

Nebraska Information Technology Commission

Project Proposal Form

**New or Additional State Funding Requests
for Information Technology Projects**

FY2007-2009 Biennium

Project Title	Highway Condition Reporting System (HCRS) Enhancement
Agency/Entity	ROADS

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Notes about this form:

1. **USE.** The Nebraska Information Technology Commission (“NITC”) is required by statute to “make recommendations on technology investments to the Governor and the Legislature, including a prioritized list of projects, reviewed by the technical panel, for which new or additional funding is requested.” Neb. Rev. Stat. §86-516(8) In order to perform this review, the NITC and DAS Budget Division require agencies/entities to complete this form when requesting new or additional funding for technology projects.
2. **WHAT TECHNOLOGY BUDGET REQUESTS REQUIRE A PROJECT PROPOSAL FORM?** See the document entitled “Guidance on Information Technology Related Budget Requests” available at <http://www.nitc.state.ne.us/forms/>.
3. **DOWNLOADABLE FORM.** A Word version of this form is available at <http://www.nitc.state.ne.us/forms/>.
4. **SUBMITTING THE FORM.** Completed project proposal forms should be submitted as an e-mail attachment to rick.becker@nitc.ne.gov.
5. **DEADLINE.** Completed forms must be submitted by September 15, 2006 (the same date budget requests are required to be submitted to the DAS Budget Division).
6. **QUESTIONS.** Contact the Office of the CIO/NITC at (402) 471-7984 or rick.becker@nitc.ne.gov

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Section 1: General Information

Project Title	Highway Condition Reporting System (HCRS) Enhancement
Agency (or entity)	Roads

Contact Information for this Project:

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Section 2: Executive Summary

Provide a one or two paragraph summary of the proposed project. This summary will be used in other externally distributed documents and should therefore clearly and succinctly describe the project and the information technology required.

Enhance the existing Highway Condition Reporting System (HCRS) application to automate the exchange of road condition and incident/event information with the new Nebraska State Patrol (NSP) Computer Aided Dispatch (CAD) System and with other State Departments of Transportation Advanced Traveler Information Systems (ATIS). Build a training version of HCRS to provide a system for training internal users without impacting the live data which feeds to the public 511 Advanced Traveler Information System. Provide 511 data to handheld device users and at Interstate rest area kiosks in a streamlined format. Improve the appearance of the existing HCRS/TIP public website map. Intelligent Transportation Systems (ITS) Earmark funds have already been approved by the Federal Highway Administration, allocated and obligated to NDOR with the intent of offsetting half of the enhancement costs.

Section 3: Goals, Objectives, and Projected Outcomes (15 Points)

1. Describe the project, including:

- Specific goals and objectives;

Enhance the existing application to interface with the Nebraska State Patrol's new Computer Aided Dispatch (CAD) System, with other State Departments of Transportation ATIS Systems and with the Federal Highway Administration. Build a training version of HCRS that will not impact the live system to eliminate confusion to the general public during internal user training sessions. Streamline the HCRS TIP public web output to be used on handheld devices and Interstate rest area kiosks. Replace the existing HCRS/TIP map.
- Expected beneficiaries of the project; and

By utilizing data gathered from NSP, NDOR, and adjoining states and improving the distribution, both internal users and the traveling public (via the 511 System) have access to more accurate and meaningful data. The information is used by NDOR and NSP to make better decisions regarding the management of the highway system and by the public and commercial motor carriers to make informed travel and routing decisions.
- Expected outcomes.

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To automatically exchange information between the NDOR/NSP, adjoining State DOTs and with the Federal Highway Administration for demonstration projects. To provide 511 information to kiosk users at Interstate rest areas and to handheld device users. To improve the appearance and functionality of the Traveler Information Portal (TIP) map, and to provide internal HCRS users with a training system that does not send training input to the public 511 system.

2. Describe the measurement and assessment methods that will verify that the project outcomes have been achieved.

NSP Dispatchers have easy access to the latest road conditions and events/incidents and that they can update/provide information to HCRS directly through their CAD System. Multiple states can exchange ATIS data to provide a seamless 511 service. Rest area and handheld device users have access to the latest highway condition and incident/event information. Internal HCRS users have a system to practice on that does not impact the information provided to the public. External TIP users have an easy-to-navigate map.

The result would be increased use by internal staff and the traveling public. This can be measured by the number of individual web visits, number of events entered, and by the number of telephone calls received by the 511 telephone system. Better data = more repeat users.

