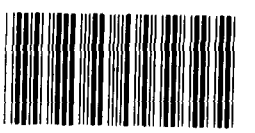
GAO

Briefing Report to the Chairman, Subcommittee on Oversight and Investigations, Committee on Energy and Commerce, House of Representatives

May 1987

VEHICLE THEFT

Data Bases for Implementing and Assessing the 1984 Vehicle Theft Act



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May 5, 1987

The Honorable John D. Dingell
Chairman, Subcommittee on Oversight
and Investigations
Committee on Energy and Commerce
House of Representatives

Dear Mr. Chairman:

As you requested, this briefing report provides information pertinent to the 1984 Motor Vehicle Theft Law Enforcement Act. The report compares vehicle theft and recovery data bases available to implement the act and assess its effectiveness. Results of our comparison are summarized in this letter and presented in full in appendix II. In addition, information is presented on the extent to which the Federal Bureau of Investigation (FBI) and Department of Justice (DOJ) enforce vehicle theft laws (app. III), on the actions of insurance companies to implement those recommendations relating to vehicle theft and insurance fraud contained in a 1984 National Institute of Justice report (app. IV), and on several technical matters related to NCIC (app. V).

The act was designed to curb the theft of motor vehicles, which presently number over 1,000,000 each year, primarily by addressing the "chop shop" problem. "Chop shops" are run by professional thieves who steal automobiles to dismantle them and sell the parts. The act requires that numbers be marked on certain parts of new passenger car models that are frequently stolen, thereby making parts traceable and assisting law enforcement officials in tracking and prosecuting thieves. The act also authorized criminal penalties for altering Vehicle Identification Numbers (VIN) and for possessing, trafficking in, importing, or exporting stolen vehicles or parts.

Several actions are required to implement and assess the effectiveness of the act. The act directs the Secretary of Transportation, in consultation with the Director of the FBI, to obtain vehicle theft and recovery data from the most reliable source or sources. These data are to be used in identifying vehicles with high theft rates and in assessing the act's effectiveness. The Secretary and Director are also required to periodically publish data on the automobile theft problem and to take any necessary actions to improve the accuracy, reliability, and timeliness of the data, including ensuring that vehicles represented as stolen are in fact stolen. The Secretary of Transportation delegated duties

related to the act to the National Highway Traffic Safety Administration (NHTSA).

Vehicle theft data are contained in data bases maintained by the FBI's National Crime Information Center (NCIC) and the National Automobile Theft Bureau (NATB). NCIC is the FBI's voluntary, nationwide computerized communications system that contains a wide variety of criminal justice information and serves over 23,000 federal, state and local agencies. NATB is a private agency supported by over 600 property-casualty insurance companies that provides vehicle theft data and related services to law enforcement agencies.

In responding to the request, we (1) interviewed federal, state, and local officials and persons from private organizations who had knowledge related to the act and/or the NCIC and NATB data bases; (2) drew samples totalling 2,710 vehicle theft cases from 15 judgmentally selected police agencies and 1,069 cases from 8 cooperating insurance claims offices;[1] (3) reviewed reports, procedures manuals, and other pertinent documents from NCIC, NATB, NHTSA, and other sources; and (4) compared our sample data to data in NCIC and NATB. Our review was performed between October 1985 and September 1986 and was conducted in accordance with generally accepted government auditing standards. Additional details concerning our objectives, scope, and methodology are presented in appendix VI.

REVIEW RESULTS

We believe that NHTSA's decision to use NCIC data in determining which high theft vehicle lines (passenger car models that are frequent theft targets) should be subject to the act's parts marking requirement was reasonable. NCIC's vehicle file contains nearly three and a half times as many entries per year as does the NATB data base. VINs, which are key to implementing the act and assessing it, were of similar accuracy for the cases we traced into the two data bases.

NHTSA's present plan for assessing the act's effectiveness calls for obtaining NCIC data on vehicle thefts, both NCIC and NATB data on the number of stolen vehicles that are recovered, and NATB data on the condition of recovered vehicles. Use of NCIC data on vehicle thefts and recoveries to assess the act's effectiveness is consistent with its use to determine which vehicles are subject to parts marking. In addition to the NCIC data, NATB and certain insurance companies will report data on the number of stolen vehicles that are recovered and their

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[1]These samples were representative of the vehicle theft cases for the police agencies and insurance claims offices in our review, not of NCIC or NATB as a whole.

condition. Data on the condition of recovered vehicles is not contained in NCIC.

NCIC's data base more comprehensive than NATB's

The NCIC vehicle theft data base is more comprehensive than NATB's. In 1985, NCIC had about 974,000 vehicle entries compared to 280,694 thefts in NATB. NATB's lower total is at least partially due to (1) not all insurance companies being NATB members (over 600 of approximately 2,200 motor vehicle insurers belong to NATB) and (2) some vehicles not being insured for theft.

The 15 police departments from which we drew our sample of cases entered into NCIC about 93 percent of cases that should have been entered. The 8 insurance claims offices we studied entered about 85 percent of the cases that qualified for entry.

However, we found that theft entries into NCIC are inflated because an unknown proportion of the vehicle entries do not reflect actual vehicle thefts. Some vehicles that are reported to NCIC as stolen turn out to have been lost, borrowed, or otherwise not stolen. When such records are removed from the system, NCIC has procedures to identify them as invalid thefts. However, NCIC officials said that the proper procedure is not always followed at the local level and we found this to be true in 9 out of the 15 police agencies we visited. Consequently, theft statistics based on NCIC entries do not exclude all cases that are not actual thefts.

Also, a problem exists when a stolen vehicle record is entered more than once. We were told that, contrary to NCIC procedures, when a stolen vehicle record must be modified terminal operators sometimes remove the original record and enter a new record for the same vehicle. The removed record is stored on historical tape. When theft figures covering a year are compiled, the removed record plus the active record are both counted. We do not know how frequently records are removed and reentered rather than modified without removal. However, officials from 12 out of the 15 police agencies we visited said that records are sometimes removed and new records created when modifications are required.

NHTSA officials were aware of this NCIC data problem and compensated by not counting more than one entry of the same VIN if the additional entries were reported within 7 days of the original entry.

Accuracy of VIN data important

Since VIN data is key to the act, it is important that both data bases contain accurate VIN data. For a high percentage of

cases we sampled we found this to be so. NHTSA regulations require that VINs for 1981 and newer on-the-road vehicles include an internal check digit calculated based on values assigned to the other 16 VIN characters. This digit can be used to determine the validity of the VIN.

Both NCIC and NATB have computer programs to determine the validity of VINs entered into their systems according to the check digit calculation. For 1981 and newer vehicles in our samples, we found that the NCIC and NATB check digit programs worked. However, some VINs in the data bases for 1981 and newer vehicles may not be valid according to the check digit program. For example, off-road vehicles are not subject to the 1981 NHTSA VIN standards. In calculating high theft vehicle lines NHTSA used only NCIC records with valid, 17 character VINs.

Vehicle recovery data generally same as original files

As noted earlier, NHTSA will use various information on the recovery of stolen vehicles in evaluating the act's effectiveness. Regarding whether vehicles had or had not been recovered for the locations we sampled, NCIC data agreed with the originating police files for about 93 percent of 2,236 sample cases. NATB data agreed with originating insurance files in about 86 percent of 800 sample cases.

As requested by your office, we did not obtain official agency comments. We discussed the facts presented in the report with officials of the Department of Transportation, the FBI, and NATB, who generally agreed with its contents, and we took their comments into consideration.

As arranged with your office, unless you publicly announce the contents of the report earlier, we plan no further distribution until 30 days from the date of the report. At that time we will send copies to the Attorney General, the Secretary of Transportation, the Administrator of NHTSA, the President of NATB, congressional committees having a jurisdictional interest related to the report, and other interested parties. Additionally, we will make copies available to others upon request. If you desire additional information about this report, please contact me on 275-8389.

Sincerely yours,

Arnold P. Jones
Senior Associate Director

C O N T E N T S

ABBREVIATIONS

DOJ	Department of Justice
FBI	Federal Bureau of Investigation
NATB	National Automobile Theft Bureau
NCIC	National Crime Information Center
NHTSA	National Highway Traffic Safety Administration
NIJ	National Institute of Justice
VIN	Vehicle Identification Number

BACKGROUND

The profile of motor vehicle theft has changed in recent years. In the past, stealing cars was associated almost exclusively with juvenile "joy-riding." Today, vehicle theft has evolved into a multi-million dollar business run by professional criminal enterprises. Cars are frequently stolen so that they can be "chopped" into component parts which are subsequently resold to repair shops to repair damaged vehicles. The proliferation of "chop shop" operations over the last two decades resulted in a call for effective federal legislation to address the problem. Beginning in 1978, several bills were introduced with the support of police organizations, the insurance industry, car rental firms, and the salvage industry. In October 1984, the Motor Vehicle Theft Law Enforcement Act (P.L. 98-547) was enacted.

