State Highway Patrol Mapping Tool



TRAINING MANUAL

Revised May 2019

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TABLE OF CONTENTS

CONTACTS:	4
INTRODUCTION	5
GETTING STARTED	5
SEARCH DIALOG BOX	7
ROADWAY NAME	
NUMBERED ROUTE SEARCHES	8
LETTERED ROUTE SEARCHES	
LONGITUDE AND LATITUDE SEARCHES	
DEGREES, MINUTES AND SECONDS SEARCHES	
TRAVELWAY ID SEARCHES	
SHOW LOG BOOK	19
Choosing an Intersection	21
Show ERM	25
HIDE ERM	
OFFSET	26
Base Map	
ZOOM BUTTON	
City Search	
County Search	31
GPS Zoom	32
SAVE POINT	33
Measure	37
EXPORT FORM	38
ZOOMING/MOVING MAP	40

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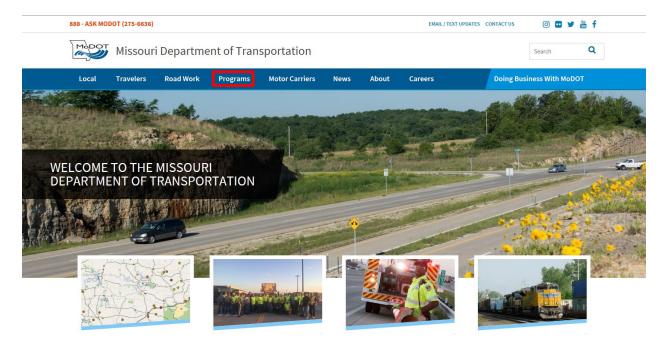
Introduction

The State Highway Patrol Mapping Tool has recently been updated. It is now more user friendly when looking for crash locations. Some of the features consist of easier zooming into a particular location, having the longitude and latitude in the look-up box, and the ability to have the Emergency Reference Markers (ERMs) displayed on the map.

The web pages will appear different but will function in the same way.

Getting Started

To start working with the HP Mapping Tool, locate the application on the Missouri Department of Transportation homepage.



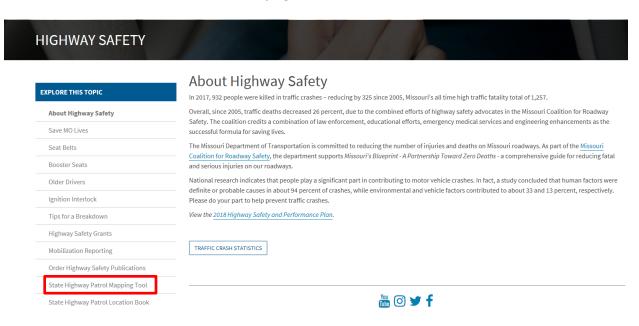
- Under "Programs", a drop-down list will appear.
- > From the list, choose "Highway Safety".



Missouri Department of Transportation



On the "Highway Safety" homepage, select "State Highway Patrol Mapping Tool" located on the left side of the page.



The following web page will be displayed.



Search Dialog Box

To find a travelway, click on any travelway or use the search box. The samples below indicate what text should be entered in the search box when searching by route, latitude/longitude or travelway ID.

Example: Roadway Name

Interstate 44: "IS 44"

➤ US 54 West in Cole County: "US 54 W COLE"

Route T: "RT T"

Example: Travelway Near a Latitude and Longitude

Latitude 38.1, Longitude -91.2: "38.1, -91.2"

Latitude 38.1, Longitude -91.2: "-91.2, 38.1"

Example: Degrees, Minutes and Seconds

> 39 56 47.7, -93.44 18.9

-93 44 18.9, 36.56 47.7

Example: Travelway ID

> Travelway ID 19: tw 19

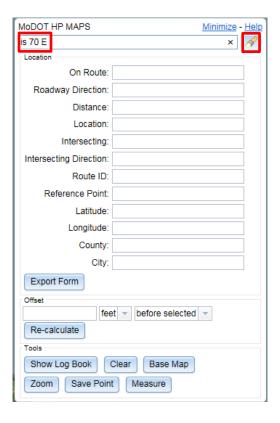
> Travelway ID 19: twid 19

> Travelway ID 19: travelway 19

Roadway Name

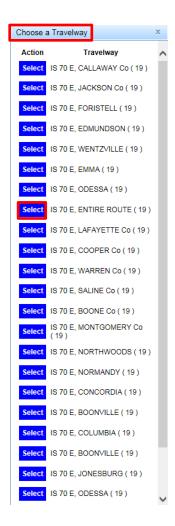
Numbered Route Searches

As shown on the previous page, there are several ways to enter information in the search box.

