941 Through bottom
942 Through side
943 Through top

TRADEMARKS

944 Attacks handle
945 Attacks hinges
946 Fills with water
947 Fishes through hole
948 Obstruction to hide
949 Removes safe (carry-out)
950 Safe into ice box/cooler
951 Safe removed to rear
952 Safe moved from original position

MISCELLANEOUS

Add any additional data in this space:

_____
_____
_____
_____

Submitted by_____
Name Div./Unit

Checked by_____
Name Div./Unit

Date Prepared_____

FORM 318 REV. (4-70)

Figure 12 KANSAS CITY POLICE DEPARTMENT'S BURGLARY M.O. FORM (REVERSE)

TIME OF ASSAULT

700 Sunrise-Sunset (Daylight)
701 Sunset—Midnight (Evening)
702 Midnight—Sunrise (Early A.M.)
703 Unknown

WEARS

710 Cloth, hankie over face
711 Earrings
712 Faddish, flashy clothes
713 Glasses, regular
714 Glasses, sun
715 Gloves
716 Hood
717 Head cloth or rag
718 Hand held over face
719 Mask
720 No shoes
721 Rings
722 Silk stocking over face
723 Sloppy dressed
724 Well dressed
725 Work uniform
726 If any disguise used, circle

APPROACH

740 Asks victim to help find dog, books, etc.
741 Admitted to victim's home as salesman, etc.
742 Answers ads
743 Asks for information, directions, etc.
744 B & E
745 Claims to be Police Officer, etc.
746 Claims to be sent by parents
747 Enters victim's home after knocking
748 Follows victim into lobby, elevator
749 Follows—sneaks up from behind
750 From concealment—bushes, etc.
751 Loiters in area
752 Meets victim at party, bar
753 Offers job
754 Offers gifts/or money
755 Offers assistance
756 Pretext medical treatment
757 Pretext utility, tradesman, etc.
758 Ringing bell
759 Requests assistance
760 Sits near (bus, theater)
761 Victim lured to thug's home, business, concealment
762 Window peeping
763 Robbery
764 Asks for cigarette, light
765 Pretext of looking for work

VEHICLE INVOLVED

780 After victim puts car in garage or parking
781 Demands transportation after crime
782 Forces victim into car
783 Forces victim to lie (sit) floor/seat of car
784 Forces victim to accompany in vehicle
785 Follows victim's car
786 Hides in victim's car
787 Hitch-hikes (thug)
788 Jumps into victim's car
789 Lures victim into car (offers ride, etc.)
790 Parks car and follows on foot
791 Throws victim's car keys away

CHARACTERISTICS OF ASSAILANT

800 Abnormal genitals
801 Female attire, wears, possession
802 Grins, stares, leers—makes no comment
803 Hands, long slender
804 Hands, short broad
805 Hands, stained, greasy
806 Fingers, long nails
807 Fingers, nails bitten close
808 Handsome
809 Has accomplice
810 Jostles women
811 Left handed
812 Laughs at victim
813 Mentally disturbed or retarded
814 Narcotic user
815 Obscene pictures, shows, possession
816 Removes all clothing (own)
817 Ransack house
818 Rips/cuts/disconnects telephone
819 Smells (body odor, greasy, etc.)
820 Voice deep
821 Voice high pitched
822 Voice raspy
823 Removes or drops pants
824 Is exposed (during approach)
825 Uses weapon and/or objects found at scene, i.e., knife, rope, etc.
826 Fingerprint conscious
827 Had been drinking

CONVERSATION OF ASSAILANT

840 Apologizes
841 Asks victim to meet again
842 Abusive language to victim
843 Demands money
844 Demands jewelry
845 Has been in prison
846 Has raped, murdered, etc. before
847 Obscene language during crime
848 Polite
849 Reveals racial hostility
850 States will return/returns
851 Talkative
852 Threatens to harm victim's children, etc.
853 Silent—makes no comment

TREATMENT OF VICTIM

875 A & B Breast
876 A & B Buttocks
877 A & B Sex
878 Cuts clothing of victim
879 Covers victim's head with blanket, etc.
880 Forces victim into concealment
881 Grabs with hand over mouth
882 Grabs/drags to other area
883 Rips, tears clothing of victim
884 Removes all of victim's clothes
885 Sadist—beats victim after subdued
886 Tortures—any form
887 Victim/s beaten with fists
888 Victim/s beaten with weapon
889 Victim/s blindfolded
890 Victim/s choked
891 Victim/s gagged
892 Victim/s shot
893 Victim/s tied/bound
894 Victim/s grabbed around neck
895 Victim/s thrown to ground/or floor
896 Victim/s kidnapped
897 Victim/s stabbed
898 Victim/s taped

SEX ACTS (ALSO ATTEMPTS)

920 Fries
921 Bestiality
922 Forces victim to masturbate thug
923 Forces victim to disrobe thug
924 Fondles, sucks breast
925 Pulls panties aside for intercourse
926 Intercourse—canine position
927 Inserts finger in vagina
928 Inserts object in vagina
929 Inserts foreign objects into rectum
930 Kisses
931 Lifts or raises women's clothing
932 Licks victim
933 Masturbates
934 Oral perversion on victim
935 Places victim on lap
936 Plays with victim's privates
937 Places privates between victim's legs
938 Ropes
939 Rubs privates against victim
940 Requests help to accomplish sex act
941 Shows—uses contraceptive
942 Sodomy
943 Uses lubricant on victim
944 Victim forced to commit oral perversion
945 Unable achieve erection
946 Cries during offense
947 Lies on top of victim

VICTIM

970 White
971 Negro
972 Male — under 10
973 Female

AGE

974 Infant
975 Immature
976 Mature
977 Elderly

MISCELLANEOUS

Additional Data:

_____
_____
_____
_____
_____
_____

Submitted by _____
Name Div./Unit

Checked by _____
Name Div./Unit

Date _____

FORM 326 REV. (4-70)

Figure 13 KANSAS CITY POLICE DEPARTMENT'S SEX CRIME M.O. FORM (REVERSE)

3. Michigan State Police Sex Motivated Crime Search System

The Michigan State Police Modus Operandi System was enacted by State law in 1955. The law requires that "...the Sheriff of every county, chief executive officer of the police department of every city, village and township to make such report to this bureau of accused persons against whom a warrant has been issued and the disposition thereof in sexually motivated crimes." The operational definition of a sexually motivated crime is determined by the reporting agency.

Between 1966-1968 the Michigan State Police reprogrammed their M.O. file to more fully obtain the benefits offered by a Burroughs B-5500. The data file itself is stored on a single reel of magnetic tape under special security measures. The analysis included in this report reflects the latest 1384 records in that system. The input form for these records is shown in Figures 14 and 15.

A search is initiated by a request from any jurisdiction in the state. The file search results in a listing of possible suspects in order of probability. This is possible because the system is designed with a weighted search capability. Further, the geographic area to be searched can vary from a single county to a group of counties expanding until the search is made on the entire state.

As with the Detroit system, obtaining the mug shot photos to go with those identified as suspects is a manual operation. It was pointed out that the Michigan State Police has already requested funds to automate this process. In addition to the usual M.O. data, the Michigan State Police also includes information showing fingerprint data and blood group data. To further maximize effectiveness, the system has strong management support and training at all levels.

There are two significant points that need to be reiterated in summing up the Michigan State Police system. The first is that as far as is known, this is the only state-wide M.O. system in the country. The other point is that the Michigan State Police system is firmly based on a legal statute to encourage compliance by officers in the field to make input reports to the system.

RI-73(Rev. 10/68)

SEX MOTIVATED CRIME REPORT

The information on this form is in accordance with Act No. 132, Public Acts of 1955 which requires the Sheriff of every county, Chief executive officer of the police department of every city, village and township to make such report to this bureau of accused persons against whom a warrant has been issued and the disposition thereof in sexually motivated crimes. The reports shall be kept confidential and shall be available for examination only by the Attorney General, any Prosecuting Attorney, any court of record, Sheriff, Chief executive officer of the police department of any city, village or township and their authorized officers and by them held confidential except for official use. Any person who violates any of the confidential provisions of this Act shall be guilty of a misdemeanor.

Do Not Write In Shaded Areas Below **PLEASE PRINT OR TYPE**

NAME OF DEFENDANT (Last, First, Middle)			ADDRESS No. Street City State County								
BIRTH DATE	BIRTH PLACE		HEIGHT	WEIGHT	SEX	1 2 3 4 5 6 7 8 9 10					
OCCUPATION	WHERE EMPLOYED					BLOOD TYPE		MARITAL STATUS			
DATE OF OFFENSE	TIME OF OFF.		COUNTY OF OCCURRENCE			YOUR CASE NUMBER					
SOC. SEC. NUMBER	MSB NUMBER		FBI NUMBER			OPERATORS LICENSE NUMBER AND STATE					
MAKE OF VEHICLE OWNED	YEAR OF VEH.	BODY STYLE		COLOR TOP		COLOR BOTTOM		LICENSE NO. AND STATE			

Draw line through appropriate number (Mark at least one number in each box)

RACE
001 White - Caucasian
002 Black - Negro
003 Brown - Mexican
004 Yellow - Oriental
005 Red - Indian
006 Other _____

BUILD
007 Slender
008 Medium
009 Heavy, stocky
010 Muscular

COMPLEXION
011 Sallow
012 Fair - light
013 Ruddy - medium
014 Swarthy- dark
015 Negro - Lt. brown
016 Negro - Med. brown
017 Negro - Dk. brown

HAIR COLOR
018 Blond
019 Red - auburn
020 Brown - light
021 Brown - dark
022 Black
023 Gray - white
024 Partially gray
025 Dyed_____

HAIR TYPE
026 Bald
027 Partially bald
028 Bushy
029 Crew Cut, Flat Top
030 Curly
031 Fad
032 Kinky
033 Processed
034 Straight
035 Thin or receding
036 Wavy
037 Long
038 Long sideburns
039 Short
040 Other_____

EYE COLOR
041 Blue
042 Gray
043 Hazel-green
044 Brown
045 Black

EYE DEFECTS
046 Bulging
047 Cataracts
048 Crossed
049 Different Colors
050 Missing-or glass eye
051 Squints or blinks
052 Glasses
053 Slanted
054 Other _____
055 None

EYE BROWS
056 Bushy
057 Arch
058 Thin
059 Meeting
060 Straight
061 Other_____

FACE (Shape)
062 Thin-narrow
063 Round-oval
064 Long-rectangle
065 Broad-full
066 Square
067 Other_____

FACIAL ODDITIES
068 Birthmark (s)
069 Freckles
070 Pockmarks
071 Pimples
072 Lips (thick)
073 Lips (thin)
074 Hollow cheeked
075 Moles
076 Other _____
077 None

FACIAL SCARS
078 Cheek, left
079 Cheek, right
080 Chin
081 Ear, left
082 Ear, right
083 Eyebrow, left
084 Eyebrow, right
085 Forehead
086 Hare-lip
087 Lip, lower
088 Lip, upper
089 Nose
090 Pierced earlobes
091 Other _____
092 None

BODY SCARS
093 Arm, left
094 Arm, right
095 Chest
096 Hand, left
097 Hand, right
098 Neck
099 Wrist, left
100 Wrist, right
101 Other_____
102 None

SPEECH
103 Soft or low
104 Refined
105 Loud
106 Vulgar
107 Foreign or broken
108 Mexican, Spanish
109 Accent, Southern
110 Mumbles, impediment
111 Lisping
112 Stuttering
113 Rapid
114 Mute

TEETH
115 Protruding
116 Irregular
117 Gold
118 Stained, decayed
119 False
120 Missing
121 Gaps
122 Chipped
123 Good

CHIN
124 Round
125 Square
126 Pointed
127 Jutting
128 Receding
129 Cleft
130 Double
131 Other _____

EARS
132 Protruding
133 Close to head
134 Large
135 Small
136 Cauliflower
137 Normal

NOSE
138 Broken, crooked
139 Broad
140 Flat
141 Hooked, bulged
142 Large
143 Small
144 Long
145 Thin
146 Pointed
147 Straight
148 Upturned, pug
149 Other_____

MUSTACHE
150 Beard
151 Goatee
152 Mustache, heavy
153 Mustache, medium
154 Mustache, thin-light
155 Mustache, Chinese
156 None

AMPUTATIONS
157 Arm, left
158 Arm, right
159 Ear (s)
160 Fingers, left
161 Fingers, right
162 Foot, left
163 Foot, right
164 Hand, left
165 Hand, right
166 Leg, left
167 Leg, right
168 None

DEFORMITIES
169 Bow-legged
170 Hunchback
171 Crippled arm, left
172 Crippled arm, right
173 Crippled fingers
174 Crippled hand
175 Crippled leg (limp)
176 Other_____
177 None

TATTOOS
178 Arm, left
179 Arm, right
180 Chest, neck
181 Fingers, left
182 Fingers, right
183 Hand, left
184 Hand, right
185 Other_____
186 None

TYPE OF TATTOO
187 Initials
188 Names
189 Words Phrases
190 Pictures
191 Designs
192 Pachuco
193 Numbers
194 Other _____
195 None

PLEASE ATTACH PHOTO

DATE OF REPORT	OFFICER MAKING REPORT
DEPARTMENT SUBMITTING REPORT	

Figure 14 MICHIGAN STATE POLICE SEX CRIME REPORT FORM (FRONT)

VICTIM'S NAME	AGE	RACE		SEX	RELATIONSHIP TO ACCUSED

Draw line through appropriate number (Mark at least one number in each box)

CRIME-Including attempts
401 Rape (Common Law)
402 Rape (Statutory)
403 Incest
404 Gross Indecency-between males
405 Gross Indecency-between females
406 Gross Indecency-male & female
407 Sodomy-humans
408 Sodomy-W/animals
409 Indecent exposure
410 Indecent liberties
411 Contributing to Delinquency/minor
412 Other_____

WEARS
413 Neat
414 Well Dressed
415 Flashy Clothing
416 Rough
417 Uniform (Military-Chauf. etc.)
418 Cloth or Hankie over Face
419 Hood
420 Mask
421 Held Hand Over Face
422 Head Cloth or Rag
423 Silk Stocking Mask
424 Any Other Disguise_____
425 Ear Rings
426 Sun Glasses
427 Rings
428 Gloves
429 Cap (Base Ball, etc.)
430 Hat
431 Female attire
432 Other_____