REQUIREMENTS OF THE ACT

The Motor Vehicle Theft Law Enforcement Act, which amended the Motor Vehicle Information and Cost Savings Act (15 USC 1901 et seq.), was designed in part to curb the theft of motor vehicles by preventing thefts and by decreasing the ease with which certain stolen vehicles and their major parts can be sold. The act seeks to address the "chop shop" problem, in which professional thieves steal automobiles in order to chop them up into component parts and then sell the parts. Pursuant to the act, certain parts of passenger car models that are frequent theft targets ("high theft lines") must be marked with an identification number. The numbering is intended to make parts traceable, thereby enhancing the ability of law enforcement officials to track down and prosecute thieves and theft rings. Additionally, the act amended other titles of the U.S. Code to allow for criminal penalties for altering Vehicle Identification Numbers (VIN) and for possessing, trafficking in, importing, or exporting stolen vehicles or parts.

Vehicle theft prevention standard

The act requires the Secretary of Transportation to promulgate a vehicle theft prevention standard, which regulates the marking of identifying numbers on certain parts of high theft passenger car lines. The standard is to cover major parts as well as replacements for the major parts. No more than 14 parts can be required to be marked of a maximum of 14 car lines of any one manufacturer.

In order to determine which car lines are high theft lines, the act further stipulated that the Secretary of Transportation, in consultation with the Director of the Federal Bureau of Investigation (FBI), obtain from the most reliable source or sources accurate and timely vehicle theft and recovery data. The Secretary was instructed to utilize, to the greatest extent

possible, theft data reported by federal, state, or local police. Additionally, the Secretary and the FBI Director were required to take any necessary actions to improve the accuracy, reliability, and timeliness of the data, including ensuring that vehicles represented as stolen are in fact stolen.

The act requires parts marking for the following three types of car lines:

--existing lines that had a theft rate exceeding the median theft rate in 1983 and 1984;

--new lines that are likely to have a theft rate exceeding the median theft rate; and

--existing or new lines that have a theft rate below the median theft rate, but which have a majority of major parts interchangeable with lines whose theft rate exceeded or is likely to exceed the 1983 and 1984 median theft rate.

Insurance company reports

The act also requires certain insurance companies or their designated agents to provide information on vehicle thefts and recoveries, including their condition, to the Secretary of Transportation on an annual basis. These reports are intended to aid the Secretary in implementing the act and fulfilling its requirements to report to Congress on the act's effect and the need for possible modifications to the act's coverage. The reports must include: (1) an explanation about how the theft and recovery information is obtained; (2) the accuracy and timeliness of the information; and (3) the use made of the information, including the frequency of reporting to national, public, and private entities, such as the FBI and state and local police. Additional required information includes: the rating rules and plans used to establish premiums; actions taken to reduce premiums when vehicle thefts decline; and actions taken to assist in deterring thefts.

Three reports required

The Secretary of Transportation is required to submit three reports to Congress relating to the provisions of the act. The first report, required 1 year after the date of enactment, deals with security devices and systems which are designed to deter individuals from entering and stealing a locked motor vehicle. The report must include: (1) a determination of whether such a standard would be beneficial; (2) a determination of whether a federal standard can be devised for anti-theft devices that does not compromise the effectiveness of those systems in reducing thefts due to requirements to demonstrate compliance with the

standard; and (3) information on such devices' cost and effectiveness.

The second report, required 3 years from the date of enactment, is to include legislative recommendations regarding a theft prevention standard for trucks, multipurpose passenger vehicles, and motorcycles. The report must also include specified information pertinent to consideration of such a standard.

The third report, required not later than 5 years after promulgation of the parts marking standard, is to provide information and recommendations on whether the theft prevention standard should be continued without change or terminated, or the act modified to cover more or fewer lines of cars, or modified to cover other classes of motor vehicles.

IMPLEMENTATION OF THE ACT

The Secretary of Transportation delegated authority to the National Highway Traffic Safety Administration (NHTSA) for implementing the parts marking standard and fulfilling other requirements assigned to the Secretary by the act. Because of the time needed to select high theft vehicle lines for parts marking, NHTSA decided that the standard would apply to passenger cars and replacement parts beginning with the 1987 model year.

NHTSA's selection of theft data

In order to determine which data to use in calculating theft rates for each line and the median theft rate, NHTSA examined the relative merits of the vehicle theft data bases of the FBI's National Crime Information Center (NCIC) and the insurance industry's National Automobile Theft Bureau (NATB). Following this examination, NHTSA selected theft data from NCIC's Vehicle File to determine the theft rates for passenger motor vehicle lines manufactured in 1983 and 1984 and the median theft rate for all of those lines. Vehicle lines with a theft rate in those 2 years that exceeded the median rate were selected for coverage under the parts marking standard. Further, new lines and those low theft lines which have a majority of major parts interchangeable with the major parts of an actual or likely high theft line were also selected to be covered by the standard. This was arranged through agreements between the manufacturer and NHTSA.

Most covered insurance companies to report data through NATB

In implementing the act's insurance company reporting requirements, NHTSA exempted all but 31 insurance companies. These 31 companies received an estimated 57 percent of total premiums paid for motor vehicle insurance in 1984.

NHTSA concluded that exempting all but these 31 companies would not significantly affect the validity or the usefulness of the information collected in the reports. As a result, of the 24 covered insurance companies which are members of NATB all have selected NATB to be their agent for purposes of reporting vehicle theft and recovery data. These companies will now report all stolen vehicles and information on their recovery and condition to NATB. This information will be compiled by NATB and then reported to NHTSA. Seven covered companies that were not NATB members will report data directly to NHTSA.

NHTSA's reports to Congress

Pursuant to the act's requirements, NHTSA issued a report to Congress in February 1986 on anti-theft devices and systems designed to deter the theft of motor vehicles. NHTSA concluded that the promulgation of a Federal "design standard" for all anti-theft devices would not be an effective means of reducing vehicle theft. It also stated that a design standard for vehicle anti-theft devices might compromise vehicle security by providing a consistent industry standard for sophisticated vehicle thieves to study and defeat.

In assessing limited data available on the benefits of anti-theft devices, NHTSA could not determine the estimated effectiveness of these devices. However, NHTSA stated that potential means of reducing thefts should be encouraged and that it would support the efforts of insurance companies to offer premium discounts for the installation of anti-theft devices.

In the second report, NHTSA plans to delineate some preliminary results from the insurance reports. The agency also plans to include information on thefts and recoveries of trucks, multipurpose passenger vehicles, and motorcycles.

NHTSA published an evaluation plan for the third report in August 1986 detailing evaluation projects to be completed. The projects, in five basic areas, are intended to:

--compare the magnitude of the passenger car theft problem before and after implementation of the parts marking standard;

--measure the effectiveness of specific theft countermeasures over time after promulgation of the standard;

--determine the net benefits accruing from the standard including changes in insurance premium rates;

--determine the costs imposed on producers and consumers by the standard; and

--provide information on the marketplace for stolen cars and parts, and state/local enforcement practices and adjudication outcomes.

NHTSA will utilize theft data from NCIC, data on the number of recovered vehicles from both NCIC and NATB, and NATB data on the condition of recovered vehicles in an attempt to measure the effectiveness of the parts marking standard.

NCIC AND NATB DATA BASES

The NCIC, established by the FBI in 1967, is a voluntary, computerized communications system developed primarily to assist criminal justice agencies. The system covers approximately 23,000 federal, state, and local agencies throughout the United States. NCIC consists of 12 files of information and is designed for the rapid exchange of information between its user agencies. NCIC's Vehicle File contains information on stolen vehicles and parts input by the system's users.

According to the NCIC Operating Manual, a vehicle is defined as any motor-driven conveyance designed to carry its operator, with the exception of a boat. Aircraft and trailers are also included in the file. The manual defines stolen vehicle parts that are eligible for entry into the NCIC Vehicle File as any serially numbered, integral, vehicle component.

The NATB, established in 1912, is supported by over 600 property/casualty insurance companies throughout the United States. The 600 member companies include many of the largest insurers among the approximately 2,200 that insure motor vehicles. NATB assists law enforcement agencies in preventing vehicle theft, in vehicle identification, in theft investigation, and in educating law enforcement officers in theft investigation techniques. NATB's National Stolen Vehicle File contains stolen vehicle entries received from claims offices of member companies. Vehicles included in NATB are automobiles, trucks and trailers, construction equipment, snowmobiles, motorcycles, and farm equipment. The file can include stolen parts which are also reported to a separate NATB Stolen Parts File.

COMPARISON OF NCIC AND NATB VEHICLE THEFT DATA BASES

Vehicle theft figures developed from the NCIC data base were used by NHTSA in determining which vehicle makes and models would be subject to the act's parts marking requirement. NHTSA's choice of NCIC data for this purpose seems reasonable because the NCIC data base is more comprehensive than NATB's, containing nearly three and a half times as many entries per year as does the NATB data base. Regarding VINs, which are central to identifying vehicle makes and models, the VINs for cases we traced into the two systems were of similar accuracy.

NHTSA's plans for evaluating the act's effect are not yet final, but call for obtaining (1) NCIC data on vehicle thefts, (2) both NCIC and NATB data regarding the number of stolen vehicles that are recovered, and (3) NATB data on the condition of recovered vehicles. The use of NCIC data on vehicle thefts and recoveries to assess the act's effectiveness is consistent with its use to select vehicles for coverage under the act. Pursuant to insurance company reporting requirements in the act, NATB and certain insurance companies will report data on the number of stolen vehicles that are recovered and their condition. NCIC's data base does not contain information on the condition of recovered vehicles.