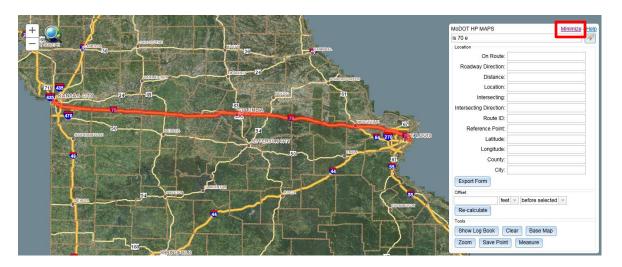


- > Type "IS 70 E" put a space between the "E" and the "7" or you will get a listing for ramps.
- Press the "Enter" key on your keyboard, or click the "Search" icon the "Choose a Travelway" dialog box will be displayed.

The selection returns with the top 25 routes.



Click the "Select" button next to "IS 70 E, Entire Route" – the following results will be displayed.

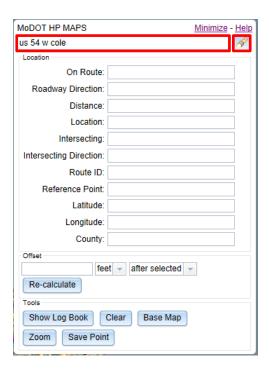


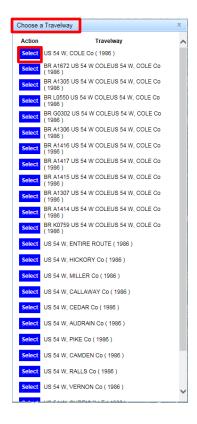
The entire route of IS 70 is indicated by the red line on the map. To view the entire route, click the "Minimize" link at the top right-hand side to reduce the search box.

Another way to search for a travelway is to drill down closer to a specific area.



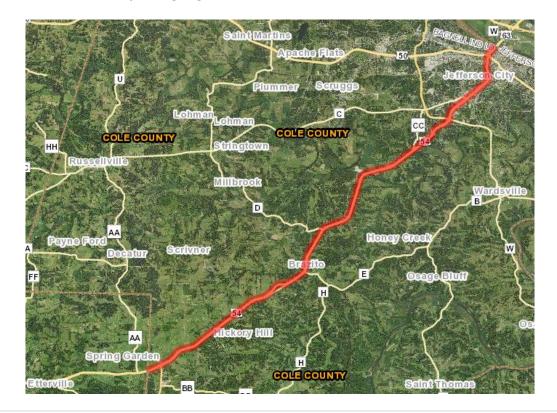
- Click the "Clear" button.
- ➤ In the "Search" box, enter "US 54 W Cole" make sure there are spaces between the designation, name, direction and county.
- Press the "Enter" key on the keyboard, or click the "Search" icon the "Choose a Travelway" dialog box will be displayed.





From the travelway list, click the "Select" button next to "US 54 W, Cole Co".

US 54 W in Cole County is highlighted in red.



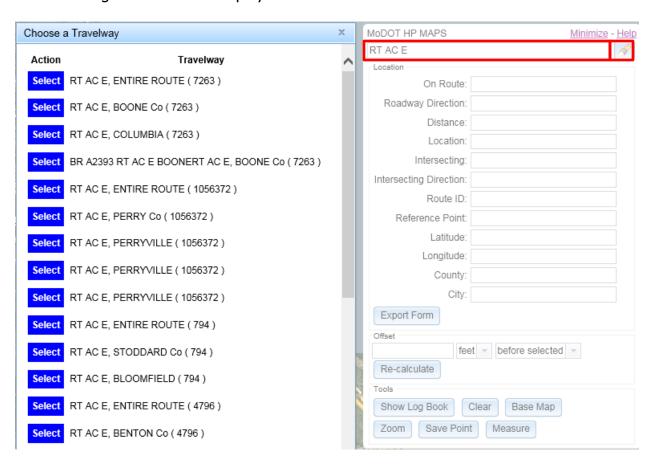
Lettered Route Searches

NOTE: To clear the search box, click the "X".



- Enter "RT AC E".
- > Press the "Enter" key on your keyboard or click the "Search" icon.

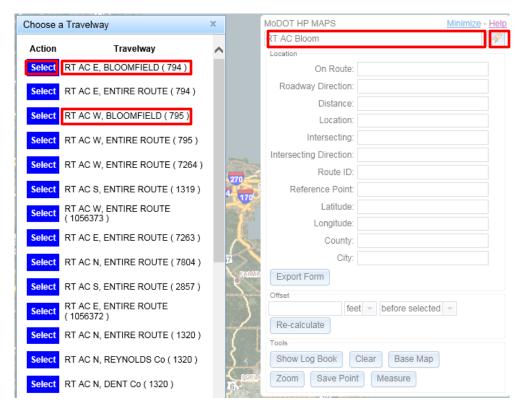
The following results will be displayed.



