Safety Related File Linkage

Iowa Department of Transportation

June, 1988

Prepared by:
Bureau of Transportation Safety
Iowa Department of Transportation

In Cooperation with
Federal Highway Administration
U. S. Department of Transportation

SUMMARY

The basic accident data system presently in use was implemented in January, 1977. Iowa contracted with the consulting firm of Wilbur Smith and Associates to develop and implement an Accident Location and Analysis System (ALAS). A link-node accident location system was adopted and basic analysis programs were developed.

Iowa's roadway inventory system, referred to as the Base Record Inventory System, was developed in the 1960's. The Base Record covers over 112,000 miles of public roads and streets. Roadway and structure files for Primary, Secondary, Municipal and State Parks and Institutional Roads are included in the Base Record System. A City Place File and the Rail-Highway Crossing File are also included.

File linkage was originally planned to be a part of the ALAS project. For various reasons ALAS was not developed beyond the basic system implemented in 1977. In 1980, an in-house feasibility study for file linkage was completed. A milepoint linkage concept based on county-wide mileage was recommended and approved for Primary, FAS and FAUS roads. This recommendation necessitated linking only about 23 percent of the mileage but provides coverage of almost 75 percent of the accidents and over 80 percent of the vehicle miles of travel.

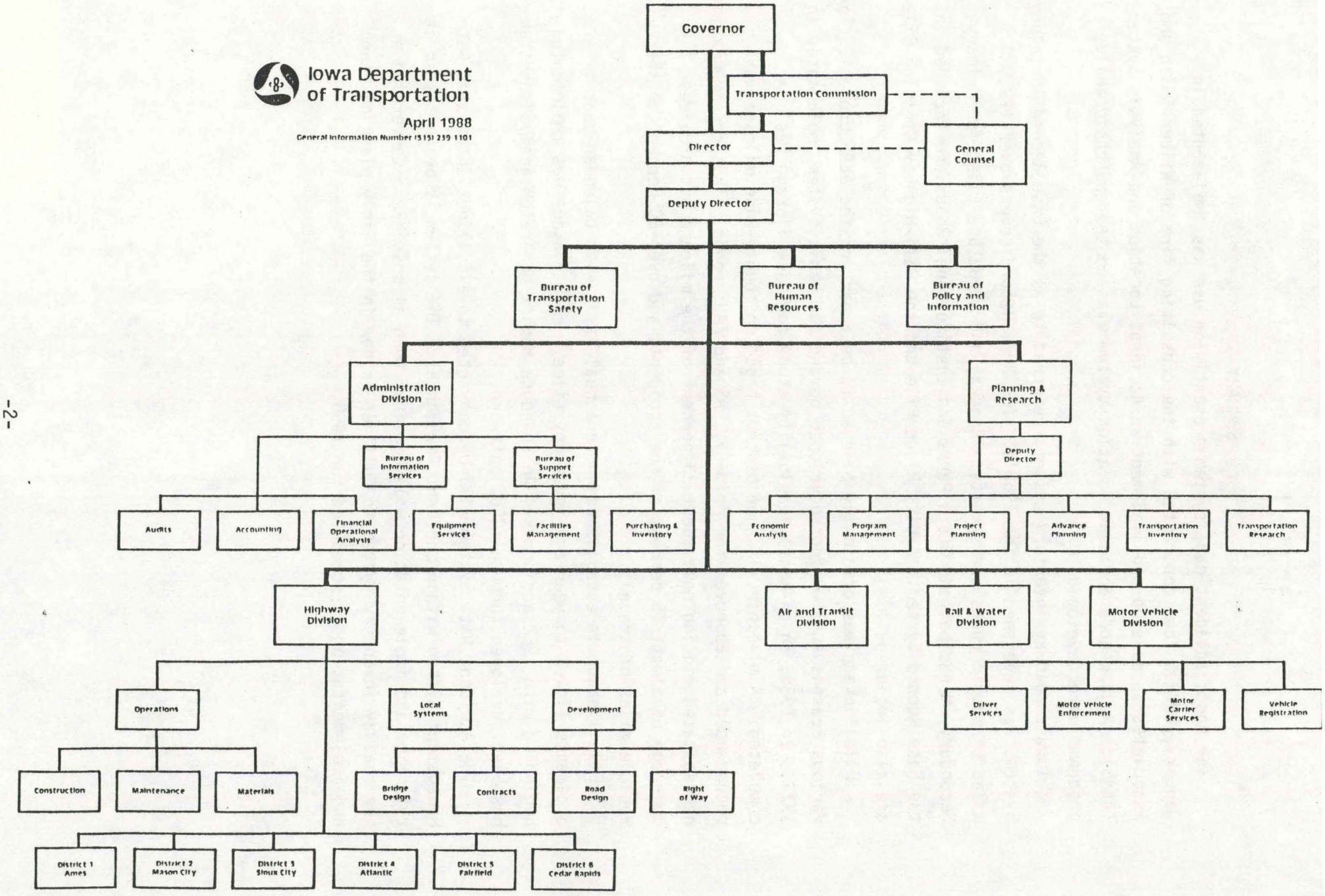
File linkage is established on an annual basis with calendar year accidents linked to year-end inventory files. File linkage was implemented beginning with 1982 accidents. An in-house report generator analysis system has been developed through FOCUS software.

The Accident Data System will be converted to a Cullinet Integrated Data Management System within the next few months. The system is being tested at this time and implementation will begin as soon as possible. Conversion of the roadway inventory system to Cullinet is now in the early planning stage and implementation is scheduled for 1990.

Iowa Department of Transportation

April 1988

General Information Number (515) 239-1101



ACCIDENT DATA SYSTEM

Appendix A contains the following information relating to Iowa's Accident Data System:

1. Investigating Officers Report Form (pages A1-A3)
2. Drivers Report Form (Pages A4-A5)
3. Accident Statistics File Format (Pages A6-A9)
4. Description of the Iowa Link-Node Accident Locational System (Page A10)
5. County Node Map Example (Page A11)
6. Interstate Strip Map Example (Page A12)
7. ALAS Overview (Pages A15-A16)

The Accident Data System consists of two basic files. The Accident Statistics File is created from investigating officers' reports and/or driver reports of accidents involving personal injury or over $500 property damage. The second file is the ALAS file which is created from the Accident Statistics File and contains basically the same information.

The link-node accident location system is a quasi-coordinate system based on the six-mile square Congressional Townships as shown on page A11. Under the ALAS project, maps were prepared for all incorporated cities and node overlays were prepared for the existing county maps and the city maps. Strip maps were developed for the Interstate System and major four-lane Primary Expressways. One additional feature of the link-node system is the assignment of unique node numbers to identify interchanges and other multi-node complex intersections. This is illustrated on the Interstate Strip Map Example on page A12.

Two basic analysis programs were developed under ALAS. A high priority location program can select intersection, node, or link locations and rank them by number of accidents, value loss or severeity. A generalized request program can select and list accidents for intersections, nodes, links, node strings, or by accident characteristics. These programs are explained further in the ALAS overview on pages A12-A14.

Accident location coding is accomplished within the Office of Driver Services in the Motor Vehicle Division in the following manner:

(1) Intersection Identifier - All "intersection" or "intersection related" accidents are coded to either the single node for normal intersections or the designated intersection identifier node for interchanges and other multiple node intersections. Non-intersection accidents are coded 999999 to indicate the field is not applicable.

(2) Reference Node - The reference node is either the node at which the accident occurred or the node from which the distance is measured, usually the closest node. In the case of single-node intersection accidents the Intersection Identifier node is repeated.

(3) Distance Indicator - This field indicates the distance in miles and hundredths-of-a-mile from the Reference Node toward the Direction Node to the point of the accident. If the accident occurred at a node the field is coded 999 to indicate the field is not applicable.

(4) Direction Node - The location of a non-node accident is tied to a specific link by coding the first node along the route from the Reference Node beyond the point of the accident. If the Direction Node is not applicable 999999 is coded.

Any of the above fields that cannot be determined from the accident reports are coded with zeros. In some cases the specific location may be unknown but the accident can be tied to the appropriate Congressional Township followed by zeros. Accidents that occur on new roads that do not appear on the node maps are coded to the appropriate Congressional Township followed by 9898. These accidents can then be identified and recoded when updated node maps become available.

BASE RECORD INVENTORY SYSTEM

The Base Record was originally developed in the 1960's for documentation of Iowa's roadway systems and to provide data for highway needs determination. The system grew over the years to support sufficiency rating analysis and federal reporting requirements. More recent expansions have added data for pavement management, linked accident data, and this year the

file linkage system (referred to as the Base-ALAS Interface System) was placed directly onto the roadway inventory files instead of being carried as a separate support file.

Appendix B contains file formats for the following Base Record Files:

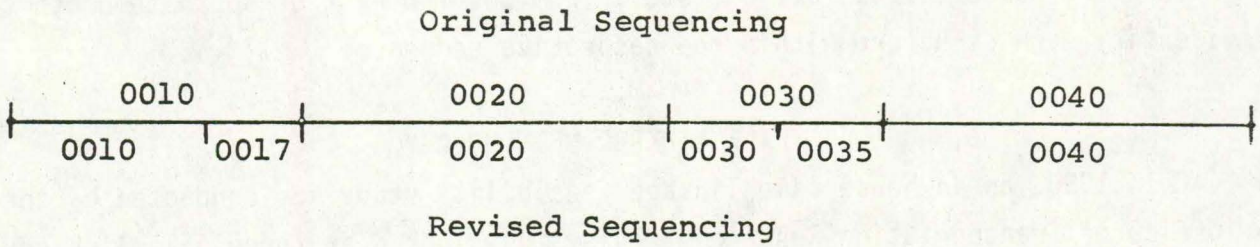
1. Primary Road File (Pages B1-B2)
2. Primary Road Structures Files (Pages B3-B4)
3. Secondary Road File (Pages B5-B6)
4. Secondary Road Structures File (Pages B7-B8)
5. Municipal Street File (Pages B9-B10)
6. Municipal Street Structures File (Pages B11-B12)

The roadway and structure files each have their own basic format, but location controls and selected data items vary for the different road systems.

Primary System

The major location controls for the Primary roadway file are county number, route number and sequence number. The four digit sequence numbers start at the south or west limits of the route within each county. For the original sequencing of a route across the county, the numbers increase by tens (i.e. 0010, 0020, 0030, 0040, etc.). When new control breaks are necessary to split existing records, the last digit is changed as shown in Figure 2.

Figure 2: Base Record Sequence Numbering



When the Base-ALAS Interface System was adopted, a county-based milepoint for the beginning of each sequence was added to the file.

Secondary System

The basic controls for roads on the Secondary System are county number, township, range, section and road number. This type of control does not lend itself to file linkage since there are no distinct route numbers with which to associate milepoints. As explained below, the federal-aid routes within the Secondary System do carry route numbers and sequencing similar to the Primary System.

Municipal Street System

The basic controls for municipal streets are county number, city number, street number and sequence number. As with the Secondary System these controls do not provide sequencing for assigning milepoints although they do carry street numbers. The federal-aid routes carry the necessary route numbering and sequencing for milepoint file linkage.

Federal-Aid Routes

In each of the three files federal-aid routes have their own additional controls based on county number, federal-aid route number and sequence. This sequencing is similar to the Primary Road System and lends itself to the same type of milepoint assignment as was done on the Primary System.

Structure Files

The structure file for each road system is set up with the same basic control fields as the respective road file. Structures within each roadway record are numbered (01, 02, 03, etc.) from west to east or south to north to identify each structure within the respective sequence.

FILE LINKAGE METHODOLOGY

In 1980, an in-house file linkage feasibility study was conducted by the Office of Transportation Research. This study looked at three file linkage concepts: (1) link-node, (2) coordinate, and (3) milepoint. The milepoint concept was selected as the most feasible file-linkage method for Iowa.

Appendix C contains the following items relating to the Base-ALAS Interface System:

1. Comparison of ALAS and Base Record Breaks (C1)
2. Outline of SAS Programs (C2)
3. Base-ALAS Interface File Format (C3)
4. Accident Node Intersection Identifer and Literal Description File (C4)
5. Sample listing from Interface Edit File (C5)

Feasibility Study

The feasibility study also analyzed the impact of interfacing various road systems. It was estimated that linking the Primary, FAS and FAUS Systems would require interface coding for only about 23 percent of the mileage but would provide coverage of our 80 percent of the accidents and vehicle miles of travel. This is illustrated in Table 1 from the feasibility study report. The study recommended manual coding of Base Record Controls for fatal and injury accidents on non-federal aid roads and streets, but this was not adopted.

Table 1

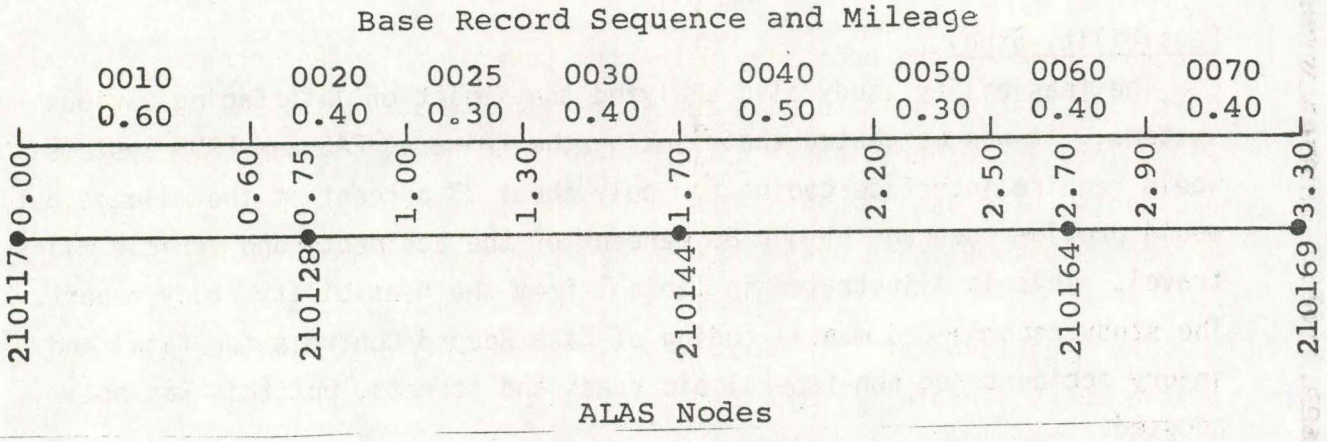
MILEAGE, TRAVEL AND ACCIDENTS BY FEDERAL AID STATUS (1978)

Federal Aid Status	Mileage		Vehicle Miles		Average Daily Traffic	Accidents					
	Miles	Per cent	Millions	Per cent		Fatal	Per cent	Non Fatal	Per cent	Total	Per cent
Federal Aid	25,281	23	16,316	84	1,768	459	82	74,861	83	75,320	83
Non-Federal Aid	86,441	77	3,151	16	100	104	18	15,789	17	15,893	17
Totals	111,722	100	19,467	100	477	563	100	90,650	100	91,213	100

Iowa's milepoint file linkage involves the assignment of milepoints to each node along the route. This work was accomplished in the Office of Transportation Inventory. Primary highways are interfaced using county, primary route and sequence milepointing. FAS and FAUS routes are interfaced using county, federal-aid route, and federal-aid sequence milepointing. Divided highways are interfaced by lane of travel even though they are sequenced in the base record as a single route. One-way pairs are sequenced and milepointed separately in the base record and also carry separate file linkage controls.

Many of the nodes along a route coincide with base record sequence breaks. Milepoints for most structure nodes and many municipal intersections must be scaled from maps. Slight errors in the assignment of these scaled milepoints are not carried along the route because milepoints are corrected as soon as a matching node-base record break occurs. The general interface concept is illustrated below in Figure 3, and the comparison of major sequence breaks for the two systems is shown in Appendix C.

Figure 3: Route-Mile-Reference Interface Concept



For the years 1982 through 1985 the file linkage is carried on separate Base-ALAS Interface Files. In 1987 the interface control data was transferred to the base record to create a more direct system of file linkage. The interface controls are carried in fields 401-590 on the base record roadway formats. For reference purposes the dates of pertinent changes to interface controls are indicated in fields 583-590.

One complicating factor in creating the file linkage was the difference between the accident location system and the base record in the manner in which county line coding is handled. The county line roads along the west/east side of adjacent counties are coded to the county to the east under both systems. However, the county line roads along the north/south edge of adjacent counties are coded to the county to the north under the accident system and to the county to the south under the base record system. Also, cities that lie in more than one county are all coded to the major county (most population) in the base record. Under the accident system the accidents are coded to the proper county in accordance with above-mentioned guidelines. A county line identifier is coded to indicate the proper county for the accident system when it is different than the base record county.

Another complication with the file linkage is the fact that current year accidents are eventually tied to base record controls existing at the end of the year. Current year accidents are edited using the previous years interface all through the year and then are re-edited based on the year-end base record when it is completed in April of the following year.

File Linkage Programming

Much of the file linkage was accomplished with user written Statistical Analysis System (SAS) programming as outlined briefly in Appendix C. SAS

programs combine the necessary data from several files and create an Interface Edit file that is used to edit the Primary route accidents and also to assign milepoints and other control information to all Primary, FAS, and FAUS route accidents. The assignment of the accident summary data added to the Base Record is accomplished by a COBOL program written by Information Services.

FILE LINKAGE ANALYSIS CAPABILITIES

The objectives of file linkage were to develop cross-referenced files to enable query versatility and to implement a user friendly report generating system. FOCUS, from Information Builders, Inc. was chosen to be the major user software to accomplish these tasks.

There are two separate sets of files in the FOCUS report generating system. One set contains Primary Road accident and roadway data and is maintained on-line. The other set contains FAS and FAUS accident and roadway data and is maintained on tape and loaded on-line as needed. Both sets of data contain the same basic files as follows:

(A) Permanently cross-referenced files

(1) M141000 - roadway inventory file with segment files as follows:

ROAD1 - the parent roadway inventory segment file with files linkage control and most used data fields.

ROAD2 - the second roadway inventory segment file containing lesser used data fields.

STRUC - the third roadway inventory segment file containing limited data fields from the structure file.

NODES - the node-milepoint cross reference segment file.

(2) M141030 - accident data file with segment files as follows:

ARECORD - the parent accident segment file with file linkage control and most used data fields from the accident file.

AREST - the second accident file containing leser used data fields from the general accident record.

BRECORD - the third accident segment file containing vehicle/driver related data fields.

CRECORD - the fourth accident segment file containing injury/pedestrian data fields.

DRECORD - the cross-reference index portion of the accident file which provides major-minor route controls for tying intersection accidents with either the major or minor route.

(B) Temporary files that can be joined with the permanently cross-referenced files:

(1) M141010 - city file

CITIES - city cross-match file which can be used to literalize the city names on output reports.

(2) M141020 - node literal description file

NODES - provides literal descriptions of node locations for output reports.

The cross referencing of the files allows flexibility of access to the files. The programmer can access the data through either the road/structure file or the accident file depending on the type of request and best file linkage route for efficiency. The access to the temporary join files is a recent enhancement that provides more readable output formats for certain types of analyses. File structure information and file descriptions are shown in Appendix D. Also, a few of the menu-driven FOCUS programs which have been developed for general users who are not familiar with FOCUS are outlined in Appendix E.

Rail-Highway Crossing File

The Rail and Water Division has developed its own FOCUS analysis system for rail-highway crossing and accident data. One file contains crossing data from the Rail-Highway Crossing Base Record File and the other file contains rail related accident data pulled off the Accident Statistics File. The file linkage procedure is based on a cross-reference file relating to accident node numbers with the Iowa rail-highway crossing number. The FOCUS Accident File also includes FRA incident report data on all rail related incidents. This file provides, among other things, the capability to automate the calculation of predicted accident rates for prioritizing rail-highway crossing improvements.

INTEGRATED DATABASE MANAGEMENT SYSTEM

The Iowa DOT has installed the Cullinet Integrated Database Management System/Relational (IDMS). Conversion of the accident data system to IDMS is now being implemented. However, the analysis system will probably continue to function the same as at present until the roadway, structure and other related inventory files can also be converted to IDMS.

A task force with representatives from data collection and data user offices has been set up and the group has identified current usage, agreed on the deletion or inclusion of current data items and is now looking at proposed enhancements to the various files. It is anticipated that the final conversion of these files will take place in 1990, at which time there will also be major revisions to the data analysis systems.

Appendix A

1. Investigating Officers Report Form (pages A1-A3)
2. Drivers Report Form (Pages A4-A5)
3. Accident Statistics File Format (Pages A6-A8)
   a. Explanation of File Linkage controls added to General Record of Accident File (A9)
4. Description of the Iowa Link-Node Accident Locational System (Page A10)
5. County Node Map Example (Page A11)
6. Interstate Strip Map Example (Page A12)
7. ALAS Overview (Pages A13-A14)

Form 433003
10-79 - H 4980

MAIL REPORTS TO:
Iowa Department of Transportation
Office of Driver License
Lucas State Office Building
Des Moines, Iowa 50319

STATE OF IOWA

INVESTIGATING OFFICERS REPORT OF MOTOR VEHICLE ACCIDENT

PLEASE TYPE OR PRINT

SUMMARY	Total Number of Persons Killed	Total Number of Persons Injured	Total Number of Vehicles Involved	ACCIDENT NUMBER

LOCATION

Date of Accident	Day of Week Code: Sun 1 Mon 2 Tues 3 Wed 4 Thu 5 Fri 6 Sat 7	Time of Accident Hrs.	Total Amount of Property Damage

County

Accident occurred within corporate limits of (city)

If accident occurred outside of city limits show general vicinity ____ miles N NE E SE S SW W NW of nearest city

On Road, Street or Highway — Road Class Code

At Inter-section with — Road Class Code

ROAD CLASS CODE
1. Interstate/Freeway
2. U.S. or State Highway
3. County Road
4. City Street
5. Other 0. Unknown

Note: Unless accident occurred at an intersection which is completely described above, use the space below to give the exact location from a milepost or definable intersection, bridge or railroad crossing, using two distances and directions if necessary.

Feet Miles N NE E SE S SW W NW ____ or ____ Feet Miles N NE E SE S SW W NW and ____ or ____ of

Milepost Number Or Definable, intersection, bridge or railroad crossing

ACCIDENT NUMBER
R County City U
Route Road Class Inter-Class
Intersection Identifier
Reference Node
Distance Indicator
Direction Node

UNIT 1

Driver's Name - Last, First, Middle	Address	City	State	Zip

Date of Birth	Male	Female	Driver License Number	State	License Restrictions	Restriction Complied With (1 = Yes 2 = No 0 = Unknown)

Citation Number	Citation Charge	Phone	Chemical Test Given? (1. None 2. Breath 3. Blood 4. Urine 5. Refused)	Test Results %

Owner's Full Name - Last, First, Middle	Address	City	State	Zip

Year	Make	Model	Style	License Plate No.	State	Year	VIN No.

Vehicle Removed by
Vehicle Removed to
Vehicle Type Code | Special Use Code | Total occupants | Attachment | Fire Explosion | Hit & Run
Removal Authority | Point of Initial Impact | Damaged Area of Vehicle | Damage Severity Code
$ Approximate Cost to Repair or Replace
Vehicle Defect | Initial Direction Travel | Speed Limit

UNIT 2

Driver's Name - Last, First, Middle	Address	City	State	Zip

Date of Birth	Male	Female	Driver License Number	State	License Restrictions	Restriction Complied With (1 = Yes 2 = No 0 = Unknown)

Citation Number	Citation Charge	Phone	Chemical Test Given? (1. None 2. Breath 3. Blood 4. Urine 5. Refused)	Test Results %

Owner's Full Name - Last, First, Middle	Address	City	State	Zip

Year	Make	Model	Style	License Plate No.	State	Year	VIN No.

Vehicle Removed by
Vehicle Removed to
Vehicle Type Code | Special Use Code | Total occupants | Attachment | Fire Explosion | Hit & Run
Removal Authority | Point of Initial Impact | Damaged Area of Vehicle | Damage Severity Code
$ Approximate Cost to Repair or Replace
Vehicle Defect | Initial Direction Travel | Speed Limit

If Property other than vehicles Damaged explain	Object Damaged	Estimate of Damage $	Was owner or tenant notified (1-Yes 2-No 0-Unknown)

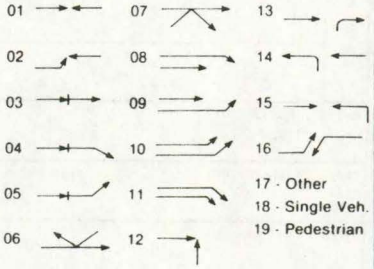
Name of Owner	Street or RFD	City & State, Zip Code

ACCIDENT ENVIRONMENT
Location of Accident
Type of Accident
Roadway Geometrics
Character of Roadway
Locality
Light Conditions
Weather Conditions (up to two)

CIRCUMSTANCES — Veh. 1 — Veh. 2
Roadway/Environment Related Contributing Circumstances
Driver Condition
Driver/Vehicle Related Contributing Circumstances (up to two)

ROADWAY CHARACTERISTICS — Veh. 1 — Veh. 2
Traffic Controls
Type of Trafficway
Traffic Flow
Type of Surface
Vehicle Action
Fixed Object Struck
Location of Fixed Object Struck if Applicable
Surface Conditions (up to two)
Vision Obscured

Collision Type



SEVERITY
1-Fatal
2-Major (incapacitating)
3-Minor (Bruises and abrasions)
4-Possible (Complaint of pain)
0-Unknown

INJURED AREA
1-Upper torso
2-Lower torso
3-Internal
4-Head
5-Arms
6-Legs
7-Multiple
0-Unknown

POSITION OF INJURED PERSON

1	2	3
4	5	6
7	8	9

M-Motorcycle/ Moped driver
S-Motorcycle/ Moped Passenger
U-Bus Pass
B-Bicycle
P-Pedestrian
T-Other
E-Riding on exterior
O-Unknown

PROTECTIVE DEVICE
1-None
2-Lap belt used
3-Lap and shoulder
4-Airbag deployed
5-Child restraint
6-Motorcycle helmet
7-Passive belt
8-Other
0-Unknown

EJECTION
1-Not ejected
2-Partially ejected
3-Totally ejected
4-Extricated
0-Unknown

Sex
M-Male
F-Female

PERSON INJURED

Name	Address	Age	Sex	Unit No.	Severity	Injured Area	Position	Protect.	Devices	Ejection
1										
2										
3										
4										
5										

Injured Transported
To: _____
By: _____

PEDESTRIAN ACTION ☐☐
COLOR OF CLOTHING ☐
Check if pedestrian is also listed as a driver on this report ☐
APPARENT PEDESTRIAN SOBRIETY ☐
Test Results ____ %

DIAGRAM

DIAGRAM WHAT HAPPENED:
Instruction

INDICATE NORTH

Number each vehicle and show direction of travel by arrow.