COMPLETENESS OF NCIC AND NATB THEFT DATA

Approximately 974,000 vehicle entries were made into NCIC's vehicle file during 1985. In contrast, member insurers reported 280,694 vehicle thefts to NATB in 1985, which was approximately 29 percent of the total vehicle entries into NCIC.

The lower volume of vehicles in NATB is at least partially attributable to three factors. First, some insurance companies are not members of NATB. Second, some vehicles are not insured for theft and therefore no report would be made. Third, more time elapses before an insurance company reports a theft to NATB than when a police department enters a theft into NCIC. The longer time period allows for some vehicles to be recovered, and therefore not reported to NATB. Pursuant to the insurance company reporting requirements of the Motor Vehicle Theft Law Enforcement Act, this situation will change somewhat. Member companies that are covered by the act's reporting requirements have begun reporting all thefts to NATB, regardless of whether a recovery occurs.

NCIC's higher volume of entries is attributable in part, but to an unknown degree, to two problems in using the system. Both problems result in an inflation of theft totals based solely on entries into the NCIC system. First, some vehicles are entered into NCIC and subsequently found not to have been stolen. This problem is much less likely to occur in NATB's data base because of the time it takes for thefts to be entered into NATB. Second,

duplicate entries of the same vehicle are sometimes included in the data base.

Considering the first problem, vehicles can be removed from active status by police agencies in two ways. Terminal operators can remove records by using "clear" or "cancel" computer commands. Clear commands are supposed to be used to remove actual stolen vehicles that are subsequently located and cancel commands are to be used to remove vehicles that were not valid vehicle thefts.

According to NCIC officials, the intended distinction between these two commands has not been adhered to by all police departments. We found this to be the case in our interviews with police department officials. Officials from 5 of 15 police departments said they use the clear command to remove recovered vehicles from the system. Nine agencies used the cancel command for this purpose and 1 reported using a "recovery" command. This latter case apparently reflects a command that is used by a state or local stolen vehicle system and which, according to NCIC officials, would have been translated into either a clear or cancel before being accepted by NCIC.

Because the clear and cancel procedures are not always followed, theft figures based on entries into NCIC can not be adjusted to eliminate those that do not represent actual thefts. Thus, theft statistics based on NCIC entries are inflated through the inclusion of some non-theft entries.

The second problem affecting theft statistics based on NCIC entries arises from police agencies deviating from NCIC procedures for modifying records in the system. Modifications to active records are to be made using a "modify" command. However, some operators remove a record entirely from active status and then enter the same record again, including the necessary modifications. The removed record is stored on historical tapes. When vehicle theft figures for an entire year are compiled, the removed record plus the active record are counted. Although we do not know how extensive this problem is, officials from 12 of the 15 police agencies we visited said they remove and reenter at least some of the records that they need to modify in the system.

NHTSA was aware of this problem when it compiled theft rate statistics for purposes of determining which vehicles would be covered by the parts marking provisions of the act. NHTSA compensated for the overcount that would arise in this manner by not counting more than one entry for the same VIN if the additional entries occurred within 7 days of the original entry. Duplicate entries for VINs beyond 7 days were retained on the theory that some vehicles are in fact stolen more than once during a year.

Percentage of reported thefts entered into NCIC and NATB

From our review of 2,710 vehicle thefts reported to 15 sampled police departments, we found that about 89 percent were entered into NCIC. In our review, entry was measured by matching originating agency numbers and case numbers, VINs, and license data we obtained from police files to data in NCIC. However, we found that most of our sample cases which were not entered did not qualify for entry according to NCIC criteria. Adjusting for these cases, we found that approximately 93 percent of vehicle thefts from our sample that should have been entered into NCIC were entered. Of 473 cases in our sample which were not entered, 271 vehicles were not entered into NCIC for legitimate reasons such as: the vehicle was recovered before entry would normally be made; data required by NCIC for entry of a record was unavailable; and, the police knew that the case was not a true vehicle theft.

These results agree with information obtained from police officials during interviews. Officials generally told us that all thefts are entered into the NCIC system with the exception of those that do not meet NCIC entry criteria or that officials suspect are not thefts.

From our review of files relating to 1,069 thefts reported to eight insurance claims offices, we found that approximately 80 percent were entered into the NATB data base. Entry was measured by matching VIN, license data, and NATB file numbers obtained from insurance files to data in NATB.

NATB officials noted that in cases where the date of theft for a vehicle and the date of recovery are close together it is likely that insurance companies did not submit the record to NATB. During the time period covered by our sample, NATB did not require the submission of cases where the vehicle was recovered prior to the claims office sending a theft report to NATB, unless the vehicle was stripped of identifiable parts. NATB procedures specified that theft reports should be submitted as soon as possible after a theft.

We reviewed the 266 cases from our sample that were not entered into NATB and found that for 95 cases the stolen vehicle was recovered before, or the same day as, the theft was reported to the insurance claims office. Adjusting for these cases, we found that approximately 85 percent of the sample cases that should have been entered into NATB were entered.

ACCURACY OF NCIC AND NATB THEFT DATA

We analyzed the accuracy of certain data elements in the NCIC and NATB data bases and looked at various means the systems employ to assure the quality of data in the data bases. We found

that VINs in the two systems are similar in accuracy. Further, the automated edits employed by both systems to screen out inaccurate 1981 and newer VINs appear to work well.

Analysis of data element accuracy

In analyzing the accuracy of data in the systems, we compared certain data elements from both the police and insurance files with data from the NCIC and NATB data bases, respectively. This analysis assumed that data contained in the originating files generally would best describe the actual stolen vehicle case. Table II.1 shows how well the data found in the data bases matched the data found in our police and insurance file samples.

Table II.1
Agreement Between Data in Sampled Files and Automated Systems[a]

Data elements from data bases	Data elements from sampled files				
	VIN	License number	License state	Vehicle year	Date of theft
NCIC	87%	88%	94%	99%	76%
NATB	88	75	80	99	91

[a] Figures rounded to nearest full percent.

Originating files, however, can contain errors. For example, numbers can be erroneous because they are incomplete. Thus, agreement between data in the originating files and data in the systems does not necessarily imply data accuracy.

Consequently, we performed additional analyses regarding the accuracy of the sampled VIN data. VINs are the key data for the act's purposes. For these cases we found VIN data in the two data bases was more accurate than that in the originating files.

For 1981 and newer vehicles, NHTSA regulations require a standardized VIN of 17 characters, the ninth character of which is a "check digit." This digit is calculated according to a formula that is specified in the regulations. We calculated the check digit for the cases that we were able to trace into the two data bases.

According to the check digit for 1981 and newer vehicles in our sampled cases, about 95 percent of NCIC VINs (668 of 703) and 99 percent of NATB VINs (351 of 356) were valid. Of the 35 invalid VINs in our NCIC sample, 33 were less than 17 characters. NCIC officials explained that their VIN edits do not preclude

entry of 1981 and newer VINs of less than 17 characters. Short VINs are permitted for at least two reasons. Off-road vehicles are not subject to the 1981 NHTSA standards and thus may be less than 17 characters, and some states may allow vehicles to be registered without a full 17 character VIN. When NHTSA used NCIC data to determine high theft vehicle lines, it used only full 17 character VINs.

Two VINs of 17 characters in our NCIC sample and 4 in our NATB sample were not valid according to the check digit calculation. However, this does not necessarily indicate a failure in NCIC or NATB edit procedures. Both systems accept some 1981 and newer VINs where the check digit does not properly calculate. Such a procedure is necessary, for instance, to allow entry of an actual VIN where the manufacturer assigned a VIN that was not accurate according to the check digit.

In contrast to the VINs in the systems, the VINs we took from the originating files for 1981 and newer vehicles tended to be less accurate according to the check digit. Approximately 83 percent (610 of 731) of the police file VINs for cases we traced into NCIC were valid according to the check digit and 83 percent (297 of 357) of the insurance file VINs we traced were valid. The greater accuracy of the VIN information in the two data bases for sampled cases suggests that the VIN edit programs used by the two data bases are functioning well. While these results indicate that the NCIC and NATB computer programs do accurately screen 1981 and newer VINs, we can not generalize the validity rates to all 1981 and newer vehicle VINs in the two data bases.

Methods used to assure data quality

Both NCIC and NATB employ various mechanisms to help assure the quality of data entered into the systems. In addition to the on-line edit procedures that both systems use to check the accuracy of VINs, methods such as requiring the input of certain data, auditing originating agencies, and verification procedures are used by NCIC and/or NATB.

Mandatory data requirement

NCIC requires certain minimum data from a police agency before entry of data into the data base will be allowed. These include: (1) vehicle year, (2) date of theft, and (3) either VIN (or owner applied number) or license information (including the license number and state).

NCIC places special emphasis on entry of VINs. Accordingly, police agencies are allowed up to 90 days after initial entry of the record to input the VIN. If the VIN is not entered within the 90-day period, the record is automatically purged from the system.

For our sample cases, the procedure worked well. Only 7 of the 2,236 originally matched cases lacked a VIN. In all seven cases the alternately required license information was present. We also found that the edit procedures for the other mandatory data elements for entry--license information, vehicle year, and date of theft--were also working properly for our sampled cases.

