

APPENDIX A

User's Guide (Explorer-ALAS)

Please Note:

- 1) This is a summary User's Guide designed to provide basic information on Explorer ALAS, its database structure and naming conventions, and installing and running ArcExplorer. More details on ArcExplorer are provided in the ArcExplorer User Manual that is created when the software is installed from the CD (it is located in the file C:\Program Files\ESRI\ArcExplorer\ArcExplorer.pdf or see Appendix I).
- 2) For more information on the variable names and value labels in the accident database, please consult Appendices D, E, and F.

The data: an overview

Data files are stored in several folders under the directory /gisalas. They are in ArcView's shapefile format.

Several types of data files are stored

- Accident reference nodes are from Iowa's Accident Location and Analysis System. They correspond to key points in Iowa's road system (intersections, grade crossings, bridges, etc.) and are used to provide a location reference for highway crashes.
- Road information is provided in three separate files: *primary roads*, *secondary roads*, and *municipal roads*.
- Two types of background files are provided to assist the user in viewing the data: *hydrology* (rivers and lakes), and *rail lines*.

The accident nodes, primary roads, secondary roads, municipal roads, and hydrology were converted from the Iowa DOT's Microstation files into ArcView. The rail lines are from the U.S. DOT Bureau of Transportation Statistics.

Field definitions

Road files

The attributes for the road files (primary roads, secondary roads, and municipal roads) come from the Iowa DOT's base records. Several of the available fields have been converted to ArcView to be included in the current data distribution. A summary description of these fields is listed below. A more complete description, from the base records documentation, is attached.

<u>Field name</u>	<u>Description</u>
Co	Two digit county number
St_rte	Route information (varies by level: primary, secondary, and municipal)
Number	Road segment identifier
Street	Street name (generally only on municipal roads)
Grade_signal	Number of automatic traffic signals at grade intersections
Grade_stop	Number of stop signs at grade intersections
Truck_rte	Truck route status (primary only)
Yr_cnt	Year of traffic count
Aadt	Traffic volume
Surf_wid	Surface width (in meters)
Surface_type	Surface type
Out_shd_wid	Outside shoulder width
In_shd_wid	Inside shoulder width
Index	Internal identification number assigned by GIS software

Accident reference nodes

Most of fields in the layer of accident reference nodes are identification numbers or coordinates generated during the conversion process. The more meaningful items for users of the data are:

County_num	County number (the first 2 digits of the 8-digit node number)
Township_N	Township number (the 3 rd and 4 th digits of the 8-digit node number)
Node_numbe	Last 4 digits of node number (identifying the node within a township)
ID	The full 8-digit node ID

Rail and hydrology

The layers for rail lines and hydrology currently have no meaningful attribute data attached.

File organization and file-naming conventions.

County-level data

County-level data are stored under the directory /gisalas/_county. Under this directory, there is one subdirectory for each county in Iowa. For example, the files for Story County are stored in /_gisalas/_county/_story. Within each county's subdirectory, the following files are stored.

File	File-naming convention (see note below)	Example
Accident nodes	"node" + county number + .extension	Node85.shp
Primary roads	"prim" + county number + .extension	Prim85.shp
Secondary roads	"second" + county number + .extension	Second85.shp
Municipal roads	"muni" + county number + .extension	Muni85.shp
Rail lines	"rail" + county number + .extension	Rail85.shp
Hydrology	"hydrol" + county number + .extension	Hydrol85.shp
A records	"Loc" + county number + "a" + year.extension	Loc85a94.shp
B records	"Loc" + county number + "b" + year.extension	Loc85b94.shp
C records	"Loc" + county number + "c" + year.extension	Loc85c94.shp
Hydrology	"hydrol" + county number + .extension	Hydrol85.shp

The county numbers are based on those in the Iowa DOT's base records. They always have two-digits, e.g., Adair County is "01" rather than "1".

Note: Each "layer" of information actually has three files, each with a different extension. Files with the extension ".shp" (e.g., prim85.shp) contain the actual geometry, or shapes, of the roads, accident nodes, etc. These are usually the files that the user selects to view. Files with the extension with ".shx" (e.g., prim85.shx) are used internally by ArcView (as an index of the feature geometry). The user can ignore these files but must not delete them (otherwise the corresponding .shp files will be unavailable). Files with the extension ".dbf" are database files. They store the attribute data (e.g., street names, traffic volumes) connected to the maps. This information can be access, when the appropriate map is displayed, using ArcExplorer's query tools. (These files can also be opened on their own, in a non-GIS environment, with any software package capable of working with .dbf files.)

How to use the data

A copy of ArcExplorer is provided to view the data. This program is available for free download from ESRI (the provider of ArcView, Arc/Info, and other product, at their web site, www.esri.com). The data can also be viewed with ArcView.

A copy of the User Manual is created when the software is installed from the CD. (It is simply a printout of the file C:\Program Files\ESRI\ArcExplorer\ArcExplorer.pdf, which will be available once the program is installed.) It contains instructions for installing and using ArcExplorer. Most of the necessary information is in the User Manual, but the following points highlight the key items to get you started:

- To install ArcExplorer, copy the setup file, asetup.exe, to any place on your hard drive. Double click on the file's icon to start the installation. The default options provided by the installation program are appropriate and do not need to be changed.
- To start ArcExplorer, once it is installed, it can be started by double clicking on the appropriate icon (it should be the ArcExplorer.exe icon in the C:\Program Files\ESRI\ArcExplorer directory).

- Putting the cursor over any of the buttons in the toolbar/buttonbar will bring up a small text box that tells what the button does.
- To add a layer of a map, click on the Add Theme button (the one with the plus sign). The program may take a few moments to search your networks. (You can also use Control-A, or select Add Theme from the Theme menu item.) Once this is finished, click through appropriate directories to reach the files you want, then select the files. Warning: Large files, especially statewide files, may take a long time to draw. If you want to stop the drawing process and move on to something else (perhaps bringing up county-level maps instead), use the escape (“ESC”) key to cancel the procedure. To remove a layer, use the
- The “Table of Contents” appears at the left. Here you control whether or not a given layer is drawn on the map (click on a layer’s white box to turn it on and off). This is also where you control the order in which the layers are drawn. The layers on the bottom of the Table of Contents are drawn first, and the layers at the top are drawn on top of them. Clicking on a layer in the Table of Contents makes it “active” (the active theme appears to have a raised box around it) enabling you to do certain things with it. To move a given theme from the bottom to the top of the Table of Contents, make it active and drag it to the top.
- To zoom in and out, use the magnifying glass buttons. The one with the plus sign zooms in, while the one with the minus sign zooms out. You can zoom in on a point, or select a box to determine the extent of the new view. To move the map up, down, right, or left, use the pan buttons (the hand and the arrows).
- To do a query on a theme’s database, make the theme active, then click on the query button (the hammer/question mark). To get data for a particular part of a theme (e.g., a road segment on the primary road layer), make the theme active, click on the info/identify button (the letter “i”), then click on the appropriate feature in the map (e.g., on the road segment).
- To change the colors, line widths, etc. or to create maps of a layer’s data (e.g., a map of traffic volumes for primary roads), make the theme active and open the Theme Properties window by selecting Theme Properties from the Theme menu item. (Or you can double click on the theme in the Table of Contents.) The Theme Properties window is also where you can label items on the map (e.g., labeling all the accident nodes with their ID number).
- You can save your work in a “project.” which is a collection of map layers and how you decided to display them. This way, the next time you use ArcExplorer, you don’t have to repeat the process of opening layers, changing colors, etc. You can simply open up the project you’ve previously saved. To save a project, select Save from the File menu item. To open it up next time you use ArcExplorer, select Open from the File menu item.

More details on these procedures are outlined in the ArcExplorer User Manual.

APPENDIX B

User's Guide (ArcView-ALAS)

GIS-ALAS Project Phase I, ArcView ALAS Version 1.0 User's Guide

Starting ArcView ALAS (AV-ALAS)

To start ArcView ALAS (AV-ALAS), first open ArcView on your computer. When ArcView has finished opening, point to the File menu with the mouse pointer and click the left mouse button. Then move the mouse pointer down to the Open Project option and click the left mouse button again. A dialog box will then open, listing a default directory structure and any ArcView project files listed under that directory structure.

If the root drive (the letter prior to the colon, i.e. the "c" in "c:\") shown under the word "Directories:" is not the proper drive, move the mouse pointer to the downward pointing arrow on the right of the box below the word "Drives:" and click the left mouse button. Select the correct drive by moving the mouse pointer over it (the drive should be highlighted) and click the left mouse button again. Then, when the correct drive has been selected, the directory structure below the word "Directories" should contain just that drive.

If the root drive shown is the proper one, but something other than "_gisalas" trails the "\", then move the mouse pointer to the root drive portion of the directory structure in the box below the word "Directories:" and click the left mouse button twice in quick succession.

The box below the word "Directories:" should now list a more detailed listing of the directories below the root drive, one of which should be "_gisalas". Move the mouse pointer down to "_gisalas" and click the left mouse button twice in quick succession. The directory structure below the word "Directories:" should now include the "_gisalas" subdirectory and the box two below the words "File Name:" should contain a list of filenames ending in ".apr". Move the mouse pointer down to "av_alas.apr" and click the mouse button. The box directly below the words "File Name:" should now contain the word "av_alas.apr". Now move the mouse pointer to the OK button in the upper right portion of the dialog box and click the left mouse button. AV-ALAS should now open, with 10 menus across the top (File, Project, Window, Help, ALAS File, Request, Search, Report, Defaults, and Help) and another dialog box titled "av_alas.apr" with a series of icons down the left side (Views, Scripts, Tables, Charts, and Layouts).

Using ArcView ALAS (AV-ALAS)

I. Region Selection

To begin using AV-ALAS, once it is opened, the user must first open a map and pick a region of interest. To do this, place the mouse pointer on the "ALAS File" menu and click the left mouse button. Then move the mouse pointer to the words "View Map" and click the left mouse button.

A dialog box titled "Set Main Default Directory" should open. If the root directory shown in the box below the words "Enter new default root directory:" list the root directory of the project's location (and most times it will), then move the mouse pointer to the OK button and click the left mouse button. If another root directory is shown, delete the currently listed directory by depressing the "delete" key on the keyboard and typing in the correct root directory in the form "x:", where "x" is the proper root directory. Then move the mouse pointer to the OK button and click the left mouse button. Another dialog box, titled "Set Main Default Directory" should open. If the directory structure shown in the box below the words "Enter new default directory name:" contains the root directory plus the directory "_gisalas" in the form "x:_gisalas\", where "x" is the root directory, then move the mouse pointer to the OK button and click the left mouse button. Most times this should be the case.