As shown on the "Choose a Travelway" box, every county and cit with a "RT AC E" is displayed. Since there are many RT ACs within the state, the counties and cities have been added for easier look up. Minimize the list by entering the county name in the search box.

- Enter "RT AC Bloom" in the search box.
- Press the "Enter" key on your keyboard or click the search icon.

The following results will be displayed on the following page.



Both directions appear for RT AC in Bloomfield at the top of the selection, and then the top ten routes for "AC" within the state appear.

Select the desired direction, and the travelway will be highlighted in red in Bloomfield.

Select "RT AC E, Bloomfield (794) from the list.

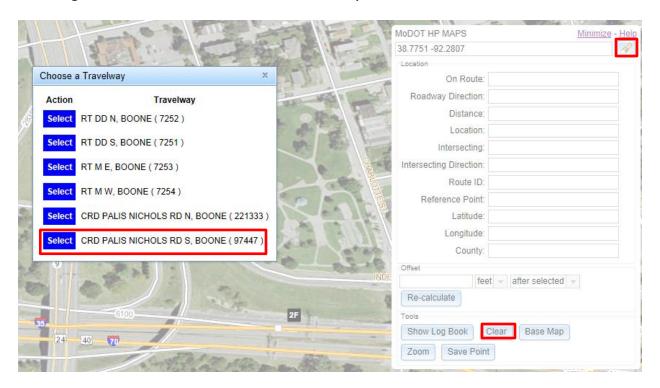


Longitude and Latitude Searches

Another search engine to use for locations is using latitude and longitude.

- Click the "Clear" button in the search box.
- > Enter the longitude and latitude in the search dialog box.
 - o Latitude 38.7751, Longitude -92.2807: "38.7751, -92.2807"
 - o Latitude 38.7751, Longitude -92.2807: "-92.2807, 38.7751"
- > Press the "Enter" key on your keyboard or the "Search" icon.

The longitude and latitude can be entered in any order.



By picking the longitude and latitude, you can see six travelways in Boone County are displayed.

Select the travelway "CRD PALIS NICHOLS RD S" in Boone County.

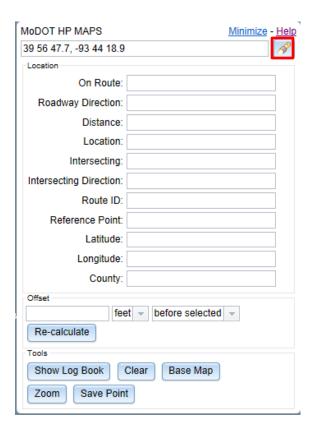
The following map will be displayed.



Degrees, Minutes and Seconds Searches

To search by degrees, minutes and seconds, do the following:

- Click the "Clear" button to refresh the dialog box.
- > In the search section, enter the degrees, minutes and seconds by the following procedure.
 - Enter "39 56 47.7, -93 44 18.9" (make sure there is a space between each section and a comma after the latitude and before the minus sign).



> Press the "Enter" key on the keyboard, or click on the "Search" icon.

The following travelway data will be displayed.



Click the "Select" button next to the travelway.

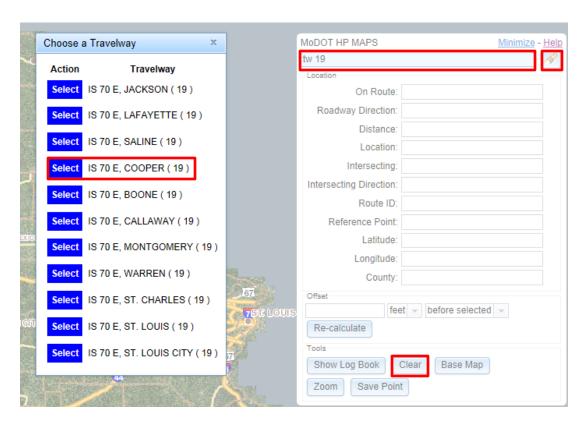


The entire route of RT U in Livingston County is indicated by the red line. The blue circle represents the coordinates.

Travelway ID Searches

Another way to search for a location is by travelway ID. If the travelway ID is known, enter it into the system using one of the three ways listed below.

- Click the "Clear" button torefresh the search dialog box.
- Enter the travelway ID.
 - o Travelway ID 19: tw 19
 - o Travelway ID 19: twid 19
 - o Travelway ID 19: travelway 19
- > Press the "Enter" key on your keyboard, or click the "Search" icon.