3. Describe the project's relationship to your agency comprehensive information technology plan.

The NDOR Operations Division is responsible for the maintenance and efficient operation of the highway system and safety of the traveling public. NDOR supports technology improvements in all facets of work from design through maintenance. This project supports these improvements.

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Section 4: Project Justification / Business Case (25 Points)

4. Provide the project justification in terms of tangible benefits (i.e. economic return on investment) and/or intangible benefits (e.g. additional services for customers).

The value of accurate, reliable and timely advanced traveler information cannot be overemphasized. The current version of HCRS gathers and dispenses highway road condition and event/incident information to a substantial number of users. However, the inclusion of information from NSP and other state DOTs expands and verifies the data, compiles it and passes it on to those who need it—the people who manage the highways and the people who drive on them. For commercial motor carriers, being informed of delays can assist them in rerouting in order to deliver their loads on time. By adding a more kiosk friendly screen, Interstate rest area users can easily access travel information that could have a major impact on their travel decisions. By formatting HCRS for handheld devices, an entirely different customer base is tapped. By providing internal HCRS users with a system to train on, they become better reporters of this vital information and the information pushed to the public is not cluttered with practice entries.

In the past 12 months, the public 511 web page received approximately 378,000 individual web visits and the 511 telephone system received 547,000 phone calls. By December 1, 2006, it is anticipated that Nebraska's 511 telephone system will have received its two millionth call. The data for the 511 system is generated from HCRS.

5. Describe other solutions that were evaluated, including their strengths and weaknesses, and why they were rejected. Explain the implications of doing nothing and why this option is not acceptable. Other solutions will be evaluated when the selection is made for the District Operations Center (DOC) software solution. If the selected DOC software system has a module that can replace the HCRS function, it will still be two to three years before the transition is completely made and HCRS can be abandoned. During that time period, we are still responsible to the public for providing the best travel information possible and there is no guaranty that such a module exists. Doing nothing would eliminate the automatic exchange with NSP and other States of vital incident/accident and highway surface condition information.
6. If the project is the result of a state or federal mandate, please specify the mandate being addressed.

Per Section 1203 of House Resolution 3550, Transportation Equity Act, A Legacy for Users: "The Secretary shall establish a real-time system management information program to provide, in all States, the capability to monitor, in real-time, the traffic and travel conditions of the Nation's major highways and to share that information to improve the security of the surface transportation system, to address congestion problems, to support improved response to weather events and surface transportation incidents, and to facilitate national and regional highway traveler information."

All States will be required to meet the mandate, tentatively set by 2009. The current HCRS with the requested enhancements meets these requirements at today's costs, not 2009 costs.

Section 5: Technical Impact (20 Points)

7. Describe how the project enhances, changes or replaces present technology systems, or implements a new technology system. Describe the technical elements of the project, including hardware, software, and communications requirements. Describe the strengths and weaknesses of the proposed solution.

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This project enhances the existing Highway Condition Reporting System (HCRS) application to automate the exchange of road condition and incident/event information with the new Nebraska State Patrol [NSP] Computer Aided Dispatch (CAD) System and with other State Departments of Transportation Advanced Traveler Information Systems (ATIS).

This project provides for the enhancement and ongoing maintenance of the system and includes all hardware, software and communications necessary to accomplish this task. The strength of this project is that it maintains and enhances the current HCRS system while NSP computer-aided dispatch is brought on line and the new DOC software is selected and installed without impacting daily incident and event reporting.

8. Address the following issues with respect to the proposed technology:

- Describe the reliability, security and scalability (future needs for growth or adaptation) of the technology.

The current system is extremely reliable and has provided 99.5% reliability. As of today, no security issues have arisen with the third-party collocation services and scalability issues have been resolved on the fly as required during high-use periods.

- Address conformity with applicable NITC technical standards and guidelines (available at <http://www.nitc.state.ne.us/standards/>) and generally accepted industry standards.

To the best of our knowledge this application currently meets all of the NITC standards except the access for the visually impaired, which we were granted an exemption.

- Address the compatibility with existing institutional and/or statewide infrastructure.

HCRS is currently hosted on collocation servers located in Virginia and managed by a consulting firm in Arizona with oversight by an NDOR Project Manager and the ITS Engineer. The system does not impact the existing institutional infrastructure. In the future, the system may be hosted in house as part of the District Operations Center Freeway Management System.