Now, a dialog box titled "Region Selection" should appear. In the box below the words "Select Region:", four options should appear: County, Regional_Planning_Association, Transportation_Center, and Statewide. To select one of these, move the mouse pointer over the desired option and click the left mouse button. It should then be highlighted. Then move the mouse pointer over the OK button and click the left mouse button. **NOTE:** Currently only the COUNTY option will progress the user to a functional end. Choose only the COUNTY option.

Following that, a dialog box title "Region Selection" should appear, this time listing the options from previously. For the County option, a listing of the counties in Iowa should appear in a box below the words "Select County:". To select the county desired, place the mouse pointer on one of the arrows (depending on whether one wishes to scroll up or scroll down through the county list) on the right side of the box and depress the left mouse button. The list of counties will scroll by on the screen. Release the left mouse button when the county desired is shown. Move the mouse pointer over the county desired and click the left mouse button. The county should now be highlighted. Move the mouse pointer to the OK button and click the left mouse button.

The next dialog box that should open is titled "Beginning Date". If the date below the words "Enter default beginning date." is acceptable, move the mouse pointer over the OK button and click the left mouse button. If not, delete the currently listed date by depressing the delete key on the keyboard and then type the desired date in the form "Month/Day/Year" with the year portion being four digits. Then move the mouse pointer over the OK button and click the left mouse button.


The next dialog box that should open is titled "Ending Date". If the date below the words "Enter default ending date." is acceptable, move the mouse pointer over the OK button and click the left mouse button. If not, delete the currently listed date by depressing the delete key on the keyboard and then type the desired date in the form "Month/Day/Year" with the year portion being four digits. Then move the mouse pointer over the OK button and click the left mouse button. **NOTE:** The ending date must be after the beginning date.


Now, a dialog box titled "Selection Method" should open. The box below the words "Choose which selection method you wish to employ:" should contain the word "Nodes" and have an downward pointing arrow at the right end of the box. Move the mouse pointer over the arrow and click the left mouse button. Now the words "Actual_Accident_Locations" should appear under the word "Nodes". To select either option (Nodes is the default), move the mouse pointer over that option and click the left mouse button. Then move the mouse pointer over the OK button and click the left mouse button. **NOTE:** The Nodes option allows selection of nodes and running of requests and queries using these nodes (the Node-based option). The Actual Accident Locations options allows selection of the actual accident locations and running of requests and queries using these locations. Currently, only the Nodes option is functional.


Finally, a window titled after whichever county you selected should open, displaying the map for that county. If the window needs to be resized, move the mouse pointer to the side or corner of the window that is to be expanded. When the mouse pointer is at these locations, the mouse pointer will become a double-pointed arrow. When the mouse pointer is a double-pointed arrow, click and hold down the left mouse button, then move the mouse pointer in the direction of the desired expansion/contraction of the window. When sized to the desired level, release the left mouse button.


II. Location Specification

A. Node-Based

To begin a node-based search, first determine the area of interest. To zoom in or display the area of interest in more detail, first move the mouse pointer to the button (buttons are located below the menus) containing the magnifying glass with a plus sign  in it and click the left mouse button. Now move the mouse pointer to the map (the mouse pointer should turn into a magnifying glass with a plus sign in it once it is over the map) near where the area of interest is and click and hold down the left mouse button. Then drag the mouse pointer to form a rectangle around the area of interest. Then release the left mouse button. The map should now zoom in to the area of interest. This can be repeated for further detail of the area.

NOTE: To zoom out, select the button containing the magnifying glass with the minus sign  in it and click the left mouse button. Then move the mouse pointer to the map and click the left mouse button. The map will zoom out an arbitrary amount.

To ensure that you are in the correct region, move the mouse pointer to the button containing the black dot with a white "i"  in it (this is called the information tool) and click the left mouse button. Then move the mouse pointer to the map (the mouse pointer should turn into a crosshair with a black dot containing a white "i" next to it). Then position the crosshair over the element of interest (commonly a road) and click the left mouse button. A dialog box titled "Identify Results" should open. This dialog box contains the information about the feature selected. For a road, one of the bits of information will be the road name, for municipal roads this is listed in the STREET field and for primary roads this is listed in the St_rte field. Secondary roads have no listing at this time.

Once the area has been sufficiently detailed and verified, the next step is to select the node(s) of interest. To do this, an area selection tool is utilized. To select the area selection tool, move the mouse pointer up to the buttons and then move the pointer over the button containing the empty rectangle  (commonly this button is immediately to the left of the zoom in button) and click the left mouse button. Then move the mouse pointer to the map and draw a rectangle around the desired node(s). To draw the rectangle, place the mouse pointer to the appropriate location, click and hold down the left mouse button, draw the rectangle, and release the left mouse button. The nodes within the region, in addition to the linework (the roads, rivers, rail, etc.) should change color to red if they are not already red. Additionally, multiple rectangles may be drawn by holding down the "shift" key on the keyboard. Once the nodes are selected, a node-based request may be done.

To request information about node-based accidents, move the mouse pointer over the Request Menu and click the left mouse button. Then move the mouse pointer over the Run Location menu option and click the left mouse button. A dialog box titled "Run Location" should open. A box below the phrase "Choose a type of location:" should contain the phrase "Node_Request_(Crashes_at_Nodes)" and the box should have a downward pointing arrow on the right side. For a node-related accident request, moving the mouse pointer to the OK button and clicking the left mouse button is sufficient. For other types of node-based requests, move the mouse pointer over the arrow on the right side of the box below the phrase "Choose a type of location:" and click the left mouse button. Then place the mouse pointer over the choice desired and click the left mouse button. The desired option should now appear in the box. Then move the mouse pointer to the OK button and click the left mouse button. The Node Request, the Intersection Node Request, and the Link Between Nodes options will work on the search immediately; the String of Nodes option is not currently functional; and the Mile Pointed Request and Mile Posted Request options will request additional information. Explanations of the various options follow:

- Node-related Accidents Request

A Node-related accidents request searches for and reports on only those accidents that happened at the node selected. Nodes can be intersections, bridges, points where a road curves, railroad crossings, overpasses, grade separations, etc. Basically, all nodes shown on the map have node-related accidents that occur at them, but they might also contain intersection-related accidents.

- Intersection-related Accidents Request

An Intersection-related accidents request searches for and reports on those accidents that happened at the node selected as well as the accidents that were marked as intersection-related even if they occurred on a link. Intersections are only road-to-road intersections.

- Link-related Accidents Request

A Link-related accidents request searches for and reports on those accidents that happened at the end nodes of the link as well as those that happened on the link. To perform a link-related accidents request, two (only two) end nodes must be specified.

- String of Nodes Accidents Request

The String of Nodes accidents request currently does not function.

- Mile Pointed Accidents Request

The Mile Pointed accidents request searches for and reports on those accidents that happened between a set of mile points on a specific roadway in a specific direction. Mile points are only on the primary system and indicate the distance along a roadway from the southern and western borders of a county.

When performing a mile pointed request, the first dialog box that should appear is titled "Direction of Travel". To select one of the options, move the mouse pointer over the desired selection and click the left mouse button. Then move the mouse pointer over the OK button and click the left mouse button. The next dialog box that should appear is titled "Route Number". To enter the route number, simply enter the number of the route desired, preceded by a zero if the route number is only two digits long. Then move the mouse pointer to the OK button and click the left mouse button. The next dialog box that should appear is titled "Beginning MilePoint". Enter the beginning mile point desired, with implied two decimal points (i.e., mile point 10.50 is entered as 1050). Then move the mouse pointer to the OK button and click the left mouse button. The next dialog box that should appear is titled "Ending MilePoint". Enter the ending mile point desired in a fashion similar to that of the beginning mile point.

- Mile Posted Accidents Request

The Mile Posted accidents request searches for and reports on those accidents that happened between a set of mile posts on a specific roadway in a specific direction. Mile posts are only on the primary system and indicate the distance along a roadway from the southern and western borders of the state.

When performing a mile pointed request, the first dialog box that should appear is titled "Direction of Travel". To select one of the options, move the mouse pointer over the desired selection and click the left mouse button. Then move the mouse pointer over the OK button and click the left mouse button. The next dialog box that should appear is titled "Route Number". To enter the route number, simply enter the number of the route desired, preceded by a zero if the route number is only two digits long. Then move the mouse pointer to the OK button and click the left mouse button. The next dialog box that should appear is titled "Beginning MilePost". Enter the beginning mile post desired, with implied two decimal points (i.e., mile post 10.50 is entered as 1050). Then move the mouse pointer to the OK button and click the left mouse button. The next dialog box that should appear is titled "Ending MilePost". Enter the ending mile post desired in a fashion similar to that of the beginning mile post.

B. Actual Accident Locations-Based

Currently the Actual Accident Locations-Based location specification is not fully functional. However, some activities may still be performed.

To activate the Actual Accident Locations-Based location specification, such that it is, choose Actual Accident Locations instead of Nodes during that phase of the map viewing sequence. When the map

finishes drawing, the actual accident locations will be visible and the nodes will not be visible. These actual accident locations will be marked on the map as dots.

To retrieve information about specific accidents, the information tool (the button containing the black dot with the white "i" inside it) may again be used. Also, the zoom in tool (the button containing the magnifying glass with the plus sign) may be used to view the region of interest in more detail.

With the information tool selected, placing the mouse pointer on an accident location and clicking the left mouse button should result in a dialog box titled "Identify Results" to appear. Information about any accident that occurred at that location and information about the roadways and other features that are also at that location should be listed along the left side of the dialog box. The item in the list that is highlighted should have its detailed information displayed along the right side of the box. The dialog box may be resized in the same fashion that the view window may be resized. Also, other features may be selected to have their detailed information displayed by moving the mouse pointer over their location and clicking the left mouse button.

Currently only the "A Record" (the general information about the accident) information will be displayed by using the information tool. To obtain the "B Record" (the driver and vehicle information related to an accident) and the "C Record" (the injured person information related to an accident) information involves setting those layers "active". To do this, note the list along the left side of the view window. The items in the list are what are known as layers. Note that some of those items (layers) in the list have a check box with a check in them. These layers are visible. Also, note that some of those items (layers) in the list are highlighted. These layers are active. The information tool only provides information for those layers that are active. To set a layer active, without setting any other layers inactive (thereby making it so no information will come from those layers when using the information tool), depress and hold down the "shift" key on the keyboard, move the mouse pointer over to the layer to be set active, and click on the left mouse button. The layer should now be outlined as well. Information about that layer will be displayed in the "Identify Results" dialog box when appropriate. Once again looking at the list of layers, note that some of the layers are identified as "C Rec."s, "B Rec."s, and "A Rec."s at the end of their titles. These are the "C Records", "B Records", and "A Records", respectively. Prior to the record specifying portion of their name comes first the county number and then the year (shown in two digits).