Use solid line to show path before accident

Dotted line after accident.

Show pedestrian by:
Show railroad by:
Show utility poles by:
Show motorcycle by:
Show animal by:

NARRATIVE

Describe What Happened (Refer to vehicles by number)

WITNESS

Name, Last, First	Street or RFD	City	State	Zip	Phone

Signature of Officer	Badge No	Report Given To All Drivers ☐ 1-Yes 2-No	Was Investigation made at scene? ☐ 1-Yes 2-No
Name of Department	Date of Report	Time Officer Notified of Accident ____ Hrs.	Investigation Completed? ☐ 1-Yes 2-No
Report Reviewed by A2	Date Reviewed	Time Officer Arrived At Scene ____ Hrs.	

VEHICLE TYPE CODE

01-Passenger Car
02-Car & Trailer
03-Panel Truck
04-Pickup Truck
05-Pickup & Trailer
06-Pickup Camper
07-Straight Truck
08-Truck Tractor
09-Truck Tractor/Semi
10-Double Bottom Truck
11-Tow Truck/Wrecker
12-Motor Home
13-Bus
14-School Bus
15-Farm Veh/Equip
16-Motorcycle
17-Bicycle, Etc.
18-Recreation Veh.
19-Maint/Const Veh.
20-Train
21-Other (Describe)
22-Moped
00-Unknown

SPECIAL USE CODE

1-None
2-Police
3-Fire
4-Taxi
5-Gov't
6-Ambulance
7-Towing
8-Driver Trng.
9-Other (Describe)
0-Unknown

ATTACHMENT

01-None
02-Single Trailer
03-Double
04-Semi
05-Farm
06-Utility
07-Camping
08-Boat Trailer
09-Mobile Home
10-Mobile Home (Oversize)
11-Oversize Load
12-Towed Vehicle
13-Other
00-Unknown

FIRE/EXPLOSION

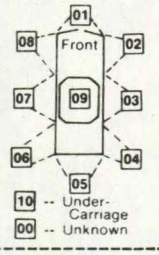
1-None 2-Yes 0-Unknown

HIT AND RUN

1- None
2- With MV
3- With Non-Occupant
4- Driver Left Scene
0- Unknown

REMOVAL AUTHORITY

1-None
2-Owner
3-Driver
4-Officer
5-Occupant
6-Other
0-Unknown



INDICATE POINT OF INITIAL IMPACT

INDICATE DAMAGED AREA OF VEHICLE

DAMAGE SEVERITY CODE

1-None
2-Light
3-Moderate
4-Severe
0-Unknown

VEHICLE DEFECT

01-None
02-Brakes
03-Steering
04-Blowout
05-Smooth Tires
06-Other Tire Defect
07-Wipers
08-Trailer Hitch
09-Exhaust
10-Headlights
11-Tail Lights
12-Turn Signal
13-Suspension
14-Other
15-Glass
00-Unknown

INITIAL DIRECTION TRAVEL

1-North
2-Northeast
3-East
4-Southeast
5-South
6-Southwest
7-West
8-Northwest
0-Unknown

ACCIDENT ENVIRONMENT

Location of Accident

1-On Roadway
2-Shoulder
3-Median
4-Roadside/Ditch
5-Outside of Right of Way
0-Unknown

TYPE OF ACCIDENT

Non-Collision

01-Overturned in Roadway
02-Jackknifed
03-Carbon Monoxide
04-Fire/Explosion
05-Immersion
06-Other

Collision of Motor Vehicle with:

10-Pedestrian
11-Vehicle in Traffic
12-Motorcycle in Traffic
13-Vehicle in Other Roadway
14-Parked Vehicle
15-Train
16-Pedacycle
17-Animal
18-Fixed Object
19-Other Object

ROADWAY GEOMETRICS

1-Straight, Level
2-Straight, Up/Downgrade
3-Straight, Hillcrest
4-Curve, Level
5-Curve, Up/Downgrade
6-Curve, Hillcrest
7-Intersection, Level
8-Intersection, Up/Downgrade
9-Intersection, Hillcrest
0-Unknown

CHARACTER OF ROADWAY

Not an Intersection

01-No Special Feature
02-Bridge/Overpass/Underpass
03-Railroad Crossing
04-Business Drive
05-Farm/Residential Drive
06-Other, Non-Intersection

Intersection

11-Within intersection
12-Not Within Intersection but Intersection Related
13-Alley Intersection
14-Other (Intersection)

Interchange

21-Intersection of Ramp and Minor Road
22-Ramp
23-On Major Road, Between Ramps
24-On Minor Road, Between Ramps
25-Entrance Ramp at Major Road
26-Major Road at Exit Ramp
27-Bridge/Overpass/Underpass
28-Not Within Interchange but Interchange Related
29-Other (Interchange)
00-Unknown

Locality

1-Business District (Central)
2-Manufacturing District
3-Residential District
4-Business District (Outlying)
5-School/Playground Zone
6-Recreational Area
7-Open Country (Rural
8-Other
9-Parking Lot/Private Prop.
0-Unknown

Light Conditions

1-Daylight
2-Dusk
3-Dawn
4-Darkness (Roadway Lighted)
5-Darkness (Roadway Not Lighted)
0—Unknown

Weather Conditions

1-Clear
2-Cloudy
3-Fog
4-Mist
5-Rain
6-Sleet/hail
7-Snow
8-Strong Wind
9-Other
0-Unknown

(Indicate up to two conditions)

CIRCUMSTANCES

Roadway/Environment Related Contributing Circumstances

01-None Apparent
02-Weather Conditions
03-Surface Conditions
04-Roadway Defect
05-Pedestrian Action
06-Pedestrian Drinking
07-Previous Accident
08-Animal in Roadway
09-Frost Covered Bridge Floor (Only)
10-Traffic Control not in Place or not Functioning
11-Non-Contact Vehicle
12-Road under Construction
13-Other
00-Unknown

Driver Condition

01-Apparently Normal
02-Physical Defect
03-Fatigued
04-Apparently Asleep
05-Ill
06-Under Medication
07-Infirmities of Age
08-Drinking (Not Impaired)
09-Drinking (Impaired)
10-Drugs
11-Other
00-Unknown

Driver/Vehicle Related Contributing Circumstances

(For each vehicle, indicate up to two circumstances which caused or contributed to the accident)

01-None Apparent
02-Ran Traffic Signal
03-Ran Stop Sign
04-Passed Stopped School Bus
05-Passing Where Prohibited
06-Passing, Interfered with other Vehicle
07-Left of Center, Not Passing
08-Failed to Yield Row (FTYROW), at Uncontrolled Intersection
09-FTYROW, From Stop Sign
10-FTYROW, From Yield Sign
11-FTYROW, Making Left Turn
12-FTYROW, From Driveway
13-FTYROW, From Parked Position
14-FTYROW, to Pedestrian
15-FTYROW, Other
16-Wrong Way on One-Way Road
17-Speed Too Fast for Conditions
18-Exceeding Speed Limit
19-Drag Racing
20-Improper Turn
21-Improper Lane Change
22-Following too Close
23-No Signal or Improper Signal
24-Disregarded Railroad Signal
25-Disregarded Warning Signal
26-Reckless Driving
27-Improper Backing
28-Illegal or Improper Parking
29-Failure to have Control
30-Head Lights Not On
31-Inattentive or Distracted
32-Driver Confused
33-Vision Obscured
34-Oversized Vehicle
35-Overloaded with Passengers/Cargo
36-Inexperienced Driver
38-Other
00-Unknown

ROADWAY CHARACTERISTICS

Traffic Controls

01-No Controls Present
02-Traffic Signals
03-Stop Sign
04-Yield Sign
05-Warning Sign
06-School Signals
07-No Passing Zone (Marked)
08-School Stop Sign
09-Stop Arm on School Bus
10-Railroad Warning Sign
11-Railroad Automatic Signal
12-Railroad Crossing Gate
13-Peace Officer
14-Other Traffic Director
15-Other Control
16-Control Not Functioning/Not in Place
00-Unknown

Type of Traffic Way

1-One Lane or Ramp
2-Two Lanes
3-Three Lanes
4-Four or More, Undivided
5-Four or More, Divided
6-Alley
7-Driveway
8-Other
0-Unknown

Traffic Flow

1-One-Way Traffic
2-Two-Way Traffic
0-Unknown

Type of Surface

1-Cement/Concrete
2-Asphalt
3-Gravel/Rock
4-Dirt
5-Brick
6-Steel (Bridge Floor)
7-Wood (Bridge Floor)
8-Other (Explain in Narrative)
0-Unknown

Vehicle Action

01-Going Straight
02-Turning Left
03-Turning Right
04-Making U-Turn
05-Passing
06-Changing Lanes
07-Merging
08-Parking
09-Slowing - Stopping
10-Backing
11-Stopped for Stop Sign/Signal
12-Stopped in Traffic Lane
13-Stalled in Traffic Lane
14-Properly Parked
15-Improperly Parked
16-Other (Explain in Narrative)
17-Unattended moving Vehicle
00-Unknown

Fixed Object Struck

01-None
02-Bridge or Overpass
03-Underpass or Bridge Supports
04-Building
05-Culvert
06-Curb
07-Ditch
08-Island or Raised Median
09-Embankment or Retaining Wall
10-Fence
11-Guardrail
12-Light Pole
13-Sign Post
14-Tree or Shrubbery
15-Utility Pole
16-Other Pole or Support
17-Mailbox
18-Impact Attenuator
19-Other
00-Unknown

Location of Fixed Object Struck if Applicable

1-On Roadway
2-Shoulder
3-Median
4-Roadside/Ditch
5-Outside of Right-of-Way
0-Unknown

Surface Conditions

1-Dry
2-Wet
3-Ice
4-Snow
5-Loose Gravel
6-Mud
7-Debris
8-Other
0-Unknown

(Indicate up to two conditions)

Vision Obscured

01-Not Obscured
02-Trees/Crops
03-Buildings
04-Embankment
05-Sign/Billboard
06-Hillcrest
07-Parked Vehicles
08-Moving Vehicles
09-Person/Object In or on Vehicle
10-Blinded by Sun or Headlights
11-Frosted Windows or Windshield
12-Blowing Snow
13-Fog/Smoke/Dust
14-Other (Explain in Narrative)
00—Unknown

PEDESTRIAN

Pedestrian Action

01-Crossing, Against Signal
02-Crossing, Not At Crosswalk
03-Walking, Improper Position on Roadway
04-Soliciting Rides on Road
05-Walking With Traffic
06-Walking Against Traffic
07-Crossing, With Signal
08-Crossing, In Crosswalk
09-Onto Road Between Parked Cars
10-Ran Onto Roadway
11-Directing Traffic
12-Playing
13-Lying or Sitting on Roadway
14-Pushing, Working on Vehicle
15-Getting On or Off Vehicle
16-Maint/Const Project
17-Walking, Off Roadway
00-Unknown

COLOR OF CLOTHING

1-Generally Light
2-Generally Dark
0-Unknown

APPARENT PEDESTRIAN SOBRIETY

1-Had Not Been Drinking
2-Drinking (Not Impaired)
3-Drinking (Impaired)
4-Drugs
0-Unknown

STATE OF IOWA DEPARTMENT OF TRANSPORTATION

REPORT OF MOTOR VEHICLE ACCIDENT

HAVE YOU READ THE INSTRUCTIONS IN SECTION A ON THE BACK?

ACCIDENT DATE MO / DAY / YEAR	DAY OF WEEK	TIME ☐ AM ☐ PM	NUMBER OF VEHICLES	TOTAL KILLED	TOTAL INJURED	TOTAL PROPERTY DAMAGE

YOUR VEHICLE NO. 1

DRIVER

DATE OF BIRTH MO / DAY / YEAR	SEX	DR. LIC. STATE

DRIVER'S LICENSE NO. EXACTLY AS PRINTED ON LICENSE

LAST NAME OF DRIVER 1 FIRST NAME MIDDLE INITIAL

NUMBER AND STREET

CITY STATE ZIP CODE

OWNER

LAST NAME OF OWNER 1 FIRST NAME MIDDLE INITIAL

NUMBER AND STREET

CITY STATE ZIP CODE

VEH.

NO. OF OCCUPANTS	PLATE NUMBER	VEHICLE TYPE CODE

ESTIMATED COST OF REPAIRS	VEHICLE YEAR & MAKE	STATE OF REG

OTHER VEHICLE NO. 2

DRIVER

DATE OF BIRTH MO / DAY / YEAR	SEX	DR. LIC. STATE

DRIVER'S LICENSE NO. EXACTLY AS PRINTED ON LICENSE

LAST NAME OF DRIVER 2 FIRST NAME MIDDLE INITIAL

NUMBER AND STREET

CITY STATE ZIP CODE

OWNER

LAST NAME OF OWNER 2 FIRST NAME MIDDLE INITIAL

NUMBER AND STREET

CITY STATE ZIP CODE

VEH.

NO. OF OCCUPANTS	PLATE NUMBER	VEHICLE TYPE CODE

ESTIMATED COST OF REPAIRS	VEHICLE YEAR & MAKE	STATE OF REG

ACCIDENT NUMBER

R COUNTY CITY U

ROUTE ROAD CLASS INTER-CLASS

INTERSECTION IDENTIFIER

REFERENCE NODE

DISTANCE INDICATOR

DIRECTION NODE

INDICATE ON THIS DIAGRAM WHAT HAPPENED

Use one of these outlines to sketch the scene of your accident, writing in street or highway names or numbers

1 Number each vehicle and show direction of travel by arrow

2 Use solid line to show path before accident; dotted line after accident

3 Show pedestrian by ○

4 Show railroad by ++++++++++

5 Show distance and direction to landmarks identify landmarks by name or number

6 Indicate north by arrow, as ↗

INDICATE NORTH BY ARROW

Street or Highway

Street or Highway

Street or Highway

Direction of Travel Vehicle No. 1

DESCRIPTION

DID POLICE OFFICER INVESTIGATE? ☐ YES ☐ NO

DEPARTMENT

IDENTIFY DAMAGED PROPERTY OTHER THAN VEHICLES — OWNER — AMOUNT OF DAMAGE

COUNTY CITY, TOWN OR TOWNSHIP

PLACE WHERE ACCIDENT OCCURRED:
IF ACCIDENT WAS OUTSIDE CITY LIMITS INDICATE DISTANCE FROM NEAREST TOWN. USE TWO DISTANCES AND TWO DIRECTIONS, IF NECESSARY.

{ ____ MILES NORTH-SOUTH / ____ MILES EAST-WEST } OF { ☐ LIMITS OF / ☐ CENTER OF } CITY OR TOWN

ROAD ON WHICH ACCIDENT OCCURRED

GIVE NAME OF STREET OR HIGHWAY NUMBER (U.S. OR STATE) IF NO HIGHWAY NUMBER IDENTIFY BY NAME

AT ITS INTERSECTION WITH

NAME OF INTERSECTING STREET OR HIGHWAY NUMBER

IF NOT AT INTERSECTION ____ FEET ☐ N ☐ S ☐ E ☐ W OF

SHOW NEAREST INTERSECTING STREET OR HIGHWAY, HOUSE NUMBER, BRIDGE, RAILROAD CROSSING, ALLEY, DRIVEWAY, CULVERT, MILEPOST, UNDERPASS, OR OTHER LANDMARK

INJURY SECTION: FILL OUT SPACE BELOW FOR EVERY PERSON INJURED OR KILLED IN THE ACCIDENT

NAME & ADDRESS	IN VEHICLE NUMBER	AGE	DESCRIBE INJURIES	CHECK PROPER COLUMN (SEE INSTRUCTION 6 ON BACK) 1	2	3	4	DATE OF DEATH

NAME OF INSURANCE COMPANY (NAME OF ISSUING POLICY AGENT) — POLICY NUMBER

NAME AND ADDRESS OF POLICY HOLDER — POLICY FROM TO

DATE FILED	SIGNATURE OF DRIVER OF VEHICLE NO. 1	IF SIGNED BY PERSON OTHER THAN DRIVER GIVE REASON

VEH. 1

VEH. 2

VEH. 1

VEH. 2

FILL IN BUT DO NOT DETACH

INSURANCE COVERAGE FORM SR-21

SR-21 MAILED CASE NO.

NAME OF INSURANCE COMPANY AFFORDING INSURANCE TO COVER YOUR LIABILITY FOR DAMAGE OR INJURY TO OTHERS

NAME OF AGENT WHO SOLD POLICY — ADDRESS

POLICY NO. — POLICY PERIOD: FROM — TO

DATE OF ACCIDENT — IN OR NEAR

MAKE OF YOUR VEHICLE NO. 1 — TYPE — YEAR — FACTORY SERIAL OR MOTOR NO.

DRIVER — ADDRESS

OWNER — ADDRESS

NAME OF POLICYHOLDER — YOUR SIGNATURE

IMPORTANT: THIS ACCIDENT SHOULD ALSO BE REPORTED DIRECTLY TO YOUR INSURANCE COMPANY. FAILURE TO REPORT MAY JEOPARDIZE YOUR AUTOMOBILE LIABILITY INSURANCE.

Drivers Report Form

Front Page

Form Number
8-79 H-3060

DEPARTMENT OF TRANSPORTATION
IOWA

IOWA ACCIDENT REPORT FORM

An accident in the state of Iowa causing death, personal injury or total property damage $250.00 or more must be reported within 72 hours. Failure to report within 72 hours may result in suspension of your driving privilege. Caution: You must attempt to completely fill out this report.

Instructions

Please print or type all information. Use black or dark blue ink. Begin by folding along dotted line → and complete the items by placing the appropriate numbered code in the box that appears to the right side of that item. When complete return here.

1. Begin completing the reverse of this form by entering accident date, day of week, time, number of vehicles involved, total number killed, number injured and the total amount of property damage done to all vehicles, and personal property in the accident. When step 1 is complete go to step 2.

2. After completing step 1 enter the information pertaining to all drivers and vehicles involved in the accident. Important: Be sure to include the driver's name, drivers license number and drivers license state. Also the vehicle owners name, license plate number and license plate state. If more than two drivers or two vehicles were involved use an extra report form or sheet of paper making sure that the extra vehicles and drivers are numbered 3, 4, 5, etc. If you were involved in an accident with a pedestrian use the driver block of the space provided for vehicle No. 2 and after the individual's name print the word PEDESTRIAN. If vehicle involved was parked at the time of the accident print PARKED in the driver information and complete the vehicle owner information only. When step 2 is complete go to step 3.

3. Under the vehicle information please use the following codes when completing the box marked "vehicle type code."

01 = Passenger Car	09 = Truck Tractor/Semi	16 = Motorcycle
02 = Car & Trailer	10 = Double Bottom Truck	17 = Bicycle, Etc.
03 = Panel Truck	11 = Tow Truck/Wrecker	18 = Recreation Veh.
04 = Pickup Truck	12 = Motor Home	19 = Maint/Const. Veh.
05 = Pickup & Trailer	13 = Bus	20 = Train
06 = Pickup Camper	14 = School Bus	21 = Other (Describe)
07 = Straight Truck	15 = Farm Veh/Equip	22 = Moped
08 = Truck Tractor		00 = Unknown

When step 3 is complete go to step 4.

4. To the best of your ability complete the accident diagram and describe what occurred in the accident description as briefly as possible. Important: If you are vehicle No. 1 in step 2 make sure that your vehicle is vehicle No. 1 in the description and diagram. When step 4 is complete go to step 5.

5. The location of the accident is very important, please be as specific as possible. When completed with step 5 go to step 6.

6. Injury information should be entered in the space provided. Make sure that the vehicle number in which the injured party was riding is complete, describe the nature of the injury and check the box under the column most appropriate for the injury severity. The codes are: 1 for fatal, 2 for major injuries such as broken bones, severe cuts, head injuries, etc., 3 for minor - small cuts, bruises and abrasions, 4 for possible - no visible injury but individual complaints of pain or discomfort. When step 6 is complete go to step 7.

7. Complete the insurance information, especially the company and policy number. DO NOT TEAR OFF THE PERFORATED PORTION OF THE FORM. Go to step 8.

8. Please sign the form and mail to:

Iowa Department of Transportation
Office of Driver License
Lucas State Office Building
Des Moines, Iowa 50319

LOCATION OF ACCIDENT
(Where did first damage or injury event occur?)

1 = On Roadway
2 = Shoulder
3 = Median
4 = Roadside
5 = Outside of Right of Way
0 = Unknown

TYPE OF ACCIDENT

Non-Collision
01 = Overturned
02 = Jackknifed
03 = Carbon Monoxide
04 = Fire/Explosion
05 = Immersion
06 = Other

Collision of Motor Vehicle with:
10 = Pedestrian
11 = Vehicle in Traffic
12 = Motorcycle in Traffic
13 = Vehicle in Other Roadway
14 = Parked Vehicle
15 = Train
16 = Pedalcycle
17 = Animal
18 = Fixed Object
19 = Other Object

VEHICLE ACTION
01 = Going Straight
02 = Turning Left
03 = Turning Right
04 = Making U-Turn
05 = Passing
06 = Changing Lanes
07 = Merging
08 = Parking
09 = Slowing-Stopping
10 = Backing
11 = Stopped for Stop Sign/Signal
12 = Stopped in Traffic Lane
13 = Stalled in Traffic Lane
14 = Properly Parked
15 = Improperly Parked
16 = Other (Explain in Narrative)
17 = Unattended moving vehicle
00 = Unknown

FIXED OBJECT STRUCK
00 = Unknown
01 = None
02 = Bridge or Overpass
03 = Underpass or Bridge Support
04 = Building
05 = Culvert
06 = Curb
07 = Ditch
08 = Island or Raised Median
09 = Embankment or Retaining Wall
10 = Fence
11 = Guardrail
12 = Light Pole
13 = Sign Post
14 = Tree or Shrubbery
15 = Utility Pole
16 = Other Pole or Support
17 = Mailbox
18 = Impact Attenuator
19 = Other

ROADWAY GEOMETRICS
1 = Straight, Level
2 = Straight, Up/Downgrade
3 = Straight, Hillcrest
4 = Curve, Level
5 = Curve, Up/Downgrade
6 = Curve, Hillcrest
7 = Intersection, Level
8 = Intersection, Up/Downgrade
9 = Intersection Hillcrest
0 = Unknown

CHARACTER OF ROADWAY
Not at Intersection
01 = No Special Feature
02 = Bridge/Overpass/Underpass
03 = Railroad Crossing
04 = Business Drive
05 = Farm/Residential Drive
06 = Other (Non-Intersection
Intersection
11 = Within Intersection
12 = Not Within Intersection but Intersection Related
13 = Alley Intersection
14 = Other (Intersection)
Interchange
21 = Intersection of Ramp and Minor Road
22 = Ramp
23 = On Major Road, Between Ramps
24 = On Minor Road, Between Ramps
25 = Entrance Ramp at Major Road
26 = Major Road at Exit Ramp
27 = Bridge/Overpass/Underpass
28 = Not Within Interchange but Interchange Related
29 = Other (Interchange)
00 = Unknown

TRAFFIC CONTROLS
01 = No Controls Present
02 = Traffic Signals
03 = Stop Sign
04 = Yield Sign
05 = Warning Sign
06 = School Signals
07 = No Passing Zone (Marked)
08 = School Stop Sign
09 = Stop Arm on School Bus
10 = Railroad Warning Sign
11 = Railroad Automatic Signal
12 = Railroad Crossing Gate
13 = Police Officer
14 = Other Traffic Director
15 = Other Control
16 = Controls Not Functioning/Not in Place
00 = Unknown

LOCALITY
1 = Business District (Central)
2 = Manufacturing District
3 = Residential District
4 = Business District (Outlying)
5 = School/Playground Zone
6 = Recreational Area
7 = Open Country (Rural)
8 = Other
9 = Parking Lot/Private Prop.
0 = Unknown

LIGHT CONDITIONS
1 = Daylight
2 = Dusk
3 = Dawn
4 = Darkness (Roadway Lighted)
5 = Darkness (Roadway Not Lighted)
6 = Unknown

WEATHER CONDITIONS
1 = Clear
2 = Cloudy
3 = Fog
4 = Mist
5 = Rain
6 = Sleet/Hail
7 = Snow
8 = Strong Wind
9 = Other
0 = Unknown

TYPE OF TRAFFICWAY
1 = One Lane or Ramp
2 = Two Lanes
3 = Three Lanes
4 = Four or More, Undivided
5 = Four or More, Divided
6 = Alley
7 = Driveway
8 = Other (Creeper Lane etc.)
0 = Unknown

SURFACE CONDITIONS
(Indicate up to two conditions)
1 = Dry
2 = Wet
3 = Ice
4 = Snow
5 = Loose Gravel
6 = Mud
7 = Debris
8 = Other
0 = Unknown

SURFACE TYPE
1 = Portland Cement Concrete
2 = Asphalt Bituminous
3 = Gravel/Rock
4 = Dirt
5 = Brick
6 = Steel (Bridge Floor)
7 = Wood (Bridge Floor)
8 = Other
0 = Unknown

VISION OBSCURED
01 = Not Obscured
02 = Trees/Crops
03 = Buildings
04 = Embankment
05 = Sign/Billboard
06 = Hillcrest
07 = Parked Vehicles
08 = Moving Vehicles
09 = Person/Object in or on Vehicle
10 = Blinded by Sun or Headlights
11 = Frosted Windows or Windshield
12 = Blowing Snow
13 = Fog/Smoke/Dust
14 = Other (Explain in Narrative)
00 = Unknown

APPARENT DRIVER CONDITION
1 = Apparently Normal
2 = Physical Defect
3 = Fatigued
4 = Apparently Asleep
5 = Ill
6 = Under Medication
7 = Infirmities of Age
8 = Drinking (Not Impaired)
9 = Drinking (Impaired)
10 = Drugs
11 = Other (Describe)
0 = Unknown

DRIVER/VEHICLE RELATED CONTRIBUTING CIRCUMSTANCES
(For each vehicle, indicate up to two circumstances which caused or contributed to the accident)

00 = Unknown
01 = None Apparent
02 = Ran Traffic Signal
03 = Ran Stop Sign
04 = Passed Stopped School Bus
05 = Passing Where Prohibited
06 = Passing, Interfered with Other Vehicle
07 = Left of Center, Not Passing
08 = Failed to Yield ROW (FTYROW), at Uncontrolled Intersection
09 = FTYROW, From Stop Sign
10 = FTYROW, From Yield Sign
11 = FTYROW, Making Left Turn
12 = FTYROW, From Driveway
13 = FTYROW, From Parked Position
14 = FTYROW, to Pedestrian
15 = FTYROW, Other
16 = Wrong Way on One-Way Road
17 = Speed To Fast For Conditions
18 = Exceeding Speed Limit
19 = Drag Racing
20 = Improper Turn
21 = Improper Lane Change
22 = Following too Close
23 = No Signal or Improper Signal
24 = Disregarded Railroad Signal
25 = Disregarded Warning Signal
26 = Reckless Driving
27 = Improper Backing
28 = Illegal or Improper Parking
29 = Failure to have Control
30 = Failed to Turn on Lights
31 = Inattentive or Distracted
32 = Driver Confused
33 = Vision Obscured
34 = Oversized Vehicle
35 = Overload Passenger/Cargo
36 = Inexperienced Driver
37 = Vehicle Defect or Faulty Equipment
38 = Other

PLEASE RETURN TO INSTRUCTIONS STEP 1.