Section 6: Preliminary Plan for Implementation (10 Points)

9. Describe the preliminary plans for implementing the project. Identify project sponsor(s) and examine stakeholder acceptance. Describe the project team, including their roles, responsibilities, and experience.

An RFP is scheduled for release in September 2006 and selection is to be made during October 2006. The current HCRS maintenance contract expires October 31, 2006, and this project will allow the extension and continued operation of HCRS without disruption of service.

The project sponsors are the NDOR Operations Division, Nebraska State Patrol and Federal Highway Administration. The 511 System, which is fed by HCRS, is co-owned by the Nebraska State Patrol. FHWA has supplied funds to assist in deployment and enhancement of the system.

Stakeholder acceptance has been good. NDOR field employees have become accustomed to using the system to enter their road conditions and highway events and most agree it is easy to use.

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The project team includes Steve Garbe (ITS Engineer) and Jaimie Huber (Project Manager) from NDOR's Operations Division; representatives from NDOR's BTSD; DOR District staff; representatives from NSP and FHWA; NDOR's ITS Policy and Program Team.

10. List the major milestones and/or deliverables and provide a timeline for completing each.

- a. Project Kick-Off Meeting: November 1, 2006
- b. GIS Map Updates: December 1, May 1, August 1 with option for one additional annually
- c. Data Exchange Meetings with NSP, AASHTO, and Meridian Env. Technology, Inc.: As Required
- d. Output Modifications for Kiosks: February 1, 2007
- e. Output Modifications for Handhelds: May 1, 2007
- f. Map Modifications: September 1, 2007
- g. HCRS Training System: September 1, 2007
- h. System Administration: Ongoing

11. Describe the training and staff development requirements.

Training and knowledge transfer hours are included in the scope of the HCRS RFP and include 40 hours of user training and 40 hours of technical training annually.

12. Describe the ongoing support requirements.

Management of HCRS by the NDOR Project Manager requires approximately 700 hours annually. 24-hour system support is the System Administration task under this project and is performed by the consultant.

Section 7: Risk Assessment (10 Points)

13. Describe possible barriers and risks related to the project and the relative importance of each.

No barriers or risks are associated with maintaining and enhancing HCRS. However, not maintaining and enhancing HCRS poses significant risks.

With over 378,000 individual web visits and 547,000 telephone calls to the 511 System in the past year, significant public outcry could be experienced if the system is not maintained. We are three years away from a Federal Highway Administration mandate instructing all states to maintain a system to supply the public with near real-time reporting of events that affect traffic flow on the nation's highways. HCRS meets that requirement.

14. Identify strategies which have been developed to minimize risks.

The Consultant assures NDOR that HCRS will be operational 98 percent of the time in any given month, excluding scheduled maintenance. Upon the first minute of system failure, the Consultant is liable to refund 2.5% of the monthly fee for each 30 minutes of downtime. A maximum of 100% of the monthly fee may be refunded.

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Section 8: Financial Analysis and Budget (20 Points)

15. Financial Information

Financial and budget information can be provided in either of the following ways:

- (1) If the information is available in some other format, either cut and paste the information into this document or transmit the information with this form; or
- (2) Provide the information by completing the spreadsheet provided below.

Instructions: Double click on the Microsoft Excel icon below. An imbedded Excel spreadsheet will be launched. Input the appropriate financial information. Close the spreadsheet. The information you entered will automatically be saved with this document. If you want to review or revise the financial information, repeat the process just described.



Excel Spreadsheet
(Double-click)

16. Provide a detailed description of the budget items listed above. Include:

- An itemized list of hardware and software.

Hardware is leased as required.

Software is the existing HCRS, which has no annual licensing fees.

- If new FTE positions are included in the request, please provide a breakdown by position, including separate totals for salary and fringe benefits.

No FTE positions required.

- Provide any on-going operation and replacement costs not included above, including funding source if known.

Included in attached spreadsheet.

- Provide a breakdown of all non-state funding sources and funds provided per source.

Included in the attached spreadsheet.

17. Please indicate where the funding requested for this project can be found in the agency budget request, including program numbers.

\$200,000 has been contributed by the FHWA as an element of the FY-02 approved Intelligent Transportation Systems (ITS) Earmark work plan, \$200,000 is the State's required match to the ITS Earmark and \$200,000 has been set aside for system administration, operation and maintenance throughout the five-year contract. Funds are budgeted under Account 4421 in the NDOR Operations Division budget, OE 260.