III. Parameter Refinement/Specification

Once the location desired has been selected and preliminary results have been obtained, more detailed parameter specifications may be made. These parameter specifications can be refined using the Refine Search option under the Search menu. To select the Refine Search option, first move the mouse pointer to the Search menu and click the left mouse button. Then move the mouse pointer to the Refine Search option and click the left mouse button. A dialog box titled "Refinement Parameter Type Selection" should appear. This dialog box should contain a list of options, including: Accident Information, Vehicle Information, Driver Information, Injured Records, Combination Requests, Miscellaneous, and Node/Link Information. Of these, only the first four currently function and they will be detailed below. To select one of these types, move the mouse pointer over the parameter type in the list that is desired and click the left mouse button. Multiple types of parameters may be selected (e.g., both Accident Information and Vehicle Information). To unselect a parameter type, move the mouse pointer over that parameter type and click the left mouse button. The parameter types are selected when highlighted and unselected when not highlighted. Once all parameter types desired have been selected, move the mouse pointer to the OK button and click the left mouse button. Following this the particular parameter type windows should open, in succession if multiple parameter types were selected (i.e., The Accident Information parameters dialog box should open if it were selected. If both the Accident Information and the Vehicle Information parameter types were selected, first the Accident Information dialog box would open then, when the OK button is clicked, the Vehicle Information dialog box would open.) Within each parameter types dialog box, selections can be made in a fashion similar to the way selections were made in the "Refinement Parameter Type Selection" dialog box. Once again note that the options can be scrolled through using the arrows at the right of the list box.

Also, with each of these dialog boxes, note that if no options are selected when the OK button is clicked, the program will request that either an option is selected or the cancel button is clicked instead. And, if you cancel one of the parameter type dialog boxes, the others will still appear.

If the query logic has not yet been specified, a dialog box will appear requesting the logic with which the queries should be done. The choices are "and" or "or". "And" logic will provide only those accidents that meet all the parameters specified. "Or" logic will provide those accidents meeting any of the parameters specified.

Once all of the parameter types have been selected and run through, the program will select the data fitting the parameters selected for the specified time period, create new layers which contain the data for the parameters specified, and provide a total number of crashes fitting those parameters. This step may take a few minutes, depending on the number of accidents found at the location(s) specified. Once the parameter search is completed, reports may be generated for the selected information.

NOTE: When beginning another parameter search, it is important to distinguish between two types of further parameter searches: refinement of the current parameter search and beginning a new parameter search. If further refinement of the current parameter search is desired, only the additional parameters (i.e., those beyond the original parameters specified) need be specified. If a new set of parameters is to be selected, first go back to the Request option and redo the location specification operation. This will provide the original set of accidents at the location(s) specified.

Following is a list of the parameters specifications under each parameter type (detailed information about the values for these for performing unstructured queries is in the appendix):

- A. Accident Information
 - Accident Severities
 - Fatal
 - Non-Fatal Injury
 - Property Damage Only
 - Day of Week
 - Sunday
 - Monday
 - Tuesday
 - Wednesday
 - Thursday
 - Friday
 - Saturday
 - Time of Day
 - Beginning time of day
 - Ending time of day
 - Road Class
 - Interstate
 - US or State Highway
 - County Road
 - City Street
 - Other
 - Unknown
 - Type of Accident
 - Non-collision accidents
 - Overturned in Roadway
 - Jackknifed
 - Carbon Monoxide
 - Fire/Explosion
 - Immersion

- Other
- Collision accidents
 - Pedestrian
 - Vehicle in Traffic
 - Motorcycle in Traffic
 - Vehicle in Other Roadway
 - Parked Vehicle
 - Train
 - Pedacycle
 - Animal
 - Fixed Object
 - Other Object
- Number of Vehicles
 - Single Vehicle
 - Double Vehicle
 - More than Two
- Collision Type
 - Head-On
 - Broadside/Left Turn
 - Rear End
 - Rear End/Right Turn
 - Rear End/Left Turn
 - Sideswipe/Opposite Direction
 - Sideswipe/Same Direction
 - Sideswipe/Right Turn
 - Sideswipe/Left Turn
 - Sideswipe/Dual Left Turn
 - Sideswipe/Dual Right Turn
 - Broadside/Right Angle
 - Broadside/Right Entering
 - Broadside/Left Entering
 - Head-On/Left Entering
 - Sideswipe/Both Left Turning
 - Other
 - Single
 - Pedestrian
 - Bicycle
- Intersection Class
 - Non-Intersection
 - Interstate/Interstate
 - Interstate/US or State Highway
 - Interstate/City or County Road
 - US or State Highway/US or State Highway
 - US or State Highway/City or County Road
 - US or State Highway/Other
 - City of County Road/City or County Road
 - City of County Road/Other
 - Other/Unknown
- Route Number

- Enter route number (three digits). If route number is less than three digits, enter preceding zeroes (e.g., 35 would be entered as 035)
- B. Vehicle Information
- Type of Vehicle
 - Passenger Car
 - Car/Trailer
 - Panel Truck
 - Pickup Truck
 - Pickup/Trailer
 - Pickup/Camper
 - Straight Truck
 - Truck Tractor
 - Truck Tractor/Semi
 - Double Bottom Truck
 - Tow Truck/Wrecker
 - Motor Home
 - Bus
 - School Bus
 - Farm Vehicle/Equipment
 - Motorcycle
 - Bicycle, Etc.
 - Recreation Vehicle
 - Maintenance/Construction Vehicle
 - Train
 - Other (Describe)
 - Moped
 - Multipurpose Vehicle
 - Unknown
 - Roadway/Environment
 - None Apparent
 - Weather Conditions
 - Surface Conditions
 - Roadway Defect
 - Pedestrian Action
 - Pedestrian Drinking
 - Previous Accident
 - Animal in Roadway
 - Frost Covered Bridge
 - Traffic Control
 - Non-Contact Vehicle
 - Road Under Construction
 - Other
 - Unknown
 - Traffic Controls
 - No Controls Present
 - Traffic Signals
 - Stop Signs
 - Yield Signs
 - Warning Signs
 - School Signs

- No Passing Zone (Marked)
- School Stop Sign
- Stop Arm on School Bus
- Railroad Warning Sign
- Railroad Automatic Signal
- Railroad Crossing Gate
- Peace Officer
- Other Traffic Director
- Other Control
- Control Not Functional/Not In Place
- Fixed Object Struck
 - None
 - Bridge/Overpass
 - Underpass or Bridge Support
 - Building
 - Culvert
 - Curb
 - Ditch
 - Island/Raised Median
 - Embankment/Retaining Wall
 - Fence
 - Guardrail
 - Light Pole
 - Sign Post
 - Tree/Shrub
 - Utility Pole
 - Other Pole/Support
 - Mailbox
 - Impact Attenuator
 - Other
 - Unknown
- Special Use Vehicles
 - None
 - Police
 - Fire
 - Taxi
 - Government
 - Ambulance
 - Towing
 - Driver Training
 - Other
 - Unknown
- Vehicle Attachment
 - None
 - Single Trailer
 - Double Trailer
 - Semi
 - Farm
 - Utility
 - Camping

- Boat Trailer
- Mobile Home
- Mobile Home (Oversized)
- Oversized Load
- Towed Vehicle
- Other
- Unknown
- Speed Limit
 - Unknown
 - 5 mph
 - 10 mph
 - 15 mph
 - 20 mph
 - 25 mph
 - 30 mph
 - 35 mph
 - 40 mph
 - 45 mph
 - 50 mph
 - 55 mph
 - 60 mph
 - 65 mph
- Vehicle Action
 - Going Straight
 - Turning Left
 - Turning Right
 - Making U-turn
 - Passing
 - Changing Lanes
 - Merging
 - Parking
 - Slowing/Stopping
 - Backing
 - Stopped for Sign/Signal
 - Stopped in Traffic Lane
 - Stalled in Traffic Lane
 - Properly Parked
 - Improperly Parked
 - Other
 - Unattended Moving Vehicle
 - Unknown
- C. Driver Information (**options in bold incomplete**)
 - Age of Driver
 - Youngest age
 - Oldest age
 - Sex of Driver
 - Male
 - Female
 - Not Stated
 - **License Restrictions (incomplete)**

- None
- Corrective Lenses
- Left Outside Mirror
- Not When Headlights are Required
- Chauffeur - No Semitrailer Combination
- Automatic Transmission
- Chauffeur - Not Exceeding 5 Tons GW
- Operator & Chauffeur School Bus Only
- Valid for Motorcycle
- See Restrictions Supplement
- S.R. Only
- I.D. Only
- Restrictions Complied With
 - Yes
 - No
 - Unknown
- Driver Charged
 - Yes
 - No
 - Not Stated
- Sobriety Test Results
 - Low end BAC
 - High end BAC
- Condition of Driver
 - Apparently Normal
 - Physical Defect
 - Fatigued
 - Apparently asleep
 - Ill
 - Under Medication
 - Infirmities of Age
 - Drinking (Not Impaired)
 - Drinking (Impaired)
 - Drugs
 - Other
 - Unknown
- **Driver/Vehicle Contributing Circumstances (incomplete)**
 - None Apparent
 - Ran Traffic Signal
 - Ran Stop Sign
 - Passed Stopped School Bus
 - Passing Where Prohibited
 - Passing Interfered With Other Vehicle
 - Left of Centerline (Not Passing)
 - FTYROW At Uncontrolled Intersection
 - FTYROW From Stop Sign
 - FTYROW From Yield Sign
 - FTYROW Making Left Turn
 - FTYROW From Driveway
 - FTYROW From Parked Position

- FTYROW To Pedestrian
- FTYROW Other
- Wrong Way On One Way Road
- Speed Too Fast For Conditions
- Exceeding Speed Limit
- Drag Racing
- Improper Turn
- Improper Lane Change
- Following Too Close
- No Signal/Improper Signal
- Disregarded Railroad Signal
- Disregarded Warning Sign
- Reckless Driving
- Improper Backing
- Illegal/Improper Parking
- Failure To Have Control
- Headlights Not On
- Inattentive/Distracted
- Driver Confused
- Vision Obscured
- Oversized Vehicle
- Overloaded With Passengers/Cargo
- Inexperienced Driver
- Other
- Unknown

D. Injury Information

- Age Range
 - Low age
 - High age
- Protective Device
 - None
 - Lap Belt Use
 - Lap and Shoulder
 - Airbag Deployed
 - Child Restraint
 - Motorcycle Helmet
 - Passive Belt
 - Other
 - Unknown
- Pedestrian Sobriety
 - Had Been Drinking
 - Drinking (Not Impaired)
 - Drinking (Impaired)
 - Drugs
 - Unknown
- Injured Severity
 - Fatal
 - Major (Incapacitating)
 - Minor (Bruises and Abrasions)
 - Possible (Complaint of Pain)

