Part 1 - Project Summary

Project Title: MO Mapping Tool

Project Description:

This web based mapping application was created for Missouri law enforcement officers both state and local. The tool allows an officer to zoom in and pinpoint a crash location. The comprehensive location information required for Missouri's crash report is available for electronic or manual transfer.

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Lead Agency for Project: Missouri Department of Transportation

Participating/Cooperating Agencies (if any):
(Additional members of project team and their contact information may be provided as desired.)

Missouri State Highway Patrol – Captain Brad Jones, Russ Dunwiddie

Missouri Department of Transportation – Randy Silvey, Stuart Harlan

Which National Agenda goals apply? (May be numbered 1-6 corresponding to the order given in the original document)

1. Involve a leader(s) who promotes the importance of highway safety information systems, used for safety policy and program decision-making?

    This project involved Captain Brad Jones from the Missouri State Highway Patrol. Captain Jones is the head of MSHP'S Traffic Records Division. Captain Jones was

instrumental in defining the requirements for the tool and also performed extensive testing of the tool before it was implemented into production. Captain Jones also trained troopers on how to use the tool. Additionally, direct reports of Captain Jones are responsible for training staff from over 700 crash reporting agencies (the majority are local agencies) on completion of the 2012 crash report form. Since the majority of crash reports are generated by the local law officer, this is very important.

2. Involve the coordination of the collection, management, and use of highway safety information among various organizations responsible for highway transportation policy?

   This project involved the Missouri State Highway Patrol, the Missouri Department of Transportation and consultant effort to become a reality. Once fully developed as described above, the Highway Patrol has been involved in training local jurisdictions since 2011 on the use of the mapping tool. Since the majority of the crash reports are generated by the local jurisdictions, this will allow accuracy and timeliness of our crash data to improve.

3. Represent an example of integrating the planning of highway safety programs with highway safety information systems?

   This mapping tool is the direct result of highway safety information systems professions. Their efforts combined with the vision of our Traffic Records Coordinating Committee allowed the mapping tool to become fully developed (now can be submitted by local jurisdictions electronically).

4. Represent an example where managers and users of highway safety information have utilized or were provided the necessary resources to select the appropriate technology to meet their information needs?

   This mapping tool was first developed for use and purpose beyond providing accurate location data to officers when attempting to locate a crash. The tool was discovered as it was being developed for other Transportation Management System needs. The information technology professional was approached to determine if this system could be adapted for the law enforcement community. After many development meetings with the Highway Patrol and MoDOT, the mapping tool was modified to include the necessary business rules for law enforcement. The tool was made available to local jurisdictions so that the location portion of their report form would be filled out with the push of a button.

5. Represent examples of highway safety professionals being trained in the analytic methods appropriate for evaluation of highway safety information?

   The Highway Patrol trains the troopers annually on how to complete the crash report. Part of the training is providing accurate location data in the crash report. The mapping tool is also part of this training. Additionally, there are over 700 crash reporting agencies in the state of Missouri. Officers within these agencies are trained each year on the correct methods of completing the crash report, which also includes the mapping tool.

6. Involve the promotion and use of technical standards for characteristics of highway safety information systems, critical to the development and management of highway transportation safety programs and policies?

MoDOT relies on accurate crash data to make critical safety investment decisions. Not only do we want complete crash data elements, we also want the crash location information to be nearly perfect. This mapping tool will allow the crash data to be one step closer to perfect and will allow us to make even better decisions. An officer doesn't have to decide if the crash occurred on Maple Drive versus Maple Lane. Based on where the officer clicks on the map, the correct street names are automatically provided. Many hours have been spent analyzing the location information on our crash reports and we have found that officers are confused and mistakes are commonly made when referencing intersections. The mapping tool eliminates officer confusion. Ultimately with the electronic transfer of location data, human error will be eliminated. The state of Missouri has seen steep declines in our roadway fatalities and in order for us to continue to see this positive progress we need to make sure we are using the most accurate information available.

Reference the priority in your traffic records strategic plan to which this project applies:

Priority 1

Project Cost: planned $: 10,000-15,000   actual $: $5,000 - $10,000(will vary by agency).

There was no project cost for the analysis and development of the mapping tool. The costs associated with the project were to pay the consultant to link the map to local jurisdictions.

Extent of Project Implementation:

The mapping tool is available to any law enforcement officer that has web access. To date, we have 102 law enforcement agencies that submit the crash report electronically, which would represent nearly 25 percent of crashes in the state of Missouri (this does not represent the crashes worked by the Highway Patrol). Even with these very positive numbers, this tool is available for use by all of the law enforcement community. Obviously it is our goal to minimize any potential for errors by having all crash reports submitted electronically, but we also believe the accuracy will be improved even for agencies that do not submit electronically if they use the tool to obtain proper crash location information.