APPROACH-to victim
433 Ask victim to help find dog, books, etc.
434 Admitted to victims home as salesman, etc.
435 Answers ads
436 Asks for info, directions, etc.
437 Breaking and Entering
438 Claims to be police officer, etc.
439 Claims to be sent by parents
440 Enters victims home after knocking
441 Follows victim to lobby, elevator
442 Follows-sneaks up from behind
443 From concealment-bushes, alley, parked cars, etc.
444 Loiters in area
445 Meets victim at party, bar, etc.
446 Offers job
447 Offers gift/or money
448 Offers assistance
449 Pretext of medical treatment
450 Pretext of utility, tradesman, etc
451 Ringing door bell
452 Requests assistance
453 Sits near (bus, theatre, home, etc.)
454 Victim lured to thugs home, business
455 Robbery
456 Baby Sitter
457 Knocks on window
458 Writes notes (messages)
459 Friendly approach, then exposes or grabs
460 Other_____

VEHICLE INVOLVED
461 After victim puts car in garage or parking area
462 Demands transportation after crime
463 Forces victim into assailants car
464 Forces victim into own car
465 Forces victim to lie, (sit) on floor or seat of car
466 Follows victims car
467 Hides in victims car
468 Hitch-hiker (thug)
469 Jumps into victims car
470 Exposes from car
471 Parks car and follows on foot
472 Lures victim to/or into his car (to see pet, privates, etc.)
473 Carries victim to car
474 Assaults victim in car
475 Stops victims car on highway-pretext of car trouble
476 Tells victim car is sparking, etc.
477 Other_____

CHARACTERISTICS OF ASSAILANT
478 Abnormal genitals
479 Grins, stares, leers
480 Hands stained, greasy, dirty
481 Fingernails, long
482 Fingernails bitten close
483 Handsome
484 Has accomplice
485 Jostles women
486 Left handed
487 Laughs at victim
488 Mentally disturbed or retarded
489 Narcotic user
490 Obscene pictures, shows, possession
491 Removed all clothing (own)
492 Ransack house
493 Rips/cuts telephone
494 Smells (body odor, greasy, etc.)
495 Offers victim liquor, beer, etc.
496 Had been drinking (intoxicated)
497 Voice deep
498 Voice high pitched
499 Voice Raspy
500 Other_____

CONVERSATION OF ASSAILANT
501 Apologizes
502 Asks victim to meet again
503 Abusive language to victim
504 Demands money
505 Demands jewelry
506 States has been in prison or jail
507 States has raped or murdered
508 Obscene language during crime
509 Polite
510 Reveals racial hostility
511 States he will return returns
512 Talkative
513 Threatens to harm victims children, family, etc.
514 Silent-makes no comment
515 Asks victim about sex experiences
516 Order victim to be quiet
517 Other_____

TREATMENT OF VICTIM
518 Assault & Battery to Breasts
519 Assault & Battery to Buttocks
520 Assault & Battery-Sex Intent
521 Cuts clothing of victim
522 Covers victims head, blanket, etc.
523 Forces victim into concealment
524 Grabs with hand over mouth
525 Rips/tears clothing of victim
526 Removes victims clothing
527 Sadist-Beats victim
528 Torture-any form
529 Victim beaten with fists
530 Victim beaten with weapon
531 Victim blindfolded
532 Victim gagged
533 Victim shot
534 Victim tied, bound, taped
535 Victim grabbed around neck-choked
536 Victim kidnapped
537 Victim stabbed
538 Victim thrown to ground floor
539 Other_____

SEX ACTS
540 Bites
541 Forces victim to masturbate thug
542 Forces victim to distrobe thug
543 Fondles, sucks breast
544 Intercourse-canine position
545 Inserts finger in vagina
546 Inserts object in vagina
547 Inserts foreign object in rectum
548 Kisses
549 Lifts or raises women's clothing
550 Licks victim
551 Masturbates
552 Oral perversion on victim
553 Places victim on lap
554 Plays with victim's privates
555 Places privates between victim's legs
556 Rubs privates against victim
557 Requests help in accomplishing sex acts
558 Shows-uses contraceptive
559 Uses lubricant on victim
560 Victim forced to commit oral perversion
561 Unable to achieve erection
562 Cries during/after offense
563 Lies on top of victim
564 Other_____

Please send this report and all related correspondence to:

CONFIDENTIAL REPORT FILES UNIT
MODUS OPERANDI SECTION
MICHIGAN STATE POLICE
EAST LANSING, MICHIGAN 48823

DETAILS OF OFFENSE

Figure 15 MICHIGAN STATE POLICE SEX CRIME REPORT FORM (REVERSE)

4. The New Orleans Police Department's M. O. System

In April of 1968, the New Orleans Police Department implemented a computerized Modus Operandi file. At that time robbery was the only crime category included in the system, with plans to expand the system to include M. O. data for burglary and rape. By June of 1970 a file of 20,000 records was developed, containing mainly personal appearance data (see Figure 16).

The key point regarding this system is that while it is quite similar to the Detroit and Kansas City M. O. systems, it is not fully implemented. The current availability of only personal appearance data and the small amount of M. O. data appears to have impacted operational effectiveness. Even though the file is divided into eight geographic districts, the system quite often generates 50 to 75 suspects on each search. It has been shown in previous studies (e. g., Zavala, 1970) that this is an unreasonably large number of suspects for witnesses to make accurate identifications.

Another factor influencing the utility of the system is the fact that Programming and Computer support are off premises and shared with other government offices. One consequence of this relationship appears to be that M. O. searches are made primarily for spectacular crimes and frequently as a last resort. However, the file data is restricted to robberies and mostly personal appearance data, which means only limited success on hits.

5. The St. Louis Metropolitan Police Department's Field Interview Report System (FIRS)

The St. Louis FIR system is a fully automated computer based information system containing data about individuals which can be accessed or searched by one or a combination of descriptive items.

The system was analyzed because preliminary indications were that several features of this system might have an applicability or transferability to the design of an M. O. system. Among these features were: 1) reporting techniques; 2) inquiry techniques; 3) geographic file organization; 4) file maintenance and purge criteria; 5) training; and, 6) support.

'LEANS POLICE DEPARTMENT
FIELD REPORT

ROBBERY MODUS OPERANDI

RETREIVAL ☐
(CHECK FOR FILE SEARCH ONLY)

Offense _____ ☐ Date of Offense _____ (MO. DAY YEAR) ☐ Item _____

Day of Week _____ ☐ (1-7) Time of Offense _____ ☐ (1-24) District _____ Zone _____

Object of Attack _____ ☐ Vehicle Make _____ ☐

What Taken 1. _____ ☐ Body Style _____ ☐

2. _____ ☐ Vehicle Color (Top) _____ ☐

3. _____ ☐ Vehicle Color (Bottom) _____ ☐

Weapon Used _____ Name of Victim _____

_____ ☐ Address _____

(DO NOT WRITE IN BLOCKS - DATA PROCESSING CODING USE ONLY)

SEX
500 Female
501 Male

COLOR
502 Indian
503 Mexican
504 Negro
505 Oriental
506 White
507 Other

CLOSEST ESTIMATED

AGE_____

COMPLEXION
514 Olive
515 Light, fair
516 Mulatto
517 Negro, lt. brown
518 Negro, med. brown
519 Negro, dk. brown
520 Ruddy
521 Sallow

EYE COLOR
522 Maroon
523 Blue
524 Brown
525 Gray
526 Hazel
527 Green

EYE DEFECTS
528 Bulging
529 Cast, left eye
530 Cast, right eye
531 Cataracts
532 Crossed
533 Different colors
534 Eye missing
535 Squints or blinks
536 Slanted

HAIR COLOR
537 Black
538 Blonde
539 Brown
540 Brown, light
541 Dyed
542 Gray
543 Gray, partially
544 Red
545 White
546 Auburn

HAIR TYPE
547 Bald
548 Bald, partially
549 Bushy
550 Crew cut
551 Curly
552 Beatnik, etc.
553 Kinky
554 Processed
555 Straight
556 Thin or receding
557 Wavy
558 Long

TEETH
559 False
560 Gaps
561 Gold
562 Good
563 Irregular
564 Missing, lower
565 Missing, upper
566 Protruding
567 Stained, decayed
568 Chipped

SPEECH (During Crime)
569 Foreign/broken, Cajun
570 Lisps
571 Mexican or Spanish
572 Mumbles or impediment
573 Rapid
574 Northern
575 Local
576 Southern
577 Stutters
578 Vulgar or profane

MOUSTACHE, BEARD, ETC.
579 Beard
580 Eyebrows, heavy/bushy
581 Goatee
582 Moustache, heavy
583 Moustache, medium
584 Moustache, thin or light
585 Moustache, Chinese
586 Sideburns
587 Unshaven

FACIAL SCARS
588 Cheek, left
589 Cheek, right
590 Chin
591 Ear, left
592 Ear, right
593 Eyebrow, or left eye area
594 Eyebrow, or right eye area
595 Forehead
596 Hare-lip
597 Lip, lower
598 Lip, upper
599 Nose
600 Pierced earlobes

FACIAL ODDITIES
601 Birthmark/s
602 Chin, protruding
603 Chin, receding
604 Freckles
605 Lips, thick
606 Lips, thin
607 Moles
608 Pimples
609 Pockmarks
610 Hollow cheeked

NOSE
611 Broken, crooked
612 Broad
613 Flat
614 Hooked
615 Large
616 Long
617 Small
618 Thin
619 Upturned

HEIGHT
620 Very short — Under 5/2
621 Short — 5/2 - 5/6
622 Medium — 5/7 - 5/9
623 Tall — 5/10 - 6/1
624 Very tall — 6/2 - Over

CLOSEST ESTIMATED

HEIGHT _____

WEIGHT _____

BUILD
625 Thin
626 Very thin
627 Medium
628 Muscular
629 Heavy, stocky
630 Very heavy

BODY SCARS
631 Arm, left
632 Arm, right
633 Chest
634 Hand, left
635 Hand, right
636 Neck
637 Wrist, left
638 Wrist, right

AMPUTATIONS
639 Arm, left
640 Arm, right
641 Ear/s
642 Finger/s, left hand
643 Finger/s, right hand
644 Foot, left
645 Foot, right
646 Hand, left
647 Hand, right
648 Leg, left
649 Leg, right

DEFORMITIES
650 Bow-legged
651 Cauliflower ears
652 Crippled arm, left
653 Crippled arm, right
654 Crippled finger/s
655 Crippled hand/s
656 Crippled leg, left, limps
657 Crippled leg, right, limps

TATOOS
658 Arm, left
659 Arm, right
660 Chest or neck
661 Fingers, left
662 Fingers, right
663 Hand, left
664 Hand, right
665 Face

TYPE OF TATTOO
666 Initials
667 Names
668 Words/Phrases
669 Pictures
670 Designs (Pachuco, Flag, etc.)

EARS (Shape)
671 Protruding (Taxi-Cab Ears)
672 Large
673 Small
674 Average

FACE (Shape)
676 Thin or Triangular
677 Round or Broad
678 Long
679 High cheek bones
680 Caucasian Features

MISCELLANEOUS
Add any additional physical characteristic in this space

Name _____

B of I _____

_____

(Attach Modus Operandi Form to Original Offense Report - Record Room Copy)

Figure 16 NEW ORLEANS POLICE DEPARTMENT'S ROBBERY M.O. FORM

The FIR system in actuality is a broad based information system covering persons of interest regardless of crime which uses aspects of various sets of data including personal appearance, Modus Operandi, suspect's name, partial plate, and vehicle data. Inquiry via remote terminal can be made using any one or a combination of data elements which produces readable output for the investigator's use at the inquiry site. Searches are made using the nine geographic areas of the city known as Pauly Blocks (see Figures 17 and 18).

In addition to data about individuals this system also provides the linking of individuals who are associated with one another (i.e., members of a gang). Significant aspects of the FIR system are:

1. Entries are initiated by officers on the street when they observe suspicious persons.
2. Record retention in the on-line portion of the file is limited to maintaining a relatively small file which provides rapid response to investigator inquiries.
3. The benefits gained from a fully automated system with on-line terminals were obvious.
4. Also discussions on geographic organization, training, and support were readily applicable to an M.O. system.

6. The Washington, D.C. Metropolitan Police Department's M.O. System

The Washington Metropolitan Police Department implemented a manual M.O. system designed around the use of lifesize color slides. Another key factor in that system was the use of many different crime classes (18 different types) as compared to robbery, sex crimes, or burglary usually found in other police departments.

The total M.O. system contained a combination of M.O., P.A., and fingerprint data in addition to the color slides. The slides were maintained by crime type; while system searches could be made on a specific area of the city. This arrangement contributed to a significant number of hits.

FIELD INTERVIEW CHECK SHEET

GROUP CHECK

/CHECK FIR:QY

1: PAULY SECTION: _____ SEE NOTE 1

2: PAULY BLOCK: _____ MAXIMUM OF 5 PAULY BLOCKS - SEE NOTES 1 & 2

5: TYPE: GROUP

8: DATE: ___ / ___ / ___ MONTH DAY YEAR MAXIMUM OF 7 DATES - SEE NOTE 2

9: RACE: _____

10: SEX: _____

15: ARREST: _____ SEE NOTE 2

16: AVERAGE AGE: _____ MAXIMUM RANGE OF 3 YEARS (EX. 15-17)

17: GROUP SIZE: _____ MAXIMUM RANGE OF 3 PERSONS (EX. 3-5)

QX

RACE

N (Negro)
W (White)
O (Other)
X (Mixed)

SEX

M (Male)
F (Female)
X (Mixed)

ARREST

Homicide
Rape
Robbery
Assault
Burglary
Larceny
Auto Theft
Vandalism
Other

1. Check can be made for either a whole Pauly Section or for particular Pauly Blocks...NOT BOTH.
2. When checking an item where more than one descriptor is allowed, a comma must separate each (Ex. PAULY BLOCK: 544, 545,806,807 or ARREST: RAPE,ROBBERY,ASSAULT or DATE: 01/05/68,01/12/68,01/19/68).