- Unknown
- Pedestrian Action
 - Crossing Against Signal
 - Crossing, Not At Crosswalk
 - Walking, Improper Position On Roadway
 - Soliciting Rides On Roadway
 - Walking With Traffic
 - Walking Against Traffic
 - Crossing With Signal
 - Crossing in Crosswalk
 - Onto Road Between Parked Cars
 - Ran Onto Roadway
 - Directing Traffic
 - Playing
 - Lying or Sitting on Roadway
 - Pushing or Working on Vehicle
 - Getting On or Off Vehicle
 - Maintenance/Construction Project
 - Walking Off Roadway
 - Unknown
- Position Of Injured
 - Front Seat Driver Side - (1)
 - Front Seat Middle - (2)
 - Front Seat Passenger Side - (3)
 - Back Seat Driver Side - (4)
 - Back Seat Middle - (5)
 - Back Seat Passenger Side - (6)
 - Third Seat Driver Side - (7)
 - Third Seat Middle - (8)
 - Third Seat Passenger Side - (9)
 - Motorcycle/Moped Driver
 - Motorcycle/Moped Passenger
 - Bus Passenger
 - Bicyclist
 - Pedestrian
 - Riding on Exterior
 - Other
 - Unknown

IV. Reports

Once the accidents have been selected, whether or not refinements have been made, reports may be generated. By moving the mouse pointer to the Reports menu and clicking the left mouse button and then moving the mouse pointer to either the Engineering or Enforcement option and clicking, a report should be generated. The report should appear in the form of tables which are listed in the window titled "av_alas.apr". To view each portion of the report generated, move the mouse pointer over the portion desired and click the left mouse button twice in quick succession. A table should appear containing the information pertinent to that portion of the report. To remove the table from view, move the mouse pointer to the upper right portion of the window over the box with an X in it and click the left mouse button. The window should disappear.

Currently, the Engineering and Enforcement options produce the same reports. In the future, they will differ as per the differences in PC-ALAS. The portions of the report that currently function are the Parameter Sheet and the Summary Sheet. The other portions of the report will be completed as well.

V. Defaults

The defaults allow the user to set options during the current working session. To set a default, move the mouse pointer to the Defaults menu and click the left mouse button. After that, move the mouse pointer to the desired default item and click the left mouse button. Specifics about each option follow:

A. Report

The report option currently does not function.

B. Location

The location option allows the user to select or change the region of interest.

C. Directory

The directory option allows the user to select or change the default root and default directories.

D. Date

The date option allows the user to select or change the date(s) of interest.

VI. Help

The help option currently does not function.

APPENDIX C

Developer's Guide (ArcView-ALAS)

The developer's guide to ArcView-ALAS provides information about the customization of ArcView to produce the ArcView-ALAS product. Avenue, ArcView's customization language, was used to duplicate the functionality of PC-ALAS.

information about the menu or option selected. Menu information includes: Disabled, Help, Help Topic, Invisible, Label, Tag, Update. Option information includes: Click, Disabled, Help, Help Topic, Invisible, Label, Shortcut, Tag, Update. To change any one of these, move the mouse pointer over it and double click the left mouse button. The only options that have been set within AV_ALAS are the Label and Click options. More information about changing menu options is contained within the ArcView documentation.

Directory Structure

The directory structure of AV_ALAS contains a number of directories and files that are required for operation and some that, currently, are not required. Those directories that are required are the main directory, “_gisalas/”, the subdirectory “_gisalas/_maps/”, the subdirectory “_gisalas/_maps/_county/” and all of the county directories below that, the subdirectory “_gisalas/_query/”, the subdirectory “_gisalas/_reports”, the subdirectory “_gisalas/_reports/_template/”. The other directories can be deleted if desired, though future versions may require them.

In the future, not all the county directories under “_gisalas/_maps/_county/” will be required, however they are currently required since if someone chooses a county that doesn’t have a directory, the program may cause an error. In addition, currently the county directories need to be spelled exactly as shown (i.e., Black Hawk county’s directory must be “_black_hawk”, with the underscores.). In fact, this is true of all of the directories in the directory structure. The most obvious problem this causes is that machines that don’t have Windows or NT operating systems can not have long directory or file names. However, it is anticipated that anyone using this system will have one of these two operating systems. In addition, the code can be readily changed to accommodate operating systems that do not support long file names.

In addition, certain files are required. The most important of these files is the ArcView project file containing the scripts and menus for the program, “_gisalas/av_alas.apr”. If this file is deleted, the program has been deleted and another copy must be obtained or copied into its place. Also, the data files for all counties must be contained within their respective “_gisalas/_maps/_county/” county subdirectory. If not, the program will not be able to locate the data files and bring them open. In addition, the files under the “_gisalas/_reports/_template/” directory must be there. Other files will be created by the program as it is run, but are not required and may be deleted without harming the program.

The directory structure is listed below:

```
_gisalas/  
  av_alas.apr  
  _exelib/  
  _maps/  
    _county/  
      _adair/  
      _adams/  
      _allamakee/  
      _appanoose/  
      _audobon/  
      _benton/  
      _black_hawk/  
      _boone/  
      _bremer/  
      _buchanan/  
      _buena_vista/  
      _butler/  
      _calhoun/  
      _carroll/  
      _cass/  
      _cedar/  
      _cerro_gordo/
```

_cherokee/
_chickasaw/
_clarke/
_clay/
_clayton/
_clinton/
_crawford/
_dallas/
_davis/
_decatur/
_delaware/
_des_moines/
_dickinson/
_dubuque/
_emmet/
_fayette/
_floyd/
_franklin/
_fremont/
_greene/
_grundy/
_guthrie/
_hamilton/
_hancock/
_hardin/
_harrison/
_henry/
_howard/
_humboldt/
_ida/
_iowa/
_jackson/
_jasper/
_jefferson/
_johnson/
_jones/
_keokuk/
_kossuth/
_lee/
_linn/
_louisa/
_lucas/
_lyon/
_madison/
_mahaska/
_marion/
_marshall/
_mills/
_mitchell/
_monona/
_monroe/
_montgomery/
_muscatine/
_o'brien/

- _osceola/
 - _page/
 - _palo_alto/
 - _plymouth/
 - _pocahontas/
 - _polk/
 - _pottawattamie/
 - _poweshiek/
 - _ringgold/
 - _sac/
 - _scott/
 - _shelby/
 - _sioux/
 - _story/
 - _tama/
 - _taylor/
 - _union/
 - _van_buren/
 - _wapello/
 - _warren/
 - _washington/
 - _wayne/
 - _webster/
 - _winnebago/
 - _winneshek/
 - _woodbury/
 - _worth/
 - _wright/
- _itc/
- _rpa/
- _statewide/
- _query/
- _reports/
 - _templat/
 - _safety/
 - fixobj1.dbf
 - param.dbf
 - summary1.dbf
 - summary2.dbf
 - summary3.dbf
 - summary4.dbf
- _sourcelib/
- _userlib/
 - _beats/
 - _city/
 - _datasets/
 - _defaults/
 - _reports/

Script Names with Script Ties

A listing of the scripts within the AV-ALAS project follows. Within this listing an explanation of the function of each script is detailed. Additionally, each script listed will have the scripts that “call” it identified, as well as the scripts that are “called” by it. Following this,

the scripts in their entirety, with documentation, are listed. It should be noted that the scripts need to retain these names, unless every script calling the script has its call line changed as well. Also, the script code is listed in another document. **NOTE:** Those scripts in bold are currently not functional.

- **_gisalas.Default.DatePeriod**
Function: Sets the default date period. Requests a beginning date and an ending date in the form “MM/DD/YYYY”.
Called by: **_gisalas.Default.Region**
Calls: **_gisalas.Default.Region**

- **_gisalas.Default.Directories**
Function: Sets the default root directory and the default program directory. Requests entry of the default directory and the default program directory.
Called by: **_gisalas.Default.Region**
Calls: none

- **_gisalas.Default.Region**
Function: Sets the default region. Requests selection of the default region from a series of lists.
Called by: **_gisalas.Map.View, _gisalas.Default.DatePeriod**
Calls: **_gisalas.Default.DatePeriod**

- **_gisalas.Map.View**
Function: Opens a view for the default region containing the map layers for the default region. These map layers include: Secondary Roads, Rail, Primary Roads, Municipal Roads, Hydrology, ALAS Nodes, and the A, B, and C Record files for the years specified by the default date period.
Called by: Menu option **A**LAS File/View **M**ap
Calls: **_gisalas.Default.Region**

- **_gisalas.Parameters.AccidentInformation**
Function: Opens a dialog box for the user to specify which Accident Information parameters they are interested in.
Called by: **_gisalas.Parameters.Refinement.Main**
Calls: none

- **_gisalas.Parameters.AccidentInformation.AccidentSeverity**
Function: Searches the “Severity_c” field of the A Records for the accident severities chosen in the **_gisalas.Parameters.AccidentInformation** script.
Called by: **_gisalas.Parameters.Search**
Calls: none

- **_gisalas.Parameters.AccidentInformation.CollisionType**
Function: Searches the “Collision_” field of the A Records for the collision types chosen in the **_gisalas.Parameters.AccidentInformation** script.
Called by: **_gisalas.Parameters.Search**
Calls: none

- `_gisalas.Parameters.AccidentInformation.DayOfWeek`
 Function: Searches the “Day_of_wee” field of the A Records for the days of the week chosen in the `_gisalas.Parameters.AccidentInformation` script.
 Called by: `_gisalas.Parameters.Search`
 Calls: none
- `_gisalas.Parameters.AccidentInformation.IntersectionClass`
 Function: Searches the “Int_class” field of the A Records for the intersection classes chosen in the `_gisalas.Parameters.AccidentInformation` script.
 Called by: `_gisalas.Parameters.Search`
 Calls: none
- `_gisalas.Parameters.AccidentInformation.NumberOfVehicles`
 Function: Searches the “Total_vehi” field of the A Records for the number of vehicles chosen in the `_gisalas.Parameters.AccidentInformation` script.
 Called by: `_gisalas.Parameters.Search`
 Calls: none
- `_gisalas.Parameters.AccidentInformation.RoadClass`
 Function: Searches the “Road_class” field of the A Records for the road classes chosen in the `_gisalas.Parameters.AccidentInformation` script.
 Called by: `_gisalas.Parameters.Search`
 Calls: none
- `_gisalas.Parameters.AccidentInformation.RouteNumber`
 Function: Searches the “Route” field of the A Records for the route chosen in the `_gisalas.Parameters.AccidentInformation` script.
 Called by: `_gisalas.Parameters.Search`
 Calls: none
- `_gisalas.Parameters.AccidentInformation.TimeOfDay`
 Function: Searches the “Military_t” field of the A Records for the times chosen in the `_gisalas.Parameters.AccidentInformation` script.
 Called by: `_gisalas.Parameters.Search`
 Calls: none
- `_gisalas.Parameters.AccidentInformation.TypeOfAccident`
 Function: Searches the “Accident_t” field of the A Records for the accident types chosen in the `_gisalas.Parameters.AccidentInformation` script.
 Called by: `_gisalas.Parameters.Search`
 Calls: none
- `_gisalas.Parameters.DriverInformation`
 Function: Opens a dialog box for the user to specify which Driver Information parameters they are interested in.
 Called by: `_gisalas.Paramters.Refinement.Main`
 Calls: none
- `_gisalas.Parameters.DriverInformation.AgeOfDriver`
 Function: Searches the “Driver_age” field of the B Records for the driver ages

chosen in the `_gisalas.Parameters.DriverInformation` script.