Summary of Project Benefits: What was improved, who benefited, and how? Benefits may be measurable or anecdotal, direct or indirect. If you can demonstrate the benefits of a traffic records project all the way to the bottom line (saving lives, reducing injuries and damage due to motor vehicle crashes), please do so!

It may be easiest to fill out the benefits section under Project Detail first, and then write a one- to three-sentence summary of that material here.

This project benefits law enforcement, policy makers and the safety professionals of Missouri through improved crash location accuracy. Additionally, law enforcement will reduce entry time by utilizing the electronic transfer of location information from the map. Prior to this tool, all location information was required to be entered manually. Again, as indicated prior, many

location errors were being made by our law enforcement. We believe this tool will dramatically cut down the number of common errors we have found in our past analysis.

Ultimately, by improving accuracy of the location information on crash reports, our safety experts can make better decisions.

Part Two: Project Detail

Project Description:

A web based mapping application was created for Missouri law enforcement officers both state and local. The tool allows an officer to zoom in and pinpoint a crash location. The comprehensive location information required for Missouri's crash report is available for electronic or manual transfer. Because there is a network of roadways that is 100 percent comprehensive for the state of Missouri, this mapping tool will allow an officer from any part of the state to find the location of a crash and either provide the data electronic or in manual format.

Historically, the law enforcement community responsible for working crashes was required to use a table format listing of roadways. While this listing was comprehensive and could show the roadways, it was not user friendly nor was it visual.

Officers are able to access the mapping tool using the following link:

