

Project #	Agency	Project Title
27-03	Department of Roads	Highway Condition Reporting System (HCRS) Enhancement

SUMMARY OF REQUEST (Executive Summary from the Proposal)

[Full text of all proposals are posted at: <http://www.nitc.state.ne.us/nitc/documents/fy2007-09/index.html>]

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.

FUNDING SUMMARY

\$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.

PROJECT SCORE

Section	Reviewer 1	Reviewer 2	Reviewer 3	Mean	Maximum Possible
3: Goals, Objectives, and Projected Outcomes	15	15	10	13.3	15
4: Project Justification / Business Case	23	24	23	23.3	25
5: Technical Impact	13	19	10	14.0	20
6: Preliminary Plan for Implementation	9	8	7	8.0	10
7: Risk Assessment	9	7	0	5.3	10
8: Financial Analysis and Budget	8	10	12	10.0	20
TOTAL				74	100

REVIEWER COMMENTS

Section	Strengths	Weaknesses
3: Goals, Objectives, and Projected Outcomes	- The outlined goals and objectives related to enabling the updating, enhancing and sharing data between multiple users of street/highway centerline data are laudable and if done correctly has the potential to benefit a wide range of users of this data and therefore should be aggressively pursued.	- A major concern with this proposal is the relative absence of any significant discussion of the geospatial base map upon which this system will be based (see Section 5). While not discussed in this proposal, is my understanding that at the present time the planned NSP CAD system will be based on a different roads centerline base map than that currently used by the Nebraska NCRS system. It is also my understanding that neither the current NCRS geospatial base map, nor the proposed NSP base map is comprehensive (local roads?) or, in the case of the NSP data, complete statewide. Is movement to a common base map anticipated or planned? Is such a change in base map reflected in NDOR's

Section	Strengths	Weaknesses
		<p>comprehensive information technology plan? Has the NDOR GIS division/section been involved in any discussion related to a possible change of centerline base maps? If there is not currently a plan to move to a common road centerline database, it is likely that these factors will introduce significant hurdles in arranging for data exchange, translation, and maintenance between these systems. These hurdles would appear to be significant enough to merit an explicit delineation of objectives related to resolving these issues. The absence of any objective related to these issues raises questions about how well this aspect of the project has been explored.</p>
<p>4: Project Justification / Business Case</p>	<p>- There are a wide range of benefits to be gained from enhancing the ability to harvest and integrate information on the highway, road and street conditions and increasing the ability to provide this enhanced data to a broad range of users in a broad range of formats. Based on the potential benefits, this reviewer rates this aspect of the proposal highly.</p>	<p>- Other solutions are vague. - Appears to be an enhancement to a current system. Other solutions were not considered, but it's possible this project could be replaced following upcoming District Operations Center software selection. It's unclear when the DOC selection is planned, if it's very soon, it might make sense to delay implementation until it's determined if DOC software will replace the HCRS, and how quickly that might happen. - It would appear to this reviewer, that a key to efficient and reliable harvesting, integrating and disseminating road condition data, from multiple sources, would be the development of either a common base map and/or common data translation standards. Unless this project incorporates significant coordination efforts in this area, instead of helping to achieve the potential data sharing benefits outlined in this project justification section, this proposal may actually result in the development and/or perpetuation of yet another non-compatible system that would place hurdles in the way of efficient data exchange that could benefit us all (see Section 5 for additional comments).</p>
<p>5: Technical Impact</p>	<p>- Enhancement to an existing, reliable system. - The proposed enhanced system is to be built on a hardware, software, and communications system that has proven reliability track record.</p>	<p>- No technical elements and no weaknesses. - Access for visually impaired (although the current system has a NITC exemption on this point). - The major thrust and benefits of this proposed project are directly related to developing systems to efficiently facilitate data exchange, integration and sharing. However, as noted before in this review, a major concern with this proposal is the relative absence of any significant discussion of the geospatial base map upon which this system will be based. While it is possible that issues related to base map incompatibility have been considered, it is</p>