TO: IOWA DEPARTMENT OF TRANSPORTATION
OFFICE OF DRIVER LICENSE
LUCAS STATE OFFICE BUILDING
DES MOINES, IOWA 50319

FOR USE OF INSURANCE COMPANY ONLY

Return this form within 15 days if coverage not in effect as alleged otherwise coverage will be presumed.

- ☐ 1. OUR POLICY APPLIES TO THE OWNER OF THE VEHICLE INVOLVED IN THE ACCIDENT, BUT NOT TO THE OPERATOR WHO WAS DRIVING WITHOUT PERMISSION. (AFFIDAVIT OF OWNER ATTACHED)
- ☐ 2. OUR POLICY DOES NOT APPLY TO THIS ACCIDENT BECAUSE OF VIOLATION OF PURPOSES OF USE SPECIFIED IN THE POLICY.
- ☐ 3. OUR POLICY DOES NOT APPLY TO THIS ACCIDENT BECAUSE VEHICLE WAS BEING USED BEYOND AGREED GEOGRAPHICAL BOUNDARIES.
- ☐ 4. NO AUTOMOBILE LIABILITY POLICY WAS IN EFFECT ON DATE OF ACCIDENT.
- ☐ 5. OUR POLICY AFFORDS LIMITS OF LIABILITY LESS THAN 10,000-20,000-5,000.
  POLICY LIMITS - BI $_____ PD $_____
- ☐ 6. OUR POLICY AFFORDS COVERAGE TO OPERATOR ONLY.
- ☐ 7. OUR POLICY AFFORDS COVERAGE TO OWNER ONLY.
- ☐ 8. WE HAVE DISCOVERED FRAUD. NATURE OF FRAUD_____
- ☐ 9. OTHER REASONS FOR REJECTION OF THIS SR-21.

NAME OF INSURANCE COMPANY

BY _____
AUTHORIZED REPRESENTATIVE

DATE _____

Drivers Report
Back Page

STATE OF IOWA RECORD FORMAT

INTERNAL MODE:
B = Binary
P = Packed Unsigned
PS = Packed Signed
A = Alphabetic
N = Numeric
A/N = Alpha-Numeric
R = Right Justified
L = Left Justified
b = Blanks

APPLICATION Traffic Accidents — SYSTEM NO. 388T600
RECORD NAME Accident Statistics - General — D.S.N. X388.T613
CREATED BY Ruth Quinn — DATE 4-09-79
REVISED BY — DATE
MODE Fixed — CHAR/REC — REC/BLK — LABELS Standard
ACCESS METHOD Sequential — DEVICE 3330V — VOL. SER. — DISP

No.	'X' if Chg.	Field Description	Mnemonic	Sort Seq.	External Length	Internal Length	Int. Mode	Relative Position
1		Case	G-CSE		8			1-8
2		Case Year			1		N	1
3		Case Prefix			1		N	2
4		Case Number			6		N	3-8
5		Record Type 'A'	G-RCT		1		A	9
6		Record Number 'Ø1'	G-RNO		2		N	10-11
7		Accident Severity Code	G-SEV		1		N	12
8		Report Type	G-REP		1		N	13
9		Total Killed	G-KLD		2		N	14-15
10		Total Injured	G-INJ		2		N	16-17
11		Total Vehicles	G-VEH		2		N	18-19
12		Total Property Damage	G-PRP		8		N	20-27
13		Date of Accident MMDDYY	G-DTA		6		N	28-33
14		Day of Week	G-DAY		1		N	34
15		Time of Day	G-TME		4		N	35-38
16		Rural/Urban Code	G-RU		1		A	39
17		County	G-CO		2		N	40-41
18		City	G-CTY		2		N	42-43
19		Route	G-RTE		4		A/N	44-47
20		Road Class	G-RDC		1		N	48
21		Intersection Class	G-ITC		1		N	49
22		Intersection Identifier	G-ITI		6		N	50-55
23		Reference Node	G-REF		6		N	56-61
24		Distance Indicator	G-DIS		3		N	62-64
25		Direction Node	G-DIR		6		N	65-70
26		Type of Accident	G-ATY		2		N	71-72
27		Character of Roadway	G-CHR		2		N	73-74
28		Roadway Geometrics	G-GEO		1		N	75
29		Light Conditions	G-LGT		1		N	76
30		Weather Conditions 1 & 2	G-WEA		2		N	77-78
31		Locality	G-LCL		1		N	79
32		Location	G-LOC		1		N	80
33		Collision Type	G-COL		2		N	81-82
34		ALAS Flag	G-ALAS		1		N	83
35		Date Added/Updated YYDDD	G-UPD		5		N	84-88
36		Filler			12		A	89-100
37								
38								
39								
40								
41								
42								
43								
44								
45								
46								
47								
48								
49								
50								
51								
52								

INTERNAL MODE:
B = Binary
P = Packed Unsigned
PS = Packed Signed
A = Alphabetic
N = Numeric
A N = Alpha-Numeric
R = Right Justified
L = Left Justified
b = Blanks

STATE OF IOWA RECORD FORMAT

APPLICATION Traffic Accidents SYSTEM NO. 388T600
RECORD NAME Acc. Statistics - Vehicle/Driver D.S.N. X388.T613
CREATED BY Ruth Quinn DATE 4-09-79
REVISED BY Ruth Quinn DATE 4-16-79
MODE fixed CHAR/REC _____ REC/BLK _____ LABELS Standard
ACCESS METHOD sequential DEVICE 3330V VOL.SER. _____ DISP _____

No.	'X' if Chg.	Field Description	Mnemonic	Sort Seq.	External Length	Internal Length	Int. Mode	Relative Position
1		Case Number	V-CSE		8		N	1-8
2		Record Type 'B'	V-RCT		1		A	9
3		Record Number	V-RNO		2		N	10-11
4		Vehicle Number	V-VNO		2		N	12-13
5		Vehicle Type	V-TYP		2		N	14-15
6		Vehicle Year	V-YR		2		N	16-17
7		Special Use	V-USE		1		N	18
8		Number of Occupants	V-OCC		2		N	19-20
9		Attachment	V-ATT		2		N	21-22
10		Fire/Explosion	V-FIRE		1		N	23
11		Hit & Run	V-H/R		1		N	24
12		Point of Initial Impact	V-IMP		2		N	25-26
13		Damaged Areas 1, 2, 3 & 4	V-AREA		8		N	27-34
14		Damage Severity	V-DSEV		1		N	35
15		Vehicle Defects	V-DEF		2		N	36-37
16		Initial Direction of Travel	V-DIR		1		N	38
17		Speed Limit	V-SPD		2		N	39-40
18		Roadway/Environment Contrib. Circ.	V-RD/ENV		2		N	41-42
19		Traffic Controls	V-CNT		2		N	43-44
20		Type of Trafficway	V-TTR		1		N	45
21		Traffic Flow	V-FLOW		1		N	46
22		Type of Surface	V-STYP		1		N	47
23		Vehicle Action	V-ACT		2		N	48-49
24		Fixed Object Struck	V-FIX		2		N	50-51
25		Location of Fixed Object	V-FLOC		1		N	52
26		Surface Conditions 1 & 2	V-SCND		2		N	53-54
27		Filler			10		A	55-64
28		Driver's Age	D-AGE		2		N	65-66
29		Driver's Sex	D-SEX		1		A	67
30		License Restrictions	D-RSTR		4		A/N	68-71
31		Restrictions Complied With	D-CMP		1		N	72
32		Driver Charged	D-CHD		1		A	73
33		Sobriety Test Given	D-TEST		1		N	74
34		Sobriety Test Results	D-RSLT		3		N	75-77
35		Driver Condition	D-DCND		2		N	78-79
36		Drv/Veh Contrib. Circ. 1 & 2	D-DR/VEH		4		N	80-83
37		Vision Obscured	D-VISN		2		N	84-85
38		Filler			15		A	86-100
39								
40								
41								
42								
43								
44								
45								
46								
47								
48								
49								
50								
51								

INTERNAL MODE:
B = Binary
P = Packed Unsigned
PS = Packed Signed
A = Alphabetic
N = Numeric
A N = Alpha-Numeric
R = Right Justified
L = Left Justified
b = Blanks

STATE OF IOWA RECORD FORMAT

APPLICATION Traffic Accidents SYSTEM NO. 388T600
RECORD NAME Acc. Statistics - Injury/Pedestrian D.S.N. X388.T613
CREATED BY Ruth Quinn DATE 4-09-79
REVISED BY DATE
MODE fixed CHAR/REC 100 REC/BLK LABELS Standard
ACCESS METHOD sequential DEVICE 3330V VOL. SER. DISP

No.	'X' if Chg.	Field Description	Mnemonic	Sort Seq.	External Length	Internal Length	Int. Mode	Relative Position
1		Case Number	I-CSE		8		N	1-8
2		Record Type 'C'	I-RCT		1		A	9
3		Record Number	I-RNO		2		N	10-11
4		Injury/Pedestrian Data Block 1			25			12-36
5		Unit Number	I-UNO-1		2		N	12-13
6		Age	I-AGE-1		2		N	14-15
7		Sex	I-SEX-1		1		A	16
8		Injury Severity	I-SEV-1		1		N	17
9		Injuried Area	I-AREA-1		1		N	18
10		Position of Injured Person	I-POS-1		1		N	19
11		Protective Device	I-PDEV-1		1		N	20
12		Ejection	I-EJCT-1		1		N	21
13		Filler			7		A	22-28
14		Pedestrian Action	P-ACT-1		2		N	29-30
15		Color of Clothing	P-CLR-1		1		N	31
16		Pedestrian also Driver	P-P/DRV-1		1		A	32
17		Sobriety	P-SOB-1		1		N	33
18		Test Results	P-TEST-1		3		N	34-36
19		Injury/Ped. Data Block 2			25			37-61
20		Unit Number	I-UNO-2		2		N	37-38
21		Age	I-AGE-2		2		N	39-40
22		Sex	I-SEX-2		1		A	41
23		Injury Severity	I-SEV-2		1		N	42
24		Injured Area	I-AREA-2		1		N	43
25		Position	I-POS-2		1		N	44
26		Protective Device	I-PDEV-2		1		N	45
27		Ejection	I-EJCT-2		1		N	46
28		Filler			7		A	47-53
29		Ped. Action	P-ACT-2		2		N	54-55
30		Color of Clothing	P-CLR-2		1		N	56
31		Ped. Also Driver	P-P/DRV-2		1		A	57
32		Sobriety	P-SOB-2		1		N	58
33		Test Results	P-TEST-2		3		N	59-61
34		Injury/Ped. Data Block 3			25			62-86
35		Unit Number	I-UNO-3		2		N	62-63
36		Age	I-AGE-3		2		N	64-65
37		Sex	I-SEX-3		1		A	66
38		Injury Severity	I-SEV-3		1		N	67
39		Injured Area	I-AREA-3		1		N	68
40		Position	I-POS-3		1		N	69
41		Protective Device	I-PDEV-3		1		N	70
42		Ejection	I-EJCT-3		1		N	71
43		Filler			7		A	72-78
44		Ped. Action	P-ACT-3		2		N	79-80
45		Color of Clothing	P-CLR-3		1		N	81
46		Ped. also Driver	P-P/DRV-3		1		A	82
47		Sobriety	P-SOB-3		1		N	83
48		Test Results	P-TEST-3		3		N	84-86
49		Filler			14		A	87-100
50								
51								

EXPLANATION OF ADDITIONS TO GENERAL RECORD OF ACCIDENT STATISTICS FILE TO DEVELOP THE INTERFACE ACCIDENT FILE (INTFACC. YR__)

The following data fields will be added to the last 12 positions of the general record of the Accident Statistics file for accidents on Primary Roads, FAS and FAUS routes. These positions are not being used at the present time. The ALAS-Base Record Interface file will be cross-matched with the accident file to provide the data for these fields. These fields will provide capability to assign accidents to Base Record sequences for HPMS and also to interface accident data with Base Record Data.

1. Base Record County: The county of record within the Base Record file. On north or south county lines or within cities which lie in more than one county, the Base Record county may be different than the county coded on the accident file.

2. System Code: This code reflects the Primary or Federal-Aid System:

   1 - Primary Road System
   2 - Primary Road System, One-Way, Off-Direction (Southbound or Westbound)
   3 - Federal-Aid Secondary (FAS)
   4 - Federal-Aid Urban System (FAUS)

3. Direction/Non-Mainline Code: Indicates direction of travel for divided highways or one-way pairs and non-mainline ramp mileage:

   Ø - Normal two-lane
   E - Eastbound
   N - Northbound
   R - Ramp
   S - Southbound
   U - Unknown
   W - Westbound

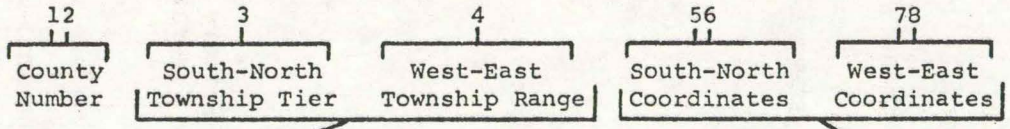
4. Primary/Federal-Aid Route Number: If on Primary System, the Primary Road Route will be coded. For other Federal-Aid systems, the Federal-Aid Route Number will be coded.

5. Milepoint: The milepoint reflects the mileage from the south or west county line or from beginning of route within the county. The following conversions will be used in the milepoint assignment:

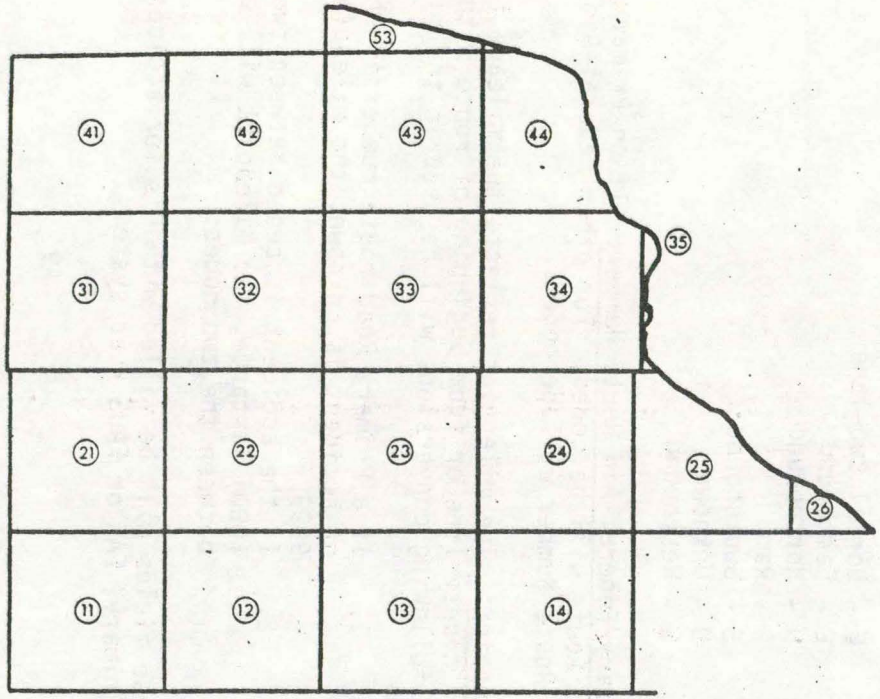
   1. If a Primary Road route number is shown but node location of accident is unknown, the milepoint will be shown as 9999.
   2. If the accident is coded between two nodes with an unknown (000) distance, the milepoint will be assigned halfway between the two nodes.

NOTE: These fields will be filled with Ø's for accidents that do not occur on the Primary, FAS or FAUS road systems.

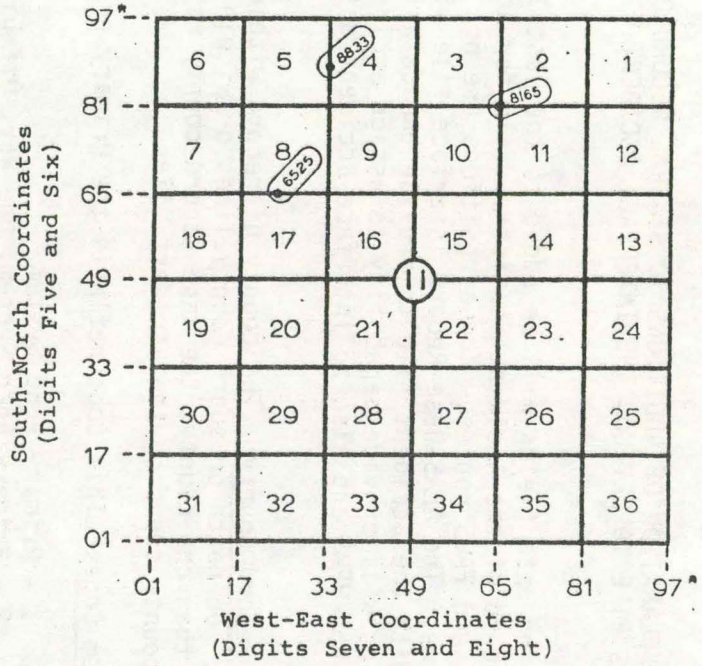
COMPOSITION OF EIGHT-DIGIT NODE NUMBER



EXAMPLE OF CONGRESSIONAL TOWNSHIP NUMBERING
(Digits Three and Four)



COORDINATE SYSTEM NUMBERING ON SECTION LINES WITHIN A CONGRESSIONAL TOWNSHIP
(Digits Five thru Eight)



* If Township Line is on County Line

ROADWAY ELEMENTS TO WHICH NODE NUMBERS ARE ASSIGNED

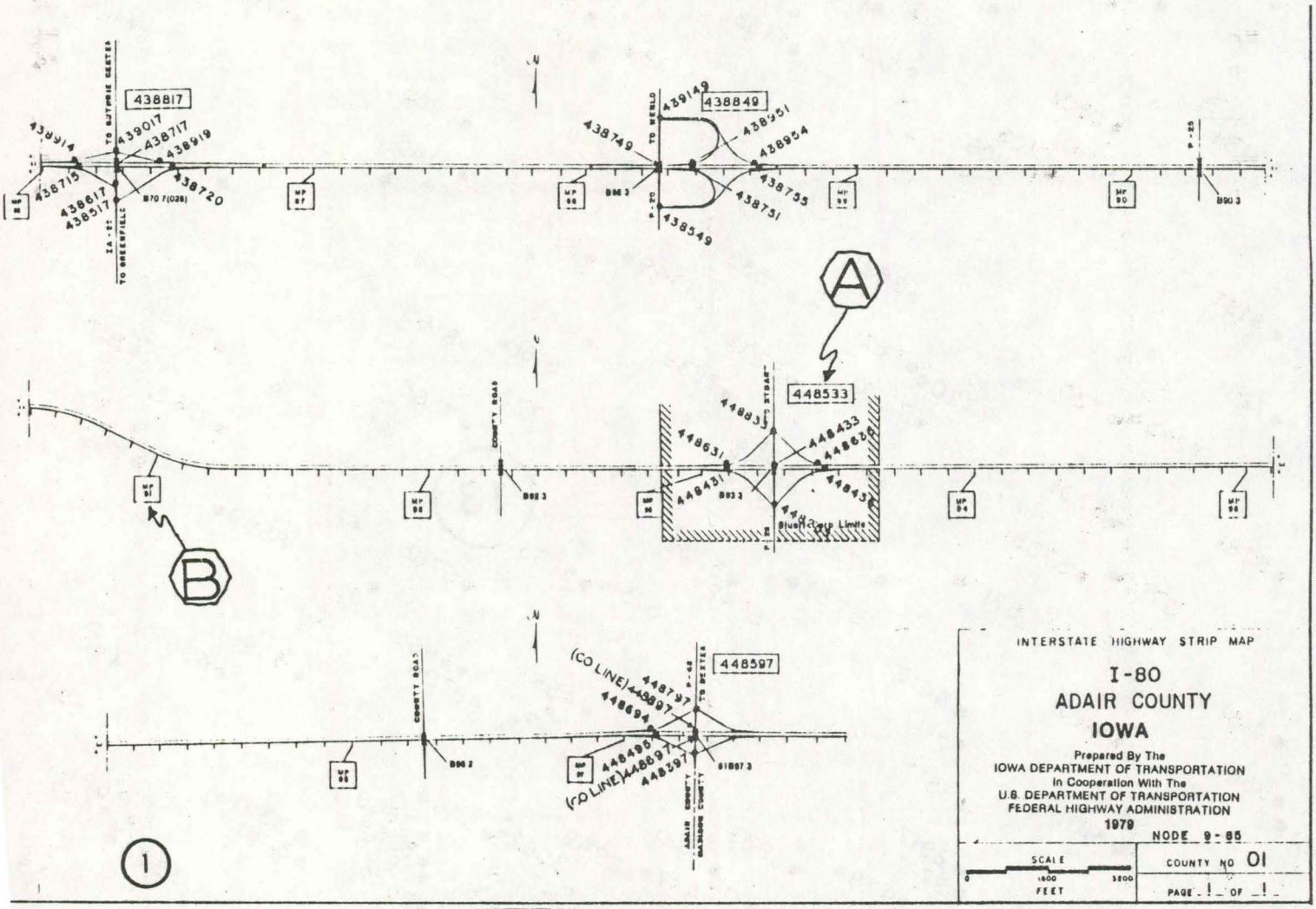
1. All Intersections (Except Alleys)
2. Ramp Terminals
3. Railroad Crossings
4. Grade Separation Structures
5. Major Bridges
6. Road Ends
7. 90 Degree Turns (When Each Leg is at Least ¼ Mile Long)
8. County Lines

DESCRIPTION OF THE
IOWA LINK-NODE ACCIDENT LOCATIONAL SYSTEM

IOWA DEPARTMENT OF TRANSPORTATION

13

INTERSTATE NODE MAPS



(A) —— COMPLEX INTERSECTION IDENTIFIER: Last six digits of node number, boxed in to identify it as the Intersection Identifier for that interchange.

(B) —— MILEPOST VALUES: Milepost markers at even mile intervals as posted in field. Tick marks along mainline indicate one-tenth mile intervals.

ACCIDENT LOCATION AND ANALYSIS SYSTEM

"ALAS"

Developed For The

IOWA DEPARTMENT OF TRANSPORTATION

Through A Grant Provided By The

FEDERAL HIGHWAY ADMINISTRATION
U. S. DEPARTMENT OF TRANSPORTATION

I. OBJECTIVES

A. Develop Statewide Accident Location System

B. Develop a Computerized Analysis System

1. Identify problem locations.
2. Identify design and operating features associated with high accident frequencies.
3. Compile accident summaries.

II. ACCIDENT LOCATION SYSTEM

A. Quasi-Coordinate Link-Node System

1. Based on congressional townships.
2. Eight digit node numbers.
3. Roadway elements to which node numbers are assigned.
   (a) Intersections
   (b) Ramp terminals
   (c) Railroad crossings
   (d) Grade separation structures
   (e) Major bridges
   (f) Road ends
   (g) Ninety degree turns
   (h) County lines
4. Literal descriptions are assigned to all nodes which can be readily described.

III. ACCIDENT ANALYSIS SYSTEM

A. High Priority Location Rankings -- Selects all locations with at least a certain number of Fatal Accidents, Injury Accidents or Total Accidents as specified by the user.

1. Selection by road system.
   (a) Rural primary
   (b) Total primary
   (c) Municipal (includes municipal primary)
   (d) Secondary
   (e) Total rural

2. Jurisdictions
   (a) Statewide
   (b) Iowa DOT districts
   (c) Iowa Highway Patrol Posts
   (d) Counties
   (e) Cities
3. Locations
   (a) Intersections
   (b) Nodes
   (c) Links
4. Rankings by
   (a) Number of accidents
   (b) Accident severity
   (c) Total value loss
   (d) Accident rates (future)
5. Output format
   (a) Intersections
   (b) Nodes
   (c) Links

B. Generalized Request Programs

1. Compilation of accident listings by location.
   (a) Intersections
   (b) Nodes
   (c) Links
   (d) Node strings (road sections)
2. Compilation of accident listings by jurisdiction
   (a) Statewide
   (b) County
   (c) City
   (d) Any road system by jurisdiction
3. Compilation of accident listings from special select program.
   (a) Selects accidents with specific attributes from up to three data fields on the accident file.
4. Output formats
   (a) Abbreviated literal format showing basic data elements.
   (b) Coded format showing all data elements from accident file.
   (c) Summary information only.