As shown, IS 70 E is listed by county, and the travelway ID is listed to the right in parentheses. Select the desired county, and the travelway will be highlighted in red for the county.

Click the "Select" button next to "IS 70 E, Cooper".

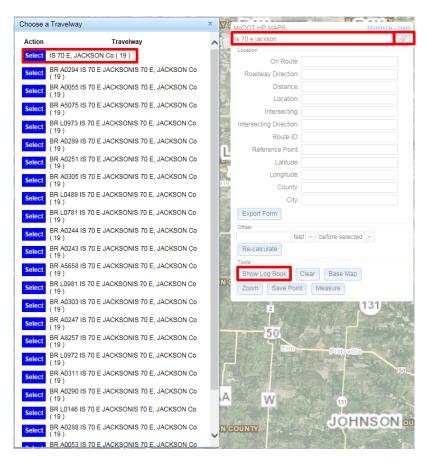


NOTE: In the search box, the travelway information is not case sensitive. This allows the travelway information to be entered in any format (for example, is 70 e or IS 70 E). Also, press the "Clear" button to perform a new search.

Show Log Book

The "Show Log Book" is used to see all the intersecting streets and bridges for a particular travelway selected.

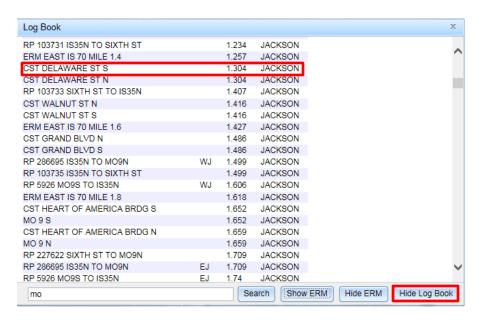
- Enter the search criteria "IS 70 E Jackson".
- Press the "Enter" key on the keyboard, or click the "Search" icon. The map route will be displayed in red.
- ➤ The "Choose a Travelway" dialog box will be displayed press the "Select" button next to "IS 70 E, Jackson".



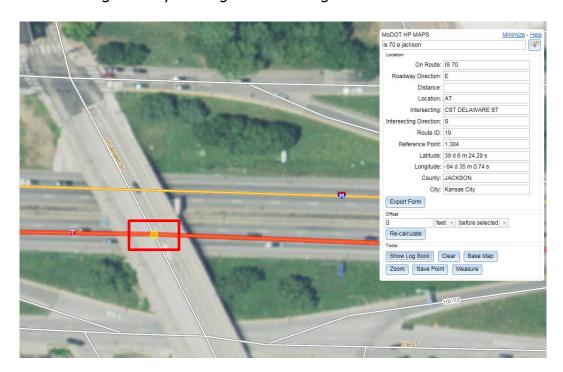


Once you click on the map, if the intersection closest to the crash is not referenced, use the "Show Log Book" button to display all of the available intersections. For example, a crash happened on IS 70 E, and it automatically entered the intersection of MO 9 S. Use the "Show Log Book" button to pick the intersection that best meets the needs of your situation. The offset field can also be used to adjust the crash location as needed.

Click on the "Show Log Book" button (refer to page 19).



- Select the correct route.
- Close the log book by clicking the "Hide Log Book" button.



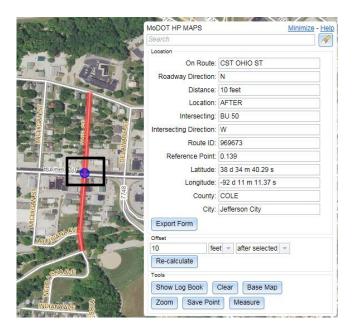
Choosing an Intersection

If you are just searching on the map and click a location, a blue dot will appear on the map for the location selected.

- Zoom into the location on the map.
- > Select the intersection, and the "Choose a Travelway" dialog box will be displayed.

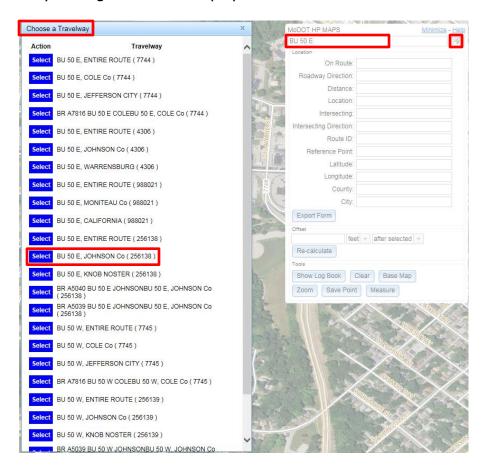


Click the "Select" button next to "CST Ohio St N, Cole (969673)".