Called by: `_gisalas.Parameters.Search`

Calls: none

- `_gisalas.Parameters.DriverInformation.ConditionOfDriver`

Function: Searches the “Drive_cond” field of the B Records for the driver conditions chosen in the `_gisalas.Parameters.DriverInformation` script.

Called by: `_gisalas.Parameters.Search`

Calls: none

- **`_gisalas.Parameters.DriverInformation.Dri/VehContributingCirc`**

Function: Currently non-functional.

Called by: `_gisalas.Parameters.Search`

Calls: none

- `_gisalas.Parameters.DriverInformation.DriverCharged`

Function: Searches the “Driver_cha” field of the B Records for the driver charged conditions chosen in the `_gisalas.Parameters.DriverInformation` script.

Called by: `_gisalas.Parameters.Search`

Calls: none

- **`_gisalas.Parameters.DriverInformation.LicenseRestrictions`**

Function: Currently non-functional.

Called by: `_gisalas.Parameters.Search`

Calls: none

- `_gisalas.Parameters.DriverInformation.RestrictionsCompliedWith`

Function: Searches the “Restrictio” field of the B Records for the restrictions complied with conditions chosen in the `_gisalas.Parameters.DriverInformation` script.

Called by: `_gisalas.Parameters.Search`

Calls: none

- `_gisalas.Parameters.DriverInformation.SexOfDriver`

Function: Searches the “Driver_sex” field of the B Records for the driver genders chosen in the `_gisalas.Parameters.DriverInformation` script.

Called by: `_gisalas.Parameters.Search`

Calls: none

- `_gisalas.Parameters.DriverInformation.SobrietyTestResults`

Function: Searches the “Sobriety_r” field of the B Records for the sobriety test results chosen in the `_gisalas.Parameters.DriverInformation` script.

Called by: `_gisalas.Parameters.Search`

Calls: none

- `_gisalas.Parameters.InjuredRecord`

Function: Opens a dialog box for the user to specify which Injured Record parameters they are interested in.

Called by: `_gisalas.Parameters.Refinement.Main`

Calls: none

- `_gisalas.Parameters.InjuredRecord.AgeRange`

Function: Searches the “Age1”, “Age2”, and “Age3” fields of the C Records for

the ages chosen in the `_gisalas.Parameters.InjuredRecord` script.

Called by: `_gisalas.Parameters.Search`

Calls: none

- `_gisalas.Parameters.InjuredRecord.InjurySeverity`

Function: Searches the “Inj_sev1”, “Inj_sev2”, and “Inj_sev3” fields of the C Records for the injury severities chosen in the `_gisalas.Parameters.InjuredRecord` script.

Called by: `_gisalas.Parameters.Search`

Calls: none

- `_gisalas.Parameters.InjuredRecord.PedestrianAction`

Function: Searches the “Ped_act1”, “Ped_act2”, and “Ped_act3” fields of the C Records for the pedestrian actions chosen in the `_gisalas.Parameters.InjuredRecord` script.

Called by: `_gisalas.Parameters.Search`

Calls: none

- `_gisalas.Parameters.InjuredRecord.PedestrianSobriety`

Function: Searches the “Sobriety1”, “Sobriety2”, and “Sobriety3” fields of the C Records for the pedestrian sobrieties chosen in the `_gisalas.Parameters.InjuredRecord` script.

Called by: `_gisalas.Parameters.Search`

Calls: none

- `_gisalas.Parameters.InjuredRecord.PositionOfInjured`

Function: Searches the “Inj_pos1”, “Inj_pos2”, and “Inj_pos3” fields of the C Records for the positions of injured persons chosen in the `_gisalas.Parameters.InjuredRecord` script.

Called by: `_gisalas.Parameters.Search`

Calls: none

- `_gisalas.Parameters.InjuredRecord.ProtectiveDevice`

Function: Searches the “Prot_dev1”, “Prot_dev2”, and “Prot_dev3” fields of the C Records for the positions of injured persons chosen in the `_gisalas.Parameters.InjuredRecord` script.

Called by: `_gisalas.Parameters.Search`

Calls: none

- `_gisalas.Parameters.Refinement.Main`

Function: Opens a dialog box for the user to specify which parameter types they are interested in. Once the parameter types of interest have been chosen, the individual parameter specification scripts are run. Once all parameters have been specified, the `_gisalas.Parameters.Search` script is run.

Called by: Menu option Search/Refine Search

Calls: `_gisalas.Parameters.AccidentInformation`
`_gisalas.Parameters.CombinationRequests`
`_gisalas.Parameters.DriverInformation`
`_gisalas.Parameters.InjuredRecord`
`_gisalas.Parameters.Miscellaneous`
`_gisalas.Parameters.VehicleInformation`
`_gisalas.Parameters.Search`

- `_gisalas.Parameters.Search`

Function: Calls all of the search scripts that have been selected through the `_gisalas.Parameters.Refinement.Main` script. Compiles the results of the various searches, prepares tables and adds them to the view, and displays the total number of accidents fitting the parameters selected. Also, while preparing the tables, the script captures all records in the A, B, and C Records related to the selected records by the “Crash_key” field in each record type.

Called by: `_gisalas.Parameters.Refinement.Main`

Calls:

- `_gisalas.Parameters.AccidentInformation.AccidentSeverity`
- `_gisalas.Parameters.AccidentInformation.CollisionType`
- `_gisalas.Parameters.AccidentInformation.DayOfWeek`
- `_gisalas.Parameters.AccidentInformation.IntersectionClass`
- `_gisalas.Parameters.AccidentInformation.NumberOfVehicles`
- `_gisalas.Parameters.AccidentInformation.RoadClass`
- `_gisalas.Parameters.AccidentInformation.RouteNumber`
- `_gisalas.Parameters.AccidentInformation.TimeOfDay`
- `_gisalas.Parameters.AccidentInformation.TypeOfAccident`
- `_gisalas.Parameters.CombinationRequest.AlcoholRelated`**
- `_gisalas.Parameters.CombinationRequest.FixedObjectRelated`**
- `_gisalas.Parameters.CombinationRequest.MotorcycleRelated`**
- `_gisalas.Parameters.CombinationRequest.PedacycleRelated`**
- `_gisalas.Parameters.CombinationRequest.TrainRelated`**
- `_gisalas.Parameters.DriverInformation.AgeOfDriver`
- `_gisalas.Parameters.DriverInformation.ConditionOfDriver`
- `_gisalas.Parameters.DriverInformation.Dri/VehContributingCirc`
- `_gisalas.Parameters.DriverInformation.DriverCharged`
- `_gisalas.Parameters.DriverInformation.LicenseRestrictions`
- `_gisalas.Parameters.DriverInformation.RestrictionsCompliedWith`
- `_gisalas.Parameters.DriverInformation.SexOfDriver`
- `_gisalas.Parameters.DriverInformation.SobrietyTestResults`
- `_gisalas.Parameters.InjuredRecord.AgeRange`
- `_gisalas.Parameters.InjuredRecord.InjurySeverity`
- `_gisalas.Parameters.InjuredRecord.PedestrianAction`
- `_gisalas.Parameters.InjuredRecord.PedestrianSobriety`
- `_gisalas.Parameters.InjuredRecord.PositionOfInjured`
- `_gisalas.Parameters.InjuredRecord.ProtectiveDevice`
- `_gisalas.Parameters.MiscellaneousInformation.CharacterOfRoadway`**
- `_gisalas.Parameters.MiscellaneousInformation.LightConditions`**
- `_gisalas.Parameters.MiscellaneousInformation.Locality`**
- `_gisalas.Parameters.MiscellaneousInformation.LocationOfAccidents`**
- `_gisalas.Parameters.MiscellaneousInformation.SpecialPeriods`**
- `_gisalas.Parameters.MiscellaneousInformation.SurfaceConditions`**
- `_gisalas.Parameters.MiscellaneousInformation.Weather`**
- `_gisalas.Parameters.VehicleInformation.FixedObjectStruck`
- `_gisalas.Parameters.VehicleInformation.Roadway/Environment`
- `_gisalas.Parameters.VehicleInformation.SpecialUseVehicle`
- `_gisalas.Parameters.VehicleInformation.SpeedLimit`
- `_gisalas.Parameters.VehicleInformation.TrafficControls`
- `_gisalas.Parameters.VehicleInformation.TypeOfVehicle`
- `_gisalas.Parameters.VehicleInformation.VehicleAction`
- `_gisalas.Parameters.VehicleInformation.VehicleAttachment`

- `_gisalas.Parameters.SelectLogic`
 Function: Prompts user to select which search logic is preferred. The choices are “and” or “or”. “And” logic chooses only those records that meet all parameter specifications. “Or” logic choose all records that meet any of the parameter specifications.
 Called by: `_gisalas.Parameters.Search`
 Calls: none
- `_gisalas.Parameters.VehicleInformation`
 Function: Opens a dialog box for the user to specify which Vehicle Information parameters they are interested in.
 Called by: `_gisalas.Parameters.Refinement.Main`
 Calls: none
- `_gisalas.Parameters.VehicleInformation.FixedObjectStruck`
 Function: Searches the “Fix_obj_st” field of the B Records for the fixed objects chosen in the `_gisalas.Parameters.VehicleInformation` script.
 Called by: `_gisalas.Parameters.Search`
 Calls: none
- `_gisalas.Parameters.VehicleInformation.Roadway/Environment`
 Function: Searches the “Road_contr” field of the B Records for the roadway and environment contributing factors chosen in the `_gisalas.Parameters.VehicleInformation` script.
 Called by: `_gisalas.Parameters.Search`
 Calls: none
- `_gisalas.Parameters.VehicleInformation.SpecialUseVehicle`
 Function: Searches the “Special_us” field of the B Records for the special use vehicles chosen in the `_gisalas.Parameters.VehicleInformation` script.
 Called by: `_gisalas.Parameters.Search`
 Calls: none
- `_gisalas.Parameters.VehicleInformation.SpeedLimit`
 Function: Searches the “Speed_limi” field of the B Records for the speed limits chosen in the `_gisalas.Parameters.VehicleInformation` script.
 Called by: `_gisalas.Parameters.Search`
 Calls: none
- `_gisalas.Parameters.VehicleInformation.TrafficControls`
 Function: Searches the “Traffic_co” field of the B Records for the traffic controls chosen in the `_gisalas.Parameters.VehicleInformation` script.
 Called by: `_gisalas.Parameters.Search`
 Calls: none
- `_gisalas.Parameters.VehicleInformation.TypeOfVehicle`
 Function: Searches the “Vehicle_ty” field of the B Records for the vehicle types chosen in the `_gisalas.Parameters.VehicleInformation` script.
 Called by: `_gisalas.Parameters.Search`
 Calls: none
- `_gisalas.Parameters.VehicleInformation.VehicleAction`
 Function: Searches the “Vehicle_ac” field of the B Records for the vehicle actions chosen in the `_gisalas.Parameters.VehicleInformation` script.
 Called by: `_gisalas.Parameters.Search`

Calls: none

- `_gisalas.Parameters.VehicleInformation.VehicleAttachment`

Function: Searches the “Attachment” field of the B Records for the attachments chosen in the `_gisalas.Parameters.VehicleInformation` script.