FIR NUMBER CHECK

/CHECK FIR:QY

2: PAULY BLOCK: _____

3: FIR: _____ ALL 6 CHARACTERS (INCLUDING LEADING ZEROES) MUST BE INDICATED

QX

GROUP NUMBER CHECK

/CHECK FIR:QY

4: GROUP: _____ ALL 6 CHARACTERS (INCLUDING LEADING ZEROES) MUST BE INDICATED

QX

_____
REQUESTING OFFICER

Figure 17 ST. LOUIS POLICE DEPARTMENT'S FIELD INTERVIEW REPORT FORM (FRONT)

METROPOLITAN POLICE DEPARTMENT - CITY OF ST. LOUIS
FIELD INTERVIEW CHECK SHEET

INDIVIDUAL CHECK

/CHECK FIR:_____QY

1: PAULY SECTION:_____ SEE NOTE 1

2: PAULY BLOCK:_____ MAXIMUM OF 5 PAULY BLOCKS - SEE NOTES 1 & 2

5: TYPE: INDIV

6: NAME:_____ LAST NAME FIRST NAME SEE NOTE 2

7: NICKNAME:_____ SEE NOTE 3

8: DATE: / / MONTH DAY YEAR A MAXIMUM OF 7 DATES - SEE NOTE 2

9: RACE:_____

10: SEX:_____

11: AGE:_____ MAXIMUM RANGE 10 YEARS (EX. 21-30)

12: SCAR:_____ SEE NOTE 2

13: TATTOO:_____ SEE NOTE 2

14: AMPUTATION: (Deformites)_____ SEE NOTE 2

15: ARREST:_____ SEE NOTE 2

18: LICENSE: [ ][ ][ ][ ][ ][ ][ ][ ] SEE NOTE 4

19: YEAR:_____ MAXIMUM RANGE 3 YEARS (EX. 61-63)

20: MAKE:_____ FULL SPELLING MUST BE USED (EX. CHEVROLET)

21: COLOR:_____ SEE NOTE 5

QX

RACE
- N (Negro)
- W (White)
- O (Other)

SCAR
- Lip
- Forehead
- Nose
- Cheek
- Ear
- Chin
- Arm
- Hand

TATTOO
- Arm
- Fingers
- Neck
- Hand
- Chest
- Leg

AMPUTATION & DEFORMITIES
- Arm
- Hand
- Fingers
- Leg
- Foot
- Ear

ARREST
- Homicide
- Rape
- Robbery
- Assault
- Burglary
- Larceny
- Auto Theft
- Vandalism
- Other

AUTO COLORS
- Beige
- Black
- Blue
- Brown
- Gold
- Gray
- Green
- Ivory
- Maroon
- Orange
- Pink
- Purple
- Red
- White
- Yellow

1. Check can be made for either a whole Pauly Section or for particular Pauly Blocks...NOT BOTH.
2. When checking an item where more than one descriptor is allowed, a comma must separate each (Ex. PAULY BLOCK: 544, 545,806,807 or ARREST: RAPE,ROBBERY,ASSAULT or DATE: 01/05/68,01/12/68,01/19/68).
3. Either the scan Name or Nickname can be checked, but not both. However a nickname may be used in place of the first name (Ex. NAME: HENDERSON,FATBOY). The response will indicate any person on file whose last name is HENDERSON who has a nickname of FATBOY.
4. If a full license is checked - place the license number in the required number of boxes and leave the trailing boxes blank (Ex. [A][B][6][3][7][2][ ][ ]). See instruction manual for partial license checks.
5. To check a single color, place only that color in the space provided: (Ex. COLOR: GREEN). To check a combination of colors, place a slash (/) between the colors (Ex. COLOR: GREEN/WHITE). See instruction manual for checking the file when only one color is known of a two tone car.

MPD Form 200-132

_____ REQUESTING OFFICER

Figure 18 ST. LOUIS POLICE DEPARTMENT'S FIELD INTERVIEW REPORT FORM (REVERSE)

The M. O. system of the Washington Metropolitan Police Department was abandoned when space and personnel had to be allocated to other functions during a period of intense growth of the Department. While the value of a computerized system is obvious, even a manual system is not without value. As indicated, personnel, space, and equipment are vital factors in the success of any system.

7. Review and Implications

Information about M. O. systems was obtained from the police departments of Detroit; Kansas City; the State of Michigan; New Orleans; St. Louis; and, Washington, D. C. Most of the currently operating computerized systems have been adapted from Detroit's system. Also, in many of these systems personal appearance data is included along with M. O. data. In some systems, P. A. data is emphasized, with little or no specific distinction made between M. O. and P. A. data, or with an operational definition of P. A. although being labelled M. O.

The finding that several departments are successfully using an M. O. system attests to the viability of such a system as an identification tool. Some departments emphasized certain types of data for their systems. In most of these cases, it was P. A. data rather than M. O. data that was emphasized. In a later section of this report, some information is considered which impinges on the question of which combination of data (M. O., P. A., and latent prints) might be optimal for an identification system.

It could also be seen from the previous sections of this report that almost every crime category could be included in an M. O. system. The primary crime categories among them include Burglary, Robbery and Sex Crimes. Additional data is presented in a later section which touches upon which crime categories would best be included in an M. O. system.

Reason for success. The major ingredients leading to the success of a system were support from superiors in the department and support of the system from users (officers in the field) and operators of the system. Support from upper echelon personnel clearly establishes an environment that is conducive to the success of any endeavor.

Support of officers in the field, however, posed a different problem because new systems point to new ways of doing things. These new ways of doing things are often resisted by veterans in an organization. For an M. O. system, the support of officers in the field is imperative if current information is to be fed to the system, and if output requests are to be made. Methods of obtaining support included the following: 1) establishing regulations or policies requiring officers to submit needed data; 2) persuasion; 3) incorporating needed data items onto traditionally used and required reporting forms; 4) dissemination of instances of successful use of the system, giving full credit to relevant officers on the case; and, 5) training incoming officers and explaining the operation and utility of the system to them.

In some instances, operators of the system might include veteran officers brought in from the field. The attitudes of these officers, if negative toward the value of the system, could influence its success. However, it was found that officers usually learned through direct experience with the system, and their attitudes--if not already positive--changed in that direction over time. Manning the system with progressive officers or with civilian system and computer personnel was a frequent practice among the departments visited. This appeared to be an effective approach toward ensuring high positive motivation on the part of the operators of the system. In fact, high motivation by operators in at least one instance influenced part of the favorable reactions by officers in the field. There, when officers responsible for the system noticed a difficult case still open, or noticed a case particularly suited for an M. O. search, the operators (officers) initiated the search on their own and made a gift of the results to the investigating officer. When successful, due credit was always given to that investigating officer.

System Limitations. One system was abandoned for several reasons, including lack of space, lack of personnel, lack of funds, and difficulties in maintaining updated files. Lack of space was particularly encumbering for manual and semi-automatic systems because the data itself occupies large amounts of space in a manual system. Also, when sufficient personnel cannot be assigned to staff the system, it falls into disuse. Manual systems are easy to update when data files are small. As these files grow, updating them

becomes more and more difficult. Thus, the success of a system can lead to the growth of its files; but file growth eventually can lead to the demise of the system. Factors leading to the disuse of a system apply primarily to manual systems. It is, therefore, apparent that a computerized system is necessary as a minimum to save on space and file maintenance work. Also, any such system, manual or computerized, if available only from 8:00 am to 4:00 pm would fall into disuse.

It can be seen from this and the immediately preceeding section that space, personnel, file updating, and support for the system are necessary ingredients for the success of an M. O. system. These are in addition to efficient storage and retrieval organization, plus 24-hour access and ease of use.

B. Quantitative Information

Part A (Qualitative Information) of the survey dealt with operational aspects of M. O. information systems. The objective of this part of the survey is to examine numerical M. O. data that was obtained from some of the police departments that were contacted. The examination of that data was completed to obtain additional information useful for answering the three questions raised earlier (p. I-1). Data were obtained and analyzed from Detroit, Kansas City, and the State of Michigan. These are covered in turn.

1. Detroit's Data

A total of 13,615 records (5828 for burglary, 6324 for robbery, and 1463 for sex crimes) were obtained from Detroit on magnetic tape. To have a clear understanding of which items of data are most useful, it is helpful to know which items occur more frequently. To this end, a count was made of the number of times an item was marked for each of the major crime categories, Burglary, Robbery, and Sex. The tables that follow show only those items with the highest frequency counts. Therefore, item counts do not always add up to the total for that category (see page II-39 for additional observations regarding the tables that follow).

Complete data tabulations can be obtained by those who are interested. Requests may be made to CAL through NYSIIS. It should be pointed out that such tabulations would in no instance include specific names or identification numbers of suspects. A nominal charge to cover the cost of the computer run would be made for each tabulation.

TABLE 1

Counts of Frequently Used Items On
Detroit's Burglary M.O. Forms (Total Records, 5828)

3862* OBJECT OF ATTACK

401	Grocery
393	Bar
302	Gas Station
169	Cleaners
154	Drug Store
134	Restaurant
130	Beer/Party Store
114	Factory
105	Clothing Store-Men's
105	Dairy/Milk Depot

7 INDIVIDUAL

2	Insurance
2	Newsboy
2	Rent Collector

1949 RESIDENCE

1494	Single Family, Pvt.
331	Apartment

2 TRANSPORTATION

1	Boat
1	Bus

7693** WHAT TAKEN

1420	Money
764	Television
711	Radios
619	Clothing
433	Liquor
392	Cigarettes
318	Jewelry
383	Household goods
280	Business Machines
232	Watches
213	Firearms
209	Foodstuffs

122 WEAPONS

41	Screwdriver
35	Tire Iron
9	Hammer
6	Axe
6	Brick, etc.

11 GUNS

4	Revolver, B.S.**
3	Automatic, B.S.

1357 CARS

291	Ford
230	Chevrolet
171	Pontiac
151	Buick
71	Mercury
9	Foreign
7	Taxi

51 TRUCKS

18	Ford
17	Chevrolet

1345 BODY STYLE

646	Sedan, 2 dr.
298	Convertible
259	Sedan, 4 dr.

1252 COLOR, TOP

377	White, Cream
263	Black
161	Blue

* Number before each category indicates total counts for that category

** Tables show only those items with highest frequency counts. Therefore, item counts do not always add up to the total for that category.

*** B.S.: Blue Steel.

TABLE 1 (continued)

1153 COLOR, BOTTOM

227	White, Cream
207	Blue
168	Black
137	Red-Maroon
127	Green

5823 SEX

5730	Male
93	Female

5808 COLOR

4107	Negro
1627	White

56 ESTIMATED AGE

23	17-25
15	36-45
13	26-35

5833 COMPLEXION

1776	Negro, Med. Brown
1678	Negro, Dark Brown
779	Medium
651	Light, Fair
478	Negro, Light Brown

5794 EYE COLOR

4512	Brown
683	Blue
276	Hazel
228	Black
70	Green
25	Gray

404 EYE DEFECTS

190	Bulging
107	Squints or blinks

5952 HAIR COLOR

4294	Black
919	Brown
239	Light Brown
233	Blonde
104	Partially Gray

7001 HAIR TYPE

1854	Kinky
917	Processed
913	Bushy
846	Straight
784	Long
583	Crewcut, Short
412	Wavy
286	Curly

5596 TEETH

5124	Good
386	Stained, Decayed
351	Missing, Upper
221	False

3397 SPEECH (DURING CRIME)

1914	Soft, Low
920	Southern
164	Refined
151	Rapid

3814 MOUSTACHE, BEARD, ETC.

1326	Moustache, Medium
923	Moustache, Thin
439	Moustache, Heavy
373	Goatee
299	Unshaven
271	Sideburns

2118 FACIAL SCARS

591	Forehead
347	Eyebrow, Left
247	Lip, Upper
258	Eyebrow, Right
209	Cheek, Right
162	Nose
120	Chin

2554 FACIAL ODDITIES

1058	Lips, Thick
448	Pimples
273	Pockmarks
211	Lips, Thin

TABLE 1 (continued)

4817 NOSE

2654	Broad	
482	Flat	
411	Small	
396	Long	
344	Large	
316	Thin	

5806 HEIGHT

2244	Tall	5/10-6/1
2223	Medium	5/7-5/9
880	Short	5/2-5/6
398	Very Tall	6/2-over

5839 BUILD

2883	Medium
2089	Thin
439	Muscular
302	Heavy, Stocky

2408 BODY SCARS

619	Arm, Left
574	Arm, Right
351	Hand, Right
301	Hand, Left

57 AMPUTATIONS

21	Fingers, Left Hand
17	Fingers, Right Hand

54 DEFORMITIES

12	Crippled, Left Leg Limb
12	Crippled, Right Leg Limb
10	Crippled Fingers

1153 TATTOOS

511	Arm, Left
455	Arm, Right

1154 TYPE OF TATTOO

324	Names
288	Pictures
215	Initials
212	Designs
115	Words, Phrases

1281 EARS

510	Small
447	Close to Head
201	Large
123	Protruding

2126 FACE SHAPE

703	Thin
688	Round
467	Long

5805 TIME OF ATTACK

2876	Midnight-Sunrise
1696	Sunset-Midnight
1171	Sunrise-Sunset

6336 ENTRY

1586	Door, Front
1090	Door, Rear
717	Door, Side
219	Roof
100	Adjacent Building

6669 HOW ATTACKED

2306	Glass, Broken
681	Glass, Broke, Reaches in
545	Lock Pried or Jimmied
207	Lock, Broken
174	Glass, Removed

5255 MEANS

1190	Bodily Force
799	Screwdriver
766	Brick, Rock, etc.
668	Jimmmy Bar/Crowbar
533	Tools Brought
270	Tire Iron
243	Hammer or Sledge
198	Key

TABLE 1 (continued)

10717 TRADEMARKS

2881	Accomplice or accomplices
1040	Ransacks
831	Messy Burglar
551	Selective Burglar
499	Vehicle Taken or Used
477	Gloves, Socks Used
405	Pre-entry/cases
391	Victim is bus.owner/ merchant
328	Determine if victim is home, phones
323	Exit Prepared
310	Vending machines attacked