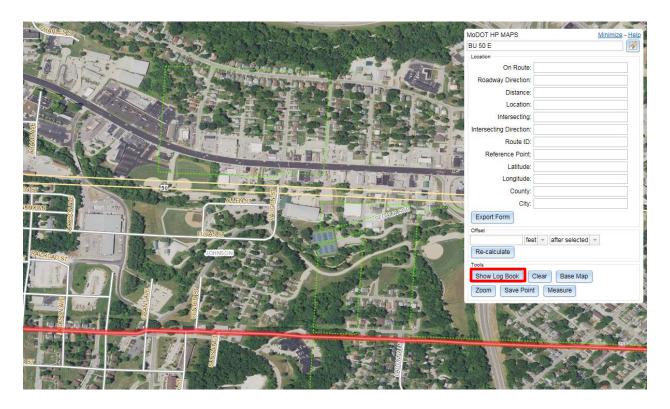


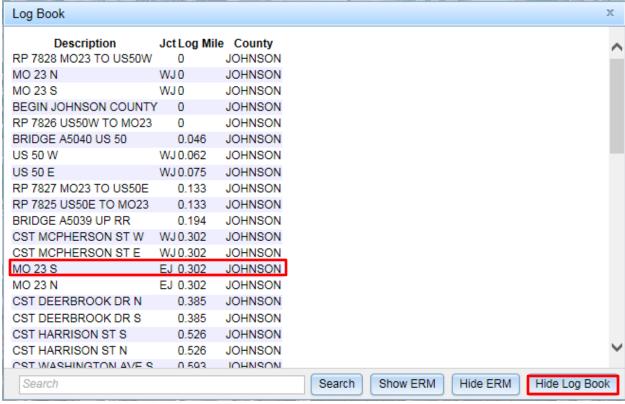
When selecting an intersection from the Log Book, the dot on the map will be yellow.

- In the "Search" box, enter a location "BU 50 E".
- Press the "Enter" key on the keyboard, or click the "Search" icon. The "Choose a Travelway" dialog box will be displayed.



- Click the "Select" button next to "BU 50 E Johnson Co (256138)".
- > The route will be displayed in red.
- Click the "Show Log Book" button (see next page).

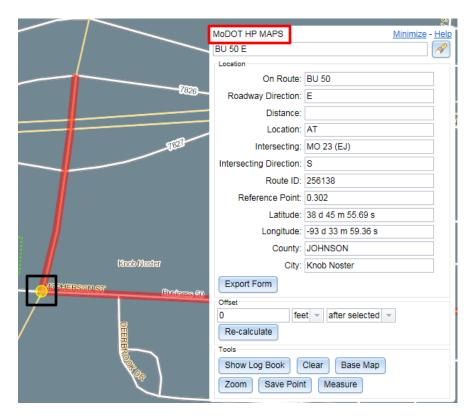




Use the scroll bar to see all the intersections and bridges for Johnson County on ${\sf BU}\ {\sf 50}\ {\sf E}.$

- Select "MO 23 S EJ". There are two MO 23 S intersections on BU 50 E in Johnson County, one on the west junction and one on the east junction.
- Click the "Hide Log Book".

NOTE: See page 23 for the picture for both instructions above.



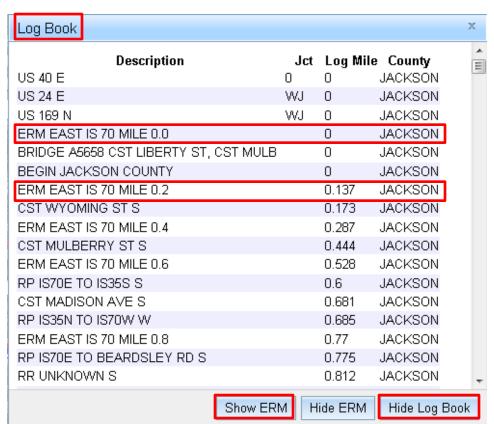
A yellow dot will be displayed where BU 50 E crosses MO 23 (EJ) S. The "MoDOT HP MAPS" dialog box will display the information pertaining to the location selected.

Show ERM

MoDOT has Emergency Reference Markers (ERMs) located on all interstates and a few US travelways. To see the ERMs for a route, do the following:

- Select an intersection.
- Click the "Show Log Book" button.
- Click the "Show ERM" button on the "Log Book" page. After clicking on the button, the ERMs will be listed. They are located every 0.2 mile.