Called by: `_gisalas.Parameters.Search`

Calls: none

- `_gisalas.Report.Enforcement`

Function: Generates the enforcement reports and adds them to the project under the tables heading.

Called by: Menu option Report/Enforcement Report

Calls: none

- `_gisalas.Report.Engineering`

Function: Generates the engineering reports and adds them to the project under the tables heading.

Called by: Menu option Report/Engineering Report

Calls: none

- `_gisalas.Request.RunLocation`

Function: Allows the user to select the selection type they are interested in.

Called by: Menu option Request/Run Location

Calls: `_gisalas.Request.RunLocation.IntersectionNode`

`_gisalas.Request.RunLocation.Link`

`_gisalas.Request.RunLocation.MilePointed`

`_gisalas.Request.RunLocation.MilePosted`

`_gisalas.Request.RunLocation.NodeString`

`_gisalas.Request.RunLocation.Node`

- `_gisalas.Request.RunLocation.IntersectionNode`

Function: In the case of a node-based location specification, searches the node file for those nodes that have been selected and uses the nodes selected to choose the A, B, and C records related to those nodes for the years specified, using the “Int_ID” field in the A Records and the “Crash_key” field in the A, B, and C Records to catch the B and C records associated with the A Records selected.

Called by: `_gisalas.Request.RunLocation`

Calls: none

- `_gisalas.Request.RunLocation.Link`

Function: In the case of a node-based location specification, searches the node file for those nodes that have been selected and uses the nodes selected to choose the A, B, and C records related to those nodes for the years specified, using the “Ref_Node” field and the “Dir_Node” field in the A Records and the “Crash_key” field in the A, B, and C Records to catch the B and C records associated with the A Records selected.

Called by: `_gisalas.Request.RunLocation`

Calls: none

- `_gisalas.Request.RunLocation.MilePointed`

Function: In the case of a node-based location specification, searches the the "Milepoint" field in the A Records and the "Crash_key" field in the A, B, and C Records to catch the B and C records associated with the A Records selected.

Called by: `_gisalas.Request.RunLocation`

Calls: none

- `_gisalas.Request.RunLocation.MilePosted`

Function: In the case of a node-based location specification, searches the the "Milepost" field in the A Records and the "Crash_key" field in the A, B, and C Records to catch the B and C records associated with the A Records selected.

Called by: `_gisalas.Request.RunLocation`

Calls: none

- `_gisalas.Request.RunLocation.Node`

Function: In the case of a node-based location specification, searches the node file for those nodes that have been selected and uses the nodes selected to choose the A, B, and C records related to those nodes for the years specified, using the "Ref_Node" field in the A Records and the "Crash_key" field in the A, B, and C Records to catch the B and C records associated with the A Records selected.

Called by: `_gisalas.Request.RunLocation`

Calls: none

APPENDIX D

A Record (Accident Information) Database Documentation

These data are derived from the ALAS database file. Three types of files are used: accident information files, vehicle information files, and injury information files. This section contains documentation on the accident information.

This documentation provides definitions of the numbers that appear in the columns of the database. The Iowa Department of Transportation Data Processing Department provided the information to compile this listing.

Data Name	Actual Name	Values	What it means
Record_num	Record Number		1 No Significant Meaning
Severity_c	Severity Code		1 Fatal 2 Non-Fatal 3 Property Damage Only
Report_typ	Report Type		1 1977 Officer 2 1977 Driver 3 Pre-1977 Driver 4 1979 Officer 5 1979 Driver
Total_kill	Total Killed	Number Killed	
Total_inju	Total Injured	Number Injured	
Total_vehi	Total Vehicle	Number of Vehicles	
Property_d	Total Property damage	Dollar Amount	
Accident_d	Date of Accident	six digit number	mm-dd-yr
Day_of_wee	Day of Week		1 Sunday 2 Monday 3 Tuesday 4 Wednesday 5 Thursday 6 Friday 7 Saturday
Military_t	Time of Day	military hours	
Rural_urba	Rural/Urban Code		R Rural U Urban
County	County		1 Adair 2 Adams 3 Allamakee 4 Appanoose 5 Audubon 6 Benton 7 Black Hawk 8 Boone 9 Bremer 10 Buchanan 11 Buena Vista 12 Butler 13 Calhoun 14 Carroll 15 Cass 16 Cedar 17 Cerro Gordo 18 Cherokee 19 Chickasaw 20 Clarke 21 Clay 22 Clayton 23 Clinton 24 Crawford 25 Dallas 26 Davis 27 Decatur 28 Deleware

Data Name	Actual Name	Values	What it means
		29	Des Moines
		30	Dickinson
		31	Dubuque
		32	Emmet
		33	Fayette
		34	Floyd
		35	Franklin
		36	Fremont
		37	Greene
		38	Grundy
		39	Guthrie
		40	Hamilton
		41	Hancock
		42	Hardin
		43	Harrison
		44	Henry
		45	Howard
		46	Humboldt
		47	Ida
		48	Iowa
		49	Jackson
		50	Jasper
		51	Jefferson
		52	Johnson
		53	Jones
		54	Keokuk
		55	Kossuth
		56	Lee
		57	Linn
		58	Louisa
		59	Lucas
		60	Lyon
		61	Madison
		62	Mahaska
		63	Marion
		64	Marshall
		65	Mills
		66	Mitchell
		67	Monona
		68	Monroe
		69	Montgomery
		70	Muscatine
		71	O'Brien
		72	Osceola
		73	Page
		74	Palo Alto
		75	Plymouth
		76	Pocahontas
		77	Polk
		78	Pottawattamie
		79	Poweshiek
		80	Ringgold

Data Name	Actual Name	Values	What it means
		81 Sac 82 Scott 83 Shelby 84 Sioux 85 Story 86 Tama 87 Taylor 88 Union 89 Van Buren 90 Wapello 91 Warren 92 Washington 93 Wayne 94 Webster 95 Winnebago 96 Winneshiek 97 Woodbury 98 Worth 99 Wright	
City	City	0 or 10-99	
Route	Route	Route # (e.g., 0030 = highway 30) 0990 County Road 0991 County Park 0995 City Street 0996 City Park, Frontage, Alley	
Road_class	Road Class	1 Interstate 2 US or State Highway 3 County Road 4 City Street 5 Other 0 Unknown	
Int_class	Intersection Class	0 Not an Intersection (Unknown) 1 Interstate/Interstate 2 Interstare/US or State Highway 3 Interstate/City or County Road 4 US-State Highway/US-State Highway 5 US-State Highway/County Road or City Street 6 US-State Highway/Other 7 County Road or City Street/County Road or City Street 8 County Road or City Street with other	
Int_id	Intersection Identifier	six digit number	
Ref_node	Refernce Node	six digit number	
Distance_l	Distance Indicator		
Dir_node	Direction Node	six digit number	
Accident_t	Type of Accident	Non-Collision 1 Overturned in Roadway 2 Jackknifed 3 Carbon Monoxide 4 Fire/Explosion 5 Immersion 6 Other	

Data Name	Actual Name	Values	What it means
		Collision with	<ul style="list-style-type: none"> 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
Road_chara	Character of Roadway	Non-Intersection Intersection Interchange	<ul style="list-style-type: none"> 1 No Special Features 2 Bridge/Overpass/Underpass 3 Railroad Crossing 4 Business Drive 5 Farm/Residential Drive 6 Other, Non-intersection 11 Within Intersection 12 Not Within Intersection but Intersection Related 13 Alley Intersection 14 Other (Intersection) 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) 0 Unknown
Road_geome	Roadway Geometrics		<ul style="list-style-type: none"> 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
Light_cond	Light Conditions		<ul style="list-style-type: none"> 1 Day 2 Dusk 3 Dawn 4 Dark-Lighted Roadway 5 Dark-Roadway not Lighted 0 Unknown
Weather_co	Weather Condtion (up to two numbers)		<ul style="list-style-type: none"> 1 Clear 2 Cloudy

Data Name	Actual Name	Values	What it means
			<ul style="list-style-type: none"> 3 Fog 4 Mist 5 Rain 6 Sleet/Hail 7 Snow 8 Strong Wind 9 Other 0 Unknown
Locality	Locality		<ul style="list-style-type: none"> 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 Property 0 Unknown
Location	Location		<ul style="list-style-type: none"> 1 On Roadway 2 Shoulder 3 Median 4 Roadside/Ditch 5 Outside Right of Way 0 Unknown
Collision_	Collision Type		<ul style="list-style-type: none"> 1 Head-on 2 Broadside/Left Turn 3 Rear End 4 Rear End/Right Turn 5 Rear End/Left Turn 6 Sideswipe/Opposite Direction 7 Sideswipe/Same Direction 8 Sideswipe/Right Turn 9 Sideswipe/Left Turn 10 Sideswipe/Dual Left Turn 11 Sideswipe/Dual Right Turn 12 Broadside/Right Angle 13 Broadside/Right Entering 14 Broadside/Left Entering 15 Headon/Left Entering 16 Sideswipe/Both Left Turning 17 Other 18 Single 19 Pedestrian 20 Bicycle
Milepoint	Milepoint		<ul style="list-style-type: none"> 0-7999 Milepoint Location 8000-8999 Off Direction route milepoints adjusted by 8000 9999 Primary route with an unknown milepoint NOTE: If accident was coded between two nodes with an unknown distance (000), the milepoint is assigned halfway between the nodes.
Milepost	Milepost		
Case_total	Unique Identifier		

Data Name	Actual Name	Values	What it means
------------------	--------------------	---------------	----------------------

Crash_key	Unique Identifier		
-----------	-------------------	--	--

APPENDIX E

B Record (Vehicle Information) Database Documentation

These data are derived from the ALAS database file. Three types of files are used: accident information files, vehicle information files, and injury information files. This section contains documentation on the vehicle information.