Appendix B

08/19/85

EXTERNAL STORAGE FORMAT

BASE REC. INVENTORY RECORD SIZE 1000 BLOCK SIZE _____ DSNAME *SEE BELOW PRIMARY ROAD _____

PRIMARY ROAD BASE RECORD GENERATION DATA GROUP
*DSN-X!2!.PRIMROAD.CUR( )
DCB-DSCB.TFB.L!000

| | | |

08/19/85

EXTERNAL STORAGE FORMAT

BASE REC. INVENTORY RECORD SIZE 1000 BLOCK SIZE _____ DSNAME *SEE BELOW PRIMARY ROAD

NORTHBOUND OR EASTBOUND LANE

LANE LGTH 9V99	SURF WIDTH	SUBBASE MATERIAL	SUBBASE THICK 99V9	BASE PRED MATERIAL	BASE THICK 99V9	SURFACE TYPE & RESURF	SURFACE THICK 99V9	CONST YEAR	MAJ RECONST YEAR	MAJ RECONST TYPE	OUTSIDE CURB/SHD TYPE	OUTSIDE SHD WIDTH	INSIDE CURB/SHD TYPE	INSIDE SHD WIDTH	GRADE 1.0-1.9%	GRADE 2.0-2.9%	GRADE 3.0-3.9%	GRADE 4.0-4.9%	GRADE 5.0-5.9%	GRADE 6.0-6.9%	GRADE 7.0-7.9%	GRADE 8.0-8.9%	GRADE 9.0-9.9%	GRADE 10.0-11.9%	GRADE 12.0-14.9%	GRADE 15% & OVER	1.0-4.9% LGTH 9V99	5.0-9.9% LGTH 9V99	10 & OVER LGTH 9V99	LGTH PASS REST 9V99	NO. STOP REST	TOTL LGTH STOP REST 9V99	CURVES 0-1.4° NO.	CURVES LENGTH V99	1.5-2.4° NO.	LENGTH V99	2.5-3.4° NO.	LENGTH V99	3.5-4.4° NO.	LENGTH V99	4.5-5.4° NO.	LENGTH V99	5.5-6.9° NO.	LENGTH V99	7.0-8.4° NO.	LENGTH V99	8.5-10.9° NO.	LENGTH V99	11.0-13.9° NO.	LENGTH V99	14.0-18.4° NO.	LENGTH V99	18.5-27.9° NO.	LENGTH V99	28° & OVER NO.	LENGTH V99
800	1	5	8	10	13	15	20	25	30	30	30	35	35	40	40	40	40	40	40	40	40	40	40	40	40	40	45	50	55	60	65	70	75	80	85	90	95	100

NORTHBOUND OR EASTBOUND LANE

SPEED LIMIT(MPH)	SPEED AVERAGE(MPH)	COM-IND-REC ADC	SAFETY STUDY	PARKING TYPE	DRAINAGE TYPE	TURN LANES	% TURNS	TRAFFIC FLOW	THRU WIDTH	STR ADQ SURF. 9V9	STR ADQ ROAD. 9V9	STR ADQ DRAIN. 9V9	STR ADQ MAINT. 9V9	NEED STDY SURF	NEED STDY CRB/SHD	VERT ALGN ADQ	HORI ALGN ADQ	BM NO. OR SLAB THK	PSR NO.	PSI RATING 9V99	TRANS SLOPE X9V9	SHORT ROUGHNESS	LONG ROUGHNESS	UNUSED	ALT. KEY 1	STATE CNTL COUNTY	STATE CNTL ROUTE	STATE CNTL SEGMENT
700	1	5	8	10	13	15	20	25	30	30	35	35	40	40	45	50	55	60	65	70	75	80	85	90	95	100		

SOUTHBOUND OR WESTBOUND LANE

LANE LGTH 9V99	SURF WIDTH	SUBBASE MATERIAL	SUBBASE THICK 99V9	BASE PRED MATERIAL	BASE THICK 99V9	SURFACE TYPE & RESURF	SURFACE THICK 99V9	CONST YEAR	MAJ RECONST YEAR	MAJ RECONST TYPE	OUTSIDE CURB/SHD TYPE	OUTSIDE SHD WIDTH	INSIDE CURB/SHD TYPE	INSIDE SHD WIDTH	GRADE 1.0-1.9%	GRADE 2.0-2.9%	GRADE 3.0-3.9%	GRADE 4.0-4.9%	GRADE 5.0-5.9%	GRADE 6.0-6.9%	GRADE 7.0-7.9%	GRADE 8.0-8.9%	GRADE 9.0-9.9%	GRADE 10.0-11.9%	GRADE 12.0-14.9%	GRADE 15% & OVER	1.0-4.9% LGTH 9V99	5.0-9.9% LGTH 9V99	10 & OVER LGTH 9V99	LGTH PASS REST 9V99	NO. STOP REST	TOTL LGTH STOP REST 9V99	CURVES 0-1.4° NO.	CURVES LENGTH V99	1.5-2.4° NO.	LENGTH V99	2.5-3.4° NO.	LENGTH V99	3.5-4.4° NO.	LENGTH V99	4.5-5.4° NO.	LENGTH V99	5.5-6.9° NO.	LENGTH V99	7.0-8.4° NO.	LENGTH V99	8.5-10.9° NO.	LENGTH V99	11.0-13.9° NO.	LENGTH V99	14.0-18.4° NO.	LENGTH V99	18.5-27.9° NO.	LENGTH V99	28° & OVER NO.	LENGTH V99
800	1	5	8	10	13	15	20	25	30	30	30	35	35	40	40	40	40	40	40	40	40	40	40	40	40	40	45	50	55	60	65	70	75	80	85	90	95	100

SOUTHBOUND OR WESTBOUND LANE

SPEED LIMIT(MPH)	SPEED AVERAGE(MPH)	COM-IND-REC ADC	SAFETY STUDY	PARKING TYPE	DRAINAGE TYPE	TURN LANES	% TURNS	TRAFFIC FLOW	THRU WIDTH	STR ADQ SURF. 9V9	STR ADQ ROAD. 9V9	STR ADQ DRAIN. 9V9	STR ADQ MAINT. 9V9	NEED STDY SURF	NEED STDY CRB/SHD	VERT ALGN ADQ	HORI ALGN ADQ	BM NO. OR SLAB THK	PSR NO.	PSI RATING 9V99	TRANS SLOPE X9V9	SHORT ROUGHNESS	LONG ROUGHNESS	UNUSED	ALT. KEY 2	FEDERAL CNTL COUNTY	FEDERAL CNTL ROUTE	FEDERAL CNTL SEGMENT	FEDERAL CNTL INDICATOR
900	1	5	8	10	13	15	20	25	30	30	35	35	40	40	45	50	55	60	65	70	75	80	85	90	95	100			

B2

1000	1	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100

1100	1	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100

EXTERNAL STORAGE FORMAT

BASE REC. INVENTORY RECORD SIZE 1000 BLOCK SIZE _____ DSNAME =SEE BELOW PRIMARY STRUCTURE

PRIMARY STRUCTURE BASE RECORD
GENERATION DATA GROUP
SN-X122.PRISTRUC.CUR( )
CB-DSCB.TFB.L1000

0	CONTROL IDENTIFICATION: COUNTY NUMBER (1-3), SERIAL NUMBER (4-8), STRUCTURE NO. (9-10)	STATE PRIMARY: HIWAY SYSTEM (11), ROUTE (12-15), SEQUENCE: SEGMENT (16-19), COUNTY (20)	FEDERAL AID: INDICATOR (21), ROUTE: NUMBER (22-25), SEQUENCE (26-30), COUNTY SEQ (31-33), CONT'L SEC. NO. (34-35), STATUS (36), INTERSTATE TRAV'D WAY (37)	STATE CONTROL SECTION: NUMBER (38-40), SUB SECTION (41-42)	IOWA CITY NUMBER (43-44)	FHWA URBAN: AREA CODE (45-47), CLASS CODE (48)	FUNCTION (49-50)	RURAL/MUNICIPAL CODE (51)	TYPE RECORD (52)	DOMAIN CODE (53-54)	TOLL STATUS (55)	SPEC SYS DESIGNATION (56)	COMBUS CATEGORY (57)	FUNCTIONAL CLASSIFICATION: PRESENT (58-60), FUTURE (61-63), FEDERAL (64-65)	POLITICAL CODE: TOWNSHIP (66-68), RANGE (69-70), SECTION (71-72)	ROAD NUMBER: BMSED (73), SECTION 9999A (74-78), SEQUENCE (79-80)	DEFENSE DATA: BRIDGE: MILEAGE (81-85), SECT. LGTH 99V9 (86-88)	UNUSED (89-100)
100	FHWA STRUCTURE NUMBER (1-15)	BYPASS CODE (16)	STRUCTURE DATA: NUMBER: DESIGN 99999A (17-21), MAINT. BRIDGE 99V9X999 (22-28); YEAR: CONSTRUCTED (29-30), MAJOR RECONST (31-32), LAST INV. (33-34)	UNUSED (35-40)	FIRST DUPLICATE ROUTE: HWY SYS (41), ROUTE (42-45), SEQUENCE (46-50), CO. SEQ. (51-53), STRUC. NO. (54-58)	SECOND DUPLICATE ROUTE: HWY SYS (59), ROUTE (60-63), SEQUENCE (64-65), CO. SEQ. (66-68), STRUC. NO. (69-73)	DESCRIPTION OF FEATURE CROSSED (74-98)	KIND OF CROSSING (99)	UNUSED (100)
200	FACILITY CARRIED (1-18)	TYPE OF STRUCTURE (19)	MAIN STRUC. TYPE (20-21)	TYPE SERVICE (22)	TOT NO. MAIN SPANS (23-24)	TOTAL LGTH STRUC. (25-29)	LONGEST MAIN SPAN (30-34)	DECK MATERIAL (35)	DECK BEARING SURF. (36)	SUPERSTRUCTURE (37)	SUBSTRUCTURE (38)	EB/NB LANE: CLEARANCE: HORIZ. 99V9 (39-41), VERT. 99V9 (42-44); APPR. WDTH (45-48)	WB/SB LANE: TRAFFIC DIVIDED CODE (49); CLEARANCE: HORIZ. 99V9 (50-52), VERT. 99V9 (53-55); APPR. WDTH (56-59)	APPROACH DATA: NEAR: TYPE STRUC. (60-61), LONG. SPAN (62-64), NO. OF SPANS SUPERSTRUC. (65-66); FAR: TYPE STRUC. (67-68), LONG. SPAN (69-71), NO. OF SPANS SUPERSTRUC. (72-73)	S.I. & A. DATA: APPROACH: NEAR ST. TYPE (74), FAR ST. TYPE (75); LANES: ON STRUC (76-77), UNDER STRUC (78-79)	APPR. ROWAY WIDTH (80-83)	BRIDGE MEDIAN TYPE (84)	SKEW ANGLE (85-86)	STRUC. FLARED (87)	CONTROL (88)	NAVIGATIONAL DATA: CLEARANCE: VERTICAL (89-90), HORIZONTAL (91-92)	BRIDGE ROADWAY WIDTH 999V9 (93-97)	UNUSED (98-100)
300	DECK WIDTH 999V9 (1-5)	UNDERCLEARANCE: VERTICAL 999V99 (6-10); LATERAL: OUTSIDE 99V9 (11-13), INSIDE 99V9 (14-16)	VERT. CLEAR. 10° LANE 99V99 (17-21)	BRIDGE DESCRIPTION (22)	INSPECTOR (23)	CUSTODIAN CODE (24)	OWNER CODE (25)	SIDEWALK WIDTH: LEFT 99V9 (26-28), RIGHT 99V9 (29-31)	DETOUR LENGTH (32-33)	UNUSED (34)	LATITUDE 9999V9 (35-40)	LONGITUDE 9999V9 (41-47)	SPECIAL STUDY (48)	SAFETY STUDY (49)	UNUSED (50-87)	HISTORICAL SIGNIFICANCE (88)	S.I. & A. DATA: CONDITION: DECK (89), SUPERSTRU. (90), SUBSTRU. (91), CHANNEL (92), CULVERT (93); EST REM LIFE (94-95); OPERATING RAT (96-97); AP BODY ALIGN (98); INVENT RATING (99); POSTED LOAD LIMIT: FIRST (100), SECOND (101), THIRD (102); APPRAISAL: STRUC COND (103), DECK GEOMETRY (104), UNDERCL. V & H (105), RAIL LOAD (106), WATERWAY ADEQ (107), AP BODY ALIGN (108)	YEAR NEEDED (109-112)
400	S.I. & A. DATA: TYPE: SERVICE (1), WORK (2-3); PROPOSED IMPROVEMENTS: LENGTH (4-8), DESIGN LOAD (9), ROADWAY WDTH (10-12), LANES (13-14); ADT: DESIGN (15-19), YEAR (20-21); ADJ ROAD: YEAR (22-23), TYPE IMP (24); COST ($1000'S): IMPROVEMENTS (25-29), PREENGIN'R (30-34), DEMOLITION (35-39), SUBSTRUC (40-44), SUPERSTRUC (45-49); INSPECTION: MONTH (50-51), DAY (52-53), YEAR (54-55), TYPE (56), NEXT TYPE (57), QUARTER (58), PRINT CODE (59); PHY WLK. (60), P'TAL/OTHER (61), DESIGN LOAD (62), TRAF SAFETY (63-66), IMPROVED (67), TRAF ON BLAB (68), BARREL LENGTH (69-72); H LOAD (73-74)	TRAFFIC: YEAR COUNTED (75-76), ADT (77-81), TRUCKS (82-84), AUTOS (85-87)
500	TRAFFIC: MOTORCYCLES (1-3), PICKUPS & PANELS (4-6), SINGLE UNIT-2 AX (7-9), RECREATION VEH. (10-12), SINGLE UNIT-3 AX (13-15), TRUCK TRAILERS (16-18), BUSES (19-21); TTST: 3 AXLES (22-24), 4 AXLES (25-27), 5 AXLES (28-30); DOUBLE BOTTOMS (31-33); ONE YEAR EXPANSION FACTORS: ADT SV9999 (34-38), AUTO PICKUP PANEL SV9999 (39-43), SINGLE UNIT & REC. VEH. SV9999 (44-48), 3 & 4 AXLE TTST SV9999 (49-53), 5 AX & DBL BOT'M SV9999 (54-58)	ACCIDENT DATA: ACCIDENTS: FATAL (59-61), NONFATAL INJURY (62-64); FATALITIES: NON-PEDEST (65-67), PEDEST (68-70); INJURIES: NON-PEDEST (71-73), PEDEST (74-76); NON-INJURY ACCIDENTS (77-82)

04/29/85

EXTERNAL STORAGE FORMAT

BASE REC. INVENTORY RECORD SIZE 1000 BLOCK SIZE _____ DSNAME *SEE BELOW PRIMARY STRUCTURE

	NON-INV ACC.	MAINT. DISTRICT NO.	MAINT. RESIDENCY NO.	CIVIL TOWNSHIP	DISTRICT NUMBER	UNUSED	MILEPOINT BEGIN 999V99	MILEPOINT END 999V99	FEDERAL AID PROJECT NUMBER	S.I. & A. SUFFICIENCY RATING	S.I. & A. SUFFICIENCY MONTH	S.I. & A. SUFFICIENCY YEAR	RAILROAD CROSSING NUMBER	CONDITIONS DECK OVLY RATING	CONDITIONS DECK OVLY YEAR	CONDITIONS PAINT RATING	CONDITIONS PAINT YEAR	PAINT CONTRACTOR	UNUSED	ACCIDENT DATA REF. NODES 1 TYPE	1 NUMBER	1 MILEPOINT	2 TYPE	2 NUMBER	2 MILEPOINT
600	1			5 10 15	20		25	30	35 40 45 50	55	60		65	70		75		80		85		90			95

	ALT. KEY STATE CNTL COUNTY	ROUTE	SEGMENT	STRUC. NO.	UNUSED
700	1	5	10	15	20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100

	UNUSED
800	1 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100

B4

	UNUSED
900	1 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100

1000	1 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100

1100	1 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100

08/31/85

EXTERNAL STORAGE FORMAT

BASE REC. INVENTORY RECORD SIZE 1000 BLOCK SIZE _____ DSNAME *SEE BELOW SECONDARY ROAD

SECONDARY ROAD BASE RECORD GENERATION DATA GROUP
*DSN=X121.SECROAD.CUR( )
DCB=DSCB.TFB.L1000

| 0 | CONTROL IDENTIFICATION | | | SECONDARY | | | FEDERAL AID | | |

08/31/85

EXTERNAL STORAGE FORMAT

BASE REC. INVENTORY RECORD SIZE 1000 BLOCK SIZE _____ DSNAME *SEE BELOW SECONDARY ROAD

NORTHBOUND OR EASTBOUND LANE

| 800 | LANE LGTH 9V99 | SURF WIDTH | SUBBASE MATERIAL | SUBBASE THICK 99V9 | BASE PRED MATERIAL | BASE THICK 99V9 | SURFACE TYPE OF RESURF | SURFACE THICK 99V9 | CONST YEAR | MAJ RECONST YEAR | MAJ RECONST TYPE | OUTSIDE CURB/SHD TYPE | OUTSIDE SHD WIDTH | INSIDE CURB/SHD TYPE | INSIDE SHD WIDTH | GRADE 1.0-1.9% | GRADE 2.0-2.9% | GRADE 3.0-3.9% | GRADE 4.0-4.9% | GRADE 5.0-5.9% | GRADE 6.0-6.9% | GRADE 7.0-7.9% | GRADE 8.0-8.9% | GRADE 9.0-9.9% | GRADE 10.0-11.9% | GRADE 12.0-14.9% | GRADE 15% & OVER | 1.0-4.9% LGTH 9V99 | 5.0-9.9% LGTH 9V99 | 10 & OVER LGTH 9V99 | LGTH PASS REST 9V99 | NO. STOP REST | TOTL LGTH STOP REST 9V99 | CURVES 0-1.4° NO. | CURVES LENGTH V99 | 1.5-2.4° NO. | LENGTH V99 | 2.5-3.4° NO. | LENGTH V99 | 3.5-4.4° NO. | LENGTH V99 | 4.5-5.4° NO. | LENGTH V99 | 5.5-6.9° NO. | LENGTH V99 | 7.0-8.4° NO. | LENGTH V99 | 8.5-10.9° NO. | LENGTH V99 | 11.0-13.9° NO. | LENGTH V99 | 14.0-19.4° NO. | LENGTH V99 | 19.5-27.9° NO. | LENGTH V99 | 28° & OVER NO. | LENGTH V99 |
|---|---|---

08/28/85

EXTERNAL STORAGE FORMAT

BASE REC. INVENTORY RECORD SIZE 1000 BLOCK SIZE ________ DSNAME *SEE BELOW SECONDARY STRUCTURE

SECONDARY STRUCTURE
BASE RECORD
GENERATION DATA GROUP
*DSN-X122.SECSTRUC.CUR( )
DCB-DSCB.TFB.L1000

Positions 0–100

CONTROL IDENTIFICATION			SECONDARY		SECONDARY SEQUENCE		FEDERAL AID	FEDERAL AID ROUTE						* ZEROS *	IOWA CITY NUMBER	FHWA URBAN								FUNCTIONAL CLASSIFICATION			POLITICAL CODE				* ZEROS *		COORD-INATES		
COUNTY NUMBER	SERIAL NUMBER	STRUCTURE NO.	HIWAY SYSTEM	ROUTE	SEGMENT	COUNTY	INDICATOR	NUMBER	SEQUENCE	COUNTY SEQ	CONT'L SEC. NO.	STATUS	INTERSTATE TRAV'D WAY			AREA CODE	CLASS CODE	FUNCTION	RURAL/MUNICIPAL CODE	TYPE RECORD	DOMAIN CODE	TOLL STATUS	SPEC SYS DESIGNATION	CENSUS CATEGORY	PRESENT	FUTURE	FEDERAL	TOWNSHIP	RANGE	SECTION	ROAD NUMBER	ADJ. COUNTY NO.	EAST	SOUTH	UNUSED

Positions 100–200

FHWA STRUCTURE NUMBER	UNDERPASS CODE	STRUCTURE DATA – NUMBER		STRUCTURE DATA – YEAR			UNUSED	* ZEROS *	DESCRIPTION OF FEATURE CROSSED	KIND OF CROSSING	UNUSED
		DESIGN	MAINT. BRIDGE	CONSTRUCTED	MAJOR RECONST	LAST INV.					
		99999A	99V9X999								

Positions 200–300

* ZEROS *
THIS AREA OF THE RECORD IS BEING USED IN ANOTHER SYSTEM. THE SAME DATA SHOULD BE STORED IN THESE POSITIONS FOR ALL SYSTEMS, IF IT APPLIES. ELSE, THE POSITIONS WILL CONTAIN ZEROS.

FACILITY CARRIED	TYPE OF STRUCTURE	MAIN STRUC. TYPE	TYPE SERVICE	TOT NO. MAIN SPANS	TOTAL LGTH STRUC.	LONGEST MAIN SPAN	DECK MATERIAL	DECK BEARING SURF.	SUPERSTRUCTURE	SUBSTRUCTURE	EB/NB LANE CLEARANCE			TWIN/DIVIDED CODE	WB/SB LANE CLEARANCE			APPROACH DATA – NEAR				APPROACH DATA – FAR				S.I. & A. DATA – APPROACH		S.I. & A. DATA – LANES		APPR. RDWAY WIDTH	BRIDGE MEDIAN TYPE	SKEW ANGLE	STRUC. FLARED	NAVIGATIONAL DATA	CLEARANCE		BRIDGE ROADWAY WIDTH	UNUSED
											HORIZ.	VERT.	APPR. WDTH		HORIZ.	VERT.	APPR. WDTH	TYPE STRUC.	LONG. SPAN	NO. OF SPANS	SUPERSTRUC.	TYPE STRUC.	LONG. SPAN	NO. OF SPANS	SUPERSTRUC.	NEAR ST. TYPE	FAR ST. TYPE	ON STRUC	UNDER STRUC					CONTROL	VERTICAL	HORIZONTAL		
											99V9	99V9			99V9	99V9																					999V9	

Positions 300–400

DECK WIDTH	UNDERCLEARANCE	UNDERCLEARANCE – LATERAL		VERT. CLEAR. 10' LANE	BRIDGE DESCRIPTION	SHARED	CUSTODIAN CODE	OWNER CODE	SIDEWALK WIDTH		DETOUR LENGTH	UNUSED	LATITUDE	LONGITUDE	SPECIAL STUDY	SAFETY STUDY	UNUSED	HISTORICAL SIGNIFICANCE	S.I. & A. DATA – CONDITION									POSTED LOAD LIMIT			APPRAISAL						YEAR NEEDED
	VERTICAL	OUTSIDE	INSIDE						LEFT	RIGHT									DECK	SUPERSTRU.	SUBSTRU.	CHANNEL	CULVERT	EST REMAIN LIFE	OPERATING RAT	AP RDWY ALIGN	INVENT RATING	FIRST	SECOND	THIRD	STRUC COND	DECK GEOMETRY	UNDERCLR V & H	SAFE LOAD	WATERWAY ADEQ	AP RDWY ALIGN	
999V9	999V99	99V9	99V9	99V99					99V9	99V9			9999V9	9999V9																							

Positions 400–500

S.I. & A. DATA – TYPE		PROPOSED IMPROVEMENTS				ADT		ADJ ROAD		COST ($1000'S)					INSPECTION												TRAF SAFETY			BARREL LENGTH	H LOAD	TRAFFIC			
SERVICE	WORK	LENGTH	DESIGN LOAD	ROADWAY WDTH	LANES	DESIGN	YEAR	YEAR	TYPE IMP	IMPROVEMENTS	PREENGIN'R	DEMOLITION	SUBSTRUC	SUPERSTRUC	MONTH	DAY	YEAR	TYPE	NEXT TYPE	QUARTER	PRINT CODE	PHY WALK.	P'PAL/OTHER	DESIGN LOAD				OPEN/CLOSED	TRAF ON SLAB			YEAR COUNTED	ADT	TRUCKS	AUTOS

Positions 500–600

TRAFFIC								TTST				ONE YEAR EXPANSION FACTORS					ACCIDENT DATA – ACCIDENTS		FATALITIES		INJURIES		NON-INJURY ACCIDENTS
MOTORCYCLES	PICKUPS & PANELS	SINGLE UNIT-2 AX	RECREATION VEH.	SINGLE UNIT-3 AX	TRUCK TRAILERS	BUSES	3 AXLES	4 AXLES	5 AXLES	DOUBLE BOTTOMS	ADT	AUTO PICKUP PANEL	SINGLE UNIT & REC. VEH.	3 & 4 AXLE TTST	5 AX & DBL BOT'M	FATAL	NONFATAL INJURY	NON-PEDEST	PEDEST	NON-PEDEST	PEDEST	
											SV9999	SV9999	SV9999	SV9999	SV9999								

B7

05/01/85

EXTERNAL STORAGE FORMAT

BASE REC. INVENTORY RECORD SIZE 1000 BLOCK SIZE _____ DSNAME *SEE BELOW SECONDARY STRUCTURE

	NON-INJ ACC.	MAINT. DISTRICT NO.	MAINT. RESIDENCY NO.	CIVIL TOWNSHIP	DISTRICT NUMBER	UNUSED	MILEPOINT BEGIN 999V99	MILEPOINT END 999V99	FEDERAL AID PROJECT NUMBER	S.I.&A. SUFFICIENCY RATING	S.I.&A. SUFFICIENCY MONTH	S.I.&A. SUFFICIENCY YEAR	RAILROAD CROSSING NUMBER	CONDITIONS DECK OVLY RATING	CONDITIONS DECK OVLY YEAR	CONDITIONS PAINT RATING	CONDITIONS PAINT YEAR	PAINT CONTRACTOR	UNUSED	ACCIDENT DATA REF. NODES 1 type	1 NUMBER	1 MILEPOINT	ACCIDENT DATA REF. NODES 2 type	2 NUMBER	2 MILEPOINT
800	1			5	20		25	30	35	55	60		65	70		75		80		85		90	95		100

• ZEROS •
THIS AREA OF THE RECORD IS BEING USED IN ANOTHER SYSTEM. THE SAME DATA SHOULD BE STORED IN THESE POSITIONS FOR ALL SYSTEMS, IF IT APPLIES. ELSE, THE POSITIONS WILL CONTAIN ZEROS.

