

Association of Transportation Safety Information Professionals

Application for Best Practices Recognition 2004

Part One: Project Summary

Project Title: Implementing a Safety GIS Program to do pinning, diagramming, and database functions. Resulting with validated crash data in 1/3 the time and 1/10 the paper.

Project Description: The project went from concept to completion in three years. Using the best concepts of gathering crash data, designing a paperless office, and implementing a Graphic Information System to replace the old legacy paper system.

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Project Manager Contact Information: (if different from above)

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Lead Agency for Project: City of Madison, Traffic Engineering

Participating/Cooperating Agencies: City of Madison, WisDOT BOTS

Additional contacts

Police Department, Lt. Joe Balles coordinated scanning of crash reports vs. hard copies
City Planning, Bill Lanier, initial GIS software set up, consulted on available data
Wisconsin DOT, Bureau of Traffic Safety Martha Florey obtained initial grant funding.

Which National Agenda goals apply? Our program affects all six goals, but does four of them very well 1.) This involves the leaders who promote highway safety information, mostly at the local level, upon implementation, we saw the need to work with both county and state officials, that is currently being done on another grant provided by WisDOT BOTS.
2) Coordination of the collection, management and use of highway safety information is the heart of our program. We use our pin and diagram map, which is linked to the WisDOT database and

hyperlinked to the police department scan. We have eliminated as much of the replication of the data and entry data error as could be programmed and it is all COM compliant.

3) Another example is the integrating the highway safety programs. Our program is a replacement program, not another program and has replaced the previous legacy system.

4) This goal relates to our managers as the users of the highway safety information, the use of GIS is the appropriate technology for our office, our county and state DOT. They use the same software platform.

5) Our program can use of GPS technology, that part is still being incorporated for future use.

6) Lastly our program does promote the use of technical standards for characteristics of highway safety information systems, critical to the development and management of highway transportation safety programs and policies. The grant provided by WisDOT BOTS, was in conjunction with two other local municipalities that both used GPS coordinates to gather data by officers, in Green Bay by AVL and in Marathon County with portable GPS units.

Which steps in the management process does the project support?

Our records management applies all six major steps, but three really stand out and they do affect the rest of the standards. The first goal to look at is (2) Identify problems, our previous legacy system was database and paper driven was used for identifying problems. Now maps show crash prone areas in Madison. This also greatly enhances (5) Monitor Program Operations crash queries used to take hours now are done within minutes, by zooming in our City Pin Map, at the street level a diagram of the crash appears on the map. The last goal that stands out is (6) Evaluate effectiveness, comparing the previous legacy system, a pin was put in a large map in our conference room, a database entry was made (location affected ten database fields), then a diagram was added to the crash file. Now with GIS these three steps have been combined, data entry is done in 1/3 the time and approximately 1/10 the paper.

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

Project Cost: planned \$60,000 actual \$ 64,000

Extent of Project Implementation:

Implement a new process to automate gathering, categorizing, and representing crash data. This started with replacing the physical crash pin map with a computer driven pin mapping system, automating the crash diagramming, and updating the crash database. Using the computer to automate and validate each step, our software selection was made to work with the same medium as the county and our region of the state DOT.

Summary of Project Benefits: What was improved, who benefited, and how?

The best summary would be with the programs effectiveness stated above, comparing the previous legacy system, a pin was put in a large map in our conference room, a database entry was made (location affected ten database fields), and then a diagram was added to the crash file. Now with GIS these three steps have been combined, data entry is done in 1/3 the time and approximately 1/10 the paper.

Part Two: Project Detail

Most of the project detail is a duplication of the project summary, this includes: 1). Project Description: 2) Referring to the National Agenda Goals, tell how your project relates to each one you listed in Part One of this application: 3) Referring to the management approach to highway safety, tell how your project supports the management steps you listed in Part One: 4) Describe the major process steps for your project, including any unique aspects that enhanced success: 5) Provide the evidence and reasoning used to determine the success of the project:

A main theme of our program was elimination of duplication, doing the same with this application. Please see the attached Review of GIS Implementation for the rest of the Project Detail.

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

The Safety GIS Program takes the best practices a step further into a program that can be duplicated by other agencies and integrated with future and emerging changes. We started with reviewing many different crash programs, knowing our safety data needs, reviewing the national data safety needs, and the soon to be incorporated Badger TRaCs. The decision was made to using the best concepts of gathering crash data, designing a paperless office, and implementing a Graphic Information System to replace the legacy system. We have just started automating, this our third year we have implemented safety GIS to do pinning, diagramming, and database functions. Resulting with validated crash data in 1/3 the time and 1/10 the paper. These are real results, not some dream, done in house with no consultants. Now in 2004 the location and crash attribute data is being entered by clerical staff into GIS, so we can implement other GIS strategies to complement our crash data.

In the near future the program is COM compliant and will adapt to the change of working with Badger TRaCs and GPS data if needed. It demonstrates the one of the best management of safety data. In a time when tax dollars a shrinking and better data needs grows daily, this is the introduction of air bags in a seat belt world.