NATB does not have the same mandatory information requirements as NCIC. However, for the 800 records for which we obtained matches between records selected from claims offices' files and those in NATB, all 800 records in NATB had VINs.

Audits

Since 1983 NCIC has been auditing state control terminal agencies, which generally oversee use of NCIC within states, along with selected law enforcement agencies in the state systems. The areas covered by the audits include quality assurance, system access, system security, and training. During the NCIC audits, randomly selected records that are in the NCIC system are traced to the police agency files to determine how accurately and completely information is being entered into the data base. Auditors primarily check the accuracy of mandatory data elements. According to NCIC officials, these audits have shown that on average mandatory data elements that are entered into the data base are about 97 percent accurate. These results appear to be in line with our findings regarding the accuracy of data that is in the data base. Beginning in 1986, NCIC is requiring each state control terminal agency, which monitors system use and enforces NCIC procedures within a state, to conduct audits of local police departments which use the NCIC system.

NATB does not conduct any audits of member companies' reporting of data. The President of NATB believes that member companies have a strong incentive to report accurately to NATB because such reports lead to recoveries that reduce their theft losses.

Officials at all eight claims offices we reviewed said that periodic insurance company audits include checking the timeliness and/or accuracy of forms that are sent to NATB. However, seven officials could not provide us with copies of any audit reports and one said they actually use timeliness reports generated by NATB.

Other data verification procedures

Each month NCIC sends a listing of records to each state control terminal agency for validation. The records must be checked for currency, accuracy, and completeness. The control terminal agency must respond to NCIC within 45 days certifying that all of its records and those of its local police agencies

have been reviewed and corrected as necessary. If a certification is not received by NCIC for a control terminal agency or for a police agency within a state, records contained in the validation listing for the non-certifying agency are purged from the system.

Officials from 14 of the 15 police departments we contacted said that they trace 100 percent of the records on the validation listings back to their files. Officials from one department said that they trace 95 percent of the records back to files. Officials generally reported having to make few corrections to the listings.

In addition to the audits performed by NCIC, NCIC officials told us that NCIC staff periodically review samples of records that are in the system. If they identify errors, they send a message over the system to the agency originating the record. In conducting these reviews, NCIC staff are particularly interested in identifying error patterns.

NATB sends an acknowledgment letter to insurance claims offices for each record it receives. NATB requests that the claims offices review the record for accuracy and report any errors.

The insurance offices we visited varied regarding their review of these acknowledgment letters. Officials from two of the offices said that all elements of all acknowledgment letters are traced to the files to confirm the accuracy of the NATB record. Two claims offices reported tracing some information for all letters and another reported tracing some information for some acknowledgment letters. Officials from another office said they assumed that all acknowledgments were traced to the files for accuracy, but they did not know for certain. Finally, officials from two offices said that they do not trace the information in acknowledgment letters back to the files because if NATB had found an error in the claims offices' original submission it would generate a request for correction of the data.

As records are entered by NATB computer operators, the operators review them for possible errors and react to errors identified by the system's on-line edits. According to NATB officials, the operators are sometimes able to identify the source of errors and correct them before entering the data. NATB maintains records on vehicles tracing them from the manufacturer through to the owner, and these records can be consulted by operators to identify corrections to such items as the VIN.

TIMELINESS OF VEHICLE THEFT ENTRIES INTO NCIC AND NATB

Our sample showed about 78 percent of thefts that were entered into NCIC were entered the same day the theft was reported to the police. Approximately 93 percent of the thefts in our sample were entered within 2 days from the date of the police report.

In contrast, we found that about 16 percent of thefts in our sample that were entered into NATB were entered within 7 days after the claim was reported to the insurance company. About 70 percent of our sample theft cases were entered within 21 days of the insurance report date.

The difference in timeliness of reporting to NCIC and NATB basically results from differing systems for entry of data. NCIC entries are made directly by police departments using terminals. During the time of our review, NATB entries were mailed from claims offices to NATB district offices where they were entered by NATB personnel. NATB is currently switching to direct entry via terminals for its member companies which have appropriate computer capabilities. This should expedite entry. As of March 1987, an NATB official estimated that 25 percent of records entered into NATB are entered directly by member companies using computer connections.

The differences in the timeliness of entries do not, however, seem likely to affect the utility of the data bases for purposes of the act. Analyses of data would be made long enough after thefts occur that the NATB entries would be reasonably complete for the time period to be analyzed.

RECOVERY DATA

NHTSA is required to analyze the effectiveness of the act. Its analysis will depend in part on information regarding the recovery of stolen motor vehicles. NHTSA plans to collect recovery data from NCIC and from selected insurance companies. For companies that have selected NATB as their agent, this data will be obtained from NATB.

Recovery information in the NCIC and NATB data bases

The NCIC and NATB systems contain different information on recovered stolen vehicles. The NCIC Vehicle File does not record information about the condition of recovered vehicles; it simply provides for removal of the stolen vehicle record from active status when the vehicle is recovered. NCIC also permits entry of information on up to seven stolen vehicle parts that have unique numerical identifiers. This file can be used to record parts

such as engines or transmissions that are missing from a recovered vehicle.

NATB will serve as the agent for certain member companies that are required by the act to report theft, recovery, and vehicle condition information to NHTSA. NATB has modified its forms to reflect the specific vehicle condition information that must be reported by these companies. The revised forms use the following categories to describe recovered vehicles:[1]

--Recovered intact - recovered with no major parts missing, no other parts missing, and no apparent damage other than additional mileage and wear and tear.

--Recovered in part - recovered with one or more major parts missing. This could include vehicles stripped of non-major parts, or wrecked, burned, flood damaged, or vandalized.

--Recovered in whole - recovered with no major parts missing, but not intact. This would include vehicles stripped of non-major parts or wrecked, burned, flood damaged, or vandalized.

According to an NATB official, when a vehicle is recovered NATB inserts a date of recovery for the vehicle in its data base, but does not remove it from active status. NATB retains the record in active status for two years after a recovery so that if parts of the vehicle are subsequently found, they can be traced back to the stolen vehicle. In addition, records are retained to help detect insurance fraud as indicated by either multiple insurance claims on the same vehicle or a theft report for a vehicle which NATB has a record of being sold as salvage.

Agreement between data in files and NCIC and NATB data

To determine how well NCIC and NATB reflect the recovery of stolen vehicles, we compared information in our sample of originating files with that in the data bases. Overall, the two data bases reflected the recovery status shown in the sampled originating files to a significant degree. The NATB data base, however, had a shortfall of recoveries as compared to recoveries shown in our sample of originating insurance claims office files.

The recovery status we found in the police files agreed with that in NCIC for about 93 percent of 2,236 cases we originally

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[1]The wording for the categories on NATB's forms differs somewhat from that in NHTSA's final insurance reporting regulations. A NHTSA official said that someone from NHTSA will review the NATB forms to determine whether the difference is significant.

matched in the NCIC system. Agreement existed whenever there was some indication in the file that the vehicle had been located and the record was inactive in the NCIC system or when no indication existed in the file that the vehicle had been recovered and the record was active in NCIC. In some instances, a "recovered" vehicle had never actually been stolen, but rather was misplaced, borrowed, or otherwise was not stolen. The recovery status we found in the insurance claims office files agreed with NATB's status for approximately 86 percent of the 800 matched cases.

For the locations we visited, two situations existed where the data in originating files did not agree with that in the data bases. First, the files may have indicated a recovery had occurred, but the data bases did not have an indication of the recovery. Second, the data bases may have had an indication that the vehicle had been recovered, but the files had no record of the recovery. Of the two situations, cases where the files showed a recovery but the data bases did not are the more troublesome because they reflect a shortfall in recovery information in the data bases. Cases where the two systems show a recovery but the originating files do not can accurately reflect recoveries that have occurred.

The problem of a shortfall in recovered vehicles was slight for the NCIC cases we sampled. Ten cases, representing less than half a percent of the 2,236 cases we checked for recovery status, were active in NCIC although the police files indicated that the vehicles had been recovered.

For the NATB cases we sampled, the shortfall of recovered cases recorded in NATB was larger. Fifty-one cases were not shown as recovered in the system whereas the insurance files had evidence of recovery of the vehicles. These 51 cases represent just over 6 percent of 800 cases we checked for agreement between the recovery status in the files and that in the data base. Under the act's insurance reporting requirements and NHTSA's January 1987 implementing guidance, all stolen vehicles reported to covered insurance companies are to be reported to NHTSA along with information on their recovery, if any. This requirement did not exist between January and September 1985, the time period for which we sampled case files. However, NATB required reporting of the recovery of vehicles which were initially reported to NATB as stolen. One state in which we selected insurance files, Massachusetts, required reporting of all thefts to NATB, regardless of whether the vehicles had or had not been recovered.

Considering the second situation where the recovery status did not agree, 148 of the 2,236 cases we checked for recovery status had been removed from active status in the NCIC data base for which we found no indication in the police files that the vehicle had been recovered. Thirty-five of these were removed after we had obtained files from the police departments and thus the files we reviewed would not have had a record of the

recovery. For the 800 cases we matched in the NATB system, NATB had dates of recovery for 58 cases where we found no evidence of recovery in the claims office files. Eight of the 58 were recovered after we obtained insurance files for the cases.