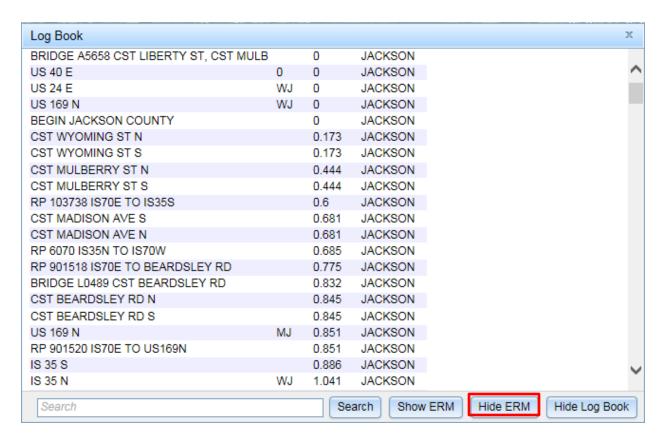




Hide ERM

To turn off the ERMs, do the following:

Click the "Hide ERM" button.

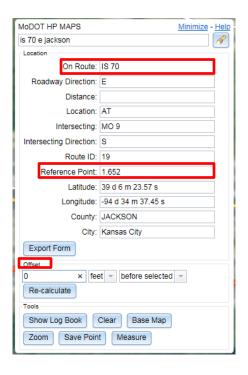




Offset

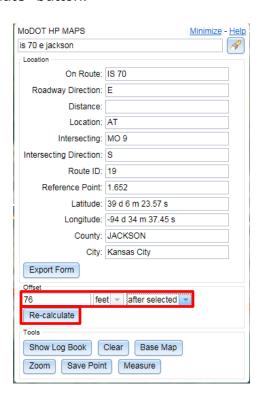
A crash may not occurr directly on an intersection. Use the "Offset" dialog box to locate the crash in the correct location.

For example, here is the intersection where the crash was originally located.

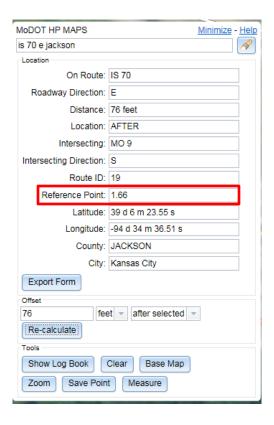


For this example, the crash occurred 76 feet after MO 9 S.

- ➤ Enter "76" in the "Offset" box. There will be an option for feet or miles.
- ➤ In the drop-down box, choose "after selected".
- Click the "Re-calculate" button.



The new calculations of the crash location are shown below.

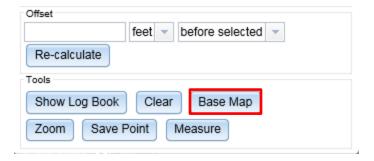


Base Map

The "Base Map" button on the "MoDOT HP MAPS" dialog box is used to change the look of the map. The default map shows the roads with aerial photography in the background.



Click the "Base Map" button.



The aerial photography is turned off.



Zoom Button

A "Zoom" button has been added to the main panel. The "Zoom" button will display three dialog boxes: "City Search", "County Search" and "GPS Zoom".



City Search

To zoom to a city, type the city name (for example, Jefferson City) in the "City Search" box.

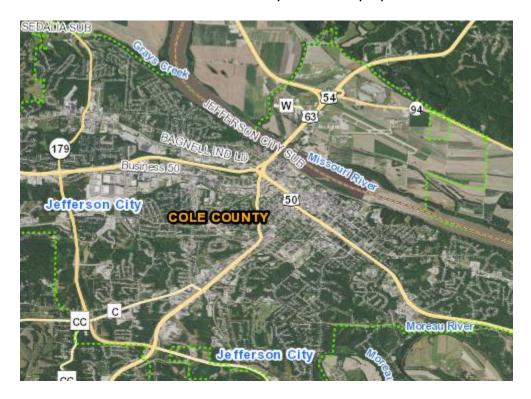
> In the "City Search", type "Jeff".



- Select "Jefferson City (Cole)".
- Click the "Zoom" button.



➤ Click the "Close" button – Jefferson City will be displayed.

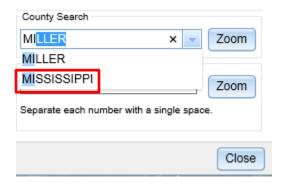


County Search

For the County Search, you will perform the same steps as searching for a city with the exception entering a county name.

To zoom to a specific county, type the county name in the "County Search" box.

> Type "Mi" in the "County Search" box.



- Select "Mississippi" from the list.
- Click the "Zoom" button this will flow to the county.
- Click the "Close" button.

