

**I. RESEARCH PROJECT TITLE**

A High-Risk Rural Roads (HRRR) Guide to Assist Local Road Officials Increase Safety on HRRR

**II. GENERAL PROBLEM STATEMENT**

The current federal transportation act, SAFETY-LU, elevated the Highway Safety Improvement Plan (HSIP) to a core program and included 90 million dollars for a High-Risk Rural Roads (HRRR) program, Guidelines in the form of an HRRR Manual or Handbook for local officials will aid them in clarifying the program, defining their roll in regard to data needs and availability and proper use of data to identify eligible HRRR and lead them through a process of identifying cost-effective, crash mitigating tools and strategies to get the most benefit from eligible, available HRRR funds.

**III. BACKGROUND**

There are in excess of 43,000 motorists killed on US roads and streets and approximately 60% occur on rural roads. In an attempt to address and reduce these fatalities, the current transportation act, SAFETY- LU, elevated the Highway Safety Improvement Program (HSIP) to a core program and included a \$90,000,000 High-Risk Rural Roads (HRRR) program to address and significantly reduce traffic fatalities and incapacitating injuries on rural major or minor collectors, and/or rural local roads. In order to qualify for HSIP/HRRR funds, rural roadways must have a certain crash rate for fatalities and incapacitating injuries that exceeds the statewide average for that functional class of roadways. KDOT has programs to address rural, state roads- most of the major and minor collectors-but needs to coordinate and partner with local government to develop policies and procedures for the HRRR to be cost/effective for improved safety on rural local roads. Although KDOT provides excellent assistance, and has good data available, many counties and small towns have neither the personnel, resources or expertise to take full advantage of the HRRR program. Even if the FEDERAL HRRR program funding, currently for FY 2006-2007 is not continued, experience and "lessons learned" from this initial program should continue to address reduction and fatalities and injury on local roads. That is, these needs will exist into the foreseeable future- definitely beyond the initial SAFETY-LU funding. Guidelines are needed in the form of an HRRR Manual or Handbook for local officials and personnel responsible for local, rural road safety to clarify the program, define their role, educate them regarding data needs and availability and proper use of data to identify their HRRR and lead them through a process of identifying cost-effective, mitigating strategies and available tools for implementation of an HRRR safety program. They need methods to identify HRRR and knowledge of cost-effective countermeasures to reduce crashes on them.

**IV. WORK PLAN AND SCHEDULE**

A. Research Objective

The main objective would be to work closely with the KDOT Bureau of Local Projects to develop a guide Manual or Handbook that would provide guidelines and methods for local government officials and/or personnel to make the best use of HRRR funds and other safety funds, to reduce fatalities and incapacitating injury on rural, local roads. We will become familiar with the HRRR and KDOT goals and objectives for the program and then with a state/local advisory committee or survey, develop a detailed work plan for analyzing what information county and local officials and safety personnel need to take full advantage of the program. Based on this knowledge we will outline the sections that should be in a manual and then after approval of content, develop a HRRR manual or handbook that will assist local government officials and personnel with safety responsibilities, not only to get the most out of the current HRRR program, but to extend the concept into the future irrespective of future Federal funding. It would be similar in objective and scope to the old, popular but out dated HAL Manual, which addressed spot, crash analysis and mitigation but will be totally developed around information to assist locals get the most cost/effective results out of the current HRRR program. It is anticipated it would have sections on background, administrative and program management issues as well as such technical sections as; data needs, availability and use, crash analysis, geometric deficiencies, roadside design/maintenance issues, cross section deficiencies, signing and pavement marking issues and others. These sections would point out typical deficiencies, probable effective countermeasures and cost and procedures to determine, long-term, cost-effective HRRR programs.

#### B. Tasks

1. HRRR Program Review: The HRRR program will be studied to determine program details. The status of KDOT's implementation of the program will be reviewed. Project eligibility guidelines will be documented.
2. Detailed Work Plan and Handbook Contents: With input from the KDOT monitor, develop a more detailed study work plan and rough outline of the final guidance document.
3. Data Needs/Evaluation: The data and data evaluation needs of local governments regarding project eligibility will be investigated.
4. Data Analysis Procedures: Procedures for obtaining and analyzing data necessary for developing a local program that maximizes HRRR eligibility and the cost effective use of HRRR funds will be documented.
5. Examples: Investigate and develop examples of viable local projects with potential for high benefit-cost payoff.
6. Guidelines Handbook: Develop an HRRR Handbook documenting the results of tasks 1 through 5 that will provide local government personnel guidance on making the best use of incorporating HRRR funds into safety program(s) to improve safety.

## V. ESTIMATES OF FUNDING AND RESEARCH PERIOD

*Period:* 24 months

*Funding:* \$60,000

**VI. URGENCY AND POTENTIAL PAYOFF**

Given the fatalities and incapacitating injuries on rural roads and the emphasis on rural road safety in SAFETY-LU and particularly with the HRRR program, we are entering a period where great strides can be made with the proper use of available programs and funding. However, KDOT nor the Bureau of Local Projects cannot do it all. There must be local officials and personnel "buying in" and making the best use of what is available. This should be a continuing local program that continues long beyond the current Federal funding. In many cases they lack the knowledge and expertise to take develop and take full advantage of an HRRR program. A guide to assist or encourage them to do so, now and into the future, could reduce fatalities and incapacity injuries on HRRR in Kansas.

**VII. IMPLEMENTATION STRATEGY**

Dissemination of the guide- and likely a course and/or seminars based on it- would get them started or keep them on course. It is anticipated KDOT Bureau of Local Projects would distribute the guide. A TASK or LTAP course could be developed from it.

**VIII. PROJECT PERSONNEL**

Co-P.I. Drs Gene Russell and Sunanda Dissanayake. Dr Russell has been involved in low-volume Local road studies for most of his 49-year highway/safety engineering career and has developed and/or updated many handbooks, manuals and short courses. Dr Dissanayake has completed a number of studies of crashes on Kansas rural roads and has extensive knowledge of rural road crashes in Kansas and the KDOT crash data base.

**IX. SUBMISSION INFORMATION**

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