> http://hpmaps.modot.mo.gov/

The image shown directly below represents the on-line mapping tool that was created for our officers. The tool currently allows an officer to begin at the state level. The officer would next zoom into the approximate location and begin efforts to locate the crash.
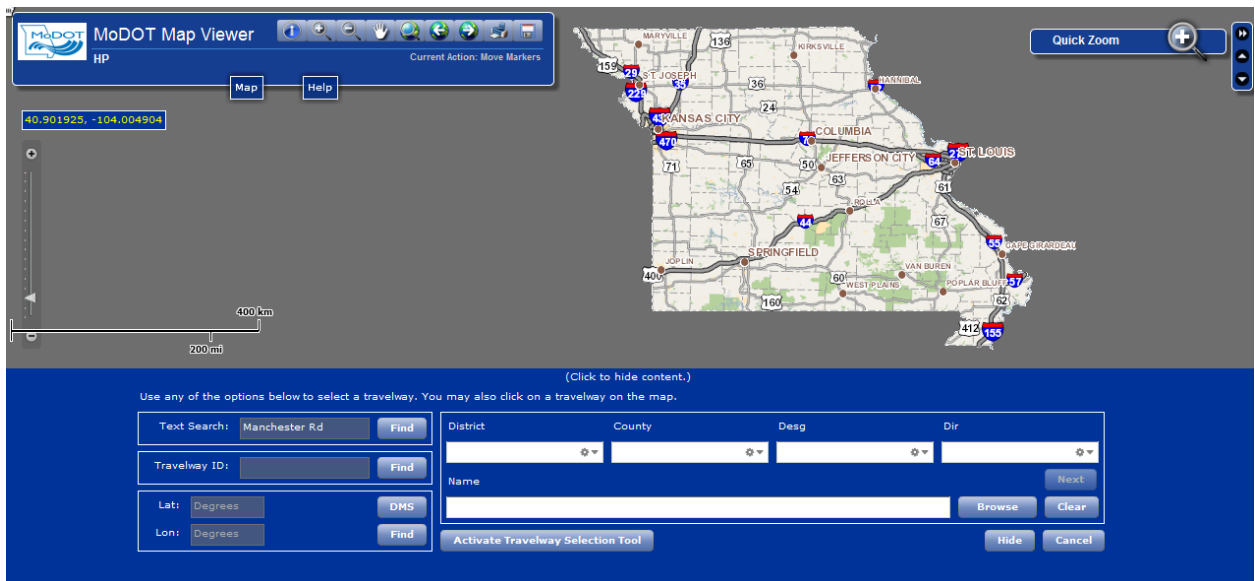
The next image provides an example of where the officer has zoomed into a location and selected a point where a crash has occurred. All pertinent information is now displayed for the officer to allow either electronic transfer (by clicking "Send") or manual input.
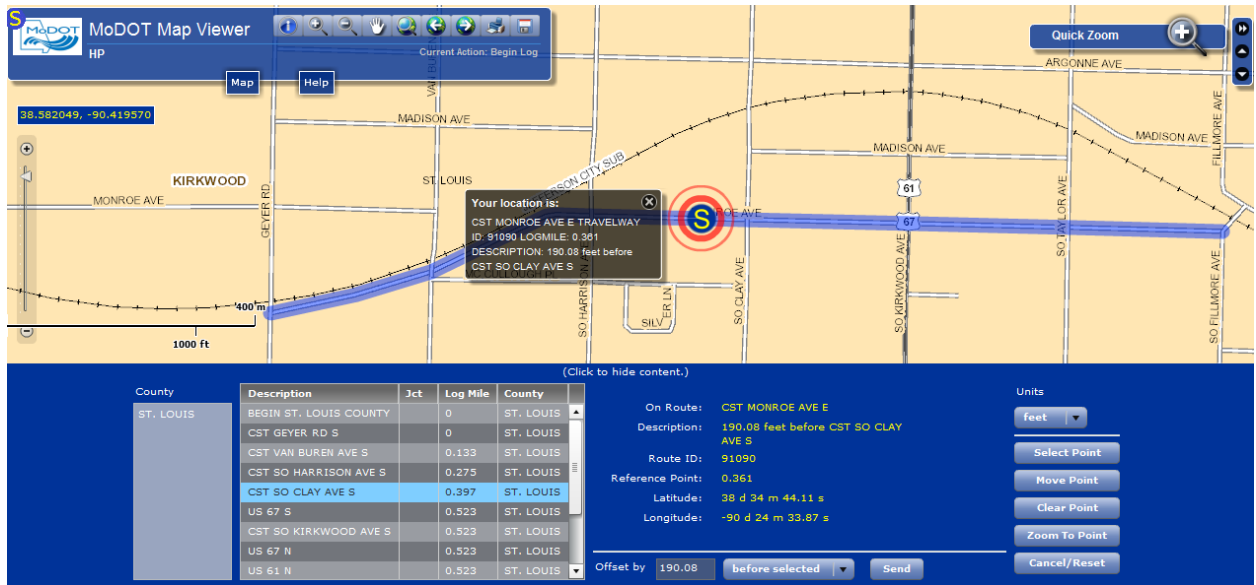
Below is an image of the pertinent location information that was provided once the officer selected the crash location on the map. As stated prior, we believe this method of locating the crash will allow us to dramatically increase the accuracy of our crash location information.
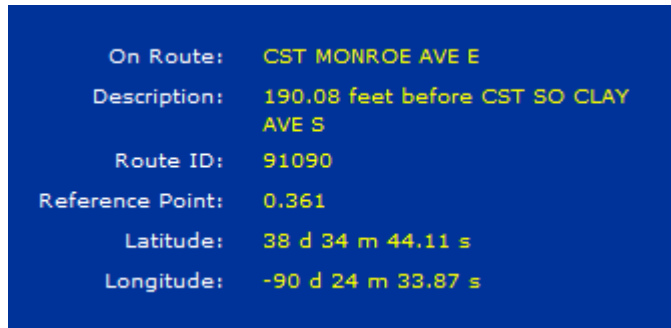
Describe the major process steps for your project, including any unique aspects that enhanced success:

- The project was initiated because of the vision of MoDOT's Traffic Safety Engineer to improve crash location data.

- The analysis and gathering of business requirements was successful because of the cooperation between MoDOT and Missouri State Highway Patrol

- The tool was developed by a very talented individual in MoDOT's Information Systems Division.

- Training on how to use the tool was provided by MoDOT and Missouri State Highway Patrol staff.

- The ability to implement electronic submission required the approval of our Traffic Records Coordinating Committee.

Provide the evidence and reasoning used to determine the success of the project:

The project has already been a success. Our law enforcement community now have a "visual" mapping tool available that allows them to see the location where a crash occurred. While we have not evaluated the location information accuracy since implementing the mapping tool, we believe this will also be improved. Additionally, success is also measured in more data being submitted in electronic format (entire crash report).

To verify the effectiveness of this tool, please refer to the link to the application provided in the project description above.

Why should this project be recognized as a best practice in traffic records?

The development of this mapping tool involved a vision for success, ingenuity, and cooperative efforts from various groups. Most of all the officers in our state now have a tool available that will allow them to do their job faster and better. This tool provided a crucial stepping stone for Missouri improving their traffic records system. The tool is a tremendous success story in our state.