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		<p>not at all apparent in this proposal, as submitted.</p> <p>While not discussed in this NDOR proposal, is my understanding that at the present time the planned NSP CAD system will be based on a different roads centerline base map than that currently used by the Nebraska NCRS system. It is also my understanding that neither the current NCRS geospatial base map, nor the proposed NSP base map is comprehensive (local roads?) or, in the case of the NSP data, complete statewide.</p> <p>Is movement to a common base map between the NCRS system and the NSP CAD system anticipated or planned? Is such a change in base map reflected in NDOR's comprehensive information technology plan? Has the NDOR GIS division/section been involved in any discussion related to a possible change of centerline base maps or if not the translation and integration of data between these two base map systems? The proposal also refers to this project as being a possible transition to a new District Operations Center (DOC) software solution. What will be the roads centerline base map for this new system? If there is to ultimately be a base map change, will this proposal facilitate that change? Have communications related to this base map issue been initiated with either the Nebraska Public Service Commission (the primary developer of NSP data) and/or the Nebraska GIS Steering Committee. If there is not currently a plan to move to a common road centerline database, it is likely that these factors will introduce significant hurdles in arranging for data exchange, translation, and maintenance between these systems. The absence of any significant discussion related to these data issues raises questions about how well this core aspect of the project has been explored.</p> <p>Also not discussed in this proposal is the scope of this proposed project, specifically relative to local road systems. Is it the plan to ultimately integrate local roads into this NCRS system? It is my understanding that the current NCRS system includes only a limited subset of local roads. If local roads are to be integrated into the system, how will location of an incident or road condition be referenced? Unlike state highways, most local roads do not have mile marker post for</p>

Section	Strengths	Weaknesses
		<p>locational reference. The most readily available locational reference for local road incidents are street addresses. It is my understanding that current the NDOR NCRS roads base map system does not currently have any street address information. How would an incident reported by the NSP CAD system (which will have street address information reference) be translated into the NDOR NCRS system?</p> <p>A central component of this proposal is the exchange of data with the NSP new CAD system. However, there is also no information in the proposal as to whether the new NSP CAD system has a built-in data exchange system or whether the NSP will need to contract for the development of a data exchange subsystem for their CAD in order to facilitate this data exchange.</p>
6: Preliminary Plan for Implementation		<ul style="list-style-type: none"> - No Project Team experiences listed - Project Sponsors should be identified by name. - Question # 10 makes reference to three (3) and possibly four (4) GIS Map Updates, but there is no milestone reference to adoption of geospatial base map standards or data transfer standards.
7: Risk Assessment	<p>- SLA agreement with consultant seems strong, and includes financial penalties for non performance</p>	<ul style="list-style-type: none"> - Barriers and risks listed are vague. Upgrades always have risks. - A project that includes multiple agencies, and multiple state partners, likely involves communication and coordination of activities risks that are not recognized here. - As has been outlined before (Section 5), this reviewer sees the greatest potential risk to this proposed data exchange and integration project to be that of data incompatibility. Data incompatibility between the NSP CAD and current NCRS system could create major hurdles to the efficient exchange and integration of street centerline condition data between these two systems. While the project planners may have made provisions to address these potential data incompatibility problems, there is little reference to that in the proposal as submitted. <p>The proposal also refers to this project as being a possible transition to a new District Operations Center (DOC) software solution. If these potential data incompatibility/data exchange problems are not addressed as a part of the current proposed project, they will likely become even more difficult to resolve in later projects as various agencies and</p>

Section	Strengths	Weaknesses
		agency subsections become increasingly invested in overlapping, incompatible data structures and processes.
8: Financial Analysis and Budget		- No financial information, No hardware information, No on-going and replacement cost information, No non-stated funding sources and funds information. - Section 6, question 12 identifies 700 hours of project management requirements annually, but doesn't seem to be included in the responses to question 16. - While the answers to two of the questions in this section of the Project Proposal Form refer to "Included in the attached spreadsheet", there appears to be no attached spreadsheet. Therefore it is difficult for this reviewer to comment on or assess the appropriateness of the budget.

TECHNICAL PANEL COMMENTS

Technical Panel Checklist				Technical Panel Comment
	Yes	No	UNK	
1. The project is technically feasible.	✓			
2. The proposed technology is appropriate for the project.			✓	
3. The technical elements can be accomplished within the proposed timeframe and budget.			✓	

- The project document indicates that "...this application currently meets all of the NITC standards except the access for the visually impaired [sic], which we were granted an exemption." It is unclear who granted the "exemption," but it was not the Technical Panel of the NITC.
- The agency should carefully review and address the GIS issues raised by the reviewers.

STATE GOVERNMENT COUNCIL COMMENTS

- The State Government Council recommends this project be categorized as [Tier 3].

NITC COMMENTS

- Tier 4 (Insufficient information to proceed with a recommendation for funding.)
- Commissioner Hedquist moved that Project 27-03, Department of Roads-Highway Condition Reporting Systems (HCRS) Enhancement, be moved to Tier 4 due to insufficient information to proceed with a recommendation. Commissioner Peterson seconded. Motion passed.