This documentation provides definitions of the numbers that appear in the columns of the database. The Iowa Department of Transportation Data Processing Department provided the information to compile this listing.

Data Name	Actual Name	Values	What it means
Record_num	Record Number	1 to 20	No Significant Meaning
Vehicle_nu	Vehicle Number	1 to 20	No Significant Meaning
Vehicle_ty	Vehicle Type	1 to 23 0	<ul style="list-style-type: none"> 1 Passenger Car 2 Car/Trailer 3 Panel Truck, Utility, No Rider 4 Pickup truck 5 Pickup/Trailer 6 Pickup/Camper 7 Straight Truck 8 Truck Tractor 9 Truck Tractor/Semi 10 Double Bottom Truck 11 Tow Truck/Wrecker 12 Motor Home 13 Bus 14 School Bus 15 Farm Vehicle/Equipment 16 Motorcycle 17 Bicycle/Pedacycle 18 Rec. Vehicle: ATV, non-hwy w/motor and no hwy registration 19 Maintenance/Construction Vehicle 20 Train 21 Other : mower, golf cart, dunebuggy, snowmobile, etc 22 Moped 23 Multipurpose, on/offroad, Blazer, Caravan, Minivan, Jeep (pre '91 were type 18 & 21) 0 Unknown
Vehicle_ye	Vehicle Year	2 digits	2 digit year (e.g., 93=1993)
Special_us	Special Use	1 to 9 0	<ul style="list-style-type: none"> 1 None 2 Police 3 Fire 4 Taxi 5 Government 6 Ambulance 7 Towing 8 Driver Training 9 Other (Describe with Report) 0 Unknown
Number_occ	Number of Occupants		Number of people in vehicle
Attachment	Attachment	1 to 13	<ul style="list-style-type: none"> 1 None 2 Single Trailer 3 Double 4 Semi 5 Farm 6 Utility 7 Camping 8 Boat Trailer 9 Mobile Home 10 Mobile Home (Oversized) 11 Oversize Load 12 Towed Vehicle 13 Other

Data Name	Actual Name	Values	What it means
		0 Unknown	
Fire_explo	Fire/Explosion	1 None 2 Yes 0 Unknown	
Hit_and_ru	Hit and Run	1 None 2 With Motor Vehicle 3 With Non-Occupant 4 Driver Left Scene 0 Unknown	
Point_init	Point of Initial Impact	1 Front 2 Right Front 3 Right Side 4 Right Rear 5 Rear 6 Left Rear 7 Left Side 8 Left Front 9 Top 10 Undercarriage 0 Unknown	
Damage_are	Damaged Areas (up to 4)	1 Front 2 Right Front 3 Right Side 4 Right Rear 5 Rear 6 Left Rear 7 Left Side 8 Left Front 9 Top 10 Undercarriage 0 Unknown	
Damage_sev	Damaged Severity	1 None 2 Light 3 Moderate 4 Severe 0 Unknown	
Vehicle_de	Vehicle Defects	1 None 2 Brakes 3 Steering 4 Blowout 5 Smooth Tires 6 Other Tire Defect 7 Wipers 8 Trailer Hitch 9 Exhaust 10 Headlights 11 Taillights 12 Turn Signal 13 Suspension 14 Other 15 Glass 0 Unknown	

Data Name	Actual Name	Values	What it means
Init_dirac	Initial Direction of Travel	1 North 2 Northeast 3 East 4 Southeast 5 South 6 Southwest 7 West 8 Northwest 0 Unknown	
Speed_limi	Speed Limit	0 to 65	Only in multiples of 5
Road_contr	Roadway/Environmental Contributing Circumstances	1 None 2 Weather Conditions 3 Surface Conditions 4 Roadway Defect 5 Pedestrian Action 6 Pedestrian Drinking 7 Previous Accident 8 Animal in Roadway 9 Frost Covered Bridge Floor (only) 10 Traffic Control Not In Place or Not Functioning 11 Non-Contact Vehicle 12 Road Under Construction 13 Other 0 Unknown	
Traffic_co	Traffic Controls	1 No Controls Present 2 Traffic Signals 3 Stop Signs 4 Yield Signs 5 Warning Signs 6 School Signs 7 No Passing Zone (Marked) 8 School Stop Sign 9 Stop Arm on School Bus 10 RR Warning Sign 11 RR Automatic Signal 12 RR Crossing Gate 13 Peace Officer 14 Other Traffic Director 15 Other Control 16 Control Not Functioning/Not In Place	
Type_traff	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 0 Unknown	
Traffic_fl	Traffic Flow	1 One-Way Traffic 2 Two-Way Traffic 0 Unknown	

Data Name	Actual Name	Values	What it means
Surface_ty	Type of Surface	<ul style="list-style-type: none"> 1 Cement/Concrete 2 Asphalt 3 Gravel/Rock 4 Dirt 5 Brick 6 Steel (Bridge Floor) 7 Wood (Bridge Floor) 8 Other 0 Unknown 	
Vehicle_ac	Vehicle Action	<ul style="list-style-type: none"> 1 Going Straight 2 Turning Left 3 Turning Right 4 Making U-Turn 5 Passing 6 Changing Lanes 7 Merging 8 Parking 9 Slowing-Stopping 10 Backing 11 Stopped for Stop Sign/Signal 12 Stopped in Traffic Lane 13 Stalled in Traffic Lane 14 Properly Parked, No Driver 15 Improperly Parked, with and without driver 16 Other (with and without driver) 17 Unattended Moving Vehicle 0 Unknown 	
Fix_obj_st	Fixed Object Struck	<ul style="list-style-type: none"> 1 None 2 Bridge/Overpass 3 Underpass/Bridge Supports 4 Building 5 Culvert 6 Curb 7 Ditch 8 Island/Raised Median 9 Embankment/Retaining Wall 10 Fence 11 Guardrail 12 Light Pole 13 Sign Post 14 Tree/Shrubbery 15 Utility Pole 16 Other Pole/Support 17 Mailbox 18 Impact Attenuator 19 Other 0 Unknown 	
Fix_obj_lo	Location of Fixed Object	<ul style="list-style-type: none"> 1 On Roadway 2 Shoulder 3 Median 4 Roadside/Ditch 5 Outside Right of Way 	

Data Name	Actual Name	Values	What it means
		0 Unknown	
Surface_co	Surface Conditions (up to 2 numbers)	1 Dry 2 Wet 3 Ice 4 Snow 5 Loose Gravel 6 Mud 7 Debris 8 Other 0 Unknown	
Driver_age	Driver's Age	0 Less than 1 Year Old 1 to 97 Actual Age 98 98 years old and older 99 Unknown	
Driver_sex	Driver's Sex	M Male F Female	
License_re	License Restrictions	0 None 1 Corrective Lenses 2 Left Outside Mirror 3 Not When Headlights Required 4 Chauffeur-No Semitrailer Combination 5 Automatic Transmission 6 Chauffeur-Not Exceeding 5 Tons Gross Vehicle Weight 7 Operator & Chauffeur - School Bus Only 8 Valid for Motorcycle 9 See Restriction Supplement A S.R. Required X I.D. Only	
Restictio	Restrictions Complied With	1 Yes 2 No 0 Unknown	
Driver_cha	Driver Charged	N No Y Yes	
Sobriety_t	Sobriety Test Given	1 None 2 Breath 3 Blood 4 Urine 5 Refused 0 Unknown	
Sobriety_r	Sobriety Test Results	take # multiplied by 0.01 to get actual blood alcohol level	
Driver_cond	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 0 Unknown	

Data Name	Actual Name	Values	What it means
Driver_cont	Driver/Vehicle Contributing Circumstances (up to 2)	<ul style="list-style-type: none"> 1 None Apparent 2 Ran Traffic Signal 3 Ran Stop Sign 4 Passed Stopped School Bus 5 Passing Where Prohibited 6 Passing, Interfered With Other Vehicle 7 Left of Center, Not Passing 8 Failed to Yield ROW at Uncontrolled Intersection 9 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 to Close 23 No Signal/Improper Signal 24 Disregarded RR Signal 25 Disregarded Warning Signal 26 Reckless Driving 27 Improper Backing 28 Illegal/Improper Parking 29 Failure to Have Control 30 Headlights Not On 31 Inattentive/Distracted 32 Driver Confused 33 Vision Obscured 34 Oversized Vehicle 35 Overloaded With Passengers/Cargo 36 Inexperienced Driver 38 Other 0 Unknown 	
Vision_obs	Vision Obscured	<ul style="list-style-type: none"> 1 Not Obstructed 2 Trees/Crops 3 Buildings 4 Embankments 5 Sign/Billboards 6 Hillcrest 7 Parked Vehicles 8 Moving Vehicles 9 Person/Object In or On Vehicle 10 Blinded by Sun/Headlights 11 Frosted Windows/Windshield 12 Blowing Snow 13 Fog/Smoke/Dust 	

Data Name	Actual Name	Values	What it means
		14 Other 0 Unknown	
DI-classty	DL Class Type	A Vehicle 26001 GCWR+, Towed GVWR 10001+ B Vehicle 26001 GCWR+, Towed LT 10001 C Vehicle 26000 or Less GVWR & either 16 Pass Design of Hazmat C Non-Commercial Vehicle D Chauffeur M Motorcycle RS Y Invalid with 0 Supplement	
DI_endorse	DL Endorsements (up to 5)	H Hazmat P Pass N Tank X Hazmat and Tank T Double or Triple Trailer 1 Truck Tractor Semi-Trailer Combo 2 16001 GVWR+ (Not Valid for Truck Trailer Semitrailer Combo 3 Pass Vehicle < 16 Pass Design	
Case_total	Unique Identifier		
Crash_key	Unique Identifier		

APPENDIX F

C Record (Injury Information) Database Documentation

These data are derived from the ALAS database file. Three types of files are used: accident information files, vehicle information files, and injury information files. This section contains documentation on the injury information.

This documentation provides definitions of the numbers that appear in the columns of the database. The Iowa Department of Transportation Data Processing Department provided the information to compile this listing.