ALT. KEY COUNTY	ALT. KEY POL. CODE TOWNSHIP	ALT. KEY POL. CODE RANGE	ALT. KEY POL. CODE SECTION	ALT. KEY ROAD NUMBER	ALT. KEY STRUC. NO.	UNUSED
700	5			10		100

UNUSED
900

UNUSED
1000

1100

1200

B8

08/26/85

EXTERNAL STORAGE FORMAT

BASE REC. INVENTORY RECORD SIZE 1000 BLOCK SIZE _____ DSNAME SEE BELOW MUNICIPAL ROAD

MUNICIPAL ROAD BASE RECORD GENERATION DATA GROUP
•DSN=X'2'.MUNIROAD.CUR( )
DCB=DSCB.TFB.L1000

0	CONTROL IDENTIFICATION: COUNTY NUMBER; SERIAL NUMBER; ZEROS	MUNICIPAL: HIWAY SYSTEM; STREET: NUMBER, SEQUENCE; • ZEROS •	FEDERAL AID: INDICATOR; ROUTE: NUMBER, SEQUENCE; COUNTY SEQ; CONTR. SEC. NO.; STATUS; INTERSTATE TRAV'D WAY; • ZEROS •	IOWA CITY NUMBER	FHWA URBAN: AREA CODE; CLASS CODE; • ZEROS •	RURAL/MUNICIPAL CODE; TYPE SECTION	DOMAIN CODE; TOLL STATUS; SPEC SYS DESIGNATION; CENSUS CATEGORY	FUNCTIONAL CLASSIFICATION: PRESENT, FUTURE, PEDIGREE	POLITICAL CODE: TOWNSHIP, RANGE, SECTION	ROAD NUMBER; ATR LOCATION; CONTROL LENGTH 9/99	ROADWAY WIDTH	DISTRICT NUMBER	ADJ COUNTY NO.; • ZEROS •	INTERSECTIONS AT GRADE: SIGNALS, STOP SIGNS, OTHER	NO. INTERCHANGES; NO. SEPARATIONS; NO. OTHER BRIDGES	• ZEROS •
100	NEEDS DATA: INVENTORY YEAR; COST AREA; TERRAIN CODE; TYPE AREA; MEDIAN: TYPE, WIDTH; ROW: COST GROUP, WIDTH; INTERSECTIONS: MAJOR, MINOR; UNUSED; BUSINESS; PRIVATE; NEEDS ROUTE: NUMBER, SEQUENCE; NEED SECTION: NUMBER, TYPICAL	STREET NAME	DUP. MILE INDICATOR; • ZEROS •	BEGINNING MILEPOINT 999V99	• ZEROS •											
200	• ZEROS • THIS AREA OF THE RECORD IS BEING USED IN ANOTHER SYSTEM. THE SAME DATA SHOULD BE STORED IN THESE POSITIONS FOR ALL SYSTEMS. IF IT APPLIES. ELSE, THE POSITIONS WILL CONTAIN ZEROS.	• ZEROS •	ACTUAL/ESTIMATE; TRAFFIC: YEAR COUNTED; ADT; TRUCKS; AUTOS; MOTORCYCLES; PICKUPS & PANELS; SINGLE UNIT-2 AX; RECREATION VEH.; SINGLE UNIT-3 AX; TRUCK TRAILERS; BUSES; TTST-3 AXLES; TTST-4 AXLES; TTST-5 AXLES; DOUBLE BOTTOMS	ONE YEAR EXPANSION FACTORS: ADT SV9999; AUTO PICKUP PANEL SV9999; SINGLE UNIT & REC. VEH. SV9999; 3 & 4 AXLE TTST SV9999; 5 AX & DBL BOTTM SV9999	ACCIDENT DATA: ACCIDENTS: FATAL; NONFATAL INJURY											
300	ACCIDENT DATA: FATALITIES: NON-PEDEST, PEDEST; INJURIES: NON-PEDEST, PEDEST; ACCIDENTS: NON-INJURY, TOTAL	IOWA RAILROAD CROSSING NUMBERS: FIRST, SECOND, THIRD	CULTURE NUMBER OF: FARM UNITS; YR RD DWELL; FARM DWELLINGS; BUSINESSES; INDUSTRIES; SCHOOLS; CHURCHES; INSTITUTIONS; WPA AREAS; JUNK YARDS	• ZEROS •	HIGHWAY RESPON CODE; SPECIAL STUDY; • ZEROS •	PHOTO LOG DATE: MONTH, DAY, YEAR	UNIQUE ID.: SECTION NO.; SUBSECTION; P.R.A.S. SUBDIV CODE; ALPHA	• ZEROS •								
400	ACCIDENT DATA REFERENCE NODES 1: TYPE, NUMBER, MILEPOINT	2: TYPE, NUMBER, MILEPOINT	3: TYPE, NUMBER, MILEPOINT	4: TYPE, NUMBER, MILEPOINT	5: TYPE, NUMBER, MILEPOINT	6: TYPE, NUMBER, MILEPOINT	7: TYPE, NUMBER, MILEPOINT	8: TYPE, NUMBER, MILEPOINT	9: TYPE, NUMBER, MILEPOINT	10: TYPE, NUMBER, MILEPOINT	11: TYPE, NUMBER, MILEPOINT					
500	ACCIDENT DATA REFERENCE NODES 12: TYPE, NUMBER, MILEPOINT	13: TYPE, NUMBER, MILEPOINT	14: TYPE, NUMBER, MILEPOINT	15: TYPE, NUMBER, MILEPOINT	16: TYPE, NUMBER, MILEPOINT	17: TYPE, NUMBER, MILEPOINT	18: TYPE, NUMBER, MILEPOINT	19: TYPE, NUMBER, MILEPOINT	20: TYPE, NUMBER, MILEPOINT	CONTROL LINE ID.	DATE PATTERN MADE	UNUSED				

B9

08/26/85

EXTERNAL STORAGE FORMAT

BASE REC. INVENTORY RECORD SIZE 1000 BLOCK SIZE _____ DSNAME *SEE BELOW MUNICIPAL ROAD

NORTHBOUND OR EASTBOUND LANE

LANE LGTH	SURF WIDTH	SUBBASE MATERIAL	SUBBASE THICK	BASE PRED MATERIAL	BASE THICK	SURFACE TYPE & RESURF	SURFACE THICK	CONST YEAR	MAJ RECONST YEAR	MAJ RECONST TYPE	OUTSIDE CURB/SHD TYPE	OUTSIDE SHD WIDTH	INSIDE CURB/SHD TYPE	INSIDE SHD WIDTH	GRADE 1.0-1.9%	GRADE 2.0-2.9%	GRADE 3.0-3.9%	GRADE 4.0-4.9%	GRADE 5.0-5.9%	GRADE 6.0-6.9%	GRADE 7.0-7.9%	GRADE 8.0-8.9%	GRADE 9.0-9.9%	GRADE 10.0-11.9%	GRADE 12.0-14.9%	GRADE 15% & OVER	1.0-4.9% LGTH	5.0-9.9% LGTH	10 & OVER LGTH	* ZEROS *
9V99			99V9		99/9		99V9																				9V99	9V99	9V99	

NORTHBOUND OR EASTBOUND LANE

SPEED LIMIT(MPH)	SPEED AVERAGE(MPH)	COM-IND-REC ACC	SAFETY STUDY	PARKING TYPE	DRAINAGE TYPE	TURN LANES	# TURNS	TRAFFIC FLOW	THRU WIDTH	NEEDS RATING FOUNDATION	NEEDS RATING SURFACE	NEEDS RATING DRAINAGE	NEEDS RATING ZERO	NEED STDY CRB/SHD	VERT ALGN ADQ	HORI ALGN ADQ	SK NO. OR SLAB TYP.	PSR NO.	PSI RATING 9V99	TRANS SLOPE X9V9	SHORT ROUGHNESS	LONG ROUGHNESS	UNUSED	ALT. KEY 1 MUNICIPAL CNTL COUNTY	CITY	STREET	SEQUENCE

* ZEROS *
THIS AREA OF THE RECORD IS BEING USED IN ANOTHER SYSTEM. THE SAME DATA SHOULD BE STORED IN THESE POSITIONS FOR ALL SYSTEMS. IF IT APPLIES. ELSE, THE POSITIONS WILL CONTAIN ZEROS.

SOUTHBOUND OR WESTBOUND LANE

LANE LGTH	SURF WIDTH	SUBBASE MATERIAL	SUBBASE THICK	BASE PRED MATERIAL	BASE THICK	SURFACE TYPE & RESURF	SURFACE THICK	CONST YEAR	MAJ RECONST YEAR	MAJ RECONST TYPE	OUTSIDE CURB/SHD TYPE	OUTSIDE SHD WIDTH	INSIDE CURB/SHD TYPE	INSIDE SHD WIDTH	GRADE 1.0-1.9%	GRADE 2.0-2.9%	GRADE 3.0-3.9%	GRADE 4.0-4.9%	GRADE 5.0-5.9%	GRADE 6.0-6.9%	GRADE 7.0-7.9%	GRADE 8.0-8.9%	GRADE 9.0-9.9%	GRADE 10.0-11.9%	GRADE 12.0-14.9%	GRADE 15% & OVER	1.0-4.9% LGTH	5.0-9.9% LGTH	10 & OVER LGTH	* ZEROS *
9V99			99V9		99/9		99V9																				9V99	9V99	9V99	

SOUTHBOUND OR WESTBOUND LANE

SPEED LIMIT(MPH)	SPEED AVERAGE(MPH)	COM-IND-REC ACC	SAFETY STUDY	PARKING TYPE	DRAINAGE TYPE	TURN LANES	# TURNS	TRAFFIC FLOW	THRU WIDTH	NEEDS RATING FOUNDATION	NEEDS RATING SURFACE	NEEDS RATING DRAINAGE	NEEDS RATING ZERO	NEED STDY CRB/SHD	VERT ALGN ADQ	HORI ALGN ADQ	SK NO. OR SLAB TYP.	PSR NO.	PSI RATING 9V99	TRANS SLOPE X9V9	SHORT ROUGHNESS	LONG ROUGHNESS	UNUSED	ALT. KEY 2 FEDERAL CNTL COUNTY	ROUTE	SEGMENT	PSI INDICATOR

B10

2

05/20/85

EXTERNAL STORAGE FORMAT

BASE REC. INVENTORY RECORD SIZE 1000 BLOCK SIZE _____ DSNAME *SEE BELOW MUNICIPAL STRUCTURE

MUNICIPAL STRUCTURE
BASE RECORD
GENERATION DATA GROUP
*DSN-X122.MUNSTRUC.CUR( )
DCB-DSCB.TFB.L1000

0	CONTROL IDENTIFICATION: COUNTY NUMBER (1-3)	SERIAL NUMBER (4-9)	STRUCTURE NO. (10)	MUNICIPAL: HIWAY SYSTEM (11)	STREET: NUMBER (12-15)	SEQUENCE (16-17)	* ZEROS * (18-20)	FEDERAL AID: INDICATOR (21)	ROUTE: NUMBER (22-25)	SEQUENCE (26-27)	COUNTY SEQ (28-30)	CONT'L SEC. NO. (31-34)	INTERSTATE TRAV'D WAY STATUS (35)	* ZEROS * (36-40)	IOWA CITY NUMBER (41-45)	FHWA URBAN: AREA CODE (46-50)	CLASS CODE (51)	* ZEROS * (52-55)	RURAL/MUNICIPAL CODE (56)	TYPE RECORD (57)	DOMAIN CODE (58-60)	TOLL STATUS (61)	SPEC SYS DESIGNATION (62)	CENSUS CATEGORY (63)	FUNCTIONAL CLASSIFICATION: PRESENT (64-65)	FUTURE (66-67)	FEDERAL (68-70)	POLITICAL CODE: TOWNSHIP (71-72)	RANGE (73-74)	SECTION (75-76)	ROAD NUMBER (77-80)	* ZEROS * (81-90)	ADJ. COUNTY NO. (91-93)	COORD-INATES: EAST (94)	SOUTH (95-100)	UNUSED (101-1000)
100	FHWA STRUCTURE NUMBER (1-8)	BYPASS/ASS CODE (9)	STRUCTURE DATA: NUMBER: DESIGN 99999A (10-15)	MAINT. BRIDGE 99V9X999 (16-20)	YEAR: CONSTRUCTED (21-24)	MAJOR RECONST (25-28)	LAST INV. (29-30)	UNUSED (31-1000)	STREET NAME (41-70)	* ZEROS * (71-75)	DESCRIPTION OF FEATURE CROSSED (76-1000)	KIND OF CROSSING	UNUSED
200	FACILITY CARRIED (1-18)	TYPE OF STRUCTURE (19-20)	MAIN STRUC. TYPE (21-24)	TYPE SERVICE (25-28)	TOT NO. MAIN SPANS (29-30)	TOTAL LGTH STRUC. (31-35)	LONGEST MAIN SPAN (36-40)	DECK MATERIAL (41)	DECK WEARING SURF. (42)	SUPERSTRUCTURE (43)	SUBSTRUCTURE (44)	EB/NB LANE: CLEARANCE: HORIZ. 99V9 (45-47)	VERT. 99V9 (48-50)	APPR. WDTH (51-53)	TWINDIVIDED CODE (54)	WB/SB LANE: CLEARANCE: HORIZ. 99V9 (55-57)	VERT. 99V9 (58-60)	APPR. WDTH (61-63)	APPROACH DATA: NEAR: TYPE STRUC. (64-65)	LONG. SPAN (66-68)	NO. OF SPANS (69)	SUPERSTRUC. (70)	FAR: TYPE STRUC. (71-72)	LONG. SPAN (73-75)	NO. OF SPANS (76)	SUPERSTRUC. (77)	S.I. & A. DATA: APPROACH: NEAR ST. TYP. (78-79)	FAR ST. TYPE (80-81)	LANES: ON STRUC (82-83)	UNDER STRUC (84-85)	APPR. ROWAY WIDTH (86-89)	BRIDGE MEDIAN TYPE (90)	SKEW ANGLE (91-92)	STRUC. FLARED (93)	NAVIGATIONAL DATA: CLEARANCE: VERTICAL (94-95)	HORIZONTAL (96-97)	BRIDGE ROADWAY WIDTH 999V9 (98-101)	UNUSED (102-1000)
300	DECK WIDTH 999V9 (1-5)	UNDERCLEARANCE: VERTICAL 999V99 (6-10)	LATERAL: OUTSIDE 99V9 (11-13)	INSIDE 99V9 (14-16)	VERT. CLEAR. 10' LANE 99V99 (17-20)	BRIDGE DESCRIPTION (21)	BRIDGED (22)	CUSTODIAN CODE (23)	OWNER CODE (24)	SIDEWALK WIDTH: LEFT 99V9 (25-27)	RIGHT 99V9 (28-30)	DETOUR LENGTH (31-33)	UNUSED (34)	LATITUDE 9999V9 (35-40)	LONGITUDE 9999V9 (41-47)	SPECIAL STUDY (48)	SAFETY STUDY (49)	UNUSED (50-1000)	S.I. & A. DATA: HISTORICAL SIGNIFICANCE (51)	CONDITION: DECK (52)	SUPERSTRU. (53)	SUBSTRU. (54)	CHANNEL (55)	CULVERT (56)	EST REMAIN LIFE (57-58)	OPERATING RAT (59-60)	AP BDRY ALTN (61)	INVENT RATING (62-63)	POSTED LOAD LIMIT: FIRST (64-66)	SECOND (67-69)	THIRD (70-72)	APPRAISAL: STRUC COND (73)	DECK GEOMETRY (74)	BRIDGE/RT Y & M (75)	SAFE LOAD (76)	WATERWAY ADEQ (77)	AP BDRY ALTN (78)	YEAR NEEDED (79-82)
400	S.I. & A. DATA: TYPE: SERVICE (1)	WORK (2-3)	PROPOSED IMPROVEMENTS: LENGTH (4-7)	DESIGN LOAD (8)	ROADWAY WDTH (9-10)	LANES (11-12)	ADT: DESIGN (13-16)	YEAR (17-20)	ADJ ROAD: YEAR (21-24)	TYPE IMP (25)	COST ($1000'S): IMPROVEMENTS (26-29)	PREENGIN'R (30-33)	DEMOLITION (34-37)	SUBSTRUC (38-41)	SUPERSTRUC (42-45)	INSPECTION: MONTH (46-47)	DAY (48-49)	YEAR (50-51)	TYPE (52)	MEETTYPE (53)	QUARTER (54)	PRINT CODE (55)	PNT YELA. (56)	P'PAL/OTHER (57)	DESIGN LOAD (58)	TRAF SAFETY (59-60)	BPEAVG SPEED (61-62)	TRAF ON BLAB (63-64)	BARREL LENGTH (65-68)	H LOAD (69-70)	TRAFFIC: YEAR COUNTED (71-74)	ADT (75-79)	TRUCKS (80-83)	AUTOS (84-87)
500	TRAFFIC: MOTORCYCLES (1-3)	PICKUPS & PANELS (4-6)	SINGLE UNIT-2 AX (7-9)	RECREATION VEH. (10-12)	SINGLE UNIT-3 AX (13-15)	TRUCK TRAILERS (16-18)	BUSES (19-21)	TTST: 3 AXLES (22-24)	4 AXLES (25-27)	5 AXLES (28-30)	DOUBLE BOTTOMS (31-33)	ONE YEAR EXPANSION FACTORS: ADT SV9999 (34-38)	AUTO PICKUP PANEL SV9999 (39-43)	SINGLE UNIT & REC. VEH. SV9999 (44-48)	3 & 4 AXLE TTST SV9999 (49-53)	5 AX & DBL BOT'M SV9999 (54-58)	ACCIDENT DATA: ACCIDENTS: FATAL (59-61)	NONFATAL INJURY (62-64)	FATALITIES: NON-PEDEST (65-67)	PEDEST (68-70)	INJURIES: NON-PEDEST (71-73)	PEDEST (74-76)	NON-INJURY ACCIDENTS (77-80)

04/20/85

EXTERNAL STORAGE FORMAT

BASE REC. INVENTORY RECORD SIZE 1000 BLOCK SIZE _____ DSNAME *SEE BELOW MUNICIPAL STRUCTURE

	NON-INV. ACC.	MAINT. DISTRICT NO.	MAINT. RESIDENCY NO.	CIVIL TOWNSHIP	DISTRICT NUMBER	UNUSED	MILEPOINT BEGIN 999V99	MILEPOINT END 999V99	FEDERAL AID PROJECT NUMBER	S.I.&A. SUFFICIENCY RATING	S.I.&A. SUFFICIENCY MONTH	S.I.&A. SUFFICIENCY YEAR	RAILROAD CROSSING NUMBER	CONDITIONS DECK OVLY RATING	CONDITIONS DECK OVLY YEAR	CONDITIONS PAINT RATING	CONDITIONS PAINT YEAR	PAINT CONTRACTOR	UNUSED	ACCIDENT DATA REF. NODES 1 TYPE	1 NUMBER	1 MILEPOINT	2 TYPE	2 NUMBER	2 MILEPOINT
000	1			5 10 15	20		25	30	35 40 45 50	55		60	65	70		75		80			85	90		95	100

* ZEROS * THIS AREA OF THE RECORD IS BEING USED IN ANOTHER SYSTEM. THE SAME DATA SHOULD BE STORED IN THESE POSITIONS FOR ALL SYSTEMS IF IT APPLIES. ELSE, THE POSITIONS WILL CONTAIN ZEROS.	ALT. KEY MUNICIPAL CNTL COUNTY	CITY	STREET	RESIDENCE	STRUC. NO.	UNUSED
100	1	5	10	15	20	25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100

	UNUSED
200	1 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100

B12

	UNUSED
300	1 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100

1000	1 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100

1100	1 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100

Appendix C

1. Comparison of ALAS and Base Record Breaks (C1)
2. Outline of SAS Programs (C2)
3. Base-ALAS Interface File Format (C3)
4. Accident Node Intersection Identifer Literal Description File (C4)
5. Sample listing from Interface Edit File (C5)

COMPARISON OF ALAS AND BASE RECORD BREAKS

SEQUENCE BREAKS	BASE RECORD P	S	M	ALAS N
1. County boundary	X	X	X	X
2. Change in functional classification	X	X	X	
3. Change in federal aid route number & control section	X	X	X	
4. Present Urban area line	X	X	X	
5. Change in surface type, surface width or roadway width	X	X	X	
6. Intersection with corporation lines	X	X	X	
7. Traffic volume changes	X	X	X	
8. Junction with a primary road	X	X	X	X
9. Change in condition ratings	X	X	X	
10. Intersections with higher priority streets	X	X	X	X
11. Road or street termini	X	X	X	X
12. Intersection with local road (rural-rural and rural-urban only)	X	X		X

SEQUENCE BREAKS	BASE RECORD P	S	M	ALAS N
13. Interchange ramp connections	X	X		X
14. Section line	X	X		
15. Change in type section	X		X	
16. Change in type area	X		X	
17. Change in function code	X			
18. Changes in maintenance contract area	X			
19. Point of intersection at interchange	X			X
20. Bridges				X
21. Railroad grade crossings				X
22. <u>All</u> local city street intersections				X
23. Grade separations				X
24. Ninety degree road turns				X

P = Primary; S = Secondary; M = Municipal; N = Node; X = Break

Base-ALAS Inferface System

Outline of SAS Programs

FABR - Pulls the necessary data items from the Primary Road Base Record File, and the necessary data items for the FAS and FAUS systems from the Secondary and Municipal Base Record Files and combines the data into one file.

EDIT1 - Manipulates the Base-ALAS Interface File (format shown on page C3) to create flags for duplicate route jumps and merges this file with the Accident Node Intersection Identifier and Literal Description File (format shown on page C4).

EDIT2 - Combines the FABR file and the EDIT1 file, assigns several variables and creates the Interface Edit File. An example printout is shown on page C5.

EDITDM - Utilizing the Primary Road portion of the Base-ALAS Interface Edit File, edits the Primary Road accidents for route, proper node and intersection identifier coding and city code assignment. This program is run weekly against the accident file and error lists are printed out and corrections are then made.

EDITMPNT - Assigns milepoints to Primary, FAS and FAUS accidents and creates the Interface Accident File (format shown on pages C6-C9).

12/20/82

EXTERNAL STORAGE FORMAT

BASE-ALAS INTERFACE RECORD SIZE 100 BLOCK SIZE _____ DSNAME *SEE BELOW _____

BASE-ALASE INTERFACE RECORD GENERATION DATA GROUP
*DSN-X141.P0010.BASEALAS( )

COUNTY NUMBER	ROUTE: HIGHWAY ID	ROUTE: NUMBER	SEGMENT SEQUENCE	SYSTEM CODE	REFERENCE NODE NUMBER	REFERENCE NODE MILEPOINT: SIGN	REFERENCE NODE MILEPOINT: NUMBER 99V99	STRUCTURE NO.	RAILROAD CROSSING NUMBER	INTERSECTION NODE IDENTIFIER	COUNTY LINE ID.	UNUSED
1		3	10		15	20	21	25	30	35	40	41

0

100

200

300

400

500

C3

08/19/85

EXTERNAL STORAGE FORMAT

BASE REC. INVENTORY RECORD SIZE 46 BLOCK SIZE _____ DSNAME * SEE BELOW _____

ACCIDENT NODE INTERSECTION IDENTIFIER AND LITERAL DESC.

THE VSAM FILE IS:
* DSN-V!2!.C!2!0!00.NODEDESC
THE TAPE FILE IS:
* DSN-X!2!.NODEDESC.CUR( )
GENERATION DATA GROUP

	COUNTY NUMBER	NODE NUMBER	INTERSECTION IDENTIFIER	LITERAL DESCRIPTION	
0	1	5	10	15	46
100	1	5	10	15	46
200	1	5	10	15	46
300	1	5	10	15	46
400	1	5	10	15	46
500	1	5	10	15	46

C4

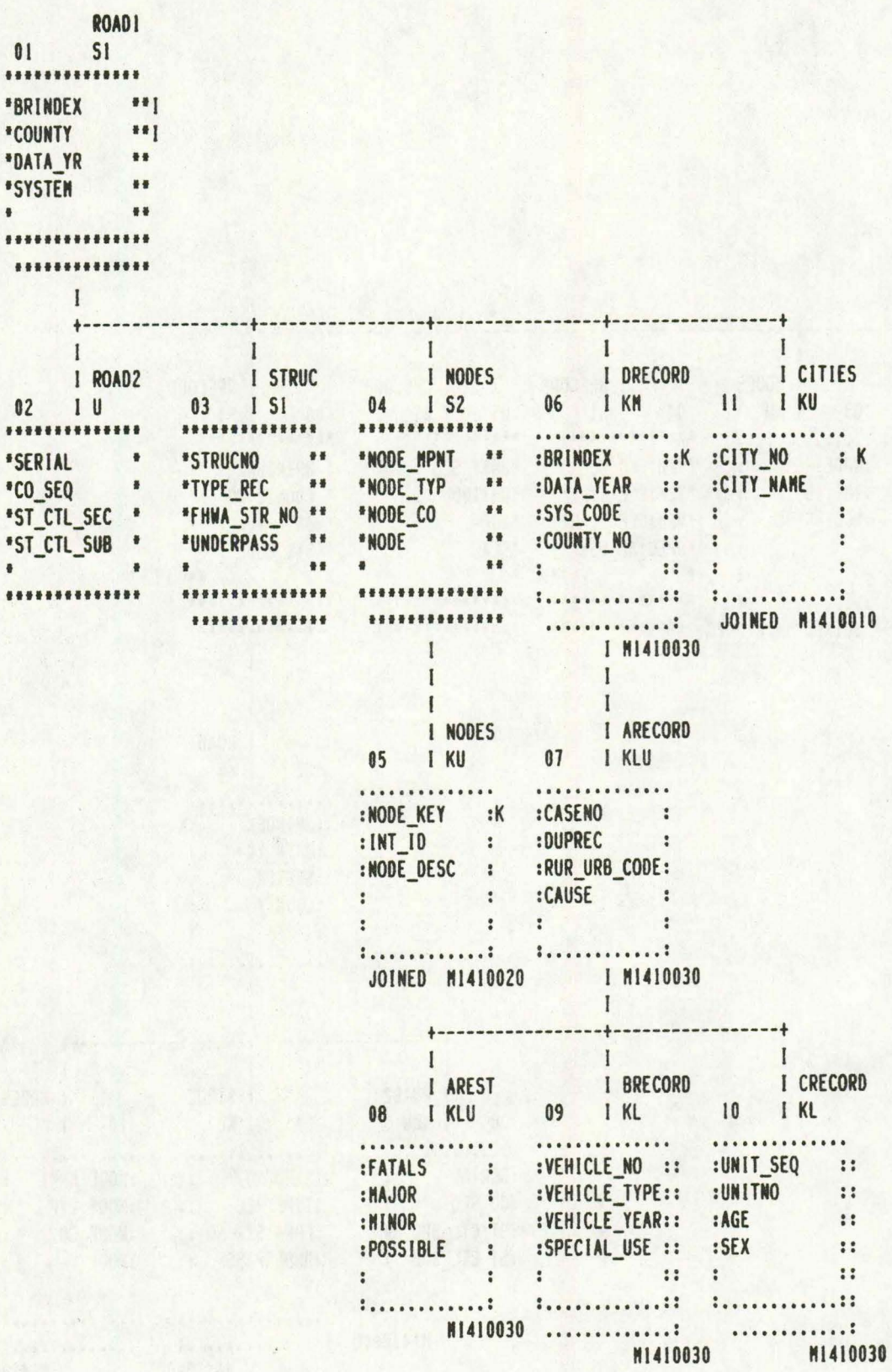
ALASCO=99 FRTE=69 ORDER=0 ADJCNT=1

ALASRTE	MPNT	MP	INTFCODE	JUMPFLAG	RTEFLAG	ALASNODE	NODESEQ	NODEIND	INTID	SYS	BRCO	SER	BRSEQ	RU	ALASCITY	CITYNAME	LIDES
0069	0	.		A	0	130181	1	.	.	1	99	1770	10	R	0		US 69 AT HAMILTON CO LINE
0069	20	154			0	.	.	.	.	1	99	1770	10	R	0		
0069	50	.			0	130981	2	.	.	1	99	1780	20	R	0		
0069	100	.			0	131781	3	.	.	1	99	1790	30	R	0		INT US 69 & CO C70
0069	121	155			0	.	.	.	.	1	99	1790	30	R	0		
0069	200	.			0	133381	4	.	.	1	99	1800	40	R	0		
0069	221	156			0	.	.	.	.	1	99	1800	40	R	0		
0069	300	.			0	134981	5	.	.	1	99	1810	50	R	0		
0069	321	157			0	.	.	.	.	1	99	1810	50	R	0		
0069	325	.			0	135381	6	.	.	1	99	1810	50	R	0		
0069	350	.			0	135781	7	.	.	1	99	1820	60	R	0		
0069	400	.			0	136581	8	.	.	1	99	1830	70	R	0		
0069	421	158			0	.	.	.	.	1	99	1840	80	R	0		
0069	498	.			0	138181	9	.	.	1	99	1850	90	R	0		INT US 69 & CO C62
0069	520	159			0	.	.	.	.	1	99	1850	90	R	0		
0069	600	.			0	230181	10	.	.	1	99	1860	100	R	0		
0069	620	160			0	.	.	.	.	1	99	1870	110	R	0		
0069	650	.			0	230981	11	.	.	1	99	1880	120	R	0		
0069	700	.			0	231781	12	.	.	1	99	1890	130	R	0		INT US 69 & CO C54
0069	720	161			0	.	.	.	.	1	99	1890	130	R	0		
0069	740	.			0	232481	13	.	232583	1	99	1900	140	R	0		JCT US 69 & IA 72, S Y-INT
0069	759	.			0	232681	14	.	232593	1	99	1910	150	R	0		JCT US 69 & IA 72, N Y-INT
0069	800	.			0	233381	15	.	.	1	99	1920	160	R	0		
0069	820	162			0	.	.	.	.	1	99	1920	160	R	0		
0069	826	.			0	233781	16	.	.	1	99	1920	160	R	0		
0069	900	.			0	234981	17	.	.	1	99	1930	170	R	0		
0069	920	163			0	.	.	.	.	1	99	1930	170	R	0		
0069	950	.			0	235782	18	.	.	1	99	1930	180	R	0		INT US 69 & FAS 3011
0069	998	.			0	236581	19	.	.	1	99	1960	200	R	0		
0069	1021	164			0	.	.	.	.	1	99	1960	200	R	0		
0069	1034	.			0	237181	20	.	.	1	99	1960	200	R	0		US 69 AT CR16R RP
0069	1099	.			0	238181	21	.	.	1	99	1970	210	R	0		
0069	1121	165			0	.	.	.	.	1	99	1970	210	R	0		
0069	1184	.			0	239380	22	.	330181	1	99	1970	220	R	0		
0069	1214	.			0	330185	23	.	330181	1	99	2040	280	R	0		
0069	1223	166			0	.	.	.	.	1	99	2050	285	R	0		
0069	1277	.			0	330195	24	.	340101	1	99	2080	310	R	0		
0069	1311	.			0	340301	25	.	340101	1	99	2090	320	R	0		
0069	1324	167			0	.	.	.	.	1	99	2100	323	R	0		
0069	1388	.			0	341703	26	.	.	1	99	2140	336	R	0		N JCT US 69 & IA 3, E Y-INT
0069	1392	.			0	341901	27	.	.	1	99	2150	339	R	0		N JCT US 69 & IA 3, N Y-INT
0069	1420	168			0	.	.	.	.	1	99	2160	342	R	0		
0069	1429	.			0	342001	28	.	.	1	99	2160	342	R	0		
0069	1431	.			0	342501	29	.	.	1	99	2170	345	R	0		
0069	1434	.			0	342601	30	.	.	1	99	2170	345	R	0		US 69 AT IOWA RIV
0069	1481	.			0	343301	31	.	.	1	99	2190	360	R	0		INT US 69 & CO C38
0069	1488	.			0	344901	32	.	.	1	99	2190	370	R	0		