The cases falling in this second situation might be explained in that vehicles in both NCIC and NATB can be identified as recovered by sources other than the entity that originally entered the stolen vehicle record. In NCIC for example, police departments other than the originating department enter a locate message into NCIC when they find a stolen vehicle. The department that finds the vehicle is supposed to contact the originating department. After the originating department is certain that the located vehicle is the same as the one reported stolen, it is to remove the vehicle from NCIC with a clear command. If this does not occur within 10 days after a vehicle is located, NCIC automatically removes the record from active status in the system during the next biweekly purge of records from the file. Thus, NCIC may have removed records from active status even though the originating police departments' files did not show evidence of a recovery.

NATB similarly may find that a vehicle has been recovered, perhaps from information obtained from a police department or from NCIC, and note the recovery in its system. NATB is then to notify the insurance claims office of the recovery. However, this notice may not be placed in the claims file by the insurance company. Thus, again, the system may have evidence of a recovery when the originating entities' files do not.

Inflation of vehicle recovery totals based on NCIC data

Although for our sample NCIC showed considerable success in removing located vehicles from its data base, recovery statistics based on simple removals of records from active status in the NCIC system are inflated to an unknown degree. The problem here is analogous to that discussed earlier regarding inflation of stolen vehicle entries in the NCIC data base. Some vehicles that are initially reported as stolen to the police, and entered into NCIC, turn out not to have been stolen. If police agencies followed NCIC's intended distinction between clear (remove a valid theft case that has been recovered) and cancel (remove an entry that was not an actual theft) computer commands, NCIC statistics could be adjusted to remove "recoveries" of invalid thefts. However, this distinction is not always followed and therefore some "recoveries" based on removal of records from the system do not represent actual stolen vehicles that have been recovered.

Further, police terminal operators sometimes remove NCIC records that need to be modified and then enter a new record for the same vehicle with appropriate modifications. Because this

procedure does not identify the removal as being for purposes of modifying the record, statistically, the removed record would be treated as a vehicle recovery, when in fact the vehicle had not been recovered. Our audit work did not reveal the extent to which these two problems affect vehicle recovery totals based on NCIC data.

RESOURCES DEVOTED TO VEHICLE THEFT LAW ENFORCEMENT

Federal efforts to enforce vehicle theft laws have concentrated on organized theft rings in recent years. The numbers of automobile theft complaints received and court cases filed by U.S. attorneys have declined substantially in the years following the 1970 issuance of guidelines focusing prosecutorial effort on organized theft rings. The FBI's vehicle theft investigative effort has remained virtually stable for 8 years. We could not find statistics describing state and local efforts to investigate and prosecute vehicle theft.

FEDERAL PROSECUTIONS AND INVESTIGATIONS

Automobile theft complaints, that is, cases referred from investigative agencies for prosecutorial consideration and cases filed with the courts have decreased approximately 96 and 90 percent, respectively, between fiscal years 1971 and 1985. From a low point reached in 1976, cases filed as a percent of complaints received have generally been increasing. In 1970 the Justice Department issued guidelines focusing its prosecutorial efforts relating to automobile theft on organized theft rings as opposed to individual theft cases. Table III.1, derived from the Statistical Report, United States Attorneys' Office,[1] reflects decreases in the complaints received and cases filed from fiscal years 1971 through 1985.

[1]U.S. Department of Justice, Executive Office for United States Attorneys, Statistical Report, United States Attorneys' Office (Washington, D.C.: fiscal years 1971 through 1985).

APPENDIX III

Table III.1
Automobile Theft Complaints Received And Cases Filed By U.S. Attorneys

Fiscal	Complaints received	Court cases filed	Cases filed as a percent of complaints receive
1985	657	267	40.6
1984	788	299	37.9
1983	999	326	32.6
1982	1,210	365	30.2
1981	1,267	312	24.6
1980	1,475	422	28.6
1979	1,799	393	21.8
1978	3,385	705	20.8
1977	7,119	1,026	14.4
1976	11,423	1,449	12.7
1975	12,746	1,669	13.1
1974	13,425	1,906	14.2
1973	13,659	2,076	15.2
1972	14,218	2,481	17.4
1971	15,185	2,563	16.9

In April of 1984, Justice issued a revised prosecutorial policy for automobile theft cases. The revised policy provides factors for U.S. attorneys to consider in selecting automobile theft ring cases for prosecution when resources do not allow for pursuing all such cases. According to a Justice attorney, the revised guidance also was intended to eliminate potential instances where U.S. attorneys may have interpreted the prior guidance as inhibiting the prosecution of organized theft rings.

The FBI has devoted about the same percent of its total agent work-hours to investigating the theft of vehicles over the past 8 years. During the past 3 years, nearly all of the vehicle theft effort has been devoted to organized theft cases. According to an FBI official, the Bureau is concentrating on undercover operations aimed at organized theft rings because rings represent an increasing proportion of all vehicle thefts. Table III.2, based on figures provided by the FBI, shows these trends.

Table III.2
FBI Agent Work-hours Devoted To Vehicle Thefts

Year	Total work-hours devoted to vehicle theft	Percent of vehicle theft work-hours devoted to theft ring cases	Vehicle theft work-hours as a percent of all work-hours
1985	252,776	97.4	1.5
1984	254,500	97.0	1.5
1983	241,676	95.9	1.5
1982	238,213	91.3	1.5
1981	244,435	87.6	1.6
1980	234,091	87.5	1.5
1979	292,935	86.3	1.8
1978	276,296	95.3	1.8

STATE AND LOCAL PROSECUTIONS AND INVESTIGATIONS

The decline in federal prosecutions of vehicle theft cases would be offset if state and local prosecutors have been increasing their prosecutions of such cases. The current Justice prosecutorial guidance calls for cooperation with state and local prosecutors and for referral of non-prosecuted cases to state and local prosecutors.

However, we could find no statistics portraying the investigative or prosecutorial trends of local and state governments. A representative of the National District Attorneys' Association (NDAA) said that, with the possible exception of some western states, no statistics are reported to any central organization by states' attorneys, district attorneys, or county prosecutors concerning resources devoted to auto theft cases. During a prior GAO study,[2] state and local officials also told us that they do not maintain records on federally referred criminal cases. Since local prosecutors have autonomy in pursuing or declining cases, the NDAA official expressed doubts as to whether a representative sample of jurisdictional investigative and prosecutorial policies could be drawn.

During our audit work we interviewed 11 local prosecutors and found mixed results regarding prosecution of vehicle theft cases. Only two offices reported maintaining statistics on the prosecution of vehicle thefts. Five of the 11 prosecutors reported that the number of vehicle theft cases referred to them for prosecution had increased over the past decade. Five said

[2]U.S. General Accounting Office, Coordination: Referral of Federal Criminal Cases to Local Law Enforcement Agencies, GAO/GGD-86-18 (Washington, D.C.: Nov. 19, 1985).

that their level of prosecutorial effort had remained about the same over this period, and four said that the number of cases they declined for prosecution has remained about the same. In 10 of the 11 jurisdictions, vehicle theft cases were not the highest prosecuting priority. (In the remaining jurisdiction each case is looked at on its own merits.)

Regarding the act, 5 of the 11 prosecutors thought that the act would be useful in investigating and/or prosecuting vehicle theft cases. Three thought the act would not be useful and three others were not familiar enough with the law to offer an opinion. Four of the prosecutors mentioned the need for complementary state legislation, with two explaining that state laws were needed in order to use the federal law in prosecuting state cases.

APPENDIX IV

INSURANCE INDUSTRY RESPONSE TO NIJ REPORT RECOMMENDATIONS

In 1984, a report entitled Vehicle Theft Prevention Strategies was published by the Department of Justice's research branch, the National Institute of Justice (NIJ).[1] The report was part of a publication series on issues and practices in the criminal justice area, which provides managers with information to plan, implement, and improve programs and practices. The report presented an overview of the nation's vehicle theft problem and prevention efforts and offered recommendations to various organizations and groups (including auto manufacturers, the salvage industry, states' departments of motor vehicles, the insurance industry, and criminal justice agencies) on how to combat vehicle theft and fraud. NIJ contracted with Abt Associates, Inc., to obtain the study, at a cost of approximately $77,000.

Several recommendations were made regarding actions that insurance companies could take to reduce the problems of vehicle theft and insurance fraud. The report recommended that insurance companies:

--conduct physical inspections of selected vehicles to avoid insuring "paper cars";

--develop fraud profiles and train claims adjusters to recognize indicators of potentially fraudulent claims;

--establish special investigative units, where interest and resources permit;

--require owners who file theft claims to report the theft to police and/or sign a statement verifying the authenticity of the theft;

--support legislation which makes filing a fraudulent vehicle theft claim a criminal offense; and

--support legislation which grants insurers immunity from civil liability for release of claims information related to auto theft or insurance fraud to facilitate interagency cooperation in vehicle theft prevention, particularly with law enforcement.

Copies of the report were distributed by NIJ to a limited number of federal and state agencies and private organizations,

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[1]U.S. Department of Justice, National Institute of Justice, Vehicle Theft Prevention Strategies (Washington, D.C.: June 1984).

but not to individual insurance companies. According to an NIJ official, copies were not given to insurance companies because the report could be ordered from the U.S. Government Printing Office's catalog of publications.