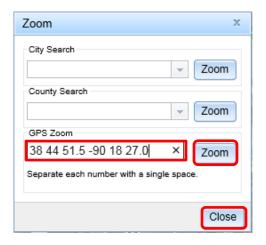




GPS Zoom

This search is used to locate crashes by GPS.

- > Type the GPS coordinates in the "GPS Zoom" box.
- ➤ Click the "Zoom" button this will zoom to the location.
- Click the "Close" button.





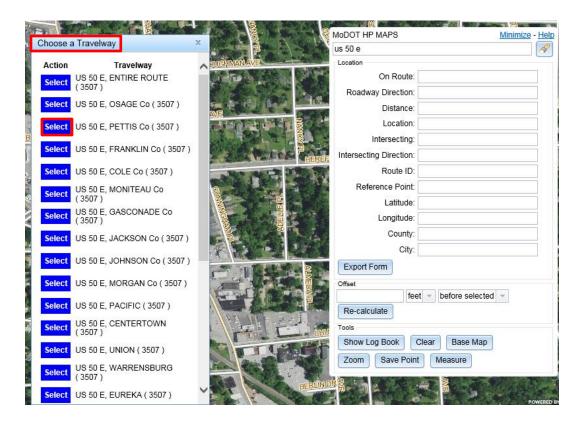
The location will be outlined with a blue dot.

NOTE: In the "GPS Zoom" search box, a comma is not needed. The longitude and latitude can be in any order. When doing a search, make sure all the other search boxes are cleared out.

Save Point

The "Save Point" button is used to keep locations along the route selected for a different intersection on the same route.

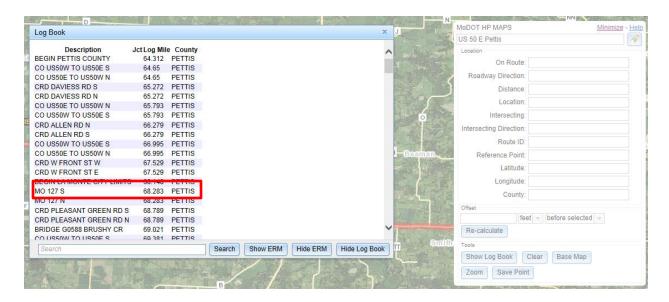
- Enter "US 50 E" in the search box.
- ➤ The "Choose a Travelway" dialog box will be displayed.
- Click the "Select" button next to "US 50 E, PETTIS Co (3507)".



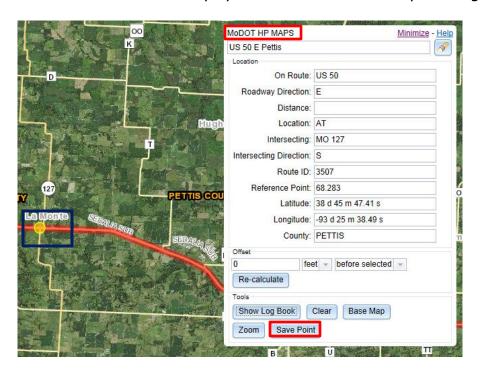
This will display US 50 in Pettis County with a red line.



- Select a log point from the log book, "MO 127 S, 68.283".
- Press the "Enter" key on your keyboard.



The data for the intersection will be displayed in the "MoDOT HP Maps" dialog box.



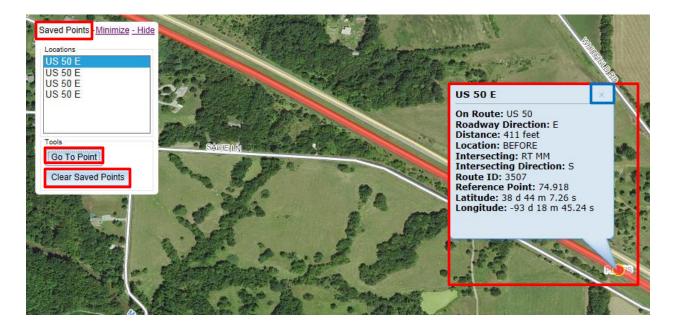
This is the original log point selected (outlined in blue).

Select the log point along the route, and then click the "Save Point" button.



The "Saved Points" dialog box will be displayed with a listing of all the points that have been saved.

- From the "Locations" list, click on one of the locations.
- Click the "Go To Point" button.



Notice a dialog box will be displayed with the information pertaining to that location.

> Click on any of the saved locations, and the data will be displayed for that route.