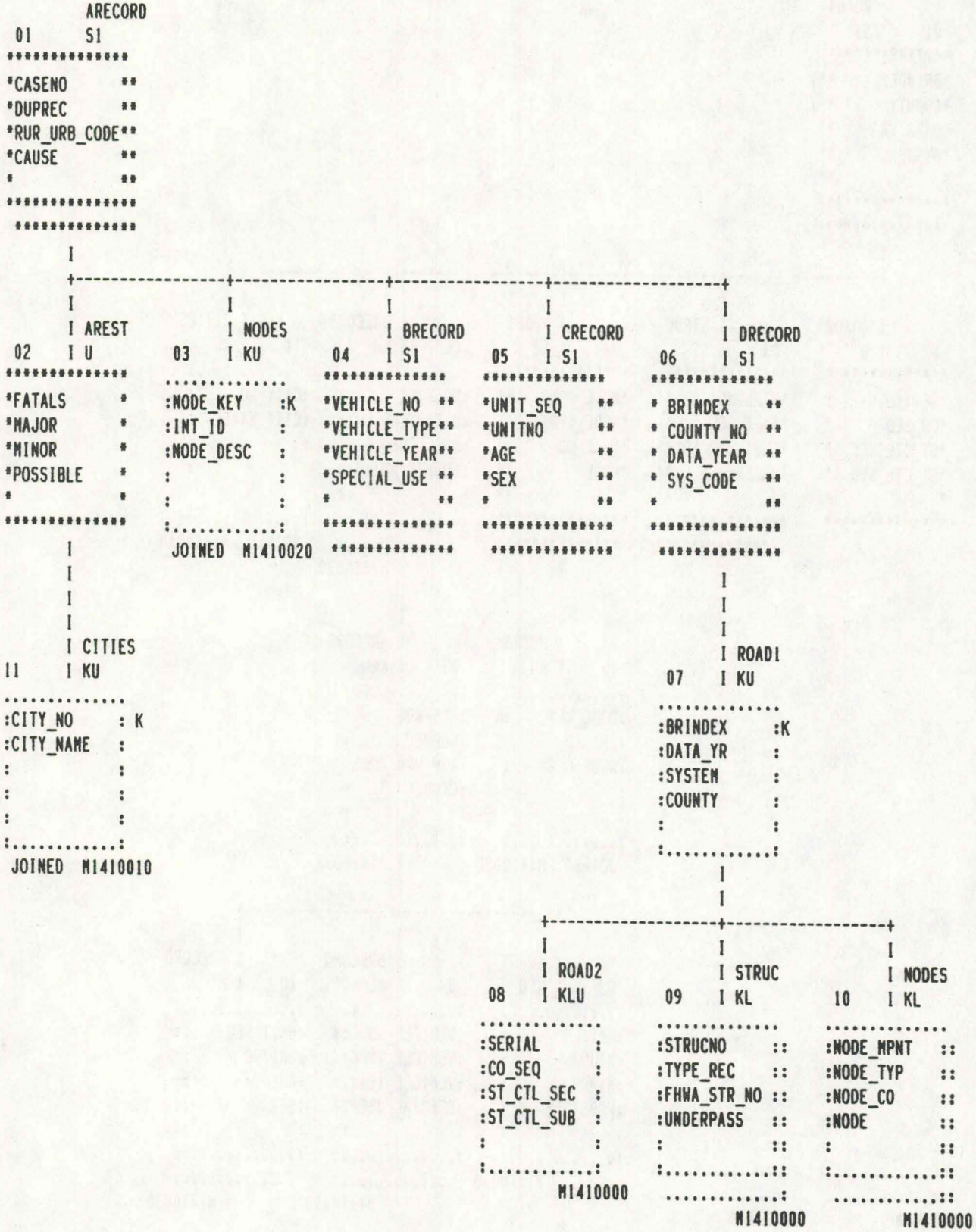
Appendix D

1. FOCUS File Linkage Structures
   a. Access through the roadway file (D1)
   b. Access through the accident file (D2)
2. FOCUS File Data Field Listings
   a. roadway/structure files (D3-D7)
   b. accident data files (D8-D12)
   c. city file (D13)
   d. node description file (D14)
3. Rail-Highway Crossing FOCUS File Master File Descriptions
   a. railroad crossing file (D15-D16)
   b. railroad accident fie (D17-D21)

FOCUS FILE STRUCTURE
FOR ACCESS THROUGH
ROADWAY INVENTORY FILE



FOCUS FILE STRUCTURE
FOR ACCESS THROUGH
ACCIDENT DATA FILE



ROAD FILE

File = M1410000 SUFFIX = FOC
SEGNAME = ROAD1 SEGTYPE = S1
FILE DESCRIPTION = Roadway Inventory Control Data

FORMAT	FIELD NAME	ALIAS	DESCRIPTION
A13	BRINDEX	BRI	Base Record Cross Index
P3	DATA_YR	DYR	Date Year
P2	SYSTEM	SYS	System Code
P3	COUNTY	BRCO	Base Record County No.
A4	ROUTE	FRTE	Federal Route No.
P5	SEQU	FSEQ	Federal Sequence No.
A4	BR_RTE	BRRTE	Base Record Route No.
P5	BR_SEQU	BRSEQ	Base Record Sequence No.
P3	HWY_SYS	HSYS	Highway System
A4	CITY_NO	CITY	Base Record City No.
P4	UAC	UAC	Urban Area Code
P2	RM_CODE	RM	Rural/Municipal Code
P2	TYPE_SEC	TYPSEC	Type of Section
P3	FUNCTION	FUNC	Function Code
P3	IA_FC	IFC	Iowa Functional Class
P4	FED_FC	FFC	Federal Functional Class
A4	RDWY_WID	RDWY	Roadway Width
P2	MED_TYP	MTYP	Median Type
P3	N_SURF_WD	NSWD	N/E Lane Surface Width
P6	N_SUR_TYPE	NSURF	N/E Lane Surface Type
P3	S_SURF_WD	SSWD	S/W Lane Surface Width
P6	S_SUR_TYPE	SSURF	S/W Lane Surface type
A1	RAMP_IND	RAMP	Ramp Indicator
P2	ADT_GROUP	ADTGP	ADT Group

ROAD FILE (cont.)

SEGNAME = ROAD2 SEGTYPE = U PARENT = ROAD1
FILE DESCRIPTION = Roadway Inventory Data

FORMAT	FIELD NAME	ALIAS	DESCRIPTION
P6	SERIAL	SER	Serial No.
P3	Co_SEQ	COSEQ	County Sequence
P3	ST_CTL_SEC	STSEC	State Control Section
P3	ST_CTL_SUB	STSUB	State Control Sub-System
P9.2	CNTL_LENG	LENG	Control Length
P2	DISTRICT	DIST	District No.
P2	TYPE_AREA	TAREA	Type of Area
P5	MED_WID	MWID	Median Width
P6.2	BEG_MILEPNT	BMPNT	Begin Milepoint of Sequence
P7	ADT	ADT	ADT
P5	TRUCKS	TRCK	Truck ADT
D5.2	PCTTRKS		Percent Trucks
P5	FATAL	FATAL	Number Fatal Accidents
P5	NON_FATAL	NONFAT	Number of Nonfatal Injury Accidents
P5	FATAL_NPED	FNONP	Non-Pedestrian Fatalities
P5	FATAL_PED	FPED	Pedestrian Fatalities
P8	INJ_NONP	INONP	Non-Pedestrian Injuries
P5	INJ_PED	IPED	Pedestrian Injuries
P7	NONINJ_ACC	NONINJ	Property Damage Only Accidents
P7	TOTAL_ACC	TOTACC	Total Accidents
P2	C_029MPH	C00	Number of 0-29 MPH Curves
P2	C_3039MPH	C30	Number of 30-39 MPH Curves
P2	C_4049MPH	C40	Number of 40-49 MPH Curves
P2	C_5055MPH	C50	Number of 50-55 MPH Curves
P2	FED_TRK	FTRK	Federal Truck Route Indicator
P2	N_OUT_TYP	NOSTYP	N/E Lane Outside Shoulder Type
P3	N_OUT_WID	NOSWID	N/E Lane Outside Shoulder Width
P2	N_IN_TYP	NISTYP	N/E Lane Inside Shoulder Type
P3	N_IN_WID	NISWID	N/E Lane Inside Shoulder Width
P4.2	N_GR_LEN1	NGL1	N/E Lane Length of Grades (0-4.9%)
P4.2	N_GR_LEN2	NGL2	N/E Lane Length of Grades (5.0-9.9%)
P4.2	N_GR_LEN3	NGL3	N/E LaneLength of Grades (10% & over)
P4.2	N_PASS_LENG	NPass	N/E Lane No Passing Length
DEF	NPCTPASS		(NPASS/LENG) x 100
P3	N_THRU_WID	NTHRU	N/E Lane Through Width
P2	S_OUT_TYP	SOSTYP	S/W Lane Outside Shoulder Type
P3	S_OUT_WID	SOSWID	S/W Lane Outside Shoulder Width
P2	S_IN_TYP	SISTYP	S/W Lane Inside Shoulder Type
P3	S_IN_WID	SISWID	S/W Lane Insider Shoulder Width
P4.2	S_GR_LEN1	SGL1	S/W Lane Length of Grades (0-4.9%)
P4.2	S_GR_LEN2	SGL2	S/W Lane Length of Grades (5.0%-9.9%)
P4.2	S_GR_LEN3	SGL3	S/W Lane Length of Grades (10% & over)
P4.2	S_PASS_LENG	SPASS	S/W Lane No Passing Length
DEF	SPCTPASS		(SPASS/LENG) x 100

ROAD FILE (cont.)

P3	S_TRHOU_WID	STHRU	S/W Lane Through Width
A1	BR_FILE	BRF	Base Record File
P6.2	END_MPNT	EMPNT	End Milepoint of Sequence
P3	END-TYPE1	ETYPE1	Sequence Ending Node
A6	END_NODE1	ENODE1	Sequence Ending Note Type
P3	END_TYPE2	ETYPE2	Sequence Ending Node (Divided)
A6	END_NODE2	ENODE2	Sequence Ending Node Type (Divided)
P4	TOWNSHIP	TWN	Township Number
A2	RANGE	RNG	Range Number
P3	SECTION	SEC	Section Number
P3	ROAD_NO	ROAD	Road Number
P3	ADJ_CO	ADJCO	Adjacent County
P2	ACCTL	ACCTL	Access Control Code
P5	ROW_WIDTH	ROWWD	Right of Way Width
A1	NON_MAIN_ID	NMID	Non-Mainline Identifier
P5	TRF_YR	TYR	Year of Traffic Count
P7	AUTOS	AUTO	Automobile ADT
P5	CYCLES	CYCLE	Motorcycle ADT
P5	PKUP	PKUP	Pick-up Truck ADT
P5	SU_2AX	SUZ	Single Unit 2 Axle ADT
P5	REC_VEH	RVEH	Recreation Vehicle ADT
P5	SU_3AX	SU3	Single Unit 3 Axle ADT
P5	TRK_TRLR	TRLR	Truck-Trailer ADT
P5	BUSES	BUSES	Bus ADT
P5	TTST_3AX	TTST3	3 Axle Semi ADT
P5	TTST_4AX	TTSST4	4 Axle Semi ADT
P5	TTST_5AX	TTST5	5 Axle Semi ADT
P5	DBL_BTM	DBTM	Double Bottom ADT

SEGNAME = STRUC SEGTYP = S1 PARENT = ROAD1
FILE DESCRIPTION - Structure Data

P3	STRUCNO	STRUC	Sequence Structure No.
P2	TYPE_REC	TYPREC	Type of Record
P7	FHWA_STR_NO	FHWANO	FHWA Structure No.
P2	UNDERPASS	UND	Underpass Code
A6	DESIGN_NO	DSGNNO	Structure Design No.
A8	MAINT_BRIDGE	MBRDG	Maintenance Structure No.
P3	YR_CONST	YRCON	Year of Construction
P3	YR_RECON	YRREC	Year of Reconstruction
A25	FEATURE_XED	FXED	Feature Crossed
P3	KIND_XING	KXING	Kind of Crossing
P3	TYPE_STRUC	TYPST	Type of Structure
P5	TOT_STR_LENG	TSTRL	Total Structure Length

SEGNAME = NODES SEGTYPE = S2 PARENT = ROAD1
FILE DESCRIPTION = Node Control File

P5.2	NODE_MPNT	NMPNT	Milepoint of Node
A2	NODE_TYP	NODETY	Node Type
A2	NODE_CO	NODECO	Node County No.
A6	NODE_	NODE	Node Number

ACCIDENT FILE

FILENAME = M1410030 SUFFIX = FOC
SEGNAME = ARECORD SEGTYPE = S1
FILE DESCRIPTION = Accident Data Control File

FORMAT	FIELD NAME	ALIAS	DESCRIPTION
A8	CASENO	CN	Accident Case No.
I1	DUPREC	DR	Duplicate Record Indicator
A1	RUR_URB_CODE	RUC	Rural/Urban Code
I2	CAUSE	CAUSE	Major Contributing Cause
I1	SURF_COND_RE	SCR	Surface Condition
I2	FISCAL_YEAR	FY	Fiscal year of Accident
I1	ACC_SEVERITY	ACCSEV	Accident Severity Code
MDY	ACCDNT_DATE	ADATE	Date of Accident (MM/DD/YY)
A4	ALAS_CLASS	RCLASS	Road Class
I1	INT_CLASS	ICLASS	Intersection Class
A6	INTRSCTN_ID	IID	Intersection Node Identifier
A6	REF_NODE	RNODE	Reference Node
I3	DISTANCE_IND	DISIND	Distance Indicator
A6	DIR_NODE	DNODE	Direction Node
A2	ACCIDENT_CO	ACNTY	Accident County No.
A2	BR_CO	BRCO	Base Record County
I2	ACCDNT_TYPE	ATYPE	Accident Type

ACCIDENT FILE (Cont.)

SEGNAME = AREST SEGTYPE = U PARENT = ARECORD
FILE DESCRIPTION = Accident Data File

FORMAT	FIELD NAME	ALIAS	DESCRIPTION
I2	FATALS	FTL	No. of Fatal Injuries
I2	MAJOR	MJR	No. of Major Injuries
I2	MINOR	MNR	No. of Minor Injuries
I2	POSSIBLE	PBLE	No. of Unknown & Possible Injuries
I1	REPORT_TYPE	REPTYP	Type of Accident Report
I2	TOT_KILLEP	KILLED	No. Killed
I2	TOT_INJURED	INJURED	No. Injured
I2	TOT_VEHICLE	VEHICLE	No. Vehicles Involved
I8	TOT_DAMAGE	DAMAGE	Total Property Damage
I4	TIME_OF_DAY	TOD	Time of Day
I2	ACCIDENT_CTY	ACITY	Accident System City Code
A4	BR_CITY	BRCITY	Base Record City Code
I2	CHAR_OF_ROAD	CHROAD	Character of Road
I1	GEO_ROAD	GROAD	Roadway Geometrics
I1	LITE_COND	LCW	Light Conditions
I2	WEATHER	WEATHER	Weather Conditions
I1	LOCALITY	LOCY	Locality Type
I1	LOCATION	LOCN	Location of Accidents
I1	COLSN_TYPE	CTYPE	Collision Type

ACCIDENT FILE (Cont.)

SEGNAME = BRECORD SEGTYPE = S1 PARENT = ARECORD
FILE DESCRIPTION = Vehicle/Driver Accident Data File

FORMAT	FIELD NAME	ALIAS	DESCRIPTION
I2	VEHICLE_NO	VNO	Vehicle No.
I2	VEHICLE_TYPE	VTYPE	Vehicle Type
I2	VEHICLE_YEAR	VYEAR	Vehicle Year
I2	SPECIAL_USE	SPUSE	Special Use Code
I2	OCCUPANT_NO	ONO	No. of Occupants
I2	ATTACHMENT	ATTACH	Vehicle Attachment
I2	FIRE	FIRE	Fire/Explosion Involved?
I1	HIT_AND_RUN	HR	Hit and Run Vehicle
I2	IMPACT	IMPACT	Point of Impact
I8	DAMAGE_AREA	DAMAREA	Vehicle Damage Area
I1	DAMAGE_SEV	DSEV	Vehicle Damage Severity
I2	VEHICLE_DEF	VDEF	Vehicle Defect
I1	DIRECTION	DIR	Initial Direction of Travel
I2	ROAD_ENV	RE	Roadway/Environment Contributing Circumstances
I2	TRAFFIC_CNTL	TCNTL	Traffic Control
I1	TRAFFIC_TYPE	TTYPE	Type of Trafficway
I1	TRAFFIC_FLOW	TFLOW	Traffic Flow
I1	SURFACE_TYPE	STYPE	Surface Type
I1	VEHICLE_ACT	VACT	Vehicle Action
I2	FIX_OBJECT	FO	Fixed Object Struck
I1	FIX_OBJ_LOC	FOL	Location of Fixed Object Struck
I2	SURFACE_COND	SECOND	Surface Conditions
I2	DRIVER_AGE	DRAGE	Age of Driver
A1	DRIVER_SEX	DRSEX	Sex of Driver
A4	LICENSE_REST	LREST	License Restrictions
I1	RESTRICT_COMP	RCOMP	License Restriton Compliance
A1	DRIVER_CHRGD	DCHRG	Driver Charged?
I1	SOBRIETY_TST	STEST	Sobriety Test Given
I3	SOBRIETY_RST	SREST	Sobriety Test Results
I2	DRIVER_COND	DCOND	Condition of Driver
I4	DRIVER_CONT	DCONT	Vehicle/Driver Related Contributing Circumstances
I2	VISION_OBSC	VISOB	Vision Obscurred

ACCIDENT FILE (Cont.)

SEGNAME = CRECORD SECTYPE = S1 PARENT = ARECORD
FILE DESCRIPTION - Accident Injury Data File

FORMAT	FIELD NAME	ALIAS	DESCRIPTION
I2	UNIT_SEQ	USES	Record Sequence No.
I2	UNITNO	UNO	Injured in Unit No.
I2	AGE	AGE	Age of Injured Person
A1	SEX	SEX	Sex of Injured Person
I1	SEVERITY	SEVER	Severity of Injury
A1	INJURED_AREA	INJAREA	Injury Area
A1	INJURED_POS	INJPOS	Position of Injured Person
A1	PROT_DEVICE	PDEV	Protective Device Used
A1	EJECTION	EJECT	Injured Person Ejected
A2	PED_ACTION	PACTION	Pedestrian Action
A1	CLOTH_COLOR	CCOLOR	Color of Pedestrian Clothing
A1	PED_DRIVER	PEDDRIV	Pedestrian Also Driver?
A1	PED_SOBER	PSOBER	Apparent Pedestrian Sobriety
A3	PED_TEST	PTEST	Pedestrian Sobriety Test Results

SEGNAME = DRECORD SECTYPE = S1 PARENT = ARECORD
FILE DESCRIPTION - Minor Route Control File

FORMAT	FIELD NAME	ALIAS	DESCRIPTION
A13	BRINDEX	BRI	Base Record Linkage Controls
A2	DATA_YEAR	YR	Data Year
A1	SYS_CODE	SC	System Code
A2	COUNTY_NO	CONO	County No.
A4	ROUTE_NO	RNO	Route No.
A4	SEQ_CNTY_NO	SEQNO	Base Record Sequence No.
A1	DIR_NONMAIN	DIRNMN	Direction/Non-Mainline Code
P5.2	MILEPNT	MPNT	Milepoint of Accident
P6.2	MILEPOST	MPST	Milepost of Accident
A1	MR_IND	MRIND	Minor Route Control Indicator

CITY FILE

FILE = M1410010
SEGNAME = CITIES
FILE DESCRIPTION = City Cross-Match File

SUFFIX = FOC
SEGTYPE = S1

FORMAT	FIELD NAME	ALIAS	DESCRIPTION
A4	CITY_NO	CITY	City Number
A25	CITY_NAME	CITY NAME	City Name

NODE DESCRIPTION FILE

FILENAME = M1410020 SUFFFIX = FOC
SEGNAME = NODES SEGTYPE = S1
FILE DESCRIPTION = Node Literal Description File