Because insurance companies did not receive copies of the report, we contacted officials of two large industry trade associations to inquire as to what insurance companies are doing to combat vehicle theft and fraud. An official with the American Insurance Association (AIA), which represents between 160 and 170 companies that write approximately 20 to 25 percent of the nation's auto insurance policies, said he had seen the report and that, in his opinion the recommendations were not new or innovative, but merely a compilation of ideas and widely shared positions that have been floating around the industry for years. To some extent, these recommendations are already being followed by insurance companies, according to the AIA official.

An official with the National Association of Independent Insurers (NAII), which represents approximately 500 companies that write about 40 percent of the nation's auto insurance policies, stated that the industry has been active for years in trying to solve the theft and fraud problem. For example, the insurance industry was one of the original members of the Coalition to Halt Auto Theft, founded in 1978 to push for more effective federal laws related to auto theft. In 1983 the Joint Industry Task Force on Auto Theft and Fraud--composed of NAII, AIA, the Alliance of American Insurers, NATB, and State Farm Mutual Automobile Insurance Company--compiled a 12-bill auto theft legislative package for the states. Included in this package were some actions similar to those recommended in the NIJ report, such as: supporting legislation which makes filing a fraudulent vehicle theft claim a criminal offense; and supporting legislation granting insurers immunity from civil liability for release of claims information related to auto theft or insurance fraud to law enforcement agencies.

Additionally, in January 1986 an NAII official queried 60 member companies of NAII's Claims Committee to determine whether they were presently engaged in any actions similar to the NIJ recommendations. Fifteen of the 60 companies[2] responded to the informal survey, with the following results:

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[2]With only one quarter of the companies responding, results of this survey are not necessarily indicative of the majority of companies surveyed.

--8 of 15 companies conduct physical inspections of selected vehicles to avoid insuring "paper cars";

--13 of 15 develop fraud profiles and train claims adjusters to recognize indicators or potentially fraudulent claims;

--13 of 15 have created special investigative units, where interest and resources permit;

--14 of 15 indicated that they require owners who file theft claims to report the theft to police and/or sign a statement verifying the authenticity of the theft;

--13 of 15 said that they support legislation which makes filing a fraudulent vehicle theft claim a criminal offense; and

--11 of 15 said they support legislation which grants insurers immunity from civil liability for release of claims information related to auto theft or insurance fraud to facilitate interagency cooperation in vehicle theft prevention, particularly with law enforcement.

INFORMATION REGARDING TECHNICAL QUESTIONS RELATED TO NCIC

Apart from comparing the NCIC and NATB data bases, Chairman Dingell asked us to examine several other areas regarding NCIC. These include: (1) information on NCIC's Code Manual, (2) information on gray market vehicles, (3) entry of VINs of less than 17 characters, (4) purging of data, and (5) the possibility of developing trend analyses with theft data.

NCIC'S CODE MANUAL

Vehicle make and model codes in the NCIC data base, which come from the NCIC Code Manual, were a potential source of statistics that NHTSA could have used in determining high theft vehicle lines. Because of delays in updating the Code Manual, codes are not always available to police departments on a timely basis and model codes are not a required NCIC data element. However, make and model codes are also embedded within VINS. NHTSA used these codes in identifying high theft lines.

NCIC publishes a Code Manual containing codes for various categories of data that are entered into NCIC's files. Police agencies use the manual when creating NCIC records describing the item being entered. For the vehicle file, the manual provides codes for the following: license plate types; vehicle colors, makes, models and styles; engine power displacement; and category fields (codes describing vehicles or their component parts). When an NCIC record is matched by a police agency, the displayed information includes these codes, which may be directly interpreted by the police official, or if necessary, deciphered with assistance from the Code Manual.

The Code Manual was first published in 1982 to replace portions of the NCIC Operating Manual which had been revised 48 times since NCIC's founding in 1967. The Code Manual has been updated four times, with revisions including new vehicle make and model codes. NCIC supplements the manual with Technical and Operational Updates between revisions that incorporate make and model codes as they become available to NCIC.

NCIC generally receives make and model information from the National Automobile Theft Bureau's Passenger Vehicle Identification Manual. Manufacturers voluntarily provide this information to NATB after introduction of new models. Because this information is not made available by manufacturers until after models are released and must be incorporated into NATB's Manual and subsequently into NCIC's Code Manual, new make and model codes may not be available to police departments until months after new models are on the streets.

NCIC also requests new make and model information directly from major vehicle manufacturers. Some manufacturers provide this information, with NCIC generally receiving it after introduction of new models but before receipt of NATB's Manual. NCIC staff develop new codes as necessary and disseminate them to system users in NCIC Technical and Operational Updates. In addition, when newly introduced models are stolen early in the model year, police agencies may contact NCIC for appropriate codes. NCIC will develop new codes and again use the Updates to disseminate them.

The delays in developing and disseminating new codes can affect the utility of vehicle make and model information for the act's purposes. Due to these delays, vehicle model information is not a required data element for creating an NCIC stolen vehicle entry. An NCIC official estimated that about 30 percent of NCIC records do not have model information entered using codes from the NCIC Manual. Thus, identifying thefts of specific vehicle makes and models based on these codes would be impeded.

However, for 1981 and newer vehicles, the VINs incorporate codes identifying vehicle makes and models. These codes must be interpreted, either manually through reference to NATB's Manual or by special computer programs. NCIC does not contain such a program.

In compiling vehicle theft information for the act's purposes, NHTSA obtained make and model data directly from the VINs supplied by NCIC using the Highway Loss Data Institute's VINDICATOR program. The VINDICATOR program is updated twice a year to reflect new makes and models that are encoded within VINs. The program decodes and analyzes VINs to provide make, model, and other descriptive information about a vehicle. Thus, a record of stolen makes and models can be developed well after introduction of the new models as long as VINs are recorded in NCIC. NCIC records did contain VINs for almost all records we checked during our audit. Also, the VIN edit check worked well at determining invalid VINs for the 1981 and newer vehicles that we traced into the NCIC system. Therefore, the VINs seem to provide a reasonably complete and reliable source of make and model information that is not dependent upon timely distribution of coding information to each agency that uses NCIC.

GRAY MARKET VEHICLES

Theft rates for "gray market" vehicles are difficult to determine, in part because their identifying numbers can take several forms. Passenger cars manufactured in foreign countries that do not originally comply with U.S. vehicle safety and emission standards and subsequently are brought into the U.S. are known as "gray market" cars. These cars have VINs that meet the requirements of the manufacturing country, but not U.S. VIN standards.

The NCIC vehicle file could contain some records for stolen gray market cars. However, these vehicles are not specifically identified as gray market cars. Special efforts by NCIC might identify some gray market vehicles that have been entered and some make, model, and model year information for these vehicles.

Gray market cars may have their original VIN (often a European VIN), and/or a state assigned VIN, or an identification number assigned by the organization converting the vehicle for use in the U.S. The converter-assigned VINs may meet U.S. specifications and be indistinguishable from VINs assigned by manufacturers for cars to be sold in the U.S. Because foreign VINs do not meet U.S. standards, records containing a foreign VIN would be rejected by NCIC for entry into the system. However, gray market vehicles could be entered into NCIC under at least the following conditions:

--A stolen vehicle record can be created without a VIN if license information is input. Such records are purged if the VIN is not entered within 90 days.

--Entering the state assigned VIN and the original foreign VIN would in effect bypass NCIC edits and permit entry of the stolen vehicle.

--The stolen vehicle could also be entered using only the state assigned VIN.

--The stolen vehicle could be entered using a converter-assigned VIN that meets VIN check digit standards.

Thus, NCIC could contain records for at least some gray market vehicles that are stolen. These vehicles, however, are not specifically flagged in the system as gray market cars. A tally of some of the stolen gray market cars that have been entered into NCIC could be made by searching data from the system for records that contain both a foreign VIN and a state assigned VIN. An NCIC official said, however, that this procedure would probably identify very few gray market entries since few NCIC records have both a foreign and state assigned VIN. This search approach also would result in an incomplete tally of gray market entries because records created without a VIN (for up to 90 days), records created solely with a state assigned VIN, and records created with a converter-assigned VIN would be missed.

To the extent that some gray market cars in NCIC could be identified through special searches as described above, make, model, and year information for some of these vehicles would be available. NCIC requires entering agencies to include vehicle make and model year information to create a record in the system. Thus, this data should be available for all identifiable gray market entries. Vehicle model information is not mandatory to

create an NCIC record and therefore might not be available for all identified gray market entries. Extracting make, model, and model year information for identifiable gray market cars would require special efforts on the part of NCIC.

ENTRY OF VINS OF LESS THAN 17 CHARACTERS

When seeking make and model information from NCIC, police may not have complete VINs for vehicles or for located parts. To a limited extent, on-line searches of NCIC can be made with less than complete VINs. Considerable flexibility exists for off-line searches using incomplete VINs, but replies are less timely.