Data Name	Actual Name	Values	What it means
Record_num	Record Number	1	No Significant Meaning
Unit_num1	Unit 1 Number	Varies	No Significant Meaning
Age1	Age of Person 1	Varies	Age of Driver
Sex1	Sex of Person 1	M F	Male Female
Inj_Sev1	Injury Severity of Person 1	1 2 3 4 0	Fatal Major (Incapacitating) Minor (Bruises, Abrasions) Possible (Complaint of Pain) Unknown
Inj_area1	Injured Area of Person 1	1 2 3 4 5 6 7 0	Upper Torso Lower Torso Internal Head Arms Legs Multiple Unknown
Inj_pos1	Injured Position of Person 1	1 to 9 M S U B P E T O	Diagram On Report Motorcycle/Moped Driver Motorcycle/Moped Passenger Bus Passenger Bicyclist Pedestrian Riding on Exterior Other Unknown
Prot_dev1	Protective Device of Person 1	1 '' 2 3 4 5 6 7 8 0	None On Old IASP Only None or Pedestrian Lap Belt Used Lap and Shoulder Belt Air Bag Deployed Child Restraint Motorcycle Helmet Passive Belt Other Unknown
Ejection1	Person 1 Ejected	1 2 3 4 0	Not Ejected or Pedestrian Partially Ejected Totally Ejected Extricated Unknown
Ped_act1	Pedestrian Action of Person 1	1 2 3 4 5 6 7 8 9 10	Crossing, Against Signal Crossing, Not at Crosswalk Walking, Improper Position on Roadway Soliciting Rides on Road Walking With Traffic Walking Against Traffic Crossing, With Signal Crossing, In Crosswalk Onto Road Between Parked Cars Ran Onto Roadway

Data Name	Actual Name	Values	What it means
		11 Directing Traffic 12 Playing 13 Lying or Sitting On Roadway 14 Pushing, Working on Vehicle 15 Getting On or Off Vehicle 16 Maintenance/Construction Project 17 Walking, Off Roadway 0 Unknown	
Cloth_col1	Color of Clothing Person 1	1 Generally Light 2 Generally Dark 0 Unknown	
Ped_drive1	Pedestrian also Driver	N No Y Yes Not Stated	
Sobriety1	Person 1 Sobriety	1 Had Not Been Drinking 2 Drinking (Not Impaired) 3 Drinking (Impaired) 4 Drugs 0 Unknown	
Sobr_res1	Sobriety Results Person 1	number times 0.01 = % alcohol in Blood	
Unit_num2	Unit 2 Number	Varies No Significant Meaning	
Age2	Age of Person 2	Varies Age of Driver	
Sex2	Sex of Person 2	M Male F Female	
Inj_Sev2	Injury Severity of Person 2	1 Fatal 2 Major (Incapacitating) 3 Minor (Bruises, Abrasions) 4 Possible (Complaint of Pain) 0 Unknown	
Inj_area2	Injured Area of Person 2	1 Upper Torso 2 Lower Torso 3 Internal 4 Head 5 Arms 6 Legs 7 Multiple 0 Unknown	
Inj_pos2	Injured Position of Person 2	1 to 9 Diagram On Report M Motorcycle/Moped Driver S Motorcycle/Moped Passenger U Bus Passenger B Bicyclist P Pedestrian E Riding on Exterior T Other O Unknown	
Prot_dev2	Protective Device of Person 2	1 None On Old IASP Only ' ' None or Pedestrian 2 Lap Belt Used 3 Lap and Shoulder Belt 4 Air Bag Deployed 5 Child Restraint	

Data Name	Actual Name	Values	What it means
		6 Motorcycle Helmet 7 Passive Belt 8 Other 0 Unknown	
Ejection2	Person 2 Ejected	1 Not Ejected or Pedestrian 2 Partially Ejected 3 Totally Ejected 4 Extricated 0 Unknown	
Ped_act2	Pedestrian Action of Person 2	1 Crossing, Against Signal 2 Crossing, Not at Crosswalk 3 Walking, Improper Position on Roadway 4 Soliciting Rides on Road 5 Walking With Traffic 6 Walking Against Traffic 7 Crossing, With Signal 8 Crossing, In Crosswalk 9 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 Maintenance/Construction Project 17 Walking, Off Roadway 0 Unknown	
Cloth_col2	Color of Clothing Person 2	1 Generally Light 2 Generally Dark 0 Unknown	
Ped_drive2	Pedestrian also Driver	N No Y Yes Not Stated	
Sobriety2	Person 2 Sobriety	1 Had Not Been Drinking 2 Drinking (Not Impaired) 3 Drinking (Impaired) 4 Drugs 0 Unknown	
Sobr_res2	Sobriety Results Person 2	number times 0.01 = % alcohol in Blood	
Unit_num3	Unit 3 Number	Varies No Significant Meaning	
Age3	Age of Person 3	Varies Age of Driver	
Sex3	Sex of Person 3	M Male F Female	
Inj_Sev3	Injury Severity of Person 3	1 Fatal 2 Major (Incapacitating) 3 Minor (Bruises, Abrasions) 4 Possible (Complaint of Pain) 0 Unknown	
Inj_area3	Injured Area of Person 3	1 Upper Torso 2 Lower Torso 3 Internal 4 Head	

Data Name	Actual Name	Values	What it means
		5 Arms 6 Legs 7 Multiple 0 Unknown	
Inj_pos3	Injured Position of Person 3	1 to 9 Diagram On Report M Motorcycle/Moped Driver S Motorcycle/Moped Passenger U Bus Passenger B Bicyclist P Pedestrian E Riding on Exterior T Other O Unknown	
Prot_dev3	Protective Device of Person 3	1 None On Old IASP Only ' ' None or Pedestrian 2 Lap Belt Used 3 Lap and Shoulder Belt 4 Air Bag Deployed 5 Child Restraint 6 Motorcycle Helmet 7 Passive Belt 8 Other 0 Unknown	
Ejection3	Person 3 Ejected	1 Not Ejected or Pedestrian 2 Partially Ejected 3 Totally Ejected 4 Extricated 0 Unknown	
Ped_act3	Pedestrian Action of Person 3	1 Crossing, Against Signal 2 Crossing, Not at Crosswalk 3 Walking, Improper Position on Roadway 4 Soliciting Rides on Road 5 Walking With Traffic 6 Walking Against Traffic 7 Crossing, With Signal 8 Crossing, In Crosswalk 9 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 Maintenance/Construction Project 17 Walking, Off Roadway 0 Unknown	
Cloth_col3	Color of Clothing Person 3	1 Generally Light 2 Generally Dark 0 Unknown	
Ped_drive3	Pedestrian also Driver	N No Y Yes Not Stated	

Data Name	Actual Name	Values	What it means
Sobriety3	Person 3 Sobriety	1 Had Not Been Drinking 2 Drinking (Not Impaired) 3 Drinking (Impaired) 4 Drugs 0 Unknown	
Sobr_res3	Sobriety Results Person 3	number times 0.01 = % alcohol in Blood	
Case_total	Unique Identifier		
Crash_key	Unique Identifier		

APPENDIX G

Answers to Questions at Explorer-ALAS Introduction on 12/18/97

December 18th several beta test members were introduced to Explorer-ALAS at the Center for Transportation Research and Education (CTRE). The ALAS team members were present to assist and aide the participants. This appendix presents questions that were presented from the participants; the answers to these questions were provided by the ALAS team.

Responses to the AV-ALAS software were not addressed due to several bugs that existed in the customization process. These bugs have been removed and future training sessions with AV-ALAS are being scheduled. Participants will be asked to record any questions and the ALAS team will provide responses to the questions.

Questions/Comments for Explorer ALAS (12/18/97)

How do you change the color of the results of a query?

View, Map Display properties, click on the box that has selection color and change to the appropriate color, when color is selected click on the x in the upper right corner.

How come the “hammer” doesn’t highlight?

The only time that the hammer will not highlight is when there is no active theme. If you want to query a theme you need to make it active (put the highlighted box around it) once this is done the “hammer” (query tool) will become enabled.

How do you save a view?

To save a view click on the file and select save. Save the file to your directory and click Save. This saves the current view that is present on the screen. When this file is opened all of the themes that were present on the view are automatically opened and the last view that was saved is the view that will be present on the screen when this file is opened

How do you label routes?

The street names are only available for the municipal routes. There are two different ways to label a route. The first way to label the route is to double click on the theme that you want to label. Under the Classification Options select labels. The screen should change and there should be a pull down menu for text field. This will list all of the fields in the database that can be labeled. Select the appropriate label, one can also select various fonts and colors of text on this screen as well. The second way is to select theme from the top of the screen and then select theme properties. Once this is done follow the directions from the Classification Options.

Can you label just the major street roads (Lincoln Way and Duff)?

Individual lines can not be labeled, the entire layer must be labeled or nothing from that layer can be labeled.

How do you find a known node location?

To find a known value for any element that exists in the database one would use the query tool (hammer). To find a particular node the process is as follows: 1) make the node layer active, 2) click on the query builder (hammer), 3) select a field (node number is the id), 4) select the equal sign, 5) enter the value that is desired, 6) click on the execute button; a value shall occur below that lists the results from the query if more than one value occurs then there are multiple locations of that particular field, 7) click on the value in the query results fields, 8) click on the pan button and highlight button, this will take you to the area that this particular field is located, if you want to zoom in you can do this manually or select the zoom button.

How do we shortcut to a pre-set view? Is this possible?

To create a shortcut to a preset view is only possible if you create the view and save it as an ArcExplorer Project (.aep). When you open an ArcExplorer Project it will automatically open to the view that it was saved as.

How can you change the symbol for the accident location so it is not a square?

To change the symbol double click on the theme that contains the symbol to be changed. From there one can select the color and style of the marker. Click OK when finished to have changes applied to the view.

Why are some of the existing roads not continuous?

The road files are obtained from the Iowa Department of Transportation Office of Transportation Data. This coverage does not include institutional roads and some

new roadways may not be included in the coverage.

Can themes be listed alphabetically?

The themes can be arranged in various ways. The way to arrange themes is to click and hold down on the theme that is to be moved and drag and drop it to its new location. This is the only way to list the themes in any particular order. The themes are originally listed in the order that they are opened.

Could dot indicators be made different shapes as well as colors?

One can change the dot size and color by clicking on the theme that the dots represent. The size, color, and style can be changed from the screen that appears. One can also create a thematic map according to Unique Values or Class Breaks

Can we search for street names?

To find a known value for any element that exists in the database one would use the query tool (hammer). To find a particular street the process is as follows: 1) make the Municipal layer active, 2) click on the query builder (hammer), 3) select a field (street contains the street name), 4) select the equal sign, 5) enter the value that is desired, 6) click on the execute button; a value shall occur below that lists the results from the query if more than one value occurs then there are multiple locations of that particular field, 7) click on the value in the query results fields, 8) click on the pan button and highlight button, this will take you to the area that this particular field is located, if you want to zoom in you can do this manually or select the zoom button.

Is there any thematic mapping capability?

Thematic mapping is available this is done by creating class breaks and unique values for a particular theme. Double click on the theme and one can create a thematic map by changing how the data is presented

Why did system crash when "min" was selected from summary statistics?

When this process was attempted on our computers the same problem occurred. ESRI has been contacted about this problem and are working on a solution.

APPENDIX H

Using ArcExplorer

This appendix contains the user's guide for ArcExplorer. This document was produced by ESRI and is available when ArcExplorer is installed a computer. The location of this document (assuming default installation locations) is C:\Program Files\ESRI\ArcExplorer\ArcExplorer.pdf.