FORMAT	FIELD NAME	ALIAS	DESCRIPTION
A8	NODE_KEY	NODEKEY	County & Node Number
A6	INT_ID	INTID	Intersection Identifier
A32	NODE_DESC	NODEDES	Literal Description

```
FILENAME=M6230625, SUFFIX=VSAM
 SEGNAME=ROOT
 GROUP=PRIMEKEY,          ALIAS=KEY,          USAGE=A7,  ACTUAL=A7,  $
     FIELD=CROSSINGNO,    ALIAS=XNO,          USAGE=A7,  ACTUAL=A7,  $
     FIELD=STATECODE,     ALIAS=SCODE,        USAGE=A2,  ACTUAL=A2,  $
     FIELD=COUNTYCODE,    ALIAS=COCODE,       USAGE=I3,  ACTUAL=A3,  $
     FIELD=CITYCODE,      ALIAS=CICODE,       USAGE=A4,  ACTUAL=A4,  $
     FIELD=IACITY,        ALIAS=CITY,         USAGE=A4,  ACTUAL=A4,  $
     FIELD=TOWNSHIP,      ALIAS=TWNSHP,       USAGE=I3,  ACTUAL=F3,  $
     FIELD=RANCE,         ALIAS=RNG,          USAGE=A2,  ACTUAL=A2,  $
     FIELD=SECTION,       ALIAS=SEC,          USAGE=I2,  ACTUAL=Z2,  $
     FIELD=NRCITYIND,     ALIAS=CITYIND,      USAGE=A1,  ACTUAL=A1,  $
     FIELD=AARCODE,       ALIAS=RCODE,        USAGE=A4,  ACTUAL=A4,  $
     FIELD=TIMESTACODE,   ALIAS=TIMCODE,      USAGE=I6,  ACTUAL=Z6,  $
     FIELD=RRMILEPOST,    ALIAS=MILPOST,      USAGE=A8,  ACTUAL=A8,  $
     FIELD=RRIDNO,        ALIAS=IDNO,         USAGE=A10, ACTUAL=A10, $
     FIELD=HWYNO,         ALIAS=HNO,          USAGE=A7,  ACTUAL=A7,  $
     FIELD=STRNAME,       ALIAS=SNAME,        USAGE=A20, ACTUAL=A20, $
     FIELD=IACROSSNO,     ALIAS=IAXNO,        USAGE=A5,  ACTUAL=A5,  $
     FIELD=DUPLIND,       ALIAS=DUPIND,       USAGE=A1,  ACTUAL=A1,  $
     FIELD=RRDIVISION,    ALIAS=RRDIV,        USAGE=A14, ACTUAL=A14, $
     FIELD=RRSUBDIV,      ALIAS=SUBDIV,       USAGE=A14, ACTUAL=A14, $
     FIELD=BRANCH,        ALIAS=BRCH,         USAGE=A15, ACTUAL=A15, $
     FIELD=PEDCROSS,      ALIAS=PEDX,         USAGE=I1,  ACTUAL=Z1,  $
     FIELD=PRIVLOC,       ALIAS=PRIVL,        USAGE=I1,  ACTUAL=Z1,  $
     FIELD=PRIVCROSS,     ALIAS=PRIVC,        USAGE=I1,  ACTUAL=Z1,  $
     FIELD=PRIVVEH,       ALIAS=PRIVV,        USAGE=I1,  ACTUAL=Z1,  $
     FIELD=PRIVDESCP,     ALIAS=PRIVD,        USAGE=A15, ACTUAL=A15, $
     FIELD=PUBCROSS,      ALIAS=PUBC,         USAGE=I1,  ACTUAL=A1,  $
     FIELD=CONT,          ALIAS=CNT,          USAGE=I1,  ACTUAL=Z1,  $
     FIELD=DAYTHRU,       ALIAS=DTHRU,        USAGE=I2,  ACTUAL=Z2,  $
     FIELD=DAYSWITCH,     ALIAS=DSWITCH,      USAGE=I2,  ACTUAL=Z2,  $
     FIELD=NIGHTTHRU,     ALIAS=NTHRU,        USAGE=I2,  ACTUAL=Z2,  $
     FIELD=NIGHTSWITCH,   ALIAS=NSWITCH,      USAGE=I2,  ACTUAL=Z2,  $
     FIELD=TRAINMOVE,     ALIAS=PMOVE,        USAGE=I1,  ACTUAL=Z1,  $
     FIELD=MAXTABLE,      ALIAS=MAXTBLE,      USAGE=I3,  ACTUAL=Z3,  $
     FIELD=MINTYPICAL,    ALIAS=MINTYP,       USAGE=I3,  ACTUAL=A3,  $
     FIELD=MAXTYPICAL,    ALIAS=MAXTYP,       USAGE=I3,  ACTUAL=A3,  $
     FIELD=MAINTRKS,      ALIAS=MNTRK,        USAGE=I1,  ACTUAL=A1,  $
     FIELD=OTHERTRKS,     ALIAS=OTRKS,        USAGE=I2,  ACTUAL=A2,  $
     FIELD=OTHERDESCP,    ALIAS=ODESCP,       USAGE=A10, ACTUAL=A10, $
     FIELD=SEPTRKS,       ALIAS=SPTRK,        USAGE=I1,  ACTUAL=A1,  $
     FIELD=TRACK1,        ALIAS=TRK1,         USAGE=A4,  ACTUAL=A4,  $
     FIELD=TRACK2,        ALIAS=TRK2,         USAGE=A4,  ACTUAL=A4,  $
     FIELD=TRACK3,        ALIAS=TRK3,         USAGE=A4,  ACTUAL=A4,  $
     FIELD=TRACK4,        ALIAS=TRK4,         USAGE=A4,  ACTUAL=A4,  $
     FIELD=OTHERRR,       ALIAS=ORR,          USAGE=I1,  ACTUAL=Z1,  $
     FIELD=RR1,           ALIAS=R1,           USAGE=A4,  ACTUAL=A4,  $
     FIELD=RR2,           ALIAS=R2,           USAGE=A4,  ACTUAL=A4,  $
     FIELD=RR3,           ALIAS=R3,           USAGE=A4,  ACTUAL=A4,  $
     FIELD=RR4,           ALIAS=R4,           USAGE=A4,  ACTUAL=A4,  $
     FIELD=REFLECT,       ALIAS=RFLC,         USAGE=I1,  ACTUAL=A1,  $
     FIELD=NON_REFLECT,   ALIAS=NRFLC,        USAGE=I1,  ACTUAL=A1,  $
     FIELD=STDSTOP,       ALIAS=SSTOP,        USAGE=I1,  ACTUAL=A1,  $
     FIELD=NONSTDSTOP,    ALIAS=NSSTOP,       USAGE=I1,  ACTUAL=A1,  $
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FIELD=SIGNSTYPE1,    ALIAS=STYPE1,    USAGE=I1,   ACTUAL=A1,    $
FIELD=DESPTYPE1,     ALIAS=DTYPE1,    USAGE=A10,  ACTUAL=A10,   $
FIELD=SIGNSTYPE2,    ALIAS=STYPE2,    USAGE=I1,   ACTUAL=A1,    $
FIELD=DESPTYPE2,     ALIAS=DTYPE2,    USAGE=A10,  ACTUAL=A10,   $
FIELD=RWREFGATE,     ALIAS=RWGATE,    USAGE=I1,   ACTUAL=A1,    $
FIELD=OTHERGATE,     ALIAS=OGATE,     USAGE=I1,   ACTUAL=A1,    $
FIELD=CANTTRAF,      ALIAS=CTRAF,     USAGE=I1,   ACTUAL=A1,    $
FIELD=NONCANTTRAF,   ALIAS=NCTRAF,    USAGE=I1,   ACTUAL=A1,    $
FIELD=MOUNTLIGHT,    ALIAS=MLIGHT,    USAGE=I1,   ACTUAL=A1,    $
FIELD=OTHERLIGHT,    ALIAS=OLIGHT,    USAGE=I1,   ACTUAL=A1,    $
FIELD=DESCPLIGHT,    ALIAS=DLIGHT,    USAGE=A9,   ACTUAL=A9,    $
FIELD=HWYTRAFSIGN,   ALIAS=HTSIGN,    USAGE=I1,   ACTUAL=A1,    $
FIELD=WIGWAGS,       ALIAS=WW,        USAGE=I1,   ACTUAL=A1,    $
FIELD=BELLS,         ALIAS=BELL,      USAGE=I1,   ACTUAL=A1,    $
FIELD=SPECNONTRAIN,  ALIAS=SPTR,      USAGE=A20,  ACTUAL=A20,   $
FIELD=SIGNCODE,      ALIAS=SGNCD,     USAGE=I1,   ACTUAL=A1,    $
FIELD=POWERCODE,     ALIAS=PWRCD,     USAGE=I1,   ACTUAL=A1,    $
FIELD=SPEEDSEL,      ALIAS=SPSEL,     USAGE=I1,   ACTUAL=A1,    $
FIELD=TRAINSIG,      ALIAS=TRSIG,     USAGE=I1,   ACTUAL=A1,    $
FIELD=DEVELOP,       ALIAS=DEV,       USAGE=I1,   ACTUAL=A1,    $
FIELD=CROSSANGLE,    ALIAS=XANG,      USAGE=A2,   ACTUAL=A2,    $
FIELD=TRAFLANE,      ALIAS=TLAN,      USAGE=I1,   ACTUAL=A1,    $
FIELD=PULLOUTLANE,   ALIAS=PLAN,      USAGE=I1,   ACTUAL=A1,    $
FIELD=PAVE,          ALIAS=PAV,       USAGE=I1,   ACTUAL=A1,    $
FIELD=PAVESTOP,      ALIAS=PAVST,     USAGE=I1,   ACTUAL=A1,    $
FIELD=PAVERRSYM,     ALIAS=PAVSY,     USAGE=I1,   ACTUAL=A1,    $
FIELD=PAVEMARK,      ALIAS=PAVMK,     USAGE=I1,   ACTUAL=A1,    $
FIELD=RRADVANCE,     ALIAS=RADVN,     USAGE=I1,   ACTUAL=A1,    $
FIELD=SURFACETYPE,   ALIAS=STYPE,     USAGE=A2,   ACTUAL=A2,    $
FIELD=PARALLEL,      ALIAS=PARAL,     USAGE=I1,   ACTUAL=A1,    $
FIELD=HWYCROSS,      ALIAS=HCROS,     USAGE=I1,   ACTUAL=A1,    $
FIELD=HWYSYSCODE,    ALIAS=HSCDE,     USAGE=I2,   ACTUAL=A2,    $
FIELD=STATEHWY,      ALIAS=SHWY,      USAGE=I1,   ACTUAL=A1,    $
FIELD=FUNC,          ALIAS=FNC,       USAGE=I2,   ACTUAL=A2,    $
FIELD=AADT,          ALIAS=ADT,       USAGE=I6,   ACTUAL=A6,    $
FIELD=ESTPERTRK,     ALIAS=PERTRK,    USAGE=I2,   ACTUAL=A2,    $
FIELD=IANAME,        ALIAS=CNAME,     USAGE=A25,  ACTUAL=A25,   $
FIELD=FILLER,        ALIAS=FILL,      USAGE=A162, ACTUAL=A162,  $
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FILENAME=M6230670, SUFFIX=VSAM
  SEGNAME=ROOT
  GROUP=~~ACC_NO~~, Accno      ALIAS=ANUM,          USAGE=A18, ACTUAL=A18,  $
      FIELD=ACC_YEAR,          ALIAS=YEAR,          USAGE=A2,  ACTUAL=A2,   $
      FIELD=ACC_MONTH,         ALIAS=MONTH,         USAGE=A2,  ACTUAL=A2,   $
      FIELD=RR_ALPHA,          ALIAS=RR,            USAGE=A4,  ACTUAL=A4,   $
      FIELD=ACC_NUMBER,        ALIAS=ACC_NO,        USAGE=A10, ACTUAL=A10,  $
      FIELD=RECORD_TYPE,       ALIAS=REC_TYPE,      USAGE=A1,  ACTUAL=A1,   $
      FIELD=REPORT_USED,       ALIAS=FORM,          USAGE=A4,  ACTUAL=A4,   $
  GROUP=ACC_DATE,              ALIAS=DATE,          USAGE=A6,  ACTUAL=A6,   $
      FIELD=ACC_YY,            ALIAS=YY,            USAGE=A2,  ACTUAL=A2,   $
      FIELD=ACC_MM,            ALIAS=MM,            USAGE=A2,  ACTUAL=A2,   $
      FIELD=ACC_DD,            ALIAS=DD,            USAGE=A2,  ACTUAL=A2,   $
  GROUP=ACC_TIME,              ALIAS=TIME,          USAGE=A4,  ACTUAL=A4,   $
      FIELD=ACC_HR,            ALIAS=HR,            USAGE=A2,  ACTUAL=A2,   $
      FIELD=ACC_MN,            ALIAS=MIN,           USAGE=A2,  ACTUAL=A2,   $
      FIELD=DAY_OF_WEEK,       ALIAS=WDAY,          USAGE=A2,  ACTUAL=A2,   $
      FIELD=ACC_TYPE,          ALIAS=ACC_TYPE,      USAGE=A2,  ACTUAL=A2,   $
      FIELD=CIRCUMSTANCE,      ALIAS=CIRC,          USAGE=A1,  ACTUAL=A1,   $
      FIELD=RPT_RR_ALPHA,      ALIAS=REP_RR_A,      USAGE=A4,  ACTUAL=A4,   $
      FIELD=RPT_RR_NAME,       ALIAS=REP_RR,        USAGE=A20, ACTUAL=A20,  $
      FIELD=INV_RR_ALPHA,      ALIAS=INV_RR_A,      USAGE=A4,  ACTUAL=A4,   $
      FIELD=INV_RR_NAME,       ALIAS=INV_RR,        USAGE=A20, ACTUAL=A20,  $
      FIELD=TRK_RR_ALPHA,      ALIAS=TRK_RR_A,      USAGE=A4,  ACTUAL=A4,   $
      FIELD=TRK_RR_NAME,       ALIAS=TRK_RR,        USAGE=A20, ACTUAL=A20,  $
      FIELD=STATE,             ALIAS=ST,            USAGE=A2,  ACTUAL=A2,   $
      FIELD=COUNTY_NO,         ALIAS=CO,            USAGE=A2,  ACTUAL=A2,   $
      FIELD=WITHIN_CITY,       ALIAS=CITY_W/I,      USAGE=A10, ACTUAL=A10,  $
      FIELD=RURAL_URBAN,       ALIAS=R_U,           USAGE=A1,  ACTUAL=A1,   $
      FIELD=NEAREST_CITY,      ALIAS=CITY_NEAR,     USAGE=A10, ACTUAL=A10,  $
      FIELD=DIVISION,          ALIAS=DIV,           USAGE=A10, ACTUAL=A10,  $
      FIELD=NEAREST_STA,       ALIAS=RR_STA,        USAGE=A10, ACTUAL=A10,  $
      FIELD=LOCALFILL,         ALIAS=LOFIL,         USAGE=A1,  ACTUAL=A1,   $
      FIELD=LOCALITY_CD,       ALIAS=LOCAL,         USAGE=A1,  ACTUAL=A1,   $
      FIELD=RD_NAME_NO,        ALIAS=RD_NAME,       USAGE=A15, ACTUAL=A15,  $
      FIELD=ROAD_CLASS,        ALIAS=RD_CLASS,      USAGE=A1,  ACTUAL=A1,   $
      FIELD=CROSSINGNO,        ALIAS=XNO,           USAGE=A7,  ACTUAL=A7,   $
      FIELD=IACROSSNO,         ALIAS=IAXNO,         USAGE=A5,  ACTUAL=A5,   $
      FIELD=PUB_PRIV,          ALIAS=PU/XX,         USAGE=A2,  ACTUAL=A2,   $
      FIELD=REF_NODE_NO,       ALIAS=NODE,          USAGE=A6,  ACTUAL=A6,   $
      FIELD=FILLER,            ALIAS=E41,           USAGE=A1,  ACTUAL=A1,   $
      FIELD=LINE_SEGMENT,      ALIAS=LIC,           USAGE=A5,  ACTUAL=A5,   $
      FIELD=RR_MILEPOST,       ALIAS=RR_MP,         USAGE=A8,  ACTUAL=A8,   $
      FIELD=REF_NODE_MP,       ALIAS=NODE_MP,       USAGE=A4,  ACTUAL=A4,   $
      FIELD=ACC_TYPE_OTH,      ALIAS=ACC_OT,        USAGE=A20, ACTUAL=A20,  $
      FIELD=FILLER,            ALIAS=E42,           USAGE=A1,  ACTUAL=A1,   $
      FIELD=HAZ_MATERIAL,      ALIAS=HAZ_MAT,       USAGE=A1,  ACTUAL=A1,   $
      FIELD=CARS_CARRY,        ALIAS=CCARRY,        USAGE=A3,  ACTUAL=A3,   $
      FIELD=CARS_DM_DR,        ALIAS=CDER,          USAGE=A3,  ACTUAL=A3,   $
      FIELD=CARS_LEAKING,      ALIAS=CREL,          USAGE=A3,  ACTUAL=A3,   $
      FIELD=PEOPLE_EVAC,       ALIAS=PEO_EV,        USAGE=A6,  ACTUAL=A6,   $
      FIELD=TEMPERATURE,       ALIAS=TEMP,          USAGE=A3,  ACTUAL=A3,   $
      FIELD=VISIBILITY,        ALIAS=LIGHT,         USAGE=A2,  ACTUAL=A2,   $
      FIELD=WEATHER1,          ALIAS=WEAT1,         USAGE=A1,  ACTUAL=A1,   $
      FIELD=WEATHER2,          ALIAS=WEAT2,         USAGE=A1,  ACTUAL=A1,   $
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FIELD=RD_SRF_TYPE,  ALIAS=SURF_TYPE,    USAGE=A1,  ACTUAL=A1,  $
FIELD=RD_SRF_COND1, ALIAS=SURF_COND1,   USAGE=A1,  ACTUAL=A1,  $
FIELD=RD_SRF_COND2, ALIAS=SURF_COND2,   USAGE=A1,  ACTUAL=A1,  $
FIELD=TRAF_TYPE,    ALIAS=TRAF_WAY,     USAGE=A1,  ACTUAL=A1,  $
FIELD=TRAF_FLOW,    ALIAS=FLOW,         USAGE=A1,  ACTUAL=A1,  $
FIELD=SPEED_LMT,    ALIAS=POST_SP,      USAGE=A2,  ACTUAL=A2,  $
FIELD=ROAD_GEOM,    ALIAS=RD_GEO,       USAGE=A2,  ACTUAL=A2,  $
FIELD=TRAF_CNTL,    ALIAS=MV_CONTR,     USAGE=A2,  ACTUAL=A2,  $
FIELD=ACC_CAUSE,    ALIAS=CAUSE,        USAGE=A3,  ACTUAL=A3,  $
FIELD=ACC_OTHCAUSE, ALIAS=CAUSE_OT,     USAGE=A20, ACTUAL=A20, $
FIELD=ROAD_ENV,     ALIAS=RD_ENV,       USAGE=A2,  ACTUAL=A2,  $
FIELD=DR_COND,      ALIAS=DR_COND,      USAGE=A2,  ACTUAL=A2,  $
FIELD=DR_VEH1,      ALIAS=DR_VEH1,      USAGE=A2,  ACTUAL=A2,  $
FIELD=DR_VEH2,      ALIAS=DR_VEH2,      USAGE=A2,  ACTUAL=A2,  $
FIELD=INIT_PT_IMP,  ALIAS=PT_IMP,       USAGE=A2,  ACTUAL=A2,  $
FIELD=MV_ACTION,    ALIAS=MV_ACT,       USAGE=A2,  ACTUAL=A2,  $
FIELD=FIX_OBJ_STRK, ALIAS=FO,           USAGE=A2,  ACTUAL=A2,  $
FIELD=LOC_FIX_OBJ,  ALIAS=LOC_FO,       USAGE=A1,  ACTUAL=A1,  $
FIELD=VIS_OBS_CD,   ALIAS=VIS_OBS,      USAGE=A2,  ACTUAL=A2,  $
FIELD=VIS_OBS_OTH,  ALIAS=VIS_OBS_OT,   USAGE=A20, ACTUAL=A20, $
FIELD=DR_IN_VEH,    ALIAS=IN_VEH,       USAGE=A1,  ACTUAL=A1,  $
FIELD=DR_K_I_U,     ALIAS=DR_KIU,       USAGE=A1,  ACTUAL=A1,  $
FIELD=TOT_INJ,      ALIAS=INJ,          USAGE=A3,  ACTUAL=A3,  $
FIELD=TOT_KILL,     ALIAS=KIL,          USAGE=A3,  ACTUAL=A3,  $
FIELD=TOT_OCCU,     ALIAS=OCC,          USAGE=A3,  ACTUAL=A3,  $
FIELD=TOT_PED_INJ,  ALIAS=PED_I,        USAGE=A3,  ACTUAL=A3,  $
FIELD=TOT_PED_KILL, ALIAS=PED_K,        USAGE=A3,  ACTUAL=A3,  $
FIELD=P_STAND_VEH,  ALIAS=PASS_VEH,     USAGE=A1,  ACTUAL=A1,  $
FIELD=SECOND_TRAIN, ALIAS=SEC_TRN,      USAGE=A1,  ACTUAL=A1,  $
FIELD=DR_ACTION,    ALIAS=MO_ACT,       USAGE=A1,  ACTUAL=A1,  $
FIELD=DR_OTHACTION, ALIAS=MO_ACT_OT,    USAGE=A20, ACTUAL=A20, $
FIELD=CASUAL_INJ,   ALIAS=RE_INJ,       USAGE=A4,  ACTUAL=A4,  $
FIELD=CASUAL_KILL,  ALIAS=RE_KIL,       USAGE=A4,  ACTUAL=A4,  $
FIELD=DAYS_DISABL,  ALIAS=DAY_DIS,      USAGE=A4,  ACTUAL=A4,  $
FIELD=TOT_ACC_DAM,  ALIAS=TOT_PD,       USAGE=A10, ACTUAL=A10, $
FIELD=TOT_SGNL_DAM, ALIAS=VEH_PD,       USAGE=A10, ACTUAL=A10, $
FIELD=TOT_MV_DAM,   ALIAS=OT_PD,        USAGE=A10, ACTUAL=A10, $
FIELD=CIT_ISSUED,   ALIAS=CIT,          USAGE=A1,  ACTUAL=A1,  $
FIELD=CIT_REMARKS,  ALIAS=CIT_COM,      USAGE=A20, ACTUAL=A20, $
FIELD=CH_TST_USED,  ALIAS=CH_TEST,      USAGE=A1,  ACTUAL=A1,  $
FIELD=CH_TST_RLTS,  ALIAS=TEST_RES,     USAGE=A1,  ACTUAL=A1,  $
FIELD=FILLER,       ALIAS=E90,          USAGE=A3,  ACTUAL=A3,  $
FIELD=TRK_OBS_CD,   ALIAS=TRCK_OBS,     USAGE=A1,  ACTUAL=A1,  $
FIELD=TRK_OTH_OBS,  ALIAS=TRCK_OBS_OT,  USAGE=A20, ACTUAL=A20, $
FIELD=XX_WARN_OP,   ALIAS=WARN_OP,      USAGE=A1,  ACTUAL=A1,  $
FIELD=XX_WARN_INT,  ALIAS=INTER_HWY,    USAGE=A1,  ACTUAL=A1,  $
FIELD=XX_ILLUM,     ALIAS=ILLUM,        USAGE=A1,  ACTUAL=A1,  $
FIELD=LOCO_DERAIL,  ALIAS=LOCO_DER,     USAGE=A2,  ACTUAL=A2,  $
FIELD=POS_TRN_HIT,  ALIAS=UNIT_HIT,     USAGE=A3,  ACTUAL=A3,  $
FIELD=TRAIN_SPEED,  ALIAS=TRN_SP,       USAGE=A4,  ACTUAL=A4,  $
FIELD=TRAIN_DIRECT, ALIAS=TI_TAB,       USAGE=A1,  ACTUAL=A1,  $
FIELD=TRAIN_UNATT,  ALIAS=EQ_ATT,       USAGE=A1,  ACTUAL=A1,  $
FIELD=MV1_TYPE,     ALIAS=VEH_TYPE1,    USAGE=A2,  ACTUAL=A2,  $
FIELD=MV2_TYPE,     ALIAS=VEH_TYPE2,    USAGE=A2,  ACTUAL=A2,  $
FIELD=MV_OTHTYPE,   ALIAS=VEH_OT,       USAGE=A10, ACTUAL=A10, $
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FIELD=MV_SPEC_USE,   ALIAS=SP_USE,       USAGE=A2,  ACTUAL=A2,  $
FIELD=MV_SPEED,      ALIAS=MV_SP,        USAGE=A3,  ACTUAL=A3,  $
FIELD=MV_POSITION,   ALIAS=MV_POS,       USAGE=A1,  ACTUAL=A1,  $
FIELD=MV_DIRECT,     ALIAS=MV_DIR,       USAGE=A1,  ACTUAL=A1,  $
FIELD=MV_DAM_AREA,   ALIAS=DAM_AREA,     USAGE=A8,  ACTUAL=A8,  $
FIELD=TRAIN_TYPE,    ALIAS=TRN_TYPE,     USAGE=A1,  ACTUAL=A1,  $
FIELD=TRAIN_NO,      ALIAS=TRN_NO,       USAGE=A15, ACTUAL=A15, $
FIELD=TYPE_EQUIP,    ALIAS=EQUIP,        USAGE=A1,  ACTUAL=A1,  $
FIELD=OTHER_EQUIP,   ALIAS=EQUIP_OT,     USAGE=A20, ACTUAL=A20, $
FIELD=OP_METHOD,     ALIAS=METHOD,       USAGE=A17, ACTUAL=A17, $
FIELD=OTHER_METHOD,  ALIAS=METHOD_OT,    USAGE=A20, ACTUAL=A20, $
FIELD=LOCO_UNITS,    ALIAS=LOCOS,        USAGE=A2,  ACTUAL=A2,  $
FIELD=GATES,         ALIAS=GATE,         USAGE=A1,  ACTUAL=A1,  $
FIELD=CANTILEVER,    ALIAS=CANTI,        USAGE=A1,  ACTUAL=A1,  $
FIELD=STANDARD,      ALIAS=FLASHERS,     USAGE=A1,  ACTUAL=A1,  $
FIELD=WIG_WAG,       ALIAS=WAGS,         USAGE=A1,  ACTUAL=A1,  $
FIELD=HWY_SIGNAL,    ALIAS=HSIG,         USAGE=A1,  ACTUAL=A1,  $
FIELD=AUDIBLE,       ALIAS=AUDI,         USAGE=A1,  ACTUAL=A1,  $
FIELD=CROSSBUCKS,    ALIAS=XBUCK,        USAGE=A1,  ACTUAL=A1,  $
FIELD=STOP_SIGNS,    ALIAS=STOP,         USAGE=A1,  ACTUAL=A1,  $
FIELD=WATCHMAN,      ALIAS=WATCHM,       USAGE=A1,  ACTUAL=A1,  $
FIELD=FLAG_CREW,     ALIAS=CREW,         USAGE=A1,  ACTUAL=A1,  $
FIELD=WARN_OTH,      ALIAS=XOTHER,       USAGE=A1,  ACTUAL=A1,  $
FIELD=NO_WARN,       ALIAS=NOWARN,       USAGE=A1,  ACTUAL=A1,  $
FIELD=ADV_WARN_SIG,  ALIAS=ADV_W,        USAGE=A1,  ACTUAL=A1,  $
FIELD=OTHWARN_TYPE,  ALIAS=XOTEXP,       USAGE=A9,  ACTUAL=A9,  $
FIELD=WARN_LOC,      ALIAS=DEV_LOC,      USAGE=A1,  ACTUAL=A1,  $
FIELD=TRK_NAME_NO,   ALIAS=TRCK_NAME,    USAGE=A15, ACTUAL=A15, $
FIELD=TRKTYPE,       ALIAS=TRCK_TYPE,    USAGE=A1,  ACTUAL=A1,  $
FIELD=TRK_DENSITY,   ALIAS=TRCK_DENS,    USAGE=A10, ACTUAL=A10, $
FIELD=TRK_CLASS,     ALIAS=TRCK_CLASS,   USAGE=A2,  ACTUAL=A2,  $
FIELD=IT_LD_FRGT,    ALIAS=TOT_LD_FRE,   USAGE=A3,  ACTUAL=A3,  $
FIELD=IT_LD_PASG,    ALIAS=TOT_LD_PASS,  USAGE=A3,  ACTUAL=A3,  $
FIELD=IT_EM_FRGT,    ALIAS=TOT_EMP_FRE,  USAGE=A3,  ACTUAL=A3,  $
FIELD=IT_EM_PASG,    ALIAS=TOT_EMP_PASS, USAGE=A3,  ACTUAL=A3,  $
FIELD=IT_CABOOSE,    ALIAS=TOT_CAB,      USAGE=A3,  ACTUAL=A3,  $
FIELD=IT_TOT_CARS,   ALIAS=CARS,         USAGE=A6,  ACTUAL=A6,  $
FIELD=DRL_LD_FRGT,   ALIAS=DER_LD_FRE,   USAGE=A3,  ACTUAL=A3,  $
FIELD=DRL_LD_PASG,   ALIAS=DER_LD_PASS,  USAGE=A3,  ACTUAL=A3,  $
FIELD=DRL_EM_FRGT,   ALIAS=DER_EMP_FRE,  USAGE=A3,  ACTUAL=A3,  $
FIELD=DRL_EM_PASG,   ALIAS=DER_EMP_PASS, USAGE=A3,  ACTUAL=A3,  $
FIELD=DRL_CABOOSE,   ALIAS=DER_CAB,      USAGE=A3,  ACTUAL=A3,  $
FIELD=DRL_TOT-CARS,  ALIAS=DER_CARS,     USAGE=A6,  ACTUAL=A6,  $
FIELD=GR_TRL_TONS,   ALIAS=TRAIL_TONS,   USAGE=A8,  ACTUAL=A8,  $
FIELD=CREW_ENG,      ALIAS=ENG,          USAGE=A2,  ACTUAL=A2,  $
FIELD=CREW_FIREMN,   ALIAS=FIRE,         USAGE=A2,  ACTUAL=A2,  $
FIELD=CREW_CONDCR,   ALIAS=COND,         USAGE=A2,  ACTUAL=A2,  $
FIELD=CREW_BRAKMN,   ALIAS=BR_MEN,       USAGE=A2,  ACTUAL=A2,  $
FIELD=HR_ENG,        ALIAS=HR_ENG,       USAGE=A2,  ACTUAL=A2,  $
FIELD=MN_ENG,        ALIAS=MN_ENG,       USAGE=A2,  ACTUAL=A2,  $
FIELD=HR_CONDCR,     ALIAS=HR_COND,      USAGE=A2,  ACTUAL=A2,  $
FIELD=MN_CONDCR,     ALIAS=MN_COND,      USAGE=A2,  ACTUAL=A2,  $
FIELD=REPORT_FILED,  ALIAS=RE_REP,       USAGE=A1,  ACTUAL=A1,  $
FIELD=NARRATIVE1,    ALIAS=NARR1,        USAGE=A20, ACTUAL=A20, $
FIELD=INCIDENT_NO,   ALIAS=INC_NO,       USAGE=A10, ACTUAL=A10, $
```

```
FIELD=COMMENTS,     ALIAS=COMM,     USAGE=A30, ACTUAL=A30, $
FIELD=NARRATIVE2,   ALIAS=NARR2,    USAGE=A48, ACTUAL=A48, $
FIELD=OCC1AGE,      ALIAS=E146,     USAGE=A2,  ACTUAL=A2,  $
FIELD=OCC1SEX,      ALIAS=E147,     USAGE=A1,  ACTUAL=A1,  $
FIELD=OCC1MVUNT,    ALIAS=E148,     USAGE=A2,  ACTUAL=A2,  $
FIELD=OCC1SVRTY,    ALIAS=E149,     USAGE=A1,  ACTUAL=A1,  $
FIELD=OCC1AREA,     ALIAS=E150,     USAGE=A1,  ACTUAL=A1,  $
FIELD=OCC1POSTN,    ALIAS=E151,     USAGE=A1,  ACTUAL=A1,  $
FIELD=OCC1PDTYP,    ALIAS=E152,     USAGE=A1,  ACTUAL=A1,  $
FIELD=OCC1OTHER,    ALIAS=E153,     USAGE=A10, ACTUAL=A10, $
FIELD=OCC1EJECT,    ALIAS=E154,     USAGE=A1,  ACTUAL=A1,  $
FIELD=OCC2AGE,      ALIAS=E164,     USAGE=A2,  ACTUAL=A2,  $
FIELD=OCC2SEX,      ALIAS=E165,     USAGE=A1,  ACTUAL=A1,  $
FIELD=OCC2MVUNT,    ALIAS=E166,     USAGE=A2,  ACTUAL=A2,  $
FIELD=OCC2SVRTY,    ALIAS=E167,     USAGE=A1,  ACTUAL=A1,  $
FIELD=OCC2AREA,     ALIAS=E168,     USAGE=A1,  ACTUAL=A1,  $
FIELD=OCC2POSTN,    ALIAS=E169,     USAGE=A1,  ACTUAL=A1,  $
FIELD=OCC2PDTYP,    ALIAS=E170,     USAGE=A1,  ACTUAL=A1,  $
FIELD=OCC2OTHER,    ALIAS=E171,     USAGE=A10, ACTUAL=A10, $
FIELD=OCC2EJECT,    ALIAS=E172,     USAGE=A1,  ACTUAL=A1,  $
FIELD=OCC3AGE,      ALIAS=E173,     USAGE=A2,  ACTUAL=A2,  $
FIELD=OCC3SEX,      ALIAS=E174,     USAGE=A1,  ACTUAL=A1,  $
FIELD=OCC3MVUNT,    ALIAS=E175,     USAGE=A2,  ACTUAL=A2,  $
FIELD=OCC3SVRTY,    ALIAS=E176,     USAGE=A1,  ACTUAL=A1,  $
FIELD=OCC3AREA,     ALIAS=E177,     USAGE=A1,  ACTUAL=A1,  $
FIELD=OCC3POSTN,    ALIAS=E178,     USAGE=A1,  ACTUAL=A1,  $
FIELD=OCC3PDTYP,    ALIAS=E179,     USAGE=A1,  ACTUAL=A1,  $
FIELD=OCC3OTHER,    ALIAS=E180,     USAGE=A10, ACTUAL=A10, $
FIELD=OCC3EJECT,    ALIAS=E181,     USAGE=A1,  ACTUAL=A1,  $
FIELD=OCC4AGE,      ALIAS=E182,     USAGE=A2,  ACTUAL=A2,  $
FIELD=OCC4SEX,      ALIAS=E183,     USAGE=A1,  ACTUAL=A1,  $
FIELD=OCC4MVUNT,    ALIAS=E184,     USAGE=A1,  ACTUAL=A2,  $
FIELD=OCC4SVRTY,    ALIAS=E185,     USAGE=A1,  ACTUAL=A1,  $
FIELD=OCC4AREA,     ALIAS=E186,     USAGE=A1,  ACTUAL=A1,  $
FIELD=OCC4POSTN,    ALIAS=E187,     USAGE=A1,  ACTUAL=A1,  $
FIELD=OCC4PDTYP,    ALIAS=E188,     USAGE=A1,  ACTUAL=A1,  $
FIELD=OCC4OTHER,    ALIAS=E189,     USAGE=A10, ACTUAL=A10, $
FIELD=OCC4EJECT,    ALIAS=E190,     USAGE=A1,  ACTUAL=A1,  $
FIELD=OCC5AGE,      ALIAS=E191,     USAGE=A2,  ACTUAL=A2,  $
FIELD=OCC5SEX,      ALIAS=E192,     USAGE=A1,  ACTUAL=A1,  $
FIELD=OCC5MVUNT,    ALIAS=E193,     USAGE=A2,  ACTUAL=A2,  $
FIELD=OCC5SVRTY,    ALIAS=E194,     USAGE=A1,  ACTUAL=A1,  $
FIELD=OCC5AREA,     ALIAS=E195,     USAGE=A1,  ACTUAL=A1,  $
FIELD=OCC5POSTN,    ALIAS=E196,     USAGE=A1,  ACTUAL=A1,  $
FIELD=OCC5PDTYP,    ALIAS=E197,     USAGE=A1,  ACTUAL=A1,  $
FIELD=OCC5OTHER,    ALIAS=E198,     USAGE=A10, ACTUAL=A10, $
FIELD=OCC5EJECT,    ALIAS=E199,     USAGE=A1,  ACTUAL=A1,  $
FIELD=OCC6AGE,      ALIAS=E200,     USAGE=A2,  ACTUAL=A2,  $
FIELD=OCC6SEX,      ALIAS=E201,     USAGE=A1,  ACTUAL=A1,  $
FIELD=OCC6MVUNT,    ALIAS=E202,     USAGE=A2,  ACTUAL=A2,  $
FIELD=OCC6SVRTY,    ALIAS=E203,     USAGE=A1,  ACTUAL=A1,  $
FIELD=OCC6AREA,     ALIAS=E204,     USAGE=A1,  ACTUAL=A1,  $
FIELD=OCC6POSTN,    ALIAS=E205,     USAGE=A1,  ACTUAL=A1,  $
FIELD=OCC6PDTYP,    ALIAS=E206,     USAGE=A1,  ACTUAL=A1,  $
FIELD=OCC6OTHER,    ALIAS=E207,     USAGE=A10, ACTUAL=A10, $
```

```
FIELD=OCC6EJECT,     ALIAS=E208,        USAGE=A1,  ACTUAL=A1,  $
FIELD=OCC7AGE,       ALIAS=E209,        USAGE=A2,  ACTUAL=A2,  $
FIELD=OCC7SEX,       ALIAS=E210,        USAGE=A1,  ACTUAL=A1,  $
FIELD=OCC7MVUNT,     ALIAS=E211,        USAGE=A2,  ACTUAL=A2,  $
FIELD=OCC7SVRTY,     ALIAS=E212,        USAGE=A1,  ACTUAL=A1,  $
FIELD=OCC7AREA,      ALIAS=E213,        USAGE=A1,  ACTUAL=A1,  $
FIELD=OCC7POSTN,     ALIAS=E214,        USAGE=A1,  ACTUAL=A1,  $
FIELD=OCC7PDTYP,     ALIAS=E215,        USAGE=A1,  ACTUAL=A1,  $
FIELD=OCC7OTHER,     ALIAS=E216,        USAGE=A10, ACTUAL=A10, $
FIELD=OCC7EJECT,     ALIAS=E217,        USAGE=A1,  ACTUAL=A1,  $
FIELD=OCC8AGE,       ALIAS=E218,        USAGE=A2,  ACTUAL=A2,  $
FIELD=OCC8SEX,       ALIAS=E219,        USAGE=A1,  ACTUAL=A1,  $
FIELD=OCC8MVUNT,     ALIAS=E220,        USAGE=A2,  ACTUAL=A2,  $
FIELD=OCC8SVRTY,     ALIAS=E221,        USAGE=A1,  ACTUAL=A1,  $
FIELD=OCC8AREA,      ALIAS=E222,        USAGE=A1,  ACTUAL=A1,  $
FIELD=OCC8POSTN,     ALIAS=E223,        USAGE=A1,  ACTUAL=A1,  $
FIELD=OCC8PDTYP,     ALIAS=E224,        USAGE=A1,  ACTUAL=A1,  $
FIELD=OCC8OTHER,     ALIAS=E225,        USAGE=A10, ACTUAL=A10, $
FIELD=OCC8EJECT,     ALIAS=E226,        USAGE=A1,  ACTUAL=A1,  $
FIELD=OCC9AGE,       ALIAS=E227,        USAGE=A2,  ACTUAL=A2,  $
FIELD=OCC9SEX,       ALIAS=E228,        USAGE=A1,  ACTUAL=A1,  $
FIELD=OCC9MVUNT,     ALIAS=E229,        USAGE=A2,  ACTUAL=A2,  $
FIELD=OCC9SVRTY,     ALIAS=E230,        USAGE=A1,  ACTUAL=A1,  $
FIELD=OCC9AREA,      ALIAS=E231,        USAGE=A1,  ACTUAL=A1,  $
FIELD=OCC9POSTN,     ALIAS=E232,        USAGE=A1,  ACTUAL=A1,  $
FIELD=OCC9PDTYP,     ALIAS=E233,        USAGE=A1,  ACTUAL=A1,  $
FIELD=OCC9OTHER,     ALIAS=E234,        USAGE=A10, ACTUAL=A10, $
FIELD=OCC9EJECT,     ALIAS=E235,        USAGE=A1,  ACTUAL=A1,  $
FIELD=DRIVER_AGE,    ALIAS=DR_AGE,      USAGE=A2,  ACTUAL=A2,  $
FIELD=DRIVER_SEX,    ALIAS=DR_SEX,      USAGE=A1,  ACTUAL=A1,  $
FIELD=DRFILL1,       ALIAS=E238,        USAGE=A2,  ACTUAL=A2,  $
FIELD=DR_INJ_SVRTY,  ALIAS=DR_SEVER,    USAGE=A1,  ACTUAL=A1,  $
FIELD=DRFILL2,       ALIAS=E240,        USAGE=A1,  ACTUAL=A1,  $
FIELD=DRFILL3,       ALIAS=E241,        USAGE=A1,  ACTUAL=A1,  $
FIELD=DRFILL4,       ALIAS=E242,        USAGE=A1,  ACTUAL=A1,  $
FIELD=DRFILL5,       ALIAS=E243,        USAGE=A10, ACTUAL=A10, $
FIELD=DRFILL6,       ALIAS=E244,        USAGE=A1,  ACTUAL=A1,  $
```