Police agencies can, in some cases, enter a VIN of less than 17 characters and obtain make and model information from NCIC. The agency must be searching for the make and model of a stolen vehicle that is in NCIC's on-line file. The make and model information available on-line within NCIC is that which has been entered by a police department, using NCIC codes, to describe a stolen vehicle. As noted earlier, police agencies are required to enter make, but not model, information when creating a record. Therefore, make information should be available for all NCIC records and model information only where departments have included it when creating the record. An NCIC official estimated that 70 percent of NCIC vehicle file records contain model information.

NCIC's on-line internal method of searching for VINs in the data base that match those sought by a police agency uses the rightmost 15 characters of a VIN. Consequently, if an agency enters the 15 rightmost characters of a VIN, it can obtain a match. From the record displayed for the match, the agency can read the NCIC vehicle make, and if available, model codes. Also, if the VIN is complete in its make and model segments, a police agency official may be able to use NATB's Passenger Vehicle Identification Manual to identify the vehicle make and model.

NCIC staff can also conduct off-line searches of the data base using incomplete VINs. These searches are conducted by inserting blanks for missing portions of the VIN and listing the record or records in the system with VIN characters that match the characters of the subject VIN. Off-line searches are generally made overnight. The police agency that requested the search must use other information in the resulting list of "matched" NCIC records to determine which one, if any, is the vehicle in question. NCIC make and model codes can then be read from the matched case, or, if the VIN is complete in its make and model segments, the NATB Manual may be consulted for make and model information.

PURGING OF DATA

Because records are continually removed from NCIC as vehicles are recovered, developing complete statistics on thefts of motor vehicles over a period of time requires accessing both records that are active in the system and those that have been removed and stored. Data are "purged" from the NCIC system in two ways. First, NCIC has various rules governing when records in the system must be removed from active status. Second, NCIC has two procedures for retaining an historical record of data that have been in the system.

The NCIC system rules allow a stolen vehicle record to remain active for the year of entry plus 4 additional years. If a stolen vehicle is recovered and the agency that originated the record enters a clear or cancel command, the record is immediately suppressed from active status. If an agency other than the originating agency enters a command indicating that a vehicle has been located, NCIC removes the record (1) as soon as the originating agency enters a clear or cancel command or (2) during the next biweekly purge of the file, if the originating agency did not enter a clear command within 10 days after the command was entered indicating that the vehicle had been located. Stolen vehicle records are also removed from active status by NCIC if a VIN is not entered within 90 days of creation of the record. Finally, when a jurisdiction fails to certify the accuracy of records contained in a validation listing within 45 days of NCIC mailing the validation list, NCIC procedures require purging of the records contained in the listing. (Partial listings of records in NCIC are sent to police agencies on a monthly basis for validation of record accuracy.)

NCIC maintains two historical records of data that have been in the system. According to an NCIC official, a log is created of each day's transactions. These logs ultimately are aggregated on computer tapes and stored. If NCIC needs to know specifics about transactions involving a stolen vehicle record, such as the date it was created or the command used to remove it from the system, the transaction logs are searched. In addition to the daily transaction logs, every 2 weeks NCIC purges all records that have been removed from active status during the biweekly period. A computer tape is stored for each of these biweekly purges. These tapes contain the information that was in a stolen vehicle record when it was removed from active status. Biweekly purge tapes, as well as cases active in NCIC, were the source of data NCIC provided to NHTSA for use in implementing the act. Both the daily transaction logs and the biweekly purge tapes are stored indefinitely.

NCIC can retrieve data from either the transaction logs or the biweekly purge tapes. However, since these tapes are stored off the computer, NCIC staff must reload the tapes into the computer before data can be accessed. In addition, NCIC may have

to develop special computer programs to extract the particular data desired from the historical records. The time required to retrieve data varies according to such factors as the complexity of computer programming that may be needed, the length of time to be searched, and competing demands on the computer staffs' time.

VEHICLE THEFT TREND ANALYSES

Analyzing the effect of various anti-vehicle theft measures, including the act, might be assisted through trend analyses that could track the theft rates for various makes and models of vehicles, or theft rates in specific geographic areas. The NCIC system contains information that could be used to develop vehicle theft trend analyses either by make and model of vehicle or by geographic area. Make and model information is contained within VINs and each stolen vehicle record contains a code identifying the agency reporting the theft, which associates the record with a geographic area.

Although NCIC is not designed to produce vehicle theft trend analyses, data can be obtained from the system to use in developing this kind of analysis. Compilation of necessary data requires special computer programming and remounting of historical tapes on the computer. Depending on the nature of the analyses desired, routine statistical reports reflecting vehicle theft trends could require extensive effort by NCIC and possible modifications to the system.

NCIC officials said they would oppose modifying the NCIC system to generate statistical reports. They stressed that the system was not designed to support statistical analyses. The vehicle theft file, for instance, exists to identify currently missing stolen vehicles. Because of the large volume of daily transactions (about 500,000) in all of NCIC's files, changes must be made carefully so that system performance is not jeopardized. Further, since NCIC is a cooperative venture among the FBI and state and local law enforcement agencies, NCIC officials indicated that modifications to the system to support statistical analyses would require approval by the current system users.

NCIC officials believe that statistical analyses could be performed more easily by the Uniform Crime Reporting (UCR) system, which is also operated by the FBI. UCR does track vehicle theft by geographic area, but does not provide statistics by vehicle make and model.

OBJECTIVES, SCOPE, AND METHODOLOGY

Chairman John D. Dingell, Subcommittee on Oversight and Investigations, House Committee on Energy and Commerce, requested that we study the adequacy, reliability, and timeliness of data contained in NCIC for purposes of the act. We were asked to make comparisons between NCIC and NATB's vehicle theft data bases. We were also asked to address several specific areas regarding NCIC. These include: (1) information on the NCIC Code Manual, (2) information on gray market cars, (3) entry of VINs of fewer than 17 characters, (4) purging of data, and (5) the ability to perform trend analyses with NCIC theft data. In addition to our work with the data bases, we were requested to examine the extent to which the FBI and the Justice Department enforce motor vehicle theft laws and the status of insurance company actions to implement recommendations concerning vehicle theft and insurance fraud that were contained in a June 1984 National Institute of Justice report.

NCIC AND NATB DATA BASES

Our objective was to analyze and compare the adequacy, reliability, and timeliness of vehicle theft and recovery data collected by NCIC and NATB. We interviewed officials of NCIC, NATB, police departments, and insurance companies to determine how the NCIC and NATB systems operated, what measures are followed to assure the accuracy and timeliness of information entered into the systems, and to obtain samples of vehicle theft cases. We collected a random sample of case files in 15 police departments and eight insurance claims offices, in three areas of the country. We compared data from the case files to data for the same cases in the NCIC and NATB data bases.

The areas used for the analysis were chosen to represent different geographic sections of the country, as well as to encompass three of NATB's five divisions which serve differing geographic areas. In each area, we judgmentally selected five police departments to obtain a cross section of a major metropolitan area, urban and rural areas, and different sized police departments. For the insurance companies, we mailed requests for cooperation to the 11 largest writers of automobile insurance in the country and to 10 other companies randomly selected from a list that NATB provided. Of the 21 companies that we contacted, 4 cooperated with our request. We collected case files from a total of eight offices in the Boston, Chicago, and Los Angeles areas.

Table VI.1
Locations Visited

Police agencies

Los Angeles area

Scottsdale Police Department, Arizona
Sparks Police Department, Nevada
Ventura County Police Department, California
San Diego Police Department, California
San Francisco Police Department, California

Chicago area

Saint Paul Police Department, Minnesota
Bloomington Police Department, Minnesota
Walworth County Police Department, Wisconsin
Springfield Police Department, Illinois
Chicago Police Department, Illinois

Boston area

Boston Police Department, Massachusetts
Seekonk Police Department, Massachusetts
Middletown Police Department, Rhode Island
Pawtucket Police Department, Rhode Island
Meriden Police Department, Connecticut

Insurance claims offices

California area

Aetna Casualty & Surety, Woodland Hills, California
U.S. Fidelity & Guaranty, Fullerton, California
Government Employees Insurance, San Diego, California

Chicago area

Aetna Casualty & Surety, Downers Grove, Illinois
U.S. Fidelity & Guaranty, Lisle, Illinois

Boston area

Aetna Casualty & Surety, Brockton, Massachusetts
U.S Fidelity & Guaranty, North Quincy, Massachusetts
American Hardware Mutual, Woburn, Massachusetts

The universe of cases for each location included police reports or insurance claims filed for vehicles stolen between January 1, 1985, and September 30, 1985. During our sampling we discovered that some cases did not qualify for our universe, for example, because they were out of our time frame or because they were not thefts of total vehicles, such as attempted thefts or

vandalism cases. The universe sizes, as reported by individual police departments or claims offices, were adjusted by the ratio of cases in the sample which should not have been included.

In addition, although we intended our sample to include all thefts of total vehicles reported to the police agencies and insurance claims offices we sampled, we were not entirely successful. Cases where vehicles had been initially reported as stolen, but were later discovered not to be thefts of total vehicles, should have been included in our sample. This could, for example, include cases which were reported as thefts, but later found to have been merely lost or borrowed. However, in some locations some of these cases were excluded from our sample. The exclusion of these cases affects the percentages we calculated for thefts reported to NCIC and NATB, as is further discussed below.