2052 DEFENDANT

583	Had been drinking
512	Narcotic User
382	Is Parolee
306	Says he is ex-convict
203	Was Lookout

1349 EVIDENCE

1007	Tools
213	Fingerprints, Identifiable

261 SAFE BURGLARIES

139	Safe Burglary
115	Safe Burglary, Attempt

222 TYPE OF SAFE

132	Burglar Resistant, Square Door
25	Money Chest w/in Safe

482 MEANS SAFE ATTACKED

112	Hammer or Sledge
101	Pry Bar
90	Tools Brought
51	Pinch or Drift Pin

195 COMBINATION ATTACKED

102	Knocked Off
34	Spindle Punched
25	Chiseled Off

319 HOW SAFE ATTACKED

108	Rips, Pry, or Peel
69	Pounds or Chops

198 TRADEMARKS

91	Removes Safe (carry out)
41	Attacks Hinges
27	Attacks Handle
27	Safe Moved from original position

TABLE 2

Counts of Frequently Used Items On
Detroit's Robbery M.O. Forms (Total Records, 6324)

2943	OBJECT OF ATTACK	
	439	Bar
	421	Gas Station
	380	Grocery
	301	Beer/Party Store
	211	Drug Store
	125	Restaurant
2926	INDIVIDUAL	
	2152	Citizen, Male
	684	Citizen, Female
254	RESIDENCE	
	194	Single Family Residence
	46	Apartment
193	TRANSPORTATION	
	168	Taxi
	13	Bus
8337	WHAT TAKEN	
	4992	Money
	733	Wallet
	520	Purses
	425	Watches
	235	Clothing
	228	Jewelry
	172	Firearms
	130	Liquor
	112	Radios
1498	WEAPONS	
	428	Knife, Other
	366	Knife, Pocket
2952	GUNS	
	1022	Revolver, B.S.
	544	Automatic, B.S
	352	Revolver, N.P.* or Chrome
	145	Shotgun, B.S. Double Barrel
	131	Toy Gun

*N.P.: Nickel Plate

1683	CARS	
	382	Ford
	344	Chevrolet
	197	Buick
	168	Pontiac
	120	Oldsmobile
	91	Cadillac
	63	Mercury
	22	Taxi
	21	Foreign
27	TRUCKS	
	16	Volkswagen
1576	BODY STYLE	
	740	Sedan, 2 dr.
	420	Convertible
	298	Sedan, 4 dr.
1540	COLOR, TOP	
	461	White, Cream
	360	Black
	225	Blue
	116	Red-Maroon
	115	Green
1423	COLOR, BOTTOM	
	285	White, Cream
	258	Blue
	192	Red-Maroon
	184	Black
	154	Green
6320	SEX	
	6061	Male
	259	Female
6299	COLOR	
	4801	Negro
	1418	White

TABLE 2 (continued)

42 ESTIMATED AGE

23	17-25
12	26-35
5	36-45

6345 COMPLEXION

2182	Negro, Med. Brown
1791	Negro, Dark Brown
768	Medium
643	Negro, Lt. Brown
497	Light, Fair
222	Ruddy
187	Dark, Swarthy

6280 EYE COLOR

5131	Brown
519	Blue
266	Hazel
213	Black
65	Green
26	Gray

461 EYE DEFECTS

189	Bulging
100	Slanted
91	Squints or Blinks

6482 HAIR COLOR

4871	Black
901	Brown
204	Brown, Light
176	Blonde
116	Red
111	Gray, Partially

7388 HAIR TYPE

1925	Kinky
1169	Processed
913	Bushy
768	Long
720	Straight
667	Crew Cut, Very Short
455	Wavy
286	Curly

5749 TEETH

3764	Good
567	Stained, Decayed
389	Missing, Upper
290	Irregular

3717 SPEECH (DURING CRIME)

1906	Soft or Low
576	Southern
223	Vulgar or Profane
222	Rapid
182	Refined
102	Mumbles or Impediment

4095 MOUSTACHE, BEARD, ETC.

1467	Moustache, Medium
1117	Moustache, Thin, Light
496	Goatee
425	Moustache, Heavy
215	Sideburns
203	Unshaven

2523 FACIAL SCARS

622	Forehead
412	Eyebrow, Left Area
338	Cheek, Left
336	Eyebrow, Right Area
274	Cheek, Right
224	Nose

2869 FACIAL ODDITIES

1172	Lips, Thick
432	Pimples
343	Pockmarks
229	Lips, Thin

4830 NOSE

2673	Broad
533	Flat
395	Small
370	Long
350	Large
293	Thin

TABLE 2 (continued)

6333 HEIGHT

2570	Tall	5/10-6/1
2311	Medium	5/7-5/9
868	Short	5/2-5/6
518	Very Tall	6/2-over

6367 BUILD

3086	Medium
2068	Thin
560	Muscular
471	Heavy, Stocky

2364 BODY SCARS

576	Arm, Left
543	Arm, Right
315	Hand, Left
315	Hand, Right

84 AMPUTATIONS

24	Fingers, Left Hand
17	Fingers, Right Hand

73 DEFORMITIES

18	Crippled Finger(s)
13	Crippled Leg, Left
10	Bowlegged

1234 TATTOOS

523	Arm, Left
468	Arm, Right

1221 TYPE OF TATTOO

368	Names
311	Pictures
216	Designs
213	Initials
113	Words, Phrases

1374 EARS

539	Close to Head
470	Small
192	Protruding
173	Large

2283 FACE SHAPE

749	Round
624	Thin
678	Long

3408 ENTRY

3053	Door, Front
209	Door, Side or Rear

3120 EXIT

2719	Door, Front
287	Door, Rear

2085 WEARS

339	Sloppy, Unkempt
328	Male Attire
221	Sunglasses
200	Flashy Clothing

2174 PRETENDS TO BE

1512	Customer
187	Shopping
111	Seeking Friend, Relative

1963 ASKS FOR

230	Beer, Wine (Brand)
196	Cigarettes (to purchase)
187	Food, Meats, etc.
167	Service, Miscellaneous
159	Information
111	Change
105	Gas, Oil, Air, etc.
104	Whiskey

5864 WEAPON

1884	Held in Right Hand
1668	Points Weapon at Victim
1104	Shown to Victim
295	Keeps Hand in Pocket
258	From Belt

TABLE 2 (continued)

2918 VEHICLE INVOLVED

1804	Escapes in Auto
181	Uses Stolen Auto
138	Jumps into Victim's Auto
115	Escapes in Taxi, Bus
106	Abandons getaway vehicle

175 SEX

46	Kisses, Fondles Victim
46	Rapes
23	Lifts, Raises Women's Clothing
20	Commits Oral Perversion
20	Attempts One of Above

2310 DEFENDANT

641	Is Parolee
533	Had been drinking
415	Narcotic User
196	Was Lookout
160	Says he is ex-convict

360 EVIDENCE

181	Spent Slug or Shell
106	Fingerprints, Identifiable
73	Note Recovered

5064 ACCOMPLICES

2271	One
1368	Two
568	Three
340	Four or More
275	Are in Vehicle
161	Female

17405 TRADEMARKS

3374	Approach on Foot
1370	Assaults Victim Bodily
921	Removes money from cash register, box
920	Victim(s) searched
873	Attacks from behind
648	Forces Victim to lie down
617	Assaults w/weapon
579	Forces Victim(s) to rear
474	Puts Weapon to Head or Throat
423	Loiters Inside
366	Follows Victim
361	Demands Money Put in Bag

It can be seen from the table above that "axe" as a weapon used was a relatively infrequently used item category. The infrequent use may be due to the fact that in a burglary the suspect is not often seen. Yet, items may also be used infrequently because they seldom occur (e.g., "commits oral perversion").

Also, 382 defendants indicated they were parolees, while 306 indicated they were ex-convicts. These figures suggest that some people repeat crimes and may repeat the same ones in the same manner.

The previous table also shows a low frequency of use of the estimated age category. In this instance, that low use could not be attributed to the fact that the suspect was unseen. The same will be noted in the table that follows. Items with very high frequency counts are of interest, because in some instances they are not sufficiently unique to identify suspects. For example, over fifty percent of the burglars used the door as a method of entry; in over half of the cases, glass was broken; and tools were almost always used. Also, in most robberies it was indicated that the culprit took money.

It is apparent from the tables that the notion of M.O. exists as a viable phenomenon, especially considering the frequency counts for Trademarks. There were more total Trademark items used than there were records (e.g., for Robbery there were 17,405 trademarks while there were only 6,324 Robbery records). Yet none of the Trademark items was as high as the total record count. Therefore, only some of the individuals used one or another, or a combination of the trademarks. Moreover, the counts differ for the various item categories, which indicates that M.O. must vary from one individual to another. Additional observations regarding the data on these tables appears on page II-44.

TABLE 3

Counts of Frequently Used Items On
Detroit's Sex Crime M. O. Forms (Total Records, 1463)

672	OBJECT OF ATTACK	
	17	Parking Lot
	13	Hotels
	9	Theater
	9	Schools & Public Parks
	8	Motels
	7	Cleaners
	6	Restaurant
	5	Bar
	4	Gas Station
	4	Grocery
	3	Beauty Shop
	3	Department Store
	3	Garage
1	INDIVIDUAL	
	1	Citizen, Male
788	RESIDENCE	
	484	Single Family Residence
	160	Apartment
352	WHAT TAKEN	
	220	Money
	252	Watches
	23	Purses
	18	Clothing
	17	Jewelry
1012	WEAPONS	
	194	Knife, Other
	49	Knife, Pocket
	38	Knife, Butcher
	17	Club, Bat, Stick
	17	Sharp Instrument
135	GUNS	
	67	Revolver, B.S.
	14	Automatic, B.S.
	12	Toy Gun
	11	Revolver, N.P. or Chrome
257	CARS	
	53	Ford
	47	Chevrolet
	31	Oldsmobile
	30	Pontiac
	20	Buick
	20	Cadillac
	4	Taxi
	3	Foreign
5	TRUCKS	
	2	Dodge
	1	Ford
	1	Studebaker
211	BODY STYLE	
	110	Sedan, 2 dr.
	48	Convertible
	36	Sedan, 4 dr.
249	COLOR, TOP	
	68	Black
	68	White, Cream
	33	Lt. Green
	20	Red-Maroon
240	COLOR, BOTTOM	
	56	White, Cream
	41	Blue
	34	Red-Maroon
	27	Black
	21	Green
1461	SEX	
	1457	Male
	4	Female
1461	COLOR	
	1059	Negro
	380	White

TABLE 3 (continued)

2 ESTIMATED AGE

1	26-35
1	56-65

1463 COMPLEXION

456	Negro, Dark Brown
440	Negro, Med. Brown
171	Medium
160	Negro, Lt. Brown
128	Light, Fair

1454 EYE COLOR

1160	Brown
163	Blue
68	Hazel
39	Black
14	Gray
10	Green

105 EYE DEFECTS

34	Bulging
25	Squints or Blinks
14	Slanted

1517 HAIR COLOR

1095	Black
539	Brown
61	Gray, Partially
53	Blonde
37	Lt. Brown

1535 HAIR TYPE

393	Kinky
234	Crew Cut, Very Short
166	Processed
148	Straight
132	Long
120	Bushy
105	Curly
93	Wavy

981 TEETH

465	Good
108	Stained, Decayed
95	Missing, Upper
67	Irregular

719 SPEECH (DURING CRIME)

386	Soft or Low
86	Southern
64	Rapid
62	Vulgar or Profane

925 MOUSTACHE, BEARD, ETC.

375	Moustache, Medium
226	Moustache, Thin or Light
95	Moustache, Heavy
88	Goatee

541 FACIAL SCARS

111	Cheek, Left
105	Forehead
83	Cheek, Right
61	Nose
55	Eyebrow, Right Area
53	Eyebrow, Left Area

499 FACIAL ODDITIES

179	Lips, Thick
101	Pimples
65	Pockmarks
51	Moles

748 NOSE

408	Broad
82	Flat
65	Large
65	Long
46	Small
40	Thin

1458 HEIGHT

609	Tall	5/10-6/1
546	Medium	5/7-5/9
178	Short	5/2-5/6
120	Very Tall	6/2-over

1483 BUILD

675	Medium
403	Thin
199	Heavy, Stocky
157	Muscular

TABLE 3 (continued)

380 BODY SCARS

80	Arm, Left
76	Arm, Right
61	Hand, Right
54	Hand, Left
35	Wrist, Left
35	Wrist, Right

28 AMPUTATIONS

8	Fingers, Right Hand
6	Arm, Left
4	Arm, Right
4	Fingers, Left Hand

21 DEFORMITIES

6	Crippled Fingers
5	Crippled Leg, Left
4	Crippled Hands

194 TATTOOS

79	Arm, Left
78	Arm, Right
19	Hand, Left

199 TYPE OF TATTOO

58	Pictures
50	Names
33	Designs
31	Initials
27	Words or Phrases

359 EARS

152	Close to Head
94	Small
67	Protruding
46	Large

568 FACE SHAPE

185	Round
136	Long
88	Thin
86	High Cheek Bones

1462 TIME OF ASSAULT

532	Midnight-Sunrise
482	Sunset-Midnight
444	Sunrise-Sunset

520 WEARS

120	Sloppy Dressed
113	Well-Dressed
62	Work Uniform
51	Faddish, Flashy Clothes
50	Glasses, Regular

1466 APPROACH

219	Follows, Sneaks Up From Behind
176	Breaking & Entering
175	Victim Lured to Thug's Home, Business
160	Offers Gifts or Money
133	Offers Assistance
108	Loiters in Area
91	Meets Victim at Party or Bar
86	Enters Victim's Home After Knocking

569 VEHICLE INVOLVED

143	Lures Victim into Car
131	Forces Victim into Car
117	Forces Victim to Accompany in Vehicle
82	Forces Victim to Lie or Sit on Floor or Seat of Car

815 CHARACTERISTICS OF ASSAILANT

221	Has Accomplice
106	Removes all Clothing (Own)
71	Mentally Disturbed or Retarded
64	Narcotic User
49	Fingers, Long Nails

TABLE 3 (continued)

1336 CONVERSATION OF ASSAILANT

302	Talkative
283	Abusive Language to Victim
170	Obscene Language During Crime
159	Demands Money

2760 TREATMENT TO VICTIM

302	Victim(s) Beat with Fists
290	Grabs, Drags to Other Area
281	Forces Victim into Concealment
270	Victim Thrown to Ground or Floor
244	Assault & Battery Sex
231	Removes all of Victim's Clothing
219	Rips, Tears Clothing of Victim
175	Grabs with Hand Over Mouth
147	Victim Choked
100	Victim Grabbed Around Neck

3089 SEX ACT (ALSO ATTEMPTS)

842	Rapes
398	Lifts or Raises Women's Clothing
234	Handles Victim's Privates
206	Victim Forced to Commit Oral Perversion
186	Kisses
155	Plays with Victim's Privates
154	Fondles, Sucks Breast
149	Places Privates Between Victim's Legs
143	Rubs Privates Against Victim
105	Inserts Finger in Vagina
102	Oral Perversion on Victim

2752 VICTIM

1250	Female
861	Negro
586	White
55	Male, under 10

1423 AGE

982	14-60
348	7-13
57	0-6
36	Over 60

Frequently, checked items could be redesigned to create more distinct identifiers. For example, six types of approaches account for well over half the possibilities in sex crimes. It is also interesting that the sex criminal usually uses force and often rapes the victim--factors which are not always helpful in later identification.

Infrequently occurring items are not shown on the preceeding or on the following tables. One might think that infrequently used items should be abandoned. However, such items can and do play an important role in retrieval requests, because those items aid in individualizing a file resident. Also, it may be necessary to consider combining low count items for the sake of efficiency. In any event, it is apparent that additional study is needed in this regard.

2. Kansas City's Data

A total of 587 records (245 for burglary, 165 for robbery, and 177 for sex crimes) were obtained from the Kansas City Police. The following three tables show the frequently occurring items from these data. The discussion of Kansas City's data continues on page II-55.

TABLE 4

Counts of Frequently Used Items On
Kansas City's Burglary M. O. Forms (Total Records, 245)

127	OBJECT OF ATTACK	
	17	Bar
	9	Drug Store
	7	Gas Station
	7	Garages
	7	Schools & Public Parks
	6	Grocery
	5	2nd Hand Dealer Store
	4	Department Store
	4	Hotels
116	RESIDENCE	
	108	Single Family Residence
	8	Apartment
369	WHAT TAKEN	
	51	Money
	48	Television
	32	Jewelry
	23	Clothing
	18	Household Goods
	17	Radios
	13	Watches
	13	Tools
	12	Liquor
	11	Business Machines
3	WEAPONS	
	1	Bottle, Can Opener
	1	Knife, Pocket
	1	Pipe
47	CARS	
	12	Chevrolet
	11	Ford
	4	Pontiac
	2	Plymouth
	2	Foreign
4	TRUCKS	
	4	Chevrolet
49	BODY STYLE	
	18	Sedan, 4 dr.
	16	Sedan, 2 dr.
	4	Convertible
49	COLOR, TOP	
	20	White, Cream
	11	Blue
	3	Black
49	COLOR, BOTTOM	
	11	Blue
	10	White, Cream
	6	Brown-Tan, etc.
	5	Gray
113	SEX	
	109	Male
	4	Female
103	COMPLEXION	
	36	Medium
	18	Negro, Dark Brown
	17	Negro, Med. Brown
	13	Light, Fair
	11	Dark, Swarthy
105	EYE COLOR	
	74	Brown
	15	Blue
	8	Black
	7	Hazel

TABLE 4 (continued)

12	EYE DEFECTS	
	7	Squints or Blinks
	3	Bulging
108	HAIR COLOR	
	64	Black
	32	Brown
	6	Blonde
103	HAIR TYPE	
	22	Long
	20	Kinky
	15	Bushy
	14	Crew Cut, Very Short
	13	Straight
73	TEETH	
	32	Good
	9	Gold
	7	Gaps
	6	Missing, Upper
59	SPEECH (DURING CRIME)	
	86	Soft or Low
	5	Mumbles or Impediment
73	MOUSTACHE, BEARD, ETC.	
	17	Moustache, Thin or Light
	14	Goatee
	14	Moustache, Medium
	13	Sideburns
	11	Beard
29	FACIAL SCARS	
	9	Cheek, Left
	6	Eyebrows, Left Area
	5	Eyebrows, Right Area
37	FACIAL ODDITIES	
	10	Lips, Thick
	8	Pimples
	6	Pockmarks
	5	Lips, Thin
60	NOSE	
	25	Broad
	10	Small
	8	Long
104	HEIGHT	
	39	Medium 5/7-5/9
	39	Tall 5/10-6/1
	18	Short 5/2-5/6
	5	Very Tall 6/2-over
107	BUILD	
	51	Medium
	34	Thin
	11	Heavy, Stocky
43	BODY SCARS	
	11	Arm, Left
	11	Arm, Right
	7	Hand, Left
	6	Hand, Right
1	AMPUTATIONS	
	1	Finger(s) Right Hand
4	DEFORMITIES	
	2	Bowlegged
	1	Crippled Arm, Right
	1	Crippled Leg, Right
18	TATTOOS	
	9	Arm, Right
	5	Arm, Left
16	TYPE OF TATTOO	
	4	Names
	4	Pictures
	4	Designs
	3	Initials
	1	Words/Phases

TABLE 4 (continued)

63 EARS

27	Close to Head
26	Small
7	Protruding
3	Large

69 FACE SHAPE

24	Round
18	Thin
12	Long

244 TIME OF ATTACK

89	Sunrise-Sunset
70	Midnight-Sunrise
59	Sunset-Midnight

274 ENTRY

68	Door, Front
59	Door, Rear
31	Window, Side
19	Window, Rear
16	Window, Front
10	Basement Window

277 HOW ATTACKED

63	Pried
53	Glass, Broke
24	Lock, Broken
24	Glass, Broke, Reaches in

149 MEANS

37	Jimmy Bar/Crowbar
21	Screwdriver
18	Rock, Brick, etc.
17	Tools Brought
11	Bodily Force

198 TRADEMARKS

43	Ransacks
29	Accomplice(s)
24	Selective Burglar
14	Abandons Own Tools
14	Vending Machines Attacked

53 DEFENDANT

19	Says he is ex-convict
13	Had been drinking
9	Narcotic User
9	Is Parolee

58 EVIDENCE

46	Fingerprints, Identifiable
8	Tools

19 SAFE BURGLARS

14	Safe Burglary
5	Safe Burglary Attempt

11 SAFE TYPE

4	Burglar Resistant
4	Fire Protective Box

32 MEANS SAFE ATTACKED

9	Tools Brought
8	Pry Bar
6	Hammer or Sledge
4	Drill

15 COMBINATION ATTACKED

8	Knocked Off
4	Drills
2	Burns

26 HOW SAFE ATTACKED

17	Rips, Pry or Peel
3	Drills
3	Pounds or Chops

12 TRADEMARKS

5	Safe Moved from Original Position
3	Attacks Handle
2	Removes Safe (carry out)
1	Safe Removed to Rear

TABLE 5

Counts of Frequently Used Items On
Kansas City's Robbery M.O. Forms (Total Records, 165)

115	OBJECT OF ATTACK	
	22	Grocery
	17	Gas Station
	10	Restaurant
	8	Cleaners
	5	Beer/Party Store
	5	Federal Offices
	5	Party/Liquor Store
	5	Restaurant (Chain)
41	INDIVIDUAL	
	28	Citizen, Male
	13	Citizen, Female
3	RESIDENCE	
	2	Single Family Residence
	1	Apartment
2	TRANSPORTATION	
	2	Taxi
202	WHAT TAKEN	
	124	Money
	13	Watches
	11	Wallets
	6	Clothing
	6	Purses
	6	Jewelry
	5	Credit Cards
68	WEAPONS	
	12	Physical Force
	5	Unknown Object
	5	Knife, Other
	1	Club
	1	Tire Iron
73	GUNS	
	17	Revolver, Other
	12	Revolver, B.S.
	8	Revolver, N.P. or Chrome
	7	Revolver, B.S. Long Barrel
	5	Automatic, B.S.
39	CARS	
	15	Chevrolet
	8	Oldsmobile
	3	Plymouth
	3	Buick
	3	Pontiac
28	BODY STYLE	
	14	Sedan, 2 dr.
	10	Sedan, 4 dr.
	3	Convertible
35	COLOR, TOP	
	19	White, Cream
	4	Blue
	3	Yellow
36	COLOR, BOTTOM	
	13	White, Cream
	6	Blue
	4	Red-Maroon
	3	Brown-Tan, Etc.
154	SEX	
	147	Male
	7	Female
150	COLOR	
	135	Negro
	13	White

TABLE 5 (continued)

135	COMPLEXION	
	43	Negro, Med. Brown
	38	Negro, Dark Brown
	30	Medium
	9	Negro, Light Brown
	8	Dark, Swarthy
110	EYE COLOR	
	93	Brown
	15	Black
8	EYE DEFECTS	
	3	Bulging
	3	Squints or Blinks
	1	Cast, Left Eye
	1	Slanted
122	HAIR COLOR	
	113	Black
	8	Brown
	1	Light Brown
101	HAIR TYPE	
	30	Kinky
	24	Bushy
	15	Crew Cut, Very Short
	10	Straight
46	TEETH	
	18	Gold
	17	Good
37	SPEECH (DURING CRIME)	
	13	Vulgar or Profane
	11	Soft or Low
50	MOUSTACHE, BEARD, ETC.	
	18	Moustache, Thin or Light
	12	Goatee
	7	Moustache, Medium
22	FACIAL SCARS	
	5	Cheek, Left
	5	Cheek, Right
	5	Forehead
30	FACIAL ODDITIES	
	7	Lips, Thick
	7	Pockmarks
	6	Pimples
	5	Lips, Thin
49	NOSE	
	22	Broad
	9	Large
	5	Flat
	5	Thin
141	HEIGHT	
	50	Medium 5/7-5/9
	44	Tall 5/10-6/1
	37	Short 5/2-5/6
	8	Very Tall 6/2-over
133	BUILD	
	72	Medium
	41	Thin
	14	Heavy, Stocky
16	BODY SCARS	
	3	Arm, Left
	3	Arm, Right
	3	Wrist, Left
	2	Hand, Left
	2	Hand, Right
	2	Wrist, Right
11	TATTOOS	
	7	Arm, Right
	4	Arm, Left

TABLE 5 (continued)

12	TYPE OF TATTOO	
	5	Designs
	3	Names
	3	Pictures
	1	Words or Phrases
33	EARS	
	15	Small
	13	Close to Head
	4	Protruding
72	FACE SHAPE	
	33	Round
	20	Thin
	8	High Cheek Bones
	7	Long
110	ENTRY	
	100	Door, Front
	5	Door, Rear
	3	Forces Entry
97	EXIT	
	91	Front Door
	4	Rear Door
	2	Side Door
97	WEARS	
	37	Male Attire
	13	Cap
	8	Sunglasses
42	PRETENDS TO BE	
	21	Customer
	10	Shopping
	6	Seeking Employment
36	ASKS FOR	
	8	Food, Meat, etc.
	6	Change
	4	Clothing (Cleaners)
	4	Money Order to be Made
	3	Beer, Wine (Brand)
167	WEAPON	
	75	Held in Right Hand
	39	Points Weapon at Victim
	17	Shown to Victim
75	VEHICLE INVOLVED	
	24	Escapes in Auto
	11	Abandons Getaway Vehicle
	9	Uses Stolen Auto
11	SEX	
	4	Commits Oral Perversion
	2	Kisses, Fondles Victim
	2	Rapes
23	DEFENDANT	
	4	Narcotic User
	4	Had been drinking
	3	Left-Handed
	3	Is Parolee
	3	Prostitute
19	EVIDENCE	
	7	Spent Slug or Shell
	6	Note Recovered
	6	Fingerprints, Identifiable
127	ACCOMPLICES	
	55	Accomplice (One)
	39	Accomplice (Two)
	11	Accomplice (Three)
	9	Accomplice (Four or More)
	8	Accomplice(s) in Vehicle
501	TRADEMARKS	
	86	Approach on Foot
	38	Threatens to Kill
	36	Forces Victim to Lie Down
	32	Removes from Cash Register, Box
	23	Assaults with Weapon
	19	Demands Company Money Only

TABLE 6

Counts of Frequently Used Items On
Kansas City's Sex Crime M.O. Forms (Total Records, 177)

40	OBJECT OF ATTACK	
	11	Highway, Street, Alley, etc.
	9	Park/Recreation Area
	6	Schools, Public & Parochial
	5	Parking Lot
	2	Church
39	INDIVIDUAL	
	31	Citizen, Female
	8	Citizen, Male
86	RESIDENCE	
	61	Single Family Residence
	22	Apartment
	2	Vacant Residence
	1	Car
13	WHAT TAKEN	
	4	Jewelry
	4	Money
	2	Watches
	1	Clothing
	1	Purses
	1	Wallets
47	WEAPONS	
	16	Knife, Other
	14	Physical Force
	2	Knife, Butcher
12	GUNS	
	4	Revolver, B.S.
	3	Revolver, Other
35	CARS	
	12	Chevrolet
	5	Pontiac
	4	Buick
	3	Ford
	2	Foreign
	2	Dodge
	2	Oldsmobile
42	BODY STYLE	
	13	Station Wagon
	9	Sedan, 2 dr.
	9	Sedan, 4 dr.
52	COLOR, TOP	
	14	White, Cream
	11	Blue
	5	Light Brown-Tan, etc.
	4	Black
	4	Green
52	COLOR, BOTTOM	
	11	Blue
	8	White, Cream
	7	Green
	6	Brown-Tan, etc.
	5	Light Brown-Tan, etc.
165	SEX	
	163	Male
	2	Female
163	COLOR	
	101	Negro
	60	White

TABLE 6 (continued)