Appendix E

Example Input and Output Data For Selected FOCUS Programs

1. MPOINT - Pages E1-E3
   Provides a listing of accidents and brief summary data for a road section as specified from milepoint to milepoint.

2. MP - Pages E4-E5
   Used in the friction review process to group and summarize accidents by surface condition. For wet surface accidents, the program calculates the mileage from the beginning of the specified section to the point of the accident to assist the plotting of wet surface accidents on a map.

3. MPEY - Pages E6-E8
   Also used in the friction review process. This program accesses through the roadway file to obtain traffic data, then pulls the corresponding data from the accident file. Average daily traffic, wet surface accident rate, wet/dry accident ratios, and the overall accident rate for the section are calculated for transfer to the "Request for Field Review of Pavements" form as shown on page E8.

4. IDNODE - Pages E9-E10
   Lists the accidents at or related to an intersection or interchange as specified by the user.

EXAMPLE INPUT DATA FOR FOCUS PROGRAM 'MPOINT'

```
>  > ex mpoint
ENTER THE COUNTY  > 85
ENTER THE ROUTE  > 0069
ENTER THE BEGINNING MILEPOINT  > 21.54
ENTER THE ENDING MILEPOINT  > 24.55
ENTER THE BEGINNING DATE BY MONTH DAY YEAR  > 070183
ENTER THE ENDING DATE BY MONTH DAY YEAR  > 063087
```

EXAMPLE OUTPUT DATA FROM FOCUS PROGRAM 'MPOINT'

COUNTY 85 ROUTE 0069 FROM MILEPOINT 21.54 TO 24.55
TIME PERIOD - FROM 070183 TO 063087

MPNT	CASE. NO.	ALAS RTE	ID NODE	REF. NODE	DIR. NODE	DIS IND	ACC DATE	TIME	LIGHT COND	ACC TYP	COL TYP	MAJOR CAUSE	SURF. COND.	ACC SEV	F L	M J	M N	P B	DOLLAR DAMAGE
	NODE DESCRIPTION					VEH NO.	V TYPE	DIR.	OCC #	FO	SEX	AGE	ENV						
21.58	40063364	0069	414965	414965	999999	999	11/22/84	245	DARK/L	6	18	SPEEDING	DRY	INJ	0	0	1	0	1800
	INT US 69 & CO E18					1	CAR	N	1	1	M	19	ON						
	50031718	0069	414965	414965	999999	999	06/15/85	950	DAY	11	17	UNKNOWN	DRY	INJ	0	0	2	1	5000
	INT US 69 & CO E18					1	CAR	W	2	1	M	87	ON						
						2	CAR	S	5	1	M	27	ON						
	50045782	0069	414965	414965	999999	999	08/31/85	145	DARK/NL	11	12	FTYROW	DRY	FAT	1	0	2	0	3500
	INT US 69 & CO E18					1	PICKUP	N	1	1	M	29	ON						
						2	CAR	E	2	1	M	57	ON						
21.68	60058066	0069	999999	414965	416565	10	11/04/86	2020	DARK/NL	11	9	IMPROP PASS	DRY	PDO	0	0	0	0	2950
						1	FARM VEH	N	10	1	M	31	ON						
						2	PANL TRK	N	1	1	M	31	ON						
21.83	70031838	0069	999999	414965	416565	25	06/24/87	2120	DARK/NL	17	18	UNKNOWN	DRY	PDO	0	0	0	0	800
						1	PANL TRK	S	2	1	M	62							
22.19	50033587	0069	999999	416565	414965	40	06/26/85	1110	DAY	6	18	NUC	DRY	INJ	0	0	2	1	1800
						1	CAR	S	4	1	F	24	ON						
22.84	50044961	0069	999999	416565	417365	25	08/28/85	1130	DAY	6	18	NUC	DRY	PDO	0	0	0	0	1000
						1	CAR	N	1	1	M	22	ON						
23.10	30041195	0069	417365	417365	999999	999	08/12/83	1700	DAY	11	17	INEXP	DRY	INJ	0	0	1	0	2000
	S INT US 69 & CO E15					1	CAR	E	4	1	F	14	ON						
						2	CAR	W	3	1	M	45	ON						
	30049935	0069	417565	417365	999999	999	10/02/83	1650	DUSK	11	3	OTHER	DRY	INJ	0	0	1	0	2000
	S INT US 69 & CO E15					1	CAR	S	2	1	M	28	ON						
						2	CAR	S	1	1	M	19	ON						
	50010560	0069	417365	417365	999999	999	02/09/85	1830	DARK/NL	11	0	UNKNOWN	ICE	PDO	0	0	0	0	500
	S INT US 69 & CO E15					1	CAR	W	2	1	M	18	UNK						
						2	CAR	UN	1	1		0	UNK						
	60066533	0069	417365	417365	999999	999	12/15/86	902	DAY	11	12	FTYROW	WET	PDO	0	0	0	0	4000
	S INT US 69 & CO E15					1	CAR	E	1	1	M	26	MED						
						2	CAR	S	2	1	M	56	MED						
23.12	30049622	0069	999999	417365	418165	2	09/29/83	2045	DARK/NL	17	17	UNKNOWN	DRY	INJ	0	1	1	0	2350
						1	M CYCLE	S	1	1	M	17							
						2	CAR	S	1	1	F	31							

COUNTY 85 ROUTE 0069 FROM MILEPOINT 21.54 TO 24.55
TIME PERIOD - FROM 070183 TO 063087

MPNT	CASE. NO.	ALAS RTE	ID NODE	REF. NODE	DIR. NODE	DIS IND	ACC DATE	TIME	LIGHT COND	ACC TYP	COL TYP	MAJOR CAUSE	SURF. COND.	ACC SEV	F L	M J	M N	P B	DOLLAR DAMAGE
	NODE DESCRIPTION					VEH NO.	V TYPE	DIR.	OCC #	FO	SEX	AGE	ENV						
23.35	40003570	0069	999999	417365	418165	25	01/11/84	2150	DARK/NL	17	17	UNKNOWN	DRY	INJ	0	0	0	1	1400
						1	CAR	N	2	1	F	57							
23.59	50055020	0069	418165	418165	999999	999	10/03/85	1630	DAY	11	0	FTYROW	DRY	PDO	0	0	0	0	500
	N INT US 69 & CO E15					1	CAR	UN	1	1	M	45	UNK						
						2	UNKNOWN	UN	1	1		0	UNK						
24.19	50011043	0069	999999	418165	419765	60	02/14/85	1410	DAY	11	17	NUC	DRY	PDO	0	0	0	0	2500
						1	CAR	S	1	1	F	56	ON						
						2	PICKUP	S	1	1	M	72	ON						

********** ACCIDENT SUMMARY **********

TOTAL FATALS ACC	= 1	TOTAL DAY	= 7	TOTAL FATAL	= 1
TOTAL INJURY ACC	= 7	TOTAL NIGHT	= 8	TOTAL MAJOR	= 1
TOTAL PDO ACC	= 7	TOTAL WET	= 1	TOTAL MINOR	= 10
		TOTAL DRY	= 13	TOTAL PROB.	= 3

TOTAL ACCIDENTS = 15 TOTAL PROPERTY DAMAGE= 32100

EXAMPLE INPUT DATA FOR FOCUS PROGRAM 'MP'

```
> ex mp
PLEASE SUPPLY VALUES REQUESTED

BEGIN=   > 21.54
END=   > 24.55
ROUTE=   > 0069
COUNTY=   > 85
>
```

EXAMPLE OUTPUT DATA FROM FOCUS PROGRAM 'MP'

ACCIDENT DATA FOR FRICTION REVIEW
FROM MILEPOINT 21.54 TO 24.55 ON ROUTE 0069 COUNTY 85
FISCAL YEARS 1984 - 1987

SURFACE	SURFACE COUNT	CO	ROUTE	ACCIDENT NUMBER	NODE	ALAS RTE	FY	ACC DATE	MILEPOINT OF ACC.	CAUSE	MILE POST	DESCRIPTION OF CAUSE	DIST. FROM BGIN MP
DRY	13	85	0069	40063364	414965	0069	85	11/22/84	21.58	17	125.85	SPEEDING	.00
		85	0069	50031718	414965	0069	85	06/15/85	21.58	39	125.85	UNKNOWN	.00
		85	0069	50045782	414965	0069	86	08/31/85	21.58	9	125.85	FTYROW	.00
		85	0069	60058066	414965	0069	87	11/04/86	21.68	6	125.95	IMPROPER PASS	.00
		85	0069	70031838	414965	0069	87	06/24/87	21.83	39	126.10	UNKNOWN	.00
		85	0069	50033587	416565	0069	85	06/26/85	22.19	29	126.46	NOT UNDER CNTL	.00
		85	0069	50044961	416565	0069	86	08/28/85	22.84	29	127.09	NOT UNDER CNTL	.00
		85	0069	30041195	417365	0069	84	08/12/83	23.10	36	127.23	INEXPERIENCED	.00
		85	0069	30049935	417365	0069	84	10/02/83	23.10	38	127.23	OTHER	.00
		85	0069	30049622	417365	0069	84	09/29/83	23.12	39	127.25	UNKNOWN	.00
		85	0069	40003570	417365	0069	84	01/11/84	23.35	39	127.60	UNKNOWN	.00
		85	0069	50055020	418165	0069	86	10/03/85	23.59	15	127.84	FTYROW	.00
		85	0069	50011043	418165	0069	85	02/14/85	24.19	29	128.45	NOT UNDER CNTL	.00
OTH	1	85	0069	50010560	417365	0069	85	02/09/85	23.10	39	127.35	UNKNOWN	.00
WET	1	85	0069	60066533	417365	0069	87	12/15/86	23.10	9	127.35	FTYROW	1.56

EXAMPLE INPUT DATA FOR FOCUS PROGRAM 'MPFY'

```
> ex mpfy
PLEASE SUPPLY VALUES REQUESTED

BEGIN=   > 21.54
END=   > 24.55
DISTRICT=   > 1
CONAME=   > story
COUNTY=   > 85
RTLITERAL=   > u.s. 69
MPOST1=   > 125.81
MPOST2=   > 128.82
PAVE=   > ac
WIDTH=   > 24'
LABNUMBER=   > fr7-1234
TESTDATE=   > 07-08-88
DIRECTION=   > n-s
CONTROL=   > 09
ROUTE=   > 0069
```

PAGE 1 EXAMPLE OUTPUT DATA FROM FOCUS PROGRAM 'MPFY"

FRICTION REVIEW FORM DATA

FISCAL YEARS 1984 - 1987

DISTRICT
DATE (WILL SPECIFY)

COUNTY	ROUTE	MILEPOST	PAVEMENT TYPE	WIDTH

LAB NUMBER	DATE TESTED	DIRECTION OF TRAVEL	ADT *	CONTROL SECTION	WET RATE **	TOTAL RATE ***

DISTRICT 1					
STORY 85	U.S. 69	125.81 TO 128.82	AC	24'	
FR7-1234	07-08-88	N-S	09	--**--	--***--

VM 7,933.50 HMVM .11583

87 WET	1	87 DRY	2	87 TOT	3
86 WET	0	86 DRY	3	86 TOT	3
85 WET	0	85 DRY	4	85 TOT	5
84 WET	0	84 DRY	4	84 TOT	4
TOTAL	1	TOTAL	13	TOTAL	15

87 PCT	33.33
86 PCT	.00
85 PCT	.00
84 PCT	.00
TOTAL	7.14

LENGTH OF SECTION 3.01

* AVERAGE DAILY TRAFF 2635
** WET SURF ACC RATE 8.63
*** TOTAL ACCIDENT RATE 129.50

Form 840002
2-88

Iowa Department of Transportation

REQUEST FOR FIELD REVIEW OF PAVEMENTS

District: 1

Date:

Recent pavement friction tests have been conducted upon the pavement section listed below, and values indicate the need for field review (See Administrative Policy 600.01). (PLEASE TYPE)

County	Route	Milepost Location	Pavement Type	Width
Story (85)	U.S. 69	125.81-128.82	AC	24'

Lab Number	Date Tested	Direction of Travel	Traffic Volume (ADT)	Control Section	Wet Surface Acc. Rate (Acc/HMVM)	*
FR7-1234	7-8-88	N-S	2635	09	8.63	14.41
					Total Acc. Rate (Acc/HMVM) 129.50	* 126

WET SURFACE ACCIDENT HISTORY					
Fiscal Year	Wet	Dry	%	%	Total Acc.
1987	1	2	33.33		3
1986	0	3	0		3
1985	0	4	0	* 13.94	5
1984	0	4	0		4
Totals	1	13	7.14		15

$$\% = \frac{\text{Wet}}{\text{Wet + Dry}} \times 100$$

* State Average Rural Primary

FOR USE BY THE DISTRICT OFFICE IN THE INITIAL REVIEW

Comments and Recommendations: PLEASE TYPE

Field review performed by:	Field review date:	District approval:	Date:

FOR USE BY THE PAVEMENT FRICTION REVIEW COMMITTEE

Committee review date:

Comments and Recommendations: PLEASE TYPE

Deputy Director-Operations:	Date Authorized:

FOR USE BY THE DISTRICT OFFICE UPON COMPLETION OF RECOMMENDED ACTION

"SLIPPERY WHEN WET" SIGNS	Comments: PLEASE TYPE
Date Approved:	
Date Installed:	
Date Removed:	

District Maintenance Engineer:	Date:

DISTRIBUTION: White Copy - Maintenance; Green Copy - Safety; Canary Copy - Materials; Pink Copy - District Engineer (Final File); Goldenrod Copy - District Engineer (Field Review)

EXAMPLE INPUT DATA FOR FOCUS PROGRAM 'IDNODE'

```
> ex idnode
ENTER THE COUNTY   > 01
ENTER THE INTERSECTION NODE   > 448533
ENTER THE BEGINNING DATE BY MONTH DAY YEAR   > 010182
ENTER THE ENDING DATE BY MONTH DAY YEAR   > 063087
```

EXAMPLE OUTPUT DATA FROM FOCUS PROGRAM 'IDNODE'

ACCIDENT DATA IN COUNTY 01 INTERSECTION ID NODE 448533
FROM DATE 010182 TO 063087

MPNT	CASE. NO.	ALAS RTE	ID NODE	ACC DATE	REF NODE	DIR NODE	DIS IND	ACC TYP	MAJOR CAUSE	SURF. COND.	ACC SEV	F T L	M J R	M N R	P B L	DOLLAR DAMAGE	VEH NO.	VEH. TYPE	DIR.
6.25	30000675	R080	448533	12/27/82	448833	448631	11	11	UNKNOWN	ICE	PDO	0	0	0	0	600	1	CAR	W
																	2	PICKUP	UN
19.80	50060093	W080	448533	11/10/85	448635	448631	35	14	UNKNOWN	ICE	INJ	0	0	2	0	2000	1	CAR	UN
																	2	CAR	UN
19.91	50010573	E080	448533	02/09/85	448431	448436	15	18	NUC	ICE	INJ	0	0	2	0	1550	1	CAR	E
20.03	20021104	W080	448533	03/13/82	448635	448631	12	18	NUC	DRY	PDO	0	0	0	0	20500	1	SEMI SGL	W
25.49	40013699	R080	448533	03/07/84	448233	999999	999	11	UNKNOWN	ICE	PDO	0	0	0	0	1300	1	SEMI SGL	SE
																	2	STRAT TRK	SE
25.67	60064640	R080	448533	11/19/86	448431	448233	6	18	SPEEDING	SNOW	INJ	0	0	1	0	1500	1	SEMI SGL	E