Table VI.2 shows the original and adjusted universe and sample sizes for the NCIC and NATB data bases. These samples were representative of vehicle theft cases for the judgmentally selected locations only and cannot be used to generalize about the NCIC and NATB data bases as a whole.

Table VI.2
Universe and Sample Sizes

Data base	Universe	Sample size	Adjusted Universe	Adjusted Sample
NCIC	57,959	2,816	57,475	2,710
NATB	3,689	1,170	3,276	1,069

We created a data base of vehicle theft information using the case files collected for our sample. We verified the information entered into the data base against the original case files. Our data base, reflecting information present in the physical files of the entities that originated records in NCIC and NATB, was then compared to information present in the NCIC and NATB data bases.

Percentage of thefts included in the NCIC and NATB data bases

NCIC provided computer tapes of all entries into NCIC's Vehicle File during our time frame from the locations we sampled. We compared our data base with their data base, and selected cases which matched character-for-character on at least one key identifier. The key identifiers for the computer matching program were vehicle identification number, license number, and originating police agency and case number.

We provided our insurance case file data base to NATB. NATB compared our data base to their data base and selected the cases which matched. Their key identifiers for comparison were vehicle identification number, license number, claim number, and NATB file number. In identifying matches, NATB did not necessarily match character-for-character on these identifiers. They sent us a computer disk of the cases selected. To assure that NATB matched cases correctly, we included a number of "dummy" cases in our data. NATB did not, and should not have, matched any of the dummy cases.

To be as uniform as possible in our comparison procedure, we also ran a computer matching program on the data NATB sent us that matched cases character-for-character on VINs, license numbers, or NATB file numbers. Twenty nine cases were removed from NATB's data through this procedure.

The number of cases matched measures how many stolen vehicles which were reported to police agencies or insurance claims offices were subsequently reported to NCIC and NATB, respectively. Table VI.3 provides weighted estimates of the percentage of cases matched for NCIC and NATB, along with the range of error that could occur in the figures, calculated at a 95 percent confidence level. As noted above, for some locations, we excluded some cases during our sampling procedure which were not excluded in the other locations. This exclusion increases the estimate of the number of vehicles reported to NCIC or NATB compared to what would have resulted had these cases been included.

Table VI.3
Stolen Vehicles Reported to NCIC and NATB Data Bases for Selected Locations

Data base	Percent matched	Sampling error (percent)
NCIC	88.9	± 1.9
NATB	80.0	± 2.0

We revised the matching rates shown in table VI.3 to take into account (1) 37 additional matches subsequently found by NCIC and (2) cases that did not qualify for entry into NCIC or NATB. While reviewing the non-matched cases for NCIC, we discovered that some had NCIC identifying numbers which would indicate entry into the system. We provided the identifying numbers for these cases to NCIC; NCIC personnel subsequently found that 37 thefts had been entered into the system. In addition, not all of the thefts that are reported to police agencies or insurance claims offices are supposed to be reported to NCIC and NATB, respectively. We analyzed the cases that did not match in our initial analysis to determine, if possible, why the match did not occur. Theft reports that would not qualify for entry into the

data bases, for example, include those for vehicles recovered before the police agency or claims office entered the case into NCIC or NATB. To account for the cases that did not qualify for entry and the additional matches, we calculated new match rates. Table VI.4 provides new weighted estimates of the percentage of cases matched for NCIC and NATB, along with the range of error that could occur in the figures, calculated at a 95 percent confidence level.

Table VI.4
Adjusted Matching Rates for NCIC and NATB Data Bases for Selected Locations
(Errors in Parenthesis)

Data base	Matches found by NCIC	New matched percent	Number of cases not required to be in the data base	New adjusted sample	New adjusted universe	New percent matched
NCIC	37	89.9 (± 1.8)	271	2,439	55,789	92.6 (± 1.7)
NATB	na	na	95	974	3,093	84.8 (± 2.1)

Accuracy of NCIC and NATB data

We analyzed the matched cases to determine the accuracy of specific data contained in NCIC and NATB for each case. We matched VINs, license numbers, license plate states, vehicle model years, and dates of theft obtained from the originating files to NCIC and NATB data. This analysis assumed that data contained in the originating files generally would best describe the actual stolen vehicle case and thus could serve as a standard to gauge the accuracy of data in the data bases. However, the originating files themselves can contain errors. For example, numbers can be erroneous because they are incomplete. Table VI.5 provides weighted estimates of the percentage of cases where information in the originating files agreed with that in the data bases. Ranges for the percentage of cases with matching data were calculated at a 95 percent confidence level.

Table VI.5
Agreement Between Data in the Files and Data in NCIC and NATB for Selected Locations
(Sampling errors in parentheses)

Data base	VIN	License	State	Year	Date of theft
NCIC	86.8 (± 2.2)	87.8 (± 2.2)	94.0 (± 1.6)	99.0 (± 0.5)	76.3 (± 2.7)
NATB	87.6 (± 2.1)	74.7 (± 2.9)	79.7 (± 2.7)	98.7 (± 0.7)	90.6 (± 1.7)

Because VINs are the key data that were used by NHTSA in implementing the act, we conducted an additional analysis to further identify the accuracy of VINs in the systems. Automobiles sold in the United States are required to carry vehicle identification numbers. Prior to 1981, VINs were unique alphanumeric strings whose design and content varied by manufacturer. Vehicles sold after 1981 have VINs with a fixed 17 character format that yields detailed information on the vehicle itself. The format of VINs after 1981 is set forth in the Federal Motor Vehicle Safety Standard No. 115.

The new VINs include a "check digit." This is a number calculated with an algorithm that assigns weighted values to the other characters in the VIN. Officials from both NCIC and NATB told us that they run automated checks as VINs are entered into their systems to calculate these check digits and determine whether the VINs are valid. We wrote a computer program, based on the algorithm, to test whether the 1981 and newer VINs that we took from originating files and those in the NCIC and NATB data bases were accurate according to the check digit calculation. For the cases we originally matched in the NCIC and NATB systems, we found that 668 of 703 NCIC VINs (95 percent) for 1981 and newer vehicles and 351 of 356 NATB VINs (99 percent) were valid. In our sample of case files, 610 of 731 (83 percent) of 1981 and newer VINs in police files and 297 of 357 (83 percent) of VINs in insurance files were valid. Because our sample was judgmentally selected, these validity rates cannot be generalized to represent the validity of all 1981 and newer vehicle VINs in the two data bases or in police and insurance files as a whole.

Timeliness of NATB and NCIC entries for sampled cases

For the 15 police agencies and 8 insurance claims offices included in our review, we analyzed how many days it took them to report vehicle theft information to NCIC and NATB after they received a theft report. Table VI.6 provides weighted estimates of the percentage of cases entered into each data base after a specified number of days. Ranges for the percentage of cases

entered at various times were calculated at a 95 percent confidence level.

Table VI.6
Timeliness of Vehicle Theft Entries into NCIC and NATB for Selected Locations
(Sampling errors in parentheses)

Data base	Percent entered on day of theft report	Percent entered within two days	Percent entered within seven days	Percent entered within 21 days
NCIC	78.2 (± 2.7)	93.3 (± 1.5)	-	-
NATB	-	-	15.8 (± 2.4)	70.2 (± 3.0)

Agreement between files and data bases on recovery status

To determine how well NCIC and NATB reflected the recovery of stolen vehicles in the locations included in our review, we compared the recovery status shown in the originating files with that in the data bases. If the files showed evidence of a recovery and the systems did also, or if both the files and the systems indicated that the vehicles had not been recovered, then the files and the data bases agreed on the recovery status for the vehicles. For the NATB system, vehicles were considered recovered if the data base contained a date of recovery for the vehicle. For NCIC, vehicles were considered recovered if the case had been removed from active status in the data base. Disagreement existed when the files indicated a recovery and the data bases did not, or vice versa. Table VI.7 provides weighted estimates of the percentage of cases where the recovery status agreed between the files and the data bases and where they did not. Ranges for the error that could occur in the figures were calculated at a 95 percent confidence level.

Table VI.7
Agreement Between Files and Data Bases on Recovery Status for Selected Locations
(Sampling errors in parentheses)

Data base	Recovery status in files agreed with data base	Files indicated a recovery, data base did not	Data base indicated a recovery, files did not
NCIC	93.1 (± 1.6)	.6 (± .6)	6.3 (± 1.5)
NATB	85.8 (± 2.4)	6.4 (± 1.7)	7.8 (± 1.8)

EXTENT OF LAW ENFORCEMENT EFFORT

We obtained information about the extent of DOJ and FBI vehicle theft law enforcement through interviews with Justice and FBI officials, and from the Statistical Report, United States Attorneys' Office and the FBI's Time Utilization Record Keeping System. We also contacted various federal, state, and local officials, and representatives from private organizations regarding the enforcement trend for state and local governments.

INSURANCE COMPANY ACTIONS

Concerning the status of insurance company actions to implement the recommendations in NIJ's 1984 report, Vehicle Theft Prevention Strategies, we first contacted officials at NIJ. We then interviewed officials with two insurance industry trade associations. An official with one of these trade associations surveyed member companies to determine whether they had taken any actions that were similar to those recommended in the NIJ report.

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