94	COMPLEXION	
	29	Medium
	29	Negro, Dark Brown
	14	Negro, Med. Brown
	8	Light, Fair
93	EYE COLOR	
	81	Brown
	4	Hazel
	3	Blue
	3	Gray
7	EYE DEFECTS	
	4	Bulging
	2	Slanted
	1	Cast, Left Eye
135	HAIR COLOR	
	90	Black
	24	Brown
	11	Gray
112	HAIR TYPE	
	26	Bushy
	21	Crew Cut, Very Short
	20	Kinky
	16	Long
51	TEETH	
	26	Good
	8	Irregular
	7	Gold
65	SPEECH (DURING CRIME)	
	34	Soft or Low
	11	Vulgar or Profane
	8	Southern
45	MOUSTACHE, BEARD, ETC.	
	13	Moustache, Thin or Light
	9	Goatee
	7	Moustache, Medium
	6	Beard
11	FACIAL SCARS	
	5	Forehead
	4	Eyebrow, Right Area
22	FACIAL ODDITIES	
	7	Lips, Thick
	5	Pimples
	3	Hollow-Cheeked
41	NOSE	
	17	Broad
	13	Large
143	HEIGHT	
	50	Medium 5/7-5/9
	48	Tall 5/10-6/1
	38	Short 5/2-5/6
144	BUILD	
	64	Medium
	33	Heavy, Stocky
	32	Thin
	10	Muscular
8	BODY SCARS	
	4	Hand, Left
3	TATTOOS	
	2	Fingers, Left
	1	Arm, Left
3	TYPE OF TATTOO	
	2	Initials
	1	Pictures
38	EARS	
	13	Close to Head
	11	Small
	9	Protruding
	5	Large
63	FACE SHAPE	
	29	Round
	13	Thin
	13	Long

TABLE 6 (continued)

165 TIME OF ASSAULT

63	Sunrise-Sunset
59	Midnight-Sunrise
44	Sunset-Midnight

97 WEARS

23	Well-Dressed
22	Sloppy Dressed
19	Work Uniform
9	Glasses, Regular
8	Cloth, Hankie over Face
5	Faddish, Flashy Clothes

152 APPROACH

46	Loiters in Area
24	Breaking & Entering
13	Robbery
10	Follows, Sneaks up From Behind
10	Offers Assistance

55 VEHICLE INVOLVED

19	Forces Victim into Car
10	Lures Victim into Car
6	Jumps into Victim's Car
5	After Victim Puts Car Into Garage
5	Forces Victim to Lie or Sit on Floor/Seat of Car

201 CHARACTERISTICS OF ASSAILANT

37	Removes or Drops Pants
35	Is Exposed (During Approach)
28	Has Accomplice
13	Fingerprint Conscious
13	Had been drinking
8	Hands, Short, Broad
7	Removes all Clothing (Own)
7	Smells (Body Odor, Greasy, etc)

189 CONVERSATION OF ASSAILANT

32	Talkative
32	Silent, Makes No Comment
22	Demand Money
20	Abusive Language to Victim
15	Asks Victim to Meet Again
13	Obscene Language During Crime
13	Threatens to Harm Victim's Children, etc.
12	Polite
12	States will return/returns

128 TREATMENT OF VICTIM

16	Forces Victim into concealment
16	Victim Beat with Fists
15	Covers Victim's Head w/Blanket, etc.
14	Removes all of Victim's Clothes
11	Victim Thrown to Ground or Floor
10	Rips, Tears Clothing of Victim
9	Grabs, Drags Victim to Other Area

312 SEX ACT (ALSO ATTEMPTS)

75	Rapes
38	Lies on Top of Victim
37	Masturbates
25	Kisses
19	Inserts Finger in Vagina
17	Victim Forced to Commit Oral Perversion
15	Plays with Victim's Privates
13	Fondles, Sucks Breast

TABLE 6 (continued)

302	VICTIM	
	122	Female
	119	White
	53	Negro
	8	Male under 10
177	AGE	
	93	Mature
	75	Immature
	5	Elderly
	4	Infant

The benefits to be accrued from adding more data elements to an M. O. data base is apparent in reviewing the Kansas City forms. For example, the relatively high frequency of such new trademarks as: 1) fingerprint conscious; 2) had been drinking; and, 3 silent, makes no comment, indicates the value of developing appropriate additional descriptors.

At least one major advantage exists from the fact that Kansas City adapted Detroit's system. That is, comparisons between the two cities can be made regarding patterns of crime. A full discussion of these patterns is not within the scope of this project. However, the very fact that these patterns could be compared (one can notice many similarities among the rank order of the frequency of use of items in comparable categories), points out the value of standardization among police reports across the country. In general, it may be stated that the crime patterns tend to be the same. This finding is of importance to the question of the regional scope (i. e., city, county, or state) which an M. O. system should cover. Such a finding also suggests the existence of consistent M. O. patterns.

An M. O. system that covers many cities, provides an advantage to both large and small cities in the region. Large cities conserve on badly needed space and on costly facilities that would otherwise be duplicated. Small cities gain the advantage of being able to detect patterns of crime, even though each of their own data samples are too small to detect any pattern. Likewise, deviations from standard patterns can be detected more readily, and such information would be useful for allocating police resources (particularly where cooperative arrangements exist among small towns). Another advantage appearing from the data of these tables is that criminals have great mobility because of the use of automobiles. A regional data system can handle the mobility problem better than a restricted jurisdiction. Computer searches can be made by region or by sections within a region, if necessary.

3. The Michigan State Police's Data

A case in point regarding a regional system is that of the Michigan State Police. The sex motivated crime M. O. data are shown on the following table. That table includes data from 1384 records, all having to do with sex motivated crime. Michigan is planning to add other crimes to their data files. The tables that follow are discussed on page 60.

TABLE 7

Counts of Frequently Used Items On
Michigan State Police's Sex Crime Forms (Total Records, 1384)

1384	RACE	
	984	White
	361	Black
1463	BUILD	
	581	Medium
	503	Slender
	300	Heavy, Stocky
	79	Muscular
1382	COMPLEXION	
	463	Fair, Light
	413	Ruddy, Medium
	155	Negro, Med. Brown
	140	Negro, Dark Brown
1502	HAIR COLOR	
	457	Black
	434	Brown, Dark
	357	Brown, Light
2009	HAIR TYPE	
	347	Straight
	245	Long
	200	Kinky
	182	Wavy
	173	Bushy
	139	Short
1384	EYE COLOR	
	739	Brown
	420	Blue
	188	Hazel-Green
	25	Gray
	12	Black
1399	EYE DEFECTS	
	1050	None
	210	Glasses
	35	Squints or Blinks
1407	EYEBROWS	
	437	Straight
	325	Bushy
	310	Arch
	250	Thin
1335	FACE SHAPE	
	492	Round, Oval
	378	Thin, Narrow
	242	Long, Rectangle
	152	Broad, Full
1424	FACIAL ODDITIES	
	804	None
	129	Lips, Thick
	105	Lips, Thin
	94	Pimples
	90	Pockmarks
1441	FACIAL SCARS	
	1091	None
	87	Forehead
	37	Cheek, Left
	34	Cheek, Right
	30	Chin
	30	Eyebrows, Left
1432	BODY SCARS	
	1051	None
	57	Arm, Right
	50	Arm, Left
	40	Hand, Left

TABLE 7 (continued)

1550 SPEECH

1017	Soft or Low
183	Refined
65	Loud
64	Rapid
58	Southern

1363 CHIN

696	Round
241	Square
230	Pointed

1356 EARS

826	Normal
239	Close to Head
129	Protruding
93	Large

1614 NOSE

469	Straight
365	Broad
142	Long
129	Large
129	Small
125	Thin

1440 MOUSTACHE

990	None
167	Moustache, Medium
115	Moustache, Thin, Light

1387 AMPUTATIONS

1369	None
10	Fingers, Left

1390 DEFORMITIES

1330	None
13	Crippled Leg
7	Crippled Arm

1467 TATTOOS

1200	None
109	Arm, Right
105	Arm, Left

1425 TYPE OF TATTOO

1139	None
71	Pictures
62	Names
43	Designs
42	Initials
27	Words or Phrases

1378 AGE GROUP

665	20-29
323	30-39
162	40-49
127	10-19

1384 HEIGHT GROUP

599	Tall	5/10-6/1
559	Medium	5/6-5/9
116	Short	5/5-under
110	Very Tall	6/2-over

1384 WEIGHT GROUP

759	Medium	141-180
275	Heavy	181-210
267	Light	140-under
83	Extra heavy	211-over

1384 SEX

1379	Male
5	Female

1356 FINGERPRINT GROUP

1310	No Classification Available
12	Ulnar Loop
12	Missing Digit
7	Radial Loop
5	Inner Whorl

1930 COLOR (CAR)

511	Light Bottom (Primary)
486	Dark Bottom (Primary)
471	Dark Top (Secondary)
462	Light Top (Secondary)

TABLE 7 (continued)

2644 DAY OF WEEK

948	Weekday
374	Weekend
210	Saturday
201	Thursday
198	Friday
196	Wednesday
182	Tuesday
171	Monday
164	Sunday

1312 TIME OF DAY

437	6:01 pm - Midnight
363	2:01 pm - 6:00 pm
251	12:01 pm - 7:00 pm
131	7:01 am - 11:00 am
130	11:01 am - 2:00 pm

1425 MULTIPLICITY

1188	Alone
131	Male Accomplice
75	All Female - Victim

1337 VICTIM'S AGE

636	15 and under
457	16-25
224	26-50
20	51 and over

1298 VICTIM'S RACE

1027	White
260	Negro

1332 SEX

1162	Female
170	Male

1367 VEHICLE INVOLVED

859	None
445	Subject's Car Used
39	Both Cars Used
24	Victim's Car Used

1666 CRIME

322	Indecent Exposure
318	Rape (Common Law)
242	Rape, Statutory
199	Indecent Liberties
137	Gross Indecency (Between Males)
111	Gross Indecency (Male & Female)

1634 WEARS

577	Neat
519	Rough
175	Well-Dressed

1693 APPROACH TO VICTIM

200	Friendly Approach, Then Exposes or Grabs
173	Loiters in Area
85	From Concealment
85	Meets Victim at Party, Bar, etc.

1510 VEHICLE INVOLVED

160	Exposes from Car
136	Assaults Victim in Car

1884 CHARACTERISTICS OF ASSAILANT

238	Had been drinking
105	Mentally Disturbed or Retarded
98	Removed All Clothing (Own)
93	Grins, Stares, Leers
89	Hands Stained, Greasy, Dirty
85	Has Accomplice

1766 CONVERSATION OF ASSAILANT

208	Polite
185	Silent, Makes no Comment
147	Talkative
120	Orders Victim to be Quiet
113	Abusive Language to Victim

TABLE 7 (continued)

1778 TREATMENT OF VICTIM

196	Removes Victim's Clothing
119	Assault & Battery, Sex Intent
79	Victim Beaten w/Fists
71	Assault & Battery to Breasts
64	Rips, Tears Clothing of Victim
62	Forces Victim into Concealment

2228 SEX ACTS

253	Masturbates
250	Lies on Top of Victim
190	Plays with Victim's Privates
130	Kisses
124	Oral Perversion on Victim
102	Places Privates Between Victim's Legs
99	Fondles, Sucks Breast
99	Victim Forced to Commit Oral Perversion
85	Inserts Finger in Vagina

A review of the Michigan State Police forms further confirms earlier observations. The trademark data by crime was consistent with other jurisdictions. Also, the relative amount of data elements to file size appears to be much higher for sex crimes than for other crime categories. This is evidenced by the high frequency counts for almost all categories in the Michigan file, indicating areas for further element definition. For example, the trademark Soft or Low Speech accounted for almost seventy percent of the file, while the trademark No Classification Available under Fingerprint Group accounted for nearly the entire file. The analysis of this type of data shows modifications which should not be overlooked.

4. Review and Implications

The data tables shown in this section were from Detroit, Kansas City, and the State of Michigan. All of the data are based on data formats developed by Detroit.

It could be seen by examining those tables that the rank order of the frequency of use of the various items in each information category tend to be similar. Even though some items are used infrequently, they serve the purpose of individualizing (i.e., making more unique) the record of a suspect, which is an important aid in file searches. The value of a regional data base along the line of the State of Michigan is evident from the consistency of trademarks between the two city jurisdictions and the multi-county or state-wide jurisdictions. For instance, Sex Crime trademarks did not vary significantly in their rank order of occurrence, regardless of the geographic location. Advantages to large and small police departments in a region are evident. For example, a statewide system would assist in overcoming criminal mobility which according to the NYSIIS studies (e.g. Smith, 1967) is 29.3 percent in the New York State jurisdiction and 24.5 percent for interstate jurisdictions. It is also likely that mobility within a smaller geographic or economic region is even higher.

In addition, a state-wide network subdivided by region would minimize file duplication. Another advantage of a state-wide M.O. system is that crime information forms would thereby be standardized throughout the State.

Such standardization would facilitate the detection of crime trends for small police jurisdiction as well as for the State as a whole. Also, the summarizing and reporting of state-wide crime data would thereby be facilitated.

That the M. O. patterns tend to be consistent is also important to the question of the predictability of crime trends and methods of deployment. As indicated, high frequency items in one region or city are also high frequency items in another region or city and likewise with low frequency items. One may hypothesize that some crime behavior patterns may be similar between regions and, therefore, would be potentially useful. Thus, such patterns should be the subject of additional study.

C. Hit Experience

The purpose of this section is to examine the experience police have had with hits resulting from M. O. searches. The quantitative examination of hits may yield information valuable for the development and use of an M. O. system. It is important first to have an understanding of what is meant by a hit.

1. Definition of Hit

One of law enforcement's fundamental mission objectives is to bring suspects (here, this also includes violators) to justice (i. e., start violators and suspects through a judicial processing). To do this, the police must find, then apprehend suspects. For this discussion, actions by the courts represent processes of a judicial system, whereas actions by the police represent processes of a law enforcement system. Therefore, if a suspect is arrested, the police objective of bringing him to justice can be considered to have been accomplished in that instance. Considering the discussion above, the objective of an M. O. system is, then, to identify the suspect. Thus, an M. O. hit occurs when the suspect is identified by the M. O. system. However, in a real sense, current M. O. systems do not identify "the" suspect, they identify several suspects.

Current M. O. systems really identify possible suspects with some likelihood probability or index associated with that identification. For example, a computerized M. O. search usually results in a printout showing several possible suspects along with a probability estimate of the accuracy of the results (i. e., the likelihood that any of the people indicated is the true suspect or perpetrator of the crime in question). The search request can usually specify that probability as a criterion for the search. A specific example of such a criterion would be where the ratio of matched to given items is used to calculate P (the probability of a hit).

$$P = \frac{\text{No. of matched items}}{\text{No. of items given in the search request}}$$

Thus, if the search request sets a criterion of .80, then there must be matches on 8 out of every 10 items for any name in the file to be printed out.

The example above illustrates that the file search itself does not really yield any hits on an absolute yes-or-no basis. Instead the search yields likely suspects, the output of which must be further verified by some further identification procedure (since the M. O. file search itself is an identification process). This verification procedure usually consists of extracting the mug shot of each of the suspects listed in the M. O. search printout. That set of mug shots is then shown to the witness(es) for verification by visual identification. Assuming one of the suspects from the list is thereby identified, a strong lead for further specific investigation (i. e. checking whereabouts, alibis, etc. of the suspect) exists. When that investigation leads to an arrest, a hit can be counted.

2. Summary of Hit Data

Kansas City and the State of Michigan have had hits, but in one case the system was too new, and in the other the data was not available. As a result the analysis is based on 61 hits formally documented by interoffice memoranda in the Detroit Police Department's system. Table 8 shows the number of hits by year and type of crime for Detroit's Computerized M. O. System.

TABLE 8

Hits by Year and Type of Crime
From Detroit's Computerized M. O. System

	CRIME TYPE			TOTALS	
Year	Robbery	Burglary	Sex	Total Hits Re Crime Type	Total Hits* Re Suspects
1965	6	2	3	11	7
1966	10	1	1	12	12
1967	5	1	5	11	10
1968	9	1	5	15	13
1969	5		2	7	7
1970	3	1	1	5	5
	38	6	17	61	54

* Total Hits Re Suspects is less than Total Hits Re: Crime Type because some crime episodes involved more than one crime type (e. g., burglar who rapes victim in victim's own home).

One might conclude at first that robbery is the best category to have in an M. O. system. This is true if total hits are used as the criterion for selection. However, for others it might be advisable to take file size into consideration. This can be done by comparing the figures from the table above with the number of available records of each type of crime by looking at Figure 1 (page II-3). Figure 1 shows that there are about the same number of records for both robbery and burglary, whereas there are about one-third as many records for sex crimes. On a random basis, one could expect one-third as many hits on sex crimes as on burglary or robbery. Nevertheless, there are twice as many hits for sex crimes than for burglary. Also, comparing sex crime hits with those of robbery, there are half as many for sex crimes as for robbery. This suggests that M. O. plays an important role in sex crimes.

In order to focus the analysis on the total Detroit system, Table 9 (Search and Hit Analysis for Detroit's M.O. System) is presented. An examination of this Search and Hit data in Table 9, particularly for the complete years of 1966-1967 and 1968 (data for 1965, 1969, and 1970 was incomplete or not available) yields the following conclusions:

1. The system base file is increasing at a rate of about 3,000 records per year.

2. The number of searches conducted is doubling each year (approximately).

3. The Uniform Crime Report (UCR) for 1965-1968 by Hoover (1968) shows selected crimes rising from 60,500 in 1966 to 76,300

4. The average number of suspects produced per search doubled from 1966 to 1968.

5. The comparison of the number of searches conducted to the selected UCR crimes reported reveals that the M.O. system was used 3 times more in 1968 than in 1966.

6. The documented Hits credited to the system remains approximately constant from 1966 thru 1968.

The last item requires some explanation as it is important for an effective system. That the use of the system is increasing each year while the number of hits remain constant implies that those in the field have recognized the value of the system and are using it without reporting back on its successes. An adequate reporting system must be designed into any M.O. system if it is to be fairly evaluated. Further, the table clearly indicates the need for computerization for the M.O. application.

This system is presently expanding at a rate of 3,000 records per year. Even that relatively small growth is too large to be handled on a manual basis. If the full potential of the M.O. concept were to be tested on the Detroit system, the base files would be expanding not at a rate of 3,000 records per year but rather at a rate of about 100,000 records per year. This drastic increase would occur if the computer attempted to link all unsolved crime to an unknown perpetrator.

TABLE 9

Search and Hit Analysis for Detroit's Computerized M.O. System

Year	Avg. File Size	Searches	Total Suspects	Average Suspects	Hits	UCR* Crimes	Hit/Search Ratio	Search/UCR Crime Ratio
1965	1,231	232	1,160	5	11	40,937	1:25	1:176
1966	4,178	1,169	11,690	10	12	60,519	1:100	1:51
1967	7,118	2,470	37,050	15	11	74,823	1:250	1:30
1968	8,730	4,151	83,020	20	15	76,260	1:333	1:18
1969	12,171	--	--	--	7	86,703	--	--
1970	--	--	--	--	5	--	--	--

* These are the selected Uniform Crime Report's (UCR) crimes for Detroit including only: Robbery, Burglary, and Forcible Rape. The UCR totals do not include Other Sex Crimes used in the existing M.O. system.

To examine further the role of M. O. in each of the crime types, a more detailed examination was made of Detroit's hit data. Table 10 below shows the types of identifiers (e.g., M. O., P. A., fingerprints or M. O. plus P. A.) reported by Detroit as important in obtaining hits for each of the three crime types: Burglary, Robbery, and Sex. It should be noted that fingerprints and P. A. are used in conjunction with M. O. in the Detroit system. There were 54 suspects identified, but some of them committed more than one crime in a single episode (e.g., burglary and sex).

TABLE 10

Critical Types of Identifiers for Burglary, Robbery, and Sex Crimes From Detroit's Computerized M. O. System

	CRITICAL IDENTIFIER(S)							
Crime Type	M. O.	P. A.	Finger prints	M. O. & P. A.	M. O. & Prints	P. A. & Prints	P. A. & Name	Total
Robbery	8	13	4	10	1	1	1	38
Burglary	2	2	1	1				6
Sex	5	5		7				17
TOTAL	15	20	5	18	1	1	1	61

The table shows that robberies accounted for over one-half of the hits, while burglaries accounted for only one-tenth of the hits, although there are about the same number of residents in the file in each of those two categories. Sex crime hits accounted for slightly less than one-third of the total, although only one-tenth of the file residents consist of sex crime suspects. These findings show that robbery and sex crime hits occur above what one would expect by chance, based on the relative proportions of resident suspects in each of the three crime type files.

The table above also shows that multiple types of identifiers were important in about one-third of the hits. Modus Operandi played a direct role in 15 of the searches and in another 19 indirectly linked to M. O. in

combination with other identification systems. The most frequent of these combinations were M.O. plus P.A. These figures give some indication of the relative importance each of the three types of identifiers has played in the searches.

Because the information originally in the M.O. file led to suspects' identification, it shows the consistency of M.O. Since 54 suspects were identified on the basis of the searches made, one can assume that a minimum of 108 cases were cleared by these searches. The data of Detroit's hit experience showed that there were almost 200 cases cleared. That is, 16 instances occurred in which the suspect had definitely been involved in more than one other crime in addition to the crime which led to the M.O. search. These 16 instances accounted for 68 other separate crimes. For example, one suspect admitted 43 burglaries in addition to the search-based burglary that identified him and led to his arrest. While that was possibly a typical situation, the finding remains that at least 108 + 68 = 176 cases were cleared through the identification of 54 suspects. Such a finding illustrates that each hit can multiply the total number of cases cleared by the police, and that some individuals use consistent MOs.

The following is a sampling of some of the M.O. items that were critical in obtaining the search hits: sodomy; covered gun with newspaper; asked for use of phone; asked for "Bernice;" gold teeth; oral perversion; threatened to harm victim's child; used a blue Mercury; drives off in victim's car; southern speaking; narcotics user; shot victims; fingerprint conscious; goatee; and, had been drinking. Even a brief reading of this list of items shows that for most of them, the item has high information content. That is, the item helps to drastically reduce the number of alternative suspects that might be called out in the M.O. search. Such items may show low frequency counts in an item tabulation.

In addition to the analyses of critical idenifiers, a frequency count was made to delineate the total number of M.O. data elements present on each form in Detroit's Robbery, Burglary and Sex Crime files. For this analysis, M.O. items were those contained on the reverse side of the M.O. data form such as Entry, Approach, Trademarks, excluding personal appearance data. The analysis program grouped Detroit's M.O. records according to whether the record contained 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, or 10 or more M.O. data elements. The resulting percentages are presented in Table 11 and give further evidence of the uniqueness of M.O. between respective crime categories. Summarized the crime file analysis indicated:

1. That the number and frequency of data elements vary by crime category.

2. That burglary and robbery data elements average six data elements each per crime, while sex crimes usually average ten or more.

3. That the M.O. data elements for sex crimes show a peak at ten or more, while burglary and robbery tend to peak at six elements.

In addition to substantiating M.O. uniqueness between crime types, Table 11 also indicates areas for further study. Thus, since almost 70 percent of all the sex crime inputs have ten or more M.O. data elements, further data element definition might provide fewer and more unique descriptors, thereby limiting the number of suspects output. Regarding burglary, data element definition would also be beneficial, since the number of data elements peaked at six and then dropped off quickly, which may indicate why there are so few hits in burglary. This fact suggests that further study should be directed at defining additional distinct data elements.

Table 11 also suggests why robbery has a comparatively high number of hits. It has the highest and most consistent span of data as evidenced by the percentages for items 3 through 9. However, there is also room for improvement in this crime category. For example, 26.2 percent of all robbery inputs had ten or more data elements, a very high percentage if one

TABLE 11

Crime File Analysis of Detroit's Computerized M.O. System*

CRIME FILE	NUMBER OF ITEMS PER RECORD											TOTAL RECORDS
	0	1	2	3	4	5	6	7	8	9	10 or More	
% of BURGLARY Records	-	-	-	5.3	12.7	18.1	18.2	14.1	9.9	6.1	14.2	5828
% of ROBBERY Records	-	1.6	4.4	8.0	10.0	11.0	10.3	9.9	9.5	8.5	26.2	6324
% of SEX CRIMES Records	-	-	-	-	-	1.7	3.1	4.8	8.7	12.3	68.2	1463

* Indicates the percent of M.O. forms having a specified number of M.O. data elements. For example, the column labeled '4' indicates that 12.7 percent of the Burglary forms contained only 4 M.O. data elements

intends to make an efficient search. Further analysis might uncover more distinct data elements to improve identification.

An analysis of thirty-eight of Detroit's documented hits over a three year period gives evidence of the relative effectiveness of each crime category as illustrated in Figure 19, and Table 12. Using, the criterion of hits to total file size. Table 12 shows that Sex Crimes is the category that is most adaptable to a computerized M.O. system. Further, Table 12 indicates that Robbery searches are eight times as effective as Burglary, while Sex Crime searches are 14 times as effective as Burglary searches. Note that Robbery is considered more effective only if the effectiveness criterion used is Total Number of Hits. Also, the low number of Burglary hits may be caused by the smallness of data available to initiate a search.

3. Review and Implications

The hit data reviewed in this section revealed that 61 documented hits were obtained for all three crime categories in Detroit. Because of continuing file growth and increasing system utilization as shown in Table 9 there is reason to believe that actual system hits may be higher than the number of documented hits. Also, hits are not proportionate to the size of the respective crime files. The data base and availability of data, the effectiveness criterion of hits to file size, and operational experience, show that Sex Crimes should be recommended as the best crime category for inclusion in a computerized M.O. system. However, this conclusion is based on limited hard data and one should also consider that robbery accounted for the highest number of hits. Moreover, the high incidence of hits for Robbery and Sex Crimes compared to Burglary could be caused by the presence of a witness or victim, which implies that personal appearance data is important for search hits.

Additionally, it was shown that in the Burglary category, a large number of burglary crimes were cleared from arrests that emanated from very few hits. The one burglar who confessed to 43 additional burglaries was one of those identified through the M.O. search. Burglars are seldom seen in the act, therefore, the M.O. system represents one of a few powerful tools available

TABLE 12

Detroit's Documented File Growth and Hit Data

YEAR	FILE GROWTH			DOCUMENTED HITS		
	Robbery	Burglary	Sex	Robbery	Burglary	Sex
1966	1527	1547	488	10	1	1
1967	2990	3038	1090	5	1	1
1968	4144	4266	1320	9	1	5

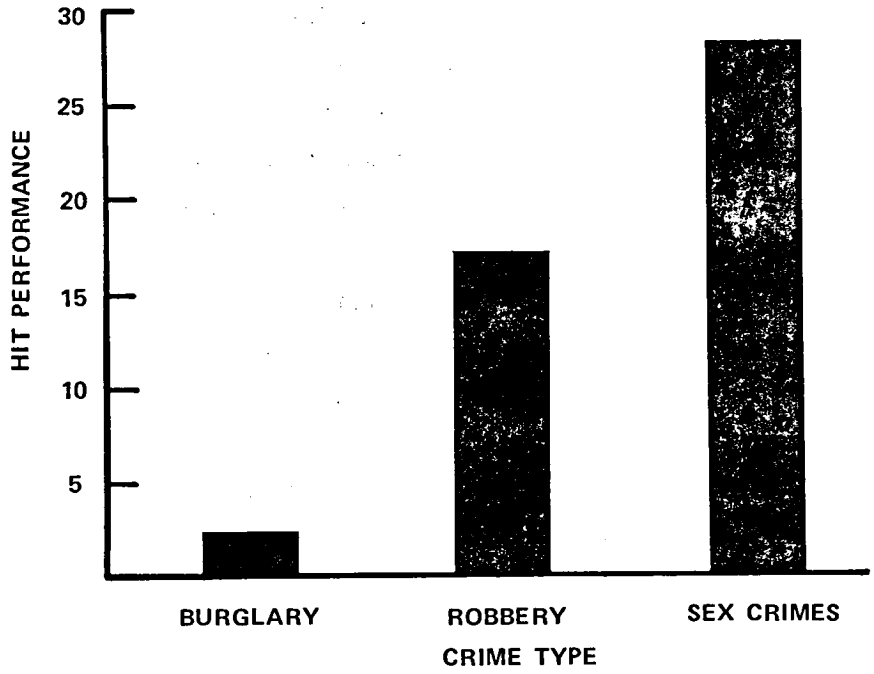

Figure 19 RELATIVE EFFECTIVENESS OF HIT PERFORMANCE FOR THREE CRIME TYPES IN DETROIT'S COMPUTERIZED M.O. SYSTEM

against such crimes. This is consistent with the Uniform Crime Report which shows that 81 percent of all burglaries reported remain unsolved. Further, the President's Crime Commission Report indicates a 39 percent recidivism rate for burglary.

The results of the quantitative data summarized in this report provided positive responses to the three questions identified above. Briefly:

1. An analysis of 108 cleared cases resulting from 61 hits documented by interoffice memoranda in the Detroit Police Department revealed that the frequency with which a particular individual uses the same or similar M.O. for subsequent crimes in the same crime category can be as low as two. It was also shown in one case that it can go as high as 44.

2. A data base analysis of 15,586 records on magnetic tape in Detroit, Kansas City, and the State of Michigan and the analysis of 61 hits documented by interoffice memoranda by Detroit revealed the uniqueness of one individual's M. O. compared with another individual's M.O. committing the same type of crime (see Tables 1 through 7). Three findings supported a positive response to this question. First, all three systems have had hits which have led to apprehensions. One occurred when the department's file size had only 150 records, while another department obtained documented hits in a file of 13,000 records. Second, all systems regardless of their size, produced a manageable list of suspects seldom in excess of thirty suspects per search--indicating the selectivity and uniqueness of an individual's M.O. Third, an analysis of 61 documented hits in one Modus Operandi system indicated 15 hits directly attributable to M.O. and another 19 indirectly linked to M.O. in combination with other identification systems (see Table 10).

3. The present study showed the uniqueness of the M.O. for one crime category as compared to another in several ways. An operational review of most crime categories would clearly indicate that by the very nature of a crime the method of operation would be different in each category, because one cannot commit a rape in the same way that one commits a safe burglary. Also, a quantitative analysis of the taped records in the three M.O. systems clearly indicated that the number, frequency, and combination of trademarks varied by crime (see Tables 1 through 7). The uniqueness of M.O. by crime type was again indicated by an analysis of the number of M.O. trademarks occurring by crime category for the Detroit System's Burglary, Robbery, and Sex Crime Files, which showed that the number of trademarks varied greatly by crime category (see Table 11). However, it must also be indicated that in the analysis of 61 hits there were also cases of multiple crimes (e.g., burglary and rape) encompassed in one crime episode. In this situation, the hits were based primarily or in part on M.O. thereby indicating that the M.O. can sometimes cross crime types.

Another important implication stems from the high information content of the identifiers important in the files and particularly the hits obtained. Many such items would reveal a low frequency count if a tabulation of item frequencies were to be made, which implies that one should not discard items because tabulations reveal that those items are seldom used. Another implication is that items showing high frequency counts upon tabulation should be examined critically for possible further subdivision, those with low counts (or no counts at all) should be examined critically to determine which items to retain, which items to discard, and which items to combine. The optimal use of items relative to their respective frequencies is important toward obtaining a computer output that contains a manageable suspect list.

One final implication is that the systems reviewed and the data obtained were from partial Modus Operandi systems. Current M.O. data bases are comprised of traits and characteristics of persons previously arrested for like crimes. The searches are based upon the traits or trademarks which the perpetrator left behind or which were observed during the commission of the crime. Rarely is data relating to unsolved crimes entered into the data base or is any attempt made to connect separate offenses or to link them to a common perpetrator. The current environment does not permit an accurate evaluation of the total potentiality of a Modus Operandi system. The present analysis suggests that the potential may be significantly greater than indicated by available statistics.

III. DESIGN CONSIDERATIONS FOR A PROTOTYPE M.O. SYSTEM

A. Problems

Assuming a decision is made to install and test a prototype M.O. system, the problems associated with its implementation must be considered. These problems include those of a general nature, problems of a specific nature, and problems of evaluating the utility of the system. This section of the report will discuss the considerations relevant to those problems.

B. Considerations

Objectives of Modus Operandi. The current computerized Modus Operandi systems represent a partial application of the four traditional dividends usually attributed to an M.O. system. Those dividends are listed and discussed on page I-8. The prototype should collect the necessary data to allow a practical and operational evaluation of those dividends.

Geography. One consideration for implementing a prototype as well as a state-wide system is that of the geographic area of coverage. The analyses conducted in the present study revealed that the frequency and availability of trademarks for a given crime category did not vary significantly from one city to another or from one state to another.

If a prototype is successful, then the previous evidence indicates that a state-wide system subdivided by region would be feasible. This would serve large and small police departments equally well. File duplication would be minimized and standardization of forms and routines would be facilitated. Further, it would be an effective countermeasure to demonstrated criminal mobility.

Such a system would also be consistent with recent trends towards larger more comprehensive identification systems. An example of such systems in New York State are NYSIIS and multijurisdictional units found in Nassau, Suffolk and Onondaga counties. Parallel examples on the interstate and national level are WALES, the Washington Area Law Enforcement System and NCIC, the National Crime Information Center

Crime categories. Regarding the scope of crime categories to be included, almost every crime category has been suggested as a candidate for inclusion. Certainly Robbery, Burglary, and Sex Crimes have been shown to be reasonable categories for inclusion. If one were to choose one among these three, the data show that Sex Crimes would be the most realistic first choice, and Robbery would be chosen next. Shoplifting, Auto Theft, and Bomb Scares might be added on the premise that such crimes show high frequencies and may show consistencies within individuals that would lead to their identification.

Types of information. The problem of which types of information to use is perhaps the most elusive of the problems identified. It has been shown that M. O., P. A., fingerprints, and name data have all been of value in making search hits, and that combinations of these have been valuable. The difficulty arises in considering that, because one category of information aids in a search, that should not imply that such a category of information should necessarily be incorporated as an integral part of an M. O. system. The disadvantage of such an incorporation is that some types of information are useful for more than M. O. searches. But the real issue is that additional study is needed to determine whether any other types of data are needed in conjunction with M. O. data, and if so, which types of data should they be? Thus, the problem may well be a more specific one of determining some method for tying in data from other information system modules into the M. O. search routines (e. g., M. O. plus fingerprint and/or P. A.). In other words, the utility of P. A. data and fingerprint data for M. O. searches should not imply that such data must imperatively be an integral part of an M. O. system, particularly if such existing data modules can be tied into M. O. searches as needed. An understanding of P. A. as an information system can be obtained from previous NYSIIS studies (e. g., Rudov, Zavala, and Okonski, 1968; and Zavala, 1970).

Element definition. The data base analysis has indicated the value of further data element definition. High frequency items should be examined for possible subdivision. Those with low counts or no counts at all should be examined to determine which items to retain, which items to discard and

and which items to combine. Additionally, possible new items should be identified and evaluated.

Computerization. Another consideration is that of file organization. The file must be organized to facilitate input of data to the system, efficient storage of that data, and ease of access and retrieval of the data. These three factors of input, storage, and retrieval have received some attention with regard to M. O. data systems, as was seen in previous sections of this report. Systems similar to and variations of Detroit's system have been implemented and were found to be adequate. Storage capacity and nanosecond speed of the computer serve to overcome problems in those systems with sub-optimal file organizations.

Specific considerations include details of methods of M. O. information input, the specific category items to use, details of data storage, method of recording data on magnetic tape, information coding methods, and output format. Variations of almost all of these considerations were noted. Few, if any, overall differences were noted among those M. O. systems that were computerized. For those M. O. systems that were manually operated, some of the above considerations posed overwhelming problems of the adequate use of space, time, money, and personnel. Therefore, the conclusion remains that an M. O. system to be effective should be computerized if its storage demands go into several thousand records. A state-wide system which could eventually house hundreds of thousands of M. O. files must be computerized. File updating and purging are important software functions that must also be considered in computerization. Manual updating and purging large files was found to be an unmanageable burden and was partly responsible for the demise of one system and the reprogramming of two others. Twenty-four hour access to the system and a computer dedicated for law enforcement information systems were also found to be important for a successful M. O. system.

Other components for computerization. The next logical component in the M. O. system is the mug shot. When an M. O. search is made, the output includes all suspects' file serial numbers. These numbers can then be used to manually search for the corresponding mug shots. The several mug shots from a search are then shown to the relevant witnesses who make visual identifications. In many systems, the retrieval of mug shots is performed manually and takes from about 30 minutes to as much as three days. It is not necessary to belabor the point that the sooner one can show a witness a set of mug shots of possible suspects, the less chance that the witness's memory will have faded. Therefore, the witness will do a better job in making an identification the sooner he can see some appropriate mug shots.

Speeding up the retrieval of mug shots can be accomplished by storing the mug shots in a random access device. When the M. O. search output is obtained, the identification serial numbers of each suspect are then keyed (manually if necessary, but preferably automatically) to the random access device. That device thereupon performs two operations once the mug shots are retrieved: 1) the mug shots are projected onto a screen for facsimile or TV transmission to the requesting remote terminal; and, 2) copies are made of the mug shots and sent to the requestor (by TV, facsimile, mail, or courier).

Training. The training of progressive officers and recruits is a powerful tool for motivating personnel to use the system. Any implementation program should include training for officers as well as for the operators of the system.

Support. Another consideration is that of support. It was found that support for an M. O. system is needed from supervisory staff, operational staff, and from officers in the field. A program to illustrate to supervisors the value of an M. O. system would aid in achieving their support. Regulatory and legislative action can also be employed to motivate such support from supervisors. However, such procedures may not be effective to motivate the support of officers in the field in favor of the M. O. system. For these officers, the incorporation of standardized M. O. data onto routinely used

arrest forms would be more effective in getting their support. In addition to the revision of arrest and investigation forms, the central M. O. data system operators should voluntarily make the searches for the officers and give appropriate credit to those officers for their work on the case if a hit is made. Easy access to the system for input and output would be imperative to fully motivate officers in the field to use the system. Also, 24-hour access is necessary.

Security. One consideration remains to be discussed, security of file data. With regard to security, the problem is to ensure that data about file residents is kept confidential and is used only for appropriate purposes. This complex problem requires careful consideration, and could well be the subject of additional study.

Evaluation of the system. There are several ways in which the performance of any system, including an M. O. system, can be assessed. Some of these include: 1) speed; 2) accuracy (i. e., total hits); 3) reliability; 4) ease of maintenance; 5) output volume/input volume (i. e., hits/file residents); 6) obtained output/expected output (i. e., hits/searches); 7) cost/output unit (i. e., savings in time or money/hit); and, 9) installation cost. With so many--and more--methods possible for evaluating an M. O. system, the question arises as to which assessment tool is best? A fundamental principle of performance assessment shows that for systems which have long work histories, the correlation among assessment measures approaches ± 1.0. This means that almost any assessment tool would suffice. However, in the early history of a system, the correlations among the performance measures are much less than ± 1.0. Therefore, to assess an M. O. system in its early stages, one may use all the methods of evaluation that can be economically obtained. Many of the above measures can indeed be incorporated into the M. O. software packages at relatively low cost. Moreover, the specific assessment measure to be employed in an evaluation depends on the objectives which the M. O. system is intended to achieve. If one wants no more than rapid service, speed is the only criterion involved, and that measure is thus the only one needed. However, if cost/effectiveness is the goal, measures such as those in #7, #8, and #9 can be used singly or in combination. Alternatively, if clearing unsolved crimes is the goal, then measures #2 and #5 would receive greatest emphasis in the evaluation.

IV. RECOMMENDATIONS

Based upon the analyses and data discussed in the foregoing sections, the following recommendations are presented:

1. That NYSIIS design, develop, and program a prototype Modus Operandi System for subsequent testing and implementation in New York State. This prototype would apply and maximize the techniques, programs, and experience obtained during this survey of M. O. systems.

2. That NYSIIS simultaneously solicit police departments to participate on the field operational level in adjoining counties such as Nassau and Suffolk Counties. This effort should emphasize the prior and continued commitment of administrative and field support at all levels and the necessity of effective training programs and the publication of system gains.

3. That the recommended prototype system make use of the B6500 at NYSIIS in order to adequately handle: 1) the large amounts of data; 2) the need for efficient file organization; 3) the need for rapid information access; 4) space limitations; 5) file maintenance; and, 6) the need for a manageable output. In conjunction with the prototype system, an automated document retrieval capability for mug shots with on-line remote control terminals should also be explored

4. That the prototype system should collect, correlate, store, and disseminate operational as well as quantitative data in order to evaluate such areas as: 1) the potential dividends of M. O. in crime and pattern analysis; 2) subsequent data element definition (i.e., further subdivision of high frequency count items, retention of low frequency count items, disposal and/or combining of items with no frequency counts); 3) additional crime categories such as Shoplifting, Bomb Scares, or Auto Theft as part of a new system; and, 4) cost effectiveness assessments.

5. That the test and evaluation of the prototype consider the effectiveness of Modus Operandi as used in combination with personal appearance systems and possible interface alternatives with the APPAD system being developed by NYSIIS.

Based upon the results of the prototype system test, it will be possible to draw conclusions which will assist in making a decision on the proper role of Modus Operandi in comprehensive identification systems and, more importantly, whether or not to pursue the development of a state-wide computerized Modus Operandi System.

REFERENCES

Blum, Richard H. Police Selection. Springfield, Illinois: Charles C. Thomas, 1964.

Hoover, J. Edgar. Uniform Crime Report. Washington, D.C.: Federal Bureau of Investigation, 1968.

Katzenbach, Nicholas DeB. The Challenge of Crime in a Free Society. Washington, D. C.: Government Printing Office, 1967.

Needle, Jerome, and Mullen, Thomas H. Modus Operandi: Research and Development. Albany, New York: New York State Identification and Intelligence System, 1969 (Mimeographed).

Rudov, Melvin H., Zavala, Albert, and Okonski, Ernest S. Computer Aiding in the Human Identification of Criminal Suspects. Buffalo, New York: Cornell Aeronautical Laboratory, 1968.

Smith, Dwight C. (Ed.). NYSIIS Development Plan. Albany, New York: New York State Identification and Intelligence System, 1967.

Zavala, Albert (Ed.). Personal Appearance Identification: Psychological Studies of Human Identification and Recognition Processes. Buffalo, New York: Cornell Aeronautical Laboratory, 1970.

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