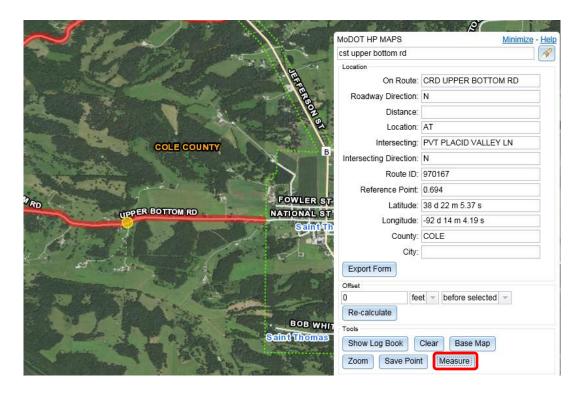
NOTE: Make sure to click the "X" in the upper right-hand corner of the dialog box (outlined in blue) before going to your next saved point.

Click the "Clear Saved Points" button to remove all information on the map and in the "Saved Points" dialog box.

Measure

The "Measure" tool is used to measure the crash from the location if it did not land on an intersection.

- Select a location.
- Click the "Measure" tool.

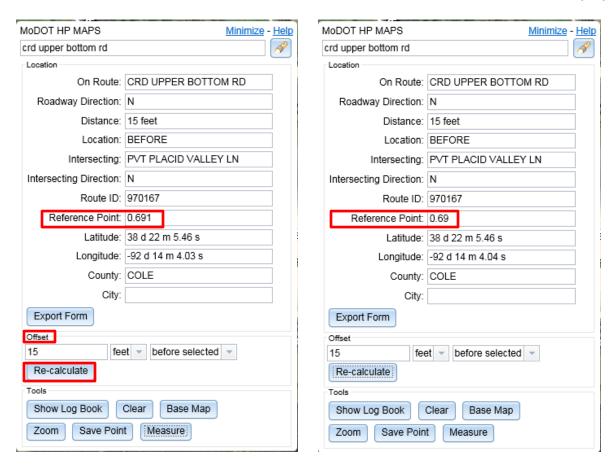


Click the starting point, and then click the ending point.



The distance will be displayed in the upper left-hand corner in feet and miles.

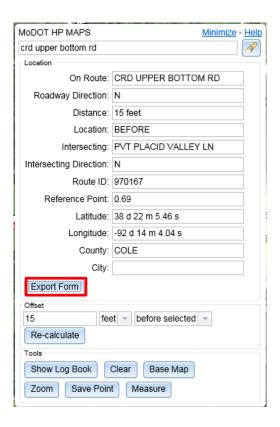
- Click the "Stop Measuring" button, and the "Offset" section will be filled in.
- > Click the "Re-calculate" button, and the new "Reference Point" will be displayed.



Export Form

The Export Form allows you to see the information in an Excel spreadsheet.

- Click the location.
- Click the "Export Form" button.



The following bar will be displayed asking if you want to Open, Save or Cancel the report.



Click the "Open" button. This opens into an Excel worksheet.

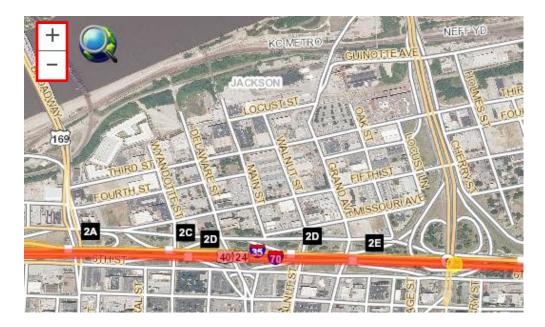
On Route	CRD UPPE	R BOTTOM RD
Roadway I	N	
Distance	15 feet	
Location	BEFORE	
Intersecti	PVT PLACI	D VALLEY LN
Intersecti	N	
Route ID	970167	
Reference	0.69	
Latitude	38 d 22 m 5.46 s	
Longitude	-92 d 14 m 4.04 s	
Latitude D	38.36818	
Longitude	-92.2345	
County	COLE	

The spreadsheet can be formatted.

Zooming/Moving Map

In order to move the map to get a better view of the crash location, left click the mouse, and a quad arrow will appear. Drag the arrow in any direction, and the map will move in the direction that you drag the mouse.

Zooming to a location can be done in three ways. The first way is to use the zoom-in button (+) on the map.



- Click on the plus button, and the map will automatically zoom into the location.
- Click on the minus button, and the map will automatically zoom out of the location.

The second way to zoom to the crash location is by pressing the "Shift" key while drawing a box around the area with the left mouse button.

The third way is to double click to zoom in, and the "Choose a Travelway" dialog box will be displayed.



- This button zooms to a state level view.

NOTE: Zoom to a certain level in order